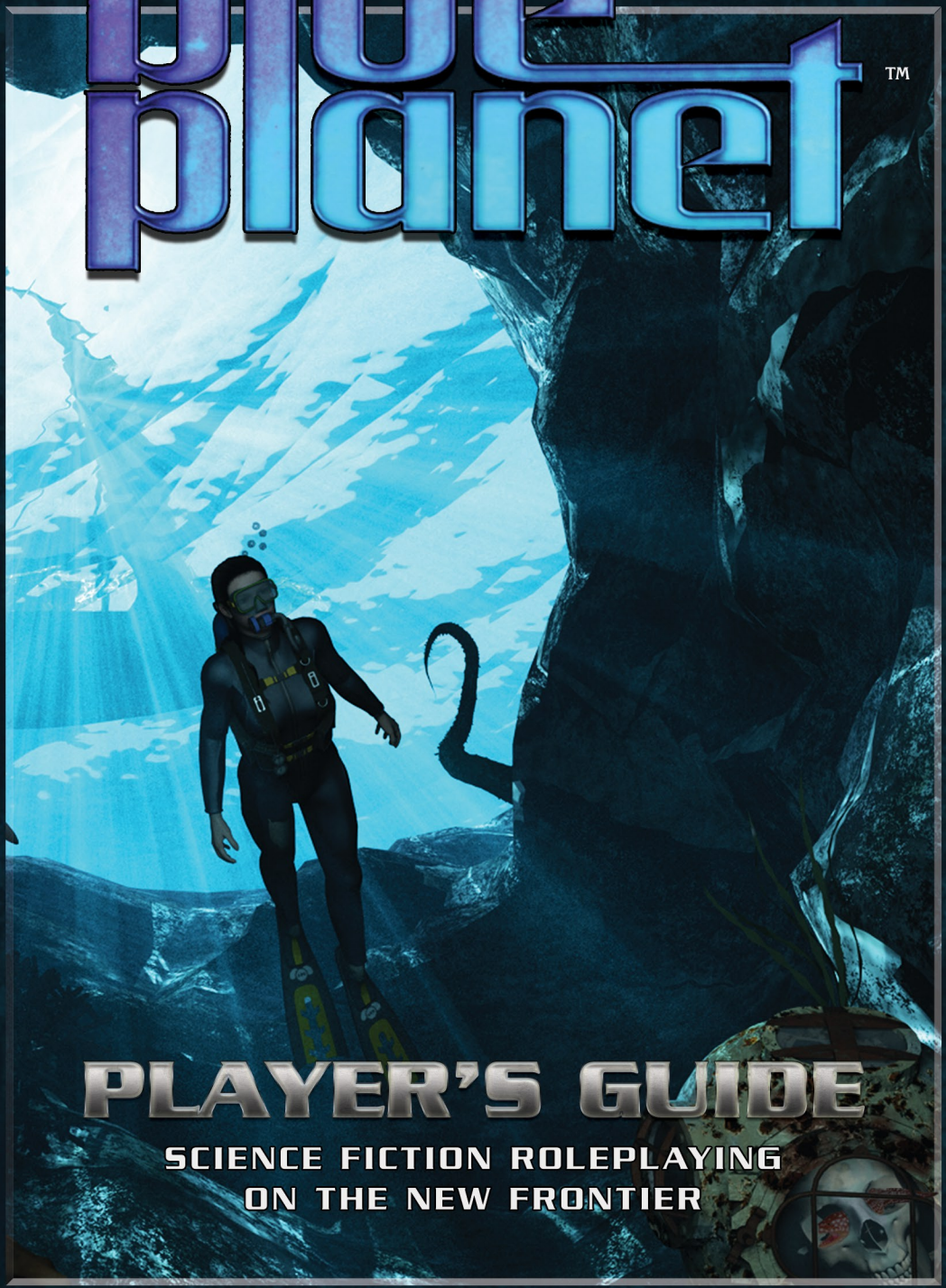
blue planet™



PLAYER'S GUIDE

SCIENCE FICTION ROLEPLAYING
ON THE NEW FRONTIER

BLUE PLANET REVISED EDITION CORE RULEBOOK

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PLAYER'S GUIDE

BLUE PLANET REVISED EDITION CORE RULEBOOK

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In Tribute: As the first edition of Blue Planet went to press in June of 1997, the world mourned the death of Captain Jacques-Yves Cousteau. In his passing, the Earth's oceans lost one of their greatest champions and humanity lost one of its more noble men. Please honor his memory by honoring the oceans.

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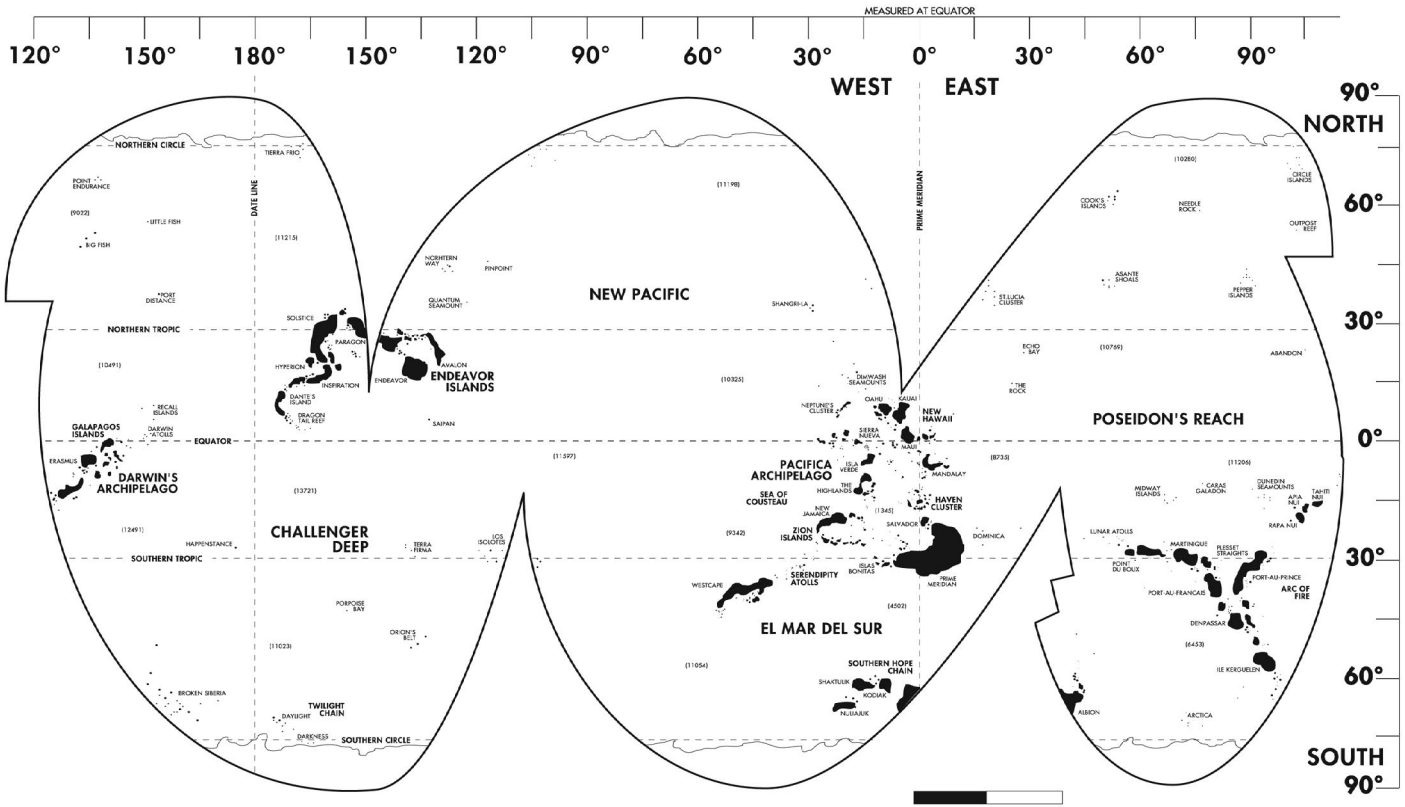
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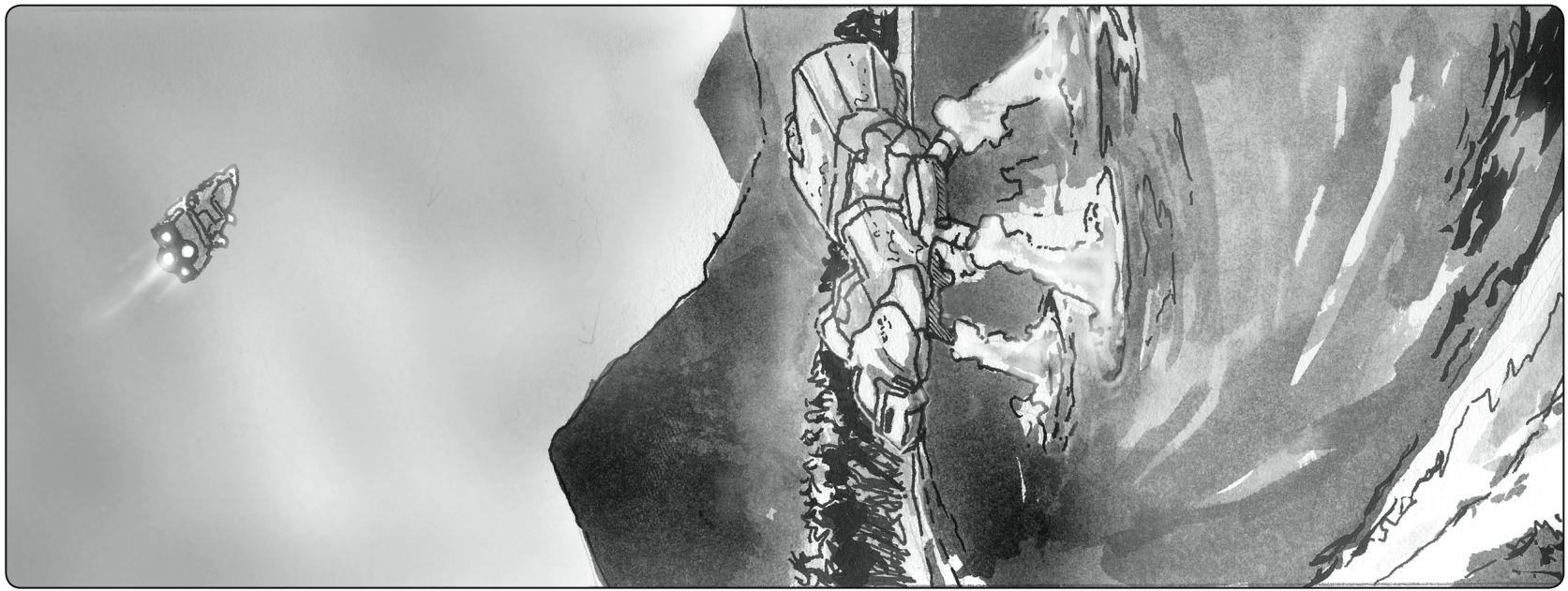
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LAMBDA SERPENTIS II

POSEIDON

2199AD



CHAPTER 1: WELCOME

WELCOME TO 2199 AD

The year is 2199 AD and life on Earth is a hopeless struggle with economic chaos and social decay. Incorporated city-states dominate the political landscape and natural resources are virtually exhausted. Civilization has barely survived a 75-year dark age known simply as the Blight. For more than three decades, an engineered virus ravaged the world's agricultural crops while social panic reigned and billions died of starvation. Once-great cities lie in ruin and anarchic, famine-ravaged Free Zones have claimed whole regions of the globe.

The resulting chaos has only recently been stabilized, due primarily to the heroic efforts of the Global Ecology Organization (GEO). This organization was created by the United Nations in reaction to the Blight and is all that remains of most of Earth's original world governments. Conceived of desperation and the threat of human extinction, the GEO was viewed as a powerful and benign champion, the protector of human rights and ecological integrity. During the darkest days of the Blight, the GEO was humanity's last hope for salvation.

Forty years after the Blight was finally eradicated, the memory of the GEO's heroism and its champion's mantle are beginning to fade. Many believe this world government is a powerful and dangerous relic, one that has outlived its usefulness and now threatens the ideals of liberty and justice on which it was founded. The United Nations has been reinstated and has emerged as a new challenge to the GEO's political authority throughout Earth and the Colonies. The GEO has become an unpleasant reminder of a horrific past, as humanity's attention turns to a new world and a new future.

In 2078, long before the outbreak of the Blight, astronomers discovered an anomalous body beyond the orbit of Pluto. During the following years, a series of probes revealed the anomaly to be a rift in space, an example of the hypothetical, astronomical construct known as a wormhole. Further exploration eventually demonstrated that this phenomenon was, in fact, a traversable passage to another region of space. Humanity looked to the stars with collective awe when it was discovered that an Earth-like planet waited beyond the wormhole: a planet covered by blue oceans and teeming with life; a pristine world, unexplored and unravaged; a waterworld that would become known as Poseidon.

As part of a long-term plan to ease the heavy burden on the Earth's vanishing resources, the UN member nations began an intensive colony effort, seeding Poseidon with genetically altered human colonists. The Athena Project did much to aid the Earth's failing economies and social morale. Unfortunately, the Blight struck soon after the colony ships were launched but before the planned resupply ships could be built. Desperate for resources to fight the Blight, the UN was forced to abandon the project and the colonists. This was the first in a long series of harsh decisions the UN would be forced to make in the years that followed.

In spite of the failure of the resupply effort and the lack of contact with Earth, the colonists on Poseidon survived. As their technology wore out and failed, they learned to rely on pioneer ingenuity and their genetically engineered bodies. Spreading across the planet's surface in small villages and family groups, the colonists adopted a life much like the ancient Polynesians, settling the planet's countless island archipelagos.

One of the many discoveries made by the colonists was that they were not the only sentient lifeforms on Poseidon. Frustratingly alien in their actions and motivation, these aborigines became a source of fear and mystery for the colonists. Encounters often ended in bloodshed, and superstition grew as evidence of strange empathic abilities was discovered. The true origin and motivations of these beings lies in the ancient history of the planet and is a mystery as dark as the planet's deepest waters.

As the GEO slowly salvaged the future of the human race, it looked again to the stars. In 2164, a small science vessel was built and sent through the wormhole in hopes of initiating a second colonial effort. No one had anticipated the survival of the original colonists, and those on Earth were stunned to discover the colony had not only survived, but had grown from the 5,000 original colonists to over 40,000 souls.

The recontact mission met with mixed reactions from the original settlers — many were excited and relieved, others were bitter and retreated into uninhabited regions; the majority were calmly indifferent. Poseidon had become their world, and they had become its natives. Contact was welcome but essentially unimportant. They had made their peace with the planet and had no intention of giving up the lives they had built.

Traffic between Earth and Poseidon was minimal at first and consisted mainly of scientific missions and Incorporate research and development teams. At first they had little impact on the natives or the planet, but as Poseidon began to give up its secrets, that quickly changed. The nature of the wormhole and its connection to Poseidon became a source of endless debate. The intelligence of the aborigines became a compelling mystery, as all efforts at contact or capture ultimately failed.

The planet's biological diversity and ecological intricacy defied understanding, and the commonality of DNA remained inexplicable. And, in the planet's exposed crust, Incorporate geologists found a substance that would eventually motivate a colonial frenzy that not only threatened to change the colonists' new way of life, but threatened to plunge humanity into a war of survival with an ancient alien legacy.

Xenosilicates, commonly called Longevity Ore or Long John, were first discovered during an Incorporate mineral survey. Though initially a closely guarded secret, word soon leaked about the fantastic potential of the substance. These minerals could be processed to yield biochemical tools of such awesome power that nothing in the realm of genetics remained beyond the control of gene engineers. Humanity had discovered the key to immortality!

On Earth, a world still foul with the smell of the dead, the human race exploded into a colonial gold rush the likes of which history has never known. Almost overnight, company towns began springing up across the waterworld as the Incorporate states imported research scientists and deep-ocean miners by the thousands. Human desperation sent millions rushing to Poseidon to stake their claims and to feed a market driven by humanity's primal fear of death.

In 2199, Poseidon is a planet of company boomtowns and corporate mining facilities, native settlements and orbiting factories. Life is hard, fast, and amphibious. Frontier law prevails as GEO Marshals try to protect native rights and enforce Incorporate regulations. The aborigines remain a mystery, yet are blamed for increasingly frequent acts of sabotage and carnage. Squadrons of fighter subs guard sea-floor installations, and corporate takeovers often involve marine assault teams. The natives have grown to hate the Incorporate and fear for their new world as environmental extremists incite ecological warfare in defense of the planet. New colonists continue to flood in, hoping for a better life, as ruthless opportunists scavenge what they can.

And lost in the background, scientists preach caution, claiming there is something wrong, something strange going on below the water's surface.

The Lesear Effect

It was the third day of the fourth week after the orbiter's splashdown, and Neilson and the crew had finally checked and rechecked the incoming data long enough to pronounce the atmosphere and water safe for the dive team. I was out of my environmental shell and already pulling off my thermal suit when McLaren came in from sonar to tell us we could all go for a swim. He glared at me; I smiled at him and headed for the topside hatch.

The airlock had only cycled half open when I climbed out on deck and into the alien sunlight and air of Poseidon. I could hear Neilson over the intercom, yelling at me to come back and put on a bio-monitor. I turned around, gave the intercom camera my sweetest "screw you" smile (you've probably seen the clip), and jumped over the side.

It's that first moment I'll never forget. I'm no poet, but by God, I'll tell you, sliding into that water felt like coming home. No lie. 'It was as real as I'm sitting here talking to you. A kind of dreamy, half deja-vu It lasted for maybe five minutes, maybe more, while that crystal blue water worked its way into every pore. I just hung there about two meters under, grinning like an idiot (you've probably seen that clip, too).

Strangest thing I've ever felt. The bioengineers tell me it was some kind of hormone-induced euphoria. All the modies get it on their first dive, apparently. But I don't buy that crap. It was more than that. It was the Planet. No, I'm not crazy. It was the Planet. It reached out and took hold of me and held on — as if I'd been gone a long time and had just come back home.

Anyway, I was the first and I'm proud of it. And now you know why they call that "hormone-induced euphoria" the Lesear Effect.

Nathaniel Lesear, *Argos 12* crew member — from *Tidal Forces*, interviews by Ashri Khenera

BLUE PLANET ROLEPLAYING GAME

Welcome to the Revised Edition of the critically acclaimed BLUE PLANET™ science fiction roleplaying game. BLUE PLANET REVISED™ builds on and streamlines the content from BLUE PLANET SECOND EDITION (BPv2) and integrates the content from the *Fluid Mechanics* sourcebook.

This volume is the *Player's Guide*. It includes the rules that players need to create and equip their characters, resolve tasks, and roleplay combats and other action sequences. The *Player's Guide* provides enough background detail to introduce players to this incredibly rich setting, including a comprehensive timeline and historical summary of the BLUE PLANET universe.

The *Game Master's Guide* (available separately) is packed cover-to-cover with additional details, backgrounds, and secrets of the people, places, and alien lifeforms that characters may encounter in the course of their adventures on Poseidon.

WHAT IS BLUE PLANET?

BLUE PLANET is a science fiction roleplaying game. The setting allows players to participate in an epic human struggle to colonize an alien planet, a waterworld known as Poseidon. Unlike novels and movies, roleplaying games are interactive. Players will not just read about or watch the adventures of someone else's characters. They will create their own characters and have the chance to guide them through exciting adventures set on this challenging and mysterious frontier.

For those players new to the hobby, an introduction to roleplaying is in order. In a roleplaying game, most of the players will create and control unique personae, called player characters. Each player will design his character from the ground up, detailing his physical and mental characteristics, personality, background, and professional aptitudes. Once the characters have been created, the players will verbally act out their characters' adventures, in a way similar to actors in a movie or play.

In BLUE PLANET, the characters players can create and roleplay are limited only by their imaginations. GEO Marshals, heavily modified lawmen, are charged with keeping the peace on an often-violent frontier world.

Native insurgents, the aquaformed descendants of the original human colonists on Poseidon, battle insurmountable odds to defend their homes and way of life from the encroachment of the newcomers. Incorporate operatives, highly trained and equipped with cutting-edge technology, wage a secret war against both the colonial government and each other. Cold-blooded gangsters in the service of shadowy crime syndicates run guns, drugs, and other contraband for a profit. Professional soldiers — from GEO Peacekeepers to hard-edged mercenaries — earn their livings on the front lines of the colonial war that is spreading across the waterworld. Deep-ocean miners and prospectors navigate the abyss in search of Long John, the priceless ore that has unlocked the power of human DNA. Frontiersmen and explorers venture into Poseidon's wilderness and confront its savage ecology head-on. And ordinary colonists — pioneers, bush pilots, free traders, and many others — brave alien lifeforms, brutal cyclonic storms, and frontier lawlessness to build a civilization under a new sun.

THE GAME MASTER

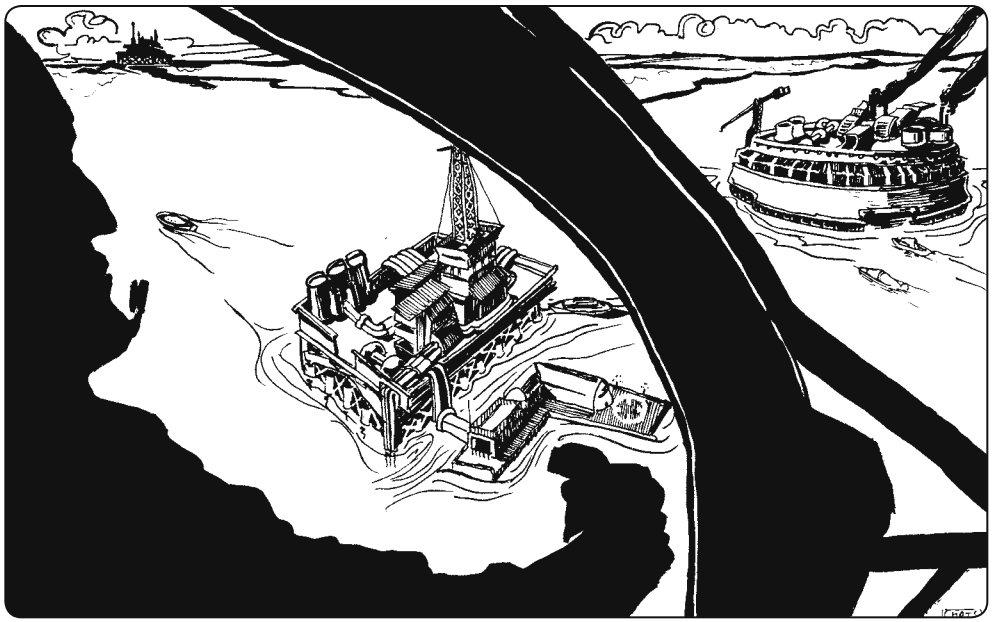
In BLUE PLANET, one person will serve as the **Game Master** (or GM). The Game Master's job combines elements of both writer and director in a film production, as well as some of the duties associated with a referee in sports competitions. The GM will have a guiding hand in creating adventures for the player characters, and in creating and acting out the roles of the non-player characters. The non-player characters populate the imaginary world surrounding the player characters and usually play some part in their continuing adventures.

The Game Master will also be the final judge of what the characters can and can't do within the scope of the game mechanics or rules. Does the Marshal spot the smuggler lurking in the shadows of the waterfront warehouse? Can the hacker defeat the network's security routines and crack the system? Does the three-round burst the Peacekeeper fires from his assault rifle hit the terrorist, and if so, does he live or die?

THE SYNERGY GAME SYSTEM

The rule system used in BLUE PLANET is called the **Synergy Game System™** — **Synergy™**, for short. Synergy is fast and easy to learn while still being robust and fun to play.

The Synergy mechanics for BLUE PLANET REVISED have been streamlined from the Second Edition of BLUE PLANET to make play faster and easier. The Synergy rules are described in detail in **Chapter 3: Synergy** (p. 90). This section is intended to familiarize players and Game Masters with Synergy's basics.



The Dice

Any time a character tries to do something that has an uncertain outcome, **dice** are rolled to determine the character's success or failure. Synergy uses 10-sided dice (abbreviated D10) for all rolls made in the game. The numbers on a D10 range between 0 and 9. A result of 0 is read as 10, so the dice produce a range of numbers from 1 to 10.

Ten-sided dice can be purchased via the Internet or at any hobby games store.

Dice Pools

When a character tries to perform some task in the game, the player will roll a number of D10s to check for success or failure. The number of dice the player rolls for a task is the **dice pool**. In general, the greater the character's aptitude for a task, the larger the dice pool will be.

Aptitudes (p. 47) represent the character's natural talent and proficiency in fairly broad fields, like Combat, Tech, and Communication. In Synergy, dice pools range from one to three dice.

Target Numbers

Any task a character tries to perform has a **Target Number (TN)**. The Target Number for a task will usually be based on two characteristics. **Skills** (p. 48) — like Handguns, Computers, and Persuasion — are rated from 1 to 10 and represent a character's relevant training and experience.

Attributes (p. 39) — like Dexterity, Intellect, and Presence — measure the character's basic mental and physical traits. The human norm for all attributes is zero, so above-average attributes are indicated by a positive number, and below-average attributes by a negative number. The relevant attribute is added to the character's skill, and either increases or decreases the Target Number.

Task Rolls

To attempt a task, the player rolls a number of dice determined by the character's aptitude and takes the lowest result. If this result is equal to or lower than the Target Number, the character succeeds. If the result is higher than the Target Number, the character fails. The difference between the number rolled and the Target Number represents the character's degree of success or failure, called the **Action Value (AV)**.

That's the basic system Synergy uses to resolve any task in the game, whether a character is trying to jump across a chasm, shoot a gun, or outswim a dolphin. **Chapter 2: Characters** (p. 33) and **Chapter 3: Synergy** (p. 90) offer more detailed rules that will help players create characters, resolve tasks, and adjudicate combat.

Making the Game Your Own

Just about every roleplaying game published these days includes a disclaimer to the effect that "any rule can be broken" and that the game rules should be viewed as "guidelines, and not rules." Many veteran gamers have come to view such a disclaimer as a simple matter of tradition, and one that is neither useful nor necessary.

The fact is, though, this disclaimer is at the heart of what makes roleplaying games unique. Unlike most video games, board games, or card games, there are no winners or losers in a roleplaying game. The only rewards to be had from playing are the stories the players take home with them, the experiences they share with their friends, and the chance to explore a new world built of their own imaginations. The only point is to have fun and to make the game fun for all those who share it.

As such, players and Game Masters are free to do whatever they want with BLUE PLANET REVISED, as long as everyone is having fun. Rather than rulebooks or doctrinal tomes, every book published in this product line should be considered a literary toolbox or set of guidelines. If a GM finds some aspect of the setting as presented in these books unsatisfactory, he should rewrite it to suit his own vision. If a rule gets in the way of adventure and fun, the gaming group should feel free to revise it or ignore it completely. The game is flexible and robust enough that it can take a lot of revision, expansion, tweaking, fiddling, and independent creative development and still be BLUE PLANET.

As soon as you dive into your first adventure on Poseidon, BLUE PLANET is yours. Do with it what you will…

POSEIDON: A COMPLETE SURVIVAL GUIDE

The makeshift studio has been set up in a rundown warehouse on Haven's waterfront. A young man sits on a bioplastic chair in front of a tripod-mounted holocamera reading over his script from the holographic display of a bodycomp. In the water nearby, a splash betrays the presence of a bottlenose dolphin, turning lazy circles in the warm water. Soft snoring comes from a man leaning back on a chair behind the camera. The door of the warehouse supervisor's office slams as the director walks out. He gives the cameraman a disgusted look and asks, "Does this clown ever sleep on his own time?", just before slapping him on the back of the head. The cameraman, startled awake, yawns and starts readying the holocamera, all the while glaring at the back of the director's head.

"Let's do this." the director says, pointing to the man in front of the camera. The narrator says "Hey, I'm not the only one here this time. Better make sure she's ready." He jerks his thumb in the direction of the water. The director sighs and walks over to the water. Looking down at the figure swimming a few meters below the surface he yells, "Hey Wavedancer, you ready?". A voice replies not from below, but from a mechanical remote on a desk beside the water, "You don't have to shout. I'm right here." The director starts, then looks sheepish. "Sorry Wavedancer," he says facing the remote, "I didn't realize you had your CICADA here." "Skimmer." the remote replies. "Wh-what?", the director stammers. "My name is Skimmer." the remote says insistently, "I'm no longer called Wavedancer." The narrator fails to contain a snort of laughter, earning a nasty look from the director. The director regains his composure and says, "Well…Skimmer, are you ready?" "Yep!", the remote enthusiastically replies. The director walks back towards the camera, amid snickers from the other two humans present. "All right, knock that crap off," the director snaps, "we have a holo to make."

A fourth human, a computer technician, comes out of the office and takes a seat at a battered plastic desk. She jacks into a powerful maincomp and its holodisplay flares to life. The tech is responsible for loading and integrating background holos and sound during the recording.

The director gives his crew a five-count, and the holocamera sprays emerald laser-light across the narrator and modest set. The narrator squints into the holographic prompter.

"Welcome to New World Underground's multimedia production, *Poseidon: A Complete Survival Guide*. I'd call it two point zero or something lame like that, but all we're doing here is condensing our award-winning programs into one for the convenience of our audience. In other words, it doesn't matter whether you have legs or fins, this guide is for you. With me here today, representing the cetacean species, is our good friend Skimmer. She'll be chiming in with in-the-know tips for cetes.

"Chances are, you're running this program back on Earth, the once green dirtball we converted into a landfill over the last couple centuries. And you're just dying to get out of there, maybe literally."

A stunning image of Earth from orbit forms on the holodisplay and fades to a major industrial city. The brown-orange inversion layer hangs over the city like a burial shroud, and a disharmonic industrial rhythm begins driving in the background. The

image shifts to a scene from a Free Zone in the North American Midwest. The land is a barren, dusty waste stretching to the horizon, the legacy of the Blight. Scattered across this wasteland, robotic seeders scurry about feeding water, nutrients, and microbes to the hungry sand, struggling to resurrect the soil of what was once fertile farmland.

The audio switches over to the dolphin's CICADA remote. It begins speaking in a pleasantly modulated female voice.

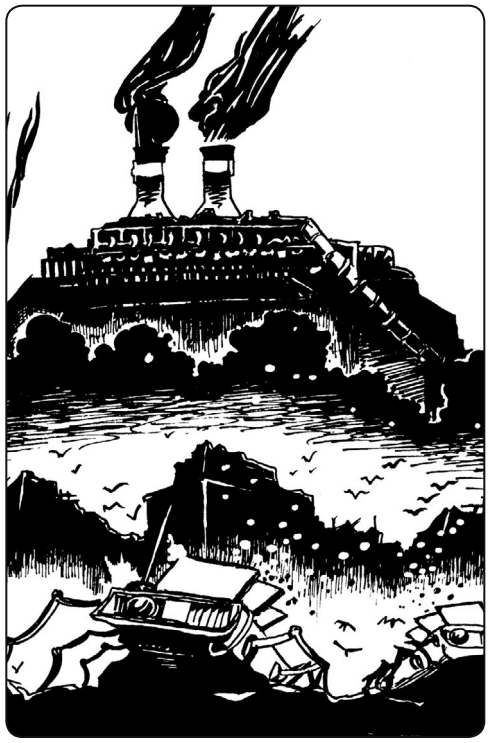
"If you're a cete, you've probably heard stories that Poseidon is the promised land. Those stories are essentially right. It's that and so much more. You can stay on Earth and continue swimming in the cesspools they call oceans, being treated less than sentient or you can come here. The first time you slip into the water here — even though you're itching from spots and still sick — you'll realize it was all worth it. The water is clean, actually pure. I doubt you know what clean water tastes like that wasn't run through a purifier first. And the noise is is gone, except near the large settlements and even then it's nothing like back on Earth. But the first thing you need to do is get there, right Robby?"

"That's right.", the narrator says.

"First thing you're going to need to do is pack your bags, forward your e-mail, and do the 35 light-year road trip to the Serpentis System. Sounds like a long trip 'cause it is. However someone was nice enough to leave us a shortcut. Yeah, I know the scientists say it might be a 'naturally occurring phenomenon,' but you and I know somebody with some big-ass bulldozers built that wormhole. We don't know who and we don't know why, but it was mighty neighborly of them, because it lets us do the Sol-Serpentis gig in as little as six months instead of a few thousand years."

An image of the wormhole recorded from an approaching spacecraft replaces the barren wastes of Kansas. The thematic overture from a 20th-century sci-fi classic keys in and builds to a crescendo of thrumming timpani and powerful brass. The massive, utterly dark sphere grows steadily, and the starscape beyond it is slowly eclipsed as the ship draws near. The image fades to black as the wormhole engulfs the horizon.

"But first you need to know how to hitch a ride to Poseidon, 'cause it sure as hell isn't free. The important question is: Who are you? How you get to Poseidon really depends on who you are.



You can either make the trip in all the comfort, luxury, and safety that money can buy, or you can do it the way I did — in an obsolete coffin that couldn't keep water frozen.

"Ships making the run between Earth and Poseidon fall into one of three categories. First, there are your GEO vessels. This is probably the best way to go, all things considered. The easiest way to get yourself on a government ship is to work for 'em and get reassigned to the Serpentis System. If you can't swing that, you could apply for a position in a GEO-sponsored colonization effort. You can find the application you need on CommCore at the GEO Office of Colonial Affairs datastore. Your computer can help you find it if you're an idiot. Your chances will be vastly improved if you have something to offer, like scientific, military, medical, or technical training, teaching experience, or a background in deep-sea industry. You'll probably be at least two years toward the bottom of the waiting list for one of these programs.

"Your next option is to hitch a ride with an Incorporate ship. Again, your best bet here is to have a job and get yourself transferred. This may not be as tough as it sounds, assuming you don't mind waging for the corp a few years once you get here. I hate to break it to you, but it probably won't be a great job. If there were a terrific

job for you with the Incorporate, you'd be working for 'em already. You damn sure wouldn't be sucking down a cheap beer and asking me for advice. If you have some skills, you might get lucky and land yourself a job with a deep-sea mining operation.

"Of course, even if you don't have any useful skills, you may have some money. Maybe you're a lawyer. Well, every once in a while one of these GEO and Incorporate ships has a spare coffin available, and they'll be happy to rent it to you for half a year or so. This happens pretty frequently, when someone on the passenger manifest dies, or backs out, or whatever. Those lists are public information, so tell your computer to let you know if something becomes available and have your cash ready. It'll cost you about 10,000 scrip."

Skimmer's audio breaks in, "If you're a dolphin it will cost you 15,000 scrip. Jump that up to 20,000 scrip for whales. If you don't have the money or a rich podmate to loan it to you then try checking out the cetacean ship fare charities, like Hydrospan Outreach or Cetes for Cetes."

The narrator resumes.

"Now, I mentioned the GEO and Incorporate ships first, because they're most likely to get you here alive. You've got some other options, too. Before you look anywhere else, try to hook up with a private organization or Independent national government that's running a ship to Poseidon. The odds aren't good, but it's still possible. Many private groups, from religious cults to political organizations, occasionally put together the funds to charter a ship, even if it does look like it took a wrong turn on its way to the salvage yard. Now, you may have to offer a demonstration of your commitment to the cause, but it beats a life of soy burgers and seed-busting on some collective farm in Iowa.

"Okay, like I said: private flights by more-or-less legitimate organizations like the above are few and far between, so you may strike out again. Your last chance is to scrape the bottom of the gravity well and pull out a spot on a ship that wouldn't be licensed if the GEO ever bothered to inspect it. There are ships doing the Earth-Poseidon run that are more than a hundred years old. The one I came over on hauled the first scientific expedition to Jupiter, back before things went down the tubes. Now, the crew of that old heap had no business sailing a rubber ducky in the bathtub, and the ship was in bad enough shape that no museum in Earth orbit would go near it, but I got here, almost in one piece."

The narrator rolls up his sleeve and peels back the flesh on the inside of his right arm. He thumbs open a tiny panel, about a centimeter square, and displays the complex electronics to the holocamera.

"It seems the ship's coolers were about as old and well-maintained as it was. When I got here to Poseidon, my arm was deader than Nebraska farmland. The med school dropout who woke me just shrugged and said I was lucky it was my arm and not my head. I'd have decked him, but I never could lead with my left.

"I guess I can go ahead and tell you all about the cooler now.

"Induced Hypothermic Metabolic Suppression. That's what some Poindexter decided to call it, and I guarantee you, it'll be the least pleasant experience of your life. Here's how it's gonna go. Once you've booked passage, you'll go through a planet-side training and education program. This is also when they'll start dosing you with god-awful chemicals to burn all the critters off your skin and flush all the bugs out of your system, and this process will continue once they've run you up the 'Hook to the pre-flight facilities in one of the many stations in orbit. They'll give you a bedpan and barf-bucket to handle some of the flushing.

"Speaking of chemicals, kick the recreational pharmaceuticals before you show up for your orientation program. Depending on your carrier you'll be put through a series of rigorous medical tests, and if you're dosed with something that will cause complications, you'll lose your ticket.

"In the final stages of pre-flight, you're gonna lose every hair on your body and get dunked in a chem bath so caustic it'll bleach your skin. They'll dress you in a hospital gown that even I couldn't look cool in and send you to a quarantine room to wait for your coffin.

"Now I know this sounds a little dehumanizing. You're right, it is. And don't think of it as a short stay at a lousy hospital, either. In a hospital, no matter how bad it is, there will be a few people who probably give half-a-shit about you. Don't bother asking any of the losers pretending to be medtechs to hold your hand. I didn't meet one of 'em who showed me any more kindness or sympathy than they would a wilted cabbage in the produce section. To them, they're processing cargo.

"Your cooler is going to be a canister three meters long, tangled with fiber optics, cooling lines, and electronic gadgetry. Even the older

ones are surprisingly comfortable inside. There's a little viewport in the lid so you can watch the medtechs bet on your chances of coming out on the other side. Before they seal you up, though, they'll catheterize you and hook you up with all the IV tubes you'll need. They're also going to glue electrodes all over your body so they can pump current into your muscles, to keep you from going to mush along the way.

"Once they've done all this, they'll seal you up, and the computer will initiate the refrigeration and drug therapy systems. Here's where the panic really starts to work its way deep into your bones. They're pumping sedatives into you now to put you under, but that immeasurable time before you lose consciousness will probably stay with you the rest of your life."

A first-person image recorded from an implanted sensory recorder fades in. The view jerks wildly as "your" eyes flit back and forth, looking down at your naked body bristling with IV tubes, now at the fogging viewport centimeters from your face. Along the left periphery of your vision, biomedical data scrolls through recordings of your elevated heart rate and adrenaline. The sedatives kick in and your eyes close. The view fades as you lose consciousness, but the sleepless internal biomonitor continues to flash unending data across the backs of your retinas.

Skimmer speaks again, "The process for cetaceans really isn't much different, except for a little less external cleansing. You'll be sealed inside a cete freezer — an aquatic tank just barely bigger than your body. It's just as unpleasant as Robby described."

An image appears of an orca floating in zero-gee inside a molded bioplastic hibernation tank. A bored-looking med-tech finishes slapping on electrodes and cycles the tank shut. The camera focuses on the orca's eye visible through the viewport. The screen fades to black as the orca's eye slowly shuts.

Robby continues, "You'll wake up in post-flight on Prosperity Station feeling like warmed-over manure. Your body will be feeling all those chemicals and engineered viruses they put into you to hold your cells together while you were frozen and thawed. Being a centimeter this side of death for half a year takes a certain toll on a person. They make sure the lights are dimmed, but when you open your eyes, it'll feel like your head is going to explode. You'll be so weak it'll be hard to sit up. You'll most likely try puke all over yourself, but you won't be able to. You'll have the worst case of the dry heaves you ever had, though.

"After these preliminary unpleasantries, the itching will start. Those electrodes they stuck on you will leave little red welts all over your body, and these welts are going to itch like all hell for about a week after they unplug you. We Poseidoners call it the Spots, and it'll be a signal to us that you just got off the boat and haven't a clue what you're doing. It should remind you of the same.

"You'll spend a few days in recovery facilities, either on *Prosperity Station* or planetside. Believe it or not, you'll wish you could sleep. You'll feel so bone-tired that you wouldn't mind going under for another six months. You won't be able to, though — they've got you so pumped full of stimulants that you'll do well to stop shaking long enough to scratch your Spots.

"The days you spend in recovery are likely to be the most unpleasant of the trip. You're going to be a twitching, helpless, gelatinous mess for 48 to 72 hours, at least. All this makes the task of unloading all the passengers from a ship and shuttling them down to Poseidon all the more difficult. Chronic understaffing and inevitable contempt guarantees that the medtechs at *Prosperity Station* will treat you with even less respect than those on the other side of the wormhole. They'll laugh in your face when you make a mess in your bed and curse you as they're cleaning it up. Look around, though — would you want their job?

"When they release you from post-flight, you'll be directed to OCA Customs and Immigration. They'll put you through much the same routine you got before leaving Earth orbit, but this time there will be an edge on it. They'll ask you why you left Earth, why you want to immigrate to Poseidon, what your plans are, why you packed a box of condoms…the whole bit. Don't give them any lip — these guys have the attitude that they're the planet's last line of defense, and they'd be more than happy to make your life miserable.

"Once you're passed through Customs and Immigration, you'll want to find a monitor and find out when you're registered to shuttle down to the planet.

"Enjoy the flight. Try to get a window seat. Look out at the blue globe with white swirls hanging in space and think about the fact that you're one of only a few million human beings who have

ever seen it. Hell, most of the natives haven't even seen it like this. This planet is a second chance that most of us probably don't deserve."

An image of Poseidon from orbit appears on the holodisplay, the planet's two moons visible in the background. The image fades to a high-speed motion shot, the camera racing just over the surface of the ocean toward a small volcanic island, as manic techno-pop rises from the main-comp's speakers. The display goes dark again and shifts to a dimly lit underwater scene, where a team of Incorporate miners, supported by a variety of heavy equipment, are blasting away at the planet's exposed crust.

"Your shuttle will most likely touch down at a spaceport in Haven, Second Try, or Kingston. I'd recommend one of the latter two — Haven is the largest city on Poseidon, and it's easy to get a shuttle there, but it's also overcrowded and damned expensive. You're probably going to need to do some serious shopping, and there's no reason to pay the Haven premium unless you have to."

The holodisplay clears and is filled with the image of a narrow, dirty city street in a commercial district choked with pedestrians and civilian vehicles. Buildings demonstrating a chaotic variety of architectural styles squeeze the street, and holographic billboards light the scene with an unpleasant multicolored glow. Overhead, jumpcraft move through the city in layered traffic lanes stacked ten high.

Skimmer breaks in, "Haven isn't that bad a stop for cetes. Go down to Slippery Jake's or Aquatech on the waterfront for your CICADA and other equipment. Both places are honest and fair-priced. If you need a guide, ask Jake who he recommends. He knows all the good guides. They're not cheap, but you won't end up stranded in the middle of the nowhere. Or you could fly into Second Try and check out Aquatech HQ. They have everything the store in Haven does plus the owner, Vendor, is full of good stories. Some will scare the flukes right off you. Tell him I sent you, and say hello for me."

Robby clears his throat and continues.

"Stepping off of that shuttle and into one of the major spaceports is likely to be the most bizarre experience in your life. You never really notice it at the time, but mass-culture and the global village have turned much of Earth into an anonymous purgatory of conformity. Everywhere,



things are the same. You can travel thousands of kilometers between cities and never feel like you've even left home. You're in for a shock.

"Freedom and individuality rule on Poseidon in a way that hasn't been true of Earth for centuries, except maybe in the Free Zones. You're going to see, hear, and smell some things that you never even imagined. Clothes, languages, customs, it's all going to seem more than foreign…it's gonna seem alien. You're going to feel lost, confused, and more disoriented than you've ever felt in your life. Vendors will be approaching you and trying to sell you stuff you've never even heard of. People so modied-out you can't determine their sex will offer companionship for a price. You'll be haggled, molested, and maybe even mugged your first hour off the shuttle. When you leave the spaceport and step onto Poseidon for the first time, you may think you've made a terrible mistake."

A middle-aged man with white hair, a scraggly beard, and a weathered face peers into the camera, his suspicion and irritation clearly translated in the detailed hologram. "What do I think?" he asks in a gravely voice. "Poseidon stinks, that's what I think. It's the first thing you notice when you get off the shuttle and breathe that alien air. They say it's because the atmosphere is a little different from Earth's…whatever, it smells…heavy, organic…like a living thing. When I caught my first whiff, I seriously thought about getting back on board and heading home. 'Course, home doesn't smell

a hell of a lot better these days. Besides, you really do get used to it after a while. After a few days, it stops stinking and starts smelling like freedom."

"I've known James Colby for two years, folks, and he knows what he's talking about. He's an independent prospector who's been operating on Poseidon since before I even came over. That little bit of advice was the most I've ever heard him say at one time when he wasn't stone drunk. Don't let the trace compounds in Poseidon's atmosphere fool you, though: with its healthy ozone and lack of pollutants, it's better suited to sustaining human life than Earth's.

"Whatever your plans, you're going to be spending some money your first few days on Poseidon. The colony is still partly autonomous from the GEO, and that autonomy has its price. For one thing, commerce on Poseidon is a nightmare of confusion. For whatever reasons, a standard currency hasn't yet been instituted. I figure a lot of the natives and a good portion of the newcomers are worried about the GEO hanging the economic chains on them. Unfortunately, the alternative that's in place right now is even less appealing.

"The only thing vaguely approaching a standard currency on Poseidon is a little commercial disaster called corporate scrip. Those of you from Incorporated city-states back on Earth may already be familiar with it. Scrip is something like common stock, I guess, except it doesn't represent any equity in the corporation. Instead, it's a legal tender that's loosely pegged to the issuing corporation's quarterly earnings. For example, when Biogene's earnings increase relative to GenDiver's, the value of its corporate scrip increases relative to GenDiver's. When Biogene's earnings decline relative to GenDiver's, the value of its scrip declines as well. Of course, while the value of Biogene scrip has declined relative to GenDiver scrip, it might have increased relative to Atlas scrip.

"It gets worse. There's a supply and demand for corporate scrip, just like there's a supply and demand for any commodity. The value of the scrip pegged to earnings acts like a kind of baseline, but there's a hell of a lot of fluctuation beyond this value. Supply and demand: as supply increases, value tends to decrease; as demand increases, value tends to increase. All of this is just to say that there is a market for corporate scrip on Poseidon that contributes as much to the determination of its value as corporate earnings. If a lot of people think Biogene scrip will get stronger relative to the other scrips, a lot of people will want Biogene scrip. The more demand for Biogene scrip there is, the higher its value will rise. That is, the more of another corporation's scrip you'll have to give up to acquire a given sum of Biogene scrip, or the more goods you can buy in a local market with a given sum of Biogene scrip.

"Of course, expert traders who are familiar with the market can make a fortune in scrip speculation. All of the Incorporate powerhouses on Poseidon have a team of experts and computers to manage their scrip trading. Fortunately, there are a few scrip analysis programs available on CommCore that will help average Joes like us survive in the corporate scrip market. Scrip comes in two forms: paper and electronic.

"Paper scrip is available at all major financial institutions on Poseidon. The big banks have branches in all of the larger settlements and quite a few small ones. Cash is important, because there are still holes in the global communications network, and there are countless settlements where the natives won't have anything to do with electronic scrip. And, of course, if you're interested in privacy in your commercial dealings, paper scrip has the advantage of not having your name written all over it.

"You'll also want to set up an account with a bank, of course. Electronic scrip is a lot more convenient than cash, and you'll have access to your account, in most places, through your bodycomp.

"Hopefully, you transferred the majority of your funds to Poseidon ahead of you. If that's the case, just go to your bank's local office and request that they convert your funds to scrip. If you haven't downloaded a scrip analysis program, you can access a bank terminal for a nominal fee. Exchange rates between Earth's surviving currencies and the various scrips are way too frigging complicated for us to explain here. However, assuming you've accessed a good analysis program, the purchasing power of your net worth shouldn't suffer much.

"For obvious reasons, commerce on Poseidon tries to find as many ways as possible to avoid corporate scrip. In many native villages, for example, the barter system dominates trade. If you ask me, though, native barter is as arcane a practice as corporate scrip.

"The most popular substitute currency on Poseidon is Long John. Long John, in either pure or refined form, serves as an informal common currency in most of Poseidon's settlements. Long

John is accepted by Poseidoners, even when scrip isn't, because it has tended to be hyper-inflationary — that is, its value on both Earth and Poseidon continues to increase daily. Okay, so maybe a stable currency would be nice, but if you're going to have fluctuation, it might as well move in the right direction. Long John makes a good substitute because it eliminates much of the risk and uncertainty of corporate scrip — if you're holding Long John, it's pretty likely that its value will increase over the near-term, and very unlikely that it'll decrease. Currently, one gram of Long John is worth about 1,000 scrip, standard. The one-milligram wafer is the most common unit of exchange for modest purchases.

"Even in the major cities, the retail industry hasn't quite caught up to the booming commercial expansion that's taking place on Poseidon. There are stores and restaurants on Poseidon, but they're typically small-time mom-and-pop enterprises, rather than corporate-owned chains and conglomerate franchises.

"The limited resources of these entrepreneurs leads to market specialization. Even in larger settlements like Haven where you can find a Hypermart or two, there are independently owned and operated fish markets, produce markets, street vendors, medical clinics, machine shops, and so forth. In some very small and isolated settlements, you'll see a bit more centralization out of necessity. These towns and hamlets might have a single trading post where just about anything can be bought, sold, or bartered."

An image of a bustling open-air market in a small but prosperous community lights up the holodisplay. Traders and vendors offer their wares to shoppers who have traveled from countless outlying settlements to visit the market. The air is thick with the smoke from open cook-fires, and scrip changes hands amidst the haggling and gossip.

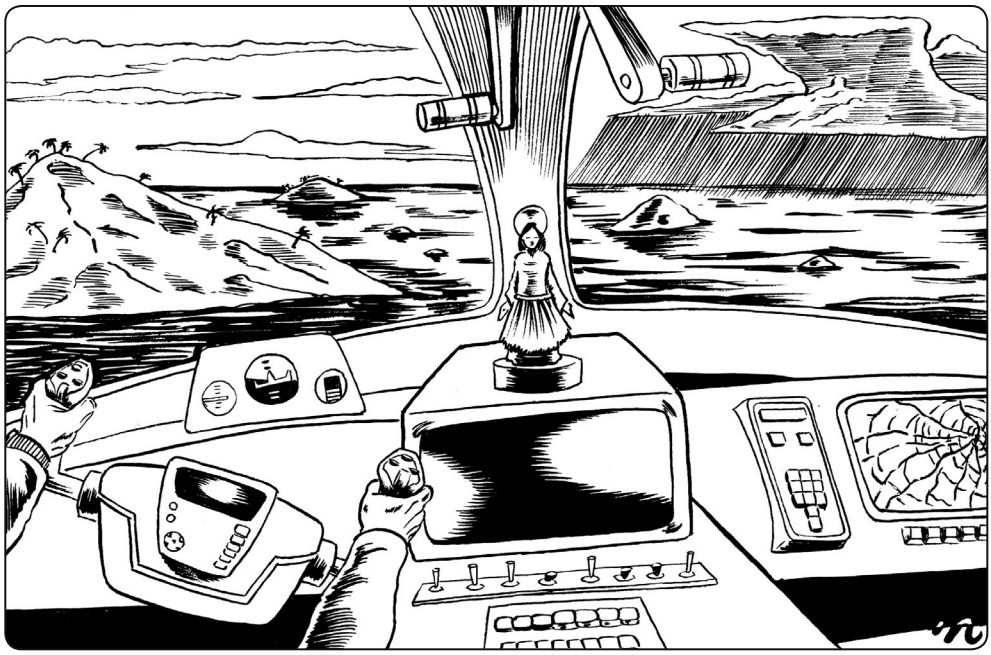
"What about things like vehicles, machinery, and computers? Well, it's been slow coming, but heavy manufacturing of durable goods has begun to accelerate over the last several years. It's a simple matter of expense: shipping anything through the wormhole is ungodly expensive. As a result, several major manufacturing corporations have operations running on Poseidon, though the scale of most is still small compared to Earth. These manufacturing operations are clustered around the major cities and company towns. These are the best places to make major purchases, whether it's a vehicle, a bodycomp, a firearm, or a hardsuit you're shopping for.

"Retail service for this stuff is still a little backward. For example, there are a few factory jumpcraft dealerships in the major cities, but the corporations will give just about anyone a license to distribute and retail these goods. You're likely to find a lot of independent tech dealers in other locations. Like anything else, these guys vary widely in honesty and reliability. Just remember the guiding principle of commerce on Poseidon: C.O.D. The dealer doesn't see your cash until you see your jumpcraft. Anyone who tries to do it another way is trying to rip you off. Count on it.

"There's going to be a waiting list for some goods, but you're gonna get used to that kind of thing around here. You can usually speed things up by working with an independent dealer and slipping him some extra cash to move you to the top of the list. This will usually cost you a 20% premium or more.

"Unless you plan to live your life in one of the big cities, the first thing you'll want to arrange is transportation. Yeah, you want to do this even before you book yourself a room at a local hotel or boarding house. Reliable transportation is one of the most important things in the life of a colonist on Poseidon. Ninety-seven percent of this planet is covered by water. If you get separated





from your ride, you could literally be stranded on a deserted island for the rest of your life. Or worse, stuck in a can on the ocean floor with your oxygen supply running low.

"Colonists and natives alike are real serious about their transportation, whether it's a beat-up '82 SeaStrider or a catamaran with patchwork sails. Vehicles on Poseidon are usually well protected by sophisticated security systems and/or closely watched by suspicious owners. Vehicle theft is punished pretty harshly on the colony. Most colonists are likely to shoot any thief caught taking so much as a headlight off their vehicle. Still, the black market trade in vehicles and spare parts is so lucrative that there are always freelance and organized criminals who are willing to run the risk."

A crime scene in a small settlement materializes on the holodisplay. Two Patrol jumpcraft have landed near a beat-up SeaStrider and a light transport hover. An outraged, but defensive, motorist speaks with the four Patrol officers circled around a sheet-covered body. "Yeah, officer, I came out of the bar and saw him loadin' my hopper onto a cargo-hauler! I didn't even think about it…I just put a bullet in him and started unhooking my rig. Would you wanna be stuck in Wetland for the rest of your life? No offense, if you are stuck here. I was only a month behind…how was I supposed to know that rat-bastard I bought the piece of junk from would send a repo man after me?"

"The recovery of lost or abandoned vehicles is protected under the treasure statutes of the GEO property code. For those of adventurous spirit, this can be one of the most profitable, legitimate enterprises on Poseidon. Many salvage teams follow in the wakes of cyclonic storms or dive to undersea mining facilities that have suffered a major accident or catastrophe. These teams usually race the Emergency Response Teams, who are authorized to claim salvage rights for the GEO. Now, the relevant statutes dictate that the owner of any salvage will have first rights to the equipment at a fixed percentage of its recorded value. Of course, the value of salvaged technology in both legitimate and illegitimate markets greatly exceeds this standard commission. You and I both know which markets see the most traffic.

"Just as important as your vehicle is the fuel that keeps it running. Most of the larger settlements on Poseidon offer both commercial and government stations where you can get your tanks topped off. The cost of hydrogen at these facilities averages half-a-scrip per liter. Even the smallest of settlements will often have a solar unit that can crack hydrogen, and the locals are usually willing to negotiate a fill-up for as much as two scrip per liter. In many of these settlements, of course, barter goods or Long John will greatly facilitate the negotiations.

"There's no centralized public transportation system on Poseidon, though the GEO claims to

be working on it. Several small-time carriers offer regular commercial service between the major towns and cities. These carriers usually charge around a scrip per 10 kilometers for the scheduled flights. If you need to make a trip to an isolated settlement, you'll want to find an independent bush pilot who will charter a private jumpcraft or VTOL flight to just about anywhere on Poseidon. A private charter will typically run you five to 10 scrip per 10 kilometers, depending upon distance and travel hazards. Charters to the Storm Belt are notoriously expensive, but often quite exciting. If you want to spend less money and aren't in a hurry, you can charter an independently owned and operated hydrofoil in just about any settlement on Poseidon."

The holodisplay shows a young, athletic man in aviator's glasses and a flight suit reclining in the cockpit of an aging civilian VTOL. "Like damn-near everybody else, I came to Poseidon thinking I'd make a fortune prospecting for Long John. Only problem is, I don't know much about prospecting, or diving. I was a pilot in the GEO Aerospace Command back on Earth. So, a couple years ago, I sold my hardsuit and mining gear, bought this broken-down Raven, and started running charters, mail, and cargo back and forth to settlements in the Storm Belt. There's nothing like the thrill of pulling eight Gs to climb topside of a microburst. It pays well, too."

"The GEO maintains an extensive communications network on the colony world. Satellite access is surprisingly good, and you should find that the availability of advanced communications is much the same on Poseidon as it is on Earth. It's certainly more important — on Earth, communications technology was a convenience for most people and one that was taken for granted. On Poseidon, it can save your life. You probably brought a bodycomp or two with you, and you'll want to register for a CommCore account, ASAP. The account will cost you about 50 scrip a month.

"The GEO also sponsors public access to its Global Positioning Satellite network, and you'll want to register your bodycomp for GPS service immediately. It's real easy to get lost on Poseidon, and most newcomers are almost obsessive about GPS. Just do it, it's only about 20 scrip a month. If you combine CommCore access with GPS service, you usually get a little break in the price.

"Okay, you've got some scrip in your pocket, and you've set yourself up with transportation. You've done a little shopping. Now get the hell out of the city and take a few days to experience your new home!

"I'm serious. When you step out of that spaceport, you'll be feeling a sort of awe and wonder. You won't be able to stop thinking about where you are: a new world, a new frontier, so far from Earth that you can't really get your head around it. A world without oak trees, or roses, or cockroaches, or pigeons. A world without humans, until a hundred years ago. Poseidon is a world that has yet to be smothered in concrete and steel, a place where you can breathe air that isn't toxic or choked with the smell of billions of people.

"After you've dealt with the banks, and the shopping, and all the rest, though, it'll start to feel as if you've just traveled to a somewhat backward country or Free Zone on Earth. You need to get that feeling back, see Poseidon as it should be seen. Take a hydrofoil or, better yet, a sailboat — you can't experience anything but noise and nausea in a jumpcraft or VTOL.

"Don't leave just yet, though. You're gonna want to make sure you're ready for Poseidon. The best thing you can do is hire a local guide. Do a little asking around, and you should be able to find somebody qualified. Skimmer mentioned Slippery Jake's, which is just perfect. Jake is a straight up guy. If you're in Kingston, look for Pathfinder on the waterfront. She's not a native, but she is a fin who's real friendly with 'em. Pathfinder's about as comfortable with this planet as you can be without being born here.

"You don't think you need a guide? Well, that's because you're a clueless newcomer. There are so many ways this planet can kill you they won't be catalogued for years. You're going through a hell of an ordeal to get here, you owe it to yourself to not get dead on your first weekend.

"It really doesn't matter where you go. Just pick a direction and head for that blue horizon. If you're really adventurous, turn off your GPS system. Head down to an isolated beach — there are a billion or so to choose from. Turn off the engine and listen. Look out at the sea. You'll expect to hear seagulls, I guarantee it. Something about our modern human minds just associate seagulls with the beach. You won't hear any seagulls, though, because there aren't any seagulls on Poseidon.

"Take off across the ocean. If you're lucky, you'll see a caneopoise migration. Folks call them sunbursts, and you'll quickly see why. Sunbursts are silver-skinned marine mammals, a bit like

dolphins or seals, I guess. They have this strange buddy system going with these birds that constantly migrate from archipelago to archipelago. The birds seem to dig the sunbursts' reflective skin, and Poseidon only knows why the sunbursts like the birds. They say the caneopoise population in Poseidon's equatorial waters is huge. They organize into groups of thousands, followed by those birds. A large migration will stretch for kilometers, the sunbursts breaching and blowing spray at the sky as they swim from island to island.

"If Pathfinder's your guide, maybe she'll sing with 'em and record it for you. She's got an implant that tapes the sound-pictures she experiences, digitizes them, and converts them for viewing on a standard holoviewer. It's unreal. Those sunbursts sound to me like fingernails dragging on a chalkboard. Once you see those images, though, you'll know why the cetes think of them as more gifted than Mozart, Beethoven, or even Elvis."

"They're instinctively beautiful," Skimmer interjects, "I don't know any other way to describe it. You don't hear or see it, you feel it."

An aerial shot on a clear day fades in on the holodisplay. Below, a huge caneopoise migration stretches from horizon to horizon. Poseidon's sun is reflected blindingly by the magnificent silver creatures and refracted a billion times in the spray above them. The migration looks like a brilliant band of light winding slowly across the ocean.

"Of course, the sunbursts are being butchered by the millions. It seems their hides are highly prized back on Earth. Even though it can be synthesized cheaply and easily, I guess the genuine article is priceless in a synthetic world. You owe it to yourself to see the sunbursts before they're gone.

If you have any thoughts about bagging a few for yourself, think twice. The natives, especially dolphins, are likely to spear gun any sunburst hunter they find, and there are damn scary bounty hunters out there called Wardens who do nothing but track down suspects wanted for ecological crimes. There have even been rumors of aborigine attacks on poacher ships. You don't want trouble from any of 'em."

The migration scene is replaced by the image of a beach littered with the skinned and rotting carcasses of dozens of sunbursts. The grisly scene fades to a gorgeous woman flaunting a sunburst-skin jacket at a posh cocktail party on Earth.

"Maybe you'll even stumble across a traditional native village on your little tour. Now, some folks will tell you that the natives live like primitive savages. It ain't true. They can get a bit savage if you do something to piss them off, mind you,



but they're more free and more at peace with themselves and this world than you or I will ever be. They don't have the tech we do, because they were forced to live without it and found out they like it that way. The folks who call native Poseidoners savages behind their backs are usually the ones who are most scared of 'em. Spend some time with them, if they'll have you, and you'll see they're not primitive. Hell, they're not really human anymore, but that's nothing to be worried about."

Laser-light flares, and an image of a quiet beach on a moonlit night appears above the computer's holoprojector. Six native divers — three aquaforms and three dolphins — perform a ritual aquatic dance in the surf around a circle of softly glowing candles floating in hand-woven baskets. The dancers are accompanied by the slow, rhythmic cadence of a single drum and the haunting melody of a reed pipe. At a distance, phosphorescent tracers glide through the waves, betraying the presence of unknown, silent spectators.

"The natives can be trouble, though. Most of them aren't too pleased with the results of Recontact, and many are willing to express that displeasure with violence against those perceived as a threat to their planet. For the more sensible ones, that just includes the Incorporate, poachers, and others who are busy trashing the place. For others, it includes anyone without gills and a First Generation ancestor. In this latter category, the tribes of the Sierra Nueva Cluster are probably the worst. Their territory encompasses countless little islands that lie between Santa Elena, the GenDiver company town, and the major settlements of New Hawaii.

"These natives are led by a transient orca and seem to have developed a quaint little warrior culture. They keep themselves busy working over any Incorporate traffic that comes their way. Both GenDiver and the GEO have sent military forces to the Sierra Nueva to 'pacify' the natives, and they've both had a lot of openings for new recruits as a result. Many of the native villages are underwater, and when they retreat below the surface, no one's going to go in and root them out.

"If for some reason you're headed their way, turn around and go back. If you can't do that, you'd better either be flying or prepared to fight. The warpods of the Sierra Nueva must have some tech of their own, because they can stop a ship dead in the water. They're fond of treating their spears, and even their fingernails, with the venom of some god-forsaken fish, and if they poke you with one, you're not likely to have enough time to kiss your ass goodbye. Most of them have guns, too.

"The tribes of the Sierra Nueva aren't the only band of hostile natives, either. When they were abandoned, the First Generation scattered all over Poseidon, and I expect there are some unfriendly sorts out there in the big blue that we've never even heard of.

"Now, after all this, you may be a little scared of our distant cousins. There's nothing wrong with that, because the fear will keep you on your toes. But, when folks start being afraid of something, they usually start hating whatever it is they're afraid of. There's a lot of that on Poseidon, and it goes both ways. Native or newcomer, it doesn't much matter — the fear and hate get hot, and not long after, the shooting starts. Thing is, even the violent natives are pretty easy to get along with. Stay out of their way, and you have nothing to fear — they're not going to come looking for you, unless you really screwed up.

"You've done some sightseeing and hopefully avoided any undiplomatic contact with the natives. Assuming you're not some clueless tourist with unlimited funds or an Incorporate wager with a company-scheduled future, at some point it's going to be time to begin the search for gainful employment.

"There's a world of opportunity waiting for you on Poseidon. Sound like a bad PR cliché? It isn't. This planet is wide open, and there's ample opportunity for the clued-in and daring to get ahead. If you've got a nest-egg and don't mind doing the store clerk thing, you can open a retail shop in most any settlement and be guaranteed to make a nice living. If that sounds a bit too tame, don't worry — on Poseidon, the more danger in your job description, the fatter the paycheck.

"For the ultimate in risk and danger, you can forget the rest and cut straight to Long John prospecting. If you know your geology and have some skills in deep-sea mining, you're good to go. If you're as clueless as most of the wannabe prospectors who wash up on the beach in their brand-new hardsuits, you'd better apprentice yourself to someone who knows what he's doing. Forget the CommCore correspondence programs. If you could learn to be a prospector by watching an interactive holo, there wouldn't be so many deceased rookies on the books. With a bit of luck, you'll be able to find a competent

mentor to teach you the ropes in any mining town on the planet. You may have to buy him some new gear or fix up his sub, but he'll have you in the water and practicing your new trade in no time. He'll also be able to show you how to avoid getting dead.

"If prospecting's not your gig, you can join up with a salvage team and make a small fortune on lost tech — on the legitimate or not-so-legitimate markets. You could open a trading post or maybe even take your goods to sea, trading between several small settlements. If you're really adventurous, you could even do some trading with the more isolated native settlements. It's not unheard of. If you're a professional, like a doctor or lawyer or massage therapist, you can hang your shingle in a mining town. It'll be wild living, but you'll get plenty of business. If you're a scientist-type, you could sign up with the GEO, the Incorporate, the universities and research foundations. Or you could strike out on your own and try to make a name for yourself with some monumental discovery. If you're in the military or law enforcement fields, there are ample opportunities with the GEO, Incorporate, and Independent governments."

Skimmer says, "For a job, you want to go directly to New Fremantle. If you thought Hydrospan was big on Earth, you haven't seen anything yet. New Free is the best-run company city on the planet and the next best thing to living the native life. It's a great place to find a job, either through Hydrospan or their job Assistance Center. If that doesn't pan out, Lavender Organics is a good company, for one run by humans anyway. Their floating city, Dyfedd, is over near Westscape Island and is very welcoming to cetes. If you're not into company work, try Kingston. It's not a company town or GEO-run so it's great for you independent types. Forget Al Mamlakah and Simushir; they're Atlas Materials and NIS company towns and they don't like cetes at all. It's their loss."

Robby continues.

"Now if the law never concerned you much and you know how to dodge GEO Marshals and surveillance satellites and you're an idiot; you could run guns or drugs or even raid commercial shipping. It'll probably be a short career, but you won't get bored. The Poseidon frontier may be wild and woolly, but it ain't entirely lawless, at least in most places. The GEO Marshals are the Law-with-a-capital-L on Poseidon. Judge, Jury, and Executioner — that's exactly what the silver badge is pinned to. The Marshals are wired, modified, and deadly serious. It's probably a real good thing there's only a couple dozen of them on the planet. Of course, they're supported by a bunch of edgy Patrol officers, all looking to get that badge themselves. In isolated native settlements, you're more likely to run into the Native Patrol, a bunch of locals with badges and backup, and an inbred dislike for ornery newcomers. When the law comes for you, the best thing to do is cut and run. If you fight them, the best you can hope for is momentary freedom while you wait for an obsessed Marshal to hunt you down.

The holoprojector sprays an image into the air, a close-up shot of a GEO Marshal entering a rundown bar in a mining town. The man scans the room and grips the handle of the Peacemaker holstered at his side. The camera zooms to the silver badge pinned to black fatigues over the Marshal's heart. The man turns toward the camera. A gloved hand reaches out, and the image fades to black.

"Despite the Marshals, the GEO's political grip on the colony world is far from exclusive and some would say it's as limp as the kelp you'll be having for breakfast. Several major factions have a growing presence on Poseidon, and each is driven by a vision of the colony's future that is incompatible with the rest.

"First, you've got the Incorporate states, hybrid multinational corporations and traditional nation-states born during the social chaos of the Blight Years. It's easy enough to paint the Incorporate with broad strokes, labeling them impersonal juggernauts bent on capitalistic domination through greed, exploitation, and when necessary, outright violence. One man's stereotype is another man's useful rule of thumb, but I'm told there are exceptions.

"Really, the Incorporate states are like any other government — they each have their own histories, goals, and motivations, and no two are exactly alike. Hydrospan is a massive collective founded and managed by cetaceans, industry leaders in environmental engineering and marine research and exploration. They've developed close ties with the GEO and give every Hydrospan citizen-employee a stake in the enterprise's success. On the other hand, you've got GenDiver, a state ruled by power-drunk cowboys who would mug their own grandmothers for a half-percent of market share. You've heard about the Stone Bridge Massacre and Sierra Nueva War? That's the thugs at GenDiver staking their claim



to what the Incorporate bean-counters consider prime Long John fields. Too bad a few thousand natives have been living there for the last hundred years.

The holodisplay flashes again as the tech loads bootleg footage from the Sierra Nueva War into the maincomp. A GenDiver Security combat team stalks relentlessly through a cluster of burning native dwellings, firing controlled bursts from their assault weapons at unseen victims. Three VTOL strike-fighters scream overhead followed moments later by a deafening barrage of explosions. Smoke obscures the combat team and the image fades out.

"Hydrospan and GenDiver, Atlas and Hanover, Dundalk and the NIS — for every responsible and progressive Incorporate state you can name another that still does business like it's the darkest days of the Blight and the world is coming to an end. One thing is sure, though: the Incorporate states dominate the economies of Earth and the Colonies and drive the colonization of Poseidon. It's real simple — if not for the Incorporate, none of us would be here. In one of history's greatest ironies, even the natives are indebted to GenDiver for the genetic adaptations that allowed them to survive their Abandonment. Dundalk built the ship that established Recontact with the Poseidon colony. Atlas discovered the extraordinary potential of Long John. The Incorporate account for most of the economic and scientific activity on the colony world. Without the Incorporate states' role in the development of the colony, it would be at most a small government research outpost. Of course, some would say that's a good thing.

"Others, though, believe the Incorporate are the forerunners of a new form of social and political organization. They argue that the old nation-states and political-military alliances are obsolete and that new social groups must evolve to take their place. They claim the Incorporate city-states, organized around a shared economic enterprise, are an early prototype of such a new-world social group. Personally, I'm not so sure — they look to me a lot like the mercantile city-states of Italy in the 13th Century, complete with their own hired armies. The more things stay the same, the more the right-wing blowhards will tell you they've changed. I'm all for the gradual extinction of nation-states and the emergence of new, dynamic forms of social and political organization — I'm just not ready to embrace the corporatist

"As the level of Incorporate economic and industrial activity on the planet has increased, so too has the native resistance to it. This is the aspect of life on Poseidon that is most romanticized and least understood in the media. After all, no self-respecting journalist will let the truth get in the way of a good story. The natives' conflicts with the Incorporate states are as varied as the Incorporate themselves. In the Sierra Nueva, you've got two aggressive, almost xenophobic groups — GenDiver and the orca Bataku's insurgents — going head-to-head in a bloody turf war that covers a good-size chunk of the Northwest Territories. Nobody asked me, but I figure this little war stopped being about land rights a long time ago. Somewhere along the line, it became a cultural war of attrition in which the objective of both sides is to simply hurt the other badly enough that they'll go away. In Westcape, Hanover is making a straightforward land-grab at the natives' expense. This escalating conflict isn't about political ideology or economics; it's all about territory. Hanover believes it has to expand its colonial holdings to protect its future as a sovereign state, and the natives of Westcape are simply trying to protect their homes.

"The GEO, as usual, is doing just enough to get in the way and not enough to actually improve the situation. Fort Solitude, a Peacekeeper base in the Sierra Nueva, has suffered thousands of casualties but has yet to accomplish so much as a temporary cease-fire. The primary GEO Armed

Forces base at Fort Pacifica has more than doubled in size in the last year, and a string of military outposts have begun popping up all along the southern coast of Westcape. Problem is, the GEO leadership in Geneva back on Earth refuses to take sides. This policy indecision leaves the grunts on the front lines with two cheeks to the wind and they've done nothing but escalate the conflict and violence as a result.

"Of course, not everyone believes the GEO should have a policy on these issues. In fact, a lot of folks don't think the GEO should exist at all, let alone exert any claims to governance of the colony world. Unless you're from Luna, or Mars Colony, or the Belt, you're probably pretty familiar with the GEO's history and current political status. The reality is that, like the Incorporate states, the GEO wouldn't exist today if it weren't for the social and political chaos the Blight left in its wake. The GEO was created for the sole purpose of defeating the Blight, and it was pretty damned effective in completing that task. It's just that a lot of folks figure it outlived its usefulness about half a century ago. With the threat of the Blight safely behind us and a new frontier opening up in another star system, an oligarchic world government controlling the most powerful military machine ever assembled by human beings is going to be in for its share of public criticism.

"There is no shortage of vocal opposition to the GEO. On Poseidon, the loudest comes from the Incorporate, various native groups, and most recently, the newcomer colonists themselves. The Incorporate political resistance to the GEO is led by a powerful few, notably GenDiver, Biogene, Hanover, and the Nippon Industrial State. These hostile states run espionage and intelligence operations against the GEO, refuse to recognize it as a legitimate authority, and deny its personnel access to Incorporate company towns and facilities. GenDiver officials will not even call the GEO by its proper name, referring to it instead as the "Geneva Regime." Other Incorporate states like Atlas Materials, Hydrospan, and Lavender Organics are close political and economic partners with the GEO. While they often disagree on specific issues and policies, they lend quiet support while remaining officially neutral in the propaganda wars between the GEO and its Incorporate enemies.

"There's been native resistance to the GEO and its presence on Poseidon ever since the *Admiral Robert Perry* showed up in orbit in 2165. Plain and simple, many natives just didn't want any contact with Earth, and their attitudes didn't warm up any when they realized the GEO was a world government that planned to claim all of Poseidon as its colony. Most of these natives hadn't dealt with much in the way of government beyond a council of elders for 50 years, so you can understand their reluctance to welcome Big Brother with open arms. Native attitudes toward the GEO have steadily worsened over the ensuing years. The GEO's refusal to recognize native land claims and its inability or unwillingness to protect them from Incorporate aggression have led many natives to lump the GEO in with the Incorporate, poachers, gangsters, tourists, and other undesirable elements Recontact has brought to their world. Activists speak out publicly against the GEO in the Haven Council, the city of Kingston has refused to recognize GEO authority, and insurgent groups like Blue Water Circle have targeted GEO personnel almost as often as Incorporate.

"Even newcomer groups — some of them part of GEO-sponsored colonization efforts — have started protesting GEO policies on the waterworld. Most of these are simply opposed to the GEO taxes that tap their bank accounts and the regulations that restrict their autonomy, but it's a growing problem for the GEO in the arena of public opinion. When its own citizens start challenging its authority, it raises serious questions about its continued legitimacy as a government. We newcomers have also brought our share of political extremism to Poseidon, and there are a few groups on the planet whose opposition to the GEO is violent. The most famous of these is Zero Nation, an ecoterrorist organization whose history dates back almost two centuries. While there are some who might suggest the GEO is just an ecoterrorist organization, it is definitely not friendly with Zero Nation. Opposed to any human colonization, development, or exploitation of Poseidon, Zero Nation cells routinely target GEO personnel and facilities with terrorist acts intended to publicize its agenda.

"While there's plenty of political turmoil on Poseidon, the real battleground is the GEO General Assembly in Geneva. Each of the GEO member-states, the Independent nations like China, India, and the United States, and the major Incorporate states are represented in the General Assembly. This institution is a political jungle of shifting factions, temporary alliances, and divided loyalties, and the most ironic part is, it doesn't even have any real power. Like I said before, the GEO is an oligarchy — the Executive

Council wields all the real power, makes all the laws, and executes all the policies. All the General Assembly can do is reject legislation drafted by the Executive Council if it manages to come up with a two-thirds majority, something it almost never does. Still, the General Assembly has the attention of the media, and it's used by all interested factions as a sounding board to air their grievances, propaganda, and official lies. This posturing is picked up by the major media conglomerates and distributed through CommCore to the six billion citizens of Earth and the Colonies, so the Assembly remains a spawning ground for public opinion.

"In the years to come, I'm betting the GEO's biggest challenge will come from the United Nations. The GEO was originally a UN agency formed during the early years of the Blight, and the UN effectively abdicated its position of world leadership to the GEO when human civilization was teetering on the brink of extinction. The original GEO Charter called for the UN to be reinstated and the GEO abolished once the Blight was defeated. Backed by the Independent nations and several Incorporate states, the UN was reestablished in 2156 against strong opposition from the GEO Executive Council. For the GEO to be officially abolished, though, the UN requires a resolution to be passed by a two-thirds majority of its original, pre-Blight member-nations. Problem is, more than a third of those governments no longer exist as sovereign nations. In the aftermath of the Blight, they've become Incorporated city-states, Federal Districts of the GEO, or lost completely to Earth's lawless Free Zones.

"Of course, it irritates a lot of powerful people to no end that the GEO can continue to exist on what amounts to a technicality, but no one has figured out exactly what to do about it short of a full-scale war. And no one has the military muscle to challenge the GEO Armed Forces on its own turf unless the situation changes dramatically. That's why some of us figure a colonial civil war is on the horizon, one that will decide the future not only of the waterworld, but of Earth and her other colonies as well. No one can challenge the GEO on Earth, but despite the recent military buildups, its position on Poseidon remains far more tenuous.

An image of an isolated GEO Peackeeper outpost appears in the holodisplay. A large, angry crowd shouts protest slogans outside the cyclone fencing and an assault hopper is burning in the background. Soldiers and support crew battle the fire while MPs in riot gear move in formation toward the crowd of activists.

The narrator pauses, Anything to add to all that Skimmer?

"Not really," Skimmer replies, "that's mostly humans fighting over money, just like they always do. I would like to point at that some native cetes, like the native humans, would rather see all non-natives leave the planet. And they're not afraid to blow things up until that happens."

"Nicely put," says Robby, "and now on to something different."

"If all Poseidon had to offer were dangerous jobs with long hours and short pay, hostile natives, and dirty politics, you might just as well go to New York. You can have your share of fun on this frontier colony world, though. The entertainment options on Poseidon are as varied as the genetic code of its colonists. What follows are some of the more popular pursuits, depending on geography and demographics.

"The big cities all have several holoplexes where you can catch the 'latest' major holo productions from Earth. They'll be a year old or more, but you won't know the difference. A ticket will run you maybe five to 10 scrip.

"You can find virtual arcades as advanced, and popular, as those in the cities of Earth. You'll know you're on the frontier when you experience some of the bootleg 'alternative' programs offered by less reputable arcades. An hour in the Tank will cost you about 50 scrip.

"Smaller, isolated settlements that lack access to these entertainment luxuries often turn to traveling theater companies. There are less than half a dozen currently touring on Poseidon, and most of them are quite amateur, but the New Orleans Burlesque Company offers both sophisticated dramatic satire and outrageously ribald dancing and striptease. It's definitely worth checking out, and the Company will probably make the big-time and head back to Earth before long. Give Lola a kiss for me, she's a hell of a guy.

"Recreational drugs of all kinds, some legal, some not, are freely available in Poseidon's cities. Most are synthetic, and the most popular tend to be endorphin or narcotic-analogs. A notable exception is pharium, a powerful narcotic harvested from indigenous flora by the natives.

"Many native traditionalists use pharium in their community rituals and ceremonies, and this practice doesn't seem to cause them any harm. Newcomers find that it's highly addictive,

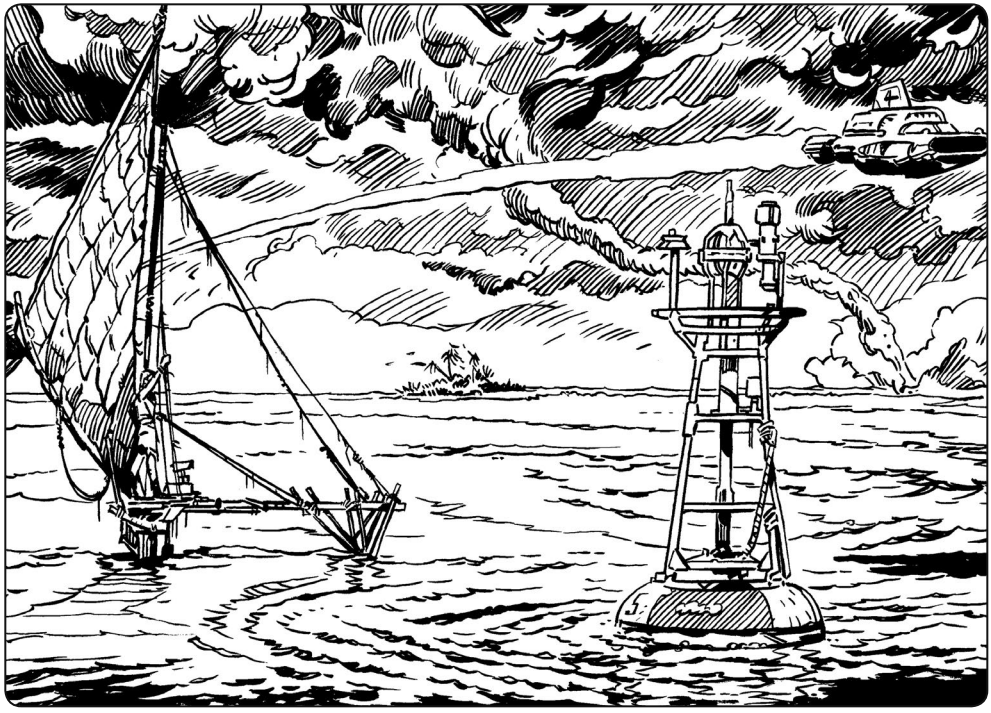
and pharium dens scattered across the planet are usually filled to capacity with the dregs who have lost all care for anything but the drug. You do pharium the old-fashioned way: burn it in a pipe and inhale. Pharium sells for around 100 scrip a gram in the cities, a bit less in the smaller settlements. Some of the classier dens sell hand-blown glass pipes of native craftsmanship that are nice knickknacks, even if you're not a pharium user. The Justice Commission makes an occasional noise about cracking-down on the pharium trade, but they're usually more concerned with the harvesters and smugglers than the local peddlers and dens.

"Prostitution — male, female, and other — is rampant, from the largest city to the smallest town. In fact, there are probably more prostitutes in the latter, where there isn't any competition from the virtual arcades. Brothels are the most common vendor of professional companionship, though hotel and nightclub call-girls also do a thriving business. Most professional prostitutes offer their customers bodycomp access to legitimate health records, though this custom suffers in the smaller settlements and mining towns. Price varies by location and 'market value,' but 20 to 500 scrip is a good rule of thumb. The GEO hasn't much concerned itself with the indigenous sex trade to this point, but they are getting serious about the 'flesh merchants' who prey upon the poor and disadvantaged of Earth, importing them to Poseidon as 'entertainers.'

"Bars and nightclubs are as popular as they ever were, from the posh hang-outs of Haven, to the dirty, cramped boom-town saloons. Gambling is big on Poseidon, and drinking establishments are a common forum for this pastime. Traditional card games like poker, bridge, and gin rummy are the most popular, followed closely by craps and other dice games. Kingston is currently Poseidon's only true gambling town, and the waterfront casinos there offer many games of chance, including blackjack, baccarat, roulette, and old-fashioned slots.

"Travel costs have obviously prevented Earth's professional sports leagues from taking root on Poseidon, but we have some nice alternatives. The dominant spectator sports on the planet are hydroshot and the annual Storm Belt 10,000.

"You've probably heard of hydroshot, as it seems to have grabbed the imaginations of the media and sports fans back on Earth. Hydroshot is a competitive team sport played between three six-person teams on a triangular, aquatic field. Players use a tubular 'launcher' to shoot a spherical puck, called a squirt, to teammates, eventually trying to score on one of the other teams' goal. A goal scored against a team earns that team a point, and the team with the lowest score at the end of the game wins. While one



team has possession of the squirt, the other two are trying to get it away from them before they can score. The game moves very fast, and it's difficult to determine at any point which goal the offense will try to score against. This makes for some interesting defensive strategy: while a team doesn't want the offense to score on their goal, they do want the offense to score against the other defensive team.

"There's not a sport on Earth as action-packed and fast-paced. The rules on physical contact are more lenient than rugby or ice hockey, so it's a rough game that often degenerates into some very entertaining three-way brawls. There are twenty-four professional hydroshot teams on Poseidon, including six dolphin teams. The human athletes are almost exclusively full aquaforms and still can't compete with the dolphins. They've formed two separate leagues due to the dominance of the cetacean teams over the human competition. There are hydroshot facilities in most of the major settlements, and even if you're not a sports fan, you should check out a game at the floating stadium in Haven. It's a beautiful complex and a hell of an experience. A good seat for a regular-season game will run you 50 scrip.

A noise not unlike a snort erupts, obviously from Skimmer. "Hydroshot is just another dumb human preoccupation. There are better things for cetes to do."

"Oh…kay," says Robby, "moving on."

"The other big sporting attraction on Poseidon is the Storm Belt 10,000. This is an annual endurance hydrofoil race (you guessed it, 10,000 kilometers) that runs from Haven to Wetland, straight through the Storm Belt at the height of the storm season. Participating hydrofoils aren't supposed to be armed, but otherwise, this is a race with no rules. Dozens of craft are knocked out of the race each year by their competitors before a storm or greater white even has a crack at 'em. The entry fee is 1,000 scrip, and with an average of 100 competitors, the purse is typically pretty fat. The winner usually ends up having to spend most of it on a new boat.

"The music scene on Poseidon is as varied and robust as most any city on Earth. The most original movement, of course, is the dolphin image-sound. This 'music' is made with production-quality recorders and digitizers based on the same principle as Pathfinder's implant that I told you about. You can either view the recordings in holographic format or plug it into a neural jack to experience it something like the dolphin does. A number of really excellent orchestras and pop-groups perform concerts on CommCore, and it's a hell of a way to spend an evening. Jacking it live is always way better than any recording."

Skimmer cuts in, excitedly, "Oh oh, you really have to check out the developments in echo/motion going on. Look up 'Floaters' in Haven or 'Blue/Fish/Run' in New Free. Also, the Kingston Music Festival is not to be missed. You can check CommCore for dates. There's a lot of human noise there, but you'll get to see and hear the best echo/motion groups out there. 'Monkey House' did some amazing stuff at this year's festival."

The screen fills with the image of hundreds of cetaceans crowded together in a noisy bay. They are arranged in a loose ring, bobbing up and down as they watch a submerged groups of belugas and fins painted in wild colors and designs. Suddenly a group of smaller commons appear, also painted in wild colors. They dive and sprint seemingly recklessly through the submerged group and watchers alike in a coordinated pattern that's hard to follow. Others clap their jaws, slap their flukes on the water surface or leap from the water landing on their sides, creating resounding underwater echoes. All the sounds and movement combine to make a rhythm of sound and motion.

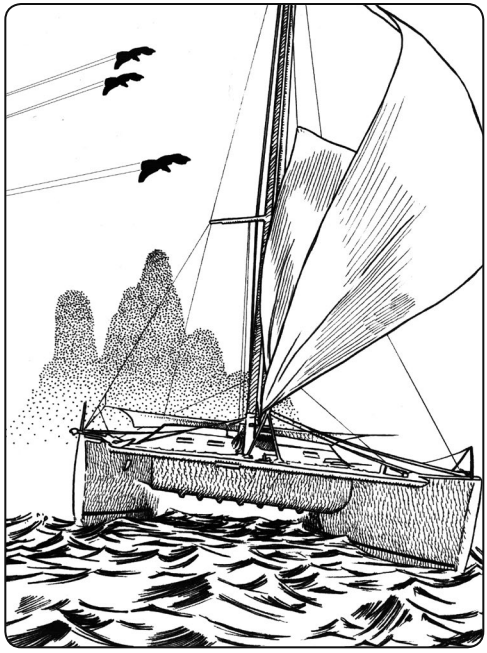
Robby goes on.

"The native tribal sound you find in the clubs and music stores is real popular right now. If you ask me, it sucks; it's sell-out crap. It may seem pretty cool if you've never heard the real thing — that's why the media corps export it to Earth. Around here, no one listens to it except tourists. There are some cool groups in Kingston, though, whose traditional reggae is influenced by native tribal. Influence is one thing, mimicry something else entirely. Check out Crest if you get a chance. They're doing some awesome stuff, and they play the Kingston waterfront clubs most every night.

"Well, that's all I have, but I know Skimmer has more for our cete friends out there. I'm gonna let her take us out. 'Till next time folks."

"Thanks Robby," says Skimmer, "the last part is just for cetes, so you humans can shut the holo off now, unless you actually want to learn something about cetaceans."

"There's a few things you need to know about Poseidon's oceans. Some of the changes aren't better or worse, just different. The water's a little saltier and the magnetic field of the planet is



a bit stronger. Most cetes adjust with no problem, but you may have a little trouble. Take the echo/fish as an example of adjusting to Poseidon. There's a hundred different kinds of echo/fish each with it's own taste and type of behavior, so you'll have to adjust your hunting technique for each. And yes, you do want to hunt your own food. Unless you enjoy scarfing down dead fish and paying for the privilege.

"Another change is the noise. There isn't much man-made noise, as I said before, but there's a lot of natural noise. It'll make you jumpy at first, and that's not a bad thing. Poseidon is a much deadlier place than Earth. We only had to worry about sharks and humans there. Here, there are almost too many threats to list. Greater and lesser whites, polypods, blood hunters, pseudo-eels and translucent jellies are a few that spring to mind. You don't take any long swim without careful preparation and never go into the wilds unarmed. And I don't mean your teeth or ramming; I mean armed CICADAs and a torpedo harness. Even a mini-torpedo won't stop a white, at least not one."

The view shifts suddenly to an image of the looming jaws of a lesser white. The predator drops out of sight as the cete shifts around and lunges away. The picture lurches and blood fills the water as the white mauls the orca. The orca looks behind to see the alien giant gnawing on a mouthful of tail fin. The disturbing picture fades to colors.

"Maybe even scarier than the obvious threats are the invisible ones. Parasites, fungus and diseases are what I'm talking about. Angel wing larvae, fast fungus and needle darts are dangerous. The antidotes aren't hard to administer, but unless you learn to recognize the infection, you could be dead before treatment can be had."

"Even the weather is a hazard. You've probably heard of Poseidon's famous storms. Take it from me, they're no joke. The planet being mostly water leads to giant storms that can reach thousands of kilometers in diameter and last for months. It does make for some awesome storm surfing, but you better know when to call it quits."

"Now despite these dangers, life on Poseidon is worth the risk. You'll be surrounded by clean water that's full of life instead of noise, treated with respect instead of prejudice and be settled on a planet where you'll want to live forever, and possibly can. So come and enjoy. Who knows? Maybe you'll be the one to figure out how to keep the humans from screwing it up again."

A final image emerges from the holoprojector. An endless blue seascape at sunset stretches from horizon to horizon, a catamaran drifting lazily in the foreground. A mixed group of cetaceans leap and dive in a complex pattern around the catamaran, while the humans aboard watch quietly. The camera zooms out as a distant whine becomes the scream of three VTOLs that fly into view, bank, and disappear into the clouds.

CHAPTER 2: CHARACTERS



CHARACTER CREATION

The character creation system in BLUE PLANET REVISED is designed to help players develop realistic, well-rounded characters. There are many decisions and choices to make, but the system is straightforward and step-by-step guidelines are provided below. These guidelines greatly streamline the process and include page references where detailed information about each step can be found.

Players who wish to start playing right away are encouraged to choose one of the **Character Archetypes** (p. 69).

❶ Develop a character concept using the profile, discuss it with the GM, and select an appropriate character power level.

❷ Select a species and record the default attribute scores for that species (p. 40).

❸ Modify the character's attributes using the point-based system (p. 44).

❹ Select biomods for the character and record any changes to the character's primary and derived attributes (p. 40).

❺ Record the character's abilities (p. 44).

❻ Choose the character's Aptitudes (p. 47).

❼ Select three background packages for the character (p. 56).

❽ Choose professional training packages for the character, according to their power level (p. 58).

❾ Allocate points to the character's custom skills (p. 55).

❿ Consult with the Game Master to select equipment appropriate to the character and campaign (p. 117).

CHARACTER CONCEPT

As the first step in character creation, players should decide in general terms what sort of character they want to play. A character concept does not have to be long and detailed. The concept may be a short, fairly vague phrase describing the character, or a fully developed profile including things like background history, personality, and appearance.

GROUP CONCEPT

BLUE PLANET is most enjoyable when it is shared by two or more players, in addition to the Game Master. In most games, players will likely be part of a group, and much of the enjoyment comes from the interactions of their characters. For this reason, it is usually a good idea for players to discuss their character concepts with each other and the Game Master to make sure the characters will fit well together in the kinds of stories the Game Master has planned. The characters can come from any background or have different skills, jobs, or goals — in fact, they do not even have to like each other. However, the game works best when they do have some plausible, or at least interesting, reason to stick together.

CHARACTER PROFILE

BLUE PLANET REVISED is designed to foster intense, mature roleplaying. The world is one of mystery and harsh conflict, a planet of wonder and frontier challenge. The characters that populate it are meant to be bigger than life and twice as real. The BLUE PLANET REVISED game provides a roleplaying experience that is original and demanding, and players are encouraged to create unique characters with personality and depth not found in the average roleplaying system.

To promote the development of realistic characters and quality role players, BLUE PLANET REVISED uses the character profile in character creation. The profile describes key facets of a character's personality and identity, and in doing so serves two basic functions. First, the profile acts as a permanent reminder of the character's fundamental nature and therefore helps in the choice of actions, guiding roleplaying. This is important because Character Improvement Points (p. 67) are awarded based on the quality of the players' roleplaying. Second, the profile helps the GM tailor scenarios to match, and therefore motivate, the characters. Game Masters are expected to consider a character's profile when making decisions about such variables as the difficulty of tasks or the reactions of nonplayer characters.

Begin creating a profile for your character by browsing through the options provided in each of the following sections; Goal, Motivation, and Attitude. Select the one element from each section that best defines the character you want to play and enter the identifying term in the appropriate space in the profile section of your character sheet.

Especially creative players may find the listed options for any particular component of the profile

limiting. In this case, players are encouraged to consult with the Game Master to develop custom profile selections that most appropriately represent their character concept.

Remember, diversity is what makes life interesting. The profile is only a guideline and should be applied to character creation as such. Be creative! BLUE PLANET is a unique world of imagination and this should show clearly in its characters.

GOAL

This is a simple description of what your character desires most, what he hopes to accomplish, discover, or become. This information is extremely valuable to the Game Master as it helps him provide compelling motivation for the players and is useful in keeping players focused on the nature of the characters they are playing.

Accomplishment: A character with this goal simply wishes to excel, to become the best at what he does. He isn't interested in the rewards, such as fame or wealth, that may come with mastery, he is merely concerned with the achievement of some personal standard of perfection.

Altruism: Caring for others, relieving the suffering of the infirm, providing opportunity for the disadvantaged — a character with this most noble of goals merely hopes to dedicate his life to the assistance of others.

Contentment: This a simple but elusive desire. A character that chooses this goal wants general happiness in his life and is willing to pursue any circumstances that provide it.

Enlightenment: Sometimes just to understand the truth of something is in itself a worthy achievement. A player that chooses this goal will be satisfied if he is ever able to verify or discover the truth about a significant object, event, or system of beliefs.

Fame: This does not always imply power or wealth but may be an end in itself. This selection means that for whatever reason the character wants to become well known for his abilities or achievements.

Freedom: This is one of the oldest and most noble goals. The character may seek liberty from political, mental, or even physical limitations and be willing to do almost anything to achieve it.

Immortality: A character may desire some everlasting posterity. Whether this need is literal, as in a longer lifetime, or symbolic, as through some legacy, the player's actions are guided by this desire.

Justice: When a player selects this goal, he creates a character that is driven to right some personal or general injustice. Final satisfaction will only come when that wrong is set right or the unjust party is punished.

Love: The ultimate desire in every fairy tale, this choice has always been a human goal. In its purest form this emotion can lead to the most selfless acts. Whether for an individual, group or idea, a character with this motivation might even be compelled to lay down his life.

Oblivion: The character seeks relief from his mental or emotional anguish, frequently in alcohol or drugs, and often suffers from depression. This goal frequently leads to self-destruction, either directly or indirectly.

Power: Often a corrupting need, a character with this goal is dedicated to gaining the social or physical ability to control others. Whether with good or malicious intentions, this can be a dangerous objective.

Revenge: Whether just or not, striving for vengeance can be obsessive. A character with this selection has a cold and dangerous goal.

Revolution: Society continues to be plagued by decay and corruption, even amidst the new-found hope for the species represented by the recolonization of Poseidon. This goal represents an intense desire to tear down the system and build a new human society according to the principles of some strongly held ideology.

Survival: The instinctual desire to live to see another day is universal. As a selection, this may mean hope for the physical, economic, or even philosophical continuation of the character.

Wealth: The character is driven by the desire for riches and is likely to go to the most extreme lengths to acquire possessions.

MOTIVATION

A character's motivation helps to explain the character's actions. A character may be motivated in a specific way simply because he feels that this is the best means for accomplishing his goal. Alternatively, a character's motivation may be influenced by events or experiences from his past.

Adventure: A thirst for adventure is the primary motivation of many explorers. A character with this motivation may be a daring thrill-seeker.

Compassion: The character acts out of a general belief that suffering is wrong. He will work to end pain or injustice regardless of its cause.

Curiosity: A powerful motivation, the desire to learn and experience can be compelling. A character with this selection is driven by a need to discover and explore.

Discontent: A character with this motivation is restless and dissatisfied with his current

circumstances. The character wants change, wants something different, even if he is unsure what that something is.

Duty: This selection implies that a character is driven by obligation. The character is motivated by honor and personal dedication.

Faith: The actions of a character with this motivation are often guided by his deep religious or philosophical convictions.

Fear: Rational or not, this can be one of the most compelling influences on a character's actions. A character with this motivation hides a terrible dread that may even affect his daily life.

Guilt: The character is driven by feelings of inadequacy or remorse resulting from some past misdeed, whether real or imagined. This motivation may drive a character either to atonement or deception.

Hatred: A powerful passion, this emotion can drive people to frightening extremes. This character is motivated by some bitter pain or terrible anger resulting from some tragic incident in his past.

Honor: The character's actions are guided by a strict personal code of moral conduct.

Loyalty: The character identifies with, and is loyal to, a specific group or organization, such as a clan, village, corporation, country, or institution, and is devoted to protecting and serving it.

Obsession: Unhealthy at best, a fanatical desire for anything usually leads to disappointment, if not destruction. A character with this motivation is willing to pursue his goal regardless of the circumstances or consequences.

Pride: This choice can be either earned or false and very compelling. Regardless, it can make a character do dangerous and stupid things.

Professionalism: Doing a job and doing it well are what matter to the character. The character will take professional pride in performing difficult or demanding tasks.

Social: Cultural beliefs can be restrictive or demanding, and therefore also compelling. A character can be uniquely motivated by the pressures and expectations of society.

Attitude

Attitude describes the character's basic mood and general outlook on life. Defining one's attitude is an excellent way to help create a realistic and fun character, as it is often the most entertaining aspect of roleplaying and character interactions.

Arrogant: This character is confident in his actions, whether that confidence is justified or not. Indeed, the character is so self-assured, his superior attitude is often offensive.

Brooding: This attitude indicates that the character is outwardly troubled and dark. The character smiles little and has a continuously morose and pensive air.

Confident: In contrast to unjustified arrogance, this attitude implies that a character has a robust and healthy sense of self-esteem. This attitude indicates that the character knows his abilities well and has learned to rely on them.

Cooperative: This character enjoys the company of others and will gladly work with them to achieve shared goals.

Depressed: This attitude implies that the character is continuously saddened about the state of things. The character finds sorrow in daily life and is seldom anything but moody.

Disciplined: Always responsible, reserved, and in control, a character with this attitude will almost never act impulsively and will often show contempt for those who do.

Energetic: Regardless of the circumstances, nothing can hold back a character with this attitude. Characterized by enthusiasm and a short attention span, an energetic person is always eager to forge ahead.

Holistic: A character with this attitude sees himself as only a part of the larger picture. For whatever reasons, a holistic character has a come-what-may outlook on life.

Humble: Even with achievement or merit to be proud of, a character with this attitude is never boastful and continually plays down his importance. Rather than false modesty, this selection indicates that the character recognizes the value and abilities of others.

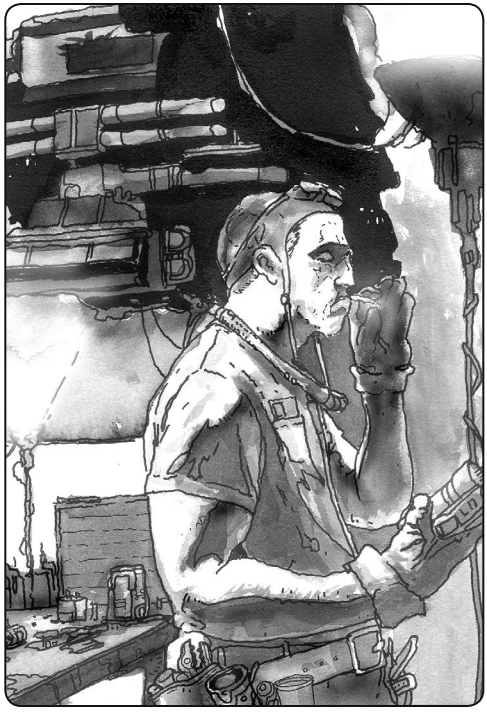
Introspective: Thoughtful and insightful, a character with this attitude tends to be quiet and reserved. When he does speak, it is usually because he has something important and valuable to offer.

Manic: A character with this attitude is subject to wild swings of mood. Up one moment and down the next, calm or violent, a manic character is always unpredictable.

Optimistic: Characters with this attitude never see the down side. No matter how bad things get, how dangerous or frightening, such characters can always find hope.

Paranoid: A character with this attitude is often extremely fearful and distrustful of others. In its most extreme forms, this attitude can become a powerful and debilitating psychosis.

Pessimistic: Characters with this attitude are constant downers. Regardless of how good, safe, or sure things are, these characters are always confident



that they are about to go terribly wrong. Whether it is because of some great personal tragedy or simply because life, in general, saddens them, such characters are seldom happy.

Rebellious: A character with this attitude is contemptuous of authority figures, has difficulty following orders, and is constantly fighting the system.

Player's Choice

Many elements defining Blue Planet characters' personal histories and personalities are offered in the character profile. However, it is impossible to be exhaustive in presenting all the facets that make up a realistic persona. The player's choice option is therefore offered to give players additional power and versatility in describing the nature of their characters.

Players are encouraged to create or describe a character aspect, quirk, or trait of their choice, one specifically relevant to their character concept. Player's choice options might include such things as phobias, mental conditions, passions, hopes, habits or dreams. Anything is possible, so be creative, be original, and have fun!

Features

The section on features is a simple description of the physical appearance of your character. Much of the appeal in roleplaying is in the imagery and dazzle. A good game rolls through the mind like a movie, and the more detailed a character's appearance the better the show. There are too many options to present any complete listing here, so put some thought into it and be imaginative. The effects might be surprising.

Name: This is always an important step in the creation of a new character and should be given due attention. Creativity and consideration can result in a name that enhances image, style, and flair. Descriptive nicknames can add a great deal to a character.

Age: This entry indicates the character's age in years. If players wish to create particularly young or old characters there are some simple modifications that must be made to the creation process.

Adolescents, human characters between the ages of 12 and 17, will not be eligible for most professional training packages. At the Game Master's discretion, a player who wishes to design such a character should only receive one professional package.

Children, human characters between the ages of eight and 12, receive no professional training packages. In addition, they receive only one background package.

Unless otherwise mitigated by medical technology or longevity therapy, characters suffer a –1 penalty to all attributes, with the exception of Psyche, for every 10 years of age beyond 50. However, older characters are allotted an additional custom point for every year by which their age exceeds 50. For example, a 60 year-old character would suffer a –1 penalty to all attributes except Psyche, but would receive an additional 10 custom points to spend on skills.

Gender: This is a simple choice of the character's sex, but can be complicated by the fact that in 2199, even sex is subject to change.

Height: This is a simple measure of the character's height (or length) in meters.

Weight: Measured in kilograms, this is the character's weight in the gravity well of Poseidon. Due to the slightly higher gravity of the planet, a character's weight should be about .08 times higher than on Earth.

Stature: This is a description of the character's physique beyond the indicators of height and weight. Stature indicates whether the character is stocky or gaunt, stooped or broad, big-boned or obese.

Complexion: This describes a character's skin color and texture. Is the character pale and pockmarked or dark-skinned and healthy?

Hair Color: This is a simple description of the color of the character's hair, if any!

Hair Style: This describes the stylistic characteristics of the character's hair — short, curly, wavy, or high-and-tight.

Eye Color: This is a simple description of the color of the character's irises.

Special: This is a chance to be imaginative with individualized or notable features like scars, tattoos, piercings, birthmarks or whatever. Be creative!

POWER LEVEL AND GAME BALANCE

Once you have your character concept and profile developed, the next step is to ask your Game Master what power level your character should be. In BLUE PLANET — as in real life — all characters are not created equal. The fortunes of genetics, socioeconomic background, training, life experience, and educational or professional opportunities have a dramatic effect on characters' attributes and skills, as well as the extent to which they can take advantage of cybernetic enhancements and biotechnology.

Whereas some players and Game Masters prefer this realistic diversity within their character parties, other groups prefer all characters in a campaign to begin at a similar starting point, with all characters sharing roughly the same advantages and disadvantages. To this end, BLUE PLANET REVISED provides guidelines for evaluating and controlling the power level of different characters.

A Game Master wanting balanced character creation can require each character to be of a certain power level. A GM preferring a more open, realistic game can leave character power level to the player's discretion.



POWER LEVELS

All characters are classified as belonging to one of two categories, with each category having two power levels. The **Average** category includes the **Everyday** and **Professional** power levels, while the **Exceptional** category includes the **Remarkable** and **Elite** power levels.

Each power level is described below, followed by a table that details the benefits they receive during character creation.

Average

Everyday: These are the ordinary people who represent the vast majority of the population of Earth and the Colonies. They are semi-skilled or skilled by informal means, such as self-taught or street smart. They include fishermen, miners, dock workers, petty criminals, security guards, laborers or traditional "blue collar" trades.

Professional: These are people with advanced training or education. They include teachers, stockbrokers, computer programmers, law enforcement officers, veteran criminals, experienced mercenaries, medical technicians and traditional "white collar" trades.

Exceptional

Remarkable: These are extraordinary and highly competent people with above-average talent and extensive training, modification, education, and experience. They include combat veterans, Incorporate special forces, highly trained mercenaries, powerful corporate executives and UN representatives.

Elite: These are the larger-than-life few who fill the privileged and powerful ranks of Poseidon's frontier society. They are handpicked from the best-of-the-best, radically modified, and extensively trained to do their jobs, and do them better than anyone else. They include corporate leaders (CEO, CFO), GEO Magistrates, GEO Marshals, Shock Troopers and heads of state.

Benefits

Attributes: This is the number of free points the character may allocate to attributes (p. 39).

Biomods: This indicates the appropriate range of biomods for each power level. Minor biomods

CHARACTER POWER LEVEL BENEFITS TABLE				
	— Average —		— Exceptional —	
	Everyday	Professional	Remarkable	Elite
Attributes	1	2	3	4
Biomods	1–2 minor	1–2 minor, 1 major	2–4 minor, 1–2 major	Any minor, 1–4 major
Aptitudes	1/2	1/3	1/4	2/4
Custom Points	2	4	8	12
Max. Level	5	5	6	7
Skill Packages	3 professional	4 professional	4 professional	5 professional

sell for 10,000cs or less, while major biomods sell for more than 10,000cs.

Aptitudes: This entry lists the number of superior and strong Aptitudes characters of each power level receive (p. 47). The first number indicates the character's superior Aptitudes, and the second indicates the character's strong Aptitudes.

Custom Skills: This is the number of levels a player may allocate to the skills of his choice, in addition to skills acquired from training packages.

Max Level: This entry lists the maximum level a character may gain in a skill by increasing it with custom skill points. This does not affect skill level attained through selection of packages.

Skill Packages: This lists how many professional skill packages the character may select during character creation. A Novice package counts as 1 professional package, a Specialist package counts as 2 packages and an Expert package counts as 3 packages.

Power Levels and Character Roles

Players and Game Masters alike should use common sense when matching power level with various character roles. Though the rules allow a player to make any sort of character, it makes little sense in the context of the game to create an elite native sellout or an everyday Shock Trooper.

Game Masters are also encouraged to mix-and-match power levels to produce the characters most appropriate to their individual campaigns. For example, a GM who wishes to allow players to create grizzled veterans may give them elite-level custom skills, but only everyday-level attributes. Alternatively, the Game Master may allow young, talented characters in their primes to take exceptional attributes and elite Aptitudes, but only everyday training packages and custom skills.

All of the components are interchangeable, but the Game Master should always make the final determination of the combinations allowed in his game.

Throughout these rules, we will use GEO Marshal Peter Church to demonstrate the conventions and mechanics for character creation, task resolution, and combat. Church is a tough, dangerous, independent man born in a Free Zone enclave. Bandits killed his father when he was very young, and this tragic experience shaped his character and motivated him to devote his life to law and order. After leaving his home, Church served in the GEO Peacekeeping Force for several years before he was recruited for the Marshal Academy. In terms of power level, Church will clearly be an elite *character. He is one of only 24 GEO Marshals on Poseidon and has been rigorously trained, heavily modified, and given all the authority and resources he needs to execute his duty.*

CHARACTERISTICS

All Blue Planet characters are described by a number of characteristics, from natural talents, to capabilities learned through formal training and experience. The characteristics used include attributes, abilities, Aptitudes, and skills. These characteristics define the performance and relative capabilities of characters in terms of the game rules.

Attributes

These characteristics measure a character's basic mental and physical capabilities. They are fundamental traits common to all animals, regardless of species. While attributes are largely determined by genetic makeup, they can also be developed through training and experience. There are four **primary attributes** in Blue Planet Revised: Physique, Coordination, Cognition, and Psyche.

Physique: General health, musculature, and physical conditioning.

Coordination: Balance, hand-eye coordination, and manual dexterity.

Cognition: Intelligence, memory, and perception.
Psyche: Charisma, self-discipline and will.

Each attribute is rated by a positive or negative number, with a score of zero representing the average or norm for a mature human. Positive scores therefore represent attributes that are above average, and negative scores represent below-average attributes. This convention allows the rules to easily and intuitively model the unique attributes of the diverse species of animal life found on Earth and Poseidon.

For players, the mechanic makes it easy to distinguish between the capabilities of different character species, such as the physical power of an orca as compared to that of a pure-strain human. In terms of the game rules, attributes modify the Target Numbers for all related tasks. For example, Cognition would modify the Target Number for a task that tests a character's reasoning or memory.

Derived Attributes

Blue Planet Revised also uses three attributes that are derived from the character's primary attributes. These attributes are realistically determined by or dependent on other, more fundamental characteristics. The **derived attributes** are: Endurance, Reflexes, and Toughness.

Endurance: Stamina and staying power. Average of Physique and Psyche, round down.

Reflexes: Reaction speed. Average of Coordination and Cognition, round down.

Toughness: The ability to resist injury. Calculated as follows.

Physique+Psyche	Toughness
–3 to –6	–1
–2 to 1	0
2 to 5	1
6 to 9	2
10 to 13	3
14 to 17	4

Character Species

A character's default attribute scores are based on the character's species. The following listings offer basic information about each species and their default values in each attribute, as well as any modifiers the species receives for derived attributes. These modifiers are applied after the derived attribute's base score is calculated (see **Derived Attributes**, above).

Human, Pure-strain (Chimp) and Modified (Modi)

Pure-strain humans (**Chimps**) are individuals who, for whatever reasons, have opted not to undergo even the most minor enhancements. The simplest neural jack is more than these diehard purists will accept. Pure-strains are usually of two kinds, those with some fanatic conviction about the sanctity of the human body or those too poor to have a choice. They are uncommon anywhere beyond Earth. The demands of space and life in the Colonies are often too much for an unmodified human and compel most who head into space to undergo at least some basic modifications. Every advantage improves one's chances and only the unwise and unprepared are unmodified.

Modified humans (**Modis**) are those who did not undergo any extensive genetic redesign prior to birth, but have been modified or enhanced subsequently. The most common alterations include neural jacks and simple but obvious cosmetic changes. More extreme modifications include cybernetic replacement, tissue grafts and bud-implants, biochemical alteration, or even culture-grown limbs and accessory organs, such as gills. Modis are born as pure-strain humans, so their default attribute values are the same as for unmodified characters. A Modi character's primary and derived attributes, however, will vary depending on the biomods the player chooses for the character.

Human, Genetic Redesign (Genie)

Genies are the offspring of radical artificial evolution, created one trait at a time using the standard human genome as a basic framework. Artificial enzymes and viruses are used to recombine human, non-human, and custom codes into a potentially limitless variety of viable human organisms. Traditionally, the first modifications were relatively simple — bigger, faster athletes and stronger, tougher soldiers. In recent years, Incorporate competition has led to the creation of entirely alien forms — some beautiful, some horrid, most built for function and necessity. There are hollow-boned **Spacers** built for life in space, hulking **Silvas** created for fighting, lithe **Cats** made for stealth, sleek **Aquaforms**, and the disturbingly perfect **Transhumans**.

Aquaform (Diver and Squid)

Aquaforms are amphibious humans. The aquaforms were originally created as biomods in 2080 by a joint venture involving the UN and the Gen-Diver Corporation in support of the Poseidon

colonial effort. Two varieties of aquaforms were created in this early effort. Technically known as Diving Reflex Analogs and Systemic Osmoforms, they are better known commonly as divers and squid, respectively.

Divers were modified to share many characteristics with marine mammals. They have collapsing respiratory systems and increased levels of more efficient red blood cells. They can hold their breath for almost an hour and have a depth limit restricted only by temperature, swimming speed, and oxygen debt. **Squid** have true gills hidden in folds of flesh that run from below the ears, down the neck, between the shoulder blades to the middle of the back. These gills are covered by folds of skin and muscle that seal tight when the body is not immersed in water. Squid also have collapsible respiratory systems, but have a depth limit of about 500 meters, due to pressure effects on their metabolism.

Both types of aquaforms were modified in a variety of ways to enable them to become fully amphibious. Divers and squid both have slightly elongated feet, with long, webbed toes. Their feet remain quite suitable for dry land, however. Their fingers are webbed as well, to the second joint, and with spread hands, this vastly improves their swimming efficiency. They have nictating membranes, sealing nostrils, and skin tolerant of long immersion in salt water. In addition, divers and squid can both drink and metabolize sea water without harm. Both divers and squid tend to be smooth but thick-skinned, with minimal body hair. They also possess a notably thicker fat layer, enabling them to tolerate temperatures down to 5°C.

The original aquaforms were actually primitive biomods — adults modified by surgery, tissue grafts and retroviruses. Their new body forms, therefore, could not be passed on to their progeny without additional modifications. To simplify and minimize these demanding and expensive reproductive modifications, the aquaform genes were spliced into the ova and spermatagonia of the colonists. This means that any child a female colonist might have, even with a pure-strain father, will be an aquaform.

Aquaform Modifications:
+1 Physique
+1 Endurance
+3 Aquatics Skill
+1 Meter/Action to swimming pace
Salt Tolerance
Cold Tolerance
Hold Breath 1 hour (Diver) / Gills (Squid)



Hybrid (Cat and Silva)

These beings were first created in 2065 as part of a secret program by the United States, Germany, and the Biogene Corporation in an attempt to produce an unstoppable super-soldier. The project may have been technically successful but planners had failed to anticipate that their new soldiers might not want to be soldiers. As rebellious sentiment swept through the ranks it became apparent that keeping the hybrids under control would eventually become impossible. Word also leaked about the project, and under increasing political and public pressure, combined with the hybrids' unrest, the work was abandoned.

Just over 1,500 hybrids, the vast majority Silvas and Cats, had been created. In a UN arbitrated settlement, Biogene turned the research facility in which they had been reared over to the hybrids. Located on several thousand hectares of semi-arable land in central Africa, the facility became a sort of hybrid reservation. As best they could, the small hybrid nation established a self-sufficient colony, but extreme public prejudice and lack of resources made life difficult. Then, with the onset of the Blight in 2090, life became impossible.

Trained as soldiers and now unable to support themselves, the hybrids made a desperate offer to the newly established Global Ecology Organization. They offered to serve in the Peacekeeping Force. Hopelessly undermanned, the GEO accepted their offer. The hybrids served with distinction, and even became symbolic of the ecological struggle against the Blight. Despite their favorable press and best efforts, the hybrids were unable to overcome public fear and prejudice, so when the Blight ended, their future seemed bleak.

Recontact with the colony on Poseidon, however, changed everything. In exchange for past service, and as a demonstration of its commitment to human rights, the GEO offered to sponsor a hybrid colonial effort on Poseidon. Births within the hybrid population itself had raised their numbers to over 6,000, and almost to a person, they accepted the GEO offer.

Cat

Cats tend to have sleek and lithe bodies, completely covered with fine soft fur in a variety of patterns and colors. Their large mobile ears and slit pupils give them the natural equivalent of the amplified hearing and night vision biomods.

Cats also have non-retractible claws on both their hands and feet. However, Cats have poor color vision as well as short, intimidating, but rather useless fangs. These fangs give them slurred, somewhat lisping speech.

Cat Modifications:
+1 Physique
+2 Coordination
–1 Psyche
+1 Reflexes
Claws: Damage Rating 2
Poor Color Vision
Amplified Hearing
Night Vision

Silva

Silvas are large and heavily built, averaging around 1.75 meters in height and 85 to 110 kg in weight. They have profuse, fur-like body hair and distinctly ape-like facial features. Silvas have deep resonant voices but have trouble pronouncing certain sounds as they have very large, prominent canines.

Silva Modifications:
+2 Physique
–1 Coordination
–1 Psyche
+2 Endurance
Require specially designed equipment due to large size

Spacer

Spacers were created by the Martian government, with aid from the Lunar interests, in 2102. They were created as part of an effort to enhance Martian and Lunar utilization of the asteroid belt. Spacers have metabolic modifications to maintain

AVERAGE/STARTING ATTRIBUTES FOR HUMANS

	Pure/Modified	Aquaform	Cat	Silva	Spacer	Transhuman
Physique	0	1	1	2	0	1
Coordination	0	0	2	–1	1	0
Cognition	0	0	0	0	0	1
Psyche	0	0	–1	–1	0	1
Endurance	+0	+1	+0	+2	+1	+0
Reflexes	+0	+0	+1	+0	+0	+0
Toughness	+0	+0	+0	+0	+0	+0

their health in zero-g, increased radiation resistance, and increased temperature tolerance. They also have double-jointed legs and prehensile feet with opposable grip. Spacers are effectively four-armed humans who are well adapted to the confined and low-gravity habitats of space.

Spacers can endure temperature ranges from 5° to 45°C. Their modified feet are almost as dexterous as human hands, providing them with an additional +1 to Coordination when all four extremities can be used at the same time (this adds to the normal +1 bonus). Spacers can stand and walk in earth-normal gravity, but find it tiring and uncomfortable. Spacers are somewhat more comfortable on Luna due to its lower gravity, but they still prefer zero-g. In a gravity well, spacers are able to move at a maximum of scramble pace.

Approximately 60,000 spacers, as well as 70,000 other Belters, have moved to the Serpentis System and have set up mining, trading, smuggling, and similar operations in the asteroid belt, as well as on the system's smaller moons.

Spacer Modifications:
+1 Coordination
+1 Endurance
Cold, heat, and radiation Tolerance
Additional +1 Coordination when all four limbs can be used (zero-g or underwater)

Transhuman (Alpha)

First created in 2074 by Lavender Organics, **Transhumans**, or **Alphas**, are usually children of the rich. Unlike most Genies, Alphas appear to be perfectly ordinary, though invariably fit and attractive, humans. Alphas possess innate immunity to most diseases and conditions, including cancer, arthritis, and tooth decay. Alphas heal twice as fast as normal humans and without scarring. They have no anatomical vestiges, no genetic defects, and need only 4 to 6 hours of sleep per night. They possess the equivalent of the improved blood oxygenation biomod, and their natural life span is in excess of 120 years without additional medical aid. This life span can be raised to over 160 with modern medicine and with access to longevity therapy, it is almost certain that they will be fully immune to the effects of aging.

It is unknown exactly what percentage of children and young adults are Alphas, but the numbers are rumored to be as high as 50% among the wealthy and upper-level Incorporate classes.

Transhuman Modifications:
+1 Physique
+1 Cognition
+1 Psyche
Immunity to most diseases
Heal from injury twice as fast as normal
Require only 4 to 6 hours of sleep a day
Improved Blood Oxygenation
Long lifespan

AVERAGE/STARTING ATTRIBUTES FOR CETACEANS

	Bottlenose Dolphin	Orca
Physique	2	4
Coordination	–1	–3
Cognition	0	–1
Psyche	0	0
Endurance	+3	+3
Reflexes	+0	+0
Toughness	+0	+2

CETACEANS

Dolphin, Bottlenose (Fin)

By far the most intelligent of the cetaceans, **bottlenose dolphins** (**Fins**) surpass humans in their conceptual and philosophical abilities. Clever, and possessing a sophisticated sense of humor, many dolphins actually value human company. Dolphin-human friendships are common and in some cases quite close. Dolphins are the most curious and motivated cetaceans as well, and have adapted best to the cybernetic tools developed for them. Bottlenose dolphins are independent at an early age and are quite serious about their duties, but still possess the cetacean sense of humor and the love of games. They are disciplined and stick to tasks until complete.

Orca (Killer Whale)

Slow-witted and methodical, these behemoths are still uniquely important players in life on Poseidon. Their natural talents coupled with their increased mental ability have made these creatures vital elements in GEO military and Incorporate security forces. Their sheer bulk and one-track minds make **orcas** formidable soldiers and guards, effective against all but the largest aquatic lifeforms and the most determined humans. Despite the moniker "**Killer Whale**", they are not an inherently violent species and are offended when treated as dangerous brutes.

Limited as player characters by their greater size and lesser intelligence, these creatures may intimidate many Game Masters. **It is recommended that only experienced and open-minded gamers**

include orcas as player characters in their BLUE PLANET adventures.

MODIFYING ATTRIBUTES

Once a player has chosen a character's species, the player may also choose to modify the character's attributes from these default levels. Attributes may never be increased or decreased by more than three levels from the species norm, except through biomods and genetic engineering.

The point system method gives the players complete control over their characters' attributes. Players have a number of points to spend based on their character's power level, as shown on the Character Power Level Benefits Table (p. 39). The cost to increase an attribute above its default value is listed in the table below.

Attribute Level	Character Points
–3	–4
–2	–2
–1	–1
0	0
1	1
2	2
3	4

Reducing an attribute below the default value provides the player with additional points to spend on other attributes. These extra points are also provided in the table. For example, it costs one point to increase an attribute one level above its default value and two points to increase it two levels above its default value. Likewise, the player would receive four extra points for decreasing an attribute three levels below its default value.

Players should choose the desired values for their characters' attributes by spending their character points, then enter these values in the appropriate space on their character worksheets. Remember, an attribute may never be increased or decreased by more than plus or minus three from the species norm by spending character points.

GEO Marshal Peter Church is a modified human, so all of his attributes default to 0. As an elite character, we receive 4 points to allocate to attributes. We decide to allocate 1 point each to Coordination and Psyche, and 2 points to Cognition. This gives Church a Coordination of 1, Cognition of 2 and Psyche of 1. Since Church will have extensive biomods, we see no need to spend points on his Physique.

ABILITIES

A character's abilities are the traits and talents inherent to the character's species. Specific abilities are listed below for each species.

HUMAN ABILITIES

Climbing

Humans began their evolution in the trees and still remain quite skilled at climbing. Human characters can climb at a rate determined by the grade and nature of the surface being scaled. Though a character will seldom be able to climb faster than his scramble pace (see below), the actual rate is uniquely dependent on the type of climb and is left to the GM's discretion.

Most frequently, a climb can be resolved with an Attribute Roll (p. 92), and the character's action value can be used to modify the rate. Of course, if the player scores a very low Action Value, the Game Master may decide that there has been an equipment malfunction, or that the character has lost his hold and is sliding or beginning to fall. Only the most precarious of situations should warrant a character plummeting to certain death on the basis of a single dice roll. For long climbs, use of an Extended Task Roll is recommended (p. 92).

The Target Number for a short climb should typically be based on the character's Coordination, while an extended climb might test the character's Endurance. The Game Master should apply a bonus or penalty based on the difficulty of the climb, equipment available, environmental conditions, and other situational factors.

The Mountaineering skill (p. 54) can also be used to modify the difficulty of a climb, or to allow the character to climb a surface that would be impossible without specialized training and appropriate gear.

Jumping

Though certainly not as adept as some other species, humans are pretty good jumpers. There are three general types of jumps.

Vertical: An average human character can make a vertical jump of half a meter.

Standing: An average human character may jump about 2.3 meters horizontally, from a standing position.

Running: A human character must sprint for at least one action to perform a running jump. The average character may jump about 5 meters horizontally, from a running start.

Note that negative Agility scores will result in jumps of less than the average human base distances. In appropriately tense situations, the Game Master may allow the player to make a task roll against Coordination to determine whether a character jumped more or less than this average.

Language

Humans' linguistic abilities are unique among all the species of Earth. Every human character should be considered fluent in the verbal and usually the written expression of his native language. A human character should take a skill level in his native language or languages equal to 5 + (Cognition). Characters must learn additional languages through specific training.

Movement

Humans are capable of a wide range of mobility in a variety of different environments.

Land: Like all land animals, humans are capable of moving about on land at varying rates. For game purposes, all humans have a normal walking pace of 6 kilometers per hour, and can run at a pace of 15 kilometers per hour for a number of minutes equal to 50 + (15 × Endurance). In addition, there are four paces used to describe human movement rates during action sequences; Crawl, Walk, Scramble and Sprint. Crawl pace is 1 meter per action, Walk pace is 2 meters per action, Scramble pace is 5 meters per action and Sprint pace is 10 meters per action. Movement in combat is described in detail in **Chapter 3: Synergy** (p. 90).



Aquatic: Though not as well adapted to the water as other species, humans are nonetheless able swimmers. Human characters can swim at a base rate of one meter per action. Due to their extensive adaptations, aquaform characters can swim at a rate of two meters per action.

Throwing

Humans' opposable thumbs, articulated limbs, and innate coordination allow them to throw small objects considerable distances. A human character can throw a one-kilogram object a number of meters equal to 35 + (10 × Physique). The Game Master should reduce this range considerably for heavier or unwieldy objects. Specific training in Throwing skill is necessary to throw objects with consistent accuracy.

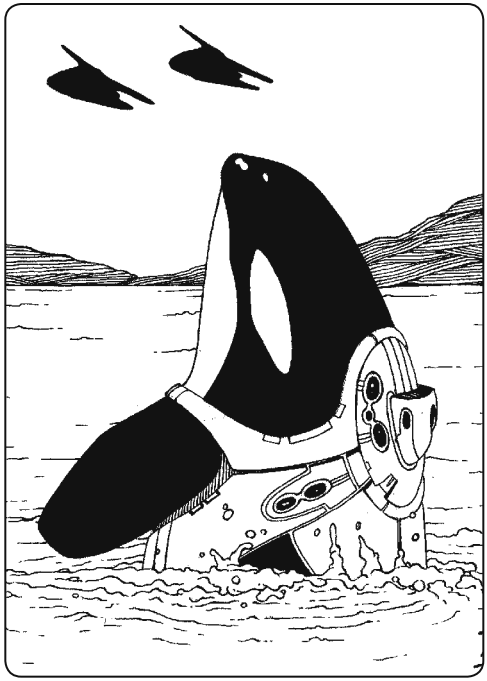
To determine Church's abilities, the first thing we need to do is select his biomods. Those that will directly affect his attributes include accelerated neurons, immunological symbiote, myo-skeletal enhancement, and multiglands. After adjusting for these biomods, Church's final attribute scores are as follows:

Physique 2 *(2 from Myo-Skeletal Enhancement)*
Coordination 2 *(1 from point assignment, +1 from Accelerated Neurons)*
Cognition 2 *(2 from point assignment)*
Psyche 1 *(1 from point assignment, +1 from Multiglands, –1 from Myo-Skeletal Enhancement)*
Endurance 3 *(1 from averaging Physique and Psyche, +1 from Immunological Symbiote, +1 from Myo-Skeletal Enhancement)*
Reflexes 3 *(2 from averaging Coordination and Cognition, +1 from Accelerated Neurons)*
Toughness 1 *(1 from Toughness Table)*

The Marshal can climb at a rate equal to his scramble pace. For his native language, Church has English 7. He can run at 15 kilometers per hour for 95 minutes. The Marshal can swim one meter per action, and can throw a one-kilogram object up to 55 meters.

Modi Abilities

Modi characters receive the same basic abilities as pure-strain humans. In addition, the player should select biomods suitable to his character concept. The campaign's power level will provide general guidelines for the number and type of biomods



that are appropriate (p. 38). Players should also consult with their Game Master to select those modifications that are appropriate to the individual BLUE PLANET campaign.

GENIE ABILITIES

In general, genies receive the same basic abilities as pure-strain humans. Players designing genie characters should select one of the genie packages described in the Biotech chapter. Players may also select specific biomods for their genie characters, although some may be of reduced effect since the character has already been substantially modified.

CETACEAN ABILITIES

Echolocation

Dolphins and orcas have an innate echolocation ability that grants them exceptional underwater perception. Using echolocation, a cetacean character can perceive large features of his surroundings clearly up to 800 meters and can detect small objects at a distance of 100 meters. In addition to the size, shape, speed, direction, and distance of an object within this range, cetaceans can usually determine something of the object's texture and internal structure using echolocation.

Environmental Sensitivity

Cetaceans enjoy a perceptual characteristic that is not adequately covered by the standard senses, though it is probably derived from them. They have a unique, instinctive sensitivity to their natural environment that human philosophers and psychologists are still struggling to explain. Many have compared it to the extreme sensitivity to the world of sound a blind person is often forced to develop. Some philosophers claim that this sensitivity is simply the result of a cetacean's lack of cognitive barriers between the subconscious and conscious mind. Whatever the explanation, a cetacean's perceptual abilities in his natural aquatic habitat are far beyond those of a human.

Navigation: Dolphins and orcas have an unerring sense of direction in familiar environments, and can navigate freely both on the water's surface and below it. In addition to the capacity to unfailingly follow a chosen compass direction, cetaceans are also able to locate land masses far beyond visual range, quickly locate and identify thermoclines, casually negotiate difficult underwater terrain, locate air pockets in a variety of geological features, and anticipate the location and movement of chosen prey animals.

Weather Sense: Cetaceans have a remarkable ability to anticipate weather patterns, including the approach of storms and significant changes in temperature. In addition, dolphins and whales are able to accurately judge the likely severity and duration of storms and other climatic changes.

Animal Empathy: Cetaceans have the ability to assess the basic emotional state of any animal with which they come into contact. In many cases, this will give them advance warning of any dangerous predators that are in the area or moving toward them. This empathic sensitivity is notoriously unreliable with respect to humans, however.

Language

Both dolphins and orcas have highly developed languages. Characters of both species receive a default score in their native language (Bottlenose or Orca) equal to 6 + Cognition.

Movement

While cetaceans lost the ability to move about on land when their ancestors returned to the seas 50 million years ago, they are highly mobile within their natural marine habitats. All cetaceans have an innate Aquatics skill of 10.

Bottlenose Dolphin: Unlike humans, dolphins are genetically adapted to aquatic activity. For a dolphin, swimming is akin to the basic forms of terrestrial movement for human characters and is therefore much faster and more efficient. A

bottlenose dolphin character's swimming rate is 12 meters per action, about 40 kph.

Orcas : Orca characters are significantly faster than dolphins and can swim 14 meters per action, about 50 kph.

Jumping

Cetaceans are fairly good jumpers provided they are able to build up some speed prior to leaving the water. To use this ability, a cetacean must swim at top speed for at least one Action Round. A cetacean can jump a vertical or horizontal distance of 5 meters + Coordination.

In appropriately tense situations, the Game Master may allow the player to make a task roll against Coordination to determine whether a character jumped more or less than this average.

Natural Defenses

Cetaceans are far less dependent upon artificial weapons than humans, having more effective natural capabilities to defend themselves. To use these natural attacks in combat, cetacean characters make an Coordination roll rather than a roll against a Combat skill.

Bottlenose Dolphin

Bite: A dolphin's wide, powerful jaws are lined with small, sharp teeth and may be used as a formidable weapon.

Damage Rating: Physique + 2

Ram: One of the dolphin's most important natural weapons is the ability to charge at high speed and ram vulnerable areas of a target's body. To use this form of attack, a dolphin must swim at top speed for at least one action.

Damage Rating: Physique + 4

Orca

Bite: An orca's bite is the most destructive and powerful of any extant terrestrial species, including great white sharks.

Damage Rating: Physique + 4

Ram: Because of their increased physical power and size, an orca's ramming attack is far more devastating than a dolphin's. Like a dolphin, an orca must swim at top speed for at least one action and make a successful Coordination roll to use this attack.

Damage Rating: Physique + 8

Senses

Cetacean characters have the same senses as those listed for humans, with a few notable differences. First, they have no sense of smell, but do have a sense of taste. Second, a cetacean's hearing is much broader and more sensitive than a human's.

Biomods

Cetaceans may select certain appropriate biomods, but are subject to the same restrictions and guidelines that apply to human characters. In addition, the cost of all biomods is doubled for these characters.

APTITUDES

A character's inherent ability, talent, and proficiency in distinct areas of knowledge and skill are represented by **Aptitudes**. Formal training and experience can only take a character so far, and some characters will simply be more talented than others in specific areas of knowledge and ability.

Players should note that Aptitudes are fixed during character creation, and can never be altered during the course of the campaign. Characters will have many opportunities to improve their skills and learn new ones, develop their attributes, and acquire new biomods, but the natural ability represented by Aptitudes never changes. Players should therefore assign their Aptitudes to those areas in which they want their characters to truly excel.

Aptitudes are rated as Average, Strong, or Superior, and determine the number of dice a player rolls when using skills associated with that Aptitude. During character creation, players choose a number of Superior and Strong Aptitudes determined by their characters' power level (p. 38). Each Aptitude's level should be recorded in the appropriate space on the primary character sheet.

Peter Church is a GEO Marshal, with a background in law enforcement and the military. He grew up in a Free Zone enclave, and that experience also helped mold his talents and proficiencies. For Church's superior Aptitudes, we choose Combat and Communications, and Administration, Stealth, Tech, and Vehicles as his strong Aptitudes. All other Aptitudes default to average. These choices are a good match with Church's background and they will give him an edge in executing his duties on Poseidon's frontier.

SKILLS

A character's learned abilities are represented by **skills**. Skills are rated on a scale of 1 to 10, and determine the base Target Number for a skilled task (p. 91). The following table offers a qualitative evaluation of a character's training and experience at different skill levels. Note, however, that a character's actual effectiveness or ability will be determined by the combination of attribute, Aptitude, and skill.

Skill Level	Ability
1–3	Novice
4–7	Competent
8–10	Expert

The table on p. 50 lists the skills available in BLUE PLANET, organized by the Aptitudes with which they are associated.

SKILL DESCRIPTIONS

Each skill used in BLUE PLANET REVISED is described below, organized by the Aptitude under which it falls. Note that most skills realistically cover a wide range of related tasks and areas of knowledge.

While generating their characters, players should keep in mind that the game rules encourage Game Masters to differentiate between simpler tasks and more difficult ones, even within the same skill. This is done with Target Number bonuses for easy tasks, and penalties for harder ones. This means that characters with lower skill levels will have an increasingly difficult time making skill rolls as the task penalties increase. In game terms, this helps distinguish the truly able and experienced characters from the poorly trained.

For example, the Computers skill covers such tasks as basic operation, using CommCore, upgrades, maintenance and repair, programming, hacking, and computer design and engineering. The basic operation of a computer will be possible for even unskilled users, since the Game Master should give the character a large Target Number bonus on such a task. Upgrading or minor repairs of a computer might be an average task, such that only professional-level characters will routinely be successful at it, and unskilled characters will not be able to do it at all. Major repairs or engineering tasks, however, will incur a significant Target Number penalty, so only highly skilled characters will typically succeed at them.

ADMINISTRATION

These skills cover the organization and coordination of the activities of any social, political, or commercial institution.

• Bureaucracy

A character with this skill is familiar with the organization and procedures of bureaucratic institutions and can often find ways to improve their service and performance, or otherwise obtain services more efficiently. This includes knowing how to find the right people and what to do or offer to get what you want. The subtle etiquette of bribery is also covered by this skill.

• Economics

This skill deals with the principles governing the production, distribution, and consumption of goods and services and with the theory and management of economies or economic systems. Characters with this skill will be able to judge the value of specific goods and services in various markets, as well as analyze current and future economic trends.

• Law

This skill gives familiarity with the theory, letter and practice of the laws governing the affairs of modern communities and enforced by GEO or Incorporate political authority. It includes knowledge of ability and application of law enforcement and penalties for breaking the law.

• Logistics

This skill represents a character's ability to coordinate resources, making sure people and materials are in the right place at the right time. Ordering supplies or services for a business or coordinating supplies for a military campaign are all covered by this skill.

• Planning

This skill is about developing plans that ensure projects reach the desired goal in the allotted amount of time. This skill covers everything from planning a covert raid to readying a research trip to the bottom of the ocean.

Athletics

These skills represent training in activities such as sports, exercise, and games that require physical skill and stamina.

• Aquatics

This skill covers movement and activity in aquatic environments, including understanding how the body is affected by the environment.

• Freefall

This skill covers competence at operating effectively in low or zero gravity environments. It includes practical knowledge of the effects of gravity on the body.

• Sports

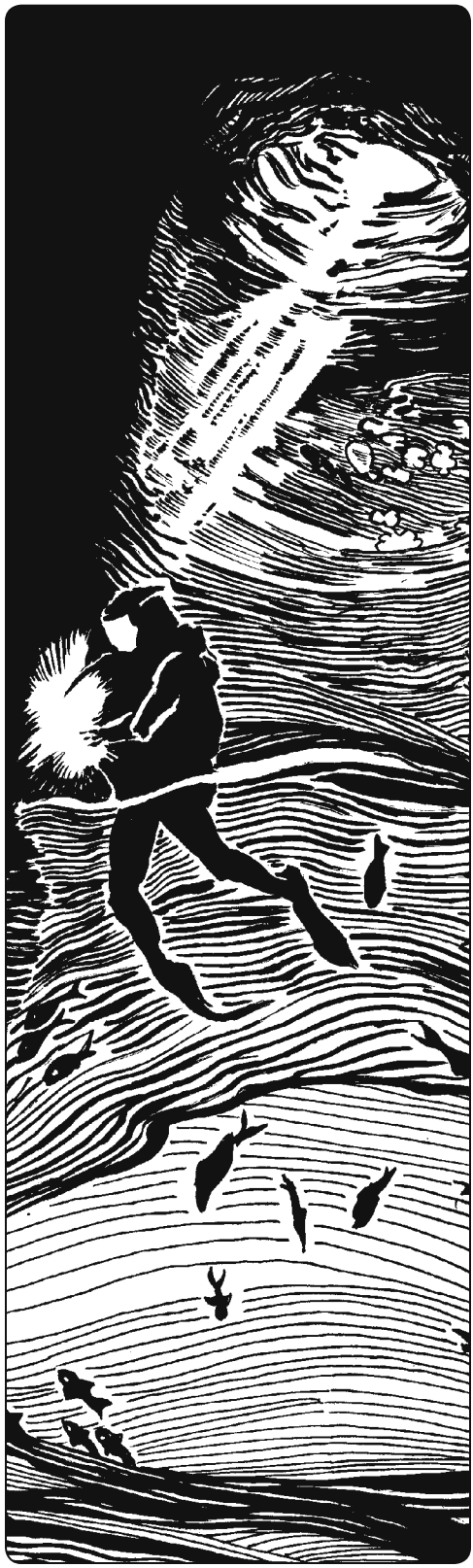
This skill must be taken individually for each sport with which the character is familiar. It represents knowledge of the rules, history, tactics, and skills of specific athletic games and contests, such as hydroshot, football, baseball, or parachuting. It also includes the ability to accurately throw an object (usually a ball).

Making an accurate throw requires a skill roll, adjusted for range by the same modifiers that are used for **Ranged Combat** (p. 95). The range categories are: P 3/S 6/M 12/L 20.

If the Throwing roll succeeds, assume the character has thrown the object essentially where he intended. If it fails, the Game Master should determine the amount of deviation based on the action value. The circumstances that determine the potential deviation are diverse and the GM should use logic and the details of the location and action to describe an appropriate result. In any case, barring a critical failure, the thrown object will not typically deviate by more than half the distance of the throw.

To determine the direction of deviation from the intended target, roll a D10 and consult the following compass directions, with north as the direction of the throw: 1–2 N, 3 NE, 4 E, 5 SE, 6–7 S, 8 SW, 9 W, 10 NW. Obviously, this kind of detail will only be necessary in special cases, such as when the object thrown is a grenade or other explosive device.

Optional Rule: This skill covers a single sport for every point in the skill. For example, a character with Sport 1 would be conversant with a single sport, whereas a character with Sport 4 would be capable in four sports.



Combat

These skills represent the art of combat; armed and unarmed melee, self defense, and training in

various classes of firearms. Firearm training includes loading and unloading, aiming and firing, sighting, mounting accessories, routine care and maintenance, and immediate actions necessary in the case of a misfire or jam.

As an optional rule, the character uses his skill at full value when using a weapon he is familiar with. When first encountering a new or unfamiliar weapon of the same skill class, the character suffers a –2 TN penalty to his skill until he can take some time to familiarize himself with it. At the Game Master's discretion, the character may make a Cognition plus combat skill task roll to gain familiarity with the weapon and discard the penalty.

• Armed Melee

This skill covers fighting with melee weapons. It covers fighting with bladed and blunt weapons as well as improvised ones.

• Heavy Weapons

This skill covers weapons larger than small arms, such as machine guns and missile launchers. Characters firing weapons turret-mounted on vehicles use this skill, while Remote Weapons is required to fire integral vehicle weapons.

• Remote Weapons

This skill covers the operation of computer controlled weapon systems. The weapons integrated into a jumpcraft and those installed on a cetacean drone would both be examples of remote weapons.

• Small Arms

This skill is used for pistols, rifles and other manportable firearms, as well as specialized or obscure weapons such as spear guns and bows.

• Unarmed Melee

This skill is about fighting with the body's natural weapons. The exact discipline is up to the player and may range from brawling to a martial art.

COMMUNICATION

These skills define a character's ability to interact and communicate with other people, including the ability to effectively communicate in a military or crisis situation.

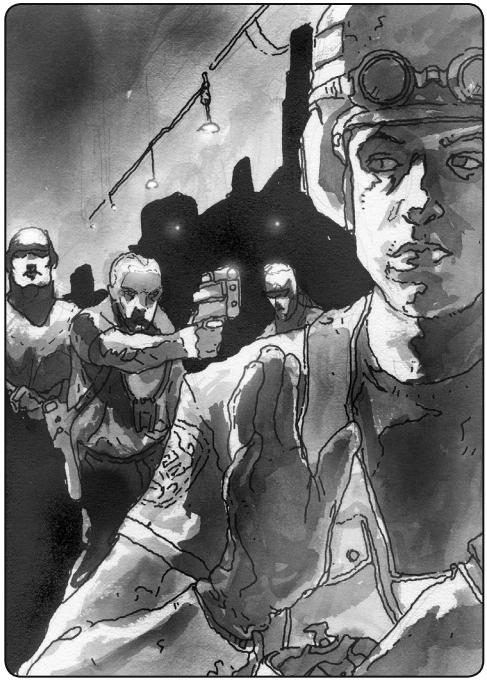
• Language

This skill represents the ability to communicate, in written and verbal or visual form, in a specific language. This includes normal spoken languages as well as non-spoken languages, such as sign language or cetacean Interspec. This skill must be purchased independently for each language a player wishes his character to know.

• Leadership

This skill is the ability to inspire, enthuse and motivate people into taking a course of action you desire. It can take the form of an inspirational speech, a quiet word in someone's ear or leading by example. outcome of any skill roll determines how much the character's actions encourage others rather than any objective measure of how good their speech was. This skill is used to influence

SKILLS BY APTITUDE	
Administration	**Medicine**
Bureaucracy	Forensic Medicine
Economics	Medicine
Law	Pharmacology
Logistics	Psychology
Planning	Surgery
Athletics	**Sciences**
Aquatics	Astronomy
Freefall	Ecoscience
Sports	Geoscience
Combat	Life Science
Armed Melee	Physical Science
Heavy Weapons	**Sentient Sciences**
Remote Weapons	Anthropology
Small Arms	Archaeology
Unarmed Melee	History
Communication	Politics
Language	Theology
Leadership	**Stealth**
Persuasion	Disguise
Writing	FastTalk
Culture	Forced Entry
Cetacean	Forgery
Colonial	Misdirection
Earth	Stealth
GEO	**Survival**
Human (Cetacean only)	Foraging
Incorporate	Mountaineering
Military	Navigation
Native	Tracking
Spacer	**Tech**
Street	Computers
Farming	Demolitions
Animal Husbandry	Electronics
Agriculture	Mechanics
Aquaculture	Remote Operations
Hydroponics	**Vehicles**
Fine Arts	Boating
Crafting	Driving
Graphics	Piloting
Performance	



non-player characters. It should not be used by one player character to influence another player character, that is the province of role playing.

• Persuasion

This is the art of influencing a person or people through reasoned argument, subtle manipulation, calculated compromise, psychological appeal or blatant intimidation. This could be done to reach an agreement or consensus, negotiate a business deal, or simply to get the person to do what you want. This skill also represents the ability to speak eloquently before a group of people.

• Writing

This is the art of crafting communications using the written word. The writing can be designed to inspire, entertain or simply get meaning across coherently. Writing can substitute for persuasion in circumstances where a speaker is addressing an audience from a written speech.

CULTURE

Culture skills represent familiarity with the practices and customs of particular cultures. It includes basic knowledge of important people and organizations within the culture.

• Cetacean

The unique social customs and traditions of modern, uplifted dolphins and whales.

• Colonial

The culture of colonists and pioneers since Recontact.

• Earth

The contemporary societies on Earth.

• GEO

The activities and traditions of the Global Ecology Organization (GEO).

• Human (Cetacean only)

An outsider's view of the baffling things that humans take for granted.

• Incorporate

The dynamic world of the Incorporate states.

• Military

The codes and traditions of the armed forces.

• Native

The culture and traditions of the original Athena Project colonists and their descendants.

• Spacer

The societies of orbital communities and planetary colonies such as the Lunars, Martians, Belters, and Proteans.

Street

The codes and customs of major urban centers, including criminal elements.

FARMING

These skills cover the art and science of producing food crops and raising livestock.

• Animal Husbandry

This skill covers the breeding, care, and medical treatment of animals, including domesticated livestock. Lambing, milking and rubbing down horses are all uses of this skill.

• Agriculture

This skill covers the cultivation of food crops in a terrestrial environment, including business aspects. It covers any size of plot, from a small vegetable garden to multi-acre grain fields.

• Aquaculture

The science of cultivating plant crops and livestock on and under the water, in both fresh and salt water. This includes cultivating domestic water plants, fish and crustaceans, or their Poseidon analogs.

• Hydroponics

The science of cultivating plants in nutrient solution rather than in soil. It includes all aspects of hydroponic setup and maintenance. This process is especially useful in space and underwater habitats.

Fine Arts

These skills represent talent or training in a variety of art forms. Each art skill is purchased separately for each specific type, such as Crafting (Sculpture) or Graphics (Photography).

Optional Rule: The character's skill covers the particular art form in which they specialize. Other arts covered by the skill may be attempted at a –2 TN penalty.

• Crafting

The art of making physical objects of practical use or purely artistic merit. Carpentry, smithing, sculpture and carving are all examples.

• Graphics

The art of creating pictures or abstract representations in various mediums. These mediums include paint, photography, holography and virtual imagery. In all cases the visual appeal of the image is the primary goal.

• Performance

Training in and performance of traditional acting techniques, dancing, singing, and musical ability including composition.

Medicine

These skills cover the techniques of diagnosing, treating, or preventing disease and damage to the body and mind.

There is a special "interspecies" modifier for all attempts to provide medical care for patients of a different species. A human doctor attempting to care for a cetacean receives a –2 penalty on all relevant medical rolls. A cetacean doctor treating a human patient would incur the same penalty. Differences in anatomy and physiology are only part of the basis for this modifier — communication problems are often more challenging.

• Forensic Medicine

The branch of medicine concerned with identifying the details surrounding a death, usually in the context of a criminal investigation. It includes pathology of crime scenes and victims, toxicology and legal ramifications. Examining a crime scene, carrying out an autopsy and presenting expert testimony in court are all examples of this skill.

• Medicine

This skill covers the medical care a sentient patient receives. At low levels, Medicine is limited to first aid, at higher levels the character is a qualified medical technician or full fledged practitioner. casualties after an accident, diagnosis of disease and treating wounds from a predator would all use medicine.

• Pharmacology

The science of drugs, including their composition, manufacture, applications, and effects. It includes prescribing medications, determining what drugs a person has been taking and analyzing unknown medicinal compounds.

• Psychology

This branch of medicine includes psychiatry and psychotherapy, and focuses on the diagnosis and treatment of mental and behavioral issues. There is a high demand for practitioners on Poseidon. The stress of travel from Earth, adjustment to the new world and mental issues that can arise from biomodification all require skilled treatment.

Surgery

This skill is focused on the treatment of physical problems with the body. It is more focused than Medicine, dealing primarily with minimal to highly invasive procedures. Surgery is used to deal with issues such as limb amputation, organ removal, internal repair (stitching or laser sealing) and biomodification.

Sciences

These skills cover the branches of science that study the foundations of the universe.

• Astronomy

This skill is the scientific study of matter in outer space, especially the positions, dimensions, distribution, motion, composition, energy, and evolution of celestial phenomena. Knowing the phases of the moons and understanding phenomena in the night sky would all use astronomy.

• Ecoscience

This skill covers the study of animal and plant life on the macroscopic scale, including their ecology, physiology, development, morphology, and taxonomy. Interpreting the hunting strategy of a predator, making extrapolations about life in particular environments and understanding the effects of pollution on an ecosystem would all use this skill.

• Geoscience
This skill includes the study of the origin, history, processes and structure of planets, including climate and weather. Geoscience is valuable in locating and coordinating the exploitation of natural resources such as uranium and Long John. It is invaluable in understanding and predicting weather.

• Life Science
This skill is the study of the vital processes occurring in living organisms on the microscopic scale, and genetics and biochemistry. It covers understanding the effects of a virus on cells, interpreting genetic code and blood chemistry analysis.

• Physical Science
This skill covers chemistry and physics and includes understanding of chemical composition and reactions, thermodynamics, particles and quantum mechanics. Analyzing the chemical composition of an unknown substance and predicting the behavior of magnetic fields are examples of this skill.

Sentient Sciences
These skills represent the systematic, academic study of behavior and society. Originally concerned only with humans, these sciences have expanded to cover all sentient species.

• Anthropology
This skill is the study of the origin, behavior, and cultural development of sentient beings. It covers life and society, social relationships, physical traits and variations amongst different groups of the same species.

• Archaeology
This skill is the recovery and study of material evidence of sentient cultures, such as graves, buildings, tools, and pottery. Locating potential remains, uncovering, analysing and interpreting the evidence are all uses of this skill.

• History
This skill studies the chronology of past events via documentary evidence. This evidence includes oral testimony, written documents (both paper and virtual) and cetacean whalesong. Comprehending & critiquing these documents are also covered under this skill.

• Politics
This skill covers the study of sentient political structures. It includes understanding how political systems are designed, function and fail. Uses of the skill include knowing who performs a particular job, the current hierarchy of power and the relationships between different political entities.

• Theology
This skill includes the study of the nature of the divine, religious truth, and spiritual belief systems. It may be used to understand the meaning of a tradition, knowing the correct title for a religious official or interpreting the meaning of a piece of Whalesong.

Stealth
These skills represent training in misdirection, subterfuge or otherwise hiding a person's intent.

• Disguise
Disguise is the use of various techniques used to either hide a character's physical appearance or to mimic someone else's. This covers fooling both sentient & electronic detection. To mimic a specific person's voice or mannerisms, Performance is more appropriate. Looking like a member of a specific gang, slipping through a Patrol security cordon or pretending to be an Incorporate citizen to get past security would all use disguise.

• Fast-Talk
This is the art of speaking quickly, confidently & impressively to get what you want. It's not an attempt to persuade the subject, just to convince them to go along. Bluffing your way past a nightclub bouncer, convincing a bureaucrat to help you or talking yourself out of an interview with the patrol are all fast talk.

• Forced Entry
This skill includes the ability to use techniques or specialized tools to gain access to a locked area. It includes opening or bypassing mechanical locks, knowing how and where to scale a fence to avoid detection and finding the easiest place to break into a building.

• Forgery
This skill is the art of creating convincing false documentation both in hard copy and digital form. Creating a fake ID card to bypass security, designing a false CommCore online site or making fake owner's permits are all uses of the skill.

• Misdirection
This skill focuses on drawing attention away from the actual act being performed, usually by causing

a distraction. Performing a card trick, picking a pocket, palming an item from a desk or causing a disturbance to draw attention from someone else are all uses of this skill.

• Stealth

A character with this skill is trained to move quietly, use his surroundings to avoid detection, and use camouflage to conceal his position or other objects. It may be used to tail a person, hide from a surveillance remote or slip away unnoticed from the scene of a crime.

SURVIVAL

These skills represent survival training in wilderness environments.

• Foraging

This skill allows a character to find safe food and water in the wilderness by fishing, hunting or scavenging. It includes identification, preparation and storage of food and water.

• Mountaineering

This covers the skill and knowledge required to safely ascend and descend mountainous terrain. It is used to deal with difficult climbing challenges. Climbing a steep cliff, surviving a stormy night in the open, dealing with altitude sickness, and getting down safely from a high window are all uses of this skill.

• Navigation

This skill covers the use of a variety of tools and techniques to identify position and accurately plot a travel course. It can be used to navigate oneself with means as simple as solar position or as complex as modern global positioning systems.It might be used to work out which island a character's boat has washed up on, walk a route to a remote village or to orient yourself by the sun or stars.

• Tracking

Tracking is the art of understanding and following the trail left behind by creatures, including man. It may be used to know how many people occupied a campsite, follow a ground vehicle through a wilderness area or identify creatures by the tracks they have left.

TECH

These skills cover the ability to operate, modify, build and repair technological devices.

• Computers

This skill represents a character's familiarity with the operation, maintenance, and repair of computer hardware and software. The skill can be used to hack someone's CommCore account, search a bodycomp, plant a monitoring virus in a remote computer, or build a fast computer system.

• Demolitions

This skill allows for the safe handling and utilization of explosives. It can be used to set explosives to achieve minimum or maximum damage, predict the destructive potential of a homemade explosive device or to create explosives from easily obtainable resources.

• Electronics

This skill represents a character's familiarity with the operation, repair, and design of electronic equipment and technology, including communications and sensor equipment, cybernetics, and security systems. Repairing a broken radio, constructing a sensor array or subverting a security system are all uses of this skill.

• Mechanics

This skill covers the operation, repair, and design of mechanical equipment and technology. This includes diagnosing a strange engine noise, repairing a broken anchor winch or effecting a temporary repair when the proper parts are unavailable.

• Remote Operations

This skill represents a character's training with remotely operated devices or telepresence. This is often used in place of the skill that is used for direct operation. Operating a cetacean drone, sensory cluster or an orbital construction drone are all uses of this skill.

VEHICLES

These skills cover training in the operation and routine maintenance of vehicles.

Optional Rule: The character uses his skill at full value when using a vehicle he is familiar with. When first encountering a new or unfamiliar vehicle of the same class, the character suffers a –2 TN penalty to his skill until he can take some time to familiarize himself with it. At the GM's discretion, the character may make a Cognition plus vehicle skill task roll to gain familiarity with it and discard the penalty.

• Boating

This skill covers the operation and routine maintenance of motor- and wind-powered vessels, including sailing ships, standard boats, and hydrofoils.

• Driving

This skill includes the ability to operate a variety of modern terrestrial vehicles, such as motorcycles, wheeled cargo haulers and hovercraft.

• Piloting

This skill includes the ability to operate a variety of modern vehicles, such as submersibles, jumpcraft, aircraft, and orbital shuttles.

TRAINING PACKAGES

To streamline the character creation process, skills have been collected together in training packages that detail particular backgrounds and career paths. This allows the player to think in terms of "What does my character do?" rather than "What skills do I need?"

The training packages allow a great deal of flexibility — players can choose diverse packages to give their characters a wide range of skills, or focus on specific groups to create characters who have developed expertise in a few chosen areas. Players are encouraged to think of the packages as presenting a period of the character's life and the things they learned during that time.

All characters receive three background packages, and three to five professional packages, based on their power level.

Each professional package has three levels novice, specialist, and expert and each of these levels supersedes the one below it. In other words, the skill levels offered by the novice levels have been added into the specialist levels, and the skills offered by the specialist levels have been added into the expert levels. Players should simply choose the level they want for their characters and write down only the skills offered at that level.

Each level counts as one of the five professional packages a player is allowed. **Novice level counts as one package, Specialist counts as two packages, and Expert counts as three.** For example, a player creating an elite character could choose one expert and one specialist package, or one expert and two novice packages, or two specialist and one novice package.

Most combinations of training packages will offer levels in common or shared skills. For example, the Colonial Background package offers Colonial Culture 3, while Colonial Culture 1 is available from the Novice level of the Colonization professional package. When two or more separate training packages offer a common skill, the levels should be added together to determine the character's total skill level. In the above example, a character with the Colonial Background and Novice Colonization would have Colonial Culture 4. **At character creation, skill levels added together from packages have a maximum level of 8.**

Players should experiment with different combinations of training packages to find the set that best represents the body of skills most appropriate to their character concept. Once players have selected their character's training packages, they should record the value of each included skill in the appropriate space on the character sheet.

Custom Skills

Once players have selected their characters' training packages, they may allocate points to custom skills. The number of points a character receives is determined by his power level. **Everyday characters receive 2 points, professional characters get 4 points, remarkable characters get 8 points, and elite characters receive 12 points.**

These points may be allocated on a one-for-one basis to skills of the players' choosing. They can be used to gain new skills that were not offered by the chosen training packages or to improve existing skills. However, custom skill points may not be used to increase a skill above fixed levels determined by the character's power level. **The maximum levels are 5 for everyday and professional characters, 6 for remarkable characters, and 7 for elite characters.**

Optional Rule: With the Game Master's permission, once custom points are allocated, the player swap a number of points from one or more skills to others in support of the character concept. If the character concept is a computer genius, then Expert Technical makes sense, but some of the skills offered in the package may not fit the concept. This option would let the player use the points from skills that don't fit the concept for skills more suitable to the character. This point swapping should still adhere to the maximum skill levels for custom skills, by power level.

BACKGROUND PACKAGES

Background packages represent the character's early life. The packages give an idea of where the character comes from geographically and culturally. When choosing packages, make a note of what the character was doing to make the package appropriate.

Some backgrounds are cetacean or hybrid specific. Players of either cetes or hybrids should choose one of these as part of their selection. If you don't, discuss with your GM why the package is not appropriate for your character.

Background packages are separated in categories for Earth, Poseidon, universal, hybrid, or cetacean. **Every character selects three background packages, one of which should be from the primary background (Earth, Poseidon, hybrid, or cetacean) and two from universal backgrounds.** Alternate background choices may be made with the Game Master's permission.

Some skills are noted as having a "Choice". These require the player to make a choice from a number of individual skills. The skill may be one already listed, subject to the following restriction. The points can be split any way you want between skills, unless there is a second number listed. This number is a cap on the number of points that can be put into an individual skill.

Language is also listed as a "Choice" because you have to choose a specific language to learn. These points can be split between different languages as with other choices.

The GEO background gets Language (Choice) 1. This means the player must choose a specific language to know at a skill level of 1.

EARTH BACKGROUNDS

• Earth Orbit

Born among the teeming orbitals circling Earth, a character with this background is often of the Incorporate or indentured to them.

Computers 1, Culture (Earth) 3, Culture (Incorporate) 1, Electronics 1, Freefall 3, Tech or Vehicle (Choice) 1

• Free Zone–Enclave

Characters raised in the high-tech enclaves of Earth's Free Zones typically have solid technical and agricultural skills.

Agriculture 1, Computers 1, Culture (Earth) 3, Driving 2, Electronics 1, Foraging 1, Mechanics 1

• Free Zone–Wasteland

In the wake of the Blight, vast areas of the Earth's surface remain depopulated and lawless. From the Balkan Peninsula to Central America, characters who grew up in the Free Zone wastelands likely spent most of their time running from — or with — the bandit gangs and petty warlords who dominate these miserable, poverty-stricken regions.

Culture (Earth) 2, Driving 2, Foraging 1, Medicine 1, Navigation 1, Small Arms 1, Tracking 1, Tech or Vehicle (Choice) 1

• Luna

Tall and graceful, many Lunars are employed by the Incorporate but fiercely maintain their independence.

Computers 1, Culture (Earth) 2, Culture (Spacer) 3, Driving 2, Freefall 1, Tech or Vehicle (Choice) 1

• Mars Colony

Martians are the sons and daughters of terraforming colony crews and are born of tough and rugged stock.

Computers 1, Culture (Spacer) 1, Driving 2, Electronics 1, Piloting 2, Remote Operations 1, Tech or Vehicle (Choice) 2

• Urban

Though most of Earth's great metropolitan centers suffered terribly during the Blight Years, the sprawling cityscapes are still home to millions of people.

Bureaucracy 1, Computers 1, Culture (Earth) 3, Culture (GEO) 1, Culture (Incorporate) 1, Driving 2, Persuasion 1

POSEIDON BACKGROUNDS

• Colonial

Colonials have been on Poseidon for several years. They have learned something of the frontier society's customs and traditions, and have picked up a few water world survival tricks along the way.

Aquatics 2, Culture (Cetacean) 1, Culture (Colonial) 3, Culture (GEO) 1, Culture (Native) 1, Driving 1, Piloting 1

• Native

For thousands of native colonists living in settlements scattered across Poseidon, the water world is the only home they have ever known. Whether a fisherman in an isolated settlement or a poor

laborer living in Haven's projects, the natives' intimacy with Poseidon is impossible for any newcomer to share.

Aquaculture 1, Aquatics 2, Boating 1, Culture (Cetacean) 1, Culture (Colonial) 1, Culture (Native) 3, Foraging 1

• Pioneer

These individuals are born into one of the hundreds of colonial efforts on Poseidon that have been established since Recontact. Whether it is a small outpost or a large, established enclave, these people come from families trying to tame a new world for humanity.

Aquaculture 1, Aquatics 1, Culture (Cetacean) 1, Culture (Colonial) 2, Culture (Native) 1, Driving 1, Ecoscience 1, Foraging 1, Piloting 1

• Urban

Characters with this background grew up in one of the major colonial settlements on Poseidon. They may come from the narrow streets of Haven, the canals of Kingston, or the cliffside dwellings of Second Try.

Aquatics 1, Bureaucracy 1, Culture (Colonial) 3, Culture (GEO) 1, Culture (Incorporate) 1, Computers 1, Driving 1, Piloting 1

Universal Backgrounds

• GEO

Vast and powerful, the GEO has been Earth's world government since the early Blight Years. The organization employs millions of people across Earth and the Colonies, offering good educational and professional opportunities to its personnel.

Bureaucracy 1, Computers 1, Culture (Earth) 2, Culture (GEO) 3, Culture (Incorporate) 1, Language (Choice) 1, Politics 1

• Incorporate

In 2199, the Incorporate states dominate the economic arenas of Earth and the Colonies. Even low-level managers enjoy good education, competitive salaries, and ample opportunities for professional advancement.

Bureaucracy 1, Computers 1, Culture (Earth) 2, Culture (Incorporate) 3, Economics 1, Persuasion 2

• Independent

As a result of any number of circumstances, the character was forced to become self-reliant at a very early age. Perhaps the character was orphaned or his family simply wasn't around very often to look after him. The character may suffer some deep emotional scars, but he may also simply be self-sufficient and responsible.

Athletics, Farming or Survival (Choice) 2, Boating or Driving 2, Culture (Choice) 2, Economics 1, Fast-talk 1, Persuasion 1, Tech (Choice) 1

• Rural

This package indicates the character has extended experience with life in undeveloped or non-urban environments. His understanding of the ways of life beyond major metropolitan centers is an advantage there, but in urban regions, the character is out of his element.

Animal Husbandry 2, Ecoscience 1, Driving 2, Farming (Choice) 2, Geoscience 1, Mechanics 1, Navigation 1

• Space

Millions of humans make their living among Earth's orbital habitats, Luna, Mars Colony, or the asteroid belts of both settled star systems. These individuals possess extensive technical skills and an intimate familiarity with their dangerous environment.

Astronomy 1, Computers 1, Culture (Spacer) 2, Electronics 1, Freefall 2, Mechanics 1, Piloting 1, Tech or Vehicle (Choice) 1

• Street

This background is one of desperate, dangerous life in urban zones. Likely to have experienced bitter violence and hard lessons, a character with this background knows the ins and outs of life in the guts of the city.

Culture (Street) 2, Fast-talk 2, Forced Entry 1, Law 1, Persuasion 1, Stealth 2, Unarmed Melee 1

• University

This background represents the basic skills acquired through a general liberal arts education. While these skills cover only the first year or two at a major university, many students go on to more specialized studies, and the acquisition of these skills is covered by the professional training packages described below.

Computers 1, Culture (Choice) 2, History 1, Language (Choice) 3, Politics 1, Writing 2

HYBRID BACKGROUNDS

• GEO

Almost a tradition among their people, many hybrids enter GEO service at a very early age. Such characters enjoy unique benefits and opportunities, but demanding obligations and duties as well.

Armed Melee 1, Culture (Earth) 1, Culture (GEO) 3, Culture (Military) 2, Foraging 1, Small Arms 1, Unarmed Melee 1

• Reservation

The expansive hybrid reservation in central Africa offers a severe life of hard work and hardship, but one of the few in which hybrids seem to truly find peace.

Culture (Earth) 3, Culture (GEO) 2, Driving 1, Foraging 1, Mechanics 1, Navigation 1, Tracking 1

CETACEAN BACKGROUNDS

• Colonial

Thousands of cetaceans have followed the waves of human colonists to Poseidon and have made themselves valuable and respected members of the colonization effort.

Culture (Cetacean) 3, Culture (Human) 2, Language (Interspec) 3, Remote Operations 2

• Earth Coastal/Resident

Coastal dolphins and resident orcas live in large social groups, usually near human population centers. They tend to have more educational and professional opportunities than their more feral counterparts and enjoy a more stable role in the human world.

Culture (Cetacean) 3, Culture (Earth) 1, Culture (Human) 2, Language (Interspec) 3, Remote Operations 1

• Earth Oceanic/Transient

Oceanic dolphins and transient whales live in small groups, and usually have very little contact with human civilization. Their lifestyles are closer to their primal ancestors, though some may spend time near human population centers to take advantage of educational or professional opportunities.

Culture (Cetacean) 3, Culture (Earth) 1, Ecoscience 1, Foraging 1, Geoscience 1, Language (Interspec) 3

• Incorporate

Hydrospan is almost completely owned and staffed by cetaceans, and many other Incorporate states employ cetaceans as well. While exploitation and discrimination are widespread, many Incorporate cetaceans enjoy unparalleled standards of living and opportunities.

Culture (Cetacean) 3, Culture (Human) 1, Culture (Incorporate) 2, Language (Interspec) 3, Remote Operations 1

• Native

Some 500 cetaceans accompanied the Athena Project colonists to Poseidon, and during the Abandonment they were key to the colony's survival. Over a hundred years later, the descendants of the original cetacean colonists are among the most respected and valuable members of most native communities.

Culture (Cetacean) 2, Culture (Human) 1, Culture (Native) 3, Language (Interspec) 4

PROFESSIONAL PACKAGES

These packages represent the character's professional training and experience. On Poseidon, these selections represent a way of life more often than just simple employment. BLUE PLANET is set on an alien world, one that is often savage and dangerous, a frontier colony that humanity has yet to tame. Accordingly, every person is judged by what he can do and what he can offer.

On Poseidon, skill and ability count for a lot more than good looks and manners. The player's choice of professional training packages will determine the character's place in the world of BLUE PLANET, and will dictate to a significant extent his status in its frontier society.

A Novice package counts as 1 professional package, a Specialist package counts as 2 packages and an Expert package counts as 3 packages. Some skills are noted as having a "Choice". These require the player to make a choice from a number of individual skills. The skill may be one already listed, subject to the following restriction. The points can be split any way you want between skills, unless there is a second number listed. This number is a cap on the number of points that can be put into an individual skill.

Language is also listed as a "Choice" because you have to choose a specific language to learn. These points can be split between different languages as with other choices.

The Athletics Specialist gets Athletics (Choice) 9/4. This means the player has 9 points to spread around two or more Athletics skills, with an individual skill maximum of 4 from that point assignment. If the character received the skill from a background or different professional package, it adds as normal to the standard cap of 8.

ADMINISTRATION

The wheels of government are turned by functionaries of all levels, abilities, and motivations. Whether elected, appointed or hired, administrators make policy decisions and manage the massive bureaucracies of the GEO and the Incorporate.

• Novice

Bureaucracy 1, Computers 1, Culture (GEO or Incorporate) 1, Economics or Politics 1, Language (Choice) 1, Law 1, Leadership 1, Logistics 1, Persuasion 2, Writing 1

• Specialist

Bureaucracy 2, Computers 1, Culture (GEO or Incorporate) 2, Economics or Politics 2, Language (Choice) 2, Law 2, Leadership 3, Logistics 2, Persuasion 2, Writing 2

• Expert

Bureaucracy 3, Computers 2, Culture (GEO or Incorporate) 3, Economics or Politics 4, Language (Choice) 4, Law 4, Leadership 4, Logistics 3, Persuasion 4, Writing 3

ARTS AND ENTERTAINMENT

Entertainment is one of the fastest growing industries on Poseidon. Miners and prospectors in town between excursions, scientists tired of collecting specimens, soldiers on leave — sometimes it seems like everyone is trying to escape the day-to-day for a while. And, as is the case in most frontier societies, there are always folks willing to help them. The high demand for entertainment on Poseidon doesn't mean that every two-bit crooner with a guitar is rolling in stock options. Poseidon has its share of street-corner musicians and starry-eyed dreamers hocking their underwear to pay for another demo recording.

• Novice

Computers 1, Culture (Choice) 2, Persuasion 1, Fine Art (Choice) 6/3

• Specialist

Computers 2, Culture (Choice) 4/3, Persuasion 3, Psychology 2, Fine Art (Choice) 9/4

• Expert (Dancer)

Computers 3, Culture (Choice) 6/4, Medicine 4, Performance (Dancer) 6, Persuasion 6, Psychology 3, Sport (Choice) 2, Stealth 2

• Expert (Musician)

Computers 3, Culture (Choice) 6/4, Electronics 3, History 2, Mechanics 1, Performance (Musician) 6, Persuasion 5, Physical Science 3, Psychology 3

• Expert (Fine Artist)

Computers 3, Crafting or Graphics (Choice) 6, Culture (Choice) 8/4, Electronics 2, History 3, Mechanics 2, Persuasion 5, Psychology 3

ATHLETICS

Professional athletes — especially hydroshot players — are becoming more common on Poseidon. Of course, on this frontier water world, some measure of athletic ability is a valuable asset for people in a broad range of professional fields.

• Novice

Athletics (Choice) 6/3, Culture (Choice) 2, Medicine 1, Pharmacology 1, Unarmed Melee 1

• Specialist

Athletics (Choice) 9/4, Culture (Choice) 2, Life Science 1, Medicine 2, Pharmacology 2, Stealth 2, Unarmed Melee 2

• Expert

Athletics (Choice) 15/6, Culture (Choice) 3, Life Science 3, Medicine 3, Pharmacology 3, Stealth 4, Unarmed Melee 3

COLONIZATION

Since Recontact and the discovery of Long John, the GEO, the Incorporate, and countless private organizations have endeavored to make the colony as self-sufficient as possible. This effort requires a large number of civilians to establish new settlements, produce aquacultural and agricultural commodities, and keep the colony's infrastructure running smoothly.

• Novice

Agriculture 2, Animal Husbandry 2, Aquaculture 2, Culture (Colonial) 1, Foraging 2, Mechanics 1, Vehicle (Choice) 1

• Specialist
Animal Husbandry 3, Aquaculture 2, Culture (Colonial) 2, Culture (Native) 1, Ecoscience 2, Vehicle (Choice) 1

• Expert
Agriculture 4, Animal Husbandry 4, Aquaculture 4, Aquatics 1, Culture (Colonial) 3, Culture (Native) 2, Driving 2, Ecoscience 3, Foraging 4, Geoscience 2, Mechanics 2, Vehicle (Choice) 3

COMMERCE

The Long John rush and subsequent economic explosion has been the true driving force behind the post-Recontact colonization of Poseidon. From Incorporate boardrooms to independently owned businesses across the archipelago, business expertise is a valuable asset on the booming colony world.

• Novice
Bureaucracy 1, Computers 1, Culture (Incorporate) 1, Economics 2, Fast-talk 1, Law 1, Leadership 1, Persuasion 2

• Specialist
Bureaucracy 2, Computers 2, Culture (Incorporate) 2, Economics 3, Fast-talk 2, Law 2, Leadership 3, Persuasion 3, Writing 1

• Expert (Executive)
Bureaucracy 3, Computers 3, Culture (Incorporate) 4, Economics 5, Fast-talk 3, Law 3, Leadership 5, Persuasion 5, Writing 3

• Expert (Trader)
Bureaucracy 2, Computers 2, Culture (Colonial) 3, Culture (Incorporate) 2, Culture (Native) 1, Economics 3, Fast-talk 3, Forgery 1, Law 2, Leadership 1, Navigation 2, Persuasion 5, Small Arms 2, Unarmed Melee 1, Vehicle (Choice) 4, Writing 1

• Expert (Commercial Pilot)
Bureaucracy 1, Computers 3, Culture (Colonial) 3, Culture (Incorporate) 1, Economics 2, Electronics 2, Fast-talk 2, Geoscience 2, Law 1, Leadership 1, Mechanics 3, Navigation 3, Persuasion 4, Piloting 4, Tech or Vehicle (Choice) 2, Writing 1

CRIME

While Poseidon isn't entirely a lawless frontier — as anyone who has had a run-in with a GEO Marshal can attest — it is certainly true that law enforcement is less consistent on the water world than on Earth. Crime on Poseidon is governed by a simple principle: the bigger the crime, the bigger the organization, the bigger the response. Petty crime, like burglary and armed robbery, is usually the domain of small time criminals in Poseidon's larger settlements. While crimes like piracy, smuggling, data theft, and industrial espionage are facts of life on Poseidon, they are almost exclusively the domain of powerful syndicates.

• Novice
Armed Melee 1, Culture (Street) 1, Fast-talk 1, Forced Entry 1, Persuasion 1, Small Arms 1, Stealth 3, Unarmed Melee 1

• Specialist
Armed Melee 2, Culture (Street) 2, Fast-talk 3, Forced Entry 2, Law 1, Misdirection 1, Persuasion 2, Small Arms 2, Stealth 4, Unarmed Melee 2

• Expert (Burglar)
Armed Melee 2, Bureaucracy 1, Culture (Street) 3, Electronics 2, Fast-talk 4, Forced Entry 5, Law 1, Misdirection 2, Mountaineering 2, Persuasion 3, Small Arms 2, Stealth 5, Unarmed Melee 2

• Expert (Con Artist)
Armed Melee 1, Bureaucracy 3, Culture (Street) 3, Fast-talk 5, Forced Entry 2, Forgery 2, Law 1, Misdirection 4, Performance 3, Persuasion 5, Small Arms 1, Stealth 4, Unarmed Melee 1

• Expert (Gangster)
Armed Melee 3, Bureaucracy 3, Culture (Street) 4, Fast-talk 3, Forced Entry 1, Law 3, Leadership 3, Persuasion 5, Small Arms 3, Stealth 4, Unarmed Melee 2

• Expert (Thug)
Armed Melee 4, Bureaucracy 2, Culture (Street) 3, Fast-talk 2, Forced Entry 3, Law 2, Persuasion 4, Small Arms 5, Stealth 4, Unarmed Melee 5

DIPLOMACY

In 2199, Poseidon is teetering on the brink of open conflict and political chaos. The ambassadors, consuls, and diplomatic attaches who staff the foreign service bureaucracies of the GEO, Incorporate states, and Independent nations are responsible



for controlling diplomatic crises and representing their governments' interests in this charged political arena.

- **Novice**
  Bureaucracy 1, Culture (Choice) 2, History 1, Language (Choice) 1, Law 1, Persuasion 2, Planning 1, Politics 1, Writing 1

- **Specialist**
  Bureaucracy 2, Culture (Choice) 4, Fast-talk 1, History 1, Language (Choice) 2, Law 2, Persuasion 3, Planning 1, Politics 2, Psychology 1, Writing 2

- **Expert**
  Bureaucracy 3, Culture (Choice) 6, Fast-talk 2, History 3, Language (Choice) 5, Law 3, Persuasion 5, Planning 2, Politics 2, Psychology 2, Writing 2

ESPIONAGE

On the violent edge of the secret war for Poseidon's future, agents and spies execute political policies through espionage, sabotage, and even assassination. Professional, corrupt, benevolent, ruthless, vindictive or powerful, people of all kinds fill these secretive ranks.

- **Novice**
  Bureaucracy 1, Computers 1, Culture (Choice) 1, Disguise 1, Fast-talk 1, Forced Entry 1, Remote Operations 1, Small Arms 1, Stealth 2, Unarmed Melee 1

- **Specialist**
  Bureaucracy 2, Computers 1, Culture (Choice) 2, Disguise 2, Electronics 1, Fast-talk 2, Forced Entry 2, Persuasion 2, Remote Operations 2, Small Arms 1, Stealth 2, Unarmed Melee 1

- **Expert (Analyst)**
  Bureaucracy 3, Computers 3, Culture (Choice) 3, Electronics 3, Fast-talk 1, Forced Entry 1, Language (Choice) 3, Logistics 2, Persuasion 2, Planning 2, Politics 3, Psychology 2, Remote Operations 2, Stealth 2, Writing 3

- **Expert (Operative)**
  Bureaucracy 2, Computers 2, Culture (Choice) 3, Disguise 2, Electronics 2, Fast-talk 3, Forced Entry 3, Language (Choice) 2, Persuasion 3, Politics 1, Remote Operations 3, Small Arms 3, Stealth 3, Unarmed Melee 3

HUMANITIES

Knowledge is power, and on Poseidon, knowledge means survival. While there is an obvious emphasis on scientific, technical, and vocational training on Poseidon, professional educators, researchers, and academics in all fields are highly valued commodities.

• Novice

Computers 1, Culture (Choice) 1, Sentient Sciences (Choice) 5/3, Language (Choice) 1, Writing 2

• Specialist

Bureaucracy 1, Computers 2, Culture (Choice) 2, Sentient Sciences (Choice) 8/4, Language (Choice) 2, Persuasion 2, Writing 3

• Expert

Bureaucracy 3, Computers 2, Culture (Choice) 3, Sentient Sciences (Choice) 14/6, Language (Choice) 4, Persuasion 4, Writing 4

LAW ENFORCEMENT

Law enforcement on Poseidon is the responsibility of the GEO and Native Patrols, and the GEO Marshals. Chronic shortages of human and financial resources give Poseidon its reputation for rampant lawlessness, but in reality, law enforcement on the colony world is not entirely ineffective — rather, it is simply prioritized. Outlying settlements may have very little contact with official GEO law enforcement personnel. After reporting a crime in an isolated settlement, it may take several days or even weeks for Patrol personnel to show up to investigate the incident.

On the other hand, response times in major settlements, such as Haven, are typical of normal urban centers, and law enforcement in these towns is relatively reliable and efficient. And, while Marshals are usually given high- priority assignments, they are unrestricted GEO agents that have the authority to respond to any incident that draws their attention. Thus, the murder of a native in an isolated settlement like Nomad may go not investigated, or it may result in the perpetrator being hunted by a determined Marshal who just happened to have friends in the town.

• Novice

Bureaucracy 1, Culture (Street) 1, Driving 1, Medicine 1, Law 2, Persuasion 1, Small Arms 2, Stealth 1, Unarmed Melee 1

• Specialist

Armed Melee 1, Bureaucracy 2, Culture (Street) 2, Driving 1, Forensic Medicine 1, Medicine 1, Law 3, Persuasion 2, Remote Operations 1, Small Arms 3, Stealth 2, Unarmed Melee 2

• Expert (Detective)

Armed Melee 2, Bureaucracy 3, Culture (Street) 4, Driving 2, Forced Entry 2, Forensic Medicine 2, Medicine 2, Law 5, Persuasion 3, Remote Operations 2, Small Arms 2, Stealth 3, Unarmed Melee 3

• Expert (Special Operations)

Armed Melee 3, Bureaucracy 2, Culture (Street) 3, Driving 2, Law 3, Leadership 2, Medicine 2, Persuasion 2, Planning 3, Remote Operations 3, Small Arms 4, Stealth 4, Unarmed Melee 3

• Expert (Undercover Officer)

Armed Melee 2, Bureaucracy 2, Culture (Street) 2, Driving 2, Fast-talk 3, Forensic Medicine 1, Graphics 1, Law 5, Medicine 2, Performance 2, Persuasion 4, Remote Operations 3, Small Arms 2, Stealth 2, Unarmed Melee 2

MEDICINE

The razor's edge is always a dangerous place to live, and Poseidoners can expect to get their share of nicks and cuts. Lawless mining towns, Incorporate conflict, military training accidents, industrial mishaps, and the planet's savage environment all offer ample opportunities for colonists to get themselves hurt. Doctors, nurses, EMTs, ERT medics, and military corpsmen are essential to life on the water world.

• Novice

Life Science 1, Medicine 4, Pharmacology 2, Physical Science 1, Psychology 1, Surgery 1

• Specialist

Computers 2, Life Science 3, Medicine 4, Pharmacology 4, Physical Science 2, Psychology 2, Surgery 3

• Expert

Computers 3, Electronics 1, Life Science 6, Medicine 6, Mechanics 3, Pharmacology 5, Physical Science 3, Psychology 3, Surgery 5

MILITARY

Recontact brought with it a host of tangled and complex political issues, and outbursts of armed conflict are becoming all too common on Poseidon. Hostile natives, political insurgents, terrorists, and the increasingly tense relations between Incorporate states have driven the GEO and the Incorporate to increase their military forces on the planet.

Novice

Armed Melee 1, Culture (Military) 1, Heavy Weapons 1, Leadership 1, Medicine 1, Planning 1, Small Arms 2, Sports, Tech or Vehicle (Choice) 1, Unarmed Melee 1

Specialist

Armed Melee 2, Culture (Military) 3, Heavy Weapons 1, Leadership 2, Medicine 2, Planning 2, Remote Operations 1, Small Arms 4, Sports, Tech or Vehicle (Choice) 2, Unarmed Melee 2

• Expert (Aerospace)

Armed Melee 1, Culture (Military) 4, Electronics 2, Leadership 2, Mechanics 2, Medicine 2, Navigation 3, Piloting 5, Planning 2, Remote Operations 2, Remote Weapons 4, Small Arms 3, Unarmed Melee 1

• Expert (Amphibious Infantry)

Aquatics 3, Armed Melee 4, Culture (Military) 4, Heavy Weapons or Remote Weapons (Choice) 3, Leadership 3, Medicine 2, Planning 3, Remote Operations 2, Small Arms 5, Stealth 2, Unarmed Melee 3

• Expert (Navy)

Aquatics 3, Armed Melee 1, Computers 1, Culture (Military) 4, Electronics 1, Remote Weapons 4, Leadership 2, Mechanics 1, Medicine 2, Navigation 2, Planning 3, Remote Operations 3, Small Arms 2, Sports, Tech or Vehicle (Choice) 4, Unarmed Melee 1

SCIENCE

The pursuit of scientific understanding brought the first humans to Poseidon, and the planet is a wonderland for researchers in all disciplines. On a world of such scientific mystery and promise, scientists are some of the colony's most valued and prosperous professionals.

• Novice

Bureaucracy 1, Computers 1, Remote Operations 1, Sciences (Choice) 6/3, Writing 2

• Specialist

Bureaucracy 2, Computers 2, Mechanics 1, Remote Operations 2, Sciences (Choice) 8/4, Tech (Choice) 2, Writing 3

• Expert

Bureaucracy 3, Computers 3, Culture (Choice) 3, Mechanics 2, Remote Operations 3, Sciences (Choice) 13/6, Tech (Choice) 3, Writing 4

SPACE

While Poseidon is becoming more and more self-sufficient, it still depends heavily on supplies from the Solar System, and the Long John industry remains reliant on shipment to the wealthy urban markets of Earth. The crews of the inter system torchships may never see Poseidon except from orbit, but they are the backbone of the post-Recontact colonization effort.

• Novice

Astronomy 1, Computers 1, Culture (Spacer) 1, Electronics 1, Freefall 2, Hydroponics 1, Mechanics 1, Piloting 1, Remote Operations 1

• Specialist

Astronomy 2, Computers 2, Culture (Spacer) 3, Electronics 1, Freefall 2, Hydroponics 2, Mechanics 2, Physical Science 1, Piloting 2, Remote Operations 2, Tech (Choice) 1

• Expert

Astronomy 3, Computers 3, Culture (Spacer) 3, Electronics 3, Freefall 4, Hydroponics 4, Mechanics 3, Physical Science 2, Piloting 2, Remote Operations 3, Tech (Choice) 2

SURVIVAL

The relative scarcity of high technology, the planet's hostile climate and savage ecology, and an underdeveloped industrial sector make Poseidon an often-harsh frontier that calls for rugged and adventurous souls. Characters trained in wilderness survival skills have an important and often lucrative edge on the colony world.

• Novice

Aquatics 1, Ecoscience 1, Foraging 1, Geoscience 1, Medicine 1, Mountaineering 1, Navigation 1, Small Arms 1, Stealth 1, Tracking 1

- **Specialist**
  Aquatics 2, Ecoscience 1, Foraging 3, Geoscience 1, Medicine 2, Mountaineering 2, Navigation 2, Small Arms 2, Stealth 2, Tracking 3

- **Expert**
  Aquatics 3, Ecoscience 3, Foraging 5, Geoscience 2, Medicine 2, Mountaineering 4, Navigation 5, Small Arms 3, Stealth 3, Tracking 5

TECHNICAL

Life on post-Recontact Poseidon is a daily challenge for technicians and engineers trying to build and maintain the colony's technological infrastructure. The scarcity of manufactured goods and replacement parts make skilled technicians some of the colony world's most valued professionals.

- **Novice**
  Computers 2, Electronics 2, Mechanics 2, Physical Science 1, Remote Operations 2, Tech (Choice) 1

- **Specialist**
  Computers 2, Crafting (Choice) 2, Demolitions 1, Electronics 3, Forced Entry 1, Mechanics 3, Physical Science 3, Remote Operations 3, Tech (Choice) 2

- **Expert**
  Crafting (Choice) 3, Demolitions 3, Forced Entry 2, Life Science 2, Physical Science 4, Piloting 1, Remote Operations 4, Tech (Choice) 15/6

CETACEAN PROFESSIONAL PACKAGES

Players with cetacean characters may use most of the professional training packages. However, the following packages have been customized specifically for cetacean characters. Except for the Whale song package, they are intended to replace the corresponding human training packages.

ADMINISTRATION

Whales filling important roles in government are becoming more common as these adaptable beings are more fully integrated into the human-dominated civilization of 2199. From the boardrooms of Hydrospan to the political offices of the cetacean Cultural State, whale administrators are typically efficient, effective and dedicated managers & decision-makers

- **Novice**
  Bureaucracy 1, Culture (GEO, Human or Incorporate) 2, Economics 1, Language (Interspec) 2, Law 1, Leadership 1, Logistics 1, Persuasion 1, Politics 1, Remote Operations 1

- **Specialist**
  Bureaucracy 2, Culture (GEO, Human or Incorporate) 3, Economics 2, Language (Interspec) 3, Law 2, Leadership 2, Logistics 2, Persuasion 3, Politics 1, Remote Operations 2

- **Expert**
  Bureaucracy 3, Computers 2, Culture (GEO, Human or Incorporate) 5, Economics 3, Language (Interspec) 4, Law 2, Leadership 3, Logistics 3, Persuasion 5, Politics 3, Psychology 1, Remote Operations 3

COLONIZATION

Cetacean colonists are some of the most valuable resources on Poseidon, in both native and newcomer settlements. Their adaptations to the aquatic environment make them uniquely suited to a variety of marine tasks, from aquaculture to fishing.

- **Novice**
  Animal Husbandry 1, Aquaculture 1, Culture (Colonial, Human or Native) 1, Ecoscience 1, Electronics 1, Foraging 2, Geoscience 1, Language (Interspec) 2, Mechanics 1, Remote Operations 1

- **Specialist**
  Animal Husbandry 2, Aquaculture 2, Culture (Colonial, Human or Native) 3, Ecoscience 2, Electronics 1, Foraging 3, Geoscience 2, Language (Interspec) 3, Mechanics 2, Remote Operations 2

- **Expert**
  Animal Husbandry 4, Aquaculture 3, Culture (Colonial, Human or Native) 5, Ecoscience 4, Electronics 2, Foraging 5, Geoscience 3, Language (Interspec) 4, Mechanics 3, Remote Operations 3

Law Enforcement

While somewhat rare in the Patrol and unprecedented in the Marshal Service, there are a number of cetacean personnel in the Native Patrol. Cetaceans enjoy unparalleled respect among Poseidon's natives. Cetacean law enforcement personnel are also responsible for policing the growing dolphin and orca populations on the colony world.

• Novice

Bureaucracy 1, Culture (Colonial, Earth, Human or Native) 1, Language (Interspec) 3, Law 1, Mechanics 1, Medicine 1, Persuasion 1, Remote Operations 1, Stealth 2

• Specialist

Bureaucracy 2, Culture (Colonial, Earth, Human or Native) 4, Forensic Medicine 1, Language (Interspec) 3, Law 2, Medicine 2, Persuasion 2, Remote Operations 2, Stealth 4

• Expert

Bureaucracy 3, Culture (Colonial, Earth, Human or Native) 6, Forensic Medicine 1, Language (Interspec) 4, Law 5, Medicine 3, Persuasion 4, Remote Operations 3, Stealth 5, Writing 2

Medicine

The growing cetacean population on Poseidon demands increasing numbers of skilled health providers trained in the care of whale patients. Cetacean medical professionals can be found everywhere from combat teams to incorporate clinics.

• Novice

Language (Interspec) 1, Life Science 1, Medicine 5, Pharmacology 2, Physical Science 1, Remote Operations 1, Surgery 1

• Specialist

Language (Interspec) 2, Life Science 3, Medicine 6, Pharmacology 3, Physical Science 2, Remote Operations 3, Surgery 3

• Expert

Computers 2, Electronics 2, Language (Interspec) 3, Life Science 5, Mechanics 3, Medicine 7, Pharmacology 4, Physical Science 3, Remote Operations 4, Surgery 3

Military

Cetaceans are well represented in both the GEO and Incorporate militaries, usually serving in special marine operations units. Cetacean characters with military training have a wide range of weapons, technical, and survival skills.

• Novice

Culture (Military) 1, Electronics 1, Language (Interspec) 3, Leadership 1, Navigation 1, Remote Operations 1, Remote Weapons 2, Stealth 2

• Specialist

Culture (Military) 2, Language (Interspec) 3, Leadership 2, Navigation 2, Planning 2, Remote Operations 3, Remote Weapons 3, Stealth 3, Tech (Choice) 2

• Expert

Culture (Military) 4, Language (Interspec) 4, Leadership 4, Navigation 3, Planning 3, Remote Operations 4, Remote Weapons 5, Stealth 5, Tech (Choice) 4

Science

On Poseidon, whale scientists are biologists, ecologists, planetologists, and leading researchers in many other fields as well. The keen analytical minds of bottlenoses, especially, make them exceptionally well suited top scientific professions. Cetacean field scientists are especially valued for their ability to live and work effectively in Poseidon's marine environments, where much of the most important scientific explorations are being carried out.

• Novice

Computers 1, Language (Interspec) 1, Remote Operations 1, Sciences (Choice) 8/3

• Specialist

Bureaucracy 1, Computers 2, Language (Interspec) 2, Mechanics 1, Remote Operations 2, Sciences (Choice) 14/4

• Expert

Bureaucracy 3, Computers 3, Language (Interspec) 3, Mechanics 2, Remote Operations 5, Sciences (Choice) 20/6

Space

Because of their greater mass and size, whale spacers are still relatively uncommon. However, their superb physical and cognitive adaptations to three-dimensional environments make cetaceans effective crew members aboard orbital stations, spacecraft, and other space-based facilities.

• Novice
Astronomy 1, Computers 1, Culture (Human) 1, Culture (Spacer) 1, Electronics 1, Freefall 2, Hydroponics 1, Language (Interspec) 1, Mechanics 1, Physical Science 1, Remote Operations 1

• Specialist
Astronomy 2, Computers 2, Culture (Human) 2, Culture (Spacer) 2, Electronics 2, Freefall 3, Hydroponics 2, Language (Interspec) 2, Mechanics 2, Medicine 1, Physical Science 1, Remote Operations 2

• Expert
Astronomy 3, Computers 3, Culture (Human) 2, Culture (Spacer) 3, Electronics 3, Freefall 5, Hydroponics 3, Language (Interspec) 3, Mechanics 3, Medicine 3, Physical Science 3, Remote Operations 3

SURVIVAL

A century and a half after they were uplifted, cetaceans remain closer to and more in tune with their environment than even experienced and well-trained humans. As a result, cetaceans are highly sought after in a number of fields that emphasize wilderness training, including search-and-rescue and scientific exploration.

• Novice
Ecoscience 1, Ecoscience/Geoscience/Medicine (Choice) 2, Foraging 3, Geoscience 1, Medicine 1, Navigation 2, Remote Operations 1, Stealth 1

• Specialist
Ecoscience 3, Foraging 5, Geoscience 3, Medicine 3, Navigation 3, Remote Operations 2, Stealth 3

• Expert
Ecoscience 5, Electronics 2, Foraging 6, Geoscience 4, Mechanics 2, Medicine 4, Navigation 4, Remote Operations 3, Stealth 6

TECHNICAL

Cetaceans as a whole are even more dependent on technology than the human civilization of 2199. Whales are trained to live and work with technological devices almost from the time they are born, and many of them maintain a close, intuitive bond with the machines that allow them to interact with human society. From the engineers of Hydrospan to the mechanics and tinkers of local cetacean communities, whales often make skilled and innovative technologists.

• Novice
Computers 2, Electronics 2, Forced Entry 1, Language (Interspec) 1, Mechanics 2, Physical Science 1, Remote Operations 1

• Specialist
Computers 2, Crafting (Choice) 3, Electronics 2, Forced Entry 3, Language (Interspec) 2, Mechanics 2, Physical Science 2, Remote Operations 3, Tech (Choice) 3

• Expert
Crafting (Choice) 4, Forced Entry 3, Language (Interspec) 3, Physical Science 5, Remote Operations 4, Tech (Choice) 17/6

WHALESONG MYSTICISM

While human researchers have enjoyed little success in making any sense of its enigmatic philosophy, the Church of Whalesong Theogony remains a powerful force in cetacean culture. This package represents the broad, holistic understanding and skills cultivated through whalesong mysticism.

• Novice
Astronomy 1, Culture (Cetacean) 2, Ecoscience 1, Geoscience 1, Language (Interspec) 1, Persuasion 2, Psychology 1, Theology 3

• Specialist
Anthropology 1, Astronomy 1, Culture (Cetacean) 3, Ecoscience 2, Geoscience 2, Language (Interspec) 2, Life Science 1, Persuasion 4, Psychology 2, Theology 4

• Expert
Anthropology 2, Astronomy 2, Culture (Cetacean) 4, Ecoscience 3, Geoscience 3, Language (Interspec) 3, Life Science 3, Persuasion 5, Psychology 5, Theology 6

Our last step in the character creation process is to choose the Marshal's training packages. Church was born and raised in a Free Zone enclave and spent years in the GEO Peacekeeping Force and later the Marshall Service. After joining the Marshall Service, he was assigned to Poseidon. So for his three background packages we choose Free Zone Enclave for his youth, GEO for his service and Colonial for his years on Poseidon. For

professional packages, we choose Expert Law Enforcement (Special Operations), and Specialist Military. Church also receives his native language (English) at a level of 5 + Cognition. We record the skills offered by these packages on our character worksheet and total the levels.

Finally, we allocate 12 points to custom skills by virtue of Church's elite status. We increase Aquatics, Persuasion and Piloting by 3 points each, Language (Interspec) by 2 points, and Bureaucracy by one point. The Marshal's final skill levels are as follows:

Agriculture 1, Aquatics 5, Armed Melee 5, Bureaucracy 4, Computers 2, Culture (Cetacean) 1, Culture (Colonial) 3, Culture (Earth) 5, Culture (GEO) 4, Culture (Incorporate) 1, Culture (Military) 3, Culture (Native) 1, Culture (Street) 3, Driving 5, Electronics 1, Foraging 1, Heavy Weapons 1, Language (English) 7, Language (Interspec) 3, Law 3, Leadership 4, Mechanics 1, Medicine 4, Persuasion 5, Piloting 6, Planning 5, Politics 1, Remote Operations 4, Small Arms 8, Stealth 4, Unarmed Melee 5.

CHARACTER DEVELOPMENT

Over the course of a BLUE PLANET campaign, characters can be expected to change a great deal. They will meet new people, get into fights, fall in love, make enemies, explore new places, and learn new skills. This kind of "character development" is one of the most rewarding aspects of roleplaying games. Players improve their characters by accumulating and spending character improvement points, or **ChIPs**. Players earn ChIPs by carefully roleplaying their characters as defined by their background and character profile, by achieving their goals, and by surviving and learning from their adventures in the world of BLUE PLANET.

The character profile, covered at the beginning of this chapter, is used as a benchmark against which a player's roleplaying can be measured. Did the character's motivation show through in his choices and actions? Were his actions consistent with the attainment of his goal? Did the player's voice and mannerisms accurately and entertainingly convey the character's attitude? The character profile is a sketch of a character's personality, and it should be used by the Game Master to judge how successful the player has been in bringing his character to life.

EARNING CHARACTER IMPROVEMENT POINTS (CHIPS)

Roleplaying

At the completion of a scenario or adventure, the Game Master should rate each player's roleplaying on a scale of 1 to 5, with 1 being the worst and 5 being the best. This is the number of ChIPs the player receives for the session or scenario based on his roleplaying. Also, during the course of play, whenever a player role plays some element of his character's profile particularly well, the Game Master may opt to have him place a check mark next to the appropriate profile component. When ChIPs are awarded, the player may take one bonus point for each check recorded.

Goals

Players and their characters should also be rewarded for accomplishing the goals or objectives of a scenario. Depending on the campaign, the characters may be GEO Patrol Officers who apprehended dangerous criminals, natives who enjoyed a bountiful hunt, or Incorporate operatives who captured valuable research data from a rival. The Game Master should award 1 to 3 ChiPs to each player for accomplishing the goals established by the scenario or created by the characters themselves in the course of the adventure. The actual points awarded should be based on the difficulty of the objective and its impact on the rest of the campaign.

Scenarios

Finally, players should also be awarded ChIPs if their characters simply survive and contribute to the successful completion of a scenario. At the end of each scenario, the Game Master should award 1 to 3 ChIPs to each character who survives and contributed positively to the players' enjoyment of the adventure. The actual number of points awarded should be based on the scenario's difficulty, danger, and length — obviously, the Game Master should award more points for a scenario that lasts several game sessions than he does for one that is completed in a single night.

USING CHARACTER IMPROVEMENT POINTS

ChIPs are spent to purchase improvements in a character's skills and attributes, shuffle skill points around current skills, gain a contact or ally, gain information, or get access to restricted equipment and vehicles. The Game Master is free is use as few

or many of these improvements as desired, as not all may fit into the campaign theme.

Improving a Skill

To improve a skill by one level, or to learn a new skill, it costs a number of points equal to 10 times the new level. In addition a minimum of 1 day of training per ChIP spent is required to gain the new skill level. The Game Master may set a greater training time for skills that require extensive study. For example, it would cost 50 ChIPs to improve a skill from level 4 to level 5. Each level must be purchased separately — players may not skip levels in order to save points!

Improving a Primary Attribute

To improve a primary attribute by one level, the player must spend 25 ChIPs times the level of the new attribute. Additionally the character must train a number of days equal to the ChIP cost before the new attribute takes effect. There are a couple of additional restrictions on improving attributes. First, no attribute may be increased above the character's species maximum without cybernetic or genetic enhancement. Second, a character may not raise an attribute more than two levels from its starting value. For example, a character with Physique 0 could increase the attribute to a maximum of Physique 2. Finally, characters may not directly increase derived attributes. These characteristics are dependent on the primary attributes, and only increase indirectly, when their primary attributes are improved.

Shuffling Skill Points

To shuffle skill points around, that is to move points from one skill (lesser used perhaps) to another skill, costs a number of ChIPs per point moved based on the ability rank of the skill — Novice, Competent, or Expert. The cost is based on the highest-ranked skill involved in the shuffle.

The costs are:

Novice: 2 ChIPs per point moved

Competent: 3 ChIPs per point moved

Expert: 5 ChIPs per point moved.

Point shuffling generally represents retraining or hypnotherapy. It lets the player modify his character to reflect current goals, mission profiles or abandoned efforts. The player should ask the Game Master before shuffling skill points.

Making Contacts

ChIPs may be used to gain a Contact. A Contact is a non-player character (NPC) who is friendly to the character and is willing to provide some help. A Contact could be: an informant who passes tips to law enforcement, a fisherman who knows the local area and people, a minor Incorporate employee who knows a little information, the owner of the local gun shop who knows the best and worst firearms to buy, and so on.

A Contact is willing to provide information, cut the character a break on the price of some good or service or let the character stay a few nights in one of his flats. A Contact will not put himself in personal danger for the character, give away things without being paid or give away information without getting something in return.

The cost to gain a Contact depends on how important that person is, which is based on the character's power level (refer to **Power Levels**, p. 38, for examples). An Everyday Contact costs 5 ChIPs, a Professional Contact costs 10 ChIPs, a Remarkable Contact costs 20 ChIPs, and an Elite Contact costs 40 ChIPs.

Securing Allies

ChIPs may be used to gain an **Ally**. An Ally is an NPC who is very well-disposed to the character and is willing to go to great lengths to help out. An Ally is willing to put themselves at personal risk for the character, get the character things that are expensive or rare without having to pay outrageous prices or provide in-depth information that may be secret or otherwise sensitive. The restriction of an Ally is that they usually support the character towards a particular goal or set of goals and will do whatever they are able when that goal is being pursued. The cost of an Ally is based on the importance of the person, same as with Contacts. Refer to **Power Levels** (p. 38) for examples. An Everyday Ally is 10 ChIPs, a Professional Ally is 20 ChIPs, a Remarkable Ally is 40 ChIPs, and an Elite Ally is 80 ChIPs.

Obtaining Intelligence

Obtaining a tip or a bit of useful information, assuming you don't have a Contact or Ally that can help, generally will cost from 1 to 10 ChIPs depending on the sensitivity of the information. The Game Master is encouraged to use discretion and good sense for this ChIP perk. This is a good way to get a game moving if it has stalled due to missing a vital clue or not knowing where to begin.

Gaining Access

Getting temporary access to restricted equipment, facilities or vehicles is another use for ChIPs. Military weapons, restricted genetic modification equipment or facilities and vehicles like jumpers

or VTOL jets may be "borrowed" for a time through the use of ChIPs. The Game Master absolutely must approve the use of ChIPs for this perk, as careless use can seriously unbalance the game. It is best used for driving the game along in a reasonable fashion, not for strafing a GenDiver compound because "you felt like it".

The cost depends on the expense and legality of the equipment involved and the length of time it will be used. Less than 1 day is 5 to 10 ChIPs, 1 to 3 days is 10 to 20 ChIPs, 1 to 3 weeks is 20 to 40 ChIPs and 1 to 3 months is 40 to 80 ChIPs.

Pooling ChIPs

For many of these perks, especially the high cost ones that benefit the character group, players may pool their ChIPs together to afford a high cost group perk.

CHARACTER ARCHETYPES

BLUE PLANET is a rich setting offering unparalleled depth and detail, and the range of characters appropriate to the setting is extremely broad. The following pages describe a number of character archetypes that feature prominently in the world of BLUE PLANET.

Each description provides background and lifestyle information, as well as suggestions and guidelines for choosing a character's skills and the cybernetic and biological modifications that are common, or appropriate, to the character's professional activities.

Players — especially those playing BLUE PLANET REVISED for the first time — should look through these options and choose one that seems both compelling and enjoyable, and will be a good fit with the group concept. Players should remember that these archetypes are meant to be informative guidelines and should never let them interfere with their own creativity and imaginations.

Players who want to merge aspects of different archetypes into a single concept or create entirely new ones from scratch are encouraged to do so. Players familiar with the world of BLUE PLANET who already have a solid character concept in mind may skip this section entirely. The character archetypes are essentially "concept sketches," and it is not necessary to use them to create a character.

Each archetype description provides the following information:

Background

This component describes the specifics of each archetype in the world of BLUE PLANET. It is intended to give players a feel for their characters' place in the setting.

Training Packages

This component offers suggested training packages a player can choose to most effectively represent a character's professional training and abilities.

Standard of Living

This section describes the employment opportunities commonly available to each archetype. Information is also provided on the lifestyle and finances typical of the archetype.

Resources

This component describes the contacts, information, or physical resources unique to each archetype.

Biomods

This section lists some suggested modifications common to each archetype. These suggestions are offered as helpful examples and guidelines, rather than rigid limitations.

CHARACTER TEMPLATES

One or more character examples or variations have been listed for each archetype. These character templates include pre-selected professional training packages and biomods, and can be used by those who wish to jump start the character creation process. They are also useful as guidelines for the ways different professional training packages can be combined to create a wide variety of characters.

ADMINISTRATOR

Most of the bureaucrats and executives involved in the government and management of the GEO and Incorporate states are minor functionaries. They are the ones who organize and implement the decisions and policies of their superiors. Nevertheless, a tremendous amount of influence and power is hidden within these seemingly limited responsibilities. Quite often, the middle-managers and deputy assistant administrators knee-deep in dirtside politics are more in the know than their superiors on Prosperity Station and the Incorporate orbitals.

Training Packages: Administration is the obvious choice for a primary package. Commerce

and Diplomacy make good secondary selections. Players may also choose packages appropriate to their characters' governmental institutions or departments.

Standard of Living: Low-level administrators with the GEO or national governments earn approximately 2,000cs to 3,000cs per month. Executives with the Incorporate city-states can earn 5,000cs per month. In both cases, these salaries will typically be doubled at the higher levels of the administrative hierarchy. Most GEO administrators will either have an apartment in Haven or on Prosperity Station, or in the settlement where they are stationed. Incorporate executives will have a residence near the Incorporate offices in Haven, or in their employer's company town.

Resources: The resources of administrators depend on the organizations they work for and their rank and seniority within those organizations. Most administrators can use company transportation and equipment, and can access impressive databases within their spheres of influence. They can also utilize company personnel and contacts. However, unless these resources are used in the execution of their duties, there can be serious consequences for their misappropriation.

Biomods: Rare is the functionary without a neural jack. Many also have implanted computers, depending on their job responsibilities.

• Low-level Bureaucrat (Everyday)

Professional Packages: Expert Administration
Biomods: Neural Jack

• Business Administrator (Professional)

Professional Packages: Expert Administration, Novice Commerce
Biomods: Neural Jack, Implant Computer

• Foreign Service Officer (Professional)

Professional Packages: Specialist Administration, Specialist Diplomacy
Biomods: Neural Jack, Body Sculpting, Implant Computer with translator

Artist

The musicians, painters, actors, novelists, and poets that comprise Poseidon's art scene are a diverse lot, but they all share a common devotion to their craft and unique lifestyle. This commitment brings a life of riches and luxury to a very few, and most artists are forced to hold down day jobs just to pay the rent.

Training Packages: Expert Arts and Entertainment (Dancer, Musician, or Fine Artist) are the most appropriate primary packages. Good secondary packages include Commerce, Technical, and others that reflect the character's background and interests.

Resources: When push comes to shove, or it comes down to eating or not, the only thing an artist will hang onto are the tools of his trade — instruments, brushes, comp-console, whatever. The rest, more often than not, goes to the landlord or the pawn shop.

Biomods: Computers and electronics play a major role in most artistic endeavors in 2199, so neural jacks are very common. Body sculpting is popular with performing artists, and specialized implanted micro toolkits are common among painters and sculptors. Sensory recorders are mandatory for the sim artists who are becoming more common in Poseidon's major settlements.

• Dancer (Everyday)

Professional Packages: Expert Arts and Entertainment (Dancer)
Biomods: Improved Blood Oxygenation

• Painter (Everyday)

Professional Packages: Expert Arts and Entertainment (Fine Artist)
Biomods: Implanted Micro Toolkit (Painting)

• Rock Star (Professional)

Professional Packages: Expert Arts and Entertainment (Musician), Novice Commerce
Biomods: Neural Jack, Implant Sensory Recorder, Implant Computer with translator, Body Sculpting

Civilian Pilot

On Poseidon, it seems like everyone flies, but only a very few are true pilots. Modern jumpcraft and VTOL aircraft make flight accessible to the masses and small submersibles are common, but when it really counts most, the wise trust only professionals. Cyclonic storms, ragged gear, and a deadly ecology make Poseidon a hazardous place to travel, and a lucrative world for skilled pilots. The experienced pilots are good and willing to tell you about it. The inexperienced are dead. Whether the job calls for a cargo trip to the Storm Belt or a passenger charter to an undersea facility, the civilian "bush pilots" of Poseidon have the skills and experience to make the run.

Training Packages: Some civilian pilots received most of their flight training in military service, and the Expert Military (Aerospace) package is appropriate for such characters. For most, though, the Expert Commerce (Commercial Pilot) package is the best choice. The Technical and Survival packages also make good secondary choices for bush pilots, and those involved in smuggling or other illegal activities may want to choose a Crime package as well.

Standard of Living: Civilian pilots typically charge around 1cs per metric ton per kilometer for cargo runs, and a passenger charter will command about 1cs per passenger per kilometer. Most of these funds, of course, are spent on fuel, routine maintenance, repairs, and other operating costs. Most bush pilots have a small, low-rent office in one of Poseidon's major settlements. Those who don't live in their office will have a small apartment in one of the settlement's less-expensive neighborhoods.

Resources: Civilian pilots typically own, or are making payments on, their own vehicle. The quality and reliability of these craft, however, are inversely proportional to their often considerable age. As a result, commercial operators are always scrounging for parts and equipment to keep their VTOLs in the air or their boats underway. Civilian pilots also typically have a semi-safe harborage for their craft and more often than not, an assistant sidekick they can call on to help out with a particularly big or lucrative job.

Biomods: Most colonial bush pilots have scraped enough scrip together to purchase a neural jack. Ex-military pilots are often augmented with accelerated neurons.

- **Bush Pilot (Professional)**
  Professional Packages: Expert Commerce (Commercial Pilot), Novice Commerce or Technical
  Biomods: Neural Jack, Implanted Micro Toolkit, Salt Tolerance, Telescopic Vision

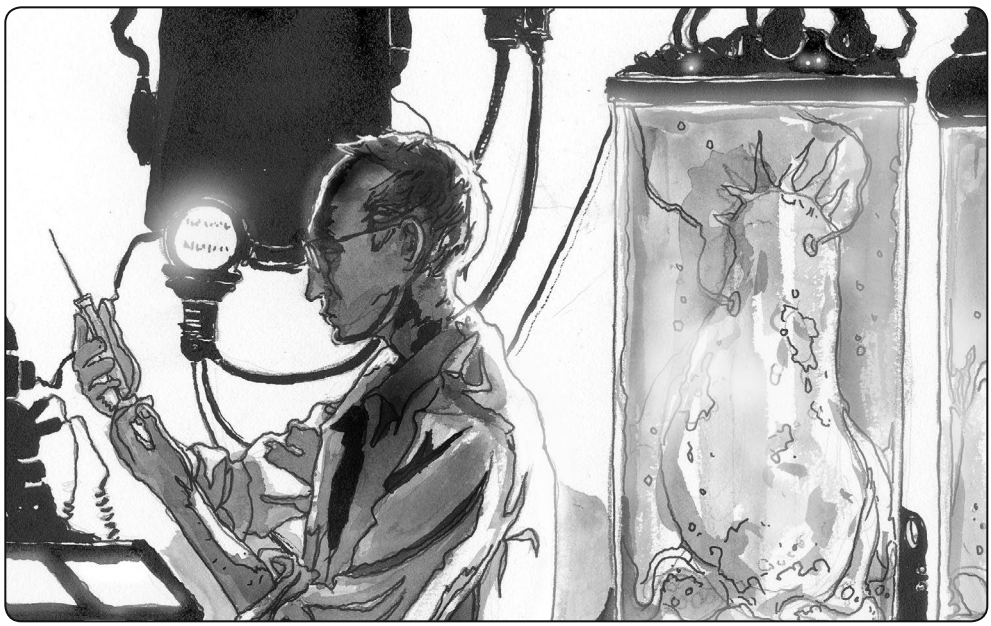
- **Ex-Military Pilot (Professional)**
  Professional Packages: Expert Military (Aerospace), Novice Commerce or Technical
  Biomods: Neural Jack, Accelerated Neurons

- **Smuggler (Professional)**
  Professional Packages: Expert Commerce (Commercial Pilot), Novice Crime
  Biomods: Neural Jack, Night Vision, Multiglands

DOCTOR

Medical doctors are found in the employ of the GEO, Incorporate, private hospitals in Poseidon's major settlements, and independent clinics all over the waterworld. Most physicians are highly educated and operate in well-equipped, quality facilities. Of course, on the edges of the frontier, "well-equipped" and "quality" are relative terms.

Training Packages: Doctors should choose Expert Medical as their primary training package. Science and Technical make good secondary packages.



Standard of Living: Physicians have always commanded healthy salaries, and those on Poseidon are no exception. Doctors can expect to earn between 5,000cs and 10,000cs per month. Most physicians will own a modest residence, in addition to their office or clinic.

Resources: Doctors will own a clinic or work in a hospital. Most will also have one or more medical technicians in their employ, or otherwise at their disposal. They will also have quality equipment specific to the branch of medicine they practice — surgery, field trauma, etc.

Biomods: Neural jacks, implant microcomputers, and micro-toolkits, as well as immunological symbiotes are common among physicians. Many also rely on multiglands for added concentration, calm, and stamina.

• Genetic Engineer (Professional)

Professional Packages: Expert Medicine, Novice Science
Biomods: Neural Jack, Implant Computer, Immunological Symbiote

• Physician (Professional)

Professional Packages: Expert Medicine, Novice Science or Technical
Biomods: Neural Jack, Implant Computer, Implanted Micro Toolkit (Surgical)

Ecoterrorist

In the aftermath of the Blight, Earth and the Colonies have become a battleground for competing ideologies: ecological restoration and preservation against economic recovery and development. On Poseidon, this cold war has become entangled with other complex political issues, from native rights and a growing independence movement, to the controversy surrounding the GEO's formal claim on the colony. Ecoterrorists fight a continuing, illegal war against the Incorporate states and any others accused of "ecological crimes." In recent years, ecoterrorists have received increasing support from the native population, and many colonists believe that some have even established alliances with the aborigines.

Training Packages

Most ecoterrorists have some military training, so the Military training package is a good place to start. Appropriate secondary packages include Crime, Diplomacy, Espionage, and Survival, depending on the focus of the character concept.

Standard of Living: Terrorists, of course, do not often earn a stable salary. Most often, an ecoterrorist's living expenses will be provided for by his parent organization, along with a small discretionary stipend of perhaps as much as 500cs per month. An ecoterrorist's living quarters may range from a small hut in a native village to a low-profile flat in Haven or Kingston.

Resources: Environmental extremists will have access to detailed information about the activities of the major Incorporate states. Not necessarily confidential information, but in- depth and very useful — transport schedules, cargo manifests, research plans, etc. Every ecoterrorist on Poseidon also has at least one reliable black-market contact that can be depended on to hook him up with almost anything he might need — hardware, information, etc. In addition, such terrorists will often have the tacit support of the people. Unless an ecoterrorist has done something vile or harmed a person directly they can count on a certain level of grassroots protection and safety.

Biomods: Most ecoterrorists are either ex-military personnel or have been financed by terrorist groups to go head-to-head with the law enforcement and military organizations of the GEO and Incorporate states. As a result, many are extensively modified. Biomods that give terrorists an advantage in combat, like neural jacks, multiglands, and pain inhibitors, are common, as are survival modifications like anti-poison and salt tolerance. While certainly less common, a few elite terrorists may even have advanced military-grade biomods, like accelerated neurons and myo-skeletal enhancement.

• Ecoterrorist (Everyday)

Professional Packages: Specialist Military, Novice Survival.
Biomods: Neural Jack, Nightvision.

• Ecoterrorist (Professional)

Professional Packages: Specialist Military, Specialist Espionage.
Biomods: Improved Blood Oxygenation, Neural Jack, Nightvision.

Freebooter

Unlike the pirates of Earth history, these criminals do not inspire visions of heroism and romance, taking on royal fleets for honor or love. Much the opposite, these violent opportunists skulk about the waters of Poseidon stealing from the weak, making quick raids in the dark of night, and hiding from local authorities. Most lead a marginal, hand-to-mouth existence, but occasionally a band of these cutthroats, backed with good leadership

and an extensive organization, makes a name for itself and a bit of a profit as well.

Training Packages: Like sailors, most modern pirates are effectively technicians, trained to operate sophisticated electronic and mechanical systems. As a result, the Technical training package is always a good choice for a skilled freebooter. Many pirates once served in the naval forces of the GEO, the Incorporate, or one of the Independent nations, so Expert Military (Navy) or Specialist Military is appropriate. Obviously, the Crime package is a good choice as well, and Commerce and Survival are appropriate as secondary packages.

Standard of Living: On Poseidon, piracy is far more dangerous than it is profitable. A freebooter will be lucky to stay alive and earn enough scrip to keep food and booze in his belly on most days. On occasion, a fortunate crew may make a big score, and the freebooter will have a few thousand scrip to spread around town and make some new friends. However, it never lasts long.

Resources: Whatever they happen to take in a raid or steal off the dead. That, and a dirty bunk aboard ship.

Biomods: Few pirates are successful enough to finance extensive modifications. Freebooters favor relatively inexpensive biomods that give them an edge in a crisis, like neural jacks, pain inhibitors, and improved blood oxygenation.

• Freebooter (Professional)

Professional Packages: Specialist Military, Specialist Crime
Biomods: Neural Jack, Improved Blood Oxygenation, Pain Inhibitors

FRONTIERSMAN

Despite its steadily expanding islands of civilization, Poseidon is mostly a savage and alien wilderness. A lack of familiarity with the waterworld's complex and often deadly ecology, unpredictable weather patterns, and deceptive geography have cost countless newcomers their lives. Those elite few with the knowledge, skill, and experience to lead others into the wilderness, and bring them out again safely, are a priceless commodity on the frontier. Freelance guides and wilderness outfitters regularly work with GEO and Incorporate personnel, tourists and adventurers, research scientists, and emergency search-and-rescue or salvage teams.

Training Packages: Most frontiersmen will have the Expert Survival package, as well as at least the Novice Commerce package. Other good choices for secondary packages are Technical and Colonization.

Standard of Living: The scrip a guide can charge for his services is almost entirely dependent upon his experience, reputation, and contacts. A reputable guide will be able to command 300cs or more per day. Most guides charge a premium for expeditions to Poseidon's more dangerous regions, which, many clients have noted, includes almost all of them. Many guides maintain a small office in one of the major settlements, and some even supplement their income with retail wilderness outfitting operations. Because they are rarely home, a guide's "permanent quarters" will usually be found at their place of business. Live-aboards are also popular, especially on watercraft. Because most guides have invested tens of thousands of scrip on biomods to keep them alive in the wilds, they often can't afford to pay high rents.

Resources: A guide's most valuable resource is his knowledge. The wilds of Poseidon are dangerous and survival is a matter of wit and skill. Guides will invariably have the best regional maps, personally annotated by experience or word of mouth. They will also have a network of fellow guides, natives, and pioneers that can update regional information, offer hospitality, or render emergency assistance.

Biomods: On Poseidon's frontier, most wilderness guides are heavily modified. Anti-poison, salt tolerance, and an immunological symbiote are almost mandatory, and sensory biomods like amplified hearing and nightvision are popular as well. Many guides on Poseidon invest in full-body aquaform modifications, too, though this often keeps them in debt for several years.

• Guide (Professional)

Professional Packages: Expert Survival, Novice Athletics, Novice Colonization
Biomods: Anti-Poison, Immunological Symbiote, Nightvision, Salt Tolerance

• Outfitter (Professional)

Professional Packages: Specialist Commerce, Specialist Survival, Novice Technical
Biomods: Neural Jack, Implanted Micro Toolkit (Electronics, Mechanics)

GANGSTER

The technology available to the GEO in 2199, from communications relays to surveillance satellites, makes catching small-time operators a relatively simple matter. Large-scale criminal operations, though they inevitably draw the attention of the Justice Commission, rely on resources that often match those of the law enforcement services. From

Cold Soup

It's a shame how long it takes some people to realize they're dead. It's just so ironic to see them walking and talking, not knowing their lives are over. Mr. 184 — I started numbering them after getting into the business back on Earth — was a perfect example. He had died just over 72 hours earlier when I was paid my advance. I am a professional, and once the "contract" is "signed," I figure the job is done. The rest is simply following up on loose ends, sort of like putting the period at the end of a sentence.

Mr. 184 was in the middle of a vain attempt to enjoy a dinner at a fine local restaurant. Tonight he was having some sort of steak, certainly a delicacy considering the flair with which the waiter brought it to him. He was dining with his current woman, a beautiful redhead, all glitter, smiles and breasts. Who said money can't buy you happiness?

In the past 72 hours I had learned quite a bit about Mr. 184. My contacts and my current employer had been very helpful. I had learned that I could expect Mr. 184 to be unarmed, being out with a lady and all. However, I could expect a number of armed and well-trained bodyguards. No problem. In fact, they would only serve to add a little interest to the evening. I also knew that the restaurant was wired, so I went in cold, no weapons. I could have arranged to have something waiting inside if there had been more time, but this too would serve to make things interesting.

I just walked in the front, right past the scanner and the maitre d'. I didn't get a table, just headed straight for the men's room. Under my coat was a black waiter's jacket. I stuffed my coat in the trash, stepped out of the restroom, and walked purposefully towards the kitchen doors.

Kitchens are where the chefs work, and chefs like to work with big knives. So do I. Knives don't go bang and a waiter with a knife would not immediately arouse suspicion. The plan was to lift one from the kitchen and use it on the dead guy outside. No problem. If I haven't exactly done it a thousand times I am at least passingly familiar with the idea.

I pushed past the kitchen doors, and had a big, silver platter up on my shoulder before the door had swung the first time. By the time the door had swung a second time, I knew my plan would have to change. There was muscle in the kitchen, and apparently he had done his homework. The look on his face said he'd made me as a potential imposter, at least someone not on tonight's shift list. Well, at least he had the good graces to hesitate long enough for me to consider several alternative plans, select the best, and take action.

I tripped. Actually, I stutter-stepped, and drove the edge of my heavy metal tray into the tough's larynx. He didn't have a chance. He hit the floor and flopped around there like a dying fish, clutching his throat as he suffocated. If anyone had seen the attack they apparently did not realize what had just happened. I bent over him, snagged the large pistol from under his vest, and started shouting.

"Hey, this guy blah blah blah. Get some help blah blah blah," I improvised, and soon the kitchen was stunned into inaction, just where I wanted them.

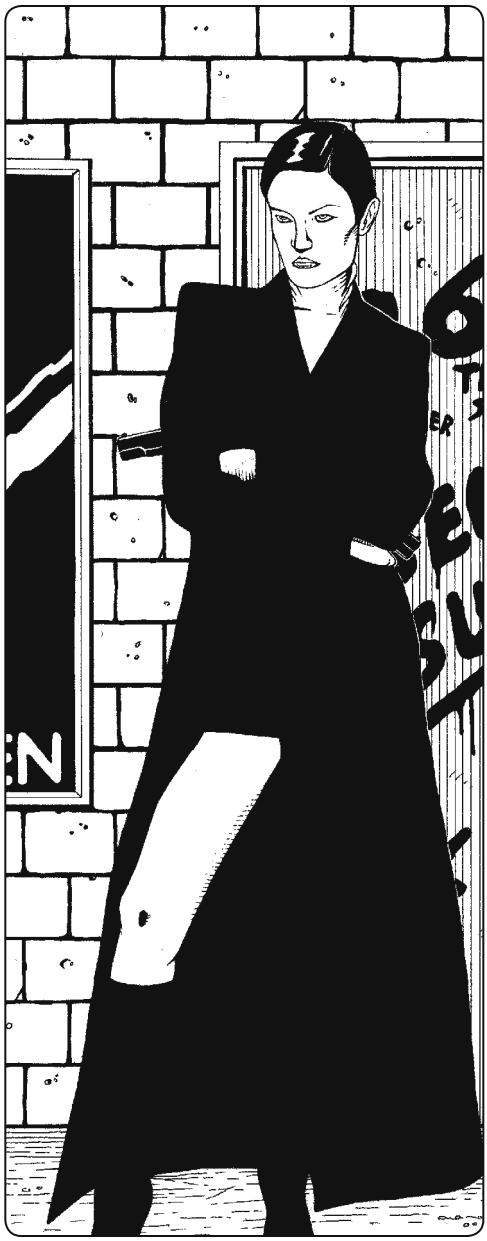
I hate it when things don't go as planned. It just seems somehow unprofessional. But errant plans are part of the business, and I am a professional, so I forged ahead. I hid the pistol and grabbed several platters of food, including the convenient serving bowl of creamy soup, and placed them on my tray. I then hefted the tray and headed for the door, passing out backwards, and then spinning to face the room. My autopilot engaged.

Table near target, no food yet. Pick up folding stand, thread through tables, do not look at target. Tag muscle, there, there...there. Two standing against wall, one near door scanner. Keep going. Flip stand out, set tray down. Someone at the table beginning to complain, not their food. Ignore them. Target directly behind me. Girlfriend on right, target on left.

Go! Reach into soup, grab pistol, spin around, raise weapon, soup flying. Pistol fires, one two... three four… five six… guards down or falling. Seven, eight, nine, ten, eleven, twelve, making sure job done. Target slumps, job done.

My autopilot disengaged. I dropped the weapon on the table and walked quickly to the door, stripping off the soup and blood-splattered waiter's jacket. I strolled out the front, and as nonchalantly as I could, climbed into my waiting taxi.

It was another job well done. Yeah, I'm good. As the cab lifted away and headed across town, however, I did run the job over in my head, and I realized something. I really ought to go back there some time. Mr. 184's Sundancer steak had looked really good.



enforcers to mob bosses, gangsters fill the ranks of these powerful organizations.

Training Packages: Expert Crime (Gangster) is the best choice for a primary package. Appropriate secondary packages include Commerce and Law Enforcement — every gangster should know his enemy…

Standard of Living: Small-time dealers and enforcers can expect to earn as much as 5,000cs per month in either salary or private business. Bosses and other connected gangsters can earn 10,000cs per month or more, and the highest ranks of the most powerful criminal families and organizations are among the wealthiest people on Poseidon. Living quarters can range from the expensive apartments and condominiums of junior enforcers to the sprawling compounds of bosses and kingpins.

Resources: The human and technological resources available to most members of a crime syndicate are formidable, often the equivalent of a small corporation. Transportation, weapons, money and thug-power are readily available, however, "misuse" of such resources is usually lethal.

Biomods: Gangsters have the cash to finance several modifications that give them an edge in their cutthroat world. Neural jacks, body sculpting, and multiglands are the most common biomods, though high-level enforcers and contract killers can even have military-grade modifications like accelerated neurons and myo-skeletal enhancement.

• Contract Killer (Professional/ Remarkable)

Professional Packages: Expert Crime (Gangster), Novice Military
Biomods: Neural Jack, Multiglands, Night Vision, Telescopic Vision

• Mob Boss (Elite)

Professional Packages: Expert Crime (Gangster), Novice Administration, Novice Commerce
Biomods: Body Sculpting, Neural jack, Immunological Symbiote, Multiglands, Transhuman

GEO Magistrate

There are currently three GEO Magistrates on Poseidon, and they wield as much power and influence as anyone on the planet. Each Magistrate controls eight Marshals, their Districts, and all their associated Patrol resources. While not in the chain of command, the Magistrates also have considerable influence with the GEO Peacekeeping forces garrisoned on the planet. They are each responsible only to the High Commissioner for Justice, though the colony's isolation from Earth lends them a great deal of autonomy. While Marshals are the arbiters of justice on an individual level, the Magistrates mete out justice on the planetary level. They interpret GEO law on Poseidon and oversee much of the administration of the Justice Commission. Rumors abound of corruption in the lower levels of the judicial system, but the Magistrates, almost as much as the Marshals, are known for their integrity and commitment.

Training Packages: Administration, Diplomacy, and Law Enforcement are the most common professional packages for GEO Magistrates.

Standard of Living: The Magistrates on Poseidon have advanced to the highest levels of the GEO hierarchy. Most will have significant wealth over and above the salaries they command from the GEO, and they can expect to bring in 20,000cs to 30,000cs per month in discretionary income. All Magistrates have permanent quarters on Prosperity Station, as well as a comfortable estate in the most prestigious neighborhoods of Haven.

Resources: Though not above the law, Magistrates effectively are the law. There is simply very little they cannot bring to bear in the line of duty, or in their personal lives. Their access to information, equipment, funds, and personnel is essentially complete.

Biomods: Magistrates are invariably wealthy and privileged, and they are usually heavily modified as a result. Neural jacks, implant computers, immunological symbiotes, longevity therapy, body sculpting, and transhuman modifications are very common.

• GEO Magistrate (Elite)

Professional Packages: Expert Administration, Specialist Diplomacy
Biomods: Neural Jack, Body Sculpting, Implant Computer, Immunological Symbiote, Longevity Therapy, Transhuman

GEO Marshal

Called "Dillons" by the more dubious elements of Poseidon society, the Marshal is a modern synthesis of law enforcement officers from an earlier time. Empowered by GEO authority, the 24 GEO Marshals assigned to Poseidon are never out of their jurisdiction, combining enforcement, investigative, and judicial powers into a single elite officer. Few can make the cut and fewer still complete the training. Those who do are competent and skilled, depended upon by government and citizens alike. Charged with protecting civil rights and enforcing environmental regulations, these officers are given free reign and often serve as the only justice on Poseidon's frontier.

Training Packages: Marshals should choose Expert Law Enforcement (Detective) or Expert Law Enforcement (Special Operations) as their primary training package. Appropriate secondary packages include Administration, Diplomacy, Espionage, and Military.

Standard of Living: Rookie Marshals earn about 2,500cs per month, while experienced veterans can make as much as 5,000cs per month. Marshals most often maintain a small, comfortable residence wherever they are stationed, and also have semi-permanent accommodations on Prosperity Station.

Resources: There is no such thing as an off-duty Marshal, and in the line of duty, if a Marshal wants it he gets it. Vehicles, weapons, information, personnel, state-of-the-art electronics, and cutting-edge prototypes, these lawmen always have access to the right tool for the job.

Biomods: GEO Marshals are among the most heavily modified characters on Poseidon. Neural jacks, multiglands, accelerated neurons, and myo-skeletal enhancement are standard, and improved vipers, programmed reflexes, immunological symbiotes, and sensory enhancements are very common. There are only 24 Marshals on Poseidon, and the GEO makes sure they have the very best.

• GEO Marshal (Elite)

Professional Packages: Expert Law Enforcement (Special Operations), Specialist Military
Biomods: Accelerated Neurons, Immunological Symbiote, Improved Vipers, Myo-skeletal Enhancement, Multiglands, Neural Jack, Night Vision, Programmed Reflexes

GEO Patrol

These are the common precinct officers and beat-patrols responsible for routine law enforcement in Poseidon's major settlements. While not as well supported by GEO resources and authority as the Marshals, Patrol Officers are nevertheless the most numerous law enforcement officials on Poseidon. The Patrol doesn't get the media attention of either the Marshals or the Native Patrol, but their officers know their jurisdictions better than anyone. Patrol stations are organized by regional districts, each of which is supervised by a Marshal and a Magistrate.

Training Packages: Choose one of the Expert Law Enforcement packages as your primary training package. Appropriate secondary packages include Administration, Crime, Espionage, Military, and Technical.

Standard of Living: Patrol Officers typically earn about 2,000cs per month, though ranking officers can make considerably more. Patrol Officers usually have a small residence or apartment near their precinct offices.

Resources: Vehicles, weapons, and backup are all part of the job. On duty, the average Patrol Officer

typically carries a heavy sidearm and wears some personal body armor. Even off duty an officer can gain limited access to various databases, and can always call on a little private backup from his fellow officers.

Biomods: Patrol Officers are not as heavily modified as Marshals, of course, but neural jacks, improved blood oxygenation, multiglands, and immunological symbiotes are fairly common.

• Detective (Professional)

Professional Packages: Expert Law Enforcement (Detective), Novice Administration or Novice Crime

Biomods: Neural Jack, Improved Blood Oxygenation, Multiglands

GEO Peacekeeper

The GEO Peacekeeping Force was the governmental response to the lawlessness and military crisis of the Blight Years. Once the strictly defensive force of the United Nations, the Peacekeepers now dominate the military landscape, both on the ground and in space. Though not always equipped with state-of-the-art hardware, the Peacekeepers make up the difference with numbers, training, and an unsurpassed intelligence network. Special public safety divisions also serve in law enforcement, criminal investigation, and emergency response. In addition, it is from the top Peacekeeper recruits that the GEO draws candidates for the Marshal Academy.

Training Packages: Peacekeepers should choose either the Aerospace, Amphibious Infantry, or Navy Expert Military package, according to the player's choice of service branch. Secondary packages should be in keeping with the character's specific training and duty assignments. Espionage, Law Enforcement, Technical, and Survival are common choices. Administration and Diplomacy are also good choices for officers.

Standard of Living: Peacekeepers earn between 1,000cs and 5,000cs per month, depending upon rank and experience. The GEO provides troopers with room and board on base, as well as full medical benefits and other characteristic perks of military service.

Resources: Every trooper is issued a high-end bodycomp with integrated, military-grade communications equipment, keeping them in almost constant contact with their chain of command, even when off duty. They are also issued a heavy sidearm and custom-fit combat armor, and other gear is provided on a mission-needs basis. Troopers also have a rather formidable source of backup in their unit buddies, as soldiers loyally look after their own.

Biomods: Modifications typically depend on service branch and duty assignments. A soldier in a technical specialty may have little more than a neural jack, and perhaps an implant computer. Special forces soldiers may have myo-skeletal enhancement, accelerated neurons, multiglands, and neural



jacks, and be only slightly less augmented than Shock Troopers. Marines stationed on Poseidon have typically received the full-body aquaform modification as well.

• Commando (Professional)

Professional Packages: Expert Military (Amphibious Infantry), Novice Athletics or Novice Survival
Biomods: Neural Jack, Multiglands, Myoskeletal Enhancement, Night Vision

• Marine Recon (Professional)

Professional Packages: Expert Military (Amphibious Infantry), Novice Survival
Biomods: Aquaform, Neural Jack, Night Vision, Accelerated Neurons

• Combat Tech (Professional)

Professional Packages: Specialist Technical, Specialist Military
Biomods: Neural Jack, Implant Computer, Implanted Micro Toolkit (Mechanics, Demolitions)

GEO Shock Trooper

In an effort to get the most bang for their military buck, the GEO created the Shock Troopers. Included in the Peacekeeper chain of command as the Marine Corps Heavy Cavalry, and commonly known as Shock Troopers, they are divided into squad-size units and deployed as rapid-response teams. Shock Troopers are elite commandos able to execute their missions in minimum time and with maximum force. Shock Troopers are heavily modified, and only the finest Peacekeepers can ever hope to make the grade. Shock Troopers are intense, extreme, skilled, and without fear. They have superior training, the latest equipment, and a proven reputation for being the best.

Training Packages: Shock Troopers should take Expert Military (Amphibious Infantry) as the primary training package. Athletics and Survival are the most common secondary packages, though Shock Troopers with appropriate specialties may choose Espionage, Law Enforcement, or Technical. Officer characters may also want to choose the Administration or Diplomacy packages.

Standard of Living: As the elite soldiers of the GEO Armed Forces, the Shock Troopers are well compensated for their service. Shock Troopers typically earn between 4,000cs and 6,000cs per month, in addition to the standard benefits of GEO military service. The Marine Corps Heavy Cav have specially designed permanent quarters on Prosperity Station and at a few dirtside bases.

Resources: Shock Troopers are the elite, and there is an entire infrastructure to support them. They have the best techs, training cadre, and doctors, and their personal needs are entirely provided for. In the line of duty, there is little they do not have access to, and they are on duty almost all the time. A trooper's most valuable resource is the rest of his platoon. Troopers are rabidly loyal to their fellows and a platoon of Shock Troopers is more than a match for an entire company of standard Peacekeepers.

Biomods: All Shock Troopers receive the full-body Shock Trooper biomod. Most also enjoy extensive cybernetic augmentation, an implant computer and sensory recorder, uplink neural jack, pain inhibitors, and programmed reflexes.

• Shock Trooper (Elite)

Professional Packages: Expert Military (Amphibious Infantry), Novice Athletics, Novice Survival
Biomods: Shock Trooper, Aquaform (Diver), Uplink Neural Jack, Implant Computer, Implant Sensory Recorder, Pain Inhibitors, Programmed Reflexes

Incorporate Security

In the harsh political and economic war-zones of the 22nd Century, most Incorporate states maintain at least a small cadre of professional soldiers. These troops are loyal and paid to stay that way. For the most part they are quite competent, specializing in facility security, temporary reinforcement, small actions, and the occasional, and distinctly deniable, covert operation. Incorporate security personnel are typically well trained, well equipped fighters, and their technology is state-of-the-art. They are often biomodified, and they understand tactics and hardware like their lives depend on it — which, of course, they do. As in any profession, incompetence is common, but assuming an Incorporate soldier is incompetent is an excellent way to very quickly end up very dead.

Training Packages: Because of their broad duties, Espionage, Law Enforcement, and Military may all be appropriate for an Incorporate Security officer.

Standard of Living: Incorporate soldiers will earn between 2,000cs and 5,000cs per month, depending upon rank and security. Most will have assigned quarters in the military and security facilities of their employer's company town.

Resources: Corporate security is serious business and the Incorporate are usually willing to pay for

every precaution. Within the Incorporates' holdings, most security personnel have access to state-of-the-art equipment, cutting-edge electronics, and high-level clearance. They also have considerable intelligence resources both through internal and outside sources. Individually, such personnel also have significant privileges as Incorporate citizens.

Biomods: Low-level security will be lightly modified, but the Incorporate make sure their elite have the very best. Special operations personnel can have myo-skeletal enhancement, accelerated neurons, multiglands, programmed reflexes, sensory enhancements, and neural jacks.

• Security Officer (Professional)

Professional Packages: Specialist Military, Specialist Law Enforcement
Biomods: Neural Jack, Improved Blood Oxygenation, Multiglands

• Incorporate SpecOps (Professional)

Professional Packages: Specialist Military, Specialist Espionage
Biomods: Neural Jack, Accelerated Neurons, Myo-skeletal Enhancement, Multiglands, Nightvision

Intelligence Agent

On Poseidon, very little of the conflict between the GEO and Incorporate states is resolved through diplomacy or force of arms alone. GEO Internal Security has a powerful and growing presence on Poseidon, and every Incorporate state with a major investment on the colony world maintains an extensive network of intelligence and covert operations specialists. In 2199, Earth and the Colonies are firmly in the grip of a second Information Age and secrets are at a premium. All major players on Poseidon employ professionals to protect their own secrets and acquire those of their rivals.

Training Packages: Players should choose Expert Espionage (Analyst) or Expert Espionage (Operative) as their primary training package. Good secondary packages include Crime, Diplomacy, Law Enforcement, Military, and Technical, depending on the character's focus.

Standard of Living: Covert operatives in service to the GEO will usually earn about 4,000cs per month. Those in the employ of the Incorporate will earn 5,000cs to 6,000cs per month. GEO agents most often keep a small apartment in Haven or have assigned housing at one of the GEO's military bases on the planet. Incorporate operatives typically have a comfortable residence in their employer's company town.

Resources: In the execution of their duties, the resources of these officers are usually limited only by the resources of their employer and their operational circumstances. However, being paranoid and cautious people, operatives typically have rather impressive personal resources as well. They either own or have general access to a jumpcraft and an effective collection of weapons and electronics. They also possess high security clearances and an extensive network of contacts. Field operatives will usually have a safe house, one unknown to their employer, for when the going really gets tough.

Biomods: Intelligence officers are usually heavily modified. Analysts favor neural jacks and implant computers, while neural jacks, bug confounders, and multiglands are common with field operatives. Special operations officers and paramilitary commandos are sometimes even more heavily modified, and programmed reflexes and accelerated neurons are not uncommon in these agents.

• Covert Operative (Professional)

Professional Packages: Expert Espionage (Covert Operative), Novice Crime or Novice Military
Biomods: Neural Jack, Bug Confounder, Improved Vipers, Multiglands, Nightvision

• Diplomatic Attache (Professional)

Professional Packages: Expert Espionage (Analyst), Novice Diplomacy
Biomods: Neural Jack, Bug Confounder, Implant Computer with translator, Body Sculpting

Journalist

In 2199, Poseidon is where the action is. The waterworld is ripe with stories, from life in native settlements to political intrigue. All of Earth's major news services and prominent publications have permanent offices and staff on Poseidon, but only the best journalists receive assignments to the planet.

Training Packages: Humanities is the most appropriate choice for a primary package. Secondary packages should reflect the journalist's field of expertise, and could include everything from Military, Crime, and Law Enforcement, to Administration, Technical, and Science.

Standard of Living: Journalists working for the largest media services on Poseidon typically earn 4,000cs to 5,000cs per month, though the salaries

paid by smaller, less reputable employers will be significantly lower. Most journalists keep a small apartment near their employer's offices, though they will often spend a great deal of their time ranging all over Poseidon for a story.

Resources: Independents are pretty much on their own, but those employed by even the smaller media agencies have professional access to versatile transportation, high-end communications and production gear, and one or more jaded-but-able field assistants.

Biomods: Neural jacks, implant sensory recorders, and body sculpting are very common among professional journalists, and improved blood oxygenation, immunological symbiotes, and survival mods are helpful for those who spend long periods of time in the field. Veteran journalists with major media conglomerates may even be equipped with bug confounders.

• Investigative Reporter (Professional)

Professional Packages: Specialist Administration, Specialist Humanities
Biomods: Neural Jack, Body Sculpting, Implant Sensory Recorder

Medic

On Poseidon, EMTs, ERT medics, and Peacekeeper corpsmen all receive extensive training focusing on emergency medical care under dangerous conditions and in hostile environments. With such training, most medics are reasonably competent in combat and are well-trained in the basics of wilderness survival. However, few medics have any significant experience with long-term treatment and care.

Training Packages: Medics should choose Specialist Medicine as their primary training package. The Technical and Survival packages make good secondary choices for ERT medics, while corpsmen should choose at least Novice Military.

Standard of Living: Regardless of their service branch, medics will typically earn about 2,000cs per month. Ranking medical corpsmen and ERT medics can earn a bit more, and the latter often have access to hazardous-duty benefits. With the exception of military corpsmen, who will usually live on base, medics often rent an inexpensive apartment or residence near their hospital or search-and-rescue base.

Resources: In the line of duty, a medic will have quality medical gear specifically designed and packed for use in the field. He will likely also have use of an emergency response vehicle of some sort, or be part of a team that does. He may also have a connection, often in the black market, that can usually score hard-to-get medical supplies in exchange for occasional, no-questions-asked medical treatments for select "clients."

Biomods: Most medics who can afford it purchase the multiglands modification, as it helps them maintain their composure in crisis situations. Neural jacks are also very common, as are specialized implanted micro-toolkits. Corpsmen in elite units often have improved blood oxygenation and even accelerated neurons.

• ERT Medic (Professional)

Professional Packages: Specialist Medicine, Specialist Survival
Biomods: Respiratory Filter, Immunological Symbiote, Night Vision

• Peacekeeper Corpsman (Professional)

Professional Packages: Specialist Military, Specialist Medicine
Biomods: Neural Jack, Improved Blood Oxygenation, Accelerated Neurons

Mercenary

The decentralized balance-of-power and escalating conflict throughout Earth and the Colonies has resulted in an expanded role for soldiers of fortune. Constrained by scarce resources, many of the remaining nation-states of Earth employ professional mercenary soldiers to provide some semblance of defense and security. On Poseidon, itinerant professionals and soldiers retiring from service to the GEO and Incorporate are hiring on with isolated communities and independent organizations throughout the colony. While they may lack the resources of GEO or Incorporate troops, mercenaries are nonetheless dangerous and formidable soldiers.

Training Packages: Mercenaries should choose one of the Expert Military packages appropriate to their area of specialization. Good secondary packages include Commerce, Crime, Diplomacy, Espionage, and Survival.

Standard of Living: For freelance mercenaries, paydays are often few and far between, but when they come, they are usually pretty profitable. Mercenaries typically command between 1,000cs and 5,000cs per day for "hot" operations. Mercenaries in the employ of major military consultancies and security companies can expect to earn a regular salary of 3,000cs to 6,000cs per month. When not in the field, most mercenaries keep a

small, secure residence in one of Poseidon's outlying settlements. Many of the largest security corporations have built state-of-the-art training and operations facilities on Poseidon that provide comfortable lodging for their employees.

Resources: Mercenaries, by the very nature of their profession, are a transient lot. Often they own their own personal battle kits, but little else. They are therefore almost always well armed, with worn combat armor, rugged electronics, and a formidable array of firearms.

Biomods: Mercenaries tend to be as heavily modified as they can afford, and given the current state-of-affairs on Earth and Poseidon, they can usually afford quite a bit. Most mercenaries invest in neural jacks, improved blood oxygenation, immunological symbiotes, and a variety of sensory enhancements. The elite will have full myo-skeletal enhancement and accelerated neurons packages, though these military-grade augmentations can give them trouble with the authorities, especially at airports and spaceports.

- **Mercenary (Professional)**
  Professional Packages: Expert Military (Amphibious Infantry), Novice Crime
  Biomods: Neural Jack, Night Vision, Improved Blood Oxygenation, Immunological Symbiote

Military Pilot

By land and air, on and below the surface of the oceans, warfare in 2199 is highly mobile. The GEO and Incorporate alike rely on high-tech machines and skilled pilots to deliver military forces planetwide at a moment's notice, and to provide dominating air support. Military pilots are in command of some of the most sophisticated technology in the world of Blue Planet. Would-be cyborgs aside, these elite soldiers are the true synthesis of human and machine, tricked to the actual gills and wired into their craft like integrated circuits.

Training Packages: Military Pilots should choose Expert Military (Aerospace) as their primary training package. Good secondary choices include the Technical and Survival packages.

Standard of Living: Pilots in the militaries of the GEO, Incorporate states, or national governments usually have a rank of at least Captain, and their specialized training commands salaries of 4,000cs to 5,000cs per month. Most will have assigned quarters on a major military base.

Resources: Any soldier, pilot or otherwise, always has the buddies in his unit to back him up. However, the only resource a pilot truly cares about is his craft. Obviously, a pilot's access to his vehicle is typically restricted to official use, but that does not seem to matter. These war machines are unmatched in speed, power, and armaments and most pilots are hopelessly addicted, caring little about anything else.

Biomods: Military pilots are heavily modified, with neural jacks, accelerated neurons, improved blood oxygenation, and multiglands being standard.

- **Military Pilot (Professional)**
  Professional Packages: Expert Military (Aerospace), Novice Survival or Novice Technical
  Biomods: Neural Jack, Improved Blood Oxygenation, Accelerated Neurons, Multiglands

Miner

Every Incorporate state involved in the mining industry on Poseidon employs hundreds of professional miners to work the Long John beds. Incorporate miners earn competitive salaries, but the risks they take and the shares they receive are usually quite disproportionate. The contracts that bring most Incorporate miners to Poseidon effectively indenture them for years, and for many, buying out their contracts becomes their only goal. Many Incorporate miners who finally complete their contracts eventually return to the Long John fields as independent prospectors. The life is hard and seldom profitable, but at least they take the risks for themselves.

Training Packages: The most important professional training package for a miner is Technical. Good secondary choices include Commerce and Survival.

Standard of Living: Miners in Poseidon's Long John fields most often earn about 5,000cs per month, with bonuses offered for exceeding standard productivity quotas. Miners typically spend three weeks at a time in an Incorporate deep-sea mining base for every one week on R-and-R in some local company town.

Resources: Most miners own, or are making payments on, a high-pressure industrial hard suit. Typically custom fit, this suit is all that stands between a miner and the crushing depths. Though they may appear worn and ragged, only the reckless and the stupid fail to carefully follow the maintenance schedule.

Biomods: Neural jacks, improved blood oxygenation, and salt tolerance are all common among Incorporate miners. Many also have implanted micro toolkits for repairing mining equipment and machinery.



- **Incorporate Miner (Everyday)**
  Professional Packages: Specialist Technical, Novice Science
  Biomods: Neural Jack, Improved Blood Oxygenation

- **Mining Engineer (Professional)**
  Professional Packages: Specialist Technical, Specialist Science,
  Biomods: Neural Jack, Implant Computer, Implanted Micro Toolkit

Native Healer

As the original colonists' medical supplies ran out, they were forced to find new ways to treat injury and disease. In the early years, researchers learned a great deal about the planet's ecology and biochemistry. Even before the Abandonment, scientists were researching promising medical applications of many indigenous species of flora and fauna. In 2199, native healers are a unique synthesis of traditional herbalists and medical professionals with surprisingly modern education and training. Their treatments and medicines are even being investigated by Incorporate pharmaceutical and biotech labs for possible commercial applications.

Training Packages: Healers should choose Specialist or Expert Medical as their primary training packages. Colonization, Science, and Survival make good secondary packages.

Standard of Living: Native healers seldom take part in the fishing, agriculture, and commerce of their village. When not actively caring for the sick or injured, healers will be out in the wilderness, foraging for medicinal ingredients, conducting experiments, or manufacturing new curatives.

Resources: Healers typically have a useful enough collection of modern medical tools and native medicines to make them vital to the health of a village. Such characters also have a small clinic and lab, typically as part of their dwelling. Healers are valued by their community and as a result are well cared for themselves. It is a belief among natives that "caring for the healer is caring for the village."

Biomods: Few native healers have received modifications, other than the aquaforming that is their genetic heritage. Some in larger settlements have acquired anti-poison or other survival biomods to make foraging for rare flora and fauna less dangerous.

- **Native Healer (Professional)**
  Professional Packages: Specialist Medicine, Specialist Colonization
  Biomods: Aquaform

Native Insurgent

Not all natives have reacted peacefully to Recontact. Many groups now considered "hostile" by the GEO have even developed an active warrior class. These soldiers are typically younger natives with strong philosophical opposition to government — and especially Incorporate — activities on Poseidon. While native insurgents have suffered due to inadequate training and weaponry, certain newcomers, such as arms smugglers and eco-terrorists, are beginning to change things. Many observers believe that, if unified under a common leadership, hostile native peoples could become a considerable threat to the post-Recontact colonial effort.

Training Packages: The Military and Survival packages are the most important to native insurgents. Good secondary packages include Colonization, Crime, and Espionage.

Standard of Living: Native insurgents usually spend a great deal more time fishing, harvesting

kelp, and tending nets than they do fighting the injustices of Incorporate excess. Insurgents are often the most driven of their people, following a day of routine labor with planning and training. Most insurgents are single men and women, and share a dwelling with their extended families.

Resources: In addition to their normal share of the village resources and equipment, most native insurgents have also managed to acquire a personal assault weapon and a small reserve of propellant and ammunition. Some of these radicals may also have managed to acquire various mismatched bits of body armor.

Biomods: Most natives lack the resources for any but low-level modifications. The few insurgents who can afford it prefer sensory enhancements and modifications with several useful capabilities, like multiglands.

• Native Insurgent (Everyday)

Professional Packages: Specialist Survival, Novice Military
Biomods: Aquaform

• Native Insurgent (Professional)

Professional Packages: Expert Survival, Novice Military
Biomods: Aquaform, Night Vision

Native Patrol

The Justice Commission established the Native Patrol in an effort to address the critical shortage of law enforcement personnel on Poseidon, and to encourage cooperation from the native population. The objective of the Native Patrol is to establish a legitimate law enforcement presence among those native-controlled regions that have resisted both Incorporate and GEO intervention. Members of the Native Patrol are trained in GEO law enforcement procedures and have been authorized to call on GEO assistance when needed. Conversely, the Native Patrol has its own way of dealing with problems, and is careful to protect its own. Loyalties are often torn between the communities the officers call home and the alien government that gives them orders and signs their paychecks.

Training Packages: Law Enforcement and Survival are the most common training packages for Native Patrol officers. Novice levels in Colonization, Crime, or Military are good secondary choices.

Standard of Living: Native Patrol officers earn 1,500cs to 2,500cs per month, depending upon rank and seniority. Many officers still have homes in their native villages, and usually keep a small apartment near their headquarters as well.

Resources: Native Patrol officers have essentially the same access to physical resources that members of the GEO Patrol enjoy, though that access is often problematic. A unique resource enjoyed by the Native Patrol is the trust and confidence of the native population. As a result, Native Patrol officers have additional and often superior sources of information.

Biomods: Native Patrol officers are not paid very well and typically cannot afford even the cheapest modifications. For those few who can afford it, neural jacks and sensory enhancements are the most common.

• Native Patrol (Professional)

Professional Packages: Expert Law Enforcement (Detective), Novice Colonization
Biomods: Aquaform, Neural Jack

Native Sell-Out

Some natives have welcomed Recontact and abandoned the traditional lifestyle of their parents and grandparents. These natives, considered sell-outs by their own people, usually inhabit the slums and ghettos of the major settlements in vain attempts to get a share of the pie. Many work for hire, doing almost anything to get by. Often doing dirty work for the Incorporate, or even turning to petty crime, sell-outs are non-citizens, looked down on by the newcomers and considered traitors by their own.

Training Packages: Colonization, Commerce, Crime, and Survival are all appropriate for native sell-outs, depending on their backgrounds and interests.

Standard of Living: Native sell-outs are often among the poorest colonists on Poseidon. Their part-time jobs and petty crime rarely pay for anything more than a decrepit hotel room or ghetto flat, irregular meals, and enough liquor or drugs to temporarily take their minds off their misery.

Resources: Unfortunately, having abandoned their native communities, and with the odds against them in the modern settlements, such characters have very little in the way of resources.

Biomods: Only a rare few sell-outs have managed to scrape together a few thousand scrip for a low-level modification or two.

• Native Grifter (Everyday)

Professional Packages: Expert Crime (Con Artist)
Biomods: Aquaform

OPPORTUNIST

Something for nothing, the big dream. Long John fever, real-estate scams, and confidence games, or maybe just a knack for seeing the whole picture and capitalizing on opportunity. Some people have always been attracted to the easy bucks. Call them entrepreneurs or con artists, these people want it all and they want it now. On Poseidon there are opportunists on every street corner and in every corporate boardroom, wheeling and dealing, playing for the big score.

Training Packages: The Expert Crime (Con Artist) package is a good start, and Commerce and Arts and Entertainment make good secondary choices.

Standard of Living: An opportunist's dreams of wealth are always much grander than his reality. The fact is, in Poseidon's frontier society, the only consistent way to prosper is to have something of value to offer, and money for nothing is little more than a pipe dream. Most opportunists are forced to scrounge and hustle for survival on the margin, and any cash they do manage to score is quickly blown on their next big scheme. Many opportunists split their nights between the canals and the seedier tenements.

Resources: As new characters, opportunists have nothing to their name but their wits. Most find that the pursuit of the score is half the fun.

Biomods: Successful opportunists may have scrounged up enough cash to finance low-level body sculpting or a neural jack. An opportunist coming off a big score might even have managed a multiglands implant or similar biomod, but he's probably still running from the people he cheated to get it.

• Con Artist (Everyday)

Professional Packages: Expert Crime (Con Artist)
Biomods: Body Sculpting

PIONEER

Since Recontact, the GEO and many private organizations have sponsored colonization efforts on Poseidon. Whether living in the waterworld's major settlements or in isolated communities far from civilization, the civilian colonists of Poseidon face far greater hardships but enjoy unparalleled freedom and opportunity when compared to the vast majority of civilians on Earth. These colonists may be simple farmers or homesteaders, but they are all committed to carving out a civilization in Poseidon's savage wilderness.

Training Packages: Expert Colonization is the best choice for a primary training package. Appropriate secondary packages include Commerce and Survival.

Standard of Living: Most pioneers on Poseidon live at essentially a subsistence level. Their days are filled with activities directly supporting the survival of themselves, their families, and their communities. Pioneers will have a modest residence in their community, invariably one that they have built themselves.

Resources: The resources available to the average Poseidon colonist are understandably limited. Technology is carefully maintained and highly prized. Tools are usually manual devices and most work is accomplished by back-breaking labor. The typical pioneer will own a hunting rifle, a variety of hand tools, and a healthy farm plot or a small fishing boat. They will also usually be part of a dedicated community that takes pride in caring for its own.

Biomods: Few pioneers can afford extensive biomodification. Anti-poison and salt tolerance are common for those who frequently work in the kelp fields, and neural jacks are not unheard of for those who operate the agricultural machinery and hydroponics systems of sophisticated settlements.

• Pioneer (Everyday)

Professional Packages: Expert Colonization
Biomods: Anti-Poison, Salt Tolerance

PRIVATE INVESTIGATOR

On Poseidon, private investigators straddle a thin line between legitimate investigation or security professionals, and criminals for hire. The fact is, most people turn to private investigators for services that law enforcement officials can't provide. In many cases, this is simply due to the lack of available resources, but sometimes, it's because the job can't be done without bending a few laws in the process. Nevertheless, many private investigators run legitimate operations, and even Marshals have been known to contract their services when conducting a demanding investigation.

Training Packages: The Crime and Law Enforcement packages are good choices for private investigators. Good secondary packages include Commerce, Espionage, Military, and Technical.

Standard of Living: Private investigators on Poseidon can hope to earn between 2,000cs and 3,000cs per month, though income can be unpredictable in this profession. The going rate for most jobs is around 500cs per day, plus expenses, and a private investigator's income is limited only by the number of clients he or she can line up. Most

private investigators live in a small, inexpensive flat behind or above their offices in one of Poseidon's major settlements.

Resources: A tiny office, some medium-grade surveillance electronics, and an army of informants are the primary resources of a private investigator on Poseidon. Their success and livelihood instead depends mostly on their insight and experience.

Biomods: Few private investigators make enough money to finance extensive modifications. Neural jacks are very common, as are sensory biomods. The prosperous investigators who can afford it will usually invest in bug confounders or improved vipers.

• Private Investigator (Professional)

Professional Packages: Specialist Crime, Specialist Law Enforcement
Biomods: Neural Jack, Bug Confounder

PROSPECTOR

Like the gold hunters of Earth history, Long John prospectors are an obsessed and desperate lot. Slowly plying the deep-ocean floor in worn and dangerously ragged diving systems, they stake their lives on aging equipment and a lethal environment for the chance to strike it rich. Brutal conditions, brutal job, brutal people, deep-ocean diggers are the absolute orneriest individuals one is likely to meet.

Training Packages: The Survival and Technical packages are most important to prospectors. Science and Commerce make very good secondary packages.

Standard of Living: As valuable as Long John is, it's even harder to find and harvest efficiently. Though all hope to strike it rich, the vast majority of Long John prospectors risk their lives to scratch just enough ore out of the planet's crust to keep their subs running and their bellies fed. One gram of unrefined ore brings about 1,000cs on the open market, so at least a prospector doesn't have to find a whole lot to get by. Most prospectors sleep in their hovercraft or submersible, but they'll occasionally spend a night or two in a cheap hotel in their favorite mining town.

Resources: Prospectors own, or are in debt because of, some sort of surface craft and either a towed sensor array or a dubious submersible, either of which is used to slowly scan the sea floor for the tell-tale signature of a Long John deposit. Beyond this, any resources a prospector has depends entirely on his skill and luck.

Biomods: Most prospectors have scraped together enough cash to afford a neural jack for interfacing with vehicles and mining equipment. Beyond this, a few successful diggers will have improved blood oxygenation or any of several survival biomods. Most dream of the day when they can purchase a full-body aquaform modification, but if they can ever afford that, they would then be able to find something safer to do for a living.

• Prospector (Professional)

Professional Packages: Specialist Survival, Novice Science, Novice Technical
Biomods: Neural Jack, Improved Blood Oxygenation, Salt Tolerance

SAILOR

Wherever humanity has traveled, sailors have taken it there. Manning merchant freighters across Earth's oceans or carrying precious cargo from one Poseidon outpost to another, sailors are a close-knit society and watch out for their own. Incorporate, GEO, or even private, sailors tend the lifeline linking the countless scattered settlements of the frontier waterworld.

Training Packages: In 2199, most sailors are simply technicians who ply their trades aboard marine vessels. As such, the Specialist Technical package is a good choice. Appropriate secondary packages include Survival, Commerce, and even Crime, for those involved in smuggling and related activities.

Standard of Living: Sailors aren't among the most well-compensated professionals, and are usually fortunate to earn 800cs to 1,000cs per month. Their only permanent quarters are likely to be aboard their ship, and time in port is usually spent in a cheap motel or boarding house.

Resources: The only things a sailor can count on are his ship and shipmates, and that eventually things are going to get rough. As a result, sailors are a close group and loyal, eager to back each other up and to offer the shirts off their backs for a fellow sailor. Sailors also have access to their vessel and her onboard equipment, but this access is usually limited to professional need.

Biomods: Most sailors are unable to afford extensive biomodification. Some purchase neural jacks to facilitate the operation of sophisticated computers, electronic systems, and mechanical equipment. Many also acquire implant micro toolkits. For those who can afford it, the salt tolerance biomod is also popular.

• Merchant Sailor (Everyday)

Professional Packages: Specialist Technical, Novice Survival
Biomods: Neural Jack, Salt Tolerance

Scholar

Scientists are not the only academic professionals who play an important role in Poseidon's frontier society. Scholars in the human sciences, especially archaeologists, anthropologists, and historians, are becoming increasingly common, both in the field and at the Haven Institute of Science and Technology. While these academicians don't often get the respect those in the hard sciences do, those who receive grant support for work on Poseidon, or who are tenured at HIST, are often the contemporary leaders in their fields.

Training Packages: Scholars should choose the Expert Humanities package, and secondary packages appropriate to the character's background and professional interests.

Standard of Living: Scholars on Poseidon can expect to earn salaries of between 5,000cs and 6,000cs per month. Most will have a comfortable apartment or residence in Haven or another of the major settlements.

Resources: Scholar characters have access to the most extensive archives of general knowledge available. They also typically have the considerable resources of their institution at their professional disposal. They also may have working relationships with, and therefore access to, the resources of certain Incorporate or the GEO.

Biomods: Few scholars are wealthy, but most can afford neural jacks and implant computers. Immunological symbiotes are also popular, as they save scholars from their irregular sleep schedules, poor diets, and high stress levels.

• Archaeologist (Professional)

Professional Packages: Expert Humanities, Novice Survival

Biomods: Neural Jack, Implant Computer, Implanted Micro Toolkit

Scientist

Hardly geeks in lab coats, most scientists with the clout to be posted on Poseidon are intelligent, ambitious professionals. Whether motivated by the potential fame and fortune to be had in uncovering the planet's secrets or driven by honest curiosity, such men and women are always uniquely qualified in their fields. Chemists, biologists, and ecologists, they all find the new planet fascinating, formidable, and enigmatic.

Training Packages: Scientist characters should choose the Expert Science training package. Most



also have at least Novice Technical, and Survival makes a good secondary choice for field biologists and the like. Administration is a good choice for career academics, or scientists working in government or the private sector.

Standard of Living: The scientists fortunate enough to be posted to Poseidon are usually either the leaders in their field or the favorite graduate students and colleagues of those who are. In addition to the private and public grants that finance their work and provide for a comfortable if not extravagant lifestyle, scientists in the employ of the GEO, Incorporate, or a private institution can expect to earn 5,000cs per month, or more. Most GEO scientists on Poseidon keep a small apartment on the HIST campus, while the rest have a modest residence near their places of employment.

Resources: Most scientists able and serious enough to be working on Poseidon are well supplied, and can usually obtain whatever they need to further their research. Vehicles, security personnel, equipment, data — almost anything in the pursuit of the answers.

Biomods: Most scientists can afford neural jacks, implant computers, and specialized implanted micro-toolkits. Many will also be able to afford immunological symbiotes. Scientists who work in the field a lot may also invest in anti-poison and salt tolerance to improve their chances of survival in Poseidon's harsh wilderness.

• Astrophysicist (Professional)

Professional Packages: Expert Science (Physical Sciences), Novice Space
Biomods: Neural Jack, Implant Computer, Immunological Symbiote

• Field Biologist (Professional)

Professional Packages: Expert Science (Life Sciences), Novice Survival
Biomods: Neural Jack, Implant Computer, Anti-Poison, Salt Tolerance

SPACER

Whether they are making cargo runs in the inner system, hauling ore from the Belt to Mars Colony, or manning deep-sleep torchships through the wormhole, spacer crews challenge the oceans of space separating Earth and the Colonies.

Training Packages: Most spacers will want to start with the Expert Space training package. Good secondary packages include Commerce and Technical.

Standard of Living: Because of the somewhat greater technical and personal demands of their profession, spacers are typically somewhat better compensated than sailors. The crew of Incorporate spacecraft can expect to earn 2,000cs per month, or more, depending upon their skills and length of service. The crew of ships with less reputable ownership will make considerably less. Like sailors, spacers are unlikely to have permanent lodging beyond their ship.

Resources

In essence, the personal resources of a spacer are the same as those of any other sort of sailor — loyal shipmates and the onboard resources of his vessel.

Biomods: Most spacers who were not genetically engineered make every effort to finance the full-body spacer biomod package. For the rest, immunological symbiotes and improved blood oxygenation are common biomods. Many spacers also have neural jacks for interfacing with complex engineering systems.

• Space Crewman (Everyday)

Professional Packages: Expert Space
Biomods: Neural Jack, Implanted Micro Toolkit

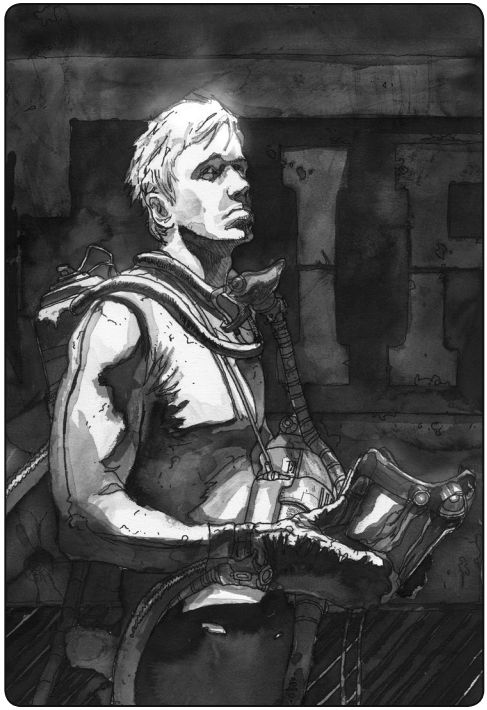
TECHNICIAN

While most of Poseidon's natives are happy snatching their living from the sea with wooden spears and woven nets, most modern colonists are very attached to the technology they have brought with them. The modern colony depends on its equipment, and even more on the professionals trained to operate, maintain, and repair it. Nominally specialists, most real technicians are such gearheads that they usually have skills and training in a variety of related disciplines.

Training Packages: Technicians should choose the Expert Technical training package. Commerce, Science, and Space make good secondary packages.

Standard of Living: Independent technicians and machinists can expect to earn 2,000cs to 4,000cs per month running their private repair and machine shops. Technicians in the employ of the Incorporate will earn between 3,000cs and 5,000cs, depending upon their qualifications and seniority. Incorporate engineers can earn upwards of 8,000cs per month. Independent techs, like most small business owners on Poseidon, keep a small apartment in or near their place of business. Incorporate technicians and engineers will have apartments matching their station in their employer's company town.

Resources: Tools, lots of tools. Technicians love their tools more than they love most of the people they know. Technicians always own or have



access to the right tools for the job, and on the Poseidon frontier this is no small thing.

Biomods: Prosperous technicians and engineers will have neural jacks, implant computers, and specialized micro toolkits.

• Hacker (Professional)

Professional Packages: Expert Technical, Novice Crime
Biomods: Neural Jack, Implant Computer, Multiglands

• Engineer (Professional)

Professional Packages: Expert Technical, Novice Science
Biomods: Neural Jack, Implant Computer, Implanted Micro Toolkit

• Mechanic (Everyday)

Professional Packages: Expert Technical
Biomods: Neural Jack, Implanted Micro Toolkit (Electronics, Mechanics)

THUG

Every major settlement on Poseidon has its share of street punks and petty thieves. For whatever reasons — poverty, tough luck, or antisocial tendencies — these characters would rather take it than work for it. While such criminals don't have to worry about the attention of the law as much as their counterparts on Earth, they do tend to face armed marks with enough self-defense skills to have survived on Poseidon. They also have to contend with vigilante gangs and heavy competition. It's not a good life, but hey, it beats kelp farming.

Training Packages: The Expert Crime (Thug) package is an appropriate choice. Good secondary packages include Law Enforcement, Survival, Commerce, and Colonization.

Standard of Living: The profitability of small-time criminal activity is mostly dependent on the nature of the crime. Petty thieves and muggers usually ply their trades just enough to get by, while drug dealers and other thugs involved in more high-profile, lucrative industries can earn a "respectable" income of 5,000cs per month, or more. Even prosperous thugs, however, are still creatures of the nighttime streets. Seedy hotel rooms and tenement flats in the expanding ghettos of Poseidon's major settlements are where they call home.

Resources: A thug's only real resources are a handgun and a sincere lack of conscience.

Biomods: Thugs are even less likely to have the money to afford enhancement than con artists. After all, if they had money, they wouldn't be thugs. Low-level enhancements like body sculpting or improved blood oxygenation are possible, but most thugs rely on enhancement drugs to give them a cheap edge on the streets.

• Dealer (Everyday)

Professional Packages: Expert Crime (Thug)
Biomods: Body Sculpting

TRADER

Poseidon's manufacturing and retail sectors are terribly underdeveloped, and there is plenty of room in the water world's frontier economy for independent entrepreneurs and traders. These adventurous and ambitious profiteers may own and operate a general store or trading post in one of Poseidon's small communities, or they may run a beat-up cargo-hauler, trading valuable commodities between isolated settlements.

Training Packages: The Expert Commerce (Trader) package is a good primary choice. Survival and Technical packages make good secondary choices.

Standard of Living: A trader's income is about as variable as any profession on Poseidon. His prosperity depends on his knowledge of local markets, his ability to negotiate a favorable deal and a fair bit of luck. The trader's basic maxim is to purchase commodities in markets where they are plentiful and cheap and sell them in markets where they

are rare and highly valued. A shrewd trader, particularly one who is willing to supply needed goods to outlying settlements, can expect to bring in a few hundred scrip each month, over and above the cash needed to cover inventory and operating expenses. Most traders will live in a back room or upstairs flat of their store or trading post. Traveling traders will most often live aboard their vehicles.

Resources: Traders either own a small trading post or a cargo-hauler of some sort. Their store or vessel is typically packed with an inventory of stock as variable as the imagination, and this stock is in a continual state of flux as items are sold and acquired.

Biomods: Traders usually sink most of their profits into their vehicles and inventory, but neural jacks, micro toolkits, and the occasional survival biomod are not uncommon.

• Trader (Professional)

Professional Packages: Expert Commerce (Trader), Novice Technical
Biomods: Neural Jack, Implanted Micro Toolkit, Salt Tolerance

WARDEN

From poaching, to the dumping of industrial wastes, Poseidon is beginning to suffer from the same exploitation that ravaged Earth's ecology. The GEO has strict laws to maintain the planet's environmental integrity, but it has too few resources to adequately patrol Poseidon's vast oceans. To help combat this wholesale exploitation, the GEO offers bounties for information leading to the arrest and conviction of individuals charged with ecological crimes. This policy has given rise to a sort of freelance bounty hunter commonly referred to as a Warden. Wardens collect evidence against — and sometimes even apprehend — individuals suspected of ecological crimes. A diverse lot, some Wardens operate out of urban centers using online investigation and cutting-edge surveillance technology. Most Wardens, however, are heavily armed frontiersmen who patrol the wilderness for poachers and other eco-criminals.

Training Packages: Most Wardens will have Specialist or Expert Survival, and at least Novice Law Enforcement. Good secondary packages include Crime, Military, and Technical.

Standard of Living: A straight bounty of 500cs is offered for information adequate to indict any individual or organization for a felony within the Justice Commission's environmental protection statutes. An additional 500cs is offered if there is an eventual conviction. Unfortunately, Wardens are vulnerable to both criminal and civil charges in the event of a false arrest or assault.

Resources: A Warden typically has a vehicle of some sort — a boat, hydroplane, or jumpcraft. They also have a hunting rifle for protection in the bush, and a heavy sidearm for protection from human animals. Most Wardens also have at least one well-informed contact in some major urban center, one that can keep them informed of potential bounties. Such contacts are usually within the offices of the Justice Commission.

Biomods: Wardens favor a number of biomods that improve their chances of survival. The most common are anti-poison, salt tolerance, improved blood oxygenation, and immunological symbiotes. Some also invest in enhancements that help them apprehend dangerous criminals, like multiglands and accelerated neurons.

• Warden (Professional)

Professional Packages: Specialist Law Enforcement, Specialist Survival
Biomods: Anti-Poison, Salt Tolerance, Improved Blood Oxygenation, Immunological Symbiote



CHAPTER 3: SYNERGY

TASK RESOLUTION

Any action a character attempts in BLUE PLANET is called a Task. Whenever the outcome of a task is uncertain, players roll one or more 10-sided dice to determine if the character is successful, and if so, to what degree. When rolling dice, a 0 always indicates a result of 10, so each roll produces a number between 1 and 10.

APTITUDE

When a character attempts a task, the player rolls up to three dice. The specific number of dice the player rolls is determined by the character's **Aptitude** for the category of the skill being tested. A character with **Average Aptitude** rolls one die, a character with **Strong Aptitude** rolls two dice, and a character with **Superior Aptitude** rolls three dice. When rolling the dice, the player counts the highest successful result and ignores any other results. If all dice fail, count the lowest scoring die.

A wanted perp jumps into a hopper and flies right at Marshal Church, who fires at the approaching craft. The GM tells the player to roll against Church's Small Arms skill, which falls within the Combat Aptitude. Church has a Superior Aptitude in Combat, so the player rolls three dice. If Church had a Strong Aptitude in Combat, his player would have rolled only two dice.

TARGET NUMBER

In BLUE PLANET REVISED, dice are always rolled against a **Target Number** (or TN). For a skilled task, where the character has the necessary skill, the base Target Number equals the sum of the character's skill level and the attribute score the Game Master feels best governs that skill under the circumstances.

For an unskilled task, where the character doesn't have the necessary skill, the GM should first determine whether any such attempt is possible. Some tasks, especially those based on specific knowledge, are impossible without at least minimal training. Other tasks, like firing a gun or operating a computer, can be attempted without specific training. For these tasks, the base Target Number is zero (0), modified by the controlling attribute. Unskilled characters will therefore typically be able to complete only relatively easy tasks.

Marshal Church has fired at the hopper. The Game Master tells the player to roll against Church's Coordination and Small Arms to see if his shot hits the jumpcraft. Church has Coordination 1 and Small Arms 8, so his base Target Number to hit the jumpcraft is 9. The player's best dice result must be equal to or less than 9 for the roll to succeed. When rolling multiple dice, the best result is the highest roll that is equal to or under the Target Number.

TASK DIFFICULTY

The Target Number is for performing the task under normal conditions, without external pressures, and with the right equipment. However in most cases the Game Master will decide that a task is easy enough or challenging enough to warrant a bonus or penalty to the base Target Number. In such cases, the player simply modifies the Target Number by the bonus or penalty determined by the GM, and rolls against this new number. Game Masters should use the following guidelines when considering task difficulties. The left column describes tasks in terms of difficulty, while the right lists the appropriate modifier.

Difficulty	Modifier
Foolproof	+5
Routine	+3
Easy	+1
Average	0
Complicated	–1
Challenging	–3
Formidable	–5

Game Masters must use difficulty modifiers liberally in their games to best model the unlimited range of circumstances that arise during play. The task resolution system in BLUE PLANET REVISED is designed on this principle, and it will work most smoothly when modifiers are used appropriately. A common sense application of difficulty modifiers will ensure that even poorly trained characters usually succeed at routine tasks, such as executing a basic CommCore search, asking for directions to the restroom in a foreign language, or judging compass directions on a clear day with the sun to use as a reference point. Just as important, modifiers should be used to make difficult tasks impossible for the poorly trained and challenging for the highly skilled.

After considering the high speed of the hopper, the Game Master applies a –2 penalty to Church's shot. This makes the effective Target Number for the shot a 7. Church's player rolls three dice, obtaining a 9, 5, and 3. Since Church's best dice result was a 5, he scores a hit.

Action Value

Often you want to know more than whether the character succeeded or failed at a task, you want to know how well or badly they did. This is represented by the **Action Value**. If the character was successful, the Action Value is the number on the highest successful die. If the character fails, the Action Value equals the Target Number minus the roll closest to it. In a standard task roll, the Action Value of a failure may not be needed unless the GM wishes. In Extended or Opposed task rolls (explained below), they are necessary. Game Masters are encouraged to use the Action Value to determine the nature and extent of any success or failure.

Marshall Church's dice came up 9, 5 and 3, so he keeps the 5. As it's successful it gives him an Action Value of 5, a good hit. The Game Master decides his shot goes through the windscreen, panicking the pilot and causing him to lose control and crash. If Church had instead rolled 9, 8 and 10 against a target Number of 7 he would have kept the 8. His Action Value would have been Target Number minus roll (7–8), an AV of –1.

Extended Task Rolls

When a character attempts a task that will take a long period of time, you use an **Extended Task Roll** to determine the result. First set a Target Number and a time interval for the roll — one minute, one hour, one day, etc. Then set an Extended Task Number. This should be a number 10 or greater; higher for more difficult tasks. Then roll against the Target Number as normal. Every positive Action Value scored adds to the total of the Extended Task Roll, while every negative Action Value subtracts from it. When the total reaches the Extended Target Number, the task is a success. If the total ever falls to zero or less, the task is a failure and must be begun again. Some Extended Tasks, at the GM's discretion, may be rolled for non-consecutively. An Extended Task of constructing a boat could take place over days or weeks, depending on how often the character works on it.

Marshal Church wishes to write up a plan to coordinate law enforcement efforts to crack down on drug dealers in Haven. The Game Master decides this is an Extended Task and sets an Extended Task Number of 10 with a roll interval of one hour. The Game Master tells Church's player to roll against his Planning skill and Cognition attribute, which are a total of 7. Church has an Average Aptitude, so he rolls only one die. The Game Master also grants him a +2 to his Target Number, since the topic is one Church is familiar with, raising the TN to 9. The first roll is a 4, resulting in an Action Value of +4. This adds 4 to the Extended Task total. His next roll is a 6! This gives an Action Value of +6, adding 6 to the Extended Task total. This raises the total to 10, which is what was needed to succeed. After 2 hours, Church has come up with an effective plan.

Opposed Rolls

Sometimes a character will be challenging or contesting the skill of another character, an animal, or even a machine. In such circumstances, the GM should ask for **Opposed Rolls**. The opponents, usually a player and the Game Master, both roll dice using the rules for success rolls. The opponent with the highest positive Action Value wins the contest. If the opponents tie or both fail the roll, the contest is a draw. To determine the winner's relative Action Value for dramatic purposes, simply take the difference between the winner's Action Value and the loser's Action Value.

Church is pursuing a thug he suspects of distributing pharium for the Gorchoff Family. He sees the thug duck into a run-down building and disappear. The Game Master decides the thug will attempt to hide among some discarded bioplastic crates. The thug has Strong Aptitude in Stealth and a Stealth skill of 5. The Game Master rolls the dice and scores an Action Value of +3. Church searches for the thug, and the player makes an Cognition roll, scoring an Action Value of +5. Church hears one of the crates scrape against the floor and catches a glimpse of the thug's brightly colored jacket in the darkness. The Marshal draws his sidearm and closes in to apprehend the suspect.

Attribute Rolls

There will occasionally be tasks that simply test a character's raw physical or mental abilities, rather than a specific skill. In such cases, players roll against the attribute the GM determines is most appropriate to the situation. When making an **Attribute Roll**, the player rolls two dice against a base Target Number of 5, modified by the value of the attribute.

Marshal Church is wading through the carnage left behind in the wake of an ecoterrorist attack on a Biogene research lab. As he walks through the facility, he hears a cry for help coming from beneath a pile of debris. The Marshal steps in and begins attempting to clear the debris, a task the Game Master decides will test Church's Strength. The Marshal has Physique 2, so the player rolls two dice against a Target Number of 7. On a success, Church has lifted the debris off the victim.

COMBAT

In 2199, Poseidon is still an untamed frontier, and the planet itself can be savage and violent. Because conflict typically plays an important role in adventure games, most characters will eventually be forced to fight if they hope to survive. Violence in BLUE PLANET is not meant to be gratuitous. Instead, it is intended to create a sense of vivid reality and urgency to life on Poseidon, keeping players excited and motivated by providing dire consequences for their actions.

The combat rules are designed to be fast-paced and streamlined, while being realistic enough to lend excitement and detail to a character's actions. Acts of violence are usually traumatic, and the system models this carefully, giving players a gritty, realistic experience. Survival on Poseidon is hard enough when all you face is the planet's savage ecology. Having to survive humanity's own unique brand of savagery as well makes the difficult nearly impossible.

ACTION ROUNDS

In reality, brawls and firefights are usually fast, chaotic, and seamless sequences of action and reaction. When the fight is over, the whole thing is often a blur in the memories of the surviving combatants. They may not know how they survived, let alone what specific decisions they made at each turn as the engagement unfolded. In a roleplaying game, however, it is often important for the players and Game Master to track the precise timing of each character's actions. Players need to know when and how often their characters act relative to others, and this requires the Game Master to add structure and organization to the course of events. BLUE PLANET REVISED uses **Action Rounds** for this purpose.

Action Rounds are artificial time units that divide an action sequence into manageable increments. They are best considered highly variable and elastic with respect to the amount of time each represents. Each round is sufficient time for the characters involved in an exchange to execute a given number of individual actions. The actual time each round takes varies, depending on just how many actions are included. Action Rounds are simply used to determine how much each character can accomplish relative to the actions of others.

For most game situations, this level of abstraction is acceptable, and makes Action Rounds robust. In some cases, though, it is necessary to precisely track the passage of time during an action sequence. For this purpose, Action Rounds should be considered to average about five seconds over the course of a given action sequence.

ACTIONS

During each Action Round, a character can perform one or more simple actions. Simple actions can be mental or physical, and involve a single movement, motion, or operation. Common examples include drawing a weapon, firing a gun, throwing a punch, standing from a prone position, shouting a warning, or diving through a window. Characters can walk and perform another simple action with no penalty. If a character is scrambling and attempting another action, any task rolls suffer a –2 penalty to the Target Number. A character who is sprinting may perform no other actions.

INITIATIVE

A character's chances of surviving combat often depend on his ability to assess a situation, identify and track threats, and react quickly and appropriately. Usually, this ability depends on a character's alertness, response time, and physical quickness. These factors are modeled by use of the Reflexes derived attribute.

Before each Action Round, players should make a Reflexes roll to determine how quickly and how often their characters can act in the round. Each player rolls two dice against a Target Number of 5, modified by the character's Reflexes. The players' Action Values on this roll determine their **Initiative**, and actions are taken from highest Action Value to lowest. For relatively large groups, it is sometimes helpful for the Game Master to simply count down from 10 to the lowest Action Value, allowing the characters to act when it is their turn. Players who fail their Initiative rolls may still act in the round, though they must wait until the count reaches their negative Action Value.

Marshal Peter Church walks into the Gutted Fisherman, a dingy waterfront saloon, hot on the trail of a smuggler who killed a Patrolman the previous night. Church is edgy and wired and looks over the scene. As he walks to the bar, he IDs the suspect by the tribal tattoos on his neck. The perp looks up and Initiative rolls are made as the game enters Action Rounds. Church has Reflexes 2 and scores a +4 Action Value on the roll. The smuggler, hopped up on "juice," has Reflexes 1 and scores a +2. Church will act first when the count reaches 4, followed by the perp at 2.

Multiple Actions Using Static Initiative

Optional Rule: If the Delay-based Multiple Action system is too much paperwork, or if you just prefer something simpler, you can use the static system. If you use this system, simply ignore Recoil and Delay values. Characters who score an Action Value of +3 or more may act twice in an Action Round, and characters who score an Action Value of at least +6 may act three times. Players whose characters qualify for multiple actions should subtract 3 from their initial Action Value and take their next action at the new value. Characters may act down to an Initiative count of zero. Once the Initiative count reaches negative values, no more actions may be taken.

Church scored an Action Value of +4 so he'll be able to act twice. The smuggler will only be able to act once during the round. When the count reaches 4, Church draws his Peacemaker and yells, "GEO Marshal! Freeze!" The player subtracts 3 from his Action Value, so Church will act again when the count reaches 1. On 2, the punk is eligible to act. The smuggler hits the floor in a roll, drawing a concealed pistol from his jacket. On 1, the Marshal resolves his second action, striding forward and kicking the table out of the way.

Multiple Actions

Characters may be able to take multiple actions in one Action Round, depending on what type of action they are taking. Any character may act down to an Initiative count of zero. Once the Initiative count reaches negative values, no more actions may be taken, unless the original Initiative roll resulted in a negative Action Value. In these cases, the character gets only one action that round (probably after everyone else has gone).

The time an action takes in the Initiative count is determined by one of two factors: Delay or Recoil. **Delay** is used for most non-firearm actions including punching, kicking, talking, throwing a knife, or shooting and reloading a speargun. **Recoil** is specific to firearms and is the time between shots; heavier firearms with higher Recoil take more time between shots.

Delay values for different actions are summarized below. Recoil and Delay for weapons are covered in **Chapter 5: Weapons** (p. 177).

Movement is a special case. Walking or scrambling while performing another reasonable action have no Delay themselves, although scrambling imposes a penalty as described above. Sprinting has a Delay of 3 and precludes taking any other actions except talking. Simple movements, such as ducking, dropping to the floor, or stepping behind a pillar, count as walking or scrambling as the Game Master sees fit. Running or diving away from a grenade or incoming rocket would definitely be sprinting!

Church scored an Action Value of +4, the smuggler scored an Action Value of +2. Church goes first at the count of 4. Church draws his Peacemaker and yells, "GEO Marshal! Freeze!" Drawing a weapon is a Delay of 3 and yelling a short phrase is zero Delay, so Church will be able to act again when the count reaches 1. On the count of 2, the smuggler acts. He drops to the floor and draws a concealed pistol from his jacket. Dropping to the floor is a quick movement, which is free (zero Delay) and drawing a weapon is a Delay of 3, which reduces his count to –1. Since this is negative, he can't take any further actions this round. On the count of 1, the Marshal takes his next action. He walks up to the table and kicks it out of the way. The movement of walking up to the table is free but kicking the table is a Delay of 3. This drops Church's count to –2, which means he is done with actions for this Action Round.

Delay for Actions

The following table summarizes the Delay for taking certain actions in an Action Round. The Game Master is encouraged to use the listed Delay values to approximate delay for actions taking similar time and add his own actions.

Action	Delay
Draw a weapon	3
Grab an item within reach	2
Press a button	1
Throw a small object (knife, ball, grenade)	3
Open or close a door	3
Provide first aid	5
Reload a firearm	4

Actions that are similar to combat actions, such as kicking over a table, can use the appropriate Delay. The Game Master is encouraged to decide Delay on the fly rather than worry about long lists of actions and Delay values.

Holding Actions

Any time a character is eligible to act in a round, the player may opt to **hold the action** in reserve. A player may hold his character's action as long as he wishes, and then use the action at any time during the same encounter. However, a character cannot take any other action until the held action is used or it is lost. Held actions are resolved before the actions of any other characters eligible to act at that time. A player can only hold one action in reserve at a time, and if eligible to act again in the round, he must wait until the condition of his held action is met to act again. He must take any remaining actions from the count his held action took place at. If subsequent actions take the character's Initiative count to a negative number, any remaining actions are lost.

The following round, Church again wins Initiative, acting on 6, while the smuggler acts on 5. On 6, Church can shoot the suspect if he wants to, but the player decides to hold his action. The Marshal calmly levels his Peacemaker at the punk's head, preparing to fire. The player tells the Game Master he will interrupt the smuggler's action and fire if the punk makes any threatening moves. On 5, the Game Master tells the Marshal that the smuggler is swinging his handgun around into firing position. The player immediately resolves his held action, and the Peacemaker roars. The Peacemaker has a Recoil of 3, so the Marshal would still be eligible to act again at 2.

Movement in Combat

During Action Rounds characters may **move** at a **Crawl** pace of 1 meter per action, a **Walk** pace of 2 meters per action, a **Scramble** pace of 5 meters per action, or a **Sprint** pace of 10 meters per action.

RANGED COMBAT

Ranged attacks are made with any weapon capable of striking an opponent from a distance. Examples include guns, rocket launchers, bows, and thrown weapons like knives and spears.

An attack with a ranged weapon requires a success roll against Coordination and the appropriate skill, such as Small Arms. There are various circumstances that modify ranged attack rolls, and these are detailed below.

Movement

Movement of both attacker and target have an effect on the accuracy of ranged attacks. Movement by the attacker was covered under actions: no penalty for walking, –2 TN penalty for scrambling, and no action possible while sprinting.

Below are several benchmark numbers that will help in assigning modifiers for target movement.

Movement	Modifier
Walk	–1
Scramble	–2
Sprint	–3

Range

In general, the closer the target, the easier it is to hit with a ranged weapon. The distance from the attacker to the target falls within one of four **ranges**: point-blank, short, medium, or long. Game Masters should apply difficulty modifiers to attack rolls based on the range to the target. Specific ranges for individual weapons are listed with their descriptions in **Chapter 5: Weapons** (p. 177).

Range	Modifier
Point-Blank (P)	+2
Short (S)	0
Medium (M)	–2
Long (L)	–4

Size

Large targets are easier to hit than smaller targets and Game Masters should apply difficulty modifiers to the attack rolls to model this.

The **size** scales are:

Huge: The target is more than twice as large as a human.

Large: Target is larger than a human.

Average: Target is about the size of a human.

Small: Target is about half the size of a human.

Tiny: Target is less than half the size of a human.

Size	Modifier
Huge	+4
Large	+2
Average	0
Small	–2
Tiny	–4

Cover

A target protected by **cover** is much harder to hit than one who is in the open. For the purposes

of ranged combat modifiers, all cover falls into one of two categories — partial or full. If a character has **partial cover**, roughly half of his body or less is protected. **Full cover** indicates that about three-quarters of the character's body is protected. Attackers trying to hit a target in partial cover suffer a –2 TN penalty. If the target has full cover the attacker takes a –4 TN penalty.

Note that it is possible for cover to be penetrated by a ranged weapon, with the projectile passing through the obstacle and striking the target. This result is indicated if the attack's Action Value is equal to or less than the attack modifier provided by the cover. When this occurs, the attack can be considered successful, but the cover's Armor Rating is subtracted from the attack's Damage Rating. This protection is cumulative with any personal armor the target is wearing. The following table lists the Armor Rating of various types of cover.

Cover Material	Armor Rating
Brush	1 / meter
Aluminum	1 / 5 centimeters
Wood	1 / centimeter
Stone	1 / 2 millimeters
Steel	1 / millimeter
Titanium	1 / 0.5 millimeters
Bioplastic, Flex Grade	1 / millimeter
Bioplastic, Foamed	1 / 2 millimeters
Bioplastic, Industrial	2 / millimeter
Bioplastic, Standard	1 / millimeter

As Church neutralizes the first smuggler, a second emerges from the restroom to his right. The second punk looks up to see the Marshal standing over his dead partner and ducks back behind the doorframe leading into the restroom. Church covers the doorway with his weapon and begins to approach, slowly. As the Marshal closes, the suspect leans out from behind the doorframe and points a handgun at Church. The Marshal immediately fires his Peacemaker. His base Target Number is 7, but the attack receives a –4 penalty because the target has full cover — only his head and one arm and shoulder are in the open. The player rolls a 6 and scores an Action Value of –3, a miss. However, the shot would have hit if not for the cover, so the Game Master decides there is a chance the round could penetrate the doorframe and hit the suspect. The doorframe is wood about three centimeters thick, so it provides an Armor Rating of 3.

Aiming

Aiming will improve a character's chance to hit a target. For every action a character aims, up to a maximum of three, he receives a +1 bonus to the Target Number.

Recoil and Delay

The **Recoil** of a discharging firearm determines the Initiative Delay between shots. **Delay** is used for non-firearm weapons and represents the full time needed to ready, reload or otherwise recover from using the weapon. Delay is also used for unarmed combat and general actions. Because of the lack of compensating gravity, Recoil penalties in zero-g are doubled.

Burst and Automatic Fire

Many weapons in the world of Blue Planet are designed for **automatic** and **burst fire**, and the unique characteristics of such weapons require special consideration in the rules.

Modern automatic weapons are designed for **burst fire**, in which a single pull of the trigger fires a fixed number of rounds. Small arms usually fire three-round bursts, but vehicle-mounted cannon and other heavy weapons can fire bursts of 10, 20, or even 50 rounds. Every automatic weapon has a burst fire value ("B#") that indicates how many rounds are fired in each burst and is used to track ammo supply.

The muzzle velocity and cycling rate of modern firearms are so high that the Recoil caused by the first rounds of a single burst do not impact the weapon quickly enough to affect the accuracy of the last of the burst's rounds. For this reason, there are no penalties associated with the individual rounds in a given burst. Additionally, because the rounds of a single burst are so closely spaced, it is assumed that they either all hit or all miss their target. All burst fire weapons therefore have two Damage Ratings (p. 119). The first is used when the weapon is fired in single-shot mode, and the second is used when the weapon fires in burst-fire mode.

When a weapon is fired in burst-fire mode, the first burst of the Action Round uses the weapon's standard Recoil value. Any further bursts in the same Action Round use the weapon's Recoil value +1.

Marshal Church is in a firefight with several drug dealers. He acts first at an Initiative count of 4 and fires a burst from his PDW at a dealer. The weapon's Recoil of 2 is used to lower the Initiative count to 2. At Initiative count 2, he then fires a second burst. The second burst uses the

Recoil of 2+1=total Recoil of 3 to lower the Initiative count to –1, thus ending his Action Round.

Weapons may also be designed for **automatic fire**, in which the weapon discharges as long as the trigger is depressed. A weapon's full-automatic rate of fire is listed with a value of "A#", where "#" represents how many rounds are expended every time a character takes an automatic fire action. The Recoil of a weapon firing in automatic mode is 1 higher than normal. Automatic fire is used to hose an area with bullets, either to mow down as many foes as possible or to make them keep under cover and not fire back at you (also called Suppressive Fire). Regardless of how it's used, the effects are the same.

The character declares an area to fire at. This area may be a number of meters wide from 1 to the Autofire value of the weapon. The character then makes a task roll with a +2 bonus to the Target Number. If successful then he is covering the area with fire. Any character in that area must make a Psyche test or be forced to duck and take cover, and not take any offensive action back. Anyone who succeeds with the test may act, but if they expose themselves to the automatic fire they may be hit. Anyone exposing themselves to the hail of bullets must make a Reflexes test with a TN penalty equal to –1 per 5 rounds fired (in automatic mode, rounded up) or take damage as if hit by a single round (or burst for weapons with no single shot mode). The automatic fire may be performed on every Initiative count the shooter has in the Action Round. If ceased, the "duck and cover" effects on opponents immediately ends.

Marshal Church's firefight with the dealers continues, endangering civilians in the area the dealers are shooting into. He decides to try to end the fight by laying suppressive fire across their cover, to intimidate them into giving up. He gets an Initiative of 5 and lays down suppressive fire. He makes a Small Arms roll with a +2 TN bonus, and succeeds. The PDW's Recoil of 2 is raised to 3 from the automatic fire, dropping Church's Initiative count to 2. The PDW has an automatic fire value of 10 (A10), so it uses 10 rounds of ammo. The dealers must make Psyche tests. On a success, they may return fire if they wish to risk being hit. On a failure, they stay under cover. Church continues the suppressive fire on his next Initiative count of 2, and shouts; "Your choice, walk out in handcuffs or be carried out in a bag!" The clatter of handguns being thrown out onto the street signals the end of the confrontation.

Guided Weapons

Guided weapon systems are weapons designed to target vehicles and self-guide munitions to the target. The weapons are very simple to use and do most of the work themselves. To fire a guided weapon, the character must first establish a lock



on the target. The Sensor rating of the weapon, if man-portable, or the vehicle, if mounted, is used with the character's Heavy Weapons skill. The Game Master may allow the character's Cognition attribute to affect the roll. Any ECM the target vehicle has acts as a penalty to the Target Number.

If the roll is successful, the weapon has locked-on the target and may be fired. Firing after lock-on doesn't take another action. If the roll fails, lock-on is not established, but may be attempted on the next action. Every munition type has a Guidance value. Once fired, the Guidance value determines if the weapon successfully strikes the target. The pilot of the target vehicle is permitted to make one attempt to evade the incoming weapon. The pilot makes a roll using the appropriate skill, with the vehicle's ECM giving a bonus to the Target Number, and the Guidance of the weapon giving a penalty to the Target Number.

Man-portable weapons generally close the distance to target fast enough that the target can only get one reaction. Vehicle-mounted weapons may be fired from far greater range, allowing the target more time to react. This is covered under **Vehicle Chases and Combat** (p. 107).

A platoon of GEO soldiers are fighting insurgents on a small island in the Sierra Nueva region. One soldier notices an unfamiliar assault jumpcraft approaching from the ocean. He raises his missile launcher and sights in the jumper. His Heavy Weapons skill is a 4 and the launcher has a Radar of 3, giving a Target Number of 7. The assault jumper has an ECM suite of rating 3, which reduces the Target Number to 4. The player makes a successful task roll and the launcher locks onto the incoming jumper. The soldier fires the missile at the jumper. The pilot of the jumper has an attribute/skill total of 4 and the jumper's ECM of 3 add up to a Target Number of 7. However, the missile has a Guidance of 5, which reduces the Target Number to 2. The GM rolls a failure on the evasion task roll. The missile strikes home, ripping through the jumper and sending it plunging into the ocean.

CLOSE COMBAT

Sometimes characters will be forced to fight at close range, either unarmed or with a melee weapon. In close combat, Action Rounds are used normally, Initiative and action resolutions are the same, and actions can be held as well. The only exception to the normal rules is that defensive maneuvers do not require actions. Characters may always defend against any close-combat attack, as long as they are aware of it. Defending is a reaction to an attack and thus imposes no Delay on the character. However, attempting to defend against more than one attack in a round will test a character's skill. For every attack a character must defend after the first, there is a cumulative –1 Target Number penalty on the task roll. Characters who forgo an attack and spend an entire action on defense receive a +2 Target Number bonus.

Assuming the target is attempting to defend, close combat attacks are resolved using Opposed Rolls. The attacker must make a successful attack roll, and must score a higher Action Value than the defender. If the defender scores an Action Value equal to or greater than the attacker's, the attack misses or is blocked. If the target of an attack is not defending, the attack is resolved with a success roll.

COMBAT MANEUVERS

In close combat, there are a variety of attack and defense options available to the combatants. BLUE PLANET uses combat maneuvers to represent these options. These maneuvers are described below, along with the skills and attributes used to execute them, the Delay (speed) of the maneuver, the damage rating, and any special rules that govern their use.

Choke

Type: Offensive
Attribute: Coordination
Skill: Unarmed Melee
Delay: 2
Damage Rating: 1 + Physique

This maneuver can only be used on an opponent that has already been successfully held with the Hold maneuver. The choke's Damage Rating ignores any armor the target is wearing, unless the armor covers the the target completely. This would, at the Game Master's discretion, include all battledress and combat armor.

Dodge

Type: Defensive
Attribute: Reflexes
Skill: None

This maneuver is the most common defense in hand-to-hand combat. If the defender beats the attacker on the Opposed Roll, the character has avoided the attack. A character can dodge by making an Attribute Roll against Reflexes, so no combat

training is necessary. However, while dodging is an effective way to avoid an attack, it leaves the character off-balance and out of position. Whenever a character dodges an attack, the character's next action must be used to regain balance and position unless he scored an Action Value of +3 or better on the dodge roll.

Hold

Type: Offensive
Attribute: Coordination
Skill: Unarmed Melee
Delay: 4
Damage Rating: None

Characters use this maneuver to immobilize an opponent. If the attacker wins the Opposed Roll, the defender is effectively pinned and suffers a penalty to all physical actions equal to the attacker's relative Action Value. After successfully scoring the hold, the attacker can maintain the hold on subsequent rounds. The defender suffers the penalty on his physical actions until the hold is broken. The defender can break the hold on any subsequent action by winning an Opposed Roll against Physique and Unarmed Melee.

Kick

Type: Offensive
Attribute: Coordination
Skill: Unarmed Melee
Delay: 3
Damage Rating: 2 + Physique

This covers most types of foot and leg strikes. It is slower, but potentially more dangerous than a punch. At the Game Master's discretion, a high Action Value scored by the attacker may result in the victim being knocked prone.

Parry

Type: Defensive
Attribute: Coordination
Skill: Armed Melee or Unarmed Melee

This maneuver can be used to defend against any close-combat attack. It can be used either armed or unarmed, but unarmed parries against armed attacks suffer a –2 Target Number penalty. If the defender matches or exceeds the attacker's Action Value, the character blocks or parries the attack.

Punch

Type: Offensive
Attribute: Coordination
Skill: Unarmed Melee
Delay: 2
Damage Rating: 1 + Physique



This is a straight punch, jab or open hand strike. While it doesn't have a high chance to inflict serious injury, it does have the benefit of being quick.

Strike

Type: Offensive
Attribute: Coordination
Skill: Armed Melee
Delay: By weapon
Damage Rating: By weapon

This is the standard maneuver for attacking with a melee weapon. If the attack is successful, it inflicts damage based on the Damage Rating of the weapon (See Chapter 5, Weapons).

Throw

Type: Offensive
Attribute: Coordination
Skill: Unarmed Melee
Delay: 4
Damage Rating: None

This is an unarmed maneuver intended to knock an opponent to the ground. If the attacker wins the Opposed Roll, the defender suffers no damage but is knocked down. The attacker can even hurl the defender a number of meters equal to the relative Action Value, up to a maximum of about three meters. This maneuver includes sweep kicks, brute force knockdowns or akido throws.

Vital Hit

Type: Offensive
Attribute: Coordination
Skill: Armed Melee or Unarmed Melee

Delay: 2 or by weapon
Damage Rating: 4+Physique or by weapon+3

This is a maneuver representing a called shot with a punch or a melee weapon. The maneuver assumes a strike to a vital area, such as the neck or groin, taking a –3 Target Number penalty on the attack roll to gain a +3 bonus to Damage Rating. This is not a set maneuver and can be used fluidly with many maneuvers and varying levels of called shot (p. 103).

Church leaps from the deck of his patrol boat to the hijacked barge, just as two of the pirates come up from below. One thug is hefting a bloody length of chain, the other a heavy, industrial bioplastic pipe. The trio rolls for Initiative. Church scores an Action Value of +6, while the pirates score +2 and 0. Church acts first, on 6. Aware of the dozen or so liquid hydrogen canisters lashed about the deck, Church grabs the fire axe clamped to the bulkhead instead of his Peacemaker (Delay 2). On 4, Church is eligible to act again. The player decides to hold the action, letting the punks make the first move.

As the Marshal expected, the pirates are stupid. Instead of separating to come at him from the flanks, the faster of the two swings his pipe on 2. Church's player decides to parry the attack, and the player and Game Master make Opposed Rolls. The punk has Coordination 0 and Armed Melee 3, while Church has Coordination 2 and Armed Melee 5. The pirate scores a +3 Action Value, but Church gets a +6 AV. The Marshal catches the wild swing on the sturdy shaft of his fire axe. As the punk continues past the Marshal with the force of the attack, the player immediately decides to execute his held action and Church slams the spiked end of the fire axe (Delay 3) into the punk's gut. The pirate desperately attempts to dodge the blow, and the player and Game Master again make Opposed Rolls. This time, the player only manages a +3 Action Value, but the Game Master fails the roll. Church allows himself a moment of satisfaction as his weapon bites into the punk's abdomen.

The second pirate closes in, swinging the chain at the Marshal's head. The player and Game Master make Opposed Rolls, and both score Action Values of +3. Since the roll was a draw, the Marshal successfully blocks the attack. Since Church held his second action until 2, he would not take the third until the count reaches –1 and it is lost.

The player and Game Master roll for Initiative again, and the thug gets lucky. Church scores an Action Value of +4, but the thug scores a +5. Realizing he's in trouble, the pirate decides to spend his action defending, so he will receive a +2 bonus on his defense rolls until his next action.

On 4, the Marshal is eligible to act. With his fire axe caught in the punk's chain, the Marshal lashes out with a brutal kick. The player and Game Master make Opposed Rolls, with the Game Master adding a +2 bonus to the pirate's Target Number. The Marshal wins anyway, and the kick strikes the punk in the chest, sending him crashing to the deck. When he recovers, he is looking down the barrel of the Marshal's Peacemaker.

Situational Modifiers

The specific rules for ranged and close combat included some common modifiers for attack rolls. The circumstances under which game combat takes place are extremely varied, and Game Masters are encouraged to freely modify Target Numbers based on the situation. The following table lists a number of modifiers that may be useful in both ranged and close combat, utilizing the ubiquitous task difficulty modifiers.

Situation	Modifier
Poor visibility	–2
Blind fire	–5
Underwater	–3
Unstable footing	–1
Firing with off-hand	–2
Firing longarm 0ne-handed	–3
Target prone at point-blank range	+2
Target prone at short range	–1
Target prone at medium range	–2
Target prone at long range	–3
Height advantage	+1
Flank attack	+1
Rear attack	+2

DAMAGE

Poseidon is a dangerous frontier world where there are many ways for characters to come to harm, and the potential severity of injury ranges from the inconsequential to the lethal. The damage system in Blue Planet Revised is based on several principles that may not be immediately apparent to all readers and warrant a brief discussion.

Any attack that can harm a character has the potential to kill the character. A small knife can kill a man if it strikes him in a vulnerable location

with enough force to penetrate flesh and damage vital tissues and organs. While some weapons are obviously more lethal than others, this simply means that they are more likely to kill or seriously injure, not that less lethal weapons are incapable of doing so.

Any combatant, regardless of skill, can be dangerous in the right situation. This is especially true where firearms are involved. A character who is shot in the head by a five year old with a large caliber handgun is in just as much trouble as if the handgun were wielded by a GEO Marshal. The Marshal's shot is much more likely to hit, but won't necessarily do more damage. Skilled combatants in BLUE PLANET may elect to attempt more difficult attacks that inflict greater damage, but the player must decide to do so before the dice are rolled (see **Called Shots**, p. 103).

There is no such thing as non-lethal damage. Even barehanded attacks have the potential to kill, often accidentally. Blunt trauma attacks that "stun" or knock out a character do so by damaging the central nervous system, usually by concussion of the brain. Such damage is obviously dangerous and potentially lethal. A character struck in the chest with a blunt object may suffer a splintered rib that punctures a lung. Bone shards from a broken arm may sever an artery and result in lethal blood loss. A punch to the abdomen can cause internal bleeding and a slow, painful death. Such critical injuries are unlikely between relatively inexperienced unarmed combatants, but many characters in the military, covert operations, or the criminal underworld are specifically trained to kill in unarmed combat.

It is not where the attack lands that matters, it is what it damages. A character can be shot in the head and survive relatively unscathed if the bullet fails to destroy vital tissues and organs, such as the brain or major blood vessels. Likewise, a bullet that severs an artery in an arm or leg can kill very quickly. This is one reason hit location is abstracted in BLUE PLANET REVISED — it is the severity of the wound that really matters, not the part of the body it damages. Another issue is that many attacks — especially from firearms — will affect multiple locations. For example, a bullet may pass through an arm and penetrate the chest. This level of detail and realism is not possible without a very complex hit location system, so the rules simply focus on the severity of the wound.

Wound lethality is not cumulative, but impairment and blood loss are. Many roleplaying games use some variant of a "hit point" system, in which a character's life is gradually whittled away as he takes more and more damage. In fact, a character who is punched in the face and suffers a broken nose is no more or less likely to die if he is subsequently shot in the chest with a large caliber handgun. The broken nose is irrelevant to the character's survival of the gunshot wound. However, every attack that does significant damage will impair a character's ability to act effectively, and this impairment is cumulative.

The more damage the character suffers, the worse off he will be. Likewise, blood loss and hemorrhagic shock are also cumulative and these are crucial factors in the lethality of critical wounds — the more such wounds a character suffers, the more blood he will lose and the more quickly he will die.

WOUNDS

In BLUE PLANET, successful attacks usually cause damage and result in three possible wound levels — minor, serious, and critical.

Minor wounds are painful injuries with moderate physical damage. Examples include contusions and lacerations, dislocated joints, and strained muscles. These injuries are not life threatening, but they hurt and can be disorienting. Characters suffer a –1 impairment penalty for each minor wound they sustain. The impairment penalty modifies all character actions until the wound is healed or its effects are mitigated by medical treatment.

Serious wounds are much more dangerous, but are not typically fatal. Examples of serious wounds include deep bruises and cuts, minor fractures, torn connective tissue, moderate hemorrhaging, and concussions. Characters suffer a –2 impairment penalty for each serious wound they sustain. Additionally, the pain, trauma, and shock caused by serious wounds can incapacitate characters. Whenever a character suffers a serious wound, the player must make a stun roll. A stun roll is an Attribute Roll against Psyche and should be modified by the –2 impairment penalty only for that wound. The stun roll is not modified by any impairment penalties accumulated for other injuries.

If the roll is successful the character may continue to act but retains the –2 impairment penalty. If the roll is failed the character is incapacitated and unable to act effectively. As a general rule, the character is unable to take any action that would ordinarily require a task roll. The character can, however, manage simple actions, such as crawling for cover, calling for a medic, or perhaps shouting a warning. If the roll is failed by 5 or more, the character is knocked unconscious. A character will remain unconscious or incapacitated for a number of minutes equal to (10 × the Action Value of

Permanent Injury

Optional Rule: Poseidon is a *very* dangerous place and the chance for injury and death is quite high. Even if a character survives the injury, there is a possibility of some lasting disability. If a character suffers a serious or critical wound, the Game Master may optionally check for a permanent injury as follows. If the character takes a serious wound and fails the stun roll by 5 or more, he is knocked unconscious and must make a Physique roll. If the character suffers a critical wound and fails his trauma roll, he must make a Physique roll with a –1 TN penalty. If he succeeds, there is no lasting effect once the wound heals. If he fails, he suffers a lasting injury that will not go away on it's own.

This could be an amputation, damaged limb that no longer has a full range of motion, or even a brain injury that could affect memory or cognitive ability. A missing or damaged limb could result in a penalty to Physique, Coordination or movement rate. A torso or spinal injury could result in paralysis, hampered Coordination, Physique or movement. A head injury could result in loss of memory, penalty to Cognition or Psyche, or even loss of known skills. Some medical treatments, including regeneration or gene therapy could potentially heal some permanent injuries. Other treatments such as physical therapy could reduce or eliminate penalties and are cheaper, but take considerable time.

The Game Master is encouraged to discuss the use of this optional rule with the players before implementing it. He should also work with the player of the affected character to come up with a reasonable and playable infirmity.

the stun roll, ignoring the negative sign) or until successful first aid is administered (p. 103). In addition, characters who have suffered a serious wound may not sprint.

Critical wounds are life-threatening injuries and involve severe trauma to the character's body. Examples of critical wounds include severed arteries, damaged organs, massive hemorrhaging, and severe concussion, shock, or trauma. If a character suffers a critical wound, the player must make two important rolls.

The first is the trauma roll. The player makes an Attribute Roll against Physique, applying only the –3 impairment penalty for the given critical wound. If the roll is successful the wound is not lethal. If the roll is failed the character is dying from shock and trauma. If the roll is failed by 5 or more then the wound is instantly lethal. If the character does not receive successful first aid within a number of minutes equal to (10 + the Action Value of the trauma roll, ignoring the negative sign) the character will die. This time is halved for each subsequent trauma roll the character fails.

Unless the trauma roll indicated immediate death, the player must now make a stun roll, applying the –3 penalty for the critical wound. If the roll is successful the character is able to continue to act but suffers the –3 impairment penalty. If the roll is failed the character is incapacitated. If the roll is failed by 5 or more the character is knocked unconscious. Note that this specifically allows for the possibility of a character who has suffered a mortal injury (indicated by a failed trauma roll) continuing to act temporarily. Such a character will still die, however, if he does not receive first aid within the allotted time. Characters who have suffered a critical wound may only move at their walking or crawling pace, as both scrambling and sprinting are impossible.

Except for stun and trauma rolls, the impairment penalties for wounds are cumulative. A character who has taken a minor wound (–1 penalty) and a serious wound (–2 penalty) suffers a –3 impairment penalty to all actions.

Damage Resolution

Every weapon and unarmed attack in Blue Planet has an associated **Damage Rating**. The higher this value, the more lethal the weapon or attack. To determine the damage of a given attack, first subtract the target's Toughness and the rating of any armor protecting the target from the base weapon Damage Rating. Next, roll three dice against this modified Damage Rating. Each die that rolls equal to or less than the Damage Rating represents one wound level. One success indicates a minor wound, two successes indicates a serious wound, and three successes a critical. If all three dice roll higher than the Damage Rating, the attack landed, but was glancing enough, or of insufficient power, to do any significant damage.

Marshal Church is conducting surveillance on a suspected mob hangout when he is ambushed by Gorchoff syndicate gangsters. Ducking behind his patrol hopper, he returns fire on the wiseguys. His first shot hits an enforcer crouching at the corner of a dumpster. Church's Peacemaker has

a base Damage Rating of 8. The gangster has Toughness 1 and a heavy duster with an Armor Rating of 1, so the modified Damage Rating is 6. The player rolls three dice, getting 8, 4, and 1. Since two dice rolled equal to or less than the modified Damage Rating, the shot inflicts a serious wound. The Game Master then makes a stun roll for the enforcer, who has Psyche 0. The Game Master rolls against a base Target Number of 5, modified by the –2 penalty for the serious wound, for an effective Target Number of 3. He rolls a 6 and a 5, for an Action Value of –2. The gangster is incapacitated but not unconscious, and falls back behind the dumpster, screaming in pain.

Some attacks, especially from heavy weapons, can have modified Damage Ratings in excess of 10. In these cases, the attack automatically inflicts a critical wound, and each point of Damage Rating over 10 increases the wound's impairment penalty by one. This additional penalty must be applied to the trauma and stun rolls resulting from such attacks.

Church switches cylinders, loading an explosive round into the chamber of his Peacemaker. He takes aim at another gangster. With the explosive ammo, the weapon's modified Damage Rating is 11. A successful hit will automatically inflict a critical wound, and the impairment penalty for the wound will be increased by 1, to –4.



Note that the Damage Ratings of armed close-combat attacks are determined by adding the attacker's Physique to the base Damage Rating of the weapon. For characters whose Physique is below the human norm, this means the base Damage Rating is decreased. In the case of unarmed attacks, the modified Damage Rating may therefore be zero or less. However, if the character is wielding a weapon of some kind, such as a knife or nightstick, the minimum Damage Rating is 1, regardless of the character's Physique. Effectively, if the character is strong enough to wield the weapon (Game Master's discretion), he is strong enough to do damage with it.

Called Shots

Combat in Blue Planet Revised is designed to be fast and furious, with a minimum of bookkeeping and table references. To avoid such cumbersome elements and still provide an effective mechanic for attacking specific parts of a target, Blue Planet Revised uses a **called shot** rule.

To model the ability of skilled fighters to precisely target their attacks, players can accept penalties on their attack rolls to gain bonuses on their Damage Ratings. For every –1 penalty a player accepts on the attack roll, the player may either increase or decrease the attack's Damage Rating by 1. This allows skilled characters to attack to kill or subdue.

With his next shot, the Marshal decides to take out a hulking bruiser with a shotgun. Church notices the telltale bulk of body armor under the thug's jacket. The player figures the bruiser will be tough to take down and decides to take a called shot with the Peacemaker, accepting a –3 penalty on the attack roll in exchange for a +3 bonus to the Damage Rating. If this shot hits, its base Damage Rating will be 11 (base 8, plus 3 for the called shot).

First Aid

Emergency medical treatment will greatly improve a character's chances of surviving an injury. To administer first aid, a player makes a success roll against Cognition and First Aid. The patient's impairment penalties are applied to the Target Number of the First Aid roll, regardless of who is administering the aid. This means that the impairment penalties are effectively doubled for injured patients who attempt to treat themselves. Proper medical supplies and equipment, such as medkits, provide bonuses to the Target Number of first aid rolls.

Church returns to the Patrol precinct with a minor wound and a serious wound. The on-duty medic can treat Church's wounds, applying the –3 impairment penalty to his First Aid roll. If the Marshal attempted to treat the wounds, there would be a –6 penalty to the roll.

First aid has three effects. First, it can effectively treat minor wounds. There may be lingering scars, bruises, or discomfort, but any impairment penalties incurred from minor wounds are eliminated. Second, successful first aid allows characters to recover from incapacitation or unconsciousness. Such characters can act normally, subject to any remaining impairment penalties. Finally, first aid will stabilize a patient who is dying of trauma from a critical wound, as long as it is administered within the allotted time. The patient may still be incapacitated, but is no longer in danger of dying.

A character can typically only attempt first aid once per patient, but if the situation is appropriate, more than one character can attempt to aid the same patient.

Psychological Combat

Physical damage is not the only way to affect a character; there are ways of getting to someone that can reduce their capabilities without physically hurting them. They might be scared, rattled, tired, or angry, any of which would stop them operating at the peak of their game.

Most of the time, such a difference of opinion can be solved by a simple Opposed Roll and some roleplaying. However, there are times when the conflict is a bit more involved. That's where **psychological combat** comes in.

Psychological combat is handled in exactly the same way as physical combat, so psychological attacks can also be used in combination with physical combat.

Psychological Attack

The attack is an Opposed Roll. The attacker uses Psyche + the appropriate skill (see below). The defender makes a Psyche Attribute Roll (two dice rolled against 5 + Psyche).

Choosing the appropriate skill for the attacker, based on the intended effect.

- Attempting to frighten the target would use Leadership.
- Intimidating the target would use Persuasion or Unarmed Melee.
- Confusing the target would use Fast-Talk.
- Goading the target to anger would use Fast-Talk or a relevant Culture skill.

Psychological Damage

On a successful attack, make a special Psyche Attribute Roll (2 dice rolled against 5+Psyche). If one die is successful, then a Light Impact is scored. If both dice are successful, then a Serious Impact is scored.

On a Light Impact, the target is slightly put off by the attack. He could be slightly confused, somewhat annoyed, or simply apprehensive. He suffers a –1 TN penalty to all rolls for the duration of the combat or until the attacker is disabled.

On a Serious Impact, the target is completely overwhelmed. He is very confused, totally intimidated, extremely angry, or frightened. He suffers a –2 TN penalty to all rolls for the duration of the combat or until the attacker is disabled. In addition, he must make an immediate Psyche Attribute Roll with the –2 TN penalty from the attack. If successful, he can carry on with only the impairment to worry about. If he fails with an Action Value of –1 to –4, he is driven by the effect. A frightened person may run, an intimidated person may back down or give up, a confused person would be unable to act for a round, and an angry person would lash out or attack the target of his rage. A failure with an AV of –5 or worse means the person is incapacitated in some manner; too frightened, intimidated, or confused to do anything, or too angry to do anything but assault the object of his rage.

Special Damage

The following rules detail several types of damage not typically associated with combat. These rules do not cover all possible ways that characters can get themselves hurt in Blue Planet, but the Game Master can use them as guidelines to handle most situations that might arise.

Falling

The Damage Rating of a fall depends on the distance fallen. The Damage Rating is 1 for every meter of distance the character falls. A character who falls less than three meters will suffer no damage if the player can make a successful Coordination roll.

Explosives

Explosives are area of effect weapons, and the farther away a target is from the center of the explosion, the less severe the damage it sustains. To model this, the Damage Rating of explosive weapons is reduced by one for every two meters separating the target from the center of the explosion.

The damage explosives normally do is caused by a combination of fragments and concussion. Poseidon is a waterworld, however, and much of

the action takes place underwater. In this denser medium, the concussion of an explosive weapon is effectively much more powerful. To model the increased destructive force of underwater explosions, increase the base Damage Rating of submerged explosive weapons by 3.

Burning and Electrical Shock

Injuries from heat or electrical shock can be horrific and deadly. The extent of a burn injury is related directly to the temperature or amperage, and the duration of the exposure. For every Action Round a character is exposed to a heat or electrical source strong enough to burn, roll for damage against a base Damage Rating of 3. Increase the Damage Rating by 1 and roll again for every additional Action Round the character is in contact with the hazard. The Game Master may also increase the base Damage Rating for extremely high-temperature fires or high-amperage electrical shocks. All but the heaviest armor is ineffective in mitigating such injuries.

Hypothermia and Heatstroke

Characters subjected to intense cold or heat for a prolonged period of time will suffer hypothermia or heatstroke as their bodies' systems begin to shut down. Roll against a Damage Rating of 5 for every hour the character is subjected to air temperatures below 0°C or above 33°C, or for every 10 minutes of exposure to water of 5°C. The Game Master should add 1 to the Damage Rating for every 10°C below or above these limits, but may reduce the rating if the characters are able to take appropriate precautions. Lighting a fire, wrapping up in blankets or sharing body warmth in cold environments; drinking extra water, staying out of the sun or wearing loose clothing in hot environments.

Poison

Many of Poseidon's denizens are quite venomous. Victims must usually be attacked in close combat for poison to be injected and its effects applied. All poisons, natural or otherwise, have a Damage Rating, onset time, and duration. Damage caused by natural toxins is resolved in the same way as other damage, with some minor variations. Poisons cause wound levels, just like other attacks. However, there is usually some delay after a poison is administered before its effects are apparent in the poisoned organism. This delay is called the poison's onset time. When a character is poisoned, the Game Master should immediately resolve the wound level suffered, but the effects should not be applied to the character until the onset time has passed. If the character is treated with an appropriate antitoxin before the onset of the poison's effects, the character will suffer no damage.

Minor wounds resulting from toxins usually involve dizziness, weakness, and severe nausea, while serious and critical wounds are usually the result of damage to the victim's circulatory, respiratory, or nervous systems. The effects of minor wounds caused by poison, including impairment penalties, fade away once the toxin's duration has passed. The effects of serious and critical wounds, however, are permanent until treated or healed.

Poisonous creatures must usually penetrate a victim's skin with a natural weapon, such as claws, fangs, stingers, or barbs to administer poison. These attacks in themselves are often incapable of inflicting any damage. As a result, they require some slight variants in the way armor is treated in the rules. Specifically, any fairly heavy or durable covering is sufficient to block the natural attacks of most of Poseidon's smaller denizens. A poisonous attack will only be successful if it strikes an unprotected area. In this case, the quality or thickness of the protection is not as important as the area of coverage. A rugged drysuit is much better protection against poisonous bites and stings than an armored vest, because it covers a larger portion of the body.

When a poisonous creature attacks a character, the Game Master should apply a penalty to the creature's Target Number based on the protective coverage of the victim's clothing. Again, the penalty should be based on the area of coverage, rather than the quality or thickness of the material. If the attack scores a hit despite the modifier, the character is assumed to have been bitten or stung on an unprotected part of the body. Armor does not reduce a toxin's Damage Rating, though the victim's Toughness does.

Coverage	Modifier
Minimal	–1
Partial	–3
Full	–5

Minimal: About a quarter or less of the body is covered (e.g., boots or gloves, an armored vest that leaves the arms unprotected)

Partial: About half of the body is covered (e.g., a heavy jacket or rugged trousers)

Full: Most of the body is covered, with only a few small areas left unprotected (e.g., a durable drysuit with only hands, neck, and face unprotected)

If a character is completely covered, such as with a diving hard suit, full combat armor, or a hazardous environment suit, the character cannot be poisoned unless the creature's attack actually does enough damage to penetrate the armor or protective covering.

The *Game Master's Guide* lists the poison Damage Ratings, onset times, and duration for specific organisms.

Radiation

Radiation is a somewhat rare threat on Poseidon although it is a common concern on space craft and in orbit. On the planet, exposure to a radioactive substance is the only way anyone will be exposed to radiation. In space, radiation can come from solar wind, solar flares and torch ship drives and reactors.

Regardless of the source, radiation is handled similar to poison. Low radiation has a low Damage Rating, while highly radioactive substances will have a high Damage Rating. The main difference is that normal people have no defense against radiation. Only radiation resistant suits, armor, vehicles or certain biomods can protect a character from radiation.

Damage caused by radiation is resolved in the same way as other damage with some changes.



Minor wounds resulting from radiation usually involves weakness, nausea, minor hair loss and a suppressed immune system and is usually temporary, lasting several weeks to a month. Serious wounds from radiation involves extreme nausea, skin burns, hair loss, possible sterility, internal bleeding and may develop cancer of some form. Critical wounds include complete hair loss, internal and external bleeding, permanent sterility, cancer and death. The effects of minor wounds from poison, including impairment penalties, fade away in time. The effects of serious and critical wounds, however, are permanent until treated.

Radiation Damage by Type

- Sunburn: DR 1
- Solar Wind: DR 2
- Low-level Radioactive Waste: DR 3
- Solar Flare: DR 4
- High-level Radioactive Waste: DR 7
- Inside a Nuclear Reactor: DR 10

Suffocation and Drowning

When characters suffocate, they do not suffer damage as such — they simply pass out and eventually die as their central nervous system fails from lack of oxygen. A suffocating unmodified human without training in Aquatics or some related skill can resist unconsciousness for 100 seconds + (30 seconds × Endurance). Add (10 seconds × Aquatics skill) as a bonus for training in breath control. After falling unconscious, a character will die from oxygen starvation in one minute + (15 seconds × character Endurance).

Drowning is simply suffocation due to the presence of water in the lungs, and the same rules apply. After the appropriate time limits, a character will pass out, inhale water, and then begin to suffocate. First aid can save a drowning victim, but only if it is administered within the time limits described above.

Healing and Recovery

Characters can recover from wounds naturally over time, and characters who receive the care of a trained medic or physician will typically heal faster than those who do not. Recovery time is negligible for successfully treated minor wounds.

The time it takes for a character to recover from a serious wound is equal to 10 weeks – (1 week × Physique). If the character is treated by a medic, a successful Medicine roll, modified by any wound penalties, will reduce this period of time by a number of days equal to the Action Value of the roll.

The time it takes for a character to recover from a critical wound is equal to 10 months – (1 month × Physique). If the character is treated by a medic, a successful Medicine roll, modified by any wound penalties, will reduce this period of time by a number of weeks equal to the Action Value of the roll.

Only one roll can be made for each wound, and the cumulative wound penalties suffered by the character are applied to the Target Number of each roll. The Game Master may also require a severely injured character to undergo one or more surgeries before the healing process can begin. The Game Master should also modify the General Medicine roll for factors such as the medical facilities, equipment, and support staff to which the attending physician has access. This modifier will be highly variable, ranging from –5 for very poor conditions to +5 for a well-equipped, modern hospital or infirmary.

VEHICLE CHASES AND COMBAT

In the science fiction and action genres, chases and dogfights are among the most dramatic and exciting action scenes. Unfortunately, most roleplaying games focus only on rules for resolving personal combat, ignoring the potential in other kinds of action. This section provides rules that give players the mechanics they need to take advantage of the excitement and fun of vehicle action sequences.

BLUE PLANET REVISED is not a wargame, however; it is a roleplaying game. As such, these rules are intentionally abstract, emphasizing the simplicity and streamlined play more in keeping with roleplaying games.

CONCEPTS

Before entering a detailed discussion of the vehicle rules it is worth defining several concepts and terms that are used throughout. These definitions are simply an introduction, as detailed descriptions of the concepts and the way they are used in the rules are discussed at length in the appropriate sections.

Pilot Skill

The vehicle rules assume the reader is familiar with BLUE PLANET's basic game mechanics. The vehicle mechanics rely heavily on success rolls, Opposed Rolls, and Action Rounds. These rules also emphasize the role of the characters. Quite often, modifiers based on technology and situational factors will balance each other out and the difference between success and failure will depend entirely on the skill of the pilot and decisions of the player.

Vehicle action sequences in BLUE PLANET REVISED follow the standard Action Round format (p. 93). As such, most maneuvers in vehicle action sequences will be resolved when characters execute their actions. Most vehicle maneuvers require that the operators make task rolls against their Driving or Piloting skill, as appropriate to the vehicle.

Range Bands

Perhaps the most complicated aspect of vehicle action sequences is the need to determine and track the distance between two or more vehicles. In many chases and dogfights, the distance between two vehicles will be changing all the time, requiring a lot of bookkeeping work for the players and Game Master. To keep the game action fast and furious, BLUE PLANET uses range bands to abstract the actual distance between vehicles.

There are five range bands — close, short, medium, long, and extreme. Rather than linking these abstract categories to specific distances, they are defined by what the vehicles — and characters in the vehicles — can do to each other at each range band.

Close: The vehicles are close enough that the pilots can attempt to ram or run each other off the road, and characters can even attempt to leap between the vehicles. The vehicles and characters in them can also exchange fire with any ranged weapon.

Short: The vehicles are close enough that characters can exchange fire with any ranged weapon, including handguns, but no direct physical contact between the vehicles or characters is possible.

Medium: The vehicles are close enough that characters can exchange fire with any ranged weapon larger than a handgun, including longarms.

Long: The vehicles are close enough that characters can exchange fire with any ranged weapon larger than a longarm, including heavy weapons and vehicle weapons.

Extreme: The vehicles are far enough away from each other that characters can only exchange fire with guided weapons.

Encounter Distance

At the beginning of any vehicle action sequence, the Game Master should select an initial range band for the vehicles' encounter distance. This is

the distance between the vehicles at the beginning of the action sequence.

This decision is usually based on relevant factors such as visibility, terrain, onboard systems, such as radar or sonar, and the attribute or task rolls of the characters involved. For example, the Game Master might call for an Awareness roll and use the results to gauge the initial encounter distance. Once the Game Master has selected the initial encounter distance, he can readily track the distance between the vehicles as the action develops.

Marshal Church has traveled to Nomad to track down several suspects charged with sunburst poaching. He has a pretty good description of their beat-up jumpcraft but little else to go on. As he reaches the floating town, Church sees the suspects' jumpcraft lift into the air and decides to pursue. To make sure the chase is an exciting one, the Game Master decides to set the initial range band at medium.

The initial range band is an important factor, as it goes a long way toward dictating the action and pacing of the sequence. Exciting chase scenes, for example, usually take place in an environment that emphasizes the importance of maneuvering and the pilots' skill, such as the crowded streets of a city or the treacherous twists and turns of an undersea canyon. In these scenes, the initial encounter distance will typically be quite low.

Altitude and Depth

The preceding rules give players the tools they need to resolve the movement of surface vehicles. Other vehicles, however — notably aircraft and submersibles — can also move up or down relative to each other. In many cases, such as the chase scene involving the two jumpcraft, it will be important for the Game Master to include the effects of altitude or depth in the resolution of a vehicle action sequence.

In most cases, it is sufficient to assume that distance between two vehicles resulting from their altitude or depth is covered by the normal range band. As long as both vehicles can fly or submerge, there is no reason to track their actual altitude or depth. However, in vehicle action sequences involving both aircraft or submersibles and surface vehicles, the former's altitude or depth represents the minimum distance between the two vehicles. In this case, the pilot of the aircraft or submersible should choose a range band to represent altitude or depth, and this range band becomes the minimum for the vehicle action sequence. For example, the pilot of an aircraft may decide to maintain an altitude corresponding to the medium range band, and the vehicles will get no closer than medium range unless the pilot decides to decrease his altitude.

Power

A vehicle's Power is a simple, abstract representation of its ability to change its velocity, either by accelerating or decelerating. Obviously, Power is very important in common vehicle action sequences, such as chases, races, and dogfights.

Handling

A vehicle's Handling is an abstract representation of its maneuverability and responsiveness.

Action Delay

To keep vehicle combat streamlined, all piloting actions are considered to have a Delay of 3.

Actions in a Chase or Combat

Changing Range Bands

Using an action, a pilot may attempt to increase or decrease the distance between his vehicle and another. The operators of the two vehicles make an Opposed Roll against their Driving or Piloting skills as appropriate for their vehicles. Both operators add their vehicles' Power rating to their Target Number for the Opposed Roll.

If the acting character wins, he can change the vehicles' range band by one category (close to short, short to close or medium, medium to short or long, etc.). If the operators tie or the reacting player wins the Opposed Roll, the range band stays the same — the reacting player cannot change the range band if he wins the Opposed Roll.

This will result in a lot more movement — vehicles zipping in and out of range — than would be truly realistic in some situations. However, it makes for fast, exciting, and easy to play vehicle sequences.

Changing Speed

Any time a pilot attempts to change the distance between the two vehicles, he must decide how fast he's willing to go. For simplicity, speed is abstracted into five categories. Each provides a Target Number modifier to all attempts by the operator to increase or decrease the range band. The higher a vehicle's speed, however, the more difficult it is to execute other maneuvers — like turns — and the more damage a crash will inflict on the vehicle and its passengers.

Speed	Modifier
Minimum	–5
Low	–3
Cruise	+0
High	+3
Maximum	+5

Church, who has Coordination 2 and Piloting 4, decides he'd better punch it. The pilot of the poachers' jumpcraft has Coordination 0 and Piloting 3. The player and Game Master make an Opposed Roll, adding their vehicle's Power rating to their Target Numbers. Church's Patrol jumpcraft has Power 5, while the poacher's utility hopper has Power 2. Church decides he'll push it and accelerate to high speed, while the poacher is only willing to risk cruise speed. Church's Target Number for the Opposed Roll is 11, while the poacher's is 3. Church easily wins the roll and the player decides to decrease the range band by one, from medium to short.

Other Maneuvers

There are many vehicle maneuvers in BLUE PLANET other than accelerating and decelerating. These include turning the vehicle, swerving to avoid hazards, pedestrians, or other vehicles, forcing another vehicle to stop or crash, and numerous combat maneuvers. This section describes some standard vehicle maneuvers, while combat maneuvers are discussed a bit later. The GM should use the following table as a guideline for determining the appropriate modifiers as each individual situation dictates. When attempting these maneuvers, the player should add his vehicle's Handling to his Target Number.

Maneuver	Modifier
Reverse	–5
Soft Turn	+0
Sharp Turn	–3
180° Turn	–5
Take-off and Landing	+0
Half-Roll	–2
Full Roll	–4
Reentering/Leaving Atmosphere	–2
Space Docking	–3

The vehicle's speed will also affect the operator's Target Number, as indicated in the following table.

Speed	Modifier
Minimum	+5
Low	+3
Cruise	+0
High	–3
Maximum	–5

Turns

The difficulty of a given turn and the amount of time it takes to execute is largely a function of the vehicle. As a result, the Game Master should take into account the relative capabilities of the vehicles involved when resolving these maneuvers. Further guidelines for adjudicating the effects of turns by various vehicles in a chase sequence are offered below.

Maneuvering to avoid pedestrians, vehicles, or other hazards can usually be handled by treating them as soft or sharp turns. The difficulty of the turn should be dependent on a variety of factors, such as visibility, the size of the obstacle, its movement, surface conditions, and weather. As always, the Game Master is encouraged to use common sense, a detailed description of the action, and Target Number modifiers to most accurately represent any given situation.

The Game Master should always announce the number of Action Rounds the operator of a vehicle has in which to react and execute a turn. If the pilot has sufficient time, he may be able to execute two or more easier maneuvers, rather than a single difficult one. Note that a turn to avoid a hazard will often result in the vehicle lining up with yet another obstacle, especially in locations with limited maneuvering room, and this may require another maneuver to return the vehicle to its original direction of travel.

The failure of an attempt to turn a vehicle will sometimes not result in its failing to turn entirely, unless the result was a critical failure (–5 Action Value or worse). In some cases, the Game Master should allow the vehicle to turn as much as the roll would allow. If the operator failed a sharp turn, but would have made a soft turn, the vehicle should make a soft turn. While not enough to avoid the obstacle altogether, it may be enough to minimize the damage.

While not possible for most watercraft, a 180° turn is somewhat simpler for modern hovercraft, jumpcraft, and VTOLs than it is for wheeled vehicles, because they can hover in place. A 180° turn in reverse is referred to as a "bootleg reverse."

CONSEQUENCES OF FAILURE

Crashes

Crashes can occur in either of two ways. First, a critical failure on any maneuver may result in a crash. Second, crashes can occur whenever a pilot of a vehicle fails at a maneuver that was necessary to avoid a crash. For example, if the Game Master tells the pilot's player that he needs to execute

a sharp turn to avoid ramming the cargo hauler that has just pulled in front of his vehicle, the player's vehicle will crash if he only succeeds in making a soft turn.

A critical failure on a maneuver only determines the possibility of a crash, unless the maneuver was required to avoid a crash in the first place. When a player rolls a critical failure on a maneuver, the Game Master should allow him to make a success roll against the appropriate skill to avoid the crash. This rule is designed to simulate the panicked reactions that occasionally save a pilot and his vehicle. The Game Master should adjust the Target Number for any relevant modifiers. If the roll is successful, the crash is avoided. However, there should still be some adverse result of the mishap — the vehicle stops or loses speed, is trapped behind the slow-moving cargo hauler, etc. As always, a detailed description of the action should suggest a number of possible results for a near-crash.

Crashes are handled a little differently where aircraft in open space are involved. When a maneuver results in the possibility of a crash for an aircraft, this indicates that the aircraft has gone into an uncontrolled spin, or straight fall in the case of jumpcraft, and will crash into the surface below unless the pilot executes a maneuver to regain control and avoid the crash. An aircraft will lose one range band of altitude each round. Given sufficient starting altitude, this may allow a courageous pilot to make several attempts to regain control before the vehicle crashes. All rolls to maneuver an uncontrolled vehicle suffer a –5 Target Number penalty.

Submersibles that lose control will sink at a rate of about 30 meters per round. Most subs in use on Poseidon can withstand depths of up to 2,000 meters — a tolerance that will rarely be exceeded in the shallow seas of the Pacifica Archipelago. A submersible that does drop below its designed depth tolerance will lose structural integrity and eventually be crushed by excessive pressure. Otherwise, submersibles are very unlikely to "crash." At worst, a sinking sub will come to rest on the ocean floor and the crew will suffocate when their life support runs out if they are unable to repair the damage to the craft.

Church and the poachers race into Haven. The Marshal has linked-in to the traffic-control network, so there isn't much chance of a collision as he works his way down through the congested jumpcraft lanes above the city streets. Unfortunately for the poachers, their onboard computer is down. As the poachers' jumpcraft weaves its way through the jumplanes, the pilot finds a slow-moving cargo jumpcraft directly in his path. The Game Master decides the pilot will need to execute a sharp turn to avoid a crash. He rolls against the poacher's Piloting 3 and fails. The jumpcraft clips the front of the hopper, accompanied by the sound of grinding metal and splintering industrial bioplastic.

Crash Damage

The damage a vehicle suffers in a crash is based on its speed at the time of impact. This is determined by the speed the pilot's player announced when he made his last attempt to increase or decrease the range band. The vehicle's Armor Rating is subtracted from the base Damage Rating.

Speed	Base DR
Minimum	1
Low	5
Cruise	10
High	15
Maximum	20

The poachers' jumpcraft is traveling at cruise speed when it crashes into the cargo hauler, so the base Damage Rating is 10. The jumpcraft has an Armor Rating of 5, so the effective Damage Rating is 5. The player rolls three dice, getting 8, 4, and 3. Since two dice rolled equal to or less than 5, the jumpcraft suffers serious damage (see ***Vehicle Damage****, p. 115).*

Running a Chase Sequence

In a chase sequence, one vehicle will always be pursuing the other. The most exciting chase sequences are those that take place in a setting that emphasizes the role of maneuver and pilot skill. For this purpose, towns and cities are tough settings to beat, but Blue Planet offers a number of unique terrains suited for dramatic chase sequences — a ship's graveyard in a vast sargassum flat, a dark, twisting undersea trench, or the narrow faults of a canyon.

In a chase, the most crucial maneuvers will be changes in the range band, as the pursued vehicle tries to extend the range and the pursuing vehicle tries to close it. The operator of the pursued vehicle will also often be executing maneuvers intended to elude or escape the pursuer. The pursuer's most effective tactic will be to match the pursued vehicle's maneuvers and attempt closing the distance between them.

These maneuvers can usually be resolved using the guidelines for standard maneuvers. In general,

when a pursued vehicle executes a maneuver, the pursuing vehicle will need to match it to continue the chase. In most chase sequences, turns will be the most common maneuver of this sort as the pursued vehicle makes a sharp turn down a side street, or swerves to dodge oncoming traffic while driving the wrong way down a road. Common sense and a few simple guidelines should help players and Game Masters resolve these maneuvers.

The first step is for the player to simply describe the intended maneuver. Alternatively, if the vehicle operator is a non-player character, the Game Master will need to decide what sort of maneuver the operator is attempting. On the basis of this description, the Game Master will decide what kind of maneuver is required, as well as its difficulty. The Game Master should always remember to apply the appropriate maneuver modifier based on the vehicle's speed.

Once the difficulty of a maneuver has been assigned, the vehicle operator's player can make the appropriate task roll. If the maneuver is successful, the pursuer will have to match the maneuver on his next action to continue the chase. If the maneuver is unsuccessful, the Game Master will have to determine the result of the failure, based on its description and the circumstances. The Game Master is encouraged to use his imagination in deciding the results of a failed maneuver. Crashes can be fun, but so can landing the characters in even deeper trouble.

Because turns of various sorts will be the most common maneuver in a chase, the Game Master should keep in mind the relative capabilities of the vehicles involved. For example, a turn that is considered soft for a motorcycle is going to be very difficult for a jumpcraft to match, and it will most likely overshoot the turn. Likewise, a supertanker isn't going to be able to make a turn that will challenge a small racing boat. Most chases will not involve vehicles with such radically different capabilities, and common sense will usually be sufficient to resolve these maneuvers realistically.

Racing into Haven, the two jumpcraft are at short range and have dropped down to only a few meters above the street. Both vehicles are traveling at cruise speed. The poachers are desperate to elude pursuit, and the Game Master decides they'll try to make a sharp turn down a side street. The Game Master makes the task roll for the pilot, applying the –3 penalty of the sharp turn. The roll fails, but would have been enough to make a soft turn. The Game Master rules the poachers have avoided slamming into a building, but are now racing along over a pedestrian sidewalk, about to crash through an awning extending from the front of the building directly ahead.

If the pursuing vehicle successfully matches, or betters, a maneuver executed by the pursued vehicle, it will be able to continue the chase. If the pursuing vehicle fails to match the maneuver, the Game Master will need to determine the result of the failure, based on the situation and the level of failure. Usually, the vehicle will lose one range band, or two if the result was a critical failure. The latter will also require the pilot to make a task roll to avoid crashing.

Church sees the poachers' vehicle swerve down a side street ahead and decides to follow. Church has Coordination 2 and Piloting 4 and the sharp turn imposes a –3 penalty, so his Target Number for the turn is 3. The player rolls and gets a –4 Action Value! This is a total failure, not even good enough for a soft turn. The Game Master decides this is not bad enough for a crash, and tells Church's player that he's missed the turn and overshot the side street. Church will lose one range band as he turns around and continues the chase.

The Game Master should also feel free to require other maneuvers beyond those initiated by the pursued vehicle. Cities, especially, are very dynamic settings where blind alleys, traffic, and pedestrians represent just a few variables that might require the pilots to execute maneuvers. And, of course, in large settlements there may be Patrol officers who will frown on any vehicle racing at unsafe speeds through the streets of their town. The Game Master should keep in mind that the more maneuvers the participants in a chase are forced to make, the more exciting the chase sequence will be.

Running a Combat Sequence

Dogfights

The complex movement of aircraft and submersibles dogfighting in three-dimensional space requires highly abstracted mechanics if it is to be resolved with any kind of attention to the sequence's pacing. For this reason, Blue Planet uses action points to simulate the advantage and disadvantage of position for vehicles involved in a dogfight.

On any action, a vehicle operator involved in a dogfight may attempt to maneuver for position with another vehicle. This maneuver requires a Piloting task roll. Action points are gained or lost equal to the roll's Action Value. The maximum

number of action points that can be gained or lost is equal to the Target Number penalty the pilot is willing to accept for the maneuver. In other words, the tougher the attempted maneuver, the more can be gained or lost from it.

Church is trying to line up the poachers' jumpcraft for an attack with his patrol hopper's autocannon. The player tells the Game Master he's simply trying to drop in behind the jumpcraft and stay with it as it zigzags from one side of the street to the other. The player decides to take a –2 penalty on the roll, so he will be able to gain or lose a maximum of 2 action points. The player makes the roll with an Action Value of +1, so he gains 1 action point.

A vehicle operator's current action point total represents a Target Number bonus on his next combat maneuver, such as an attack with an unguided weapon, evasive maneuvers, or a target acquisition maneuver.

Using Unguided Weapons

The vehicle rules in Blue Planet make it easy to keep track of the position of two or more vehicles relative to one another, making it much simpler to resolve vehicle combat engagements. Target size and speed are assumed to cancel each other out for the purposes of these rules.

The following rules and modifiers apply to attacks with unguided weapons; guided weapons are discussed on p. 114.

Speed

Attack rolls are modified based on the speed of the attacking vehicle. The attacker receives a –1 penalty for each of the vehicle's speed categories (e.g., –1 at Minimum, –2 at Low, –3 at Cruise, etc.).

Aiming

Manually targeted weapons fired from a vehicle, including those linked to a CAT system (p. 271), use the standard rules for Aiming (p. 96).

Recoil/Delay

Integral and mounted vehicle weapons are unaffected by Recoil, but are considered to have a Delay of 3 to account for targeting time. Personal weapons fired from a vehicle use the standard rules for Recoil presented in the combat mechanics (p. 96).

Called Shots

Players may take called shots with vehicle weapons just as with standard weapons. Even guided weapons can be programmed or directed to make called shots at the vulnerable locations of the target vehicle. The player may increase or decrease the Damage Rating by 1 for every –1 penalty he accepts on the attack roll.

Range Bands, Sensors, and Stealth

The sensor and stealth capabilities of modern military or paramilitary vehicles make determining the initial range band a little more complex. On Poseidon, military engagements most often occur either above or below the surface of the oceans, so these rules will focus on methods for establishing an encounter distance for vehicle action sequences involving aircraft and submersibles.

Radar and Stealth

In general, the development of stealth technology in 2199 has outpaced that of radar technology, continuing the historical trend. In the case of military aircraft, the result is that fighters are capable in theory of making radar contact, acquiring a target, and launching a radar-guided air-to-air missile at ranges in excess of 200 kilometers. In practice, however, all military-class aircraft have sufficient stealth and ECM technology that engagement at these ranges is simply not effective. Radar also requires line-of-sight to function, so terrain and other obstructions can effectively hide potential targets.

Modern military aircraft have both powerful radar systems and sophisticated stealth and electronic counter-measures capabilities that will affect the determination of encounter distance. These capabilities are represented by two special vehicle ratings.

Sensor: This rating represents an aircraft's onboard sensor systems, including radar and sonar. It determines how easily enemy aircraft can be detected at significant distances.

Stealth: This represents an aircraft's anti-detection technologies, from faceted flight surfaces to sophisticated electronic systems. The higher an aircraft's Stealth, the more difficult it will be to detect. An aircraft's stealth capabilities, however, are largely dependent on its velocity and altitude. Generally speaking, the higher and faster an aircraft flies, the easier it will be to detect. As a result, an aircraft's Stealth should always be adjusted for its current speed modifier (p. 109). For example, if the aircraft is flying at high speed, its Stealth is decreased by 3. In addition, an aircraft's Stealth is decreased by 1 for every range band of altitude above short maintained by the pilot.

Most dogfights between two aircraft will begin at extreme range. Both pilots should make a task roll

against Electronics, each receiving a Target Number modifier equal to the difference between their aircraft's Sensor rating and the opposing aircraft's Stealth.

If both pilot's fail, the range band is decreased to long and the pilots make new Electronics rolls with a +2 bonus. Continue these range-band reductions and sensor attempts, with a cumulative +2 bonus, until at least one of the pilots is successful.

If one pilot succeeds and the other fails, the loser will have to continue attempting the skill roll at the beginning of each round until he makes radar contact, or until the successful pilot attempts a target acquisition maneuver. At that point, the targeted pilot will be well aware of the other aircraft's presence. The range band at which the successful pilot makes radar contact, however, is the encounter distance for the vehicle action sequence. Obviously, this assumes the vehicles are moving toward one another — if they are not, no engagement will occur.

Sonar and Submarine Warfare

As with aircraft, a submersible's Sensor and Stealth will determine how easy it is for the craft to detect other vessels and how easy it is to be detected. While military onboard sonar systems are capable of detecting a submerged vessel at distances in excess of 50 kilometers, again, developments in stealth technology, especially MHD propulsion, have resulted in much lower engagement distances.

Active sonar, or "pinging," is extremely effective at significant distances, but it makes any submersible that uses it very easy to detect. As with radar, active sonar also requires line-of-sight to function effectively. Passive sonar — listening for the noise generated by water displacement or power plants — is only effective as long as there is a nearby vessel that is actually making detectable noise. By eliminating screw noise and cavitation, MHD propulsion systems have made it much more difficult to detect submerged vessels with passive sonar.

The Sensor or Stealth Ratings of submersibles is similar to those of aircraft, with a few differences based on their unique characteristics.

Sensor: A sub has both Active and Passive Sonar ratings. Active Sonar is twice the value of Passive Sonar, but whenever it is used, its value is subtracted from the submersible's Stealth for the purposes of the opposing vessel's next attempt to detect it.

Stealth: A submersible's Stealth represents how difficult it is for the sonar systems of enemy vessels to detect. However, speed causes even more problems for a stealthy submersible than it does for an aircraft. The noise caused by water displacement alone will render a submersible's sonar useless and will also make it very easy to detect. A sub's Stealth and Passive Sonar are always adjusted for its speed modifier. For example, a sub moving at maximum speed would receive a –5 penalty to Stealth and Passive Sonar.



Most submerged warfare on Poseidon is waged between one-pilot fighter subs that are extremely stealthy yet capable of remarkable speed and maneuverability. Typically, a patrolling fighter sub will move very slowly, or not at all, listening for other vessels with passive sonar. When an enemy vessel is detected, the fighter sub will creep within range, "paint" the target with active sonar, and launch high-velocity, guided torpedoes. If the burst of active sonar has not revealed its position, the fighter sub will then slowly retreat, relying on its stealth to protect it from any counter-attack. If it has been identified, the sub can use its tremendous speed and maneuverability to turn and escape as quickly as possible.

To determine the encounter distance for a dogfight between two submersibles, use the same basic procedure as that used for aerial dogfights.

Commander Preston of the GEO Naval Command is piloting a fighter sub on patrol near a deep-sea research base. He's been getting intermittent contact on passive sonar at extreme range for several minutes. He doesn't know it yet, but the contact is an Incorporate fighter sub piloted by a non-player character. The Game Master decides to go to Action Rounds. Preston has Electronics 8 and the Incorporate pilot has Electronics 6. Both subs have Passive Sonar 5 and Stealth 10. Neither sub is moving. Preston's Target Number to detect the Incorporate sub is 3, and the Incorporate pilot's Target Number is 1. Preston wins Initiative and acts first. The player rolls against Preston's Target Number of 3 and succeeds. The Game Master tells the player he has a positive contact on an unknown submerged vessel at extreme range. The Incorporate pilot rolls against his Target Number of 1 and fails. The following round, since he has detected the Incorporate sub, Preston can begin maneuvering for position, attempt to acquire the target, or turn and run. The Incorporate pilot will have to attempt to detect Preston's sub again.



VEHICLE GUIDED WEAPONS

Target Acquisition

In the world of BLUE PLANET, there are a variety of powerful, computer-targeted guided weapon systems for vehicles. However, before a guided weapon can be fired, the targeting computer (p. 274) must acquire or lock-on to the targeted vehicle. When a targeting computer is locked on to the targeted vehicle, it signals the pilot or soldier, traditionally with an audible tone. This signal is why pilots sometimes announce target acquisition by saying they've "got tone" on the enemy.

However, getting tone on an enemy vehicle first requires the pilot or gunner to spend an action lining up the target with the computer's sights. The attacker makes a success roll against Heavy Weapons skill for integral vehicle weapons. The Sensor rating of the attacking vehicle is a Target Number bonus. The target vehicle's ECM is a Target Number penalty to the roll. The roll is also adjusted for the attacking vehicle's speed modifier and the attacker's action points. Remember that the target must be within range of the weapon system for it to be acquired.

On the following round, Preston attempts to acquire the enemy fighter sub. Preston has Remote Weapons 4, while his fighter sub has Active Sonar 10 and the Incorporate sub has ECM 5. Preston's Target Number to acquire the enemy sub is 9 [(4 + 10) – 5 = 9]. The player rolls and succeeds. Preston's targeting computer identifies the vessel as a GenDiver fighter sub, locks on, and instantly plots a firing solution.

Once an attacking vehicle has locked its targeting computer onto an enemy vehicle, the pilot may fire the weapon system in his next action. These attacks will often be launched at significant ranges, so the Game Master will need to determine how many Action Rounds it will take the weapon to impact its target. At close and short range, the weapon impacts on the same Initiative count it

is launched, just like a conventional weapon. At medium range, the weapon impacts at the end of the round it was launched. At long range, the weapon impacts at the end of the round the round after it was launched. At extreme range, the weapon impacts at the end of the round two rounds after it was launched.

The two fighter subs are at extreme range. If Preston fires at this range on round one, the torpedo will not reach the target until the end of round three.

Evasive Maneuvers

There will often be enough time between a target vehicle being acquired and the guided weapon reaching its position that the pilot of the targeted vehicle will have a chance to shake-off the target lock of the incoming weapon. A pilot can only attempt evasive maneuvers against one incoming weapon at a time. The vehicle's ECM represents a Target Number bonus to the success roll, while the Guidance of the incoming weapon represents a Target Number penalty.

Preston launches a torpedo and the pilot of the Incorporate sub attempts evasive maneuvers. The pilot has Piloting 6, his sub has ECM 5, and the torpedo has Guidance 10, so his Target Number for evasive maneuvers is 1.

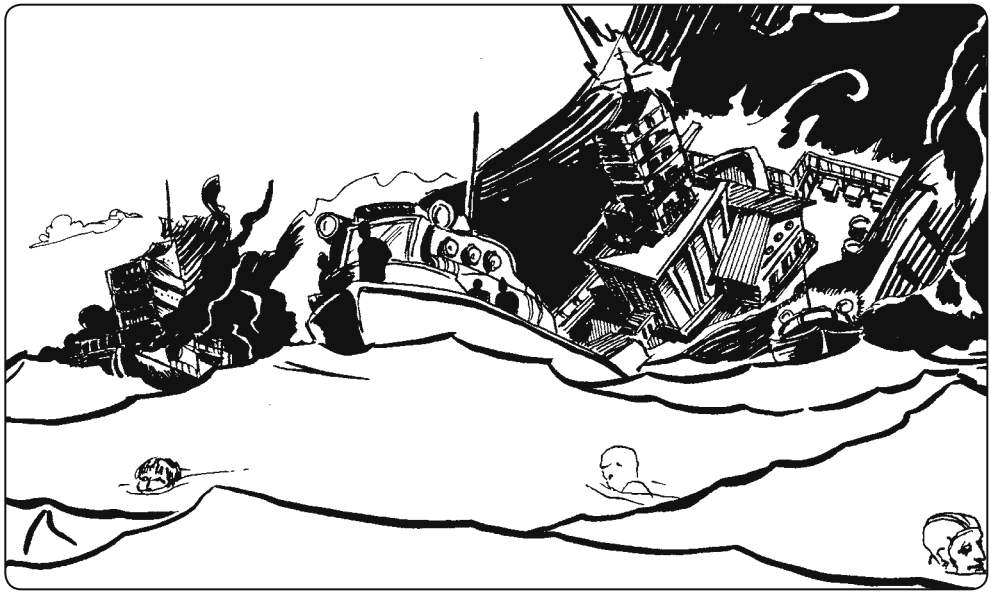
There is no attack roll for guided weapons as there is for unguided weapons. Modern electronics and weaponry are well-proven technologies, and short of a catastrophic failure, the weapons will find their targets. Unless the pilot of a target-locked vehicle successfully executes evasive maneuvers, the guided weapon will hit. When the weapon hits, the attacker should roll for damage as described in Vehicle Damage below.

Note that called shots with guided weapons modify the weapon's Guidance — and therefore the target pilot's evasive maneuvers — rather than the target acquisition roll.

Preston programs his torpedo to position itself above the Incorporate sub and strike the top of the cockpit. Preston is willing to take a –3 penalty on this called shot, so the torpedo's Damage Rating will be increased by 3. This reduces the torpedo's Guidance from 10 to 7, increasing the Incorporate pilot's Target Number for evasive maneuvers to 4.

Vehicle Damage

Damage to vehicles is resolved just like it is for living targets. All vehicles have an Armor Rating that is subtracted directly from the Damage Rating of the attack. Three 10-sided dice are rolled against this modified Damage Rating, and the result determines the attack's damage level — the vehicle equivalent of wound levels. There are three damage levels — minor, serious, and critical — and they have specific effects similar to those for wounds. All vehicles also have a special attribute, Durability, that serves the same purpose as Psyche and Physique in determining the effects of wounds on living targets.



Minor Damage

The vehicle has sustained enough damage to impair its performance, and the operator receives a –1 TN penalty to all maneuvers attempted with the vehicle. The attack was not severe enough to render the vehicle inoperable.

Serious Damage

The vehicle has sustained significant damage, and the operator receives a –2 penalty to all maneuvers attempted with the vehicle. Also, the operator's player should make a Durability roll, applying only the impairment penalty for this specific attack. If the roll succeeds, the vehicle continues operating subject to the –2 impairment penalty. If the roll fails the vehicle's speed ratings are halved. If the roll fails by 5 or more the vehicle shuts down immediately and may crash, at the Game Master's discretion.

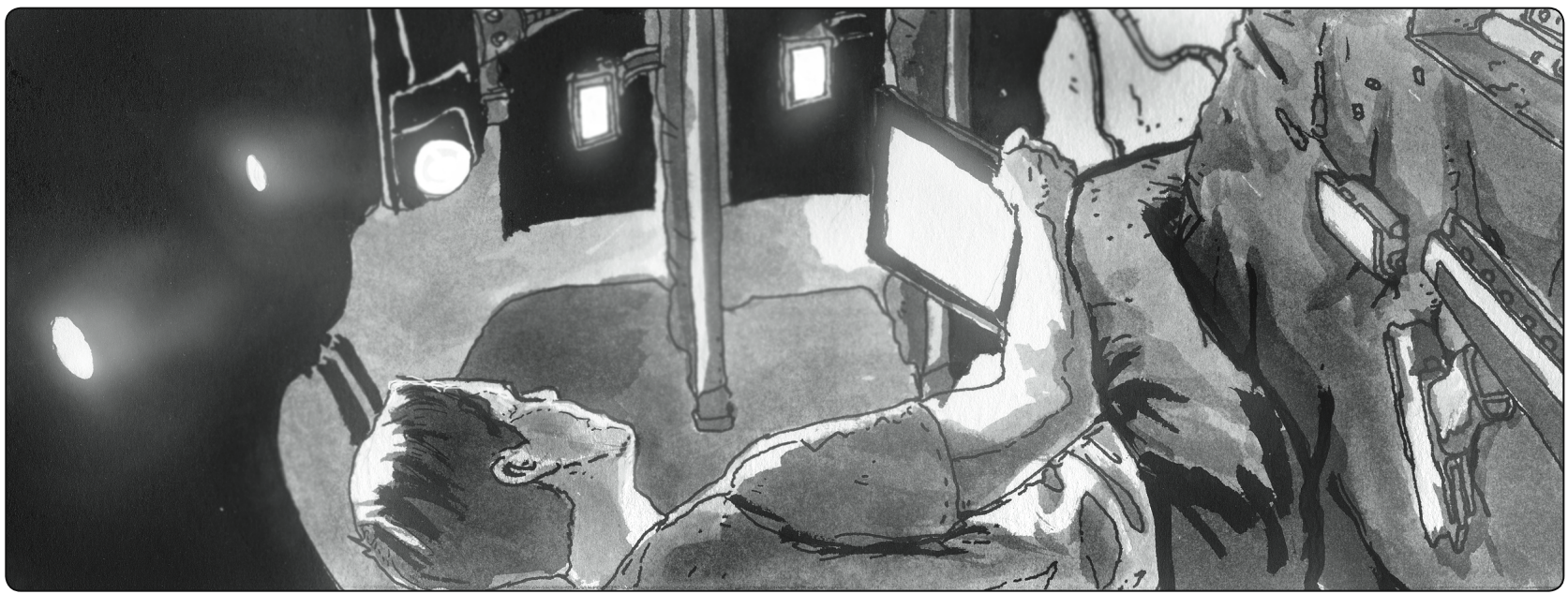
Critical Damage

The vehicle has sustained severe damage, and the operator receives a –3 penalty to all maneuvers attempted with the vehicle. In addition, the operator's player should make a Durability roll, applying only the impairment penalty for this specific attack. If the roll succeeds, the vehicle's speed ratings are halved but it may continue operating subject to the –3 impairment penalty.

If the roll is failed the vehicle shuts down immediately and may crash, at the Game Master's discretion. If the roll is failed by 5 or more the vehicle is destroyed and the occupants suffer a wound equal to the Damage Rating of the attack.

Marshal Church fires his Peacemaker at a group of poachers in a beat-up jumpcraft. The base Damage Rating for the Peacemaker is 8, but the jumpcraft has an Armor Rating of 5, so the modified Damage Rating is 3. Church's player rolls three dice, getting 8, 2, and 1. The bullet smashes through the body of the jumpcraft and penetrates the vehicle's fuel cell, causing serious damage. The jumpcraft has Durability 0 and the impairment penalty for serious damage is –2, so the Target Number for the Durability roll is 3. The Game Master makes the roll, getting a 9 and 5, for an Action Value of –2. The roll failed by less than 5, so the vehicle is still functioning, but its speed ratings are halved.

CHAPTER 4: HARDWARE



GENERAL TECHNOLOGY KEY

In the world of BLUE PLANET, technology is interwoven with daily life, and most of Poseidon's inhabitants depend on it for survival. In the game of BLUE PLANET, there are certain conventions that facilitate the use of technology in play.

Unless specifically noted, these conventions generally apply to the descriptions in this chapter, **Chapter 5: Weapons** (p. 177), and **Chapter 6: Biotech** (p. 209).

Description

This is a description of the typical construction and function of a particular device. In a world where technology is always being improved, there is always variation between designs. These descriptions present the average capabilities, functions, and statistics for a given device. If the item has any special rules associated with its use or function, they are also explained here.

Dimensions

These values represent the average size and weight of the described item.

Power Source

This identifies the typical power source, if any, for a given item.

Rigging Value

This is a description of how easy it is to repair, modify or or otherwise tamper with a piece of equipment.

Basic: These types of equipment are easily modified or repaired, even without special tools or spare parts. Characters modifying or repairing this kind of equipment receive a +1 TN bonus.

Standard: This sort of hardware requires at least basic tools and specific parts for modification or repair.

Impossible: These devices are impossible to modify or repair without the resources and engineering skills used to manufacture them. Even then, it still may not be sufficient to allow modification or repair. Many "throw-away" devices, such as small electronics, fall into this category.

Durability

This is a description of the relative dependability and ruggedness of a piece of equipment. The Game Master should use durability to gauge the level of use and abuse a device can take before failing to function. If a piece of equipment is damaged, the player must make an attribute roll against the device's Durability to determine the extent of damage.

Legality

This describes any legal restrictions on possessing or using a specific item. Legality can vary widely depending on legal jurisdiction, especially among the Incorporate. The legal statuses provided are in accordance with GEO statutes.

Legal: The possession and use of these items are unregulated.

Restricted: These items usually require some form of license or permit for possession or use, or have regulations restricting the time or area of use of the item. This includes items that only certain people are allowed to possess, such as soldiers or law enforcement.

Proscribed: These types of equipment are prohibited for all people all of the time.

Healing Time

General only applicable to biotech, this is how long it takes to recover from the medical operation required to implant or attach the tech.

Availability

This is a description of the relative availability of a device. There is no connotation of legality, only of abundance. An item may be abundant and still be illegal.

Very Common: The item is easy to find and can be bought almost anywhere.

Common: The item is available in many places and can be obtained with minimal difficulty.

Uncommon: The item is somewhat unusual and can be obtained only in specialty shops.

Scarce: The item is difficult to find and may require special knowledge or contacts to obtain.

Rare: The item is extremely difficult to find because of such factors as production difficulty, expense, or legality.

Cost

This represents the standardized relative value of an item, in corporate scrip, with no regard to its legality or availability. Legally restricted or hard to find merchandise will fetch higher prices, regardless of their standard cost.

Because of the extreme variety of circumstance in BLUE PLANET, Game Masters should consider availability, legality, and the character's situation before setting a final price for a given piece of equipment.

Some equipment descriptions contain additional information regarding function or use. Consider these where applicable.

Fire Modes

This lists the types of fire a weapon is capable of; single shot, burst and automatic. It is represented in the format S–B#–A#.

S is single shot, one shot per pull of the trigger. B# is burst fire; the number is the amount of rounds fired per burst. A# is automatic fire; the number is the amount of rounds fired on automatic.

Damage Rating

This is the value for a given weapon's damage potential.

Recoil/Delay

This is the number of initiative counts the weapon delays the character before he may act again. Recoil is used for firearms, while delay is used for non-firearm weapons and general actions. These values are not used if the optional Static Initiative System (p. 94) is being used and they are not used in vehicle combat (p. 107).

Armor Rating

This is the value of the protection offered by a given type of armor.

Ranges

These are the effective weapon ranges for a given weapon, listed for point blank (P), short (S), medium (M), and long (L).

Form

This describes the form that a dosage of a medication or drug takes: tablet, injection, patch, or other.

Dosage

This describes the frequency of use or duration for a given drug.

TECHNOLOGY

Since the launching of the Athena Project, the colonization of Poseidon has required extensive technological resources. While the technological infrastructure of the colony world received a stunning blow during the Abandonment, post-Recontact efforts have resulted in a technological resurgence that extends from Poseidon's major settlements into the most isolated native villages in the water world's outback. The resurgence is not limited to incorporate production. Dozens of small companies, formal and family owned both, have sprung up since Recontact. Many of these businesses have competed successfully with the incorporates despite not claiming a significant market share. However, on a world like Poseidon where barter is still a major economic force, this is less of a drawback than one would expect.

For all but the most conservative natives, technology marks the difference between death and survival on the colony world. While Poseidon's industrial capability remains underdeveloped, an increasing percentage of the hardware available on the colonial markets is manufactured on the planet. The formidable cost of shipping durable goods from the Solar System has provided a powerful incentive for the development of planet side manufacturing efforts.

CONSTRUCTION

While much of the hardware either produced or in common use on Poseidon is identical to that available on Earth, there are a number of differences that will be readily apparent to the newcomer. The most obvious characteristic of equipment manufactured or designed for use on Poseidon is its durability. Virtually every mechanical or electronic device is designed to function while immersed in saltwater — or at least, to survive prolonged exposure with no ill effects. Wherever possible, hardware is constructed of non-corrosive alloys, ceramics, and bioplastic.

For applications in which this impossible, such as many microelectronic components, the entire electronic assembly and its power source are cased in environmentally sealed, non-conductive polymers. These polymers are designed to be depolarized by high levels of specific radio frequencies. The intensity of the radio waves can change the consistency of the polymer from its normal rock-hard state to that of thick clay, allowing it to be molded around objects. If intense enough, the polymer flows like water under the radio bombardment. In the latter case, it can be dissolved in fluorocarbon-based solvents to remove all traces from the equipment being serviced, and a simple distilling apparatus allows recovery of the material and solvent for reuse when repairs are completed. Structural and armor polymers do not have this vulnerability and are used on a device when the internal components are meant to be tamper-proof. Chipping the material away without damaging the contents is very difficult — more

so if the manufacturer designs it specifically to prevent reverse engineering.

As a result of this extreme level of environmental sealing, hardware manufactured on or designed for Poseidon utilizes non-contact ports for almost all input and output. Induction pads, rather than connecting plugs, are used to recharge batteries. Information is transferred via ultra-low-power radio or short-range optical links. There is no metal-to-metal contact that might be corroded or compromised by the environment. Every portable device that requires power has its own internal battery. For long-term use, an inductive charger is plugged into a household or vehicle power source, or linked to a kinetic generator. Electronic standardization means that quite complex devices can sometimes be assembled from other components and subassemblies, with the assembled device simply encased in a larger mold of foamed bioplastic.

Technology Level

Due to the unique history of the colonization effort, the level of technology on Poseidon varies widely. Modern gear found in the orbitals, major colonial settlements, and company towns requires specialized industrial infrastructure to manufacture and maintain. Outlying, isolated areas or those with weaker economies and limited industry make do with what they can design, build, maintain, and repair themselves. Despite the lack of large scale manufacturing infrastructure, communities with small manufacturing companies or co-ops can still turn out quite sophisticated products. The mass importation of small scale manufacturing equipment right after Recontact has made it rather easy for small businesses to set up shop. These companies turn out equipment just as good, if not better, than what the incorporates produce, albeit at a lower production rate and slightly higher cost.

Many new arrivals to Poseidon arrive with equipment they purchased on Earth. This equipment often gets junked or sold for discount prices when the newcomers find that local equipment is almost always superior, having been designed and built precisely for the local conditions, rather than being modified from tropical or underwater Earth equipment.

This imported equipment can often be had for a small percentage of its normal price but always has some drawbacks. It might be cased in stainless steel and weigh six times as much as normal. A weapon might use difficult to procure ammunition, electronics might not be compatible with the local CommCore network protocols, the anti-fungal additives might not be precisely applicable to the local environment, and so on. Many skilled mechanics purchase such equipment at huge discounts, then upgrade and modify it for use on the waterworld. This "rigged" gear is often available at discounts up to 50% and can serve as inexpensive backups or temporary replacements for even veteran colonists.

Manufacturers

On Earth, there are literally thousands of companies both large and small involved in general manufacturing. Only a handful of the Incorporate states, however, have the resources to either transport finished goods to Poseidon or maintain full-scale planet side manufacturing and distribution operations. Of these, Hanover Industries and the Nippon Industrial State control the vast majority of the colonial market. Other Incorporate states support smaller operations in specialized industries, such as Hydrospan's leading role in the manufacture of underwater equipment and cetacean technology or Lavender Organics' prominent position in the computer industry.

Both Hanover and the NIS have established extensive manufacturing facilities on Poseidon. Based in the company towns of Lebensraum and Simushir, these factories are turning out an increasing variety of consumer goods designed for use on the waterworld. Due to the still-limited availability and relatively high production costs of these goods, prices remain very high in the colonial markets. However, the Hanover and NIS manufacturing efforts — and to a lesser extent, those of the other major Incorporate states — have at least begun to address the extreme shortages of finished goods on Poseidon. A colonist may have to pay a premium for products manufactured in Lebensraum or Simushir, but it's far less likely that he'll be placed on a lengthy waiting list, as was the usual case only a couple years ago.

Small companies and family businesses have found their niche by focusing on a smaller array of products and producing the highest quality possible. The native Kriegmann family is a prime example of the philosophy of smaller companies. Kriegmann produces only one item, the Kriegmann semi-automatic shotgun. But they handcraft the shotgun to such a high level of precision that both Hanover Arms and MacLeod Enforcement have offered to buy the design rights since the Kriegmann outperforms any shotgun either one currently manufactures. Many other companies have followed suit and now even remote native settlements have access to modern, high-tech equipment.

MATERIALS

BIOPLASTIC

Bioplastic is the mainstay of modern materials technology. Hailed as one of the first truly universal applications of genetic engineering, bioplastic is produced by artificial microbes. Developed from bacteria, "plastrobes" shell themselves in layers of organic plastics. As a colony grows, the inner layers die while the outer layers continue laying down plastic, analogous to growth in coral reefs.

Bioplastic wash is a combination plastrobe colony/nutrient bath that is poured or injected into molds. In just under 12 hours, the microbes grow to fit the mold, converting the nutrients into bioplastic. In just under 24 hours the last of the colony dies and the plastic is fully cured. Raw bioplastic is an off-white but dyes of any color can be added during production. There is even one species of plastrobe that produces translucent bioplastic. Commercial washes are available and favored by industry. On the frontier, however, bioplastic cultures are continuously tended and fed with various on site nutrients. The resultant plastics therefore are of variable quality and production rates are usually much lower.

The ubiquitous nature of bioplastic in modern manufacturing is simple; plastrobes can convert virtually any organic material into bioplastic. A settlement can use everything from spoiled food to sewage to be the organic base for bioplastic production, resulting in a high level of recycling. Even worn, fungus-eaten and broken bioplastic can be broken down and recycled into new bioplastic.

Shatter- and warp-resistant bioplastic is easily sawed or melted. Special adhesives have been developed that chemically bond bioplastic to itself. Most modular bioplastic construction is held together with these glues. On Poseidon, fungicides are usually added during production to prevent the various native microbes from degrading the material. Bioplastic dominates the materials industry and is used to make everything from houses and vehicles to guns and cybernetic components. New applications and plastrobe species are under continuous development. Without the low cost and unique versatility of bioplastics, it is possible that humanity might still be confined to Earth.

Various species of plastrobes and specific nutrient additives produce a variety of bioplastic grades, each with specific advantages.

Flex Grade Bioplastic

Various nutrient supplements control the flexibility of bioplastic so that stock of any temper can be produced.

Dimensions: 0.45 kilograms/liter
Availability: Very Common
Cost: 7cs/100 liters

Foamed Bioplastic

Certain species produce excessive carbon dioxide while growing, creating tiny gas pockets throughout the plastic. As a result, this plastic is much lighter than other grades, and is very common in boat and settlement raft construction.

Dimensions: 0.08 kilograms/liter
Availability: Very Common
Cost: 5cs/100 liters

Industrial Grade Bioplastic

Industrial grade bioplastic is produced by the smallest plastrobes, and consists of extremely fine fibers. Industrial plastic is very dense, slower growing, and more expensive. It is, however, essentially unbreakable. Industrial plastic is commonly used to manufacture starship and submarine hulls, armor, bullets, and machine parts.

Dimensions: 0.5 kilogram/liter
Availability: Uncommon
Cost: 15cs/100 liters

Standard Grade Bioplastic

Cheap and fast-growing, this is the most common type of bioplastic. Standard grade is hard and rigid and ubiquitous in construction.

Dimensions: 0.35 kilograms/liter
Availability: Very Common
Cost: 5cs/100 liters

ELECTRICALLY ACTIVE POLYMERS

Electroflex™ and Polyflex™ are specific brands of a class of high strength plastic polymers that react in various ways to the flow of electric current. Electroflex is a hard, rigid plastic that becomes flexible along the flow axis when subjected to electric current. Polyflex is normally a pliable, flexible plastic, but stiffens and becomes rigid when electrified.

There are hundreds of commercial and industrial uses for these materials in everything from aeronautics and cybernetics to medical and military applications. One common use of Polyflex is in the manufacture of protective clothing and personal body armor. Integrated with industrial

bioplastic fibers, woven Polyflex cloth makes for effective and uniquely comfortable protection.

Dimensions: 1.4 kilograms per liter
Power Source: Various
Rigging Value: Impossible
Durability: 3
Legality: Legal
Availability: Common
Cost: 150cs per liter

Environmental Sealing Polymer

Enviroseal™ is a brand name for a class of unique artificial polymers with molecular structures that are altered by specific low-energy electromagnetic frequencies. Enviroseal is not as cheap or durable as bioplastic, but it can be molded, poured, and reused with ease. When exposed to low band emissions, enviroseal softens and flows. This makes the substance easy to manipulate, inject into forms, and pack around small or complex components. When the exposure stops, the polymer cures and quickly hardens in its new shape. Enviroseal™ has countless applications and is commonly used to embed electronic circuits and other fragile components to protect them from shock, impact, and the elements.

Dimensions: 1.4 kilograms/liter
Power Source: None
Rigging Value: Basic
Durability: 3
Legality: Legal
Availability: Very Common
Cost: 80cs/100 liters

Diamond Glazed Plating

DGP or glaz is typically used when strong, truly transparent structures are required. Glaz is made of synthetic plastics sandwiched between layers of diamond laminate and is commonly used for armored windows and vehicle windscreens. The material is shatter- and scratch-resistant and can withstand years of abrasion with little wear. Glaz is relatively expensive to manufacture, especially in larger panels. It is therefore only used when cheaper alternatives are unacceptable.

Dimensions: 1.6 kilograms/liter
Power Source: None
Rigging Value: Basic
Durability: 4
Legality: Legal
Availability: Common
Cost: 110cs per liter

Structural Ready-Molds

Many pilot colonies, scientific outposts, and temporary military camps on the frontier depend on ready-molds, or EZ-molds, for their infrastructure. EZ-molds are full size, inflatable structural forms that contain dormant, foamed bioplastic wash. When activated with an infusion of water, the plastrobes grow rapidly, and in just a couple hours, expand the forms into rigid, durable, semi-permanent structures. Ready-molds are available for dozens of structural forms, including cabins, huts, storage sheds, vehicle hangars, cisterns, docks, and comm towers. More expensive models are available that contain interior dividers, integrated electrical wiring, and transparent window panels. For double the cost of the standard mold, customers can even have custom structures produced.

EZ-mold buildings and structures are durable, but not intended for permanent habitation. Once the plastic skin of the mold begins to wear, the foamed bioplastic beneath is subject to fast fungus infection, and the structure begins to degrade. Anti-fungal additives slow the process, but even then, most EZ-mold buildings, especially in the outback, are seldom habitable for more than six or eight months.

Dimensions: 3 to 350 kilograms packed and folded, variable when inflated.
Power Source: None
Rigging Value: Basic
Durability: 1
Legality: Legal
Availability: Uncommon
Cost: 55cs to 1,450cs

Armoring

The Armor Ratings for various common materials are listed below. The ratings are given for one centimeter thicknesses and are modified by +1 each time the thickness is doubled.

A one-centimeter-thick industrial bioplastic armor plate has an Armor Rating of 9. If it were two centimeters thick, it would have an Armor

Material (1 centimeter)	Armor Rating
Bioplastic, Flex grade	3
Bioplastic, Foamed	3
Bioplastic, Industrial	9
Bioplastic, Standard	6
Environmental Sealing Polymer (Enviroseal)	3
Electrically Active Polymer (Polyflex)	6
Diamond Glazed Plating (Glaz)	3

Rating of 10, and if it were 4 centimeters thick, the rating would be 11.

Note that these numbers are higher than the Armor Ratings of various types of body armor that employ these materials. This is because the ratings of body armor are abstracted to represent both the degree of coverage and the grade of the armor.

POWER SUPPLIES

On Poseidon, electricity powers almost all forms of personal technology. Survival equipment, tools, computers, guns, and even many vehicles are typically powered by rechargeable, often integrated, batteries. On a larger scale, orbitals, starships, and major settlements rely on fusion reactors, benefiting from cheap and effectively unlimited electricity and distributing it via superconductor powergrids. Other localities exploit Poseidon's abundant wind, wave, or solar potential as smaller scale but sufficient power sources.

Fusion Reactors

The history of controlled nuclear fusion began in 1950 in the Soviet Union when Andrei Sakharov and Igor Tamm designed the Tokamak, "toroidolnya kamera ee magnetnaya katushka" (toroidal chamber and magnet coil). In spite of intense international competition, the first fusion reactor did not reach breakeven — actually produce more energy than it used — until 2007 when it was achieved by Japan's Yoshikawa reactor. The first commercial deuterium-tritium fusion reactor began producing energy in 2019. With costs comparable to those of fission plants, fusion plants remained relatively rare until the last half of the 21st century. The breakthrough came in 2057 when McCluskey's Starfire reactor design, a modified Yoshikawa, demonstrated such a great increase in efficiency that all existing fission and fusion reactors were replaced by "McCluskeys" within a decade.

Starfire reactors, colloquially referred to as McCluskeys, are reversed field pinch, deuterium-deuterium reactors that utilize plasma shaping and nuclear-spin polarized fuel to increase efficiency. The energy produced by a McCluskey consists of highly-energetic neutrons that superheat the transfer fluid to drive a turbine to produce electricity, and even with modern materials the turbine weighs more than the reactor itself. Lightweight, low-activation ceramic composites are used as shielding around the reactor core and comprise about one third of the mass of a typical commercial reactor.

A few modified Yoshikawas using deuterium-helium–3 reactions are also in use. Helium–3 is an extremely rare element mined from the moon and the asteroid belt, however, the deuterium-helium–3 reaction produces highly energetic protons that can produce electricity by direct electromagnetic conversion. Since they don't need a turbine, modified Yoshikawas are half the mass of comparable McCluskeys and are used in circumstances where their small size compensates for their exotic fuel requirements.

With advances in materials technology and high-temperature superconducting electromagnets, modern reactors range in size from two to several hundred tons. The smallest reactors can be used to power industrial and military vehicles, and the largest provide electricity to urban power grids. Fusion reactors are effective, clean, and efficient but they are not cheap, ranging in cost from three to 150 million scrip. Fuel costs for McCluskeys over their typical 30-year operating life are less than 10% of the cost of the reactor. Yoshikawas are universally smaller and less expensive, but the annual cost of their fuel is typically 10 to 15% of their cost.

Modern fusion reactors are failsafe since the plasma cools quickly if the reaction is interrupted either on purpose or by accident. The energetic particles produced during operation are lethal even in small amounts, but the reactor core shielding normally absorbs all of them. However, reactor shielding that is used past its designed lifetime of 30 years begins to "leak" neutrons and can be very dangerous. The shielding itself acquires some residual radioactivity, but unlike fission byproducts, the radiation dose is small and decays rapidly with a half-life of about six months.

Dimensions: 2 to 225 metric tons
Rigging Value: Impossible
Durability: 4
Legality: Restricted
Availability: Rare
Cost: 3 million to 150 million cs

Hydrogen Still

Even though there are a growing number of fusion reactors on the colony world, Poseidon is powered primarily by fuel cells. Most of the hydrogen that in turn fuels these cells is produced by electrolysis of seawater using hydrogen stills.

Hydrogen stills are ubiquitous on the waterworld. Even the most primitive colonial outpost is dependent on some level of hydrogen cracking capability to at least fuel its electrical generators and vehicles. The smallest produce only a few liters of liquid hydrogen per day, while the largest can collect hundreds of thousands of liters per day. Stills are typically set up on beaches or docks for ready access to a water supply. They can be equipped with storage tanks, integrated into pipelines, or they can fuel vehicles directly.

Dimensions: 12 kilograms to 3 metric tons
Power Source: Various
Rigging Value: Impossible
Durability: 0
Legality: Legal
Availability: Common
Cost: 1,850cs to 4,500,000cs

Kinetic Generator

Kinetic generators are a class of integrated devices that are used to harvest the energy inherent in the repetitive body movements of the user. Depending on the application, kinetic generators are tiny pump, gear, or electrostatic assemblies that generate a trickle charge that is used to power tiny, integrated storage cells or capacitors. Kinetic generators are common technology in gill and wet suits, body armor, thermal clothing, and even hiking boots.

Dimensions: 0.1 kilograms
Power Source: None
Rigging Value: Standard
Durability: 0
Legality: Legal
Availability: Common
Cost: Included in powered item cost

Solar Panel

For low power applications or use in remote locations, solar panels are a common and reliable source of power. Most panels consist of thin semiconductor film plated onto semi-rigid bioplastic sheets. The resulting panels are durable, flexible, and resist minor damage. They can be rolled for storage, glued or nailed to convenient surfaces, and can suffer small punctures without significant performance loss.

Solar panels supply full power in normal sunlight, one quarter in overcast conditions, and no power in darkness. They can be used to power low demand devices or to trickle charge batteries. Normal output is about 3,000 watt-hours per day per square meter, and each square meter has a mass of 0.5 kilograms and almost negligible volume.

Permanent panel arrays are designed to be furled or taken down in the event of severe weather, but many low-power consumer items have solar panels incorporated into their designs. This increases the base cost by 10%, but as long as the device receives frequent exposure to light, it can be assumed to always be adequately charged. Bodycomps and communication gear typically include integral solar chargers.

Dimensions: 200 grams
Rigging Value: Impossible
Durability: 2
Legality: Legal
Availability: Very Common
Cost: 90cs per square meter

Windcutter

Strong winds are common throughout most of the Pacifica Archipelago, and in many remote areas wind can be harnessed as a reliable power source. A windcutter is a 300-watt wind turbine with reliable design and a rotor sweep of about one meter. It can be permanently mounted or used with a versatile telescoping mast. On land, ocean-land wind cycles provide several hours of reliable power per day for an average output of at least 2,000 watt-hours a day. Cutters are quiet, self-adjusting, and built to withstand the extremes of Poseidon's weather with little maintenance. Small wind farms are common sights in some remote regions and often serve as a village or colony's primary power source.

Dimensions: 10 kilograms
Rigging Value: Standard
Durability: 3
Legality: Legal
Availability: Very Common
Cost: 500cs

Batteries

Most portable electronic devices need batteries to function. In 2199, batteries are room-temperature superconductors made from ceramic compounds. Batteries of high capacity and more or less infinite numbers of recharges are the norm. Batteries typically hold about 600 watt-hours per kilogram, or 2,100 Joules per gram, which is perhaps double the power of non-rechargeable late 20th-century batteries and several times better than rechargeable ones. Batteries mass about 1.5 kilograms per liter of volume, for a power storage capacity of about 900 watt-hours per liter. Batteries come in several standard sizes, suitable for most applications. Most battery-powered devices use enough cells to provide at least 50 hours of

continuous operation or several months of intermittent use. Most electronic devices contain a small induction coil for recharging. Homes and vehicles usually come equipped with one or more induction pads, which can fully charge anything up to several heavy duty cells in an hour or less, just by placing the electronic device on the pad. A chime or visual alert lets the user know when recharging is complete.

Nano Cell

About 10 microliters in volume (smaller than a freckle), they have negligible energy capacity and are used in small disposable items, such as medical probes or audio bugs that transmit occasional microwatt data bursts. Range of such infrequent transmissions is no more than about a hundred meters. Typically, a nano cell is integrated with the chip it is designed to power during the fabrication process. Devices that use nano cells have such low power consumption that they can often recharge by absorbing power from the ambient radio or electrical energy leaking from other devices (a tuned induction coil on the integrated circuit handles this function). Nano cells have negligible cost and are usually factored into the cost of whatever device they are integrated into.

Dimensions: Less than a gram
Rigging Value: Impossible
Durability: –3
Legality: Legal
Availability: Very Common
Cost: As part of device

Micro Cell

At one milliliter in volume (the size of a fingernail), these are the smallest consumer batteries. They are used in low-power electronics like calculators and tiny radio receivers. They only hold a fraction of a watt-hour of energy and cost about 1cs each.

Dimensions: Less than a gram
Rigging Value: Impossible
Durability: –2
Legality: Legal
Availability: Very Common
Cost: 1cs

Mini Cell

This is the second most common battery in use, with a volume of about one centiliter and a mass of about fifteen grams (a bit larger than a tablespoon). These are used singly or in combination in weapon sights, pistols, hand-held sensors, small radio receivers, and bodycomps. They hold about nine watt-hours of energy each and cost about 2cs.

Dimensions: 15 grams
Rigging Value: Impossible
Durability: –1
Legality: Legal
Availability: Very Common
Cost: 2cs

Standard Cell

This is the most common cell in use, with a volume of about seven centiliters and a mass of about 100 grams (about the size of a 21st-century "D" battery). These are used singly or in combination in rifles and heavy weapons, stun weapons, flashlights, portable computers, radio transmitters, and other portable devices that require more power than a mini cell. They hold about 60 watt-hours of energy and cost about 10cs each.

Dimensions: 100 grams
Rigging Value: Impossible
Durability: 0
Legality: Legal
Availability: Very Common
Cost: 10cs

Heavy Cell

This is the largest consumer cell and has a volume of about a liter. Heavy cells are used singly or in combination to power the circuits of heavy weapons, environment suits, and high-power radios, or as vehicle backup power. They hold about 900 watt-hours of energy and cost about 100cs each.

Dimensions: 1.5 kilograms
Rigging Value: Impossible
Durability: 1
Legality: Legal
Availability: Very Common
Cost: 100cs

Industrial Cell

These are very large units manufactured for a specific purpose, such as powering a minisub. Energy storage is dependent on size, and the cost is about 50cs per liter, each liter holding 900 watt-hours of energy. They may be available on the consumer market after being stripped from junked vehicles, but getting a specific size or configuration is unlikely.

Dimensions: Varies
Rigging Value: Impossible
Durability: 2
Legality: Legal
Availability: Common
Cost: 50cs per liter

Fuel Cells

For large applications or long-term use, fuel cells are the preferred method of generating electrical power. Fuel cells combine stored hydrogen and atmospheric oxygen to generate electricity. With liquid oxygen storage, they can also be used underwater, though the usual application is to use a fuel cell on the surface and batteries underwater. Fuel cells contain integrated hydrogen crackers, which can strip the hydrogen from any hydrocarbon for use in the fuel cell. Some localities store their hydrogen in metal hydrides, producing the hydrogen by fusion-powered electrolysis of water. Others mine deep water methane deposits, and a few use refined hydrocarbons.

Fuel cells produce about 1 kilowatt of power per liter and have a mass of about 1 kilogram per liter. The byproducts of using a fuel cell are hot water or steam (which can be used for drinking or bathing purposes), and if a hydrocarbon is used as the base fuel, a carbon-containing sludge that must periodically be emptied from a holding tank. Many self-sufficient homes have a 20-kilowatt fuel cell as a permanent fixture that serves several purposes. As a small, efficient power source, it can be located so that even if a solar or wind farm were destroyed by severe weather, the fuel cell would probably survive. If the solar and wind farms produce more power than the home's battery bank can take, the excess power can be used to crack hydrogen and oxygen for later use by the fuel cell or a fuel cell-powered vehicle. Last, since a natural byproduct of the fuel cell is hot water, it is often a home's hot water heater, adding a boost to solar-heated water and recharging batteries at the same time. The hot steam can also be used with a hose to scour fungus off of walls and boat hulls.

Fuel cells consume about 1 kilogram of fuel per 10 hours of operation. Fuel cells cost about 100cs per liter, with a minimum size of about 20 liters. Most storage tanks mass about 2 kilograms per liter when full, cost 20cs per liter, and store 1 kilogram of hydrogen. Hydrides have a minimum mass based on the metal part of the hydride, while methane or other hydrocarbon tanks have waste mass associated with the unused carbon part of the hydrocarbons. Hydrides are safer and the preferred storage, but hydrocarbon tanks are simpler to refuel and do not require any extra manufacturing steps as metal hydrides do. Fuel supplies with integrated oxygen storage can be used underwater or in vacuum, but the fuel consumption is tripled because on-board oxygen is used.

Dimensions: At least 20 kilograms
Rigging Value: Impossible
Durability: 2
Legality: Legal
Availability: Very Common
Cost: 100cs per liter

POWER TOOLS

3AX

This item is a three-axis machining device. Not all parts molded from bioplastic are perfect — small parts need hand-finishing and precise parts need to be machined from blocks of bioplastic. A 3AX is a spider-like device a little less than a meter in diameter containing precise inertial positioners and a handful of interchangeable diamond-tipped machining tools. If given a proper program and room to work, it can carve all but the smallest objects out of any kind of bioplastic. For very large items it simply starts at one end and crawls its way to the other. Because of its very slow and precise maneuvering, it has no combat potential unless the target is sleeping or unconscious. Items of low complexity can be machined at a rate of one liter per minute. Complex items require 10 times as long, with a minimum of a minute for any item.

A 3AX is not as fast or efficient as an industrial assembly line, but with the proper database it can carve out just about any purely mechanical device. Complex devices require precision assembly from the parts created. A 3AX can work for about an hour on a heavy cell but is usually tethered to a larger power source.

Dimensions: 5.0 kilograms
Power Source: Heavy cell
Rigging Value: Standard
Durability: 1
Legality: Legal
Availability: Uncommon
Cost: 3,000cs

Depolarizer

A depolarizer uses EM emissions to soften environmental sealing polymers. It has several settings and probes for area or pinpoint use. The device can affect a volume of approximately three liters at a range of no more than 20 centimeters. Depolarization has no effect on bioplastic.

Dimensions: 0.20 kilograms
Power Source: Mini cell
Rigging Value: Standard

Durability: 0
Legality: Legal
Availability: Scarce
Cost: 200cs

Multiple Axis Composite Builder (MAX)

This machine creates bioplastic parts and items by laying down layers of bioplastic to build the item. A complementary device to the 3AX, the MAX works in an opposite manner. The MAX is about 2 meters long, 1 meter wide and 1 meter high. The inside is mostly an open framework containing ten manipulator arms with bioplastic extrusion "heads". A vertical rod with a bioplastic starter sheet rises in the center of the machine.

When the MAX is activated, it reads the plans of the item from a database of models. It then directs the ten extrusion heads to begin building the item by laying down bioplastic on the starter sheet in layers so thin they harden almost instantly. The ten heads put down layers in cross grain patterns, resulting in an item with better durability than a molded part.

A MAX is fed by 2 tanks, one filled with liquid bioplastic the other filled with a hardening agent. The program and heads regulate the amounts of bioplastic and hardener to produce the item desired. Once completed, the item may be easily cut free of the starter sheet and will be ready to use. Items of low complexity can be machined at a rate of one liter in 5 minutes. Complex items require 10 times as long, with a minimum of about one minute for any item.

A MAX is not as fast or efficient as an industrial assembly line, but with the proper database it can create virtually any simple solid item or part. A MAX can work for about 3 hours on a heavy cell but is usually tethered to a larger power source.

Dimensions: 50 kilograms (including tanks), 2 meters long by 1 meter wide by 1 meter high
Power Source: External power source or heavy cell
Rigging Value: Standard
Durability: 1
Legality: Legal
Availability: Uncommon
Cost: 4,000cs, replacement tanks cost 50cs

Saser Torch

This is a short-range, industrial version of a saser weapon. A saser torch focuses its energy at a point three centimeters beyond its nozzle, and cutting power, depth, and spread are adjustable and computer controlled. The torch is effective as an underwater construction and demolition tool, with a contact Damage Rating of 10. It readily slices through corals and soft stone, and on wide focus it quickly strips organic encrustation from boat hulls. An integrated battery provides about one hour of power, and for extended use, an external power source is required.

The cavitation caused at the cutting point generates a large stream of bubbles, and ultrasonic interaction with the target makes the device sound like an underwater buzz saw. Though not practical as a melee weapon, a saser torch is extremely dangerous under the right circumstances.

Due to the powerful sonic output, cetaceans cannot tolerate proximity to active saser torches, and torches even give headaches to humans with unprotected ears.

Dimensions: 3.5 kilograms and 4 liters
Power Source: Heavy cell
Rigging Value: Impossible
Durability: 1
Legality: Restricted
Availability: Scarce
Cost: 1,250cs

Small-Scale Composite Builder (SCB)

This machine creates small bioplastic parts and items by laying down layers of bioplastic to build the item, similar in operation to the MAX but on a smaller scale. The SCB is the product of Kingston Creations, a small tech company based in the Cape Fortune parish of Kingston. The SCB was created to provide small settlements, businesses and entrepreneurs an affordable bioplastic fabrication machine. The SCB has been a massive success for Kingston Creations and has helped a large number of small businesses all over Poseidon. The SCB can store only one design model at a time in built-in memory, but may be attached to a bodycomp or maincomp to allow access to more models. It uses three bioplastic extrusion heads mounted on highly maneuverable rails to put down layers of bioplastic on a starter sheet. It is fed by two tanks, one filled with liquid bioplastic the other filled with a hardening agent. The program and head regulate the amounts of bioplastic and hardener to produce the item desired. Once completed, the item may be easily cut free of the starter sheet and will be ready to use. Items of low complexity can be machined at a rate of ½ liter in 1 hour. Complex items require 10 times as long, with a minimum of about 10 minutes for any item.

A SCB is not as fast as a 3AX or MAX, but can produce most items or parts up to half a liter in volume given the correct model. A SCB can work for about 14 hours on a heavy cell and can be hooked to a larger power source.

Dimensions: 5 kilograms (including tanks), 40cm wide by 18cm high by 35cm deep
Power Source: External power source or heavy cell
Rigging Value: Standard
Durability: 0
Legality: Legal
Availability: Uncommon
Cost: 400cs, replacement tanks cost 10cs

HEAVY PERSONAL ARMOR

Almost all body armor is made from either rigid or woven industrial bioplastic, sometimes both. Most is completely passive in nature, absorbing and redistributing the energy of an attack. More advanced armors may have active features such as phototropic camouflage ability.

COMBAT ARMOR

Combat armor is designed for high-risk military and security operations. Combat armor consists of laminated plastic/ceramic plates articulated into a full-body suit. This gear is expensive but well worth the money for combat situations. The armor is hot and heavy and uncomfortable. Most armor comes in a variety of camouflage patterns and includes a visored helmet, described below.

More expensive designs have integrated heating and cooling systems and phototropic surfaces. This causes the armor's surface to automatically match its surroundings, giving anyone visually searching for the wearer a –4 penalty. These versions also include integrated chemical protection suits that, with the airtight, filtered helmet, add an extra level of protection.



On rare occasions, combat armor has also been incorporated into EVA suits for use in space. Military boarding parties and orbital security forces favor this gear for obvious reasons.

Though custom padding and fitting straps reduce the encumbrance of combat armor, it still gives the wearer a –2 Coordination penalty.

Dimensions: 8 kilograms
Power Source: Unpowered or standard cell
Rigging Value: Impossible
Durability: 2
Legality: Restricted
Availability: Rare
Cost: 5,000cs for basic, 9,000cs for phototropic, and 2,000cs plus the cost of the suit for combat EVA gear
Armor Rating: 5

COMBAT ARMOR, REINFORCED

Reinforced combat armor incorporates the latest high density bioplastics with ceramic/titanium alloy composite plates, all articulated into a full body suit. Even more expensive than standard combat armor, it grants a little more protection against all types of weapons. Otherwise it is identical to combat armor.

Dimensions: 9 kilograms
Power Source: Unpowered or standard cell
Rigging Value: Impossible
Durability: 2
Legality: Restricted
Availability: Rare
Cost: 8,000cs for basic, 12,000cs for phototropic, and 2,000cs plus the cost of the suit for combat EVA gear
Armor Rating: 6

COMBAT HELMET

Combat helmets are made of industrial grade bioplastic and are therefore extremely tough. This gear protects the head and nape and includes a bullet resistant, slip-down visor. For the price of the given options, a combat HUD and an atmospheric filter

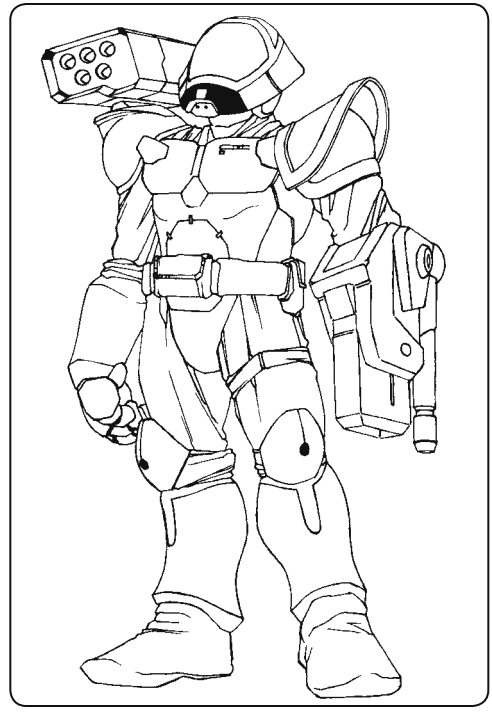
can be included. With the filter and the optional neck dam, or when sealed to a chemical protection suit, the helmet will protect the wearer against most chemical agents.

Dimensions: 0.89 kilograms
Power Source: Unpowered or standard cell
Rigging Value: Impossible
Durability: 2
Legality: Restricted
Availability: Common
Cost: 550cs plus options
Armor Rating: +1

Hard Target™ Armored Battledress

Designed by Atlas Materials' Defense Industries division, the Hard Target™ Armored Battledress is effectively a one-man, multi-environment combat vehicle. At present, it is still in field tests, with a number of systems up for consideration. Among the design team, one camp feels each suit should have full mobility, including hover turbines, while another feels that the MHD and thruster pack are unlikely to both be needed at the same time and that a hardpoint for mounting the appropriate unit is all that is required.

Common features of all battlesuits include full, state-of-the-art combat electronics, fuel cell and battery power supplies, and bacterial life support systems. Servomotors increase the wearer's effective Physique by 2 (3 in zero gravity or underwater environments), and finer computer control decreases Coordination penalties to 1. Weaponry is usually integrated into the suit, but standard handheld weapons can be used if needed. Standard armor is about 16 millimeters of industrial grade bioplastic, plus insulation and padding, for a base Armor Rating of 13. Four millimeters of ablative armor increase this rating by 12 against explosions and shaped charges. The ablative armor does not respond to explosions with a Damage Rating of 6 or less. Normally, all input is through remote sensors and a virtual HUD, but the armored faceplate can be lifted to reveal a diamond-plated glaz faceplate.



Getting in or out of a battlesuit typically takes several minutes for verifying proper seals and internal system checks. In the unlikely event of a catastrophic systems failure that immobilizes the wearer, the battlesuit can be blown open by a chin-operated eject switch that is independent of other circuits. This leaves the wearer with the equivalent of a light-duty space suit and the bacterial life support unit.

Dimensions: 150 kilograms
Power Source: Heavy cells, fuel cell
Rigging Value: Impossible
Durability: 4
Legality: Restricted
Availability: Unavailable
Cost: Unknown, estimated 50,000cs +
Armor Rating: 13 (25 against explosive weapons; see Ablative Armor, p. 271)

LIGHT BODY ARMOR

Phototropic Battle Dress Uniform (BDU)

Phototropic battle dress uniforms are heavy combat fatigues with several unique features. Their fabric is a weave of light industrial bioplastic fibers and therefore durable and tear-resistant, protecting the wearer against rocks, thorns, and even knife blows. Thermal circuitry in the weave keeps the wearer comfortable down to 10°C in air and 50°C in water. And, as in combat armor, phototropic surfaces cause the fabric to automatically match its surroundings, giving anyone visually searching for the wearer a –4 penalty.

Dimensions: 0.49 kilograms
Power Source: Standard cell
Rigging Value: Impossible

Durability: 0
Legality: Restricted
Availability: Common
Cost: 2,000cs
Armor Rating: 2

Personal Body Vests

Personal body vests are common and highly valued by law enforcement, private security, and "freelancers" alike. Body vests are made from densely woven, polymer reinforced bioplastic fibers. Multiple layers of this material and gel padding make the vest rather stiff, but very effective. Some designs incorporate removable plastic or ceramic plates to add additional protection.

Light Vest

Lightweight and fairly comfortable, this grade can be readily hidden under clothing.

Dimensions: 1 kilogram
Power Source: None
Rigging Value: Impossible
Durability: 1
Legality: Legal
Availability: Common
Cost: 300cs
Armor Rating: 2

Heavy Vest

Thicker, bulkier, and more confining, heavy body armor is obvious but effective. Wearing this grade of armor reduces Coordination by 1.

Dimensions: 1.5 kilograms
Power Source: None
Rigging Value: Impossible
Durability: 2
Legality: Legal
Availability: Common
Cost: 500cs
Armor Rating: 3

Reinforced Vest

Heavy body armor with integral plastic plating, this design cannot be worn under clothing. This armor is rigid and uncomfortable, and reduces Coordination by 2.

Dimensions: 3 kilograms
Power Source: None
Rigging Value: Impossible
Durability: 2
Legality: Legal
Availability: Scarce
Cost: 850cs
Armor Rating: 4

Polyflex Armor

Polyflex™ is a specific brand of high-strength polymer that alters its flexibility when exposed to electric current. In its default state, Polyflex is relatively light and flexible, with advanced impact sensors and high-speed microprocessors integrated into the vest's material. When a projectile contacts the material, the electric current is activated and the vest hardens in nanoseconds.

Polyflex armor will typically remain rigid when it detects and responds to several projectile impacts in a relatively short period of time. In these high-threat situations, Polyflex armor imposes a –1 penalty on the user's Coordination until the material returns to its flexible state. The processors in Polyflex armor are typically networked to the user's bodycomp, implant microcomputer, or combat HUD, so the armor's flexibility can be controlled automatically.

Assault Polyflex

Assault Polyflex is a thin, concealable vest with extension flaps providing protection for the upper arms and legs. In its flexible state, the Armor Rating of assault Polyflex is 2, but increases to 4 in its rigid state.

Dimensions: 2.2 kilograms
Power Source: Standard cell
Rigging Value: Impossible
Durability: 1
Legality: Legal
Availability: Rare
Cost: 1,200cs
Armor Rating: 2 (4)

Light Polyflex

This armor is thinner and lighter than the assault version, and does not protect the extremities. In its flexible state, the Armor Rating of light Polyflex is 1, but increases to 3 in its rigid state.

Dimensions: 1.4 kilograms
Power Source: 3 mini cells
Rigging Value: Impossible
Durability: 1
Legality: Legal
Availability: Rare
Cost: 900cs
Armor Rating: 1 (3)

Riot Shield

This is a rounded, rectangular shield, 50 centimeters wide by 1 meter high, made of one centimeter thick transparent Glaz. It is generally used by law enforcement during riot control situations to protect officers from thrown objects including

rocks, Molotov cocktails and even small arms fire. The user of the shield must have the shield facing an attacker to receive any benefit from the shield's Armor Rating. Riot shields are somewhat clumsy to maneuver and impose a –1 penalty to the user's Coordination.

Dimensions: 50 centimeters wide, 1 meter high, 8 kilograms
Power Source: Unpowered
Rigging Value: Basic
Durability: 2
Legality: Restricted
Availability: Common
Cost: 250 cs
Armor Rating: 3

COMPUTERS AND ELECTRONICS

COMPONENTS

In the year 2199 computers are more than simply tools in their own right; they have become a part of nearly every device used in daily life. Everything from cameras to coffee makers contains some form of computer.

Access Chip

Every electronic device, and almost all mechanical ones, contains an integrated computer known as a standard access chip. This microcomputer monitors the device and is often connected to a microphone and speaker, so it can hear and respond to simple speech. The chip is used for troubleshooting and tracking of power usage, reliability, and any other technical problems.

A chip only responds to a series of basic commands prefaced by a short code word specific to the device. The chip responds with technical details on the functioning of the device. Most responses are simple statements as to the level of power remaining in the batteries or whether the device is capable of performing a given function. However, some of the responses are likely to be useful only to someone who understands the technical language of engineers.

Repairing a device containing a chip provides a +1 bonus to the Target Number of the repair roll for anyone trained in Electronics. This modifier is lost if the chip malfunctions or is turned off.

Interactive Access Chip

Almost every electronic device larger than a deck of cards contains a more sophisticated processor, equivalent to a low-powered bodycomp. This type of circuit is known as an interactive chip or less favorably as a "gremlin." In addition to possessing all of the functions of a standard chip, a gremlin is capable of interacting through ordinary speech. It is therefore considered less frustrating to use than the painfully limited standard chip. In addition, some devices equipped with a gremlin will have a small holo projector by which schematics and more detailed messages can be presented.

Statements like "Gun, are you still working?" or even "Camera, choose the best setting to maximize the visibility of the object in the left quarter of the viewfinder," are possible when using a gremlin. They are not intelligent and are totally incapable of any type of creative thought. However, they can interpret simple inferences and can even understand some commonly used slang. It is left to the Game Master to determine if an interactive access chip can understand a question or command.

Repairing a device containing a gremlin gives even unskilled characters an Electronics skill of 1, in addition to providing a +1 bonus to the Target Number of the task roll for anyone trained in the skill. These modifiers are lost if the gremlin malfunctions or is turned off.

It is possible to temporarily turn off access chip speakers. This is commonly done in combat or other high-stress situations. The constant repetition of "This unit is not rated for the current level of usage," has resulted in the destruction of more than one such device.

Interface Technology

All computers and most electronic devices require input data or commands, as well as the ability to generate output. In 2199 there are three different forms of computer and device interface.

Neural Interface Jacks

Neural jacks are sophisticated cybernetic interfaces mounted directly into the nervous system of the user. They provide superior interface quality and efficiency. For complete details on neural jacks see Chapter 6, Biotech.

Manual Interface

The simplest interfaces are still the keypad, microphone, speaker, and visual display. The display may be holographic and the keypad may be a VR device, but only the quality of the interface changes, not its nature. Most simple manual interfacing is done verbally through voice-recognition programs.

Dimensions: Less than 0.25 kilograms
Power Source: Standard cell
Rigging Value: Impossible
Durability: 0
Legality: Legal
Availability: Very Common
Cost: 25cs to 1,000cs, depending upon format and optional functions

Trodes

Trode or contact interfaces are sensitive electrodes mounted on a headset within the weak electrical field generated by the user's brain. These devices sense and interpret the user's neural impulses, translating them into digital signals that are then passed on to the computer or device. The trodes then translate device output into neural signals that the user receives as visual and auditory stimuli. As a result, trodes have become popular in entertainment applications, providing the user the illusion of actually participating in virtual games, interactive stories, or recorded events.

Trodes provide an efficient, accurate, and fast interface that enhances a user's performance with the interfaced device. All actions executed through a trode contact receive a +1 bonus. Additionally, trodes eliminate the need for physical action on the part of the user. All actions initiated through a trode are almost instantaneous, slowed only by the speed of the trode's interpretive programming. In game terms this means that a character acting though a trode receives a +1 bonus to initiative during an Action Round in which the character is using the interface to perform an action. This rapid action is limited to actions through the trode, and by the physical capabilities of the device being controlled.

Using a trode does not impede physical actions any more than normal mental activity would complicate such actions. However, to function properly, the trode must maintain uninterrupted contact with the electrical field of the user's brain. Physical actions that would prevent this by removing or dislodging the headset, even temporarily, would break the interface with the device. Loss of interface typically sends devices into inactive standby mode.

Dimensions: 0.1 kilograms and adjustable to fit
Power Source: Mini cell
Rigging Value: Impossible
Durability: –1
Legality: Legal
Availability: Common
Cost: 1,200cs

Quality Levels

Optional Rule: Not every piece of equipment is made to the same standard, especially when a multitude of companies of various sizes and capabilities are making it. The Game Master may use **Quality Levels** to distinguish well-made items from shoddy junk. The quality levels are Poor, Average, and Superior.

Poor: This item is made with inferior materials or just poorly built. It may not function as intended and will have a higher chance of failure during use. Depending on what the item is, this failure could be catastrophic. These items will typically have a Durability of 1 to 3 points less than normal, and at the Game Master's discretion, may have to roll frequently to avoid mishap. Poor quality weapons may do less damage, have worse range or higher recoil. Poor items will be cheaper than average items.

Average: This item is normal quality, not deficient in any way nor particularly outstanding. The items as written represent those of average quality.

Superior: This item is extremely well-built and made with high quality materials. The item will typically have a Durability 1 to 2 points higher than normal and will generally perform faster or better than a like item of average quality. Superior quality weapons typically have better range or slightly less recoil. The weapon chapter lists standard weapons, as well as specific weapons that are superior quality. The Game Master is encouraged to use them as a baseline for his own creations. Superior items will be more expensive than average items.

Computers

Computers are an integral part of daily life, both in the Solar System and on the colony world. They are used in limitless applications and are ubiquitous in technological society.

In the last decades of the 21st century, size ceased to limit either computer function or data storage. Standardized formats were eventually established for smaller computers, and data storage devices were constructed in several standard configurations. These configurations have been so successful that they are still in use in 2199, over 100 years later.

In 2199, computer technology is distributed and invisible. With the exception of powerful maincomps and network servers, the desktop office furniture that dominated the early years of the

computer revolution is obsolete. Microcomputers are integrated in most every electronic and mechanical device, and most are capable of communicating with each other over personal, local, and global networks. The computer infrastructure of modern civilization is so well integrated into daily life that most people take for granted such features as universal networking and cross-device compatibility. Processing power is inexpensive enough that the cost of designing the simplest devices with sophisticated computing and communications capabilities is negligible. Information can be stored and transferred at staggering rates, and the resulting information chaos is managed by highly capable software and very little human intervention or oversight.

This information infrastructure is beyond the technical understanding of most people. The technology is extremely user friendly and allows them to accomplish necessary tasks — the details of its design, organization, and operation are unimportant. Only those with some level of training in computer programming or engineering are able to access the nuts and bolts of the infrastructure — the average person can only rearrange the components and customize the interface to suit his needs and preferences.

The computing power a person has at his disposal is limited only by money and privacy. In principle, a person could use a bodycomp to access a sophisticated expert application via CommCore that must be stored on a DNA core and run on a high-end maincomp. The user would query a data services provider (DSP) and transfer the necessary scrip, and the request would automatically be routed to an available computer somewhere on the network. When the job is processed, the DSP would transfer the data in a prearranged format, and the charges would be automatically applied to the user's designated account. As convenient and empowering as this technology is, privacy is a real issue: The user's identity, the program he executed, and the data he acquired would be logged and stored by the DSP and server on which the task was performed and could conceivably be accessed at any point along the chain of transmission. Whenever it is practical, users concerned with data security use only familiar computers and networks and personal encryption codes.

Hardware

Silicon microchips had reached the physical limits of efficiency by 2020. Previously, computer engineers had achieve rapid increases in computer power by steadily increasing the number of transistors they could fit on a silicon chip. Eventually, however, the distance between the transistors became so small that quantum interference rendered the chips useless. Engineers had been well aware of this problem for more than 30 years, however, and had been researching new technologies that could exceed the limits of silicon.

The optical chip became the eventual successor. Extremely efficient three-dimensional processor blocks can be constructed with this technology, because the laser beams used by optical chips can pass through one another without interference. Unfortunately, the technology remained in its infancy throughout the first part of the 21st century, and optical computers with the processing power of conventional commercial systems typically occupied entire rooms in university computer labs. Once the technology matured, however, it drove the computer industry to new heights. Along with protein- and DNA-based data storage, the optical chip made possible the commercial manufacture of computers sophisticated enough to support other technologies that were developing at the same time, such as direct neural interface and truly immersive virtual reality environments.

Body Computers

Bodycomps are the personal computer of 2199. They come in a variety of forms with numerous options. Bodycomps usually reflect the lifestyle of the user. On Earth, credit card-like bodycomps are the most common. Simple and inexpensive, they support most options and programs. In space or on Poseidon, wrist-mounted, watch-like bodycomps are preferred. Still other models are clipped to clothing or hang from neck cords. Though the forms vary, the capabilities of bodycomps are similar.

A standard bodycomp uses verbal or cursor control input with holographic display. However, any of the possible interfaces can be used to operate a bodycomp, assuming it is equipped with the proper hardware options. Standard bodycomp options include at least one dataspike port and a wireless modem for access to CommCore. Available options include solar cells, radio communications, trode or jack lines, satellite uplinks, cameras, biomonitors, and global positioning systems. Such options quickly add to the price of a basic bodycomp, however.

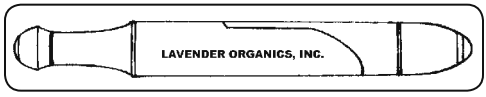
Players must specify the programs and databases stored in their bodycomps, and are restricted by that content until they are able to change it. Remember, too, that many software applications are very expensive, and being able to run a certain

program is not the same as being able to afford it. Cost, function, availability, and size of various programs and databases are left to the discretion of the Game Master.

Dimensions: Typically about 90 grams for a basic unit
Power Source: Mini cell
Rigging Value: Standard
Durability: –1
Legality: Legal
Availability: Very Common
Cost: 200cs for a basic unit, up to 2,500cs depending upon format and options

DATASPIKE

The final successor to the magnetic hard drive and laser disk, dataspikes are small cylinders with a blunt, optical-grade plastic point on one end. Dataspikes can store up to ten terabytes (10,000 gigabytes) of information. This is enough storage to hold 500,000 fully illustrated encyclopedia volumes. Dataspikes contain a core of light-sensitive protein, and data is stored by configuring the proteins with lasers of different colors. Some brands even have a tiny readout that automatically displays the primary directory name or the spike ID. Spikes are resistant to moderate temperatures and magnetic fields and are remarkably durable.



Dimensions: 9 grams, 3cm long
Power Source: None
Rigging Value: Impossible
Durability: 0
Legality: Legal
Availability: Very Common
Cost: 5cs for a blank dataspike; dataspikes containing data or programs cost considerably more, depending on the value of the information

MAIN COMPUTERS

Bodycomps are amazing devices, but they are limited. Their speech recognition is fairly literal and they are incapable of making independent decisions or of running certain high-end programs. The same is not true of larger, more sophisticated computers. Larger, more powerful, less portable computers are called maincomps. Maincomps are common everywhere — in business, on board large vehicles and spacecraft, and in research labs. They are found anywhere sophisticated computer power is required.

Maincomps store data using DNA memory cores. The advent of advanced genetic engineering technologies and artificial enzymes has allowed the use of DNA as a data storage medium. Originally evolved to store the vast data needed to run living organisms, DNA is a ready-made memory device.

DNA gel cores consist of optical crystal cylinders that contain a suspension of life-support fluid and large amounts of DNA. Data is read with laser light and altered by enzymatic activity. The cores are essentially large, living cells whose only function is data storage. The metabolic life support system required to keep a DNA core "alive" limits the minimum size of such a device to about five liters, but the gain in storage capacity and access time is formidable. A five-liter DNA core can store up to 10 exabytes (10 million terabytes) of information and access is essentially at the speed of light. If life support for a DNA core is cut, the gel will begin to fail and data will be lost within only a few minutes. Backup power systems and portable life support devices are therefore common.

Maincomps are not sentient, but they simulate sentience very well and can be disturbing to people not used to them. Maincomps even appear to develop personalities of their own, though this effect is only an artifact of their programming as the computers adapt to frequent users.

Every maincomp comes with basic interfacing programs and hardware pre-installed, a multichannel wireless modem, and a large holographic display. Optional hardware is ubiquitous and new devices and programs are in constant development. As with bodycomps, the capabilities of a maincomp are strictly limited to the programs and databases it contains. However, the sophistication and functionality of a maincomp is only limited by cost and the designer's imagination.

Dimensions: 10 kilograms
Power Source: A heavy cell or connection to an external power supply
Rigging Value: Standard
Durability: 1
Legality: Legal
Availability: Common
Cost: 6,500cs for a basic model; more elaborate models with concert-quality speakers, large holo-displays, or extensive data libraries can cost over 15,000cs

SOFTWARE

The variety of commercial and specialized software available in 2199 is truly staggering. CommCore is the centralized repository of literally millions of applications, from freeware entertainment programs to sophisticated expert-expert systems designed to record, analyze, and predict planetary weather patterns. Most users only install the most commonly used applications on their personal computers and networks, preferring to rent software and, if necessary, processing power as it is needed from DSPs on CommCore or regional networks. Operating systems have been standardized for decades, and all commercial software features "fluent" voice recognition and fully customizable user interfaces. Mainstream software is smart enough that even computer illiterate users can accomplish sophisticated tasks with relative ease.

Specialized software even handles most of the work of computer programming and new software design. Most programs are so large and complex that a single commercial application might require millions of man-hours of programming work. As a result, it is effectively impossible — or at least cost inefficient — for humans to code all but the simplest commercial applications from scratch. Programming software assists programmers, working from initial concepts, design parameters, and application objectives to the finished product. These design tools range from self-organizing iconic programming languages to quick learning expert systems capable of working from context-sensitive voice input. More often than not, the programmer is a troubleshooter who supervises the machine as it builds millions upon millions of lines of code.

The following are various classes of common commercial applications. There are hundreds of brands and variations within each category, and the actual capabilities of individual programs will vary widely. Most commercial software is updated constantly, and subscribers can access regular upgrades at a fixed annual fee.

Analysis

These programs combine features of relational spreadsheets and statistical analysis tools. They can link, correlate, and compare terabytes of data according to any designated input parameters. Most simple analysis tasks can be performed in real time on standard bodycomps, though a very high volume of data, complex data sets, or advanced analysis can push the limits of most personal systems. For these tasks, users who do not have personal access to a maincomp system usually rent processing power and storage through CommCore or a regional network. Basic analysis programs cost about 500cs, though highly specialized systems can cost several thousand scrip.

Communications

This program suite provides the basic system infrastructure for networking, personal communications, and CommCore access. Most communications programs include a broad array of CommCore tools, from smart search engines that interface directly with the computer's familiar to encryption and privacy protocols. Basic communications suites come standard on all commercial bodycomps, but high-end versions with advanced features can cost from 100 to 300cs.

Encryption

This program uses advanced data-mangling techniques to supplement standard file encryption and communications protocols with an added layer of security. Encryption programs can use keys specific to a destination system, preventing eavesdropping on the transmission to acquire decoding clues. Both commercial versions and those designed specifically for a government or corporation for internal use are available. The cost of advanced encryption systems is about 1,000cs, though it varies widely depending on the security needs of the user.

Familiar

This is the common name for the basic user interface of most personal computers and networks. A familiar is fully customizable and sophisticated enough to learn and adapt to the user's quirks and preferences. The user can interact with the familiar by voice, and the familiar interacts with all the other applications on the system and all the other computers in the user's personal network. Basic familiars come standard with bodycomps and personal network systems, but most users who can afford it choose to purchase more sophisticated programs with advanced capabilities and greater customization. These familiars feature themed designs and distinct personalities, from popular celebrities, to historical figures, to anthropomorphic animals. Because the programs learn and adapt to their users, they are able to mimic human personalities very effectively. As a result, many users treat their familiars like trusted friends or beloved family members.

Familiars that have had sufficient time - usually a minimum of 30 days — to adapt to their user's preferences confer a +1 Target Number

bonus to all of the user's task rolls using the interface. Typical packages cost about 100cs, though the cost can range as high as 1,000cs for software with the latest features and most advanced programming.

Navigation

When combined with a GPS unit and map database, this software gives the user's bodycomp or on board vehicle computer all the capabilities of a portable navigational suite. Vehicle navigation software also communicates with the GEO's TravNet system for traffic control and collision avoidance in Poseidon's major cities and larger settlements. Most navigation suites can access customizable map databases on CommCore; however, while detailed and accurate databases exist for most regions of Earth, they are not available for many parts of Poseidon. Hydrospan's SmartGuide™ navigation software was designed specifically for Poseidon and interfaces directly with the user's familiar, allowing it to assume the persona of a patient, experienced native guide. Owners of the SmartGuide suite are also authorized to access Hydrospan's proprietary mapping database of the Pacifica Archipelago's seafloor, and this database is generally considered one of the most complete of its kind. Navigation suites range from 100cs to 500cs for high-end packages like SmartGuide.

Personal Network

This software allows all of the user's equipment and possessions equipped with a microchip gremlin to communicate with each other, sharing tasks and data. This allows the user to monitor and control each of the devices from a central hub, usually a bodycomp, implant microcomputer, or maincomp. In terms of the game mechanics, the user gains the +1 Target Number bonus of his familiar when using any of the networked peripherals. Personal network software costs between 50cs and 100cs, depending on features.

Tutorial

These are interactive databases that effectively give the user's familiar a defined knowledge base and the tools necessary to guide the user in its application. Tutorial programs covering most of the skills used in BLUE PLANET REVISED are available, and assuming the user has time to apply the program to the specific task at hand, grant a +1 Target Number bonus to relevant task rolls. The price of tutorial programs averages about 100cs, though tutorials covering obscure or illegal skills can cost substantially more. Expert tutorials can be accessed from a variety of CommCore sites that grant the user a +2 bonus to associated task rolls, but they are very expensive. Most DSPs charge between 50 and 100cs per hour for access to these systems.

COMMUNICATIONS

Most electronic devices communicate by short-range optical or micro-power radio links in the high gigahertz range. These links have excellent data transfer rates but do not penetrate obstacles very well. More powerful radio links are used for most of Poseidon's conventional communication infrastructure.

Personal communications devices operate on spread-spectrum principles. The transmitter breaks a signal down into several smaller signals on different frequencies. Individually, these signals are about the same intensity as background noise. The receiver picks up the component signals and combines them to get a usable signal. Basic communications devices use a handful of frequency bands, while larger or more expensive ones can spread their signal more finely and over a larger frequency range, constantly monitoring the radio bands to find the clearest channels and hopping up and down the spectrum many times a second.

This is a complex process, but it has a number of advantages. It minimizes natural interference, since some of the frequencies used will be less affected than others. Frequency hopping also makes it harder to artificially jam radio signals. It can also make eavesdropping harder, since most of the individual signals must be located and monitored in order to reconstruct the transmission, and the individual signals are hard to pick out from the background noise.

Signals are also scrambled as a matter of course, though for most civilian applications, the scrambling is relatively simple for a professional to crack. For legal purposes, any radio communication is considered a private conversation for eavesdropping purposes if it uses a standard protocol of spread spectrum and scrambling. It isn't technically illegal to listen in or unscramble radio traffic, but it is criminal to record, retransmit, or profit from data acquired in this manner. Nonetheless, data piracy is a thriving criminal industry.

Communications devices usually trade frequency-hopping and scrambling codes at the start of a transmission, using one of several standard frequencies, so that each device knows where to

look. After the initial data is transmitted, each device's internal clock adjusts the codes and frequencies according to the protocol of the least sophisticated device until the end of the transmission. This makes the start of a transmission the best time to eavesdrop. With sufficient computer power, the information acquired can enable a third party to follow and decrypt each end of a conversation or data stream quite easily. Directly networked devices can exchange data in a secure environment and retain all the information needed between transmissions, making them much harder to eavesdrop on. Major installations have a large library of encryption methods and use a global time standard, such as an atomic clock, to make sure each device is using the correct frequencies and codes at any given time. New encryption protocols and spread-spectrum patterns can be physically transferred via dataspike or transmitted over secure channels.

Communication devices with the sophistication of a personal communicator have integrated networking capabilities. They can be programmed to link into local networks or communicate with each other. Personal communicators — including those integrated with most commercial bodycomps — can therefore be used as moderately secure two-way radios within their range, or as full-function videophones as long as the user is within range of a repeater station or has access to a satellite net.

Personal Communicators

Not everyone needs or wants to have a bodycomp on them at all times, so personal communicators still exist. Personal communications equipment is small, inexpensive and versatile. Most units are mounted in a light headset or contained in a single earplug. These devices are generally voice-activated and can function with sub-vocalizations or bone conduction. These radios operate on a broad spectrum of frequencies and often contain scanners. Military-grade personal comms are usually integrated into combat helmets and run frequency-hopping and scrambling programs. A basic comm set has a line-of-sight range of 10 kilometers.

Dimensions: 20 grams
Power Source: Mini cell
Rigging Value: Impossible
Durability: –1
Legality: Legal
Availability: Common
Cost: 40cs

Uplink Communicators

Uplink communicators are the most common form of long-range communications on Poseidon. Almost every modern vehicle has an uplink, and most outposts, colonies, or military units have several. These devices have small, folding transceiver dishes, holographic interfaces, modem capabilities, and heavy-duty batteries. Uplinks require an operational communications satellite to relay signals. This requires that the user have access to one of the numerous satellites orbiting Poseidon.

Satellite communication on Poseidon is often problematic. Severe weather, sat malfunctions and sabotage, jamming signals, and constantly changing security protocols make reliable communications difficult. There are several strictly commercial public sat systems online, but their operation and maintenance is unregulated and therefore unreliable. They are also expensive, usually requiring payment authorization in advance.

Dimensions: 1.7 kilograms
Power Source: Heavy cell
Rigging Value: Standard
Durability: 0
Legality: Legal
Availability: Common
Cost: 1,450cs

Holocam

This is a misnomer as the device does not record holographic images, which require sensors on all sides of the recorded object. A holocam records digital video and sound footage using three separate image sensors and microphones. The holocam then uses interpolation software to fill in the gaps and build a true three-dimensional representation of the recorded object. About 500 hours of holographic footage can be downloaded and stored on a standard dataspike.

Personal communicators with integrated holocams are also available and both features are commonly included in high-end bodycomps.

Dimensions: Typically about 100 grams
Power Source: Mini cell
Rigging Value: Standard
Durability: 0
Legality: Legal
Availability: Very Common
Cost: 200cs

Hydrophone

Hydrophones are an old but useful technology, allowing for coherent, close-range underwater communication. Hydrophones translate the acoustical vibrations of airborne sounds into vibrations

in the surrounding water and vise-verse. Hydrophones are commonly found in diving masks, boat hulls, CICADAs, submarines, and underwater habitats. They are also used passively in underwater security applications and by scientists studying the myriad waterborne sounds of Poseidon.

Personal hydrophones have an effective range of about 50 meters. Hydrophones used in submarines or on underwater facilities have a range of about 100 meters.

Dimensions: 0.5 to 3 kilograms
Power Source: Standard cell or facility power grid
Rigging Value: Standard
Durability: 1
Legality: Legal
Availability: Common
Cost: 130cs to 340cs

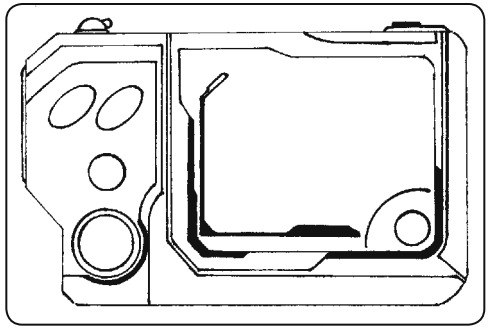
Infrasound Communicator

Low-frequency sound can carry for thousands of kilometers underwater, making it ideal for marine communities. However, the equipment is bulky and low frequencies can only support a very low rate of information transfer. Infrasound communicators are commonly used for short audio transmissions or low-speed data transfer between underwater facilities or vehicles.

Dimensions: 5.0 kilograms
Power Source: Heavy cell
Rigging Value: Standard
Durability: 0
Legality: Legal
Availability: Uncommon
Cost: 1,000cs

MultiComm™

This high-end bodycomp unit is manufactured and distributed by the NIS. It combines standard computer features with a full-function personal communicator and holocam. Manufactured on Poseidon and designed for water world conditions, the MultiComm is durable, reliable, and fully waterproof. Notable features include voice-activated calling, caller identification, and sophisticated



frequency-hopping protocols. The MultiComm accommodates neural or trode interface, as well as a conventional earpiece, microphone, and retinal display.

Dimensions: 160 grams
Power Source: Mini cell
Rigging Value: Standard
Durability: 1
Legality: Legal
Availability: Common
Cost: 2,000cs

Ultrasound Communicator

This device is routinely used for short-range underwater communications. For convenience, most versions operate on the same frequencies as cetacean communication. These units convert electronic signals into ultrasonic streams that carry far better through water than light or radio waves. Range is approximately 100 meters, but it is unaffected by visibility or water conditions.

Advanced ultrasound communicators can perform basic translation of cetacean concept strings, though the intelligibility of the conversation depends on the familiarity of each species with the other's language.

Dimensions: 100 grams
Power Source: Mini cell
Rigging Value: Standard
Durability: 0
Legality: Legal
Availability: Very Common
Cost: 100cs

Robotics and Remotes

In 2199, the line between mere machines and actual robots is a blurry one. Computer integration and cybernetics have become so sophisticated that almost every device, appliance, apparatus, and vehicle has some level of autonomy or independent operation. In addition to this autonomy, most devices also possess some level of remote access, allowing users to operate most equipment through interlinks or telepresence.

Robots

True robots dominate the commercial world with applications in heavy industry, manufacturing, construction, agriculture, and transportation. They

are also common in domestic, medical, and military settings, as well as space exploration. Most robots are simply automated machines designed for repetitive or exacting jobs, or for use in environments or tasks that are too dangerous for human workers. Others are sophisticated complexes of computers and peripheral devices that are used to control and service mass transportation, domestic facilities, orbitals, or underwater complexes.

As impractical as it is for most industrial applications, the human form is seldom copied in robotics. Most robots are designed specifically for their intended task and so their sizes, shapes, and capabilities are as variable as they are versatile.

Agricultural Robot

Most agrobots are heavy duty, spider-legged machines of various sizes, equipped with a sprawling array of manipulating arms, waldos, tool accessories, and cargo pods. They plod, march, and skitter about crop fields, plowing, planting, spraying, digging, and harvesting with care and reliability. Large farms or ranches typically have a number of specialty robots all slaved to a master control program, while smaller operations usually have one or two more versatile and autonomous machines.

Dimensions: 0.5 to 3 meters, 5 to 800 kilograms
Power Source: Standard to industrial cells
Rigging Value: Standard
Durability: 2
Legality: Legal
Availability: Common
Cost: 200cs to 10,000cs

Construction Robot

Construction drones range from small diagnostic 'bots that crawl through wall spaces testing cable, to massive earth-moving mining drones. They are found on every construction site in the known systems and are vital in the maintenance of orbitals and submerged complexes. They come in a spectrum of designs with capabilities to match — drilling, welding, plastic extrusion, cutting, fabrication, and demolitions. Construction robots typically have sophisticated telepresence systems so they can be handled by experienced operators for subtle jobs or tasks in hazardous environments.

Dimensions: 0.5 to 5 meters, 4 kilograms to 22 metric tons
Power Source: Standard to industrial cells, fuel cells
Rigging Value: Standard
Durability: 2
Legality: Legal
Availability: Common
Cost: 150cs to 180,000cs

Delivery Robot

Delivery robots generally come in two types. The first is smaller and fan powered, used to deliver dataspikes and other small packages. These machines zip about urban centers on quick errands, typically carrying small cargoes of ordered merchandise or data that is impractical or unsafe to transfer digitally. Such secure carriers usually operate at altitude and are often equipped with stunners to deter hijacking.

The second type are essentially unmanned vehicles, wheeled or otherwise, used to haul larger items such as construction material, furniture, manufactured goods, or agricultural products. Such delivery robots may operate locally, or over planetary distances via satellite-routed control.

Dimensions: 0.5 meters and 10 kilograms up to 8 meters and 7 metric tons
Power Source: Standard to industrial cells, fuel cells
Rigging Value: Standard
Durability: 0
Legality: Legal
Availability: Uncommon
Cost: 200cs to 200,000cs

Domestic Robot

Most domestic robots are part of integrated systems that serve as caretakers for anything from an industrial complex or military base to a single family home or apartment. A maincomp and expert programs control a small army of machines and appliances that can trim the grass, vacuum the hall, and scrub the bathroom, or order groceries, prepare dinner, and wash the dishes.

Other subroutines and peripherals control amenities such as lights, communications, and entertainment equipment, actually learning personal preferences and anticipating user requests. Though any real intelligence is strictly illusionary, domestic robots are typically programmed to interact with artificial personalities — so realistically, sometimes, that it is easy to forget they are only well-designed machines.

Dimensions: 0.25 to 1 meter, .1 to 5 kilograms
Power Source: Standard cells and external power supplies
Rigging Value: Standard
Durability: 0
Legality: Legal

Availability: Common
Cost: 2,500cs to 55,000cs

REMOTES

In the world of BLUE PLANET, remotes, remote operation, and telepresence are common aspects of everyday life. Anyone with a bodycomp, an interlink transmitter, or an uplink jack has the power to start a coffeemaker in the kitchen, run a hover drone through town, or pilot an assault craft on the other side of the world. In major urban centers, remotes swarm about town and the airwaves are awash with public, commercial, government, and military telepresence frequencies. Repeater stations dot mountaintops and whole satellite networks are dedicated to keeping operators in contact with distant equipment.

Any device with telepresence capabilities is technically a remote, but typically, remotes are mobile devices equipped with audiovisual pickups and auditory speakers. More versatile remotes may have broadband sensory arrays, manipulating waldos, cargo pods, and sometimes even onboard weapons.

Remotes are controlled through comm suites of varying sophistication. The simplest follow auditory commands or those from tactile input devices, such as joysticks. Higher end remotes allow users to immerse themselves within the device's onboard systems, perceiving input and controlling movement as if the machine were part of their own bodies.

To prevent more than one operator at a time from accessing — and therefore compromising — a remote's function, most operation depends on access codes. The software used to control the remote first initializes access with the codes, and then piggybacks a unique session code on the control signal, giving the user sole access to the remote's systems. Though code breaking, jamming, and EMP are threats to remote control, access code security is adequate under most circumstances.

Most remotes have a degree of autonomy, and some even feature expert-system programming, allowing robust response to various circumstances and further blurring the line between remotes and robotics. Remotes can be programmed to navigate to specific waypoints, or they can be left to monitor a site or situation, signaling the user when certain stimuli are observed. They can be left in holding patterns and can follow a given course when the user's attention is needed elsewhere. They can be stationed as autonomous sentries, challenging or even firing on intruders.

Because remotes are so common, their use is regulated. All remotes must be licensed and must display their license number. This law is obviously difficult to enforce and easy to break, but for the most part, law-abiding operators comply.

When a remote is used in Action Rounds, it must follow the same Initiative rules as the character operator. However, if the remote is being controlled through a neural jack, the inherent integration of thought and control gives the device a distinct advantage. If neural interface is being used, direct signal contact gives the remote a +2 to its initiative Target Number. If the remote is being operated through a local repeater station, it receives a +1, and if it is being operated through a satellite uplink, there is no bonus.

Cetacean Remote

Certainly the most common type of remote on Poseidon, cetacean hovers allow humanity's counterparts to interact freely within terrestrial settings. With versatility limited only by their designs, these remotes are built in an array of sizes and configurations. Most are lift-fan driven and rather small, with only audiovisual pickups, sonar receivers, and linguistic translators. Others are larger, with cargo capacity and waldo manipulators.

Cetaceans are known for strong personalities, typically demonstrated by enigmatic and often outlandish personal habits. This element of their behavior seems to have carried over to their use of remotes. Cetaceans, often individually indistinguishable to humans, seem to have gone overboard with customizing their remotes, giving them ridiculous cosmetic features such as garish, photosensitive paint jobs, built-in fiber optic accents, and even holographic projectors. Anthropologists suggest this may be intentional overcompensation on the part of cetaceans to emphasize their individuality, which is so often ignored by humans.

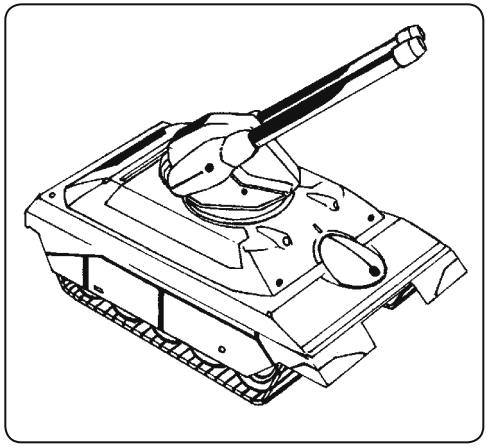
Dimensions: 0.25 to 2.0 meters, 0.65 to 15 kilograms
Power Source: Standard to heavy cells
Rigging Value: Standard
Durability: 0
Legality: Legal
Availability: Common
Cost: 225cs to 3,450cs

Combat Remote

Combat remotes can be both savior and scourge in a modern firefight. Their versatility and expendability make them invaluable defensive weapons and frighteningly lethal offensive ones. Whether

they stalk along on bird-like legs, skitter about like spiders, run on wide rubber tracks, or zip through the air on lift fans, these machines are just weapons systems looking for targets.

Most designs feature modular construction that allows the user to adapt the weapon systems to specific missions. Most combat rigs carry broadband sensory arrays and high-end, encrypted comm systems. Others carry laser designators for directing incoming fire, or non-lethal weapons like stunners and tear gas. Some are equipped for planting explosives or as bomb-delivery systems themselves. Still others are essentially automated litters, designed to recover casualties from hot combat zones.

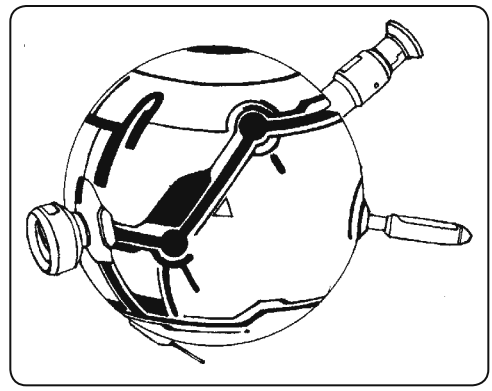


Dimensions: 0.75 to 3 m, 5 to 1,250 kilograms
Power Source: Heavy to industrial cell
Rigging Value: Standard
Durability: 1
Legality: Restricted
Availability: Scarce
Cost: 1,200cs to 85,000cs

Recon Remote

Reconnaissance remotes come in two basic designs — flyers and crawlers. Flyers are smallish spheroids with center-mounted, counter-rotating lift fans. They typically have 360° broadband sensory arrays, and are no louder than some of Poseidon's larger insect analogs. Crawlers are smaller and decidedly subtler. These insect-legged remotes readily navigate most terrains and are virtually impossible to detect.

Most recon remotes have phototropic housings to reduce their visual profiles and utilize autonomous navigation and packet transmissions to minimize their radio signatures.



Dimensions: 12 to 25 centimeters, 20 to 50 grams
Power Source: Standard cell
Rigging Value: Standard
Durability: 0
Legality: Legal
Availability: Scarce
Cost: 450cs to 1,300cs

Remote Constellation

A remote constellation is a versatile tool, but one that requires training and practice to use effectively. A typical constellation consists of four to eight individual, semi-autonomous remotes interlinked and interfaced through an expert control program on an implant or body computer. The remotes may be all of a type, or may consist of a collection of different integrated designs, providing the user with more robust capabilities.

Using a constellation has been compared to playing a piano. While playing the instrument, the musician is seldom aware of the individual notes, but instead plays whole chords that together form music. A user running a remote constellation controls the movements of the remotes and interprets their data stream in much the same way. The expert program keeps the individual remotes on task, following the user's instructions, but without the user having to give specific input to each device. The interface program in turn correlates the information from the remotes, providing the user with a rich composite of what the remotes are seeing and doing.

Remote constellations offer a significant advantage in a variety of circumstances, particularly where there is a large area to be observed or where the action or circumstances are chaotic. Constellations are therefore particularly useful in military and law enforcement operations. They are also popular with media producers at

large public or sporting events, and with scientists exploring Poseidon's outback.

The enhanced data stream of a constellation gives users a +2 bonus to their Cognition when working through the remotes. However, a character must have a Remote Operations skill of 4 or more to effectively use a remote constellation.

Dimensions: Variable by number and type of remotes
Power Source: Standard cells
Rigging Value: Standard
Durability: 0
Legality: Legal
Availability: Uncommon
Cost: 1,750cs for the simplest four-unit observation rig and program

Remote Simulacrum

Remote simulacra are a class of remote devices used primarily by reconnaissance specialists, scientists, and hobby enthusiasts. Simulacra are typically designed to mimic animals, usually doing well enough to pass — at a distance — as actual living things. Military and law enforcement personnel favor tiny insect-like remotes that can creep or buzz around a building or forest, passing unnoticed as a common pest. More imaginative designers have even made recon remotes in the forms of common objects such as crumpled papers, coffee cups, and standard battery cells. These have proven uniquely effective in the practice of industrial espionage. Scientists use models of avian and marine analogs to make close-up studies of animal behavior and ecology, and enthusiasts buy or build toys ranging from simple aircraft and race cars to spaceships and actual flying dragons.

Dimensions: Widely variable
Power Source: Micro to heavy cells
Rigging Value: Variable
Durability: 0
Legality: Legal to restricted
Availability: Scarce
Cost: 85cs and up

Remotely-Piloted Submersibles

Remotely piloted subs are used in countless applications on Poseidon. These robotic devices are typically simple and self-contained machines, driven by impellers or tiny MHD drives. Though designs vary, there are three basic versions.

The most common design is controlled from the surface via reinforced fiber optic cable. Through the cable, digital instructions are passed to the remote and sensor data is passed to the operator. These devices are versatile and efficient, and are limited to ranges and depths constrained only by the length of their tethers. This design is most commonly used in scientific and industrial applications.

Another version relies on sonar signals much like those cetaceans use to control their CICADAs. In certain circumstances this offers the operator greater maneuverability, but the design has its own limitations. Instructions must be given through a sonar interface and therefore operational range is limited to the range of the control output. This is typically about 1,000 meters.

The third version is an entirely autonomous, programmable design. These devices are typically quite simple and are commonly used by oceanographers studying Poseidon's seas. They are given course and survey instructions and set loose to explore, periodically surfacing to broadcast their collected data via uplink. More sophisticated versions of these robotic probes are common in military applications. Programmed to monitor perimeters, recon landing sites, or run patrols, these devices are becoming increasingly important in marine operations.

Remote submersibles can be fitted with all manner of sensor packages, manipulators, and communications suites, including synthesizers that convert human speech to cetacean sonar. Versatility, speed, and cost vary greatly depending upon the design. Hydrospan manufactures the most diverse and reliable line of submersible remotes. One of their most popular is the Hard Fish IV, a simple cable-controlled design outfitted with multi-band video, broad-range sonar imaging, and two cybernetic manipulators.

Dimensions: 18.3 kilograms
Power Source: Heavy cell
Rigging Value: Standard
Durability: 2
Legality: Legal
Availability: Uncommon
Cost: 2,150cs

Surveillance Remote

Sophisticated audiovisual bugs are tools of the trade in the world of modern industrial espionage. The most versatile and hardest to combat are the tiny, insect-like mobile designs. These devices can infiltrate through ventilation systems, in the packaging materials of an arriving shipment, or hidden in the clothing of an employee or apparent customer. They can hide when they have to and relocate to advantageous or sensitive positions as needed. They can explore with relative impunity during off hours and some are even equipped to tap into fiber-optic lines or computer storage media.

Such remotes are typically low powered and can recharge parasitically or via retractable solar strips. When in observation-only mode, their comm systems broadcast condensed packets to minimize their electrical signature. They must therefore usually be supported by a signal booster hidden within a kilometer radius.

Dimensions: 2.0 to 5.0 centimeters, 3 to 10 grams
Power Source: Micro cell
Rigging Value: Standard
Durability: –1
Legality: Legal
Availability: Rare
Cost: 650cs to 2,800cs

Triage Remote

A triage remote is actually a fully autonomous robot, but one that can be co-opted by a human medic for more sophisticated functions. Triage remotes are common within military forces, and some larger metropolitan ER Teams employ them as well. A typical triage remote is a large, spider-like robot that skitters about a battlefield or disaster site looking for and administering first aid to casualties. Triage remotes are run by expert systems and carry the integrated equivalent of an abbreviated field surgery kit. Their all-terrain legs move them quickly over rugged ground and their underbellies are slung with an assortment of medical tools, probes, and waldos. Most triage remotes also carry a load of short-range locator beacons with which they tag each patient before moving on to the next casualty.

Triage remotes function with strong Medicine aptitude and a Medicine skill of 5. If the patient is conscious and can answer a few interactive questions, the remote's skill increases to 7.

Dimensions: 24 kilograms
Power Source: Heavy duty cell
Rigging Value: Standard
Durability: 1
Legality: Legal
Availability: Rare
Cost: 14,400cs

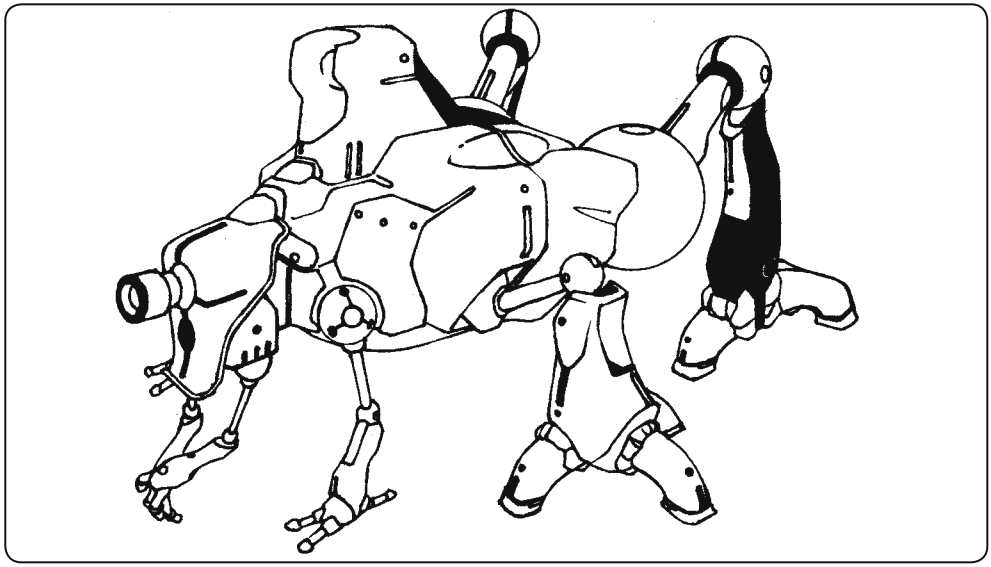
Remote Accessories

Interface Transceiver

An interface transceiver is a dedicated computer and comm system that provides the user of a standard neural jack or trode interface the same capabilities as an individual with the more versatile uplink neural jack. Accessed via fiber optic connectors, transceivers process and broadcast the neural query and control signals from the user, and in turn, receive and translate the data stream and slave signals from the remote device.

Transceivers are typically worn on a belt, as a pendant, or even stuffed in a pocket. For twice their given list price, bodycomps can be outfitted to serve as neural interface transceivers.

Dimensions: 0.24 kilograms
Power Source: Standard cell
Rigging Value: Impossible
Durability: 0
Legality: Legal
Availability: Common
Cost: 2,250cs



Remote Operation Suite

A remote operation suite is the integrated comm system that allows a device or vehicle to be controlled via telepresence. The sophistication of these systems varies widely and is typically comparable to the level of computer control in the specific device. Modern equipment with computer controls typically has some level of remote operation capability, and most allow for fully integrated remote access.

Sometimes, however, older vehicles or cheaper equipment may lack remote operation capabilities. In such cases, if the device has integrated computer control, remote operation suites can be installed. This typically costs from 10 to 20% of the original purchase price, but the increased versatility of the updated equipment is often worth the expense.

Dimensions: 0.95 to 2.4 kilograms
Power Source: As per device
Rigging Value: Impossible
Durability: 0
Legality: Legal
Availability: Common
Cost: 350cs and up

SENSORS

Broad Spectrum Visor

"Peepers" are visor-style sunglasses that also function as sophisticated visual sensors. The visor processes infrared and amplified light just like multi-spectrum binoculars. Standard visors are controlled by pressure switches at the temples; more sophisticated models contain integrated trodes. Trode versions often have rear-facing pickups that literally give users eyes in the back of their heads.

Dimensions: 40 grams
Power Source: Mini cell
Rigging Value: Impossible
Durability: 0
Legality: Legal
Availability: Uncommon
Cost: 460cs, 2,300cs for the trode version

Combat HUD

A combat HUD is a more sophisticated version of a sensor array designed for military applications. In addition to the functions described for the sensor array, a combat HUD uses a dedicated comp to store maps and other mission data, manage navigation and communications, and interface with other hardware. Three-hundred-sixty-degree holographic pickups can feed split-display imagery to other unit members or mission commanders. There is also an integrated biomonitor to track the wearer's vital signs, and an onboard navigational suite that functions as a map box. The device includes short-range communications gear with a 10-kilometer, terrain-dependent range. The unit also has an emergency locator beacon that can be activated manually or by its link to the biomonitor. The beacon has a 100-kilometer line-of-sight range.

Most combat HUDs are integrated into combat helmets, but they are also available in a soft cap design favored by covert operatives. The HUD interface is usually by neural jack or helmet mounted trodes, but voice activation and visor displays can be used.

Dimensions: 0.25 kilograms
Power Source: Standard cell
Rigging Value: Impossible
Durability: 0
Legality: Restricted
Availability: Rare
Cost: 9,400cs

Digital Binoculars

These binoculars have up to 25× magnification and process infrared, ultraviolet, and amplified light. Most models also have integrated laser range-finders and digital compasses. The magnification gives a user a +5 bonus to distance-hampered vision rolls.

In infrared mode it is possible to see objects by the heat they generate or reflect and to see significant heat sources behind thin barriers. Users can also track warm-bodied animals by the heat left in their footprints for several minutes after their passing, depending upon ambient temperature and terrain conditions. The quality of the images produced by IR sensors is always grainy, making it impossible to distinguish detailed surface features. As a result, only the general outlines of objects are perceivable with IR. Because IR light does not readily penetrate water, such sensors are useless underwater.

Infrared sensors provide a +2 bonus to all vision rolls in low light or darkness, and provide a +5 bonus when attempting to locate contrasting heat sources.

The light-gathering circuits allow the user to see in low-light conditions as well as nocturnal predators, removing all vision penalties caused by poor lighting conditions. This mode is useless in complete darkness.

Ultraviolet light penetrates water deeper than any visible light and so is a useful frequency for enhancing imagery underwater without artificial light sources. Using ultraviolet sensors underwater provides a +2 bonus to vision rolls in poor lighting.

Dimensions: 0.3 kilograms
Power Source: Standard cell with solar backup
Rigging Value: Impossible
Durability: 0
Legality: Legal
Availability: Common
Cost: 770cs

Hand-Held Sonar Transceiver

Sonar transceivers are used primarily for underwater navigation and exploration. They have an effective range of 250 meters and work by bouncing ultrasonic pulses off of their surroundings, forming images of these surroundings by interpreting the echoes. Sonar does not require light and cannot perceive color. However, sonar can give the user information about the density of objects. The user is also capable of hearing other ultrasonic sounds such as those made by certain mechanical and electrical devices. Standard transceivers can output to screens and holographic displays, but they can also be fitted with trode or jack interfaces.

Dimensions: 0.23 kilograms
Power Source: Standard cell
Rigging Value: Standard
Durability: 0
Legality: Legal
Availability: Uncommon
Cost: 375cs

Marnoc

A millimeter-wave radar binocular, or marnoc, is a portable unit that can detect and analyze objects at range. Its resolution is poor, but it can be tuned to penetrate thin materials and generate usable reflections of any objects underneath. The most common use of marnocs is as remote weapons detectors. They can reveal concealed blades, firearms, or body armor under normal clothing or hidden compartments in light vehicles. Marnocs are also common medical tools used to locate foreign bodies, bone breaks, and cyberware.

Radar confounders can confuse a computer-controlled marnoc, but an operator can readily detect that a countermeasure device is at work.

Dimensions: 0.60 kilograms and 0.5 liters
Power Source: Standard cell
Rigging Value: Impossible
Durability: 0
Legality: Restricted
Availability: Scarce
Cost: 2,000cs

Numar

A nuclear magnetic resonance detector is a portal device rather than a ranged scanner. It induces low-level electromagnetic emissions from the molecular structures of nearby objects and analyzes these emissions to determine the objects' composition. Common security devices used to scan for the components of binary propellants and explosives, they can sound alarms, signal security personnel, or bring down security barriers. Transponders in weapons or weapon permits prevent the activation of security alerts in locations with many armed personnel.

Numars are also used to scan for contraband drugs, explosives, or other illegal compounds. Most large commercial transport operations use numars, both for passengers and for cargo. Numars are not vulnerable to any known countermeasures and can only be bypassed by reprogramming, sabotage, or bribery and extortion.

Dimensions: 20 kilograms
Power Source: Heavy cell or external power
Rigging Value: Impossible
Durability: 0
Legality: Restricted
Availability: Scarce
Cost: 5,500cs

Security Monitors

"Watchdogs," as they are commonly called, are small sensors designed to detect preset stimuli and then alert a remote receiver. Detectable stimuli include motion, heat, sound, vibration, light, radio, and radar. Units can be used singly or in sequence to monitor a perimeter. Most have spherical detection fields and line-of-sight ranges. Their sensitivities are adjustable, and they can function in either active or passive modes. They are typically armed by encoded remote and can be interfaced with other hardware, such as flood lights or automated weapons. Some models are specifically built to function underwater using sonar.

Dimensions: 0.21 kilograms
Power Source: Mini cell
Rigging Value: Standard
Durability: 0
Legality: Restricted
Availability: Uncommon
Cost: 570cs each, 200cs for the control transceiver

Sensor Array

Sensors come in several configurations. Handheld units are typically plugged into body or maincomps, and wrist and headband arrays can be hooked up to a trode or jacked in for use in HUD mode. The sensors usually include wide-spectrum, variable-magnification optics and an enhanced microphone. Other options include variable-frequency comm scanners, Geiger counters, global positioning units, barometers, and biomonitors. In addition to its other uses, a sensor array provides a bonus to all applicable vision rolls, functioning like multi-spectrum binoculars, and the auditory pickups offer a +3 bonus to hearing rolls.

Dimensions: 0.35 kilograms
Power Source: Standard cells
Rigging Value: Standard
Durability: 0
Legality: Legal
Availability: Uncommon
Cost: 1,800cs to 3,300cs depending on the options

SMOO

Self-Mobile Oceanographic Observatories (SMOOs) are autonomous, weather-monitoring buoy stations, deployed and maintained by the GEO. They are considered sacrosanct by most of Poseidon's inhabitants, as they provide invaluable long-range weather and oceanographic data free to anyone monitoring Metwatch broadcasts. Forecast data is relayed planet-wide, and composite weather, current, and sea-state data are also available. Solar and wind powered, they maintain specific coordinates with station-keeping water jets.

A SMOO is durable, but in the event of extreme weather, the entire unit submerges below the storm surge and remains there until sensors indicate it is safe to surface. Newer SMOO designs contain emergency transponders that can be activated by castaways with no other means of signaling for help.

Dimensions: 6 meters and 0.5 metric tons
Power Source: Solar, wind
Rigging Value: Standard
Durability: 3
Legality: Legal
Availability: Rare
Cost: 16,000cs

Espionage Technology

Bug Hunter

Bug hunters comprise a class of specialized autonomous robots that search out and disable electronic surveillance devices. In 2199, audio-visual bugs have become so small, mobile, and sophisticated that manually scanning for and destroying them is impractical on any continuous basis. Therefore, secure facilities such as Incorporate offices and military bases typically employ a small army of bug hunters to sweep for surveillance devices 30 hours a day.

The typical hunter is a small, insect-like, ambulatory drone that is programmed to search a specified area for any errant electromagnetic emissions that do not match the signals in its approved database. Depending on its programming, a hunter usually has several options when it detects an unidentified EM signal. It can notify security computers or personnel of the location and then continue its search. It can temporarily disable most such devices with a static discharge, or it can permanently burn out most small bugs with an ECM pulse.

Dimensions: 150 grams
Power Source: Mini cell
Rigging Value: Impossible
Durability: –1
Legality: Restricted
Availability: Uncommon
Cost: 1,250cs

Confounder

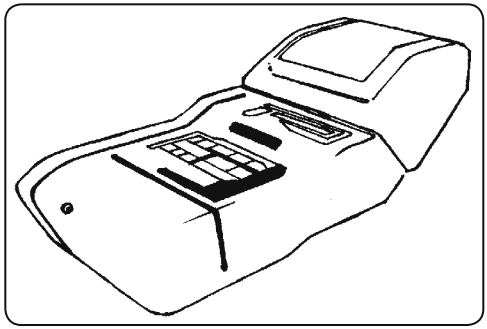
This device generates a random broadband signal designed to reduce the effectiveness of remote sensors. It includes broadband white noise and low level microwave energy, as well as subsonic, infrared, and ultraviolet strobe effects.

A confounder does not prevent detection and in fact typically makes detection easier. It does, however, make resolving content and detail extremely difficult. It can mask conversations, prevent clear or detailed holographic or video recording, prevent sonar imaging, and confuse rangefinders.

Dimensions: 0.5 kilograms
Power Source: Mini cell
Rigging Value: Standard
Durability: –1
Legality: Restricted
Availability: Scarce
Cost: 620cs

Counter-Surveillance Scanner

A combination scanner and countermeasure device, a "sweeper" monitors a broad radio spectrum and can localize low-power transmissions. If an area is badly infested with microbugs, all other electronics are removed and a short range EMP device is brought in to electronically sterilize the area. For individual bugs, the sweeper has its own centimeter-range EMP generator, sufficient to fry some part of a microbug's delicate circuitry. Sweepers are licensed tools, since their EMP generator can be used to disable or damage many commercial devices as well, such as personal communicators, bodycomps, door locks, etc. Civilian versions of the sweeper, without the EMP are available for about half the size and cost, and they use a mini cell instead of a standard cell for power.



Dimensions: 0.20 kilograms
Power Source: Standard cell
Rigging Value: Impossible
Durability: 0
Legality: Restricted
Availability: Scarce
Cost: 400cs

Current Detection Glove

A CDG, or "bad mitten," provides some of the same functions as a bug confounder implant, allowing the user to scan for electrical signals, follow hidden electrical conduits, and detect operational devices, including audiovisual bugs. The glove doesn't jam signals though, only detects them. The typical CD glove is nondescript and can be stylish or simply functional as the circumstances require. The integral circuitry is physically undetectable, and a small lead can be plugged into a bodycomp, a neural jack, or a neural transceiver.

Dimensions: 0.27 kilograms
Power Source: Micro cell
Rigging Value: Standard
Durability: 1
Legality: Restricted
Availability: Rare
Cost: 3,000cs

Facial Disguise Kit

These kits are almost impossible to find on the open market and are most commonly available within security or covert operations departments. Disguise kits are expensive, must be custom fit, and agents must have significant training to use them properly. A given kit contains molds matched to a specific user's facial structure and a number of modular implants and appliances. The mold is used to cast any number of complete or partial facial masks using a unique bioplastic grade that imitates real skin. The implants and appliances can be integrated into the mold to create various effects such as pigmentation, scarring, simulated injuries, body heat, or even nervous twitches. Various contacts, hairpieces, and other deceptive elements are also common features in such kits.

A disguise kit will give an untrained user an effective Disguise skill of 2. A trained user receives a +4 bonus to any disguise attempt in which the kit is applicable. If used to imitate a specific individual, the bonuses are only +1 and +2 respectively. Infrared imaging, echolocation, biomonitors, radar, and certain other forms of scanning or detection eliminate any skill bonus.

Dimensions: 3.5 kilograms
Power Source: Standard cell for the kit, micro cells for the implants
Rigging Value: Standard
Durability: –1
Legality: Restricted
Availability: Rare
Cost: 14,300cs

Fiber Optic Tap

This small device is used to secretly access the flow of data through fiber optic cable. The device is essentially automated and requires no special skill to operate. The small box-like apparatus is simply clamped around the target cable and then activated. A small optical reader with an integrated cutting head then splices itself into the light path with almost negligible interruption in the data flow or signal strength. A tap can store up to five terabytes of information, transmit the data continuously, or burst transmit the stored information at intervals.

For three times the price of a standard tap, a similar device can be integrated into recon or surveillance remotes.

If the optical cable is inactive at the time of the intrusion, the tap operates with a Tech aptitude of 3 and an Electronics skill of 7. If the cable is active, the device operates with a Tech aptitude of 2 and a skill of 5. If the player succeeds at the roll, the presence of the tap goes undetected. If he fails, maintenance or security programs will detect the interference.

Dimensions: 0.3 kilograms
Power Source: Micro cell
Rigging Value: Impossible
Durability: –1
Legality: Restricted
Availability: Rare
Cost: 5,200cs

Holographic Diverter

Though this device is only useful under specific conditions, it can mean the success or failure of an operation. A diverter is a small holographic emitter that is used to distract, decoy, or otherwise confuse the opposition — guards, soldiers, lookouts, or even simple security equipment. Diverters are self-contained devices that can be placed, dropped, or scattered almost anywhere. When activated, they project preprogrammed sequences of dynamic, distracting holograms of any pre-generated or prerecorded scene. With most models, these high-res holos can actually be manipulated via remote, like hi-tech puppets, for a more realistic or specific appearance. These high-end designs can also broadcast recorded and synthesized sounds to enhance the deception.

Diverters have a maximum projection field of 1,000 cubic meters and are most effective when used in dark or shadowed conditions and at some distance from the intended observers. Thermal imaging, echolocation, radar, and other specific forms of scanning make holographic diverters useless, and even worse, will quickly alert observers to the fact that someone is trying to dupe them.

Diverters, in addition to any confusion their clever use creates, give human or fin guards a –3 penalty to visual Cognition Target Numbers, and a –1 penalty to the function of any visual electronic security systems.

Dimensions: 0.1 kilograms
Power Source: Micro cell
Rigging Value: Impossible
Durability: 1
Legality: Legal
Availability: Uncommon
Cost: 325cs

Hotwire

Hotwires are a class of mostly homemade breaking and entering tools used to cut through lighter grades of bioplastic. They consist of a stiff alloy cutting wire, control circuitry, and a large battery built into a grip handle. When activated, the wire heats instantly to temperatures in excess of 1,000°C and will therefore quickly melt anything less than industrial-grade plastics. The rod is typically less than half a centimeter in diameter and of variable length. A wire can be plunged into plastic point first or used like a blade.

A hotwire can cut through plastic of various thickness, but the thicker the material, the slower the cut. Up to one centimeter will cut at a rate of one meter per Action Round. From one to five centimeters cuts at a rate of one meter per five Action Rounds. More than five centimeters, up to the length of the cutting rod, will cut at a rate of one meter per ten Action Rounds.

It is not unheard of for hotwires to be used as improvised or particularly intimidating weapons. In a fight, hotwires have a Damage Rating of 5, and they reduce the effect of personal body armor by 1.

Dimensions: 0.13 kilograms
Power Source: Standard cell
Rigging Value: Basic
Durability: Medium
Legality: Restricted
Availability: Uncommon
Cost: 55cs

Intrusion Suit

The intrusion suit is a form-fitting body stocking that contains thermal wiring and hundreds of small chemical reservoirs. During operation, temperature pickups and integrated processors match the wearer's thermal signature to the ambient temperature. This is accomplished through modulated heating and cooling using the thermal wiring and exothermic reactions in the chemical reservoirs. The suit makes the wearer effectively invisible to thermal imaging, giving the user bonuses of +3 on his Hiding and Sneaking Target Numbers against infrared scanners. A thermal suit can operate for approximately three hours on a single chemical charge, but this period ultimately depends on ambient temperature.

Intrusion suits typically also have chromatophoric capabilities similar to those for phototropic clothing.

Dimensions: 0.65 kilograms
Power Source: Standard cell
Rigging Value: Medium

Durability: 1
Legality: Restricted
Availability: Rare
Cost: 3,355cs

Juicer

"Juicer" is the slang term for any small, pressurized spray canister containing bioplastic solvent. Though these highly reactive solvents are typically only used in industrial or construction applications, they are also commonly used by thieves and agents to disable surveillance equipment, cut through doors and panels, short power cables, or otherwise quickly dissolve most non-industrial grades of bioplastic.

Juicer canisters are typically made of some alloy or other inorganic compound, with a trigger nozzle and sufficient pressure to spray a fine stream of solvent about 10 meters. The solvent is an enzyme analog that rapidly turns bioplastic into a thick but inert fluid, and one liter of solvent can dissolve approximately five kilograms of bioplastic. The reaction takes only minutes, and a narrow stream can slice through centimeter-thick plating almost as quickly as the solvent can be applied.



Oddly enough, bioplastic solvent appears to be useless in any other application and is no more irritating than soap if sprayed on the skin or in the eyes. Additionally, the reaction is notable for generating an odor akin to that of rotting fish, which clings to anyone unfortunate enough to touch the resulting goo.

Dimensions: 0.29 kilograms
Power Source: Inert, pressurized gas
Rigging Value: Basic
Durability: 1
Legality: Restricted
Availability: Scarce
Cost: 230cs

Microbug

A microbug or "dust mite" is a one chip microphone, a radio transmitter, and nano cell battery combined in a single tiny package. Microbugs can be distributed one at a time or scattered by the handful, where they can disappear into floor cracks, carpeting, sand, and other inconspicuous places. Their tiny power supplies do not permit constant transmission, but rather, dust mites store data until their memory buffer is full, then use burst transmissions. Range is limited to approximately 50 meters, but small, inconspicuously planted relay stations are typically used to boost the signals.

Video microbugs are slightly larger and more expensive. These are almost always deployed in groups with a muliplex processor and relay station. Individually they can only transmit single frames of video every few seconds, but integrated with a number of other bugs, the result is a grainy but panoramic full video.

To recharge their nano cells, both microbugs use tiny inductive and photovoltaic chargers.

Dimensions: 0.05 and 0.25 grams for audio and video bugs, respectively
Power Source: Nano cell
Rigging Value: Impossible
Durability: –2
Legality: Restricted
Availability: Rare
Cost: 100cs and 170cs for audio and video bugs respectively, and 50cs and 1,200cs for corresponding booster units

Micro Cord Reel

Micro cord, or "spider web," is a versatile form of high-strength monofilament line that is in every second-story man's bag of tricks. Web is translucent, one millimeter in diameter, and has a tensile strength of approximately 1,000 kilograms. Web

comes in a spring reel containing 2,000 meters of line, an integrated, motorized ascender/descender, a line cutter, and a packet of adhesive patches. The reel can be mounted on a harness and the ascender has sufficient torque to lift 500 kilograms. Web is an organic polymer, and the adhesive patches allow the line to be glued to itself with no significant loss in strength.

Dimensions: 1.78 kilograms
Power Source: Standard cell
Rigging Value: Basic
Durability: 1
Legality: Legal
Availability: Uncommon
Cost: 640cs

Pheromone Scanner

Pheromone scanners are a reliable and practical method of positive identification. Genetic screening is usually more accurate, but requires time and sophisticated equipment. P-scanners are much more efficient, providing accuracy and versatility in a device that can analyze and ID target patterns in only seconds.

P-scanners are typically handheld sensor devices, but they can be integrated into door locks, safes, vehicle controls, and even weapons. A P-scanner is essentially a biomonitor that contains chemical sniffers keyed to human pheromones. The device can either sample baselines from actual subjects or be programmed with baselines from some other sources. When subsequently pressed against the skin of a target, usually the side of the neck or the inside of the wrist, the scanner attempts to match the subject's pheromone emissions and metabolic baseline against those in the database.

P-scanners are difficult to fool, and successful physical deception depends on not only matching metabolic variables but also pheromone emissions. This is rarely successful, and then only with the use of multiglands and synthetic pheromones matched to a specific user. Attempting to deceive a pheromone scanner without these tools incurs a –7 penalty on any attendant skill rolls. Using multiglands and pheromone spray incurs a penalty of only –3.

Dimensions: 0.13 kilograms
Power Source: Micro cell
Rigging Value: Impossible
Durability: –1
Legality: Legal
Availability: Common
Cost: 1,150cs

Phototropic Clothing

Commonly used by agents, thieves, and operatives, phototropic garments come in a variety of styles. Phototropic clothing is similar to phototropic BDUs and is typically made of light fabrics laced with chromatophoric elements. When inactive, the clothes appear inconspicuously normal in color and cut. When active, integrated visual pickups and a dedicated processor sample surrounding shades and quickly change the color of the clothes to match.

When wearing phototropic clothes, a user gains a +2 bonus on his Hiding and Sneaking Target Numbers. Some phototropic clothing contains built-in hoods, gloves, and even gaiters folded into secret pockets within the garment. When using these, the bonus is +3.

Because these suits are typically dark colored when inactive and tailored as evening wear, they are often referred to in the occupational slang as "tuxes."

Dimensions: 0.48 kilograms
Power Source: Micro cell
Rigging Value: Impossible
Durability: 2
Legality: Restricted
Availability: Uncommon
Cost: 950cs and up depending on the cut and quality of the base suit

Vox

A vox is a small digital-mechanical modulator that is temporarily implanted in the larynx of the user. The device is painful to insert, uncomfortable to wear, and requires a qualified technician to implant. When active, the device adjusts the response of the user's vocal cords, changing the tone and pitch of his voice. The device can be used to simply change the way a person sounds, or it can be used to match the voice of a specific individual. The device can even render male voices female and vice versa.

Voxes are most commonly used as part of a disguise, or in an attempt to fool human listeners or electronic voice locks. When used in this way, the device provides a +2 bonus to Target Numbers.

Dimensions: 20 grams
Power Source: Nano cell
Rigging Value: Impossible
Durability: –1
Legality: Restricted
Availability: Rare
Cost: 5,500cs

MEDICAL GEAR

The incredible pace of advance in medical technology seen in the years before the Blight was largely paralyzed by the absolute lack of available resources resulting from humanity's effort to combat the ecological catastrophe. Health care systems paralyzed by millions upon millions of starving citizens and overwhelmed by the ever-increasing numbers of disease-promoting corpses simply did not have the funds to promote research other than that absolutely essential for the effort to defeat the Blight. As a result, the state of the medical art in 2090 had not changed substantially by 2157. The only major exception to this was in the field of emergency starvation nutrition.

Revolutions in genetic technology and in information sciences since the end of the Blight have taken medicine to heights undreamed of in the darkest days of the Fischer epidemic. The modern healing arts are limited largely by the environment and available resources. Nearly anything can be achieved in a well-funded major research center. Unfortunately, these are few in number on Earth, sparse on Luna and Mars, and nearly absent on Poseidon. The two major exceptions to this are the College of Human Health at HIST and the private surgical clinics in Dyfedd. These two institutions provide near-miracle cures and astounding surgical procedures on a daily basis, and also treat the everyday ailments and cosmetic complaints of Poseidon's citizens, from the poor to the super-rich. These facilities are capable of performing essentially any cybernetic or genetic alteration, grafting transplanted or cloned organs into patients, treating nearly any infectious or inherited disease, or changing nearly any aspect of a person's appearance. Although these therapies are certainly not always successful, they provide opportunities where there would otherwise be none.

Haven and Dyfedd, though, account for only a fraction of Poseidon's population. The medical community is simply not large enough to serve the hundreds of far-flung, isolated settlements. Instead, a sort of "medicine of stabilization" has developed as the most common form of medical care in the Serpentis System. People who fall victim to trauma, poisoning, or infection are treated locally by minimally trained medics or by highly specialized automated instruments. Although not sufficient to completely effect a cure, this treatment is intended to keep the patient alive long enough to reach a medical center, where the ailment can be definitively treated. This philosophy was the driving force behind the development of bleeder patches, field surgery kits, and so-called "doc-in-a-boxes" (see below).

The major teaching hospitals are complemented in outlying areas by community medical facilities. Local hospitals are an important feature of Poseidon's larger Incorporate and GEO settlements. Able to handle the most common ailments and accidents on their own, these facilities are scattered throughout the Pacifica Archipelago. Sizable facilities in Erasmus and Point du Boux handle the medical needs of colonists in Poseidon's outback. The community hospitals also serve as referral sites for the big research institutions.

The medicine most familiar to the native communities stands in stark contrast to the sterile temples to science in Haven and Dyfedd. "Natural products chemistry," or the medicine of local healers, shamans, and juju men, is touted as being just as effective as that of the "modern" Incorporate. Distilled from local plants, molds and fungi, and indigenous animals, and coupled with a powerful psychological component, native medicine is nothing to sneer at, especially when administered by an experienced, accomplished practitioner.

AUTODOC

The latest in medical technology, the automated field surgery kit, commonly referred to as an "autodoc" or "doc-in-a-box," was designed to bring the capabilities of a moderately well-equipped regional hospital to remote areas that cannot afford a full-time trauma surgeon. The full-size device uses an external power source and integrated maincomp with expert software to diagnose and treat most traumas. Equipped with a staggering number of manipulable medical instruments, sensor probes for nearly any type of imaging imaginable, and a complete range of pharmaceuticals, the autodoc is specifically designed for the emergency stabilization of critical patients. For example, in the case of a limb amputation, the field surgery kit would stop any bleeding, apply a bandage impregnated with powerful antibiotics and growth factors, administer an appropriate amount of blood products and fluid rehydration, provide for pain control, and attempt to maintain the patient's general functional status until transfer to a better facility could be arranged.

A smaller, mobile unit has also been developed. Considerably less elaborate than the fixed model, the mobile unit runs off an industrial cell and is designed to be mounted in a mid- to large-size

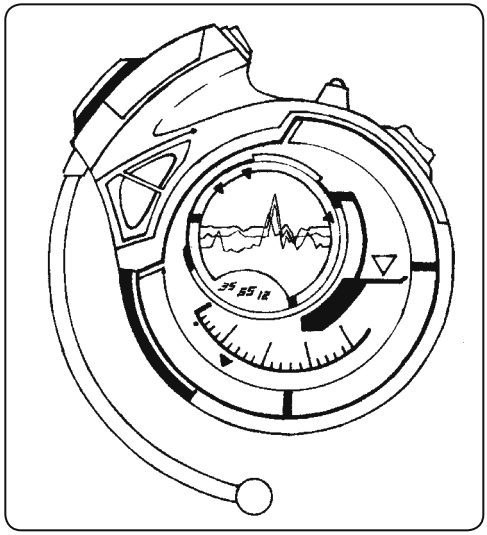
vehicle. Intended to accompany large research or military expeditions, the mobile unit is limited to the barest of life-saving measures. Nevertheless, according to its manufacturers, even the mobile unit is more capable than the best of trained medics when a surgeon is not available.

As with any state of the art medical technology, autodocs do not entirely live up to the promises of their manufacturers. When they work, these devices save lives. When they fail, the results tend to be rather gruesome. Autodocs have strong Medicine aptitude and a rating of 6 in each Medicine skill. The units can perform first aid and general medical care, just like a human physician. Failed operations tend to be more spectacular than is common for a human doctor, as the autodoc blindly follows its programming and lacks any real judgment — overdoses of improper narcotics are administered, life threatening injuries are ignored while minor ones are treated with excruciating care, and additional trauma is caused by improperly calibrated surgical incisions.

Dimensions: 3.5 × 2.2 meters and 250 kilograms
Power Source: External, industrial cell backup
Rigging Value: Impossible
Durability: 0
Legality: Legal
Availability: Rare
Cost: 22,500cs

Biomonitor

Biomonitors are used to quickly and accurately assess the medical status of a patient. When a biomonitor is pressed against soft, highly vascular tissue, electrical pickups and ultrasonics sample pulse rate, blood pressure, galvanic state, neural activity, blood gases, and hormone levels. A dedicated diagnostic program then prompts the user with the patient's conditions and treatment priorities. Use of a biomonitor in a first aid situation gives the user a +1 bonus to his Medicine skill rolls.



Dimensions: 0.34 kilograms
Power Source: Standard cell
Rigging Value: Impossible
Durability: 0
Legality: Legal
Availability: Common
Cost: 520cs

Coagulant Pads

Frequently called "bleeders" these are essential items in every first aid kit. Coagulant pads are thin sheets of surgical plastic with clotting factors, broad spectrum antibiotics, and surgical adhesive on one side. Using a bleeder on a wound is almost always sufficient to stop external bleeding and seal the wound against infection.

Application of a coag-pad is simple. The user simply strips away the plastic casing and presses the pad over the wound. The surgical adhesives securely bond the pad to the skin, even through blood or water. The most basic first aid course teaches the proper use of coagulant pads, and they often mean the difference between life and death. Coag-pads provide a +1 bonus to Medicine rolls for serious and critical wounds.

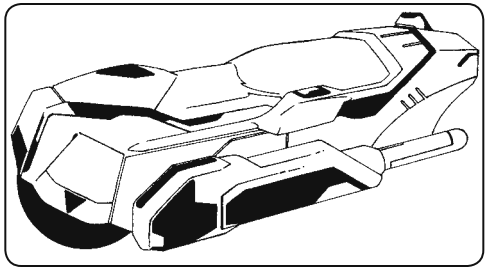
Dimensions: 15 grams
Power Source: None
Rigging Value: Impossible
Durability: –2
Legality: Legal
Availability: Very Common
Cost: 1cs/10 square centimeters

Cold-Sleep Capsules

Induced hypothermic metabolic suppression canisters are a key technology in the colonization of Poseidon. "Coolers" are self-contained life-support systems designed to maintain an occupant in a state of drug induced, hypothermic coma, reducing the demands on ship-board resources.

Medical IHMS canisters are also used to keep critically injured or terminally ill patients alive until appropriate medical care can be obtained or developed. As with passengers in space, medical patients kept in suspension must also check for post-sleep syndrome upon revival.

Dimensions: 2.8 × 1.3 meters and 340 kilograms

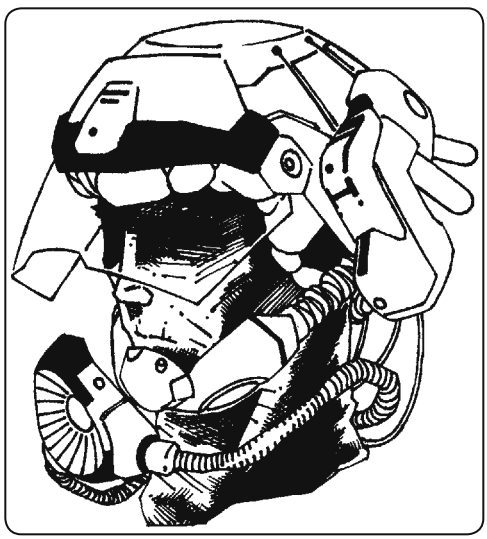


Power Source: External power source, industrial cell backup
Rigging Value: Standard
Durability: 0
Legality: Legal
Availability: Scarce
Cost: 17,000cs

Cerebral Cryo-Oxygenators (CCO)

CCO's can preserve brain viability in critically injured patients. Through intravenous lines installed in the main vessels of the neck, the blood circulating in the patient's brain is replaced with a hyperoxygenated nutrient solution, while the patient's cranial temperature is lowered to reduce metabolic demands. A CCO can be installed in minutes by someone with surgical or trauma training.

Use of a CCO is always chancy and should be considered a last resort. Patients often fail to regain consciousness once relieved of a CCO, and many that do suffer mental problems ranging from memory loss to traumatic dysfunction. Additionally, the patient's somatic tissues begin dying almost immediately, and after a number of hours equal to 12 + (3 x Physique), cell failure is terminal without subsequent and massive regeneration therapy. The technology is imperfect, and its application both messy and risky.



A CCO unit is rather bulky but completely self-sufficient, containing enough power and nutrient solution for 30 hours.

Dimensions: 8 kilograms
Power Source: Heavy cell
Rigging Value: Impossible
Durability: 0
Legality: Restricted
Availability: Rare
Cost: 7,700cs

Field Surgery Kit

This kit is usually carried by paramedics or doctors in the bush and contains the basics needed to deal with severe trauma. The integrated computer is a full-function bodycomp and contains basic medical and surgical databases, giving a skilled user a +3 bonus to related tasks.

Usually a hard-cased backpack, field kits contain:
3 × disposable contents of a standard medical kit
1 × ultrasonic hypodermic
1 × biomonitor
1 × handheld ultrasonic scanner
1 × surgical micro laser
1 × set, standard surgical instruments
4 × 0.5 liter cans of wound/instrument sterilization spray
Dimensions: 16.3 kilograms
Power Source: Heavy cell
Rigging Value: Standard
Durability: 0
Legality: Legal
Availability: Uncommon
Cost: 8,800cs

Induction Block

Using direct electrical induction, nerve blocks prevent the transmission of sensory information from peripheral nerves to the brain and motor commands from the brain to the body. Blockers can be attached directly to the shoulder to block the nerves that support the arm, to the groin to block leg nerves, or to the back of the neck to block the entire body, with the exception of the head.

Patients with an induction block in place feel no sensation in the blocked limb or body part and are utterly unable to move the blocked part. A failed Medicine roll by the attending physician indicates that the block has been improperly placed or that its induction settings have been set incorrectly, in which case the patient will continue to have

use of and continue to feel sensations from the blocked body part.

An action value of –5 or worse when placing an induction block on the neck indicates that the nerves that supply the diaphragm have been blocked, and the patient can no longer breathe unassisted. If the block is not removed, deactivated, or repositioned, or the patient is not immediately placed on a ventilator, he will suffocate.

Dimensions: 0.1 kilograms
Power Source: Standard cell
Rigging Value: High
Durability: –1
Legality: Restricted
Availability: Uncommon
Cost: 190cs

Multispectrum Imager

From the earliest days of medicine, one of the greatest challenges to the health care professional has been to discover what is actually going on inside the human body. This device is a portable imaging system that combines synthetic-aperture pulse Doppler ultrasound, nuclear magnetic resonance, x-ray, focused radar, and electrical impedance mapping to provide a detailed multispectrum picture of the internal operation of the body.

The Doppler ultrasound provides one-millimeter resolution for examining vascular structures. Radar, x-ray, and NMR imaging provide information on bones and soft tissue structures. The built-in impedance mapper can indicate the location and function of nerve and muscle structures. Successful operation of any multispectrum imager requires a Medicine roll and provides a +3 bonus to any subsequent Medicine roll.

Dimensions: 15.0 kilograms
Power Source: Heavy cell
Rigging Value: Impossible
Durability: Low
Legality: Legal
Availability: Rare
Cost: 11,000cs

Standard Medical Kit

Medkits are ubiquitous, found in almost every vehicle, frontiersman's pack, or soldier's kit. They are small and easy to use, and only the stupid travel Poseidon without one. Most first aid kits incorporate an interactive access chip that provides even the untrained with a +2 bonus to Medicine rolls.

A standard kit comes in a hand case or web-gear pouch, and contains:

5 × 12 × 12 centimeter coagulant pads
1 × 20 × 20 centimeter coagulant pads
1 × ultrasonic hypodermic
1 × biomonitor
1 × 5-dose hypo vial, healing booster
1 × 5-dose hypo vial, pain inhibitor
3 × 5-dose hypo vials,broad-spectrum antibiotics/antivirals
1 × 0.5-liter tube, broad-spectrum antibiotic cream
2 × 5-dose hypo vials, anti-shock
1 × 0.5-liter tube, wound glue.
2 × inflatable splints, 1 arm, 1 leg
3 × 5-meter rolls, sterile bandage

Dimensions: 3.6 kilograms
Power Source: Standard cell
Rigging Value: Standard
Durability: 0
Legality: Legal
Availability: Very Common
Cost: 1,600cs

Transdermal Charger

In an effort to develop a method of drug administration that avoided the rigors of the digestive tract and did not have to rely on single-use needles, the planners of the original Athena expedition developed a technique whereby patches of absorbent material could be applied to the skin and made to release a pre-delivered drug dose through the skin over a period of time. Ready-made uncharged patches can be loaded into a charger, and metered doses of a drug can be applied to the patch any time up to a week before use. Although legal, derm chargers are particularly popular with users of recreational drugs and are likely to encourage uncomfortable curiosity from law enforcement if not accompanied by the proper prescription paperwork.

Dimensions: 0.2 kilograms
Power Source: Standard cell
Rigging Value: Standard
Durability: 0
Legality: Legal
Availability: Common
Cost: 90cs per charge, 2cs per patch

Trauma Cuff

An outgrowth of early cryo-oxygenation technology, trauma cuffs are designed to stabilize potentially life-threatening limb injuries. Crush injuries or limb amputations often prove too extensive and traumatic for treatment with coagulant pads. These wounds can result in unnecessary deaths in the field before patients can be transported to a well-equipped trauma center. Trauma cuffs

are designed to be applied either mid-limb or at the end of a stump in the case of an amputation. Designed to be operated by medical techs with little training while in the field and under stressful circumstances, trauma cuffs can be attached to the injured extremity in a matter of minutes, after which automated subroutines take over the management of the injury. An attached biomonitor determines the severity of the patient's condition, and administers antibiotics, anti-shock, and analgesics as needed. Tiny injectors and spray heads can apply clotting factors and use electrically charged jets of argon gas to stop even massive bleeding.

Trauma cuffs may be used whenever a character suffers a critical wound that the Game Master determines was caused by severe trauma to an extremity. The operation of a trauma cuff requires a successful Medicine roll and eliminates all trauma effects from the treated limb. If a separate trauma cuff is applied to the amputated part, it has a significantly greater chance of being reattached if it and the patient can be delivered to a major surgical center within 15 hours.

Dimensions: 2.3 kilograms
Power Source: Standard cell
Rigging Value: Impossible
Durability: 0
Legality: Legal
Availability: Rare
Cost: 3,500cs

Ultrasonic Hypodermic

This small device administers drug injections painlessly and without intrusion using ultrasonic vibration. When pressed against the skin the vibrations increase the permeability of the dermis, allowing injected drugs to enter the bloodstream directly. The hypo is digitally controlled and administers drugs from modular vials. The hypo is slower than a traditional injection, however, requiring up to 30 seconds to administer a standard dose.

Dimensions: 0.2 kilograms
Power Source: Standard cell
Rigging Value: Impossible
Durability: 0
Legality: Legal
Availability: Uncommon
Cost: 270cs

Wound Glue

Wound glue is a convenient combination of surgical adhesive, antibiotics, and dormant, artificial dermis cells. Wound glue will seal simple lacerations, stopping bleeding, while helping to prevent infection and speed healing. The artificial skin cells, in the presence of biochemicals in the wound, will culture and begin to organically seal the wound, doubling the healing rate. Wound glue usually comes in, and is administered directly from, 0.05-liter squeeze tubes.

Dimensions: 1.2 kilograms/liter
Power Source: None
Rigging Value: Impossible
Durability: 0
Legality: Legal
Availability: Common
Cost: 35cs per tube

DRUGS

Antimicrobials (Antibiotics, Antivirals, Antifungals)

When Alexander Flemming discovered the antibacterial activity of the penicillium mold, what he found was a naturally occurring defense mechanism that made the mold better able to compete for resources in an environment overflowing with microbial rivals.

Poseidon introduced an entirely new crop of microbial pathogens. Those pathogens, however, were striving in an environment rich in competition, resulting in an ever-evolving environment of microbial attack, defense, and defense-avoidance. To combat this micro-ecology's effect on humans, many of the Incorporate states have sizable research interests in developing new antibiotics, antivirals, antifungals, and their Poseidon equivalents.

Many of the antimicrobial drugs in common use, and especially those intended for use against Earth-native infections, can be particularly harsh on the patient. Expect anybody treated for a serious infection to develop nausea and vomiting and possibly severe diarrhea as a result of the drugs ravaging of the digestive tract. Patients being treated with drugs specific for infections native to Poseidon are at a substantial risk for the development of an allergic reaction. A failed Physique roll indicates an anaphylactic reaction, including fluid collections in the lungs and substantial airway swelling. Patients with the osmoform modification can avoid danger by immersing themselves in water and allowing their gills to operate normally. Otherwise, the physician must make a successful Medicine roll within an hour or risk losing the patient to suffocation.

Patients with the multiglands or immunological symbiote modification are immune to anaphylactic reactions.

Form: Injection, ointment, patch or tablet
Dosage: Dosage based on weight; one to three times per day
Legality: Legal
Availability: Common
Cost: 0.25cs to 500cs per dose

Anti-Shock

Anti-shock can be a life-saving drug in emergency situations. When administered to a casualty suffering from trauma, anti-shock allows the player of the injured character to make a new trauma roll with a +2 TN bonus. Anti-shock also serves as an effective broad spectrum anti-venom, giving the user a +1 bonus to Toughness for the purposes of fighting off toxins.

Form: Inhaler or injection
Dosage: If a single dose does not work, subsequent doses are of no use
Legality: Legal
Availability: Common
Cost: 10cs per dose

Auntie Susie

Originally developed in a Biogene pharmaceutical lab on Earth, Anti-Senescence Serum was intended as a synthetic version of the longevity therapy derived from xenosilicates. Despite promising results early on, researchers failed to design a safe and reliable therapy using the compound. Though Biogene Security remains at a loss as to how it happened, the specifications have since reached the streets and are now being used to manufacture the increasingly common, highly illegal drug known as Auntie Susie.

Auntie Susie is meant to arrest the aging process in a manner similar to traditional Long John therapy. Unfortunately, the substance remains extremely unpredictable, and using it is rather like playing Russian roulette. In theory, small sequences of artificial DNA act like genetic promoter sequences in the target cells, serving to activate intrinsic repair mechanisms, halting the aging process. In practice, however, the results are often debilitating and even lethal. Frequently, the artificial sequences override the expression of key genes, leading to the malfunction of target cells.

Typically, these malfunctions are marginal and can be treated with medical therapy. Occasionally the consequences are more extreme, however, as the artificial DNA sequences become incorporated into the target cells' chromosomes, initiating the development of cancerous tumors and somatic mutations. At best, these mutations are unpredictable, leading to broad-spectrum medical problems. At worst, they are sudden, painful, and lethal killers.

Despite these risks, there is a growing black market for Auntie Susie as those without the means to undergo reliable longevity therapy turn to this dangerous alternative. In some regions on Earth, the serum has become such a problem that Peacekeeper detachments have been assigned to assist the Justice Commission in the eradication of manufacturing and distribution centers.

Auntie Susie has just begun to appear in the black markets of Poseidon, and the drug has yet to become a wide-spread problem. Though longevity treatments are less expensive on the colony world, the substantially lower price and availability of this illegal alternative would most likely create a lucrative market. Local Justice Commission officials are already developing plans to halt the spread of this dangerous substance.

If a character chooses to risk using Auntie Susie, he must roll 1D10 on the following table once for each dose he takes and suffer the consequences described.

1–7	The serum appears to work normally, enhancing the vigor of the user's physiology and arresting the aging process for approximately four months. At this time another dose, and another roll, is required to maintain the effect.
8	The physiological interference caused by the artificial DNA leads to one of several metabolic disorders that can only be treated with clinical therapy. Failure to obtain treatment leads to metabolic failure and death, typically in two to three months.
9	Somatic mutations lead to rampant and fast-growing cancers that spread quickly. Though treating such a condition is an expensive proposition, failure to do so typically results in death within four weeks.
10	The physiological response is quick and terminal. The user dies painfully within 12 hours despite any medical attention they may receive.

Form: Inhaler
Dosage: Once approximately every four months
Legality: Proscribed
Availability: Rare
Cost: 250cs per dose

BAGGIES

Baggies are an increasingly common item at social gatherings that include cetaceans. They are found at waterfront bars, beach parties, weekends on the yacht — anywhere humans and cetaceans take a load off, relax a little, and tie one on.

"Baggy" is a general term for an increasing variety of intoxicants packaged for convenient consumption by fins. An individual baggy consists of a gelatin membrane filled with liquid chemical. The membrane is readily digestible in the stomach fluids of a cetacean, allowing its contents to be quickly absorbed into the fin's bloodstream.

Typically, a bartender loads the baggy with the requested drug and simply tosses it into the water where it is gulped down by the cetacean customer. Within a few minutes, the expectant fin usually begins to feel the drug's effects and within five minutes the intoxicant is in full effect.

The sorts of chemicals used in most baggies are mild, having the same level of effect on fins that a few beers might have on a human. Cetaceans, however, do not seem to enjoy the feeling brought on by alcohol, so "baggy water" is usually one of several forms of mild hallucinogen. Fins make various claims about how the drugs increase the richness and fidelity of the sound images they form by echolocation. It is therefore not uncommon for cetaceans that have imbibed a few to echolocate almost constantly. It is convenient that the human ear is not sensitive to most sounds fins use when in this state.

There have been documented cases of a few cetacean drug addicts who use baggies as their fix of choice, filling the membranes with harsher and more dangerous chemicals. Such fin junkies are uncommon, however, as the addictive personality traits that plague humans seem rare in cetaceans.

Humans without anti-poison biomods are advised to refrain from consuming the contents of fin baggies. Though there are reports that some humans use baggy water recreationally, there are also documented cases where human use has proved lethal.

Form: Digestible membrane envelope
Dosage: 0.5 to 1.0 liters
Legality: Legal to restricted
Availability: Common
Cost: 2 to 5cs; up to 65cs for Fish Food

Some common baggies are described below:

Fish Food

"Fish Food" is the name given to a powerful psychotropic substance used exclusively by cetaceans. Its proper name, a string of unpronounceable cetacean vocalizations, has no clear translation into most human languages. Its meaning has been interpreted as such varied terms as "the Deity's blessing on all at once" to "the nourishing milk from the nipple of God" to "the clarity/transparency of mind/sight/thought found only in the deepest/oldest/most holy ocean/life."

Humans typically experience a strongly dystonic reaction to Fish Food, becoming agitated, anxious, emotionally depressed, and aggressive. Cetaceans, on the other hand, experience an increased ability to concentrate and process complex information, detect subtle stimuli in a field of distracting "noise," and recall detailed information. Their subjective descriptions of the drug's effects are of a feeling of openness of mind or elevation of consciousness. This drug is used heavily during ceremonies of the Church of the Whalesong Theogony.

Fish Food itself is derived from an exotic sesquiterpine alkaloid found in the skin secretions of a deep-water tube worm. It is refined for purity and sterilized, and then taken orally in essentially its native form. This drug has not been restricted by the GEO's Justice Commission. It has no known addictive characteristics.

Hammer

This is a particularly potent mixture, and is analogous to a "double" for a human.

Spy Hopper

Fins respond to this baggy like humans respond to coffee, only with a rather more intense effect.

Sleeper

This one puts most cetaceans into a sort of light trance and is the baggy of choice at musical concerts.

THE BARON'S FARE

One of the better-known native cures, the Fare is a natural products remedy intended to treat a multitude of conditions. Its name refers to Baron Samedi, the voudou loa revered as the god of crossroads and death, and it has become relatively popular in some settlements in the Zion Islands. The Fare, rather than sending patients to see the Baron, is intended to "pay their ransom and carry them through the crossroads." The drug, which is distilled from the crushed seed pods of a creeping native vine, is known to increase cardiac output and help to reverse heart failure and treat shock due both to blood loss and to allergic reaction. Significantly, its mechanism of action

has not been established. Additionally, the formulation's activity against shock due to trauma is far greater than would be expected when compared to its activity against other forms of circulatory collapse. The Baron's Fare allows the injured character to make a new trauma roll with a +3 TN bonus. The Fare also grants a +2 bonus to Toughness against poisons that operate via anaphylactic shock.

The treatment of shock is still a significant challenge, and a new method for its treatment could prove quite profitable. As a result, a number of biotech firms — especially Lavender Organics and Gendiver — have been aggressively seeking information on the specific plants used in the Fare's production, and the exact techniques used in its preparation. These attempts have been foiled so far as the natives of Mariner Point, with help from sympathetic friends in Kingston, have formed a new company called Zion Pharmaceuticals. Zion Pharmaceuticals is now the sole commercial producer of The Baron's Fare, although they share their profits with other native settlements and don't enforce their rights where other villages are concerned.

Form: Herbal tea
Dosage: Varies
Legality: Legal
Availability: Uncommon, generally unavailable outside of the native settlements of the Zion Islands
Cost: 25cs or by barter

Devil's Dance

Harvested from the Sierra Nueva marsh devil, Devil's Dance is a potent stimulant and hallucinogen, commonly found throughout the islands of the Northwest Territories. In the marsh devil, the substance is believed to give the animal its tremendous speed during predatory attacks. The potent oxidizing compounds in the drug act to accelerate reactions in muscle tissue, in the digestive tract, and in the brain. Users experience eight to 10 hours of incredible energy and often move about at a frenetic pace because they simply cannot sit still. Accompanying this physical overdrive is a similar increase in sensory activity. Users experience visual, auditory, and tactile hallucinations of uncanny reality. First-time users must make a Psyche roll or experience exquisite tactile hallucinations. For example, the user may be convinced he is covered in hundreds of deadly insects and use any means at hand to get them off.

Form: Injection and patch
Dosage: Dose varies with purity of extract. One dose begins to act over 30 seconds to one minute, with duration from several minutes for very impure samples to up to 10 hours for very pure drug.
Legality: Restricted
Availability: Varies. Most common in the Sierra Nueva Cluster and surrounding areas.
Cost: 35 to 175cs per dose

Healing Booster

This drug is a genetic activator that promotes the production of key enzymes and hormones, temporarily doubling the user's healing rate. Similar to some of the functions of the symbiote biomod, this drug does nothing for those already carrying a symbiote.

Form: Injection
Dosage: Once/day until the injury is healed
Legality: Restricted
Availability: Uncommon
Cost: 55cs per dose

HemoMax™

The descendent of a drug developed by Biogene during the early days of the Athena Project, HemoMax™ is the latest in a series of medications designed to increase the oxygen carrying capacity of the red blood cell. HemoMax is actually a combined formulation, having effects on the amount of hemoglobin in the red cell, the number of red cells, and the O^2-dissociation curve of the hemoglobin molecule itself. Individuals who take HemoMax over a period of weeks develop an increased ability to hold their breath and to utilize the oxygen available to them. HemoMax users can expect a 20% increase in the time allotment in tanked O^2 supplies. They also undergo a steady increase in the maximum amount of aerobic work they can do. Genetically modified individuals with the diver package experience a similar 20% increase in the maximum time they can stay submerged because of their increased ability to use the oxygen in the air they breathe.

Patients who overuse HemoMax can experience a drastic increase in the number of red blood cells. This can thicken the blood to a dangerous degree, leading to the formation of clots within the circulatory system. In this situation, patients rapidly experience multiple heart attacks and strokes and will die within hours if they do not receive prompt medical attention. Additionally, patients who stop taking HemoMax undergo a rapid turnover in red blood cells. Patients who start and stop HemoMax therapy frequently

can develop liver failure due to chronic iron poisoning.

Form: Injection or patch.
Dosage: Transdermal Patches are applied once a week. Injections are required twice per week.
Legality: Legal
Availability: Common
Cost: 80 to 120cs per dose

Hypnotics

Although the term was traditionally used to refer to drugs that would induce sleep, modern hypnotics are drugs that aid the user in suppressing unwanted stimuli and concentrating exclusively on a single sense. The only form in widespread use is designed to allow the user to focus on input from NIC-assisted devices.

Users who dose with hypnotics receive a +2 bonus when operating remote devices, but incur a –3 penalty to Cognition or sense rolls for local events. Since users without NIC input typically enter an extremely relaxed, detached state, hypnotics such as Lavender Organics' Clarion™ have a high abuse potential and are controlled substances. A substantial culture of "drug enlightenment" has developed around the trance-like states these drugs induce. However, their addictive potential is quite low.

Form: Injection and patch
Dosage: Metered doses last from 30 minutes to six hours
Legality: Restricted
Availability: Uncommon
Cost: 125cs per dose

Immune Modulators

The immune system remains one of the most complicated, least understood components of mammalian physiology. Its effects are staggering in scope, and can have effects on everything from rejection of transplanted organs or cybernetic grafts to an individual's ability to survive in Poseidon's hostile environments.

Immune augmenters are designed to enhance an individual's natural defenses and are used if exposure to a pathogen is expected or has recently occurred. Biogene specifically developed Poly-Mune™ for the original Athena colonists, and it remains one of the most effective drugs in its class. Variants also exist for individuals who expect to come into contact with cancer-causing radiation or carcinogenic substances, and have been demonstrated to be very effective in preventing the development of new tumors.

Immune suppressors are intended to shut down the immune system of transplant recipients, patients with lymphomas and cancers who are unable to obtain curative Long John therapy, or patients with induced autoimmune diseases. Patients with the active variant of Silva Combined Immune Deficiency require regular, carefully monitored doses of Cytaprone™ for survival.

Form: Injection or nasal spray
Dosage: Augmenters can be delivered in metered nasal spray doses. Suppressors require careful dosing by trained medical professionals.
Legality: Restricted
Availability: Augmenters — common, suppressors — rare
Cost: Augmenters — 75cs per dose, suppressors — variable, most more than 180cs per dose

Pain Inhibitor

Basic pain killers are neural inhibitors that block impulses from pain receptors. These drugs allow users to ignore impairment penalties resulting from minor wounds and reduce impairment penalties for serious and critical wounds by 1. This drug can be psychologically addictive.

Form: Injection or tablet; injections function in seconds, tablets in about 10 minutes
Dosage: A single dose lasts a number of hours equal to (5 – Physique)
Legality: Restricted
Availability: Common
Cost: 45cs per dose

Pigment Inducers

A favorite of newcomers still recovering from IHMS and covered in the spots, "tanners" act on melanocytes in the deeper skin layers, prompting them to produce substantially greater amounts of pigment. These drugs can cause a deep overnight tan, and if used for more than a few days, can darken a moderately shaded individual to rival the darkest African. These drugs are essentially harmless and are often a favorite of schoolchildren, disguise artists, party goers, and tourists. Melanocyte inhibitors also exist and have become quite popular with the fashion conscious, imparting a pale, almost transparent cast to normally fair-skinned individuals. Dark-skinned persons can expect a mild to moderate lightening of skin color over a significantly longer time.

Form: Patch or tablet
Dosage: Two tablets can equal several days exposure to strong sunlight.

Legality: Legal
Availability: Common
Cost: 35cs to 45cs per dose

Reflex Serum

Reflex serum, or "juice" as frequent users call it, chemically stimulates the fight-or-flight reflex, and is therefore popular among soldiers, operatives, and certain criminal elements. Juice increases a user's Endurance, Reflexes, and Physique by 2 for a number of minutes equal to 100 – (30 × Physique). When the drug wears off, however, the crash is quick and severe, and the same attributes are reduced by 2 for a time equal to the duration of the high.

Reflex serum is illegal in most places and carefully controlled. Conviction of a crime committed while under the influence of juice carries additional and severe penalties. Excessive use of reflex serum can also be physiologically addictive.

Form: Inhaler
Dosage: Premeasured doses act in seconds
Legality: Proscribed
Availability: Rare
Cost: 350cs per dose

Rescue Hibernators

Designed to improve trapped accident victims' chances of rescue, these devices combine a powerful sedative and a drug that induces mild muscle paralysis. Developed as an outgrowth of the IHMS technology that makes mass transit between Earth and Poseidon possible, these agents act to place the user in a light coma and cease nearly all voluntary muscle activity. This substantially decreases the brain's oxygen requirement and reduces O^2 usage to minimum levels. Used with conventional emergency devices such as rescue balls, hibernators can extend an accident victim's survivability by as much as a third. These drugs have an obvious drawback in that users are unconscious and utterly unable to take action to protect or defend themselves for up to 30 hours after taking a standard dose.

Form: Injection
Dosage: Single measured dose, takes full effect in 10 minutes
Legality: Restricted
Availability: Common
Cost: 250cs per dose

Spox™

An alternative method for dealing with "the spots," Spox™ is a product of Lavender Organics. Not precisely a drug, Spox is instead a single-celled organism that is stored in an anhydrous gel in its encysted state. The cysts are smeared onto the affected area and then the region to be treated is immersed in water. The water slowly permeates the gel and causes the tiny rotifers to break out of their cysts and begin hunting for food. The Spox organism has a particular appetite for diseased or damaged human skin. These microscopic animals will consume dead surface skin or dermal tissue that has been exposed to nearly any sort of trauma. When only healthy skin remains, the rotifers die.

Although its most common use is in removing the skin traumatized by the IHMS electrodes, Spox is most successful in treating burns, frostbite, and severe wound infections.

Form: Gel
Dosage: 1 application is sufficient for treatment.
Legality: Legal
Availability: Uncommon
Cost: 110cs to 135cs per application

Tursiprostone™

Although rare, impotence is a far more psychologically devastating condition among cetaceans than in humans. Dolphins' highly developed sexuality is generally resistant to the kinds of mental disorders more common in humans. No amount of cultural acceptance of sexuality, however, can prevent cardiovascular or neurologic damage that can significantly impair sexual functioning in both dolphin genders.

Tursiprostone is a combination formulation, consisting of a mixture of the major dolphin sex hormones and sympathetic neurotransmitters. It is designed to restore sexual function in those individuals who experience difficulty due to organic causes. The drug is delivered through a patch specially formulated to penetrate the thick cetacean skin. Because of its powerful effects, this drug has a high potential for abuse. It is considered a controlled substance by the GEO.

Form: Injection or patch
Dosage: One patch or two injections per week.
Legality: Restricted
Availability: Uncommon
Cost: 50 to 80cs per dose

Toxin Scavengers

Designed to dry out drug abusers and alcoholics, tox-binders are a group of proteins engineered to bind to and inactivate a broad spectrum of illegal or controlled substances.

Tempran™ is a specific binder that scavenges ethanol in the user's bloodstream and can take a patient from insensate drunkenness to cold sobriety in 15 minutes. Alternative formulations exist for single agents as well as for groups of drugs or poisons.

A number of military, security, and Incorporate organizations have developed specific tox-binders designed to counter commonly used poisons. The military-grade binders are intended to protect against nerve gasses or similar agents, whereas the more common civilian variants are designed with the paranoid executive in mind. A related formulation available on the open market acts in the digestive tract to "scoop up" and inactivate the bacterial toxins responsible for most forms of traveler's diarrhea.

Tox-binders intended to be used against street drugs should only be administered by trained medical professionals, as the instant withdrawal induced by a dose can occasionally be fatal.

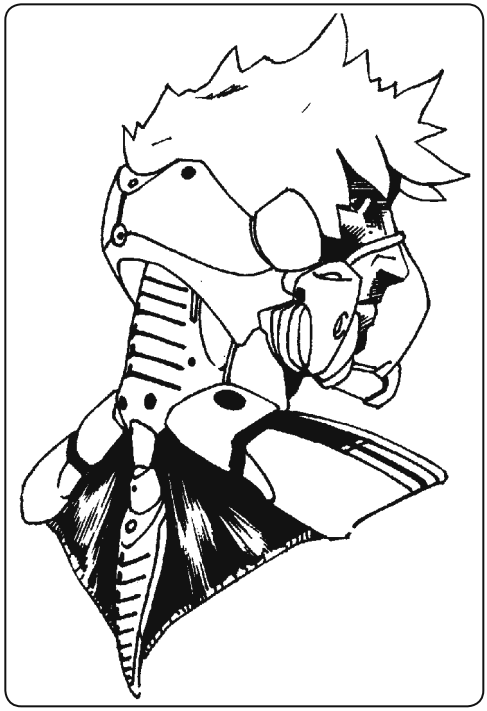
A number of dealers in and around the Haven area have begun to cut their products with varying amounts of toxin scavengers tagged to their product. Their intent is to drastically reduce the effect produced by a given volume of drug. Of course, there's nothing illegal about this… or rather, nothing any more illegal.

Form: Inhaler, patch or tablet
Dosage: Metered doses act over 5 to 30 minutes
Legality: Restricted
Availability: Common
Cost: 15 to 60cs based on number of toxins

LIFE SUPPORT

Artificial Gill

An effective way for non-aquaforms to explore the depths is by using a gill pack. A gill pack is a small backpack device that contains a convoluted semi-permeable membrane that functions much like a true fish gill. The membrane, in combination with a small rebreather unit and a regulator, allows for roughly 20 hours of underwater activity. Gill pack users remain subject to depth and decompression limits.



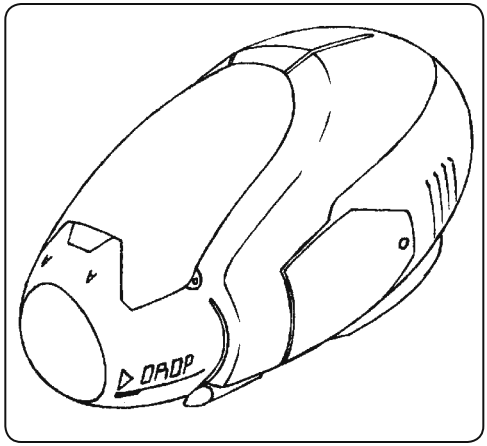
Dimensions: 2 kilograms
Power Source: Standard cell with solar charger
Rigging Value: Standard
Durability: 0
Legality: Legal
Availability: Common
Cost: 250cs

Atmospheric Insertion Pod

Also known as a drop pod, this military device is designed to drop a fully equipped soldier to specific planetside coordinates from orbital and suborbital assault craft. It has Armor Rating 7, ablative shielding, braking thrusters, and a high-velocity parachute. Drop pods fall from orbit like proverbial rocks, firing their brakes and deploying their parachutes only within a few thousand meters of the ground, slowing the pod just enough to mitigate the crash landing. The high-speed entry minimizes vulnerability and most designs are further protected by various stealth features and target countermeasures.

Drop pods employ the equivalent of crash protection systems, and upon impact, explosive bolts open the pod shell and blow away the hardened foam. Pods contain minimal life support intended to last for only the short insertion flight.

Dimensions: 100 kilograms
Power Source: Heavy duty cell
Rigging Value: Standard
Durability: 4
Legality: Restricted
Availability: Rare
Cost: 22,500



Bacterial Life Support EVA System

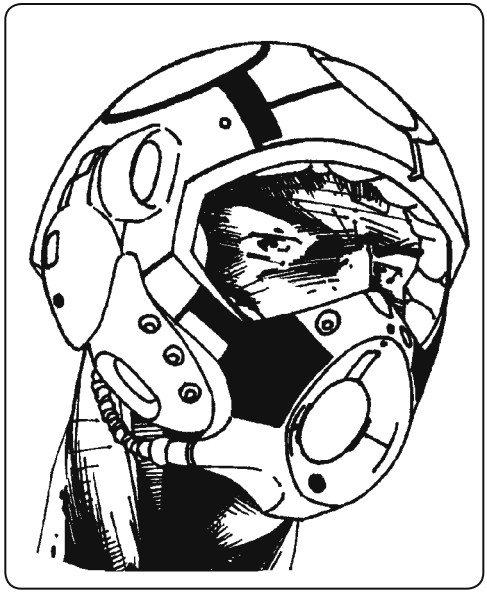
Genetic engineering has eliminated the need for bulky life support systems on EVA suits. Tailored anaerobes are now cultured within the thick, multiple layers of the vac suit. These microbes convert exhaled carbon dioxide to oxygen as a byproduct of their metabolism, and this oxygen is harvested to support the user. Bac packs, as these systems are commonly called, can function without servicing for up to 200 hours, but a user's integrated food, water, and sanitary reserves limit use of conventional systems to around 40 hours. Servicing the culture in a bac pack merely requires verifying the culture's health, flushing its accumulated waste, and restocking its nutrient supply. Bacteria life support systems are used in most late-model space suits, and a similar system is used by Martians when working on their planet's surface.

Vac suit functions are controlled by a computer integrated into the helmet. With the same capabilities as a standard bodycomp, these systems monitor and control the function of the suit and are able to run other loaded programs. Interfaces are typically voice-command and heads-up displays. Helmet options are numerous, but standard configurations include floodlights, flash suppression, light amplification, thermal imaging, and multiband communications. A bac pack provides the wearer with protection equivalent to an Armor Rating of 2, but any damage to the suit that exposes its interior to vacuum will cause the system to fail. Additionally, due to the bulky, confining, and cumbersome nature of the suit, all of a user's physical actions incur a –1 penalty.

Dimensions: 11 kilograms
Power Source: Heavy cell
Rigging Value: Standard
Durability: 0
Legality: Legal
Availability: Common
Cost: 2,700cs

Diving Mask

On Poseidon, most diving masks are much more than airtight face plates. In addition to powerful headlamps, such masks can also be equipped with sonar and a heads-up holographic display connected to the diver's bodycomp. The sonar used in a diving mask produces a picture of the sonar data as a virtual image on the inside of the mask. This sonar only functions underwater and has a range of 100 meters.



Dimensions: 0.75 kilograms and adjustable to fit
Power Source: Standard cell
Rigging Value: Standard
Durability: 0
Legality: Legal
Availability: Very Common
Cost: 50–450cs depending upon options

Drysuit

Drysuits are one of the most popular garments on Poseidon. A drysuit is a diving suit which can also be worn as comfortable clothing. Made of a variable-state material a drysuit can be either a loose-fitting jumpsuit with good ventilation or a close-fitting diving suit with excellent insulating properties. A low-powered electric current can rapidly switch the material from a baggy, open weave to a tight water-proof material. The

jumpsuit is neutrally buoyant and contains a battery for powering the change and the integrated heating elements. Integrated solar cells on the back and shoulders recharge and supplement the batteries. Drysuits come in a variety of colors and patterns and are commonly worn as casual and work clothing in many communities on Poseidon.

Dimensions: 3 to 5 kilograms
Power Source: 2 standard cells with a solar charger
Rigging Value: Standard
Durability: 1
Legality: Legal
Availability: Very Common
Cost: 230cs for a basic suit, up to 1,000cs for elaborately patterned custom versions

Fireball

This is the colloquial term for a specific rescue ball (p. 166) design used for vacuum survival. It utilizes integrated, self-piloting thrusters and a thick layer of ablative foam armor that encases the ball during the inflation process. A fireball is capable of plotting proper approach trajectories and surviving atmospheric reentry. Though tests have proven that re-entry R-balls can work, the same tests also indicate that, given the choice, awaiting rescue is the safer option. Activated from any reasonably stable orbit, an advanced rescue ball has an 80% chance of reaching the lower atmosphere without burning up on re-entry. Even if the user survives, he suffers a Damage Rating 3 attack due to the extreme heat and violent buffeting.

Dimensions: 15 kilograms
Power Source: Heavy cell
Rigging Value: Standard
Durability: 3
Legality: Legal
Availability: Rare
Cost: 2,500cs

Gill Suit

Gill suits go a long way toward giving a normal human some of the aquatic freedom of aquaforms. A simpler, more reliable alternative to a gill pack and a drysuit, gill suits are made of numerous layers of osmotic fabric that perform as an artificial gill.

When immersed, the movements of the wearer's body activate the membranes, filters, and muscle-powered pumps within the suit. The suit extracts oxygen from the water and passes it to the integrated rebreather. Bladders within the suit's layers automatically inflate with or bleed off oxygen as pressure changes, to keep the suit and diver neutrally buoyant.

The rebreathers in gill suits can be fitted to use helium as a nitrogen substitute, greatly increasing the depth limits of the user, and thermal wiring in the suit's inner layers serves to keep the user warm even in the coldest water. Gill suits are more durable and more comfortable than gill packs, and they contain kinetic generators, which provide for the suit's minimal power requirements by harvesting power from the user's movements. With their integrated pumps, numerous pockets, D-rings, and fitting straps, gill suits appear rather utilitarian and little effort is made to make them fashionable.

In general, urban wannabes prefer the simplicity, fashion, and lower cost of gill packs and dry suits. People living on the frontier, always in and out of the water and far from replacement parts, tend to prefer the versatility and reliability of gill suits. They are uniquely serviceable, but in the larger settlements they mark the wearer as someone from the frontier.

Gill suit users are still restricted by decompression requirements, though with the helium option their maximum depth is increased to 500 meters. Additionally, due to their heavy construction, gill suits provide protection equivalent to Armor Rating 2 for the wearer.

Dimensions: 4.5 to 7 kilograms
Power Source: Kinetic generators
Rigging Value: Standard
Durability: 2
Legality: Legal
Availability: Common
Cost: 3,200cs

Survival Gear

Emergency Bottle

Emergency bottles are common accessories in submarines, hard suits, and on shallow-depth undersea installations, and are used during catastrophic flooding or evacuation. Emergency bottles are actually more mask-like than tank-like, as current materials technology has reduced the size of the air reservoir to approximately half a liter. Emergency bottles are one-size-fits-all full face masks, containing integrated regulators, air bottles, hydrophones, headlamps, and locator beacons.

Emergency bottles provide up to 15 minutes of air, depending on depth and activity level. These rescue devices can save lives but do nothing to mitigate the effects of freezing temperatures or pressure, so users must be wary of their circumstances.

Dimensions: 0.95 kilograms
Power Source: Standard cell
Rigging Value: Standard
Durability: o
Legality: Legal
Availability: Very Common
Cost: 630cs

Emergency Pod

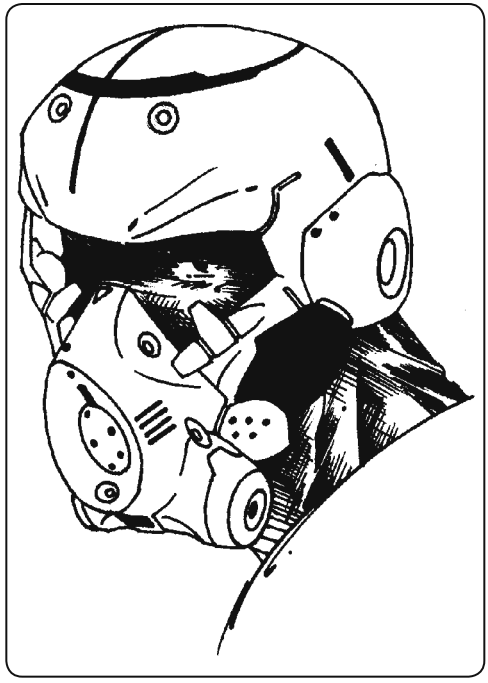
The classic example of this deep-sea emergency device was initially a spin off derived from the inflatable balloon tanks used on interstellar spacecraft. The spherical pods are constructed of a flexible carbon buckytube mesh that can be tightly packed around a structurally reinforced carbon frame. Chambers within the flexible skin are filled with pressurized CO^2 and designed to be inflated on contact with water, providing not only structural stability but added buoyancy as well. Emergency pods are designed as evacuation vehicles when an underwater facility suffers a catastrophic loss of life support and structural integrity. With their extremely strong construction and sturdy — if cramped — airlocks, emergency pods are operational at depths up to 2,000 meters.

Emergency pods range from three to five meters in diameter, with part of their area devoted to a power cell and drive assembly for a small propeller. Storage compartments in the pod contain folded blocks of survival plastic, a portable navigation unit, a battery-powered rescue locator, personal flotation devices, a first aid kit, and a solar still. The inflated pod can comfortably hold six individuals, but can carry more than twice that number without foundering. Such rafts have helped to save hundreds of lives on Poseidon. They are commonly found in GEO and Incorporate deep-sea facilities, but private citizens can rarely afford them.

Dimensions: 120 kilograms,
1.5m × 1.0m × 1.0m when packed,
3.5 × 2.0m × 1.5m when inflated
Power Source: Heavy cell
Rigging Value: Standard
Durability: 4
Legality: Legal
Availability: Common
Cost: 34,000cs

Filter Mask

A filter mask protects the user from most airborne chemical agents. A filter combines activated charcoal and a miniature electrostatic precipitator to remove harmful particles from the air stream. Filter masks usually cover the user's nose and mouth and come with air-tight goggles and adjustable



fitting straps. Air filters can also heat or cool air to a comfortable temperature.

Dimensions: 0.3 kilograms
Power Source: Standard cell
Rigging Value: Standard
Durability: 1
Legality: Legal
Availability: Uncommon
Cost: 140cs

Fire Paste

Fire paste is a useful chemical putty that is used to start or fuel emergency fires. Fire paste comes in small blocks, each with an integrated igniter. To light a block, the user simply pulls a tab on the igniter; five seconds later the putty flashes alight. The paste will readily ignite other inflammables, and a single block will burn bright and hot by itself for almost 30 minutes.

Dimensions: 0.56 kilograms
Power Source: None
Rigging Value: Impossible
Durability: 0
Legality: Legal
Availability: Very Common
Cost: 7cs

GEO Poseidon Biological Survey #POS–103

Biological Survey #POS–103 is an ongoing study intended to identify and classify important flora

and fauna on the colony world. Subtitled Resource and Hazardous Species of Poseidon, the project hopes to identify those plants and animal species that either pose serious threats to humans or can serve as valuable sources of food, pharmaceuticals, or other natural products. The study is in its earliest stages, and though thousands of species have been classified, countless others remain to be discovered. The native population has been invaluable in identifying many species and a number of native hunters, guides, and healers have been recruited to help continue the work.

For a nominal fee, anyone can purchase a subscription to an abridged project report from the High Commissioner for Science and Technology. This field guide provides holographic images, if available, for each species, as well as information on range, habitat, and behavior. The guide also details the nature of the threat posed or resources offered by each species. The report is subject to periodic updates and undergoes constant revisions as new species and new information are discovered.

Players whose characters purchase access to the report should be allowed to read any of the entries in any BLUE PLANET publications that are designated as part of the biological survey report, including the flora and fauna entries in the *Game Master's Guide*.

Legality: Legal
Availability: Very Common
Cost: 25cs per download, 120cs for a subscription

LOCATOR BEACON

A locator beacon is a small, high-powered radio transmitter that uses a battery and a solar charger to generate a continuous, pulsing telemetry signal intended to guide rescuers. Beacons are common on air- and watercraft and are carried by explorers, soldiers, and frontiersmen alike. Beacons are easily received by satellite monitors, but they are only useful if someone is listening — and if they give a damn.

Dimensions: 0.7 kilograms
Power Source: Standard cell and solar charger
Rigging Value: Impossible
Durability: 0
Legality: Legal
Availability: Very Common
Cost: 135cs

NUTRITIONAL CATALYST

Nutritional catalyst, or "chew goo" as the Peacekeeper infantry has dubbed it, is a military survival tool that is now available on the civilian market. Nutritional catalyst is a suite of artificial enzymes and digestive chemicals that is used to pre-digest just about any natural organic material, allowing it to be utilized as food.

Chew goo is a thick paste that comes in a simple squeeze tube. When mixed with water and organic material, such as grass, twigs, crab shells, or fish bones, the catalyst breaks down the organics into their component molecules, allowing humans to consume what would otherwise be indigestible material. The resulting goo is variably thick or runny, depending on the raw materials, and it tastes uniformly awful. The goo is highly nutritious, however, and can be the difference between life and death when more palatable food is unavailable.

Some brands of catalyst contain additives intended to neutralize most of the known plant and animal toxins on Poseidon. Unfortunately, there remain hundreds — if not thousands — of unknown toxins and so it is recommended that whenever possible, only familiar species be utilized as food.

One tube of chew goo can produce 50 mandays of nutritional soup.

Dimensions: 0.25 kilograms
Power Source: None
Rigging Value: N/A
Durability: N/A
Legality: Legal
Availability: Uncommon
Cost: 65cs

PEST SPIKE

A pest spike is an unlikely device, but even experienced frontiersmen swear by its effectiveness. A spike emits various invisible electromagnetic frequencies that do a reasonable job of keeping most of Poseidon's biting insect analogs at bay. The device plants in the ground and the emitter extends on a telescoping mast. One spike will keep an area about 20 meters in diameter relatively free of most insect pests. Considering the lethality of some of Poseidon's more poisonous species, a pest spike, though cumbersome and expensive, is a valuable addition to any camp kit.

A manufacturer's warning is included with pest spikes, as well as a denial of liability. Field tests have shown that under unpredictable conditions spikes may attract the attention of non-insect species, including dangerous predators. It is therefore advised that spikes only be used when the threat of insect poisoning is highest, or when the local non-insect fauna pose little threat.

Dimensions: 1.8 kilograms, 2.5 meters extended
Power Source: Standard cell
Rigging Value: Standard
Durability: 1
Legality: Legal
Availability: Uncommon
Cost: 1,340cs

Rescue Ball

Rescue balls are emergency devices used to survive loss of facility life support. R-balls are typically a meter and a half in diameter and contain a dormant bacterial life support system. A rescue ball comes packed into a small satchel. To activate it, the user pulls the ball from the satchel, climbs inside and zips the bubble shut. When the zipper closes, the device inflates and the bacteria system is activated. The power system also provides thermal control.

R-balls provide up to 80 hours of life support for a single adult, and contain powerful emergency radio beacons that activate upon inflation. There are rescue balls designed for both vacuum and undersea survival, and various options such as integrated first aid kits and saltwater stills are available.

Dimensions: 6 kilograms
Power Source: Heavy cell
Rigging Value: Impossible
Durability: 1
Legality: Legal
Availability: Common
Cost: 1,300cs

Rescue Dye

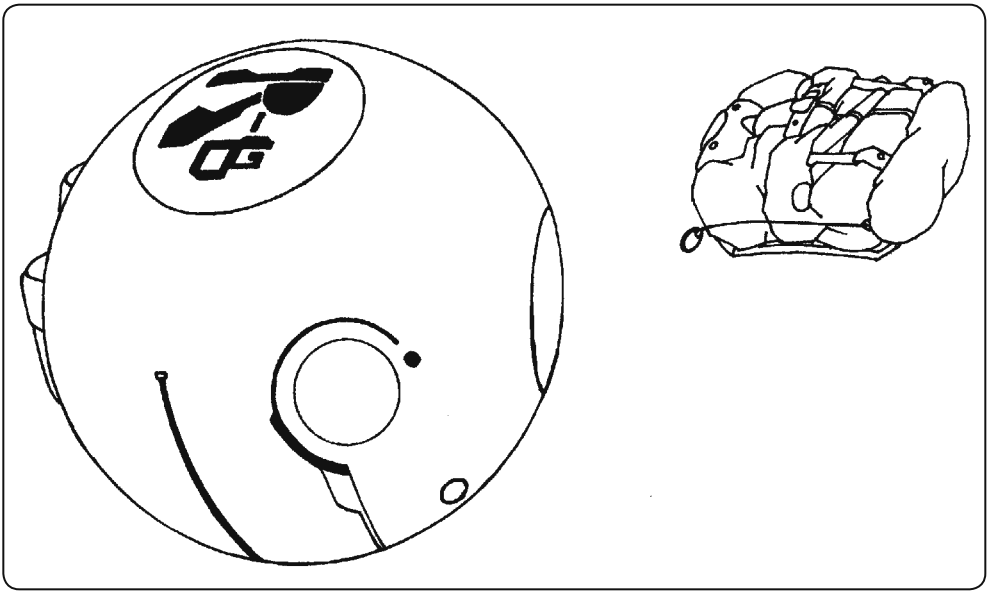
Rescue dye is a useful item, but only under specific circumstances. Rescue dye is a fluorescent chemical that comes in small, pressurized containers. Several containers are typically included on small boats, rescue rafts, and in aircraft survival kits. When activated, a canister expels the dye under force, spraying it over an area about 10 meters in diameter. Typically used to signal aircraft from the water, the dye quickly spreads and is bright enough to mark an area of several hundred square meters before diluting. Most dyes contain reflective powders that serve to improve the effectiveness of EM-based search techniques such as radar or laser reflection. Some versions of rescue dye also contain additives that are intended to chemically deter predators by masking a swimmer's scent with stronger odors. The effectiveness of these additives is debatable.

The use of rescue dye by the target of a search gives the searchers a +3 bonus to any visual or electronic task rolls.

Dimensions: 0.87 kilograms
Power Source: Compressed gas
Rigging Value: Basic
Durability: 2
Legality: Legal
Availability: Uncommon
Cost: 125cs

Rescue Raft

Self-Contained Autonomous Rescue Rafts (SCARRs) are small life boats and are often standard equipment on most small ships and personal



aircraft. Each raft is intended to support up to four people for extended periods, under all but the harshest marine conditions. SCARRs are compact but heavy when stored and deploy into durable, inflatable boats with an array of useful features. The hull contains storage batteries that power a small, propeller-driven outboard and are recharged by a solar panel integrated in the cockpit roof. The inflatable roof encloses most of the hull, providing protection from sun, rain, and over-washing waves. A locator beacon, navigational suite, and satellite uplink are included in most designs, as are water purifiers and 150 man-days of freeze-dried nutritional concentrates. Fishing gear, rescue dye and a dedicated survival guide are also typical components aboard SCARRs.

Dimensions: 275 kilograms and 5 meters deployed
Power Source: Heavy cell
Rigging Value: Basic
Durability: 3
Legality: Legal
Availability: Common
Cost: 9,200cs

Solar Blanket

Solar blankets are versatile — though somewhat fragile — solar panels designed for use in the field and under survival conditions. Solar blankets come in various sizes and are stored in compact satchels. They are deployed by simply spreading them on the beach, draping them over a vehicle, or even floating them on the surface of the water. Solar blankets consist of a photovoltaic matrix embedded in a delicate, foil-like material, and they continue to function effectively even if torn or punctured.

Solar blankets are typically used to trickle charge storage batteries and equipment, but they can also be used as direct energy sources for low power devices such as water purifiers and hydrogen stills. Solar blankets come with an attached transformer and several adapters that make them compatible with most equipment.

Dimensions: 0.85 kilograms
Power Source: Solar
Rigging Value: Impossible
Durability: 0
Legality: Legal
Availability: Common
Cost: 350cs

Solar Still

Although most of Poseidon's surface is covered by ocean, the majority of exposure fatalities among unmodified humans on the planet occur due to dehydration. The electrolyte content of Poseidon seawater is high enough to actually decrease free water reserves in those who drink even moderate amounts. Solar stills are inflatable evaporation chambers designed to produce drinking water from seawater. Measuring anywhere from one to more than three meters in diameter, these floating pyramids automatically fill with a few centimeters of seawater and allow solar heating to evaporate the water, leaving the salts behind. The water vapor condenses on the inside of the still's plastic cover and trickles down into catch basins. The largest stills can produce more than 15 liters of water on a warm, sunny day. The smallest stills provide one or two liters of drinking water per day. These simple devices can often be found lashed to small oceangoing craft or dotting the harbors of freshwater-poor native camps.

Dimensions: 2.0 kilograms
Power Source: None
Rigging Value: Basic
Durability: 1
Legality: Legal
Availability: Common
Cost: 50 to 130cs

Survival Guide

Theoretically, these are intended to be easily accessible, interactive emergency guides to survival in the wilds of Poseidon. Unfortunately the only people who really know much about surviving on the planet are the natives, and none of them are into writing self-help programs. Though much of the information in the commercial guides is true, it is always woefully incomplete. It is also often completely wrong — and usually at the worst of times.

To model the dubious and unreliable information contained in commercial survival guides, every time players use one they must roll a single die. If they roll 5 or less, they manage to find some bit of information relevant to their inquiry. If they roll 6 through 9, they learn nothing. If they roll a 10, they get incorrect and potentially dangerous information. The nature and consequences of this misinformation are at the discretion of the Game Master. Most commercial survival guides come in tiny, dedicated bodycomps or universal dataspikes.

Dimensions: 90 grams
Power Source: Mini cell
Rigging Value: Impossible
Durability: 0
Legality: Legal
Availability: Uncommon
Cost: 35cs

Survival Grenade

Sort of a civilian flash-bang, this device is theoretically designed to frighten off even the most determined of Poseidon's predators. The devices are not lethal, though misuse can cost fingers and they have been known to start fires. A survival grenade has a pull tab and a three-second fuse. When detonated, the device creates a series of extremely loud bangs, whistles, and stroboscopic flashes. It also emits a noxious cloud of gas, supposedly undetectable to humans, but potent to other species. The devices are supposed to be effective both underwater and in the air, and their designers swear by them. Anyone who has spent much time in the wilds of Poseidon, however, only uses them during Planetfall celebrations.

Dimensions: 0.35 kilograms
Power Source: None
Rigging Value: Impossible
Durability: 0
Legality: Legal
Availability: Scarce
Cost: 15cs

Survival Plastic

Survival plastic is made of tightly woven bioplastic fibers. The thin, cloth-like material is waterproof, durable, and almost tear-proof. One side is silvered, reflecting light and heat, and the other is camouflage-patterned.

Survival plastic usually comes in two large sheets, rolled and vacuum-sealed into a conveniently small belt pouch. The material is easily cut with a sharp knife or melted with a hot implement. A survival plastic kit also contains 100 meters of 300-kilogram-test bioplastic cord and a 0.3-liter tube of bioplastic molecular adhesive. Instructions for simple and effective uses are enclosed on small plastic cards, and commonly useful patterns are marked out over the surface of the material itself.

Survival plastic can be used to make shelters and rain ponchos, thermal blankets and sunshades. Survival plastic can be used to signal to, or hide from aircraft and satellites. It can be used to patch boat hulls, make splints, bandages, canteens, floats, fishing weirs and rope. It can even be used to build solar stills for purifying water. As simple as it is, survival plastic has been responsible for saving more lives on Poseidon than any of the high-tech survival gear a person might carry into the wilds.

Dimensions: 1.1 kilograms and 2 10×10 meter sheets unrolled
Power Source: None
Rigging Value: Impossible
Durability: 0
Legality: Legal
Availability: Very Common
Cost: 25cs

Temporary Shelter

Temporary shelters or "temps" are more versatile than tents, typically offering more spacious, durable, and weatherproof accommodations. Temps are easy to assemble and disassemble and can be used as daily or as semi-permanent structures. Temps are made of various grades of bioplastic and come in a number of designs. Some are small one- or two-person, tent-like shelters, while others are larger, multi-room structures suitable for base camps or field stations.

Regardless of size or design, temps have a number of common features and most support modular accessories available from their manufacturers. Temp panels contain electrically sensitive plastic frames that, when activated, stiffen and support the structure's roof and walls. To set up most designs, the user simply unrolls the temp and pushes a button. The frames stiffen and the shelter raises itself. Most have integrated solar panels that trickle-charge small storage batteries used to maintain the stiffeners and power built-in lighting strips.

Dimensions: 3.4 kilograms to 210 kilograms, and up to 450 square meters
Power Source: Standard cell and solar panels
Rigging Value: Standard
Durability: 3
Legality: Legal
Availability: Very Common
Cost: 345cs to 2,300cs

Water Purifiers

Water purifiers are as common as saltwater on Poseidon, and are valuable possessions. In the wilds they usually represent the difference between life and death. The simplest are large straws containing filters and ionized chemical scrubbers. The user simply puts one end into the water, the other in his mouth, and sucks. These are disposable and good for about 40 liters of water before the filters fail.

Larger purifiers can be gravity fed or pump driven, but the only real differences are output volume and filter life. The largest portable units run on solar panels and heavy-duty batteries, and are used in field camps and pilot colonies. They can process hundreds of liters per day and their filters and scrubbers are usually reusable after a chemical bath.

Water purifiers not only remove salts from seawater, but they also serve to remove many toxins and almost all of Poseidon's plentiful aquatic microbes.

Dimensions: Most single person survival purifiers are less than 0.2 kilograms
Power Source: Unpowered to heavy cells and solar panels
Rigging Value: Standard
Durability: 0
Legality: Legal
Availability: Very Common
Cost: 65cs for survival purifiers, 4,300cs for camp support purifiers

PERSONAL PROPULSION

COME-ALONG

This useful device is a semi-autonomous, magneto-hydrodynamic (MHD) cargo sled. It can be programmed to follow a pre-plotted course or tail a diver or fin. It can be integrated with a navigation system or follow a homing signal. Speed, cargo capacity, and operational depth vary with design but most can carry at least 100 kilograms at 20 kilometers per hour and function as deep as 500 meters.

Dimensions: 0.5 meters long, 0.5 meters wide, 0.5 meters high, 100 kilograms
Power Source: Heavy cell
Rigging Value: Standard
Durability: 2
Legality: Legal
Availability: Uncommon
Cost: 2,000cs

MHD HARNESS

Two small, magneto-hydrodynamic propulsion (MHD) units are mounted on a form fitting torso harness, providing the wearer with fast, reliable, and virtually silent underwater propulsion. Steering is managed by subtle arm and leg movements and practice is required to become proficient. Depending on the user's skill and amount of streamlining, MHD harnesses can propel the wearer at up to 8 kilometers/hour.

Dimensions: 5 kilograms
Power Source: Heavy cell
Rigging Value: Standard
Durability: 0
Legality: Legal
Availability: Common
Cost: 1,100cs

MHD SLED

MHD sleds are a common means of underwater travel. They come in many different designs and with a variety of features. There are one-person tows and multi-person cargo sleds. Some are well streamlined and can move at over 15 kilometers/hour. Others are bulkier and much slower, but can handle hundreds of kilograms of cargo. Some have seats while others have only handles and drag the user through the water. Many have integrated navigational equipment as well. Most sleds are marginally buoyant without a load, and at the surface their speed is doubled due to reduced drag.

Dimensions: 8 to 100 kilograms
Power Source: Standard or heavy cells
Rigging Value: Standard
Durability: 0
Legality: Legal
Availability: Common
Cost: 750cs to 2,500cs, depending upon features

MANEUVER JETS

Maneuver jets are compressed gas propulsion devices for use in zero-g environments. There are various backpack configurations for use with EVA suits, as well as handheld models for use both inside and outside spacecraft and orbital facilities. Backpack units have multi-nozzle, variable thrust controls for maneuverability and contain enough compressed gas for 20 minutes of continuous operation at 0.3g acceleration. Handheld units must be aimed by hand for maneuvering, and contain enough gas for five minutes of operation at 0.1g acceleration.

Dimensions: 6 kilograms and 1.5 kilograms respectively
Power Source: Compressed gas
Rigging Value: Standard
Durability: 0
Legality: Legal
Availability: Uncommon
Cost: 750cs and 170cs, respectively

SAIL KITE

Though a much more common technology among cetaceans, sail kites are beginning to catch on with the native population. Human sail kites are similar to fin models and consist of large, durable, bioplastic wind kites, rigged to control/tow harnesses. The control lines are fed out and adjusted by integrated servos in the harness, which are in turn controlled manually or



through an interface. The aquaform uses swim fins and hand rudders to control tacking movements and orientation as he is dragged just below the surface of the water.

Sail kites are subject to the vagaries of the wind, but they typically decrease travel time for long trips by at least half, and allow even exhausted swimmers to keep on the move.

Dimensions: 0.25 kilograms and 1.75 meters for the kite and 0.4 kilograms for the harness.
Power Source: Wind
Rigging Value: Basic
Durability: –1
Legality: Legal
Availability: Uncommon
Cost: 200cs

Smart Fins

Standard diving fins greatly improve the user's ability to generate thrust in the water, increasing swimming pace by one meter per action. Smart fins contain acceleration sensors and variable density, electrically sensitive plastic stiffeners. The stiffeners automatically vary rigidity during different parts of the thrust curve, increasing the stroke's relative power. Smart fins increase the user's swimming pace by two meters per action.

Dimensions: 0.3 kilograms
Power Source: Mini cell
Rigging Value: Basic
Durability: 2
Legality: Legal
Availability: Common
Cost: 200cs

Water Sock

Water socks are a common native item that several small planetside companies have begun producing commercially in hopes of capturing the native and enthusiast markets. Water socks consist of two form-fitting elastic leggings that run from the user's toes to his knees. Stretched between them along their length is a fabric "blade" containing several plastic stiffeners. With a dolphin-like kick, the blade generates thrust much like traditional swim fins and propels the user forward.

Water socks have several advantages over standard swim fins. They are lighter, more comfortable, and the user can readily walk in them. They are typically less expensive and can be rolled up and carried in a pocket or tucked in a belt.

Water socks add one meter per action to the user's swimming speed. They also provide a +1 bonus to the user's Aquatics skill and Endurance for the purposes of long distance swimming.

Dimensions: 0.2 kilograms
Power Source: None
Rigging Value: Basic
Durability: 0
Legality: Legal
Availability: Common
Cost: 25cs

CETACEAN TECHNOLOGIES

With the increased intellectual capabilities of cetaceans came an associated need to empower them with technology. In the years since their uplifting, an enormous variety of designs have been built and tested. Many were effective, but many were not.

Aside from the difficulty inherent in designing a practical device for use underwater by a streamlined marine organism, the quirky preferences of cetaceans often proved more impractical than the designs. Since the colonization effort on Poseidon, several cetacean technologies have become standard.

ARTIFICIAL GILL

This device is analogous in structure and function to the artificial gill pack for humans. It allows cetaceans to remain submerged indefinitely, as their metabolic demands are so reduced when diving.

Dimensions: 2.3 kilograms and 4 liters for dolphins, 4.8 kilograms and 9 liters for orcas
Power Source: Standard cell
Rigging Value: Standard
Durability: 0
Legality: Legal
Availability: Scarce
Cost: 830cs

CETACEAN WEAPON HARNESS

This device is an integrated sonic trode and weapons platform. Modular mini-torpedo cannon, missile launchers, and mine layers can be carried on the harness. An orca outfitted with high-yield trode-guided torpedoes makes for an intimidating underwater patrol force. A squad of leaping dolphins, firing surface to surface missiles in mid arc, is equally effective.

The harness is made of woven industrial bioplastic and has two mini-torpedo hardpoints on dolphin models and three on orca mounts.

Dimensions: 2.5 kilograms for dolphins, 8.8 kilograms for orcas
Power Source: Standard cell
Rigging Value: Impossible
Durability: 1
Legality: Legal
Availability: Rare
Cost: 430cs and 830cs respectively

CYBERNETIC INTERACTIVE CETACEAN ACTIVITY DRONE ACCESSORY (CICADA)

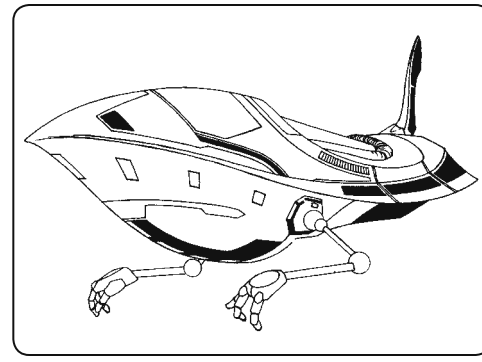
When interacting with humans and technology, cetaceans are most hampered by two deficiencies — their lack of manipulating digits and their inability to leave the water. In an effort to mitigate these problems, engineers designed the Cybernetic Interactive Cetacean Activity Drone Accessory, or CICADA. There are various designs, but most share a core of common abilities and options.

The basic unit has two primary components. The first is a streamlined, remotely piloted aquatic sled. Because radio signals do not travel well in water, these sleds are typically controlled directly by sonar commands from the cetacean user. Their interactive range is therefore limited to the range of the cetacean's sonar.

A CICADA sled typically has an onboard, full function bodycomp, and can be programmed to carry out simple instructions. These drones typically have several retractable appendages, designed for both fine and heavy manipulation, and a six-liter cargo capacity. CICADA sleds are propelled by oversized MHD drives and so can keep pace with even the fastest cetaceans.

The second component is a much smaller, auxiliary drone designed for use above the surface. These drones are small, saucer-shaped VTOLs powered by three tiny lift fans. Though waterproof, these drones cannot function underwater. They float, and can be launched from the water, but under the surface they travel secured within the sled drone.

These hover drones are used for exploration and interaction above the surface. They are typically controlled through a sonic trode uplink interface, relayed through a floating sled, or an antenna raised to the surface from a sled. Control range is limited to five kilometers, unless patched through a signal relay or satellite. Basic units also have 360° holographic pickups and radar transceivers. They also contain a dedicated translation computer and voice synthesizer.

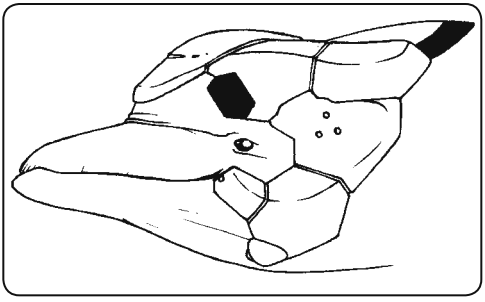


For half again the price of the various pieces of equipment, devices such as multi-spectrum binoculars, sensor arrays, map boxes, or even combat HUDs can be integrated into CICADAS. Cetacean military operatives often use CICADA sleds with mounted torpedo launchers and hovers with small-caliber firearms or stun guns.

Dimensions: 16.5 kilograms and 0.7 kilograms for the VTOL
Power Source: Heavy cell for the sled and a standard cell for the hover
Rigging Value: Standard
Durability: 1
Legality: Legal
Availability: Uncommon
Cost: 7,600cs for a basic model

Headgear

Headgear is a common term used to describe a variety of enhanced sensory arrays built specifically for cetaceans. Headgear typically consists of a streamlined, form-fitting, bioplastic hood in which is mounted an array of digital systems that pick up, process, amplify, and transmit signals via integrated trodes, directly to the user's brain. This equipment is broadband, detecting and processing acoustic and electromagnetic signals well outside the normal range of cetacean senses. Headgear quadruples the effective range of cetacean sonar, while giving them the 360° equivalent of night vision, telescopic vision, infrared sensors, and with some more comprehensive designs, an artificial olfactory sense that is almost as acute as the enhanced smell biomod.



Dimensions: 0.65 kilograms
Power Source: Standard cell
Rigging Value: Impossible
Durability: 1
Legality: Legal
Availability: Scarce
Cost: 1,200cs to 2,000cs

Monkey Net

"Monkey net" is a slang term used to describe any of a variety of towing harnesses used by both orcas and dolphins. A net harness is a form-fitting cargo sling that straps around a cetacean body just in front of the pectoral and dorsal fins. The length of the net trails along behind and is used to carry cargo, but more often as the name implies, the net is used by human coworkers hooking an easy ride. These hitchhikers simply grab hold and are dragged along, flapping in the current. Monkey nets are typically made of bioplastic fiber, except on the native frontier where they are often odd collections of rope, cord, or line, scavenged from various sources.

A dolphin loses three meters per action from his movement pace and incurs a –1 penalty on Coordination if he is towing only a net. If he is pulling one passenger, he loses five meters per action, incurs a –2 penalty to Coordination, and incurs a –1 penalty to Endurance. If he is pulling two passengers he loses eight meters per action and suffers a –3 penalty to Coordination and Endurance. Orcas are unhindered by the net alone and can pull twice as many passengers as dolphins at the same penalty levels.

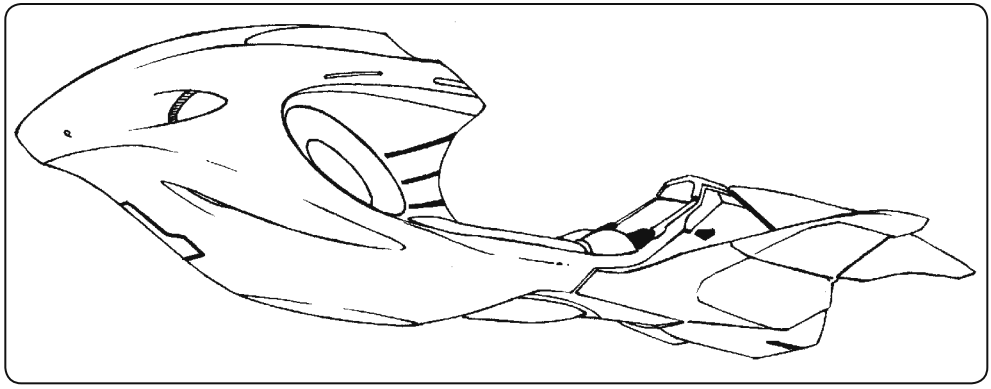
Dimensions: 2.0 kilograms, up to 3 meters
Power Source: None
Rigging Value: Basic
Durability: 2
Legality: Legal
Availability: Common
Cost: Salvage or up to 150cs

Phototropic Body Skin

This item is akin to the phototropic BDU used by many military ground troops. The body skin is woven of elastic bioplastic fibers, laced with phototropic implants, and powered by integral batteries. The skin is tight and form fitting but does increase drag, reducing the wearer's top speed by two meters per action.

When active, the skin automatically adjusts its displayed colors to best match the surrounding background, giving anyone visually searching for the wearer a –4 penalty as the wearer simply seems to fade into the surroundings. Though this may be of dubious value against some of Poseidon's more versatile predators, the skin does provide an Armor Rating of 1, and therefore valuable protection.

Dimensions: 2.0 kilograms for dolphins, 8.0 kilograms for orcas
Power Source: Standard cell
Rigging Value: Impossible



Durability: 3
Legality: Legal
Availability: Rare
Cost: 1,300cs for dolphins, 2,200cs for orcas

Power Shell

In an effort to provide cetaceans with superior combat capabilities, defense engineers under contract with the GEO have developed a line of military MHD sleds for use by both dolphin and orca soldiers and security personnel. The devices are essentially combat-capable variants of standard power shells. The heavily armored, form-fitting forward cowling snugs securely around the cetacean's anterior body. High-performance MHD drives are positioned just below the user's tail and provide tremendous speed and power. Sensitive mechanical linkages relay the pilot's own instinctual body movements to the rudder surfaces, allowing subtle control of the fast and nimble craft.

Like conventional power shells, Hydrospan's military variant increases a cetacean's speed, endurance, and cargo capacity, but not his depth limits. Standard designs provide artificial gill life support and a variable suite of sensory equipment and computer power. Interfacing with the onboard systems is accomplished through neural jacks or sonic trodes.

The design features hardpoint attachments for a variety of weapon systems — dolphin shells are equipped with three hardpoints, while orca power shells feature five. Common power shell weaponry includes heavy sasers and guided minitorpedo launchers.

Military power shells are constructed of various composites of synthetic polymers, bioplastic, and ceramics. This heavy construction afford them an Armor Rating of 6. Due to their increased energy requirements relative to conventional shells, all military variants are powered by small fuel cells.

Dimensions: 4.5 meters
Power Source: Fuel cell
Rigging Value: Standard
Durability: 3
Legality: Legal for civilian, restricted for military
Availability: Uncommon
Cost: 150,000cs
Armor Rating: 6

Sail Kite

Similar to equipment used by water sports enthusiasts, a cetacean can use a sail kite as an efficient and inexpensive method of long distance travel. A sail kite consists of a large, durable, bioplastic wind kite rigged to a combination control/tow harness fitted to the user. The control lines are fed out and adjusted by integrated servos in the harness, which are in turn controlled by sonic input. The cetacean's own fins act as control surfaces and allow the user himself to function and travel much like a conventional sailboat.

A kite rider races along just below the water's surface and a skilled rider can actually make repetitive, long, kite-assisted leaps that reduce drag and increase speed. Sail kites are sometimes troublesome to deploy and are subject to the vagaries of the wind, but they typically decrease travel time for long trips by at least half and allow even exhausted fins to keep on the move. Formal training with sail kites is represented by the Sailing skill.

Dimensions: 0.25 kilograms and 1.75 meters for the kite and 0.4 for the harness for dolphin rigs, and double these dimensions for orca kites.
Power Source: Kite
Rigging Value: Basic
Durability: –1
Legality: Legal
Availability: Uncommon
Cost: 180cs for dolphins, 280cs for orcas

Slide Loader

A slide loader, or slider, is a water-level ramp that is either built into or attached to the hull of a watercraft. The ramp is a water-level wet slide that allows cetaceans easy entrance to or egress from the boat. Most sliders are large enough only for dolphins and dump into a travel cradle secured within the craft. Sliders are cumbersome and add significant weight to a craft, but they are a convenient and versatile way to integrate human-cetacean marine activity and transport.

Only the largest craft can support orca-size sliders, and these typically enter the hull via specific ramp doors. Such craft most often support military or industrial operations and are rare.

Dimensions: 25 to 45 kilograms without cradle, 1 to 2 meters
Power Source: None
Rigging Value: Basic
Durability: 3
Legality: Legal
Availability: Common
Cost: 250cs as an accessory, 1,400cs as part of the hull design

Sonic Trode

Cetaceans, especially orcas, seem to universally abhor cybernetic implants, and often have a hard time dealing with humans who are heavily modified. As a result, cetaceans typically interface with computers and other hardware via a unique form of trode. Sonic trodes use a vast range of subtle sonic vibration to interface with a cetacean mind. These trodes are mounted near the animal's melon where its vibrations can be readily perceived. Cetaceans "see" the information as they would their surroundings as they echolocate. Using subtle vocalizations of their own, cetaceans can then send input back to the trode.

Most sonic trodes also include full-function, integrated bodycomps. These computers provide cetaceans with normal use of programs, databases, storage, and processing power. Even with the computer, sonic trodes are small and streamlined. Along their bottom sides there is a layer of soft, spongy plastic that, when wet, sticks by suction to the cetacean's rubbery skin.

Due to the potential interference from ambient sounds and the quirky nature of the cetacean intellect, sonic trodes do not give cetaceans skill bonuses when operating hardware. They simply make it possible for them to make use of standard technology at their normal skill levels.

Dimensions: 0.23 kilograms
Power Source: Standard cell
Rigging Value: Impossible
Durability: 0
Legality: Legal
Availability: Scarce
Cost: 1,650cs, or 2,000 with integral comp

Tow Pod

Tow pods are versatile cargo shells that can be towed along behind swimming cetaceans. The pods are exceptionally hydrodynamic and therefore create little drag to slow and fatigue the user. They are slung from a small harness and trail out on a long, thread-like cable. Guiding fins force the pod to ride above and behind the swimmer, keeping the pod and its tow line clear of the cetacean's tail stalk and flukes.

Pods come in a variety of sizes and have only the slightest positive buoyancy when properly loaded with cargo or ballast. The largest dolphin pods can carry up to 30 liters and 60 kilograms, while orca pods can carry 80 liters and as much as 160 kilograms.

A cetacean towing an empty pod loses four meters per action from his top speed and incurs a –1 penalty on Endurance, while those towing a full pod lose six meters and suffer a –2 penalty on Endurance.

Dimensions: Up to 10 kilograms empty
Power Source: None
Rigging Value: Basic
Durability: 2
Legality: Legal
Availability: Uncommon
Cost: 240cs to 600sc

Travel Cradle

Travel cradles or travel tanks are sturdy watertight pods used by cetaceans needing to function outside the physical support of their natural environment. When unsupported by water, the crushing effect of his own weight can injure or even suffocate a cetacean, and so for long trips or terrestrial activities, it is best that fins be supported in a volume of water.

The cavity inside a T-tank is cetacean shaped, and though the result is often claustrophobic, the shape reduces the amount of water actually required to support the fin's body. Transparent panels typically surround the head section, and a hatch seals against sloshing water, even under rough or high-g conditions. Travel cradles are fitted with life support units that filter the water and airspace and regulate temperature. They also typically have integrated sonic trodes with speech synthesizers and dedicated remotes.

Most T-tanks are fitted with large eye rings so they can be lowered into the water to take on a passenger and then lifted aboard a transport. Some models are even fitted with a suspension undercarriage, drive train, and wide rubber tracks, giving them additional mobility. Though rather slow and expensive, such vehicles provide cetaceans with valuable capabilities.

Dimensions: 145 kilograms for dolphins, 230 kilograms for orcas (dry weight)
Power Source: Standard cell
Rigging Value: Standard
Durability: 2
Legality: Legal
Availability: Scarce
Cost: 3,500cs for dolphins, 4,600cs for orcas

Utility Harness

Utility harnesses are almost as common as CICADAs in the cetacean work force. These cybernetic devices strap on to a cetacean's torso, and though sometimes bulky, they are useful tools. Each harness is variously equipped for particular tasks, though many are modular in design, increasing their versatility. Commonly controlled through sonic trodes, utility harnesses support onboard bodycomps, numerous waldo arms, grippers, cutters, torches, lights, tow-lines, D-rings, and even small cargo spaces.

Dimensions: Up to 15 kilograms
Power Source: Standard cell
Rigging Value: Standard
Durability: 2
Legality: Legal
Availability: Common
Cost: 1,800 to 3,600cs

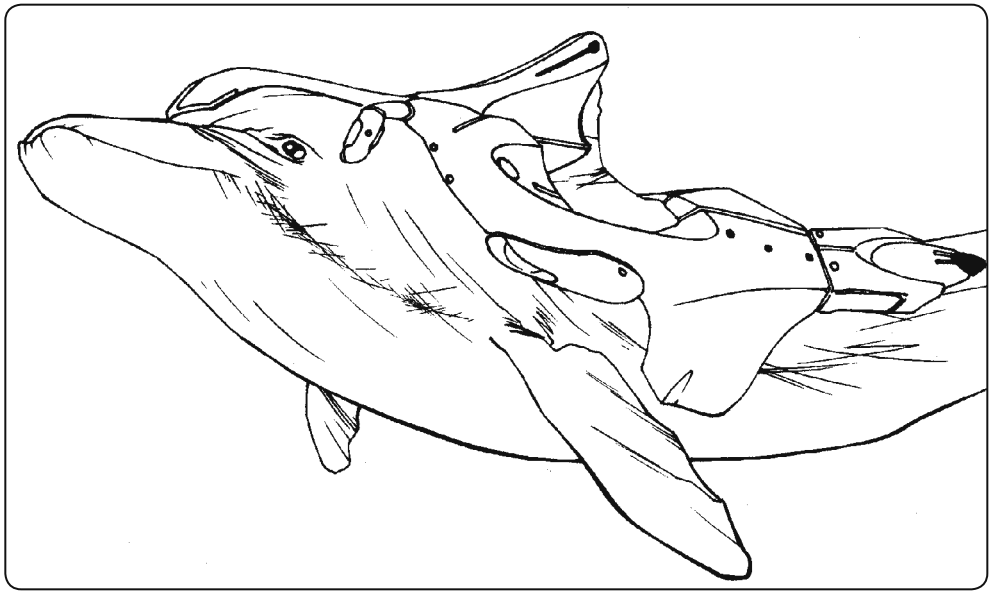
Utility Mandible

Utility mandibles are useful and versatile cetacean tools. These devices consist of a thick bite-plate of molded bioplastic with a universal mounting bracket and an integrated sonic trode. The bite-plate allows a cetacean to grip such a device with his teeth and manipulate any of a variety of interchangeable tools that mount on the bracket. The trode is used to control cybernetic or electronic accessories as well as various releases, locks, and bracket settings on the device. Typical mandible accessory tools include grippers, cutters, drills, tow-lines, lights, sensory arrays, and even weapons

Dimensions: 4 kilograms
Power Source: Standard cell
Rigging Value: Standard
Durability: 2
Legality: Legal
Availability: Common
Cost: 745cs, with various tool accessories from 100 to 2,300cs

Water Hut

"Water hut" is the generalized term for any of a number of temporary and semi-permanent aquatic shelters designed for use by cetaceans. Though their structures and features vary, most water huts share a number of common characteristics. The primary purpose of a water hut is to provide cetaceans with a safe, predator-proof environment in which to work and rest. To this end, most huts are



constructed on a modular cage of industrial bioplastic that provides protection against all but the largest of Poseidon's predators.

A number of pontoons buoy the hut at the surface, and access is usually gained through a submerged gate that actuates with a sonic command. Smaller huts are anchored to the bottom with elastic cable, and larger habitats may even have small station-keeping MHD drives that hold them in position.

The interior of a typical water hut contains storage racks and bins for equipment and supplies, as well as watertight pods and dry shelves for less durable items. Lights, computers, communications, and security equipment are features of water huts, and are powered by storage batteries that are in turn charged by floating solar arrays. Integrated charging stations are common and used to recharge equipment such as remotes and CICADAs.

Depending on the level of interactivity with humans, water huts may support an upper deck with enclosed spaces where humans can get out of the weather, work, and store gear. In such huts, a portion of the shelter's floor is typically open to the upper cage surface so the fins can access the human workspace, facilitating interaction.

Dimensions: 250 to 1,700 kilograms, 10 to 100 square meters
Rigging Value: Basic
Durability: 2
Legality: Legal
Availability: Rare
Cost: 340 to 8,500cs depending upon features

Wetsuit

A wetsuit is a skin tight, bioplastic body stocking that covers a cetacean from head to flukes and serves to keep the fin's skin moist during extended exposure to air. The mouth, eyes, and blow hole areas are open and fitted with seals, and there is a small integrated filtration unit mounted just behind the dorsal fin that prevents pooling and keeps the water clean. Under normal conditions, the filter system has sufficient power for 200 hours.

Wetsuits were originally developed by Hydrospan and are most commonly used by cetaceans living and working in zero-g, such as pilots and orbital residents. Wetsuits are also commonly used by cetaceans forced to travel in vehicles lacking T-tanks.

Dimensions: 6.0 kilograms for dolphins, 13.5 kilograms orcas
Power Source: Standard cell
Rigging Value: Standard
Durability: 2
Legality: Legal
Availability: Scarce
Cost: 1,100cs for dolphin units, 1,650cs for orcas

Zero-G Thruster Pack

As odd as it may seem, cetaceans are well adapted to life in zero-g. Three dimensional activity underwater is similar to activity in a weightless environment and fins are innately more capable as a result. Their own unsupported weight, such a threat on dry land, is not an issue in space. With a wetsuit and thruster pack, fins are as adaptable as humans to life in orbit.

Zero-g thrusters consist of a set eight small, quiet ducted fans mounted on a utility harness (p. 175). These fans are omnidirectional and reversible and their function is integrated through a dedicated chip. Though slow and rather blimp-like, with practice a fin can pilot himself around the confines of an orbital or starship with grace and ease.

Dimensions: Up to 18 kilograms
Power Source: Standard cell
Rigging Value: Standard
Durability: 1
Legality: Legal
Availability: Scarce
Cost: 830cs plus the cost of the utility harness

CHAPTER 5: WEAPONS



WEAPONS

Weapons technology at the end of the 22nd Century represents an evolution of historical technologies. Weapons are smarter, faster, easier to use, and more destructive, but the basic platforms have remained relatively unchanged for the last 300 years. The vast majority of weapons in both civilian and military use are slug throwers — weapons that fire kinetic-energy and explosive projectiles. Development of energy-weapon technologies has continued throughout the last 200 years, resulting in a few viable designs such as sonic stunners and saser weapons.

For the most part, though, alternative weapon technologies have been limited to large systems designed for very specialized roles, such as atomic lasers designed for missile defense. Likewise, chemical and biological weapons — technologies first developed during the 20th century — have been abandoned by most governments in the face of unified political pressure in the wake of the Blight. Many states still maintain nuclear stockpiles — including the GEO, several Incorporate states, and a few Independent nations, such as the United States, China, India, and the UIR — but these weapons have not been used in war since the Blight Years.

Firearms

Most firearms in 2199 are made of high-strength bioplastic or alloys, and fire caseless, high-density plastic bullets. Most are semiautomatic and use binary chemical propellants. Two inert compounds are stored separately in a disposable reservoir clipped into the gun. When the weapon is charged, small amounts of the chemicals are mixed in an ignition chamber, forming an extremely volatile liquid. When the trigger is pulled, an electric current ignites the fluid and fires the bullet.

Binary propellant weapons have several advantages over historical firearms. They have fewer moving parts and are more reliable. They are lighter, and their ammunition magazines contain bullets only and so have a higher capacity.

A binary propellant reservoir typically contains enough propellant to fire 10 magazines worth of ammo. Propellant reservoirs for most weapons are disposable and are replaced much like ammo magazines. The propellant cassette is usually slotted in adjacent to the ammo magazine, but reservoirs are not large and so add little to the volume or weight of the weapon.

Many firearms also have propellant selector switches, allowing the user to adjust the quantity of propellant injected into the firing chamber, and therefore the weapon's muzzle velocity and stopping power as well. The Damage Ratings of the weapons here assume setting for the maximum stopping power the weapon is capable of. The quantity and mix ratio can be altered to reduce the Damage Rating of the weapon, to a minimum of 1. Naturally this is only possible in a weapon that uses binary propellant.

Some guns incorporate a revolver-type design for versatility. The space-saving advantage of binary propellant allows for up to four cylinders to be built into the weapon. Each cylinder may be loaded with a different type of ammunition, making the multi-cylinder revolver a very versatile weapon. Touch, verbal, or digital interface commands spin the cylinders, allowing instant selection between the different ammo types. Cylinders for these multi-ammo weapons are disposable, and when spent, are simply replaced like the magazine in a semi-auto.

Given the aquatic nature of Poseidon, most guns on the planet are waterproof if not entirely amphibious. The use of binary propellant also allows them some level of submersible function. If used underwater, however, the ranges for normal firearms are reduced to 10% of their normal values, and all Damage Ratings except for explosive ammo is halved.

Binary firearms contain a battery for igniting the propellant and have digital indicators for ammo and propellant levels. Note also that propellant reservoirs themselves can be dangerous devices if mishandled or used as improvised explosives.

Most modern firearms are equipped with integrated microchips, called gremlins, which facilitate safety training, maintenance, repair, and basic operation. Firearms gremlins are smart enough to alert the user when a weapon requires cleaning and to instruct him on the basic procedures for doing so effectively. A gremlin can identify malfunctions and either assist the user with basic repairs or connect to a personal or local-area network to schedule repairs with a qualified gunsmith. An interactive access chip will inform the user when the weapon is loaded and when the safety is disengaged. Depending on how the user programs it, the chip will even disable the weapon unless the user inputs a predefined access code. The chip will also provide information on ammunition type and remaining quantity, propellant levels, and even detailed logs of usage patterns.

Traditional small-arms classes are still in use in 2199. Handguns range from small holdout and

concealable designs firing small-caliber, low-power rounds to heavy magnums with stopping power sometimes exceeding that of carbines and light rifles. Longarms come in a dizzying variety of designs and formats, from compact personal defense weapons and riot shotguns to traditional shoulder-fired rifles. Designs range from the conventional to bullpup configurations in which the ammunition magazine and firing chamber are built into the weapon's stock, making for a much more compact design without compromising barrel length. Most small arms look very much like their 20th-century ancestors, except that metal housings, firing mechanisms, magazines, and wooden grips and stocks have been replaced with various grades of impact-resistant bioplastic.

Heavy Weapons

Military support weapons have benefited from the same innovations as small arms. Interactive tutorials, electronic fire-selectors, and digital usage logs facilitate basic training and safety instruction. Caseless ammunition allows for larger and lighter magazines, and in explosive weapons, heavier payloads and more powerful warheads. Advances in materials technology and manufacturing techniques allow for improved accuracy and armor-piercing characteristics over extreme ranges. Crew-served weapons, such as artillery, have benefited from battlefield computer networking, allowing each member of a gun crew or fire-support team to share real-time data and communications, from range finding and fire coordinates to flight vectors of enemy aircraft. As with small arms, there is a broad range of heavy-weapons platforms and formats available, including machine-guns, autocannons, direct-fire rocket launchers, mortars, and countless artillery systems. Servo-assisted weapon harnesses allow individual soldiers to carry many heavy weapons that would otherwise require bipods, tripods, or vehicle mounts.

Guided Weapons

Guided-weapon systems have benefited more from advances in computer technology than any other weapons category. State-of-the-art guided weapons are smart enough that they can be considered robotic weapons-delivery systems. They can identify, track, and pursue targets based on visual characteristics or infrared, radar, sonar, or electronic signatures. Drawing on sophisticated onboard databases, they can attack their targets at their most vulnerable points, swooping down to impact a battle tank's thinly armored gun turret or circling to hit a strike-fighter's rear engines. When maneuvering, they can evade defensive fire, and if they lose their target momentarily, they will circle in a holding pattern until a new attack opportunity is presented or their propellant is exhausted.

Targeting systems are as varied as the weapons themselves. Infrared, radar, and sonar-guided weapons are still common in appropriate roles. Many man-portable infantry weapons are remote operated, using either joystick or voice controls integrated with the launcher. Characters use the Remote Operations skill to fire and guide these weapons, using visual or direct-neural targeting data in real time from onboard cameras and sensors. Many vehicle missile systems are laser-guided, following a laser designator — integrated with the weapon system or controlled by a forward observer on the ground — unerringly to the target. On the battlefield, guided weapons are often networked to each other, their launch platforms, and to command-and-control centers behind the lines. This allows the weapons' onboard computers to share real-time combat data and organize truly devastating coordinated attacks.

Manufacturers

The weapons industry is dominated by two Incorporate states: MacLeod Enforcement and Hanover Arms, a division of Hanover Industries. Both were very active in the early Blight Years, acquiring firearms manufacturers and defense corporations as economies collapsed and stock markets crashed. A few other Incorporate states and countless private corporations are also active in the firearms and defense industry, but MacLeod and Hanover split a dominating market share. The GEO and major Independent nations also maintain their own R&D labs and contract with private defense corporations and arms manufacturers. While Hanover and MacLeod manufacture the majority of firearms on Poseidon, smaller formal companies and family owned businesses can be found all over the world. Several of these businesses have made a name for themselves with their products, catching the attention of customers and incorporates alike. Weapons like black powder Solarlocks, spearguns, bows and compressed air guns have all found a niche in native villages, colonial settlements and large cities.

While both MacLeod and Hanover manufacture and support a full line of firearms and weapon systems, they are also characterized by distinct strengths and weaknesses in the market. MacLeod produces a huge line of handguns with more than 100 models currently in stock. MacLeod sidearms are renowned for their quality and reliability, from

the ubiquitous Black Viper 10mm semiautomatic to the rare, exotic, and greatly oversized Silva Special 14mm Magnum multi-cylinder revolver. Hanover Arms is better known for its excellent law enforcement and military-grade weapons, especially its personal defense weapons and assault rifles. The HA-PA9 personal defense weapon (PDW) is the latest in a long and prestigious line and is generally considered the best in its class. The HA-G17 assault rifle features a compact, battle-tested bullpup configuration and excellent integrated targeting interlink and is in widespread service in the militaries of both the Incorporate states and Independent nations. All military-grade weapons from Hanover Arms feature a "combat trained" interactive access chip that is far more useful — and less annoying — to soldiers on the battlefield than standard firearms gremlins.

On the Horizon

Research and development of alternative weapon technologies continues, but thus far these weapons have proven more expensive to produce, less durable, and often less effective than traditional slug throwers and explosive weapons. Like sasers, which are used exclusively in underwater military operations, these weapons have been restricted to very specialized roles ill suited for traditional weapons. Most R&D efforts have focused on improving and refining existing platforms and technologies. The role and integration of computer and network resources with firearms and weapon systems is also expanding and becoming more sophisticated and reliable. Targeting interlinks and other cybernetic and computer accessories offset the poor or nonexistent training and experience of many users. As a result, while there has been no revolutionary change in the design and base technology of many weapons for more than 200 years, these weapons are, in practical terms, becoming more accurate and deadly than ever.

MELEE WEAPONS

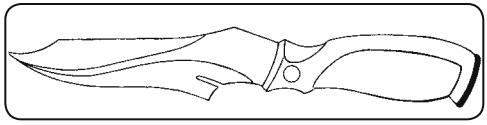
Knife

Knives are ubiquitous, and unless the user has an inflated sense of ego or extremely large hands, the type is fairly standard. This form incorporates a double-edge blade of industrial-grade bioplastic, one side sharp, half the other side serrated and sharp, with a flat, chiseled tip instead of a point and an enlarged pommel. The chisel tip can be used to pry or scrape and the pommel used as a makeshift hammer. The chisel tip remains quite sharp in theory, but repeated use tends to make it the dullest part of the blade. The tips of the hand guard may be functioning screwdrivers, and there may be cutouts in the blade for common bolt sizes, allowing the knife to be used as a makeshift wrench. All knives include a secure belt clip that can also be attached to a standard diving harness.

Dimensions: 0.2 kilograms
Power Source: None
Rigging Value: Basic
Durability: 2
Legality: Legal
Availability: Very Common
Cost: 20cs to 100cs
Damage Rating: 2
Delay: 2

Knife, Diamond

Considered the ultimate blade, diamond knives are extremely popular with the frontiersmen of Poseidon. In the mid 21st century, a process was developed to manufacture laminated industrial diamond that could be layered over metals and plastics. Typically used to produce long-wearing gears and fine machine parts, the process can also be used to produce fine-edged knives that never need sharpening.



Dimensions: 10 grams/centimeter of blade
Power Source: None
Rigging Value: Basic
Durability: 2
Legality: Legal
Availability: Common
Cost: 35cs/centimeter of blade
Damage Rating: 3
Delay: 2

MacLeod CarbonEdge™

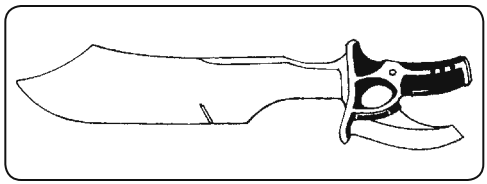
This MacLeod line has become the standard by which other diamond knives are judged. Well designed both functionally and aesthetically, CarbonEdge knives and their clones account for perhaps a third of all diamond blades on Poseidon. Unlicensed imitations have become such an

issue that MacLeod now certifies approved dealers. CarbonEdge blades range from basic, utilitarian designs to the Bushman, which features a 25-centimeter blade, custom-fitting electroflex grip, pommel flashlight attachment, and an emergency transponder integrated in the handle.

Dimensions: 1.2 kilograms
Power Source: Mini cell
Rigging Value: Basic
Durability: 3
Legality: Legal
Availability: Very Common
Cost: 1,250cs
Damage Rating: 3
Delay: 2

Machete

These large, general purpose blades are used for clearing vegetation, and occasionally for self-defense against dangerous predators. The blade is single edged and typically about 50 centimeters long, with a small serrated section near the grip. The tip of the blade is rounded and unsuited for stabbing attacks. Due to the machete's length, the blade is made of flex-grade bioplastic and does not hold an edge as well as a knife.



Dimensions: 1.4 kilograms
Power Source: None
Rigging Value: Basic
Durability: 1
Legality: Legal
Availability: Very Common
Cost: 100cs
Damage Rating: 3
Delay: 3

Machete, Diamond

These diamond-edge tools are similar in most respects to conventional machetes, but the industrial diamond laminate allows them to hold their edge indefinitely.

Dimensions: 1.5 kilograms
Power Source: None
Rigging Value: Basic
Durability: 2
Legality: Legal
Availability: Very Common
Cost: 700cs
Damage Rating: 4
Delay: 3

Parsons Enforcer™ Nightstick

Parsons Industries is a small, family business in Haven that fills a niche market in security products, using low overhead and low profit margins to compete with larger concerns like MacLeod Enforcement. The Enforcer is unique among the security nightsticks on the market in that it is made with a combination of flex-grade bioplastic and Electroflex™ and Enviroseal™ polymers. A built-in depolarizer allows adjustment of its hardness, allowing it to survive impacts that would shatter conventional nightsticks. The Enforcer can also be softened to the flexibility of rope for use as improvised hand restraints, steering-wheel locks, or other immobilizers. A removable security key in the handle prevents unauthorized use of the depolarizer.

Dimensions: 1.2 kilograms, 45 centimeters long
Power Source: Mini cell
Rigging Value: Basic
Durability: 2
Legality: Legal
Availability: Very Common
Cost: 70cs
Damage Rating: 2
Delay: 3

Stun Gloves and Batons

Stun gloves and stun batons are taser-like weapons that deliver incapacitating electrical shock to a target. Designed to subdue without permanent harm, most stun batons are flexible and soft, intended only to stun and not damage.

These devices can only stun larger targets, though small organisms can be killed, and unshielded electrical devices can be shorted out by the discharge. These weapons function as close-combat versions of handheld stun guns. Using stun devices in water is not recommended as they will have as great an effect on the user as on the target.

Dimensions: 45 centimeters and 150 grams for the baton, and 100 grams for the gloves
Power Source: Standard cell, 50 strikes per cell
Rigging Value: Standard
Durability: 0
Legality: Legal
Availability: Batons are common, gloves are rare
Cost: 60cs for batons, 130cs for gloves
Delay: 2

Improvised Weapons

This is a broad category of everyday items that can be turned into weapons in a pinch. This includes things such as liquor bottles, lengths of chain or chairs. The Game Master is encouraged to use these items as a baseline for determining the effectiveness of other improvised weapons.

Dimensions: Varies by size of object
Power Source: None
Rigging Value: Basic
Durability: –2 to 2
Legality: Legal
Availability: Very Common
Cost: N/A
Damage Rating: 2 for bottles, batons and computer monitors, 3 for lengths of chain, chairs and similar.
Delay: 3 for batons or bottles, 4 for lengths of chain or monitors, 5 for chairs or other furniture.

Cetacean Fin Blades

Fin blades vary in design, but they are always formidable melee weapons. A typical fin blade consists of a padded, industrial plastic or alloy blade strapped along the leading edge of a fin or fluke. A full rack of fin blades consists of five separate weapons — two pectoral, two tail, and one dorsal blade — and a fully strapped fin is a frightening melee opponent. Though rare among GEO or Incorporate troops, such weapons are becoming increasingly common among the native resistance, serving as both a source of intimidation and as a lethal threat.

Cetaceans equipped with one or two blades get one attack per action, and those with more than two get two attacks per action with a successful Coordination roll. Successful attacks have a Damage Rating of Physique + 5.

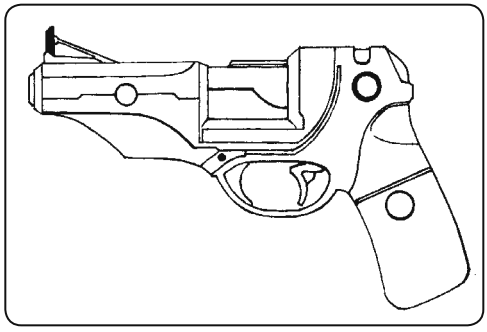
Dimensions: 0.85 kilograms, 0.75 to 1.5 meters
Power Source: None
Rigging Value: Basic
Durability: 3
Legality: Restricted
Availability: Scarce
Cost: 250cs
Damage Rating: Physique + 5
Delay: 3

HANDGUNS

Gorchoff Special

This is an extremely compact, high-power, disposable firearm named for the infamous Haven crime syndicate. It's not known if the Gorchoff family has anything to do with the design or production of this weapon, but the name has stuck regardless. It is not very accurate but is extremely concealable and designed to evade detection.

Possession of a Gorchoff Special is treated by the GEO Patrol as intent to commit a criminal act. It is a single-barrel weapon using large-caliber ammunition and a simple electrical firing circuit. It can be fired twice and then is thrown away. It is often loaded with a non-standard form of ammunition, typically armor piercing or explosive.

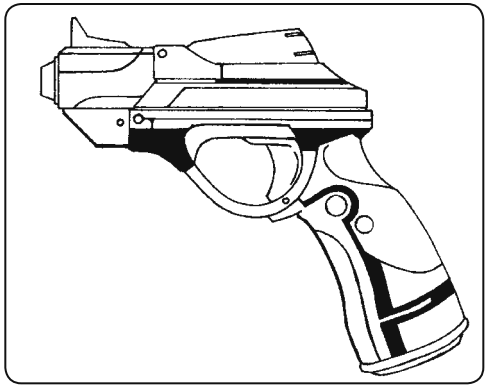


Dimensions: 0.10 kilograms
Power Source: Mini cell and binary propellant
Rigging Value: Impossible
Durability: –1
Legality: Proscribed
Availability: Scarce
Cost: 75cs
Ammo Capacity: 2 rounds, non-reloadable
Fire Modes: S
Range: P 2/S 3/M 6/L 18
Damage Rating: 6
Recoil: 2

Standard Compact

These weapons are specifically designed to evade detection. They are extremely small, light, and free of metallic parts. They have limited range, ammo capacity and stopping power, but any attempt to hide or conceal such a weapon is made with a +2 bonus. The propellant is typically integrated into the ammo magazine and is only enough to fire the bullets of that magazine. They include such weapons as the Hanover Arms HA-D1.

Dimensions: 0.40 kilograms
Power Source: Mini cell and binary propellant
Rigging Value: Basic

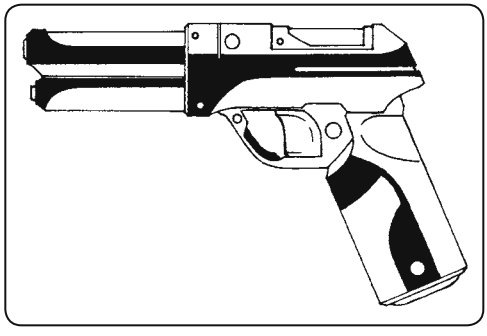


Durability: 0
Legality: Legal
Availability: Uncommon
Cost: 350cs
Ammo Capacity: 12 rounds/magazine
Fire Modes: S
Range: P 5/S 10/M 25/L 50
Damage Rating: 5
Recoil: 2

Standard Small Caliber

Designed for personal protection and small game hunting these guns are light and easily carried. They are effective weapons and very common. They include the Hanover Arms HA-D3 and the NIS Amaterasu.

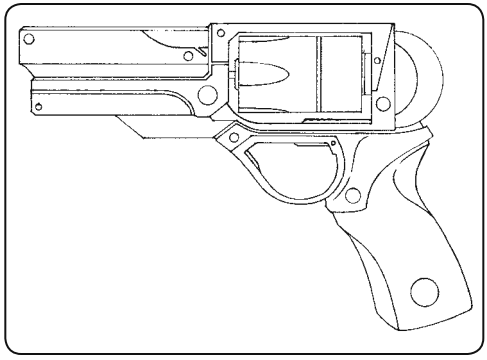
Dimensions: 0.5 kilograms
Power Source: Mini cell and binary propellant
Rigging Value: Basic
Durability: 0
Legality: Legal
Availability: Very Common
Cost: 450cs
Ammo Capacity: 35 rounds/magazine
Fire Modes: S
Range: P 10/S 20/M 40/L 120
Damage Rating: 6
Recoil: 2



Standard Large Caliber

Huge handguns, these weapons have considerable stopping power and are favored by law enforcement and military units. Unfortunately, criminals also prefer them. They include the Hanover Arms HA-D5 and the MacLeod Enforcement Black Viper 10mm.

Dimensions: 1.0 kilogram
Power Source: Mini cell and binary propellant
Rigging Value: Basic
Durability: 1
Legality: Legal
Availability: Common



Cost: 700cs
Ammo Capacity: 25 rounds/magazine
Fire Modes: S
Range: P 8/S 12/M 30/L 90
Damage Rating: 7
Recoil: 3

MacLeod Enforcement Guardian 27 Mini™

The Guardian 27 Mini is the carry-and-conceal version of MacLeod's popular Guardian-series handguns. It boasts a slightly larger magazine and longer barrel, reducing it's conceal bonus to +1, but granting more shots and longer maximum range.

Dimensions: 0.40 kilograms
Power Source: Mini cell and binary propellant
Rigging Value: Basic
Durability: 0
Legality: Legal
Availability: Uncommon
Cost: 400cs
Ammo Capacity: 15 rounds/magazine
Fire Modes: S
Range: P 5/S 10/M 30/L 70
Damage Rating: 5
Recoil: 2

MacLeod Enforcement Guardian 27™

The Guardian 27 is the most recent version of MacLeod's extremely popular Guardian-series of handguns. Touted as "the most owned handgun on Poseidon", the Guardian 27 features a smaller magazine, but better range most handguns; this is typical of MacLeod's philosophy of taking the fight to your opponent.

Dimensions: 0.5 kilograms.
Power Source: Mini cell and binary propellant
Rigging Value: Basic
Durability: 0
Legality: Legal
Availability: Very Common
Cost: 550cs
Ammo Capacity: 30 rounds/magazine
Fire Modes: S
Range: P 10/S 25/M 50/L 150
Damage Rating: 6
Recoil: 2

MacLeod Enforcement Protector 43™

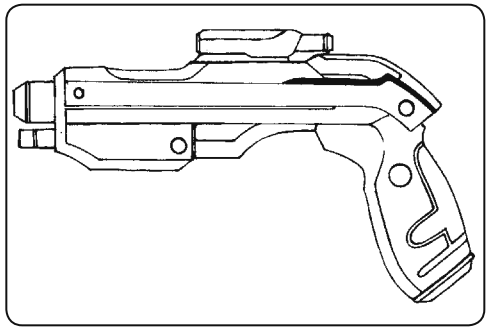
This is a large handgun of efficient design, produced mainly for self-defense and civilian use. It is the latest version of a long line of similar weapons (model 4, revision 3) and can interface easily with all non-restricted technology. All surfaces are diamond plated and textured for easy use, even underwater. Disassembly is easy, and subassemblies are modular to prevent the loss of small components. The Protector is equal in quality to most other pistols in its size range, but one pays a small premium for the MacLeod name.

MacLeod is currently conducting a discrete investigation into an illegal subassembly sold as a drop-in replacement for the Protector 43's firing circuitry. This mod allows the pistol to fire in a three-round burst mode. Examples of the modification suggest that inside information was used to create it, and all current and past employees with access to that information are under investigation. While the weapon can handle the stress for burst fire, heavy use may cause premature and distinctive wear marks. Protector 43s brought in for warranty service are carefully checked, and the owner, purchase date, and weapon history are added to the investigation files.

Dimensions: 1.0 kilogram
Power Source: Mini cell and binary propellant
Rigging Value: Basic
Durability: 1
Legality: Legal
Availability: Common
Cost: 800cs
Ammo Capacity: 25 rounds/magazine
Fire Modes: S
Range: P 8/S 15/M 30/L 100
Damage Rating: 7
Recoil: 3

MacLeod Enforcement Protector 43 Target™

This weapon uses the same molds and tooling as the standard Protector 43 and fires the same ammunition. It has a slightly longer barrel and has all the parts hand polished and fitted by a qualified gunsmith, giving it improved accuracy compared to the basic factory model. It is slightly less concealable and slower on the draw as a result of the length and larger sights. Attacks with the P–43T receive a +1 Target Number bonus at all ranges.



Dimensions: 0.80 kilograms
Power Source: Mini cell and binary propellant
Rigging Value: Basic
Durability: 2
Legality: Legal
Availability: Common
Cost: 1,400cs
Ammo Capacity: 25 rounds/magazine
Fire Modes: S
Range: P 10/S 20/M 40/L 120
Damage Rating: 7
Recoil: 3

MacLeod Enforcement 14mm Silva Special

The Silva Special is a massive handgun built by MacLeod specifically for Silva owners. Originally contracted by the GEO as a Warden sidearm, MacLeod retained the rights to produce the

Being Cheap

Jenks was stretched out flat on his stomach atop the stack of bioplastic crates, wondering how the hell he was going to get out of this alive.

It had started that morning when him and Mandy got into that same old argument. She thought he was being cheap again. Well, when you live in the dockside slums you have to be frugal. Running junk for the Gorchoffs paid, just not a lot. So you gotta be cheap if you want to survive. Mandy never saw it that way. She ripped him up one side and down the other before he blew up and told her he'd change all that today. He'd get himself a gun and be rid of Stink for good.

Stink was what you would call a competitor, if you were an incorporate. The reality was Stink was his worst enemy, a rival pusher who managed to get better stuff from the family, sell it for more scrip and lure Jenks' customers away from him. Stink had a better place, more money and things that weren't cheap. Stink was also a lunatic who would kill anyone that seriously threatened him.

Jenks left the flat that morning with a plan and enough money to pull it off. He would go over to Kensington, buy a gun from him and blow the smile right off Stink's face. It seemed like a good plan until Kensington told him the prices. Two-fifty for the cheapest pistol was more than he wanted to spend and he told Kensington that. After some thought, Kensington produced a battered Hanover, asking 50 scrip. Jenks couldn't say no to that kind of deal.

So with the Hanover stuffed in his shirt, he made his way down to warehouse 830. Stink always walked by there on his way over to the east side of the harbor. The warehouse was empty that day so it made the perfect place for an ambush. Sure enough, right on time, came Stink ambling down the street. He lined up on Stink as he walked past the open doors, and couldn't resist one final jab. "Hey asshole, over here."

Stink had stopped and looked, mouth dropping as Jenks pulled the trigger.

Pfffft

The gun made a noise like a hiss and fart combined and Jenks saw the bullet lazily fly about 5 meters before bouncing across the ground. A red light on the weapon lit, and the gremlin chimed, "Warning, propellant intermix failure. Please unload weapon and take to an authorized service facility."

Stink stared at him for several seconds before making a horrid wheezing sound. Laughter.

"Oh you gotta be kidding me! Cheap Ass Jenks tried to float me in the harbor?"

"Warning, propellant intermix failure. Please unload weapon and take to an authorized service facility."

Stink stopped laughing, "Guess I let you go too long. Should have put you down a long time ago."

Jenks didn't wait. He took off into the warehouse, rounding a stack of crates as a bullet cracked off the crate. He ran a few meters between stacks of crates before having to turn right. Right into a dead end, blocked in by crate stacks.

"Hey where are you? Don't you want to have our little gunfight?", Stink dissolved in wild laughter.

"Warning, propellant intermix failure. Please unload weapon and take to an authorized service facility."

"Never mind, I hear ya! I'm coming for you Cheap Ass!"

Jenks looked around frantically. Seeing a climbable crate stack, he hurriedly dropped the gun on a crate nearby and quickly climbed up the stack of three crates. Once on top he flattened out, belly down and waited, breathing as quietly as he could. Maybe Stink would think he'd went some other way and leave. Otherwise he didn't know how the hell he was going to get out of this.

The crunch of a footstep on bioplastic fragments jolted him back to the present. The footsteps kept coming closer, nearing the corner to the cul-de-sac.

"Warning, propellant intermix failure. Warning, igniter failure. Please unload weapon and take to an authorized service facility."

The footsteps accelerated to a run and stop as Stink rounded the corner. "Awww, you left your gun here! Now how are we gonna play?"

Jenks peeked one eye over the edge of the crate. Stink stood right below. As Jenks watched, Stink picked up the pistol and looked at it.

"Damn, you are cheap. I wouldn't take this piece of crap if it was given to me!"

Jenks felt a surge of anger, which turned to fear as he moved his leg, scraping across the crate. Stink looked up as Jenks jerked his head back, heart pounding in his chest.

"Oh, there you are! Gonna make me come up there are you? I'm gonna take my time with you and I'm gonna enjoy it."

"Warning, propellant intermix failure. Warning, igniter failure. Please unload weapon and take to an authorized service facility."

Stink looked down at the gun. "Shut the hell up." He slammed the gun down on the crate.

There was a roar. The crates trembled and sound of fragments striking crates were quickly muted as Jenks' ears started ringing from the tremendous noise. Small pieces of bioplastic rained down on him as he covered his head.

Then there was silence, but for the ringing in his head.

Jenks raised his head. A cloud of smoke was still rising and the smell of propellant and burnt bioplastic hung heavy in the air. He lay there for a while longer, not sure how long, before peeking over the edge of the crate.

The scene below was carnage. Stink lay on the floor missing most of his left hand, with a chunk of bioplastic sticking out of his face, and not doing a lot of breathing. As he took in the scene, it suddenly hit him.

"Warning, propellant intermix failure. Warning, igniter failure...."

The cheap pistol Kensington sold him had exploded when Stink threw it down on the crate.

Jenks started laughing. He laughed hysterically, tears running down his cheeks until he couldn't catch his breath. He made himself slow down, took some deep breaths and finally got himself back under control.

He climbed down and quickly went through Stink's pockets, trying to not look at his mangled hand and ruined face. He found a big bundle of scrip, the key to Stink's flat and his gun. The gun was a MacLeod, not a cheap gun. Jenks looked at it and nodded. He could take a hint.

Time to stop being cheap.

handgun after the GEO contract fell through. The pistol has larger grips and trigger guards to accommodate the large hands of a Silva, as well as controls spaced out to be comfortable — a feature lacking in firearms produced for normal humans. The weapon features a multi-ammo, revolver design that allows 24 rounds of up to 4 different types to be loaded. The weapon is so large that anyone but a Silva (or perhaps a Shock Trooper) suffers a –2 Target Number penalty when shooting the handgun.

Dimensions: 1.5 kilograms
Power Source: Mini cell and binary propellant
Rigging Value: Standard
Durability: 2
Legality: Legal
Availability: Scarce
Cost: 1,000cs
Ammo Capacity: 24 rounds, 6 each of up to 4 different types per cylinder
Fire Modes: S
Range: P 8/S 12/M 30/L 100
Damage Rating: 8
Recoil: 3

GEO Defense Labs Peacemaker

The reputation of the GEO Marshal is a formidable one, made all the more so by the array of equipment at his disposal. However, the most notorious piece of hardware in his gear locker is the special-issue Marshal Peacemaker. Though the weapon is hardly the exaggerated cannon with a built-in AI that recent action holovids have made it out to be, the Peacemaker remains an exceptional handgun.

Taking its name from the lawman's gun of choice in another era, the Peacemaker has been part of the GEO Marshal's arsenal for more than 60 years. In that time, the weapon has undergone countless design improvements and the current version has little in common with earlier models. Designed and built entirely within the GEO defense labs, the exact specifications remain highly classified. The weapon itself is issued only within the Marshal Service, and as a result, is unavailable to the public, even on the black market.

The Peacemaker is a huge, multi-ammo revolver firing .50 caliber ammunition of various types. The frame and barrel are constructed of laminated ceramics and are virtually indestructible. The grips are custom fit to each officer, and the

various onboard electronics are embedded within the frame itself. Several additional design features also make the weapon unique.

Access to the targeting interlink system used in the Peacemaker is not restricted to a standard fiber optic or uplink jack. Instead, Marshals typically undergo surgical implantation of dermal circuits that turn the skin of their palms into direct contact interfaces. This access mode gives Marshals an advantage in situations where standard interfaces are impractical.

The direct interface also makes triggerless firing a practical option in the Peacemaker. The elimination of the trigger provides two primary advantages. The first is a matter of security. The weapon is useless to anyone who does not have a cybernetic interface, so it cannot be turned on the Marshal or any other target without the proper interface codes. The second advantage is that the lack of a trigger improves the weapon's accuracy. The gun fires by digital command, eliminating the need to squeeze a trigger and potentially affect the weapon's aim. Triggerless firing gives the shooter an additional +1 Target Number bonus when aiming.

The weapon's interactive access chip is as sophisticated as most bodycomps, and in addition to its normal functions, the computer is able to integrate targeting programs that serve to make the user a perfect marksman. The onboard computer can also store data and run standard programs, allowing Marshals without icomps to essentially use these sidearms as such. This has cultivated the disconcerting rumors that Marshals "talk to their guns."

Dimensions: 1.5 kilograms
Power Source: Mini cell and binary propellant
Rigging Value: Impossible
Durability: 2
Legality: Restricted
Availability: Rare
Cost: Classified
Ammo Capacity: 24 rounds, 6 each of up to 4 different types per cylinder
Fire Modes: S
Range: P 9/S 19/M 45/L 160
Damage Rating: 8
Recoil: 3

Moribund Armaments Flatlander 9

The Flatlander 9 is a three-cylinder revolver of sturdy design manufactured by Moribund Armaments, a small gun design company based out of Haven. Although it sports a lower ammunition capacity due to its design, the Flatlander 9 has drawn rave reviews from buyers and gun professionals. Several engineers at MacLeod Enforcement even praised the gun on CommCore calling it "… solid design … one damn nice handgun." The Flatlander 9 is a very reliable pistol with a high tolerance for abuse and good accuracy even after extensive firings. This has all combined to make Moribund Armaments a rising star in the Haven Cluster, with buyers and other companies closely watching to see what they come out with next. Like all multi-cylinder revolvers it may hold up to 3 different types of ammunition, one per cylinder.

Dimensions: 0.6 kilograms
Power Source: Mini cell and binary propellant
Rigging Value: Basic
Durability: 1
Legality: Legal
Availability: Uncommon
Cost: 300cs
Ammo Capacity: 18 rounds, 6 each of up to 3 different types per cylinder
Fire Modes: S
Range: P 10/S 20/M 40/L 120
Damage Rating: 6
Recoil: 2

Native Solarlock Pistol

This is a muzzle-loading, black powder pistol manufactured by small native villages. The powder charge is ignited by a solar-charged battery, earning it the nickname Solarlock. These pistols are hand-made weapons with bioplastic barrels & action and real wood frames, with no two being alike. The weapons are sturdy and may be employed as clubs after being fired. Once fired, they require 4 Action Rounds to reload. They are common on the larger islands where minerals for black powder are readily available.

Dimensions: 1.2 kilograms
Power Source: Solar-charged cell and black powder
Rigging Value: Standard
Durability: 2
Legality: Legal
Availability: Common in native areas, Scarce in urban areas
Cost: 150cs
Ammo Capacity: 1 round (4 Action Rounds to reload)
Fire Modes: S
Range: P 5/S 10/M 20/L 60
Damage Rating: 7
Recoil: 3

PERSONAL DEFENSE WEAPONS

STANDARD SMALL PDW

The Personal Defense Weapon (PDW) was developed in the late 20th century as an automatic weapon for military personnel who did not need to be issued an assault rifle, due to type of duty. The PDW is similar in size to a submachinegun but fires a more powerful round giving it better range and accuracy than the pistol caliber rounds of a SMG. The PDW has found a home with Incorporate security troops, special forces and criminals who all favor the weapon's small size and fully automatic firepower. They include the MacLeod Enforcement Marsh Devil and the NIS Hachiman.

Dimensions: 2.0 kilograms
Power Source: Mini cell and binary propellant
Rigging Value: Basic
Durability: 0
Legality: Restricted
Availability: Common
Cost: 800cs
Ammo Capacity: 100 rounds/magazine
Fire Modes: S/B 3/A 10
Range: P 15/S 50/M 100/L 300
Damage Rating: 6/9
Recoil: 2

STANDARD LARGE PDW

This is a PDW which utilizes a larger, more powerful round. This results in greater stopping power, but reduced ammunition capacity and range.

Dimensions: 2.5 kilograms
Power Source: Mini cell and binary propellant
Rigging Value: Basic
Durability: 0
Legality: Restricted
Availability: Uncommon
Cost: 1,200cs
Ammo Capacity: 80 rounds/magazine
Fire Modes: S/B 3/A 10
Range: P 10/S 50/M 100/L 250
Damage Rating: 7/10
Recoil: 3

HANOVER ARMS HA-PA9 PDW

The Hanover Arms Personal Assault 9 is recognized as one of the best PDWs currently available. Heavily marketed to Incorporate security and the GEO, the PA9 is even available to civilians who obtain the proper licensing. The PA9 features a higher cyclic rate than other PDWs and while this burns through ammunition faster, the PDW is more stable when performing burst fire. A character firing the PA9 doesn't suffer the usual +1 Recoil for firing in burst mode.

Dimensions: 2.0 kilograms
Power Source: Mini cell and binary propellant
Rigging Value: Basic
Durability: 0
Legality: Restricted
Availability: Common
Cost: 1,000cs
Ammo Capacity: 100 rounds/magazine
Fire Modes: S/B 4/A 15
Range: P 15/S 50/M 100/L 300
Damage Rating: 6/9
Recoil: 2

HANOVER ARMS HA-PA12 PDW

The Hanover Arms Personal Assault 12 is the heavier caliber, big brother of the PA9. It features the same high cyclic rate of the PA9 and also doesn't suffer the usual +1 Recoil for firing in burst mode.

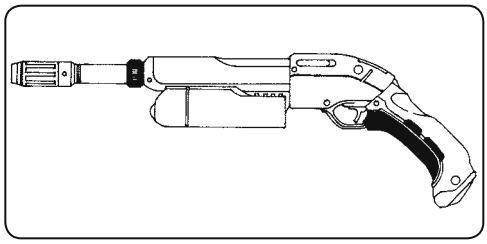
Dimensions: 2.5 kilograms
Power Source: Mini cell and binary propellant
Rigging Value: Basic
Durability: 0
Legality: Restricted
Availability: Common
Cost: 1,400cs
Ammo Capacity: 80 rounds/magazine
Fire Modes: S/B 4/A 15
Range: P 10/S 50/M 100/L 250
Damage Rating: 7/10
Recoil: 3

SHOTGUNS

STANDARD SEMI-AUTOMATIC

Shotguns of various designs are common for hunting, personal protection, and military applications. They are particularly favored by law enforcement forces aboard orbital stations and in other pressurized habitats. Because of the scattering effect typical of shotgun ammo, shotguns receive a +1 Target Number bonus when using multi-projectile ammo such as buckshot and flechettes.

Dimensions: 0.7 to 1.3 meters, 1.8 to 2.5 kilograms



Power Source: Standard cell and binary propellant
Rigging Value: Basic
Durability: 0
Legality: Legal
Availability: Common
Cost: 300cs
Ammo Capacity: 20/magazine
Fire Modes: S
Range: P 5/S 10/M 25/L 55
Damage Rating: 7
Recoil: 3

Standard Automatic

Automatic shotguns are typically used by military and security forces and law enforcement. Civilians who pass a criminal background check may own them by obtaining a High Power Firearm License (HPFL) from their local GEO office. Because of the scattering effect typical of shotgun ammo, shotguns receive a +1 Target Number bonus when using multi-projectile ammo such as buckshot and flechettes. They include the Hanover Arms ES98, the MacLeod Enforcement Pacifier and the NIS Kusanagi.

Dimensions: 1.0 meter, 2.5 kilograms
Power Source: Standard cell and binary propellant
Rigging Value: Basic
Durability: 0
Legality: Restricted
Availability: Common
Cost: 1,000cs
Ammo Capacity: 30/magazine
Fire Modes: S/B 3/A 5
Range: P 5/S 10/M 25/L 55
Damage Rating: 7/10
Recoil: 3

Hanover Arms HA-ES61 Semi-Automatic Shotgun

The Hanover Arms ES61 is favored by civilians and law enforcement alike as an all-around excellent shotgun. It maintains a short length thanks to it's bullpup configuration, unusual for a shotgun. Because of the scattering effect typical of shotgun ammo, shotguns receive a +1 Target Number bonus when using multi-projectile ammo such as buckshot and flechettes.

Dimensions: 0.7 meters, 1.8 kilograms
Power Source: Standard cell and binary propellant
Rigging Value: Standard
Durability: 1
Legality: Legal
Availability: Common
Cost: 450cs
Ammo Capacity: 20/magazine
Fire Modes: S
Range: P 5/S 10/M 30/L 55
Damage Rating: 7
Recoil: 3

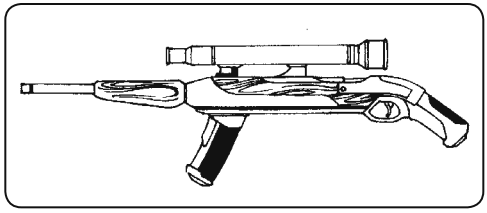
MacLeod Enforcement Settler Shotgun

The Settler is MacLeod's best selling shotgun. The Settler is designed to keep multi-projectile ammo in a tighter pattern for longer ranges. It is also built to higher standards, resulting in a much more rugged design that handles abuse well. Because of the scattering effect typical of shotgun ammo, shotguns receive a +1 Target Number bonus when using multi-projectile ammo such as buckshot and flechettes.

Dimensions:1.2 meters, 2.5 kilograms
Power Source: Standard cell and binary propellant
Rigging Value: Standard
Durability: 2
Legality: Legal
Availability: Common
Cost: 500cs
Ammo Capacity: 20/magazine
Fire Modes: S
Range: P 5/S 10/M 30/L 60
Damage Rating: 7
Recoil: 3

Kriegmann Shotgun

These legendary weapons bear no name or model number, other than that of the family who handcrafts them, virtually one at a time. The Kriegmann has remained functionally identical since the first one was handmade nearly 50 years ago and is currently the sole income provider for several of the designer's grandchildren. The Kriegmann is an extremely robust semiautomatic design with high-quality components and a great deal of aesthetic appeal. Native woods are boiled in a resin-impregnated solution, offering a stock that is slightly heavier than normal bioplastic but with



a character unique to the wood selected. All bioplastic hardware is reinforced with high-strength metal alloys and ceramics, and all moving parts are diamond plated. Power for firing is provided by piezo-electric crystals, and the only accessory available is a plain telescopic sight. No interface for any form of electronics is provided, and the weapon has no battery to power them. Despite these limitations, there is a one-year backlog of orders waiting to be filled, and used models command the same prices as new ones. Because of the scattering effect typical of shotgun ammo, shotguns receive a +1 Target Number bonus when using multi-projectile ammo such as buckshot and flechettes.

Dimensions: 2.4 kilograms and 2.6 liters
Power Source: None
Rigging Value: Impossible
Durability: 2
Legality: Legal
Availability: Uncommon
Cost: 3,500cs
Ammo Capacity: 20
Fire Modes: S
Range: P 5/S 15/M 35/L 65
Damage Rating: 8
Recoil: 3

Native Solarlock Shotgun

This is a muzzle-loading, black powder shotgun manufactured by native villages. These weapons ignite the powder by solar-charged cells. These shotguns are hand-made weapons with bioplastic barrels & action and real wood frames and no two are alike. The weapons are designed to be sturdy and may be employed as clubs after being fired. Once fired, they require 4 Action Rounds to reload. They are common on the larger islands where minerals for black powder are readily available.

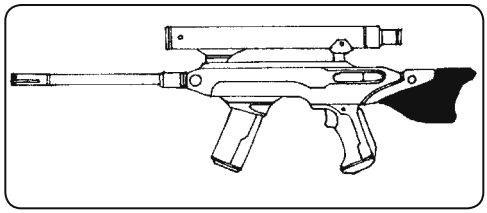
Dimensions: 1.3 meters, 2.5 kilograms.
Power Source: Solar-charged cell and black powder
Rigging Value: Standard
Durability: 2
Legality: Legal
Availability: Common in native areas, Scarce in urban areas
Cost: 250cs
Ammo Capacity: 1 round (4 Action Rounds to reload)
Fire Modes: S
Range: P 5/S 10/M 20/L 40
Damage Rating: 8
Recoil: 4

Semi-Automatic Rifles

Standard Light Rifle

Designed for personal protection and small game hunting, these rifles are light and easily carried. They are effective weapons and very common, with quality and features varying by region and manufacturer. They include the Hanover Arms K710 and the MacLeod Enforcement Homesteader.

Dimensions: 0.7 kilograms and 0.7 liters
Power Source: Standard cell and binary propellant
Rigging Value: Basic
Durability: 1
Legality: Legal



Availability: Very Common
Cost: 250cs
Ammo Capacity: 30 rounds/magazine
Fire Modes: S
Range: P 12/S 30/M 75/L 260
Damage Rating: 6
Recoil: 3

Standard Ranch Carbine

This popular weapon falls somewhere between a light rifle and hunting rifle. It features the accuracy of a good hunting rifle, with slightly less power and a much higher ammunition capacity. The ranch carbine does not have burst or automatic capability. Models of varying quality are available in most gun shops and trading posts on the colony world. They include the Hanover Arms K840 carbine.

Dimensions: 2.0 kilograms
Power Source: Standard cell and binary propellant
Rigging Value: Standard

Durability: 1
Legality: Legal
Availability: Common
Cost: 450cs
Ammo Capacity: 60 rounds/magazine
Fire Modes: S
Range: P 18/S 45/M 110/L 380
Damage Rating: 7
Recoil: 3

Standard Hunting Rifle

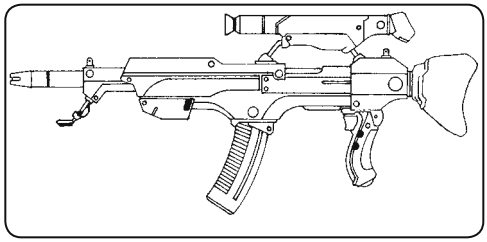
These weapons are the most common firearms on Poseidon. Old and new colonists alike, frontiersmen, explorers, and field workers always have a carefully maintained and loaded rifle close at hand. These guns are often all that stand between a cornered human and Poseidon's wildlife. The one thing they all have in common is enormous stopping power. They include the Hanover Arms K920 rifle and the MacLeod Enforcement Pathfinder™ hunting rifle.

Dimensions: 1.6 meters, 2.5 kilograms
Power Source: Standard cell and binary propellant
Rigging Value: Standard
Durability: 1
Legality: Legal
Availability: Very Common
Cost: 800cs
Ammo Capacity: 30
Fire Modes: S
Range: P 10/S 100/M 200/L 600
Damage Rating: 9
Recoil: 4

Standard Sniper Rifle

These rifles are military-grade weapons designed to kill the enemy at a distance from a position of concealment. Primarily used in the GEO Armed Forces and Incorporate security, sniper rifles also see action in law enforcement special operations teams. They include the MacLeod Enforcement GS–9 sniper rifle.

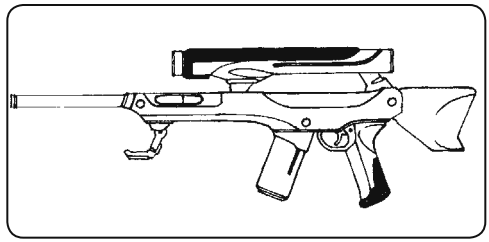
Dimensions: 1.6 meters, 2.8 kilograms
Power Source: Standard cell and binary propellant



Rigging Value: Standard
Durability: 1
Legality: Restricted
Availability: Uncommon
Cost: 1,500cs
Ammo Capacity: 30/magazine
Fire Modes: S
Range: P 20/S 150/M 300/L 1000
Damage Rating: 9
Recoil: 4

Standard White Rifle

This huge firearm is the modern colonial equivalent of an elephant rifle, and is designed to be used against Poseidon's most dangerous predators, such as the lesser white. The design is drawn from archaic anti-tank rifles, and owners usually have permits for a limited quantity of armor-piercing ammunition to go with the weapon. The weapon's light weight combined with its high power makes firing it an unforgettable experience. They include the Hanover Arms K1000 white rifle and the MacLeod Enforcement Raging White™ rifle.



Dimensions: 1.6 meters, 3.1 kilograms
Power Source: Standard cell and binary propellant
Rigging Value: Impossible
Durability: 1
Legality: Legal
Availability: Uncommon
Cost: 3,500cs
Ammo Capacity: 10 rounds/magazine
Fire Modes: S
Range: P 25/S 65/M 165/L 575
Damage Rating: 10
Recoil: 5

Compressed Air Rifle

This is a standard compressed air rifle made by a number of native settlements, small family businesses and little shops in towns around Poseidon. Compressed air rifles were a natural weapon development on Poseidon after contact was lost, due to the large amount of compressed air equipment brought on the expedition. Natives and settlers

alike still use compressed air weapons due to the near universal availability of air pumps and simple bioplastic balls or bullets for ammunition. Although the rifles only have a limited number of shots before the air cylinder needs recharged, the high pressure tanks shoot them at lethal velocity.

Dimensions: 1.3 meters, 3.5 kilograms
Power Source: Compressed air
Rigging Value: Standard
Durability: 1
Legality: Legal
Availability: Common
Cost: 350cs
Ammo Capacity: 8
Fire Modes: S
Range: P 20/S 50/M 100/L 300
Damage Rating: 7
Recoil: 3

Native Solarlock Long Rifle

This is a muzzle-loading, black powder long rifle manufactured by native villages. These weapons ignite the powder by solar-charged cells. The rifles are hand-made weapons with bioplastic barrels & action and real wood frames and no two are alike. The weapons are designed to be sturdy and often sport bayonets or spear tips for use after the weapon is fired. Once fired, they require 4 Action Rounds to reload. They are common on the larger islands where minerals for black powder are readily available.

Dimensions: 1.3 meters, 3.0 kilograms
Power Source: Solar-charged cell and black powder
Rigging Value: Standard
Durability: 2
Legality: Legal
Availability: Uncommon
Cost: 300cs
Ammo Capacity: 1
Fire Modes: S
Range: P 23/S 56/M 140/L 490
Damage Rating: 8
Recoil: 4

Hanover Arms K1040 Sniper Rifle

The HA-K1040 sniper rifle is currently used by more security forces on Poseidon than any other precision rifle. The K1040s patented Smoothslide™ technology reduces recoil significantly resulting in faster recovery between shots, which is considered essential in situations with multiple, high-priority targets.

Dimensions: 1.6 meters, 2.8 kilograms
Power Source: Standard cell and binary propellant
Rigging Value: Standard
Durability: 1
Legality: Restricted
Availability: Uncommon
Cost: 2,000cs
Ammo Capacity: 30/magazine
Fire Modes: S
Range: P 20/S 150/M 300/L 1000
Damage Rating: 9
Recoil: 3

MacLeod Enforcement Traveler Ranch Carbine

The Traveler is MacLeod's most popular longarm sold on Poseidon. With good accuracy and power, high ammunition capacity and a range even better than typical, the Traveler is the most sold rifle to newcomers and long time inhabitants alike.

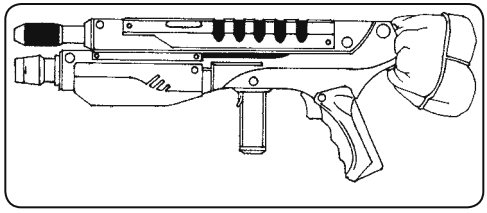
Dimensions: 2.0 kilograms
Power Source: Standard cell and binary propellant
Rigging Value: Standard
Durability: 1
Legality: Legal
Availability: Common
Cost: 550cs
Ammo Capacity: 60 rounds/magazine
Fire Modes: S
Range: P 20/S 50/M 150/L 450
Damage Rating: 7
Recoil: 3

ASSAULT RIFLES

Standard Light Assault Rifle

These are rifles designed specifically for military use. They are light, reliable, and capable of fully automatic and burst fire. They include the Hanover Arms G17, the MacLeod Enforcement Commando, and the NIS Izanami.

Dimensions: 0.9 to 1.1 meters, 2.5 to 3.0 kilograms
Power Source: Standard cell and binary propellant
Rigging Value: Standard
Durability: 1
Legality: Restricted
Availability: Uncommon
Cost: 1,000cs
Ammo Capacity: 100/magazine



Fire Modes: S/B 3/A 15
Range: P 15/S 75/M 150/L 500
Damage Rating: 7/10
Recoil: 3

Standard Heavy Assault Rifle

These are assault rifles chambered for a heavier caliber round. They include the Hanover Arms G20, and the MacLeod Enforcement Trooper.

Dimensions: 1.1 to 1.4 meters, 3.0 to 3.5 kilograms
Power Source: Standard cell and binary propellant
Rigging Value: Standard
Durability: 1
Legality: Restricted
Availability: Uncommon
Cost: 1,500cs
Ammo Capacity: 100/magazine
Fire Modes: S/B 3/A 15
Range: P 15/S 60/M 120/L 400
Damage Rating: 8/11
Recoil: 3

Sonic Weapons

Stun Guns

Stun guns are not really firearms at all. Instead these non-lethal weapons produce a sonic shockwave powerful enough to knock down a human-size target and cause disorientation, confusion, and temporary loss of hearing. Stunners do not typically cause traumatic damage, though injuries are possible at point blank range.

When hit with a stunner, characters must make a Physique roll. If they fail, they are knocked senseless and all their actions are at a –7 penalty while they lay twitching uncontrollably. This effect lasts for a number of seconds equal to 100 — (30 x Physique). If they succeed, they are shaken and deafened, but otherwise unaffected.

These weapons have a very limited range and their effectiveness drops rapidly with distance. At point blank range the target receives a –1 penalty to his Physique roll. At short range the roll is unmodified. At medium range the target receives a +1 bonus, and at long range the target receives a +3 bonus. Heavy armor or environment suits also reduce the weapon's effect, providing an additional +2 bonus to the Physique roll. These weapons also scatter somewhat, and they have a +1 bonus to hit at all ranges.

Larger versions of these weapons can be mounted on vehicles and are commonly used for crowd control. Because of their non-destructive design, stun guns are the weapon of choice by security forces aboard orbitals, spacecraft, and in the Lunar cities. They are the only guns not strictly controlled in these habitats. Though unlikely to cause lasting damage, stun guns easily shatter glass and can crack or otherwise damage similarly fragile objects.

Dimensions:
Handheld — 1.1 kilograms
Mounted — 3.9 kilograms
Power Source: 20 shots/standard cell for handheld, 200 shots/heavy cell for mounted versions
Rigging Value: Impossible
Durability: 0
Legality: Legal for handheld, Restricted for mounted
Availability: Handheld are Common, mounted versions are Rare
Cost: 450cs and 1,200cs respectively
Fire Modes: S
Range:
Handheld — P3/S 6/M 10/L 15
Mounted — P6/S 12/M 18/L 25
Recoil: 3 (Delay between shots due to reset)

NIS Doppler™

Used almost exclusively by NIS security forces, this handheld stunner can fire a wide-dispersal beam that can sweep an area, as well as a focused beam directed at a single target. An ultrasonic ranging pulse measures the volume of the room it is aimed into, and the sonic output is designed to fan and bounce around this volume. The Doppler is not as effective in this role, giving targets a +1 bonus to their Fitness roll for every three meters of the room's longest dimension. For example, the target of a Doppler on wide-dispersal in a room 10 meters across would receive a +3 bonus to his Physique roll to resist the effects of the stunner. All Dopplers are ID coded for a specific user and will automatically burn out their circuitry if the

user does not reinitialize the weapon at least once every 30 hours. Dopplers are not available on commercial markets.

Dimensions: 1.1 kilograms
Power Source: Mini cell
Rigging Value: Impossible
Durability: 0
Legality: Restricted
Availability: Rare
Cost: 900cs
Ammo Capacity: 20 shots
Fire Modes: S
Range: P 3/S 5/M 10/L 30
Damage Rating: Special
Recoil: 3 (Delay between shots due to reset)

SIMSAT™ POCKET STUNNER

This is a very compact stun gun manufactured by Hanover Arms. It is slightly less effective than a standard stunner but far more concealable. Physique rolls to resist the effects of the weapon receive a +1 bonus compared to normal stunners, and the impairment penalty is –6 if the roll is failed. The pocket stunner is the sort of weapon a person might acquire if they don't feel comfortable with a firearm but want a ranged weapon for protection. A common street modification involves tweaking the firing circuit so the weapon fires two five-charge bursts. This makes the pocket stunner markedly more effective: All Physique rolls suffer a –1 Target Number penalty compared to normal stunners, and the penalty for failure is –8 instead of –7. However, overloading the circuitry in this way occasionally causes the weapon to explode in the user's hand, dumping all its energy into the user rather than the target.

Dimensions: 0.5 kilograms
Power Source: Mini cell
Rigging Value: Impossible
Durability: –1
Legality: Legal
Availability: Common
Cost: 350cs
Ammo Capacity: 10
Fire Modes: S
Range: P 3/S 5/M 10/L 30
Damage Rating: Special
Recoil: 2 (Delay between shots due to reset)

SASERs

A SASER is a weapon that works on Sound Amplification through Stimulated Emission of Radiation. It is much like a sonic laser, in which a cylindrical matrix of silicate beads is excited by an ultrasonic compression wave along its axis. This initiates several resonance states that amplify each other down the length of the matrix, exiting the weapon as a highly collimated burst of ultrasound. The weapon is further enhanced by use of a low-power guide pulse that measures the acoustic response of the medium it is fired through, and adaptive acoustics that adjust each weapon pulse for optimum focus when reaching the target. Saser pulses carry much better in water than in air, and their listed range is for underwater use. When fired through the air, sasers function like conventional firearms fired underwater — Damage Ratings are halved and ranges are reduced to 10% of the standard values.

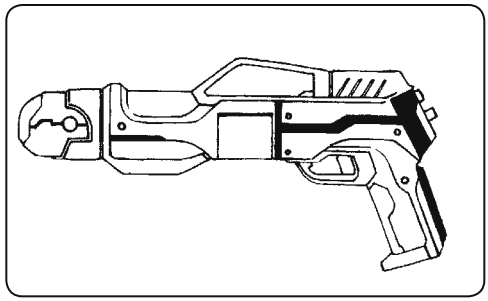
Sasers tend to shatter or melt bioplastic and cause explosive shock waves in any water-containing tissue. There is a theoretical limit to the damage a saser can do before it begins causing destructive interference in the medium it is fired through — the pulse can boil the water it passes through, disrupting the beam. Personal saser weapons are therefore limited to Damage Rating 8, though the use of multiple converging beams allows vehicle sasers to exceed this limit.

The ultrasonic pulses generated by saser weapons are painful and disorienting to nearby cetaceans and many marine animals. While they are effective underwater weapons, sasers may also draw the attention of creatures best left undisturbed. Above the surface of the water, a saser is almost completely silent except to creatures whose hearing extends to ultrasonic frequencies.

Most saser models come equipped with a selector switch that allows the user to adjust the weapon's Damage Rating. Dropping the damage by a quarter doubles the number of shots that can be fired on a single power cell, and dropping damage by half multiplies the available shots by four. All fractions are rounded down.

Saser Pistol

This weapon looks somewhat like a cross between a large-caliber handgun and handheld stun gun. The long, wide barrel is capped with a bulbous casing for the adaptive acoustic system. Saser pistols



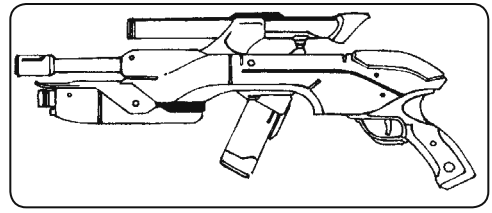
feature an internal power cell, but an external battery pack or vehicle power supply can be connected inductively for extended operation.

Dimensions: 1.1 kilograms
Power Source: Standard cell
Rigging Value: Standard
Durability: 0
Legality: Legal
Availability: Scarce
Cost: 850cs
Ammo Capacity: 20 shots internal
Fire Modes: S
Range: P 5/S 10/M 25/L 90
Damage Rating: 7
Recoil: 3 (Delay between shots due to reset)

Saser Carbine

A saser carbine is similar in appearance to a personal defense weapon, but features a thicker barrel with a cylindrical bulge underneath for expanded energy capacity. It contains a large internal power cell, with inductive connectors for external power supplies. Saser carbines are capable of burst fire and are subject to the same legal restrictions as any other automatic weapon.

Dimensions: 2.5 kilograms
Power Source: Heavy cell
Rigging Value: Standard
Durability: 1
Legality: Restricted
Availability: Scarce
Cost: 2,100cs
Ammo Capacity: 40/power cell



Fire Modes: S/B 4
Range: P 7/S 17/M 40/L 140
Damage Rating: 8/11
Recoil: 3 (Delay between shots due to reset)

Heavy Saser

Backed by a large power source and a vehicle computer, this saser weapon has greatly improved range but faces the same limits on maximum damage. This limitation is bypassed by using several saser arrays that are precisely linked to converge on a single point target. Each doubling of the number of sasers increases the Damage Rating by 1.

Dimensions: 25 kilograms and 23 liters
Power Source: Industrial cell
Rigging Value: Impossible
Durability: 1
Legality: Restricted
Availability: Rare
Cost: 20,000cs
Ammo Capacity: 50
Fire Modes: S
Range: P 15/S 30/M 75/L 260
Damage Rating: 11
Recoil: 3 (Delay between shots due to reset)

OTHER RANGED WEAPONS

Bow

Bows are a fairly common sight in remote native villages or where materials for black powder aren't available. They serve for self defense against Poseidon's land wildlife, but when outfitted with barbed arrows and strong cord, they make great shallow water fishing tools. Most native bows are either self bows made of a single piece of cured wood, or composite recurve bows made of glued layers of wood and bone. The Parrett family of Long Point in the Haven Cluster sell excellent composite bows made of native woods and hexa boar bone. A Parrett bow costs 150cs and has a Durability of 1.

Dimensions: 1 meter, 2 kilograms
Power Source: Kinetic energy from bow stave
Rigging Value: Basic
Durability: 0
Legality: Legal
Availability: Common in native areas
Cost: 100cs
Ammo Capacity: 1
Fire Modes: S
Range: P 10/S 20/M 40/L 120
Damage Rating: 6
Delay: 4

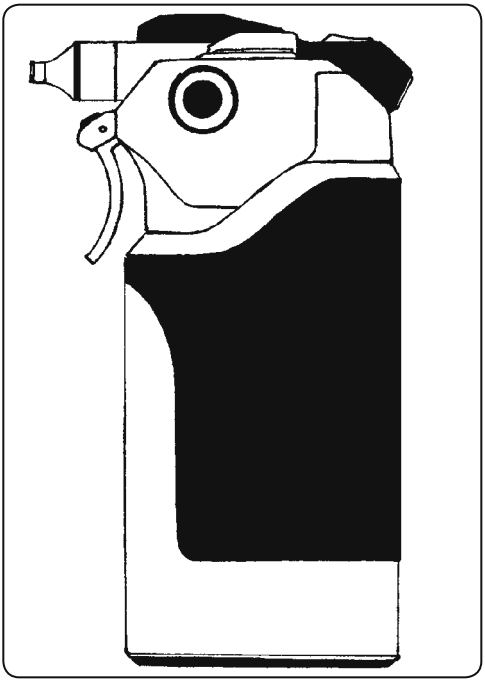
Fazer™

A painfully irritating chemical agent, faze is packaged in pressurized spray canisters with a pistol grip and marketed by MacLeod Enforcement as the Fazer™. It is widely distributed and very popular throughout Earth and the Colonies as a nonlethal self-defense weapon. The targeting system is a surprisingly sophisticated disposable sonar rangefinder, and the chemical agent is sprayed through a variable-geometry nozzle. When the Fazer is fired, the targeting system measures the

range and disperses enough faze to incapacitate a human-size target. Because of the dispersal pattern, the weapon uses two shots at medium range and four shots at long range. The dispersion nozzle gives the attacker a +1 Target Number bonus. The standard Fazer holds twelve shots of spray.

The chemical agent in a Fazer is extremely debilitating, inducing extreme nausea and causing the eyes, lungs, and exposed skin to burn painfully. The effects of faze are treated as a Damage Rating 5 attack, each round for five rounds. However, faze cannot inflict critical wounds. The player should roll three dice as normal for damage, but ignore the lowest result. Faze has no effect on anyone with a sealed or self-contained breathing system.

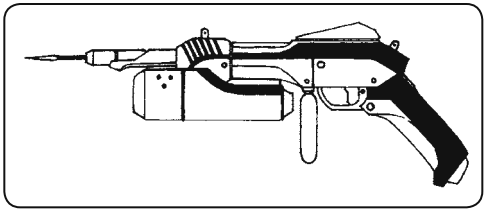
Fazers have been illicitly modified by draining off the faze and replacing it with other chemicals. These range from illicit drugs, to the mix used in glop grenades, to a methane-laced gelatin mix that, with the addition of a spark coil, transforms the Fazer into a small, disposable flamethrower (see the burning damage rules).



Dimensions: 0.50 kilograms
Power Source: Mini cell
Rigging Value: Standard
Durability: 0
Legality: Legal
Availability: Common
Cost: 50cs
Ammo Capacity: 12
Fire Modes: S
Range: P 2/S 3/M 6/L 18
Damage Rating: 5
Delay: 3

Spear Gun, Modern

Spear guns are very common devices on Poseidon and are made in a variety of designs. Modern weapons are powered by compressed gas. Range and damage are limited for these weapons and they are primarily used for fishing.



Dimensions: 1 meter, 1 kilogram
Power Source: Compressed air (10 shots)
Rigging Value: Standard
Durability: 0
Legality: Legal
Availability: Common
Cost: 300cs
Ammo Capacity: 5/magazine
Fire Modes: S
Range: P 2/S 5/M 10/L 15 (double ranges if fired above the surface)
Damage Rating: 5
Delay: 3

Spear Gun, Native

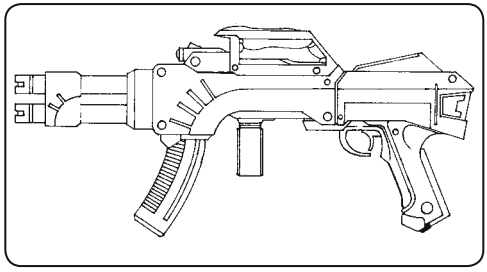
Spear guns are very common devices on Poseidon and are made in a variety of designs. Native spear guns rely on elastic slings or compressed air for power. Range and damage are limited for these weapons and they are primarily used for fishing.

Dimensions: 0.7 meter, 1 kilogram
Power Source: Kinetic energy from elastic slings, or compressed air (10 shots)
Rigging Value: Standard
Durability: 0
Legality: Legal
Availability: Common
Cost: 100cs
Ammo Capacity: 1
Fire Modes: S
Range: P 2/S 5/M 10/L 15 (double ranges if fired above the surface)
Damage Rating: 5
Delay: 4

HEAVY SUPPORT WEAPONS

LIGHT MACHINE GUN

These support weapons can be effectively wielded by a single soldier and are capable of sustained automatic fire. They must be supported by a pintle mount, bipod, tripod or weapon harness. These weapons may only be fired in burst or automatic fire mode. Note that the Recoil value already factors in the +1 Recoil for burst and automatic fire, but doesn't take the mount type into account. Weapons mounted on vehicles follow the **Vehicle Combat** rules (p. 107).



Dimensions: 1 meter, 6.2 kilograms
Power Source: Standard cell and binary propellant
Rigging Value: Standard
Durability: 1
Legality: Restricted
Availability: Rare
Cost: 6,000cs
Ammo Capacity: 500/box
Fire Modes: B10 A30
Range: P 20/S 100/M 250/L 500
Damage Rating: 11
Recoil: 6

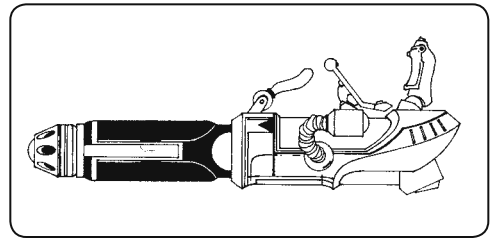
HEAVY MACHINE GUN

These powerful weapons are always mounted on a rugged tripod or vehicle. While their rate of fire is somewhat lower than lighter weapons, a heavy machine gun fires a larger, more massive round and is generally more effective at long ranges. Heavy machine guns are standard armament on a variety of military vehicles, including main battle tanks. Heavy machine guns may only be fired in burst or full-automatic fire mode. Note that the Recoil value already factors in the +1 Recoil for burst and automatic fire, but doesn't take the mount type into account. Weapons mounted on vehicles follow the **Vehicle Combat** rules (p. 107).

Dimensions: 1.5 meters, 40 kilograms
Power Source: Standard cell and binary propellant
Rigging Value: Standard
Durability: 2
Legality: Restricted
Availability: Rare
Cost: 10,000cs
Ammo Capacity: 500/drum
Fire Modes: B10 A25
Range: P 25/S 100/M 250/L 600
Damage Rating: 13
Recoil: 7

ASSAULT CANNON

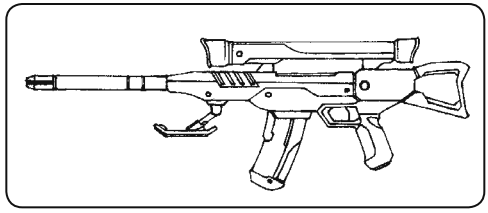
This class of weapon is meant only for military applications, and for good reason. It is incredibly destructive and exceptionally lethal. Most use a rotating, multi-barrel design that generates an insane rate of fire. These weapons are large and cumbersome, and almost always used with a mount or harness. Most require two batteries — one to power the barrel and one to run the integrated cooling system that prevents the barrels from melting during extended use. These weapons may only be fired in burst or full-automatic fire mode. Note that the Recoil value already factors in the +1 Recoil for burst and automatic fire, but doesn't take the mount type into account. Weapons mounted on vehicles follow the **Vehicle Combat** rules (p. 107).



Dimensions: 1.4 meters, 21 kilograms
Power Source: Heavy cell and binary propellant
Rigging Value: Standard
Durability: 1
Legality: Restricted
Availability: Rare
Cost: 4,000cs
Ammo Capacity: 1,500/magazine
Fire Modes: B20 A50
Range: P 20/S 75/M 150/L 300
Damage Rating: 11
Recoil: 6

Hanover Arms MA505 Infantry Support Cannon

This massive weapon is effectively a light, single-shot cousin of the autocannon commonly used as close-range firepower for combat vehicles. Its role is similar to that of sniper rifles, but the MA505 and others of its class provide pinpoint fire support at significantly greater ranges and with enough power to penetrate and damage armored vehicles. MA505s are often outfitted with advanced electronic scopes using millimeter-wave radar technology. Along with armor-piercing ammunition, this allows them to identify and strike at targets protected by lightly armored barriers. MA505s are far too heavy and bulky to be wielded effectively without tripod or vehicle mounts. These cannons can be mounted on weapon harnesses, but suffer a –2 Target Number penalty on attack rolls due to the enormous recoil. Weapons mounted on vehicles follow the **Vehicle Combat** rules (p. 107).



Dimensions: 1.5 meters, 18 kilograms
Power Source: Heavy cell and binary propellant
Rigging Value: Standard
Durability: 1
Legality: Restricted
Availability: Rare
Cost: 12,500cs
Ammo Capacity: 20/magazine
Fire Modes: S
Range: P 50/S 200/M 500 Long 1,500
Damage Rating: 13
Recoil: 7

GRENADES

Modern grenades include a variety of effective devices. Many forms are designed for non-lethal suppression. Others are extremely destructive, meant as military anti-personnel and anti-vehicle weapons. Most hand grenades use digital fuses and timers and can be quickly set for a delay of three seconds to one hour. Grenades can be thrown by hand or fired by launchers. Thrown grenades follow the throwing rules to determine accuracy, and cannot be used in launchers. Launcher grenades must be fired from a weapon in order to arm.

Grenades are primarily for military use only and access to them is usually well controlled. Though construction varies slightly between types, the following stats are averages. These stats also apply to the mini-torpedoes used in torpedo launchers.

Dimensions: 0.3 kilograms for hand grenades; 0.17 kilograms for launcher grenades
Power Source: Mini cell
Rigging Value: Impossible
Durability: 0
Legality: Varies
Availability: Rare
Delay: 3

Lethal Grenades

Breaching

These are shaped-charge grenades used to penetrate heavy armor or barriers. Breaching grenades are not especially effective against heavy vehicles but are capable of destroying doors, breaching environmental seals, and causing heavy damage to unarmored vehicles. When properly placed, they have a directed Damage Rating of 15 against the target, with an explosive blast of Damage Rating 4. Breaching grenades also feature a drogue tail and impact fuse that allows them to be thrown or fired from a weapon.

Legality: Restricted
Damage Rating: Special
Blast Radius: 2 meters
Cost: 150cs

Concussion (High-Explosive)

Of particular use underwater where they can cause significant hydrodynamic shock, concussion grenades are useful for blasting open doors and damaging structures.

Legality: Restricted
Damage Rating: 8
Blast Radius: 3 meters
Cost: 90cs

Fragmentation

These weapons are designed to blast shrapnel in all directions. They are meant as anti-personnel weapons and can be very effective.

Legality: Restricted
Damage Rating: 10
Blast Radius: 5 meters
Cost: 100cs

High Explosive Armor-Piercing (HEAP)

These launcher-only grenades are designed for use against heavily armored targets. HEAP grenades use a two-stage explosive. The first is a shaped breaching charge, engineered to penetrate the armoring material. The second is the destructive charge, which theoretically penetrates the breach before detonating. Only half of the target's Armor Rating applies to reducing the Damage Rating of a HEAP grenade.

Legality: Restricted
Damage Rating: 9
Blast Radius: None (Zero meters)
Cost: 200cs

Incendiary

These weapons burst upon detonation, spraying a burning compound over a two-meter radius area. The compound burns hot enough to melt iron but burns away in about 30 seconds. Because the binary compound reaches its peak heat immediately after detonation, the Damage Rating of an incendiary grenade starts high and drops every round. It has a Damage Rating of 6 on the first round, and this rating drops by 1 each subsequent round until it reaches zero. Any inflammable materials the fluid touches are instantly ignited and will continue to burn.

Legality: Restricted
Damage Rating: 6
Blast Radius: 5 meters
Cost: 150cs

Non-Lethal Grenades

Adhesive (Goo Grenades)

Adhesive grenades, or "goo grenades", are rare but sometimes-useful devices. On impact they burst, spattering a film of thick fluid over a five-meter radius area. In the presence of oxygen, the fluid becomes adhesive, bonding instantly and unbreakably to anything it contacts. The goo remains sticky and the movements of targets within the blast radius hopelessly bond them to themselves and their surroundings. The adhesive can be dissolved with a spray canister of a specially formulated solvent.

Legality: Restricted
Blast Radius: 5 meters
Cost: 60cs

Flash-Bang

This unique grenade "explodes" with a disorienting flash and a sonic bang that has the same range and effect as a handheld stun gun. This is therefore the grenade of choice inside pressurized facilities.

Legality: Restricted
Blast Radius: 3 meters
Cost: 50cs

Nausea

The gas released by this weapon is a contact agent that causes extreme nausea. Even the hardiest target will succumb to instant vomiting and debilitating disorientation. Any actions taken by an affected target are at a –5 penalty. A successful Psyche roll will reduce this penalty to –2. As this is a contact agent, a filter mask is useless, and only an airtight chemical or EVA suit will protect a target.

Legality: Restricted
Blast Radius: 5 meters
Cost: 80cs

Noisemaker

Noisemakers are grenades designed to obscure sonar and echolocation by creating excessive noise. The grenade uses a chemical reaction to produce gas which sprays from the grenade, producing a torrent of bubbles that acts like white noise underwater. At the same time, a short range, limited duration sonar emitter starts a stream of sonar pings, approximately one every half second for 20 seconds. The net effect is to cause sonar based targeting systems to lock onto the grenade instead of the intended target, to confuse sonar tracking, and to confuse predators like lesser whites. The sonar obscurement caused by a noisemaker imposes a –5 Target Number penalty on any action relying on sonar or echolocation. The duration of the grenade can vary, but used in personal combat (not vehicular) it will last 4 to 5 combat rounds or approximately 20 seconds.

Legality: Legal
Cost: 50cs

Sleep

Targets inhaling this gas quickly pass out, and remain unconscious for a number of minutes equal to 100 ± (10 x Physique). Upon awaking, victims of sleep grenades suffer pounding headaches. The gas is colorless and almost odorless, and so can be quite useful. Respiratory filters or gas masks are sufficient for avoiding the effects of this gas.

Legality: Restricted
Blast Radius: 5 meters
Cost: 80cs

Smoke

Smoke grenades produce a thick, non-toxic cloud of colored smoke. Most smoke grenades block only visible light, but prismatic smoke scatters all wavelengths from radio to ultraviolet, rendering it opaque to all sensors except for sonar. The obscurement caused by a smoke grenade imposes a –5 TN penalty on any action relying on sight.

Legality: Legal
Blast Radius: 5 meters
Cost: 40cs

Grenade Launcher, Handheld

This light, clip-fed grenade launcher is an inexpensive force multiplier; that is it gives one solder enough firepower to be the equivalent of two or three soldiers. Like the mounted version, it can fire a variety of grenades from crowd suppression to anti-vehicle.

Dimensions: 0.7 meters, 2.4 kilograms
Power Source: Standard cell and binary propellant
Rigging Value: Standard
Durability: 0
Legality: Restricted
Availability: Rare
Cost: 2,500cs
Ammo Capacity: 12/magazine
Fire Modes: S
Range: P 10/S 50/M 150/L 400
Damage Rating: Variable by grenade type
Recoil: 3

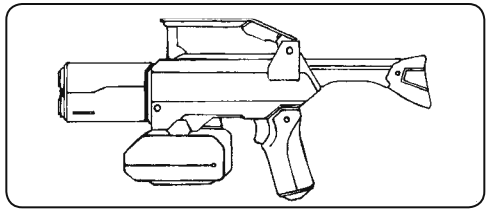
Grenade Launcher, Weapon-Mounted

Mounted on another weapon, typically an assault rifle, a grenade launcher can turn a single soldier into walking artillery. These weapons fire a variety of ammunition and can quickly turn the tide in a firefight.

Dimensions: 0.35 meters, 1.4 kilograms
Power Source: Standard cell and binary propellant
Rigging Value: Standard
Durability: 0
Legality: Restricted
Availability: Rare
Cost: 1,500cs
Ammo Capacity: 4/magazine
Fire Modes: S
Range: P 10/S 30/M 90/L 270
Damage Rating: Variable by grenade type
Recoil: 3

Guided Rocket-Propelled Grenade Launcher

This is the colloquial name for a class of infantry launchers that fire small, radar-guided rocket grenades. The weapon fires 60 millimeter radar-guided grenades with integral solid-propellant rockets. Like other guided weapons, the attacker must first acquire a lock on the target before firing.



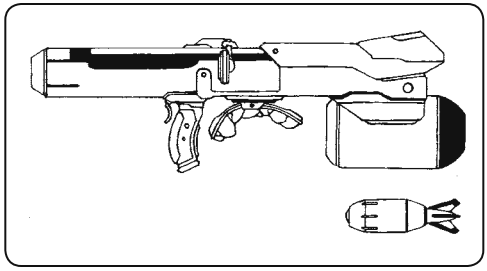
Dimensions: 1.5 meters, 5 kilograms
Power Source: Standard cell
Rigging Value: Impossible
Durability: 0
Legality: Restricted
Availability: Scarce
Cost: 2,500cs
Radar: 3
Guidance: 3
Ammo Capacity: 6 rounds/magazine
Fire Modes: S
Range: 600 meters
Damage Rating: As by type (HEAP or High Explosive grenades)
Recoil: 3

Missile Launchers

Mini-Torpedo (Torp) Launcher, Handheld

Mini-torp launchers are analogous to grenade launchers, but designed for use underwater. They are guided weapons that lock onto target and fire self-propelled, miniature torpedoes. The mini-torps are powered by individual compressed gas reservoirs, and contain onboard sonar guidance. This version is often mounted on cetacean weapon harnesses.

Dimensions: 0.75 meters, 2 kilograms
Power Source: Standard cell
Rigging Value: Standard
Durability: 1
Legality: Restricted
Availability: Rare
Cost: 2,700cs
Ammo Capacity: 4/magazine
Sonar: 5



Fire Modes: S
Damage Rating: Variable by grenade type
Recoil: 3

Mini-Torpedo Launcher, Vehicle-Mounted

Mini-torp launchers are analogous to grenade launchers, but designed for use underwater. They are guided weapons that lock onto target and fire self-propelled, miniature torpedoes. The mini-torps are powered by individual compressed gas reservoirs, and contain onboard sonar guidance. This version is mounted on a vehicle and uses the vehicle's sonar rating to establish locks.

Dimensions: 1.5 meters, 6 kilograms
Power Source: Standard cell
Rigging Value: Standard
Durability: 1
Legality: Restricted
Availability: Rare
Cost: 3,500cs
Ammo Capacity: 12/magazine
Fire Modes: S
Damage Rating: Variable by grenade type
Recoil: As per Vehicle Combat rules.

Mini-Torpedoes

These are small, grenade-sized torpedoes used in mini-torpedo launchers. They are self-guided and generally may only be fired after acquiring a sonar lock. They are only usable underwater. The Damage Ratings and Blast Radius already take into account being underwater.

Dimensions: 0.3 kilograms
Power Source: Mini cell
Rigging Value: Impossible
Durability: 0
Legality: Restricted
Availability: Rare
Delay: By launcher

High-Explosive Armor-Piercing (HEAP)

These mini-torps are used against armored targets, fortifications or huge predators. They use a two-stage explosive, similar to HEAP grenades. The first is a shaped breaching charge, engineered to penetrate the armoring material. The second is the destructive charge, which theoretically penetrates the breach before detonating. Only half of the target's Armor Rating applies to reducing the Damage Rating of the torpedo.

Cost: 500cs
Guidance: 5
Range: 2,000 meters
Blast Radius: 3 meters
Damage Rating: 9

High-Explosive

This mini-torp is packed with high explosive and does damage primarily from hydrostatic shock.

Cost: 400cs
Guidance: 5
Range: 1,500 meters
Blast Radius: 6 meters
Damage Rating: 9

Man-Portable Missile Launcher (MPML)

These weapon systems include a huge variety of multipurpose, infantry support missile launch systems. Missile launchers typically consist of one to four launch tubes and a targeting system. They can launch either surface-to-surface or surface-to-air missiles. The Radar rating (used for target acquisition) is based on the launcher itself, while Guidance is based on the missile.

Dimensions: Typically 1.5 meters, 2.0 kilograms per tube
Power Source: Standard cell
Rigging Value: Impossible
Durability: 1
Legality: Restricted
Availability: Rare
Cost: 5,000cs per launch tube
Ammo Capacity: 1/tube
Radar: 3
Fire Modes: S
Damage Rating: Variable by missile type
Recoil: 5

Missiles

Cluster

These missiles drop three overlapping explosive charges, each with an explosive Damage Rating of 10, at the points of a triangle three meters on a side. Targets in the blast area suffer separate attacks from each of the cluster munitions.

Dimensions: 0.5 meters, 4 kilograms
Power Source: Solid rocket propellant and standard cell
Rigging Value: Impossible
Durability: 2
Legality: Restricted
Availability: Rare
Cost: 5,000cs
Guidance: 5
Range: 1,500 meters
Blast Radius: 10 meters
Damage Rating: 10

High-Explosive

These weapons feature standard explosive warheads and are commonly used against both light military vehicles and infantry.

Dimensions: 0.5 meters, 4 kilograms
Power Source: Solid rocket propellant and standard cell
Rigging Value: Impossible
Durability: 2
Legality: Restricted
Availability: Rare
Cost: 2,000cs
Guidance: 5
Range: 1,500 meters
Blast Radius: 6 meters
Damage Rating: 14

High-Explosive Anti-Tank (HEAT)

Designed for use against heavy armored vehicles, HEAT weapons use a shaped-charge warhead that is very effective at penetrating armor. The weapon has a base Damage Rating of 10, but halves the rating of the target's armor (rounding down).

Dimensions: 0.5 meters, 4 kilograms
Power Source: Solid rocket propellant and standard cell
Rigging Value: Impossible
Durability: 2
Legality: Restricted
Availability: Rare
Cost: 3,500cs
Guidance: 5
Range: 3,000 meters
Blast Radius: 3 meters
Damage Rating: 10

Incendiary

These homing missiles carry a 1-kilogram slow-burn binary compound laced with alkali metals that can burn without the presence of atmospheric oxygen. The missiles cannot be fired underwater, but water does not extinguish their flames. Incendiary missiles can be fired from a standard infantry missile launcher and also from vehicle missile pods and hard points.

Because the binary compound reaches its peak heat immediately after detonation, the Damage Rating of an incendiary missile starts high and drops every round. A standard warhead inflicts a Damage Rating of 12 on the first round, and this rating drops by 1 each subsequent round until it reaches zero.

Dimensions: 0.5 meters, 4 kilograms
Power Source: Solid rocket propellant and standard cell
Rigging Value: Impossible
Durability: 2
Legality: Restricted
Availability: Rare
Cost: 2,500cs
Guidance: 5
Range: 1,500 meters
Blast Radius: 10 meters
Damage Rating: 12

EXPLOSIVE WEAPONS

Binex™

Binex™ is the proprietary name of a binary explosive compound manufactured by Atlas Materials and used by both industry and the military. It comes in standard packages of 0.10, 0.50, and 2.5 kilograms, with the 0.50 kilogram size being the most common. Binex charges are activated by pulling the safety tab and lifting the separator bar, which allows the mixing of the individual inert components. When the compound is properly mixed, the Polyflex packet stiffens and changes color. Binex pouches are available in a number of configurations, depending on the intended application. Some are cylindrical and used in boreholes, others are packaged in a long flexible tube and can be wrapped or tied around obstacles, and still others have removable adhesive backing for placement against vertical surfaces.

Binex has an explosive Damage Rating of 8 for a 0.10-kilogram charge. The Damage Rating increases by 4 each time the quantity of explosive is multiplied by 5. Binex shaped charges double their direct damage to a contact target, but decrease overall blast damage by 4. For example, a 0.50-kilogram Binex charge has a Damage Rating of 12. If prepared as a shaped charge, it would have a contact

Damage Rating of 24, but the surrounding blast effect would drop to Damage Rating 8.

Binex Charge	0.1kg	0.5kg	2.5kg	12.5kg
Damage Rating	8	12	16	20

Binary propellant canisters can be used as improvised explosives. The Damage Rating is 4 less than for the same quantity of Binex. Binex is a completely different formulation than standard firearm propellant and will explosively destroy a weapon if the user attempts to use it as such.

Dimensions: 0.10 to 2.5 kilograms
Rigging Value: Impossible
Durability: –1
Legality: Restricted
Availability: Uncommon
Damage Rating: 8, +4 for each 5× quantity
Cost: 20cs per 0.10 kilograms

Breaching Gel

Breaching gel is a useful but potentially dangerous tool designed to instantly burn through most doors and structural walls. B-gel is a binary explosive that comes in a complimentary pair of pressurized dispensers. The first canister delivers a sticky gel that can be applied to any surface, in any pattern. The second, smaller canister contains the activator, which when sprayed on the gel initiates an explosive chemical reaction. When activated, the gel begins to foam, expanding to fill in crevasses, holes, and seams. Ten seconds after the activator is applied, the foam ignites in a brilliant flash of light and intense heat. The back blast is minimal, but the rush of superheated air is loud and startling.

A single application of breaching gel will cut through up to 10 centimeters of lighter materials like foamed bioplastic or wood, and through five centimeters of heavier materials such as standard bioplastic. B-gel is useless against all but the thinnest metals or industrial-grade plastics, but is particularly effective when used on hinges or locking mechanisms.

Breaching gel was designed for use by law enforcement and military personnel, but has become available on the black market. Though not intended as a weapon, B-gel can be lethal. If used on a living target, the Game Master should follow the rules for burn damage, but start with a Damage Rating of 10.

Dimensions: Gel canister — 1.2 kilograms; activator canister — 0.3 kilograms
Power Source: Compressed gas
Rigging Value: Basic
Durability: –1
Legality: Restricted
Availability: Rare
Cost: 1,750cs

Demolitions Kit

Demo kits vary in content but most military packs contain plastic and binary explosives, detonators, timers, shaping molds, detonation cord, wiring, adhesive patches, tape, and relevant tools. Kits are intended for use by trained experts executing custom demolitions applications. Ready-to-use explosives like mines and grenades are typically not part of demolitions kits. A standard demo kit contains enough explosives to build a charge with a Damage Rating of 30. This damage potential can be applied to any number of smaller charges whose Damage Ratings total 30.

A well stocked demo kit will give a user with Demolitions skill a +1 bonus. Some kits contain gremlins which provide a skill bonus of +3. Such access chips give even unskilled users a base Demolitions skill of 2, and for this reason, most demo gremlins require user ID for access.

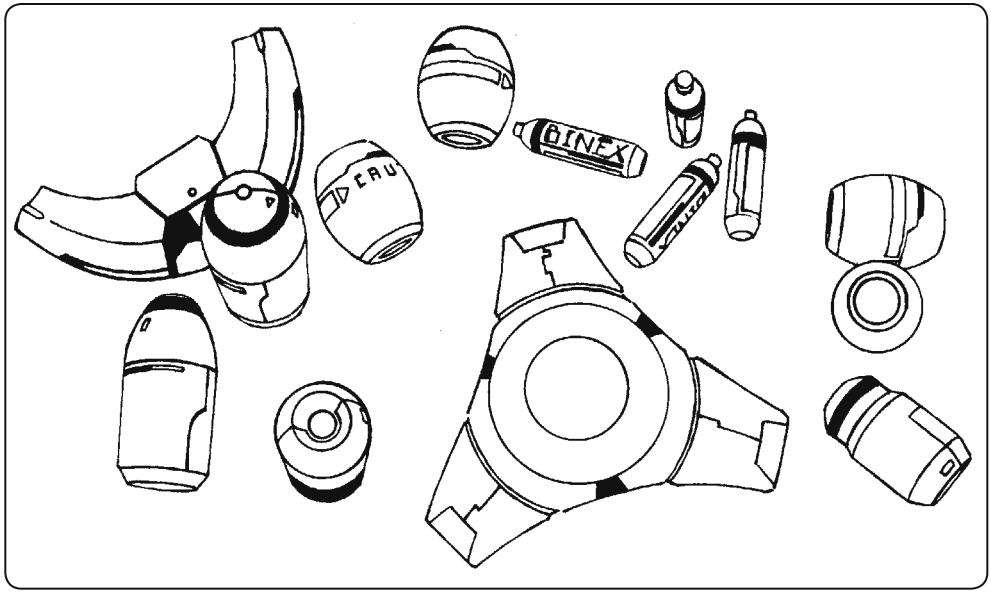
Dimensions: 3.2 kilograms
Power Source: Micro cells
Rigging Value: Standard
Durability: 0
Legality: Restricted
Availability: Rare
Cost: 2,550cs

Mines

Antipersonnel Mine

These weapons are commonly disk-shaped bioplastic canisters, ranging in size from 10 to 30 centimeters. Antipersonnel mines are designed to incapacitate rather than kill, though they are quite capable of causing lethal injury. They are activated by rapid changes in local pressure, with discriminator circuits to prevent them from being detonated by weapons fire or other explosions. Typical mines have neutral buoyancy and can be used in the water as well as on land. At normal minefield densities, a person moving through a mined area has a 1 in 10 chance of triggering a mine each round. If the mines are buried, spotting them requires sensors and slow movement. If on the surface, spotting them requires an Awareness (vision) roll. The Game Master should apply a Target Number bonus for walking slowly and carefully and penalties for moving faster.

When triggered, the antipersonnel mine explodes with a Damage Rating of 6. The shrapnel is treated as armor-piercing damage, halving the rating of



any armor protecting the target. Antipersonnel mines have two multi-position activator dials. The first controls the mine's timing delay, and the second determines how long the weapon will remain operational before deactivating. These time delays range from a minute to 30 days.

Surface-to-surface or air-to-surface missiles can deploy these weapons over an area, and hardpoint mounted dispensers can do the same job, dispersing about five kilograms or liters of mines per 100 square meters covered.

Dimensions: 0.1 kilograms
Rigging Value: Standard
Durability: 1
Legality: Restricted
Availability: Scarce
Damage Rating: 6
Cost: 50cs

Anti-Vehicle Mine

The proliferation of jumpcraft and hover vehicles has driven several innovations in the design of anti-vehicle mines. Most operate on non-contact sensors, usually a combination of air-pressure sensors and tiny ultrasound rangefinders that "ping" potential targets before confirming a firing decision. Anti-vehicle mines ignore targets less than twice the size of an average human. On detonation, the mine launches an explosive charge into the air that detonates on a plane corresponding to the target's height, up to 20 meters. These weapons typically use dual shaped-charge explosive warheads. These mines can be used underwater but can only affect submersibles within 10 meters of the ocean floor.

The blast of an anti-vehicle mine is Damage Rating 12. Normal vehicle movement over an appropriately mined area has a 2 in 10 chance per round of triggering a mine. Anti-vehicle mines have similar activation and deactivation cycles as anti-personnel mines, but the delay can be extended to several months. The mines can also be programmed to ignore vehicles of a certain size range, ignore targets during a certain time of day, ignore a certain number of targets per day, or any combination of the above. They can also be remotely armed and disarmed, though this option makes them vulnerable to electronic countermeasures.

Dimensions: 3.0 kilograms
Rigging Value: Standard
Durability: 1
Legality: Restricted
Availability: Scarce
Damage Rating: 12
Cost: 200cs

Bounding Mine

This weapon is for land use only and is designed to incapacitate or kill several people at once. It launches two meters into the air when triggered by a tripwire or sensor and explodes, inflicting a Damage Rating 8 attack on all within its blast radius. Like conventional antipersonnel mines, bounding mines are considered armor-piercing weapons.

Dimensions: 0.3 kilograms
Rigging Value: Standard

Durability: 1
Legality: Restricted
Availability: Scarce
Damage Rating: 8
Cost: 80cs

Cluster Mines

When detonated, these weapons' delivery system spreads a cluster of minelets over a four-meter diameter area. If triggered, the minelets explode with a Damage Rating of 8. Unless one carefully searches the ground when passing through a saturated area, one or more minelets will almost certainly be detonated. Common delivery systems for cluster mines include grenades, torpedoes, and conventional surface mines. If used underwater, the torpedo deploys a small cloud of neutral buoyancy minelets that will detonate in response to contact or sudden changes in water pressure. They will drift with the currents and dissipate in a matter of minutes. Cluster minelets will deactivate after a programmable delay of 10 minutes to 30 hours.

Dimensions: 0.3 kilograms
Rigging Value: Standard
Durability: 1
Legality: Restricted
Availability: Scarce
Damage Rating: 8
Cost: 100cs

VEHICLE WEAPONS

This section covers weapons that are only found on vehicles. Some weapons in previous sections may also be found mounted on vehicles, such as the assault cannon or heavy machine gun.

AUTOCANNON

Like most slug throwers in 2199, autocannons are most often binary propellant weapons, and fire heavy, high-density rounds. These weapons most commonly provide close-range firepower for military emplacements and combat vehicles. They may only be fired in burst and automatic fire mode. Autocannons are always vehicle or emplacement mounted and follow the **Vehicle Combat** rules (p. 107).

Dimensions: 2.5 meters, 375 kilograms
Power Source: External and binary propellant
Rigging Value: Standard
Durability: 2
Legality: Restricted
Availability: Rare
Cost: 15,000cs
Ammo Capacity: 2,000/drum
Fire Modes: B10 A20
Range: P 100/S 500/M 1,500/L 3,000
Damage Rating: 16
Recoil: As per Vehicle Combat rules

MISSILE LAUNCHER

This covers a wide variety of missile racks, hard points, and pods. Vehicular missiles are larger and more powerful than man-portable versions. They may be direct fire or guided.

Dimensions: Variable
Power Source: Vehicle power source and solid rocket propellant
Rigging Value: Standard
Durability: 1
Legality: Restricted
Availability: Rare
Cost: 10,000 cs per emplacement, missile cost included
Ammo Capacity: 2 to 6
Radar: As vehicle rating
Guidance: 10
Fire Modes: S
Range: 5km for unguided, 30km for guided
Damage Rating: 20
Recoil: As per Vehicle Combat rules

TORPEDO RACK/TUBE

This covers a wide variety of full size torpedo racks or tubes. Vehicular torpedoes are larger and more powerful than mini-torpedoes. They are guided weapons and can only be fired once a lock is established.

Dimensions: Variable
Power Source: Vehicle power source and compressed gas
Rigging Value: Standard
Durability: 1
Legality: Restricted
Availability: Rare
Cost: 10,000 cs per tube, torpedo cost included
Ammo Capacity: 2 to 8
Sonar: As vehicle rating
Guidance: 10
Fire Modes: S
Range: 10km
Damage Rating: 20
Recoil: As per Vehicle Combat rules

FIREARM AMMUNITION

Binary Propellant

Binary propellant comes in disposable cassettes specific to the size and caliber of weapon. When spent, the cassette is ejected from the weapon as a useless plastic shell.

Rigging Value: Impossible
Legality: Legal
Availability: Very Common
Cost: 1cs per 5 rounds for handguns/PDWs, 1cs per round for longarms, 5cs per round for heavy weapons

Armor-Piercing Rounds

These bullets use streamlined tips or special composite construction to reduce the effectiveness of the armor shielding targets. Such designs reduce the rating of common armors by half (rounding down).

Rigging Value: Impossible
Legality: Restricted
Availability: Scarce
Cost: 3cs per 1 round for handguns/PDWs, 5cs per 1 round for longarms

EMP Rounds

Electromagnetic pulse rounds for the Peacemaker are a little-known tool in the GEO Marshal's arsenal. They do little or no physical damage but generate a single pulse on impact, sufficient to damage the electronics of small or handheld items or cause temporary glitches in larger items. While most electronic circuitry is based on optical technology, it still requires electrical power and electronic components to operate. In practice, this means that the operation of an electronic device will often be compromised by EMP, but any data stored on the device will remain intact.

EMP rounds have an effective radius of one meter, usually sufficient to affect any devices held or carried by the target. Any electronic device affected by an EMP round must make an immediate Durability roll with a –2 penalty to the Target Number. Military shielding will afford these devices a +3 Target Number bonus to such Durability rolls.

Rigging Value: Impossible
Legality: Restricted
Availability: Rare
Cost: 25cs per 1 round

Explosive Rounds

This ammo is nasty and carefully controlled ordnance. Although meant for military applications only, this type of ammo is often also available on the black market. Explosive ammo adds 3 to a weapon's Damage Rating. However, few non-military grade weapons will accept and fire explosive rounds, and they are not available for concealable and small handguns as the rounds are too small to incorporate a useful amount of explosive.

Rigging Value: Impossible
Legality: Restricted
Availability: Scarce
Cost: 10cs per 1 round

Flechette Rounds

This type of round is commonly used in combat shotguns. Multiple shatter-proof plastic flechettes serve to increase damage to soft targets, but are poor at penetrating armor. A great anti-personnel round for pressurized habitats, flechette rounds add 2 to the weapon's Damage Rating, but the rating of any armor is increased by 3. Because of their scattering effect, these rounds have a +1 attack bonus. For shotguns, this is in addition to the normal attack bonus.

Rigging Value: Impossible
Legality: Restricted
Availability: Scarce
Cost: 1cs per 1 round

Gel Rounds

These are made from a combination of foamed and flex-grade bioplastic and look much like small rubber balls. Like suppression rounds, they are significantly less lethal than regular rounds and are sometimes used by light security forces in pressurized or fragile habitats. Gel rounds do not inflict critical wounds, and the rating of any armor protecting the target is doubled. When rolling damage for a gel-round attack, roll the usual three dice and ignore the lowest roll.

During the manufacturing process, gel rounds are laced with a silver nitrate solution that indelibly marks the skin and plants hundreds of tiny microtags that take weeks to work their way out of the dermis. Gel rounds have also been manufactured with non-lethal contact toxins.

Rigging Value: Impossible
Legality: Legal
Availability: Scarce
Cost: 1cs per 2 rounds

Harpoon Rounds

This ammunition is designed for conventional weapons when used in underwater engagements. Harpoon rounds are heavy, elongated projectiles

whose streamlined form improves underwater performance. These rounds lose damage underwater just like conventional ammunition, but ranges are reduced to only 50% of normal, rather than 10%.

Rigging Value: Impossible
Legality: Legal
Availability: Rare
Cost: 5cs per 1 round

Powerheads

These are special tips for spear gun projectiles. Powerheads are armed with small explosive warheads detonated by an impact trigger. Fitted with powerheads, a spear gun's Damage Rating is 7. Powerheads screw onto a spear tip in place of the normal point and cost 10cs each. Screwed onto the end of a pole with a handgrip, the weapon is called a bangstick and is often used against hostile marine life.

Rigging Value: Impossible
Legality: Legal
Availability: Uncommon
Cost: 10cs per 1 round

Standard Rounds

Most guns fire hyper-dense plastic bullets that inflict damage by kinetic force. Shotguns frequently fire buckshot rounds comprised of multiple, small, dense plastic pellets.

Rigging Value: Standard
Legality: Legal
Availability: Very Common
Cost: 1cs per 2 rounds

Suppression Rounds

Used for non-lethal engagements, these rounds are popular in pressurized habitats. Individual bullets are actually small pellets of a soft gel that spatter on impact, causing tremendous stinging pain but little actual damage. Bruises and small lacerations are all that can result unless a target is hit in the eye. Suppression rounds inflict no more than minor wounds. If hit, targets are stunned senseless by pain and shock for a number of seconds equal to 20 — (3 x Physique). Stunned characters suffer a –5 penalty to all actions. The target may reduce the effects of this impairment if a Psyche roll is made. The player reduces the impairment penalty by the action value scored on the Psyche roll.

These rounds are particularly light and reduce the effective ranges of a weapon by half. Suppression bullets typically contain indelible florescent dye that serves to mark suspects who resist the effects of the rounds. Unfortunately, almost any rigid armor renders suppression rounds ineffective.

Rigging Value: Impossible
Legality: Legal
Availability: Uncommon
Cost: 1cs per 3 rounds

Trauma Rounds

These are projectiles pre-stressed to fragment on impact, littering the wound channel with shards of ceramic or bioplastic. Trauma rounds increase a firearm's Damage Rating by 1, but the rating of any armor is increased by 2. Trauma rounds are rarely used in underwater environments.

Rigging Value: Impossible
Legality: Legal
Availability: Scarce
Cost: 5cs per 1 round

Firearm Accessories

Bipod/Tripod

A bipod or tripod is used to stabilize certain heavy weapons when the weapon is firmly braced in a fixed position. The bipod is of no use if the weapon is being carried. Use of a bipod or tripod reduces the weapon's Recoil by 2.

Dimensions: 1.3 kilograms
Power Source: None
Rigging Value: Standard
Durability: 1
Legality: Legal
Availability: Common
Cost: 100cs

Laser Designator

Inexpensive and durable, laser sights are popular on combat handguns and assault weapons. A laser sight is easy to use and works by reducing aiming time. Instead of having to aim for a complete action to receive an aiming bonus, the shooter receives the initial aiming bonus and may fire in the same action. The sight is only effective at Point Blank and Short ranges. Additionally, a laser sight increases the maximum aiming bonus from +3 to +4. Laser sights can be mounted on most guns, and some handgun designs have integral designators. Sights are activated by sufficient pressure on a contact switch mounted on the weapon's grip.

Dimensions: 25 grams
Power Source: Mini cell
Rigging Value: Impossible
Durability: –1
Legality: Legal
Availability: Common
Cost: 150cs

Scope, Electronic

High-tech electronic scopes have a variety of options. Light intensifiers eliminate penalties for poor lighting. Laser rangefinders automatically adjust the crosshairs, doubling a weapon's effective ranges. Laser motion calibrators provide data on target speed and vector, prompting the shooter when the weapon's lead matches the target's motion. This provides a +1 Target Number bonus to attack rolls at any range. As with any scope, the shooter must aim for at least one action to gain any benefit. However, such devices can make even a poor shot a deadly sniper.

Dimensions: 300 grams
Power Source: Mini cell
Rigging Value: Impossible
Durability: –1
Legality: Legal
Availability: Rare
Cost: 3,500cs

Scope, Optical

These scopes are cheap and reliable and serve to double the effective ranges of a firearm if the shooter uses at least one action aiming.

Dimensions: 100 grams
Power Source: None
Rigging Value: Impossible
Durability: –1
Legality: Legal
Availability: Uncommon
Cost: 250cs

Targeting Interlink

The ubiquitous neural jack even has a use in combat. A tiny laser rangefinder/tracking system with an inertial sensor is mounted below the gun's barrel. This device has an interface cable that can be plugged into the user's jack. Output from the device can be customized, but typically a floating crosshair is laid over the user's field of view and tracks wherever the gun is pointed.

If the gun is aimed outside the user's visual field the shooter has the option of maintaining his own perspective or switching entirely to that of the gun. This makes the weapon an effective periscope in dangerous situations, and allows the user to aim around corners or over his shoulder without even looking. Other feed from the weapon provides data on ammo and propellant levels. In addition to the obvious advantages of this device, use of a targeting link gives the shooter a +2 Target Number bonus to attack rolls at Point Blank and Short ranges, and a +1 Target Number bonus at Medium and Long ranges. Trode versions of this device are available, but provide only a +1/+0 TN bonus.

If combined with the Sky Eye satellite targeting cybernetic modification, an implant comp or bodycomp and satellite uplink, the interlink creates the near-perfect marksman. The satellite feed tracks the target's speed and direction and combines that with weather data to provide a complete targeting solution. The net effect is to provide the previously listed TN bonus to attack rolls along with no penalties due to range or target speed.

Uplink versions of firearm interlinks are available. They require the user to have a link-jack implant, but they eliminate the need for an interface cable. An uplink jack allows the weapon to be controlled at a distance and is a valuable option should the gun be turned against its owner. Trode interfaces are not of sufficient quality to support this sort of function. GEO Marshals are said to favor this combination of hardware, serving to feed the rumors that they never miss. Ever.

Dimensions: 120 grams
Power Source: Mini cell
Rigging Value: Impossible
Durability: 0
Legality: Legal
Availability: Scarce
Cost: 4,500cs, 6,500cs for the uplink version

Weapon Harness

A weapon harness consists primarily of an articulated, servo-assisted arm and connectors attached to a web gear-like harness. The harness is used to support assault and heavy weapons, distributing the weight onto the user's torso and hips. It is designed specifically to arrest the recoil of heavy weapons and is unusable on anything else. When disengaged, the harness holds the weapon at one of several optional ready positions, quick to hand. Use of a weapon harness reduces the weapon's Recoil by 2.

Dimensions: 2.5 kilograms, adjusts to fit
Power Source: Standard cell
Rigging Value: Standard
Durability: 1
Legality: Legal
Availability: Rare
Cost: 650cs

CHAPTER 6: BIOTECH



BIOTECHNOLOGY

Over the past century humanity has used advancing technologies not only to refashion itself, but to cross technological and genetic thresholds, essentially becoming entirely new species. The earliest efforts involved various cybernetic implants and surgical alterations. While these were — and remain — remarkably useful for various specialized applications, it was quickly realized that organic modifications were both more versatile and more efficient. With this increased focus on organic modification, genetic engineering came into its own.

Genetic engineering in its simplest form is the alteration of genetic code to produce specific, desired metabolic changes in living cells. These changes can be as basic as altering a metabolic pathway, or as complex as completely redesigning the anatomy and physiology of a developing embryo.

In BLUE PLANET there are three general types of biotechnological modifications — cybernetic surgery, genetic redesign, and genetic modification.

Cybernetic surgery integrates refined surgical techniques, cybernetic devices, and human physiology to achieve specific performance goals. Because of the power of Long John, some types of cybernetic devices are often considered primitive and obsolete. Prevalent as this sentiment is, some cybernetics remain a common modification, especially when there is no biomod substitute, such as neural jacks.

Genetic redesign requires the restructuring of large portions, if not all, of an organism's genetic code. A pre-existing genome is typically used as a starting point — completely artificial organisms are rare. Genetic redesign is technically demanding, time consuming, and extremely expensive. However, the potential is limited only by imagination, especially since the advent of Long John.

Genetic modification is the simplest and most affordable form of genetic engineering, and with the introduction of Long John therapies, it has gained the potential of actual genetic redesign. Genetic modification usually involves surgical alteration and implantation of tissues and organs custom designed for specific purposes. Gross anatomical changes are accomplished by surgery and physiological changes are initiated by transform viruses. These artificial viruses alter small portions of host-cell metabolism to alter the performance of those cells. Together, these techniques can accomplish almost as much as true redesign. Genetic modification, or biomod, is less expensive and less technically demanding, and therefore far more practical for most applications.

Considering how widespread the use of genetic modification has become, the scientific principles underlying the modification process are rather poorly understood by the average citizen. Since the completion of the Human Genome Project in the early 21st century, bioengineers have known the exact sequence of the 100,000 genes in human DNA, and by 2020, the purpose of almost all of those genes had been determined. The challenge has been to determine what modifications need to be made to which genes in order to achieve a desired result.

The earliest steps in genetic modifications involved selectively overwriting small gene sequences so that the production of specific proteins would be initiated or inhibited within the body's cells. For example, several immune system disorders are caused when cells in the victim's bone marrow do not produce a necessary enzyme that enables the immune system to effectively fight diseases. To treat such diseases, samples of the defective marrow cells are extracted from the patient's body and the genes are replaced with healthy ones. The repaired genes are then returned to the patient's body, where they begin to produce the correct enzymes and help recover the patient's health. Some defective genes would still be located within the patient's body, but a sufficient number of healthy cells would be present to ensure his continued health.

The return of the modified cells to the patient's body was, for a long time, the most difficult part of the entire genetic modification process. A variety of vectors were used in attempts to most effectively place the modified cells where they would do the most good. The most effective vector involved placing the modified DNA strands into specially tailored viruses. Viruses have evolved to target a particular cell type in the body and pass on their genetic contents to those cells. Genetic engineers took advantage of these viruses by replacing their genetic payloads with the desired custom genes, then letting the viruses infect the patient's body as they normally would. The possibility of unwanted side effects was a very real concern for the scientists who first attempted to use viral transmission for gene therapy, but eventually the so-called "transform viruses" became the predominant method of achieving genetic changes.

It is difficult to overstate the significance of genetic modifications to the human race of the 22nd Century. For hundreds of thousands of years, human beings have been limited to the genetic code they inherited through biological evolution. However, since the turn of the millennium,

and particularly during the 15 years since the discovery of xenosilicate ores, humanity has discovered ways to improve itself far beyond anything its ancestors could have imagined.

Genetic engineering has been an immense boon for humanity from a purely medical standpoint. Genetic diseases such as sickle-cell anemia, hemophilia, and muscular dystrophy have been completely eliminated throughout most of Earth. Cancer is now treatable, and hereditary tendencies towards heart disease, hypertension, and diabetes are gradually being eliminated from the human gene pool. While new viruses are continually encountered in the remaining corners of Earth's wilderness, researchers are able to analyze them and provide appropriate treatments, sometimes within days of the first reported cases.

Beyond the medical benefits are the personal and cultural changes wrought by the widespread availability of genetic modifications. A person who wants to be taller, thinner, stronger, younger, tanner, tougher, or simply more attractive than he is naturally, needs only money.

There are also, of course, some modifications that are exploring the boundaries of the human. Hybrids, aquaforms, and spacers would have been considered freaks and horror movie special effects in the not-so-distant past, but have gained some measure of acceptance — if not equality — in the human society of the 22nd Century. These genies represent a new evolutionary future for humanity, a future humanity has created entirely for itself.

Limitations

While genetic modifications offer incredible benefits to humanity, the technology is not without its limits. Genetic biomods are capable of speeding up, slowing down, increasing, decreasing, or modifying the basic metabolic processes of the human body, but cannot completely alter the capabilities of organic tissues and organs. The respiratory system can be modified to enable subjects to breathe air low in oxygen content, or air contaminated by normally toxic gases, but it cannot be modified to enable the subject to breathe methane or survive without oxygen altogether.

Mental characteristics are another area where genetic mods are lacking. Characteristics such as emotional stability, intelligence, aggression, and so forth depend at least as much on environment as on genetic makeup. The genetic constitution of cognition is still rather poorly understood by genetic researchers, and successful modifications in these areas are still relatively rare. Multiglands and mind-jobs are capable of changing a person's emotional state, but have so far been unable to accomplish radical, long-term alterations in personality.

Industry Leaders

The great majority of new genetic modifications are researched and developed by the major Incorporate states, as they can best afford the massive costs of bringing these products to market. The four main Incorporates in the genetic engineering arena — Anasi Systems, Biogene, GenDiver, and Lavender Organics — control more than 90% of the genetic modification market between them. Smaller companies can and do make significant breakthroughs, but such upstarts are generally bought out almost immediately by one of the "big four."

While each of these Incorporate states has a diverse array of subsidiaries involved in all facets of the genetic modification industry, each has a particular area of expertise where most of their attention is focused.

Anasi Systems specializes in true medical applications of gene therapy and has managed to eliminate more obscure genetic diseases with each passing year. Anasi is also a leading designer of xenosilicate-based longevity treatments. Biogene is also active in the Long John arena, but does surprisingly little other work in human-oriented genetic modifications. Much of Biogene's research revolves around the genetic modification of animal and plant species, and there are persistent rumors that Biogene scientists are once again working on human-animal genetic hybrids. GenDiver has begun to specialize in the security market, developing a number of combat-oriented modifications that make the company extremely successful in its constantly expanding market. Finally, Lavender Organics has focused on the consumer market, specializing in inexpensive cosmetic and functional biomods that appeal to a broad audience.

Because they represent alterations of the subject's genetic code and actual living tissues and organs, biomods have neither a rigging value nor a durability rating.

By 2080 biomod technology had advanced enough that the first colonists sent to Poseidon were well adapted to their new aquatic home. Such early biomods, however, were expensive and non-hereditary. Additional genetic code had to be integrated into the female colonists' ova and male colonists' spermatagonia so that the modifications would breed true, passing the new body forms on to their offspring. The descendants of the

original colonists on Poseidon are therefore actually genetic redesigns, or true genies.

With the discovery of the potential in Long John, genetic redesign and modification have gained almost limitless potential. It has become possible to create almost any desired change, from traits as simple as hair color to those as complex as species. The only limitations are expertise and cost, and numerous biotech companies are working frantically to produce a synthetic version of Long John that will allow mass-marketing of this technology. Currently, out-patient modifications are usually done in biomod salons or clinics. More extreme modifications typically require sophisticated government or commercial genetic engineering facilities.

Cybernetic Modification

Cyberware consists of electro-mechanical devices that are integrated into living tissues to enhance ability and performance. The heart of all cyberware made in 2199 is the Neural Interface Circuit or NIC. An interface circuit is essentially a high-speed microprocessor that is wired with artificially grown nerve fibers. These fibers are subsequently implanted into a subject's central nervous system, where the NIC acts as a two-way translator, converting nerve impulses into digital code and code into corresponding impulses.

All cyberware depends on a neural interface circuit of some sort. However, operation of implants through an NIC is identical to executing normal physical and mental actions. Implants respond with the speed and ease of thought, and with a normally functioning interface, the user feels as if he is simply using another part of his own body.

Strictly electrical implants with low power requirements use superconductors and body heat to generate the current they need to function. Such devices have essentially limitless power. Larger, highly mechanical implants, like cybernetic limbs, have significantly greater power requirements and are most often powered by dedicated myo-electrical analog tissues implanted along with the cyberware. Though continuously energized, cyberware powered in this way remains restricted by the normal muscular endurance of the user.

With the discovery of Long John and the resulting breakthroughs in genetic engineering, cyberware began to be perceived as an outdated, even obsolete technology. However, while cybernetic modifications do not match genetic ones for flexibility and aesthetics, they do possess a number of unique advantages that genetic engineering remains unable to match.

Most importantly, cybernetic technology is capable of making qualitative changes to the capabilities of the human body, while genetic biomods are generally limited to making quantitative changes. That is, biomods can enhance, increase, reduce, or alter basic bodily functions, but generally cannot give the user wholly new abilities. Cyberware has no such limitations. A genetic biomod can enable a human to hear a whisper at 50 meters, but only with cyberware can he receive a radio broadcast without carrying a radio.

For this reason, cyberware is invaluable for any task in which a human interfaces directly with a computer or other electronic system. Neural jacks and implant computers simply have no genetically engineered equivalents and remain the only way to directly interface with an electronic or mechanical device. Pilots, scientists, engineers, and others whose daily routines involve close interaction with computer systems find cybernetic interfaces extremely useful, if not essential.

Cyberware, due to its integration of sophisticated computer technology, is also capable of making decisions without user intervention. Genetically boosted reflexes, for example, enable the user to perceive and react to stimuli faster, but the user's brain must still process the stimuli before he can initiate action. Programmed reflexes, on the other hand, include a dedicated processor that interprets nerve signals and, if necessary, outputs instructions for an appropriate reaction, often before the user is even fully aware of the initial stimulus.

Manufacturing

The majority of cyberware components are manufactured in low-gravity, vacuum-based facilities in Earth orbit, on Luna, and in the Belt, and the assembly of the components into finished products is usually completed at these installations as well. Over the past decade, however, a small but growing percentage of cyberware components has been produced in factories in the Serpentis System in an attempt to avoid the extraordinary costs of transporting components or finished goods through the wormhole.

Due to this diversified group of manufacturing sites, as well as the limited market for cyberware, the Incorporate states are far less dominant in the field than in many other industries. Several of the larger Incorporate states — notably Atlas Materials, Hanover Industries, Hydrospan, and Lavender Organics — do manufacture cyberware, but

the trade is not their primary business. As a result, cybernetics production is one of the few industries in which smaller manufacturers control a notable market share.

Eagle Bioelectronics, based in Ibrium City, is one of Luna's oldest corporations. While its engineers did not invent the implanted sensory recorder, Eagle was the first company to produce an affordable player for stimulus recordings and was primarily responsible for the development of stims as a popular entertainment medium. Eagle is also a leading producer of sensory cyberware, including a line of cybernetic eye replacements that have inevitably been dubbed "Eagle Eyes."

Moore Microware is headquartered on the asteroid Vesta but also has manufacturing facilities on a number of other asteroids and several platforms in Earth orbit. The company produces a wide variety of implanted computer systems, programmed reflex routines, and specialized industrial cyberware. Moore is also experimenting with customized forms of cyberware designed specifically for hybrids, spacers, and other genies, though the demand for these products has to date been disappointingly low.

Clavius Technology, another Lunar manufacturer, is widely considered to produce some of the highest quality cybernetics available. Clavius implants are made in small quantities from the very finest materials, combining the most modern manufacturing techniques with individualized attention to detail. Commanding astoundingly high prices, Clavius cyberware is as much status symbol as practical modification.

Strike Systems, based on the asteroid of the same name, is another high-end cyberware manufacturer. Unlike Clavius, however, Strike concentrates on maximizing the efficiency and reliability of its implants rather than its image. The company spends almost no money on advertising and produces only a small volume of implants each year, but its reputation has begun to spread among those who want the very best. Rumor suggests that Lavender Organics is quietly investigating the possibility of purchasing Strike Systems to take advantage of this reputation.

MuTech, Inc. is the largest of the cyberware manufacturers based in the Serpentis Belt. The company produces cybernetics of all types for the Serpentis market and is able to offer lower prices than most manufacturers based in the Solar System due to its location. The quality of MuTech's products is generally good if not exceptional, and they are now the most commonly purchased brand of cyberware on Poseidon.

Damage to Cyberware

One of cyberware's disadvantages relative to genetic biomods is that cyberware, unlike living tissue, does not heal. Most cyberware is small and deeply implanted in the body, meaning that any trauma severe enough to damage the cyberware will probably kill the user as well. However, implanted computers, cyberlimbs, and some sensory cyberware are vulnerable to damage in dangerous situations. If a character suffers a critical wound, assume that one of the least durable of his exposed cybernetic modifications, if he has one, has potentially been damaged. The Game Master should make a damage roll against a Damage Rating equal to the attack that injured the character. Cyberware follows the normal rules for equipment damage.

Damaged systems must often be removed and replaced, but can be repaired with the proper equipment at 75% of the cost of a new implant. However, at the Game Master's discretion, implants repaired in this way may malfunction, or fail entirely, in the future.

Secondhand Cyberware

Throughout the first half of the 21st century, cyberware was the most advanced form of personal modification technology available and was extremely valuable due to its rarity and perceived utility. Like any valuable commodity, it soon became a target for thieves. While few criminals had access to the medical and technical know-how and equipment required to remove cyberware from a victim and transplant it successfully into another person, the staggering cost of acquiring cyberware legitimately made "cyberjacking" a viable, though rare, criminal practice.

The sensational nature of the crime ensured that it made headlines whenever it did occur, and the resulting furor was blown out of all proportion to the actual risk. New laws were passed to cover cyberjacking; all cybernetic components were marked with indelible, micro-engraved serial numbers, and self-defense classes were offered to compliment post-surgical care for cyberware owners. None of these, however, made as much of an impact on the cyberjacking trade as did the law of supply and demand. As cyberware became more affordable, the profits to be made from cyberjacking dwindled until the reward was no longer worth the risk. By the dawn of the 22nd Century, the practice had almost entirely disappeared, though it remained prominent in urban folklore.

Cyberjacking has reappeared on Poseidon in the years since Recontact, though it is still

a very rare occurrence. Some among the colony world's lower classes perceive cybernetic implants as a tool they can use to escape the ghettos and become successful, and they will not hesitate to steal what they cannot afford to buy. Furthermore, some of the more pragmatic segments of the native resistance on Poseidon see no reason for the "tools of the oppressors" to go to waste just because a given oppressor has no further need for them. Those with the right connections can usually find a surgeon willing to implant the cyberware without asking questions about where it came from.

Social Considerations

Human opinions on cyberware tend to fall into two main categories depending on the nature of the implants. Neural jacks, implanted computers, and other cybernetic tools are generally considered unremarkable; they represent just another type of equipment that an individual can rely on to do his job. Cybernetic limbs and organs, on the other hand, are commonly considered a waste of money. Few people consider cybernetic replacements a viable alternative to regenerative therapy. A person with an obvious cyberlimb is generally regarded as either too poor to afford proper medical care or mentally unstable. And if a limb appears normal but is discovered to be cybernetic, the observer's level of suspicion only increases.

Dolphins are accustomed to using human technology via sonic trodes, and most cannot conceive of any further advantage that could be gained by actually implanting technology into one's body. Fins often consider the users of cyberware with a mixture of sympathy and disgust, and it usually takes them some time to see past the implants when dealing with a cybernetically enhanced human. Hardline members of the Church of Whalesong Theogony are particularly opposed to cyberware, considering it a perversion of nature.

Killer whales often take this belief to the extreme. Many orcas react to a person with cyberware as if he had a contagious disease — and without sympathy, since the presumption is that the human had the cyberware implanted by choice. While they often have a difficult time articulating their feelings about it, orcas tend to view bodily modification through cyberware as morally wrong at a fundamental level. They tend to regard cybernetically enhanced humans with distrust at best and loathing at worst. These feelings are further aggravated if they discover that a friend or acquaintance has disguised or hidden cyberware, since the orcas tend to feel that the human has somehow betrayed their trust by hiding his true nature.

Many of the cetaceans on Poseidon served in the GEO or Incorporate militaries, where cybernetic modification is fairly common. These active and retired soldiers tend to be more accepting of cyberware, often viewing it as a necessary sacrifice for the fulfillment of a soldier's duty.

The Rigging Value of all cyberware is impossible, since working with the tiny and delicate circuitry in even the simplest cybernetic implant requires highly specialized tools and equipment.

Implant Computers and Sensors

The ultimate in personal computing, implant computers are state-of-the-art processor/storage units that are integrated directly into the cognitive centers of the brain. These implants enhance the functionality and storage capacity of the brain, giving the user instant access to stored data and software applications.

Many computer implants are meant for specific functions and capable of only certain hardwired tasks. Others are true microcomputers, functioning based on loaded data and software. Most implant computers are surgically mounted within the abdomen, attached to the bones of the pelvis. The NIC interfacing the computer, and the jacks or ports feeding into it, are usually mounted in the skull and connected to the computer by micro fiber-optics.

Agility Chip

This NIC and processor complex is a hardwired version of the programmed reflex commonly called Balance. Like the program, the chip attempts to moderate the cognitive component of the user's motor control system to improve overall coordination. Unlike the program, the chip is a permanent neural implant and is continually active. As a result, response is notably faster and slightly more effective than with the programmed reflex version. Users who enter zero-g environments without heavy sedation risk seizures and potential injury.

A character with the agility chip receives a +2 Target Number bonus to Coordination rolls where the response is primarily a matter of balance.

Healing Time: 3 weeks
Legality: Legal
Cost: 7,000cs

Ambidexterity Filter

This dedicated processor is implanted in the user's brain along with a complex of supplementary motor and interconnecting neurons. It models and then simulates the neural pathways and activity of the user's strong hand, facilitating complementary abilities in his off hand. The end result is that the user receives the full benefits of natural ambidexterity, avoiding all penalties associated with use of his off hand.

Healing Time: 1.5 months
Legality: Legal
Cost: 4,300cs

Bug Confounder

The bug confounder is a complex set of cybernetic implants that is used in security and surveillance applications. They incorporate a wide-band transceiver that functions as a bug detector, as well as an electrical jammer capable of blocking low-power transmissions within a range of 15 meters. These sensors also grant a user the ability to detect small electrical currents flowing in hidden wires or operational electronic devices. The range of detection for such currents is five meters.

Healing Time: 2 weeks
Legality: Legal
Cost: 30,000cs

Implant Computer (Icomp)

This expensive device allows the user to perform data processing and software applications with the speed and ease of thought. Such implants have 100 terabytes of onboard storage, an integrated neural jack, and a dataspike interface port.

Access to raw data is very different from access to learned skills or practiced training. The data obtained from an implant computer, like data contained in a library, provides information and knowledge, but not skills or ability. When role-playing the use of an implant computer, consider whether knowing information as if it were a part of one's memory is all that is required, or if specialized skill and training is also necessary to accomplish the given task.

Implanted computers use the same software run by other forms of personal computers. Players must specify the programs and databases stored in their implants, and are restricted by that content until able to upload new data. Remember, too, that many software applications are very expensive, and being able to run a certain program is not the same as being able to afford it. Cost, function, availability, and size of various programs and databases are left to the discretion of the Game Master.

Common software programs used in icomps include CommCore, GPS locator, language translator, communication link and reference guides. Some programs require the user to be jacked in or uplinked to a satellite to function.

For one-half their normal costs, in addition to the basic price of the microcomputer, the hardware and programs for any or all of the specialized implant computers described here may be included with the microcomputer implant.

Healing Time: 3 weeks
Legality: Legal
Cost: 50,000cs

Implant Radar

This device gives the user the ability to produce and receive low-powered radar waves. The implant is mounted just below the skin, as a band around the customer's skull, and has a full 360° range. The output can be concentrated to a 120° arc in any direction if the user wants more detailed or more distant perception.

The resolution of this radar is such that objects smaller than .5 cm in size are invisible. Fine surface features are therefore impossible to distinguish. Radar does function in total darkness, and can easily penetrate fog and smoke, but it does not work underwater. Implant radar has a range of 20 meters in the 360° mode, and 100 meters in the 120° mode.

Healing Time: 2 weeks
Legality: Legal
Cost: 18,000cs

Implant Sensory Recorder

This implant computer is tied directly into the sensory nerves of the user. Everything the user experiences can be recorded with this device. The recorder may be activated at will, and the user can play back and edit these recordings by simple thought. The device's storage capacity of 50 terabytes is capable of recording up to 100 hours of sensory stimuli. A recording implant can also be used to experience sensory recordings made by others. Users can down- and upload recordings into a dataspike using the implant's single spike port. Remember that recording implants capture sensory information only — emotions and thoughts are not recorded. If the user also has an uplink jack, it is possible to broadcast sensory data to other receivers, or even to another uplink jack.

Playback-only versions of this device have become increasingly popular and are a growing part of the entertainment industry. Production of commercial stimulus recordings is a growing

business and 'stims' for all subjects and tastes are hot commodities.

Healing Time: 2 weeks
Legality: Legal
Cost: 20,000cs, 5,000cs for playback only

Infrared Sensors (Vipers)

Infrared sensors are generally implanted in pairs for binocular vision, just under the skin of the cheeks. This configuration is fully concealed and is popularly known as "vipers." Infrared sensors allow the user to perceive both visual IR and thermal IR, or heat. These sensors make it possible to see objects by the heat they generate or reflect, and to see significant heat sources behind thin barriers. Users can also track warm-bodied animals by the heat left in their footprints for several minutes after their passing, depending upon ambient temperature and terrain conditions.

The quality of the images produced by IR sensors is always grainy, making it impossible to distinguish detailed surface features. As a result, only the general outlines of figures or objects are perceivable with IR. Also, because IR light does not readily penetrate water, such sensors are useless underwater.

Infrared sensors provide a +2 bonus to all vision rolls in low light or darkness, and provide a +5 bonus when attempting to locate heat sources within lower temperature surroundings.

With additional firmware, the vipers may be used to monitor and evaluate blood-flow variation and galvanic response in the surface tissues of target subjects. The enhanced firmware allows the vipers to serve as an effective lie-detector. Using vipers this way allows a player to make a Psyche roll to determine if an individual is lying. Highly skilled liars are able to partially control the physiological symptoms of lying and so may impose penalties on this roll. Characters with Multiglands can also potentially fool enhanced vipers.

Healing Time: 2 weeks
Legality: Legal
Cost: 15,000cs for basic vipers, 30,000cs for enhanced vipers

Neural Jack

A neural jack is a small, shallow socket usually mounted in the base of the customer's skull. This port is used to directly interface with external, computer-controlled devices. The operating programs may be part of the device's software, or the user may run programs stored in an implanted computer. Most complex electronics, computers, and vehicles are equipped with neural control ports, and direct interface is accomplished though standardized fiber-optic cable.

A jack allows users to access or operate a device as if it were part of their own bodies. They experience data received from the device as if they were sensory stimuli or memories, and they give control commands as if they were simple acts of muscular coordination. Neural jacks allow for perfectly integrated use of even the most sophisticated hardware.

Interfacing through a neural jack provides a +2 Target Number bonus to all associated task rolls. This represents the improved coordination, detailed sensory input, and refined control a user gains through mental integration with the device. Since neural jacks eliminate the need for physical action on the part of the user, all actions initiated through a jack are essentially instantaneous. In game terms this means that a character acting through a jack receives a +2 Target Number bonus to initiative. This rapid action is limited to actions through the neural jack, and by the physical capabilities of the device being controlled. Such devices include jacked vehicles, bodycomps and maincomps; but not hand weapons as speed of body movement restricts the interface. This applies both to the task roll bonus and initiative roll bonus.

A more versatile version of the neural jack exists that includes a radio modem. This uplink jack, or link-jack, allows the user to interface with any device fitted with an uplink transceiver. The range of such remote links is dependent on terrain and satellite access, but is typically 25 kilometers line of sight. The bonuses provided by the uplink jack are reduced to +1 when uplinked due to lag time. The bonuses are normal when cable jacked.

Healing Time: 1 week
Legality: Legal
Cost: 8,000cs, 11,000cs for an uplink jack
Installing a neural control port in a device costs between 800cs and 1,200cs, depending on the complexity of the device. Installing an uplink transceiver costs an additional 700cs.

Pain Inhibitors (PI)

Pain inhibitors, or PIs, are implants that do just what the name implies. These relatively simple devices intercept neural input from pain receptors, eliminating the sensation of pain. PIs are integrated within the neural pathways that deliver impulses to the pain processing centers of the thalamus. When stimulus exceeds preset levels, the implant shunts the excess impulses. This results in the user

feeling only minor discomfort, regardless of the level of stimulus.

Because pain is an evolutionary adaptation against bodily harm, elimination of the stimulus is inherently dangerous. Therefore, the shunted signal is interfaced with tactile or even auditory centers, where the excess nerve impulses are perceived in an alternate form. This allows the user to sense and react to the magnitude of possible injury without having to deal with the potentially debilitating effects of the pain itself. Learning to gauge the severity of an injury based on this alternate perception is a slow process and requires specific training.

Shunting the impulses at the point of the thalamus also eliminates the autonomic responses associated with pain, such as hormone release and the metabolic shock pain can induce. The elimination of incapacitating pain and the body's physiological responses too it can be life-saving advantages. Traumatic injury can be temporarily ignored, allowing the user to do first aid on himself, to move, or even to continue fighting after suffering horrendous wounds. Pain inhibitors are therefore common modifications among soldiers, covert operatives, and frontiersmen — anyone with a dangerous profession.

The pain inhibitor biomod allows an individual to ignore impairment penalties for light wounds, and reduces the impairment penalties for serious and critical wounds by 1.

Healing Time: 4 weeks
Legality: Legal
Cost: 27,000cs

Programmed Reflexes

This piece of cyberware requires a dedicated processor and a special NIC in the user's brain stem or upper spinal cord. This implant uses programmed routines to turn selected actions into reflex. The computer analyzes sensory input and user thought patterns, initiating pre-programmed reflex responses based on these variables. Only simple, physical actions can be enhanced in this way, and all such artificial responses must be pre-programmed and uploaded to the processor through its single interface port.

The reflex patterns programmed into the implant may be deactivated by a simple mental command, but if active, the responses will execute if the proper trigger stimuli are received. This can be embarrassing in the least and very dangerous at worst. For this reason the implant is uncommon, used mostly by pilots, soldiers, athletes and others whose lives or livelihoods depend on specific, anticipated reactions.

To use this implant, a player must provide the Game Master with a list of their programmed reflexes, and the stimulus or thought patterns that initiate them. Such implants may support only 5 reflex programs at any one time.

Healing Time: 3 weeks
Legality: Legal
Cost: 65,000cs

Programmed Reflexes (Programs)

Programmed Reflexes is a sophisticated cybernetic implant, but it is only as effective as its programming. To date, few quality programs have been developed, and most have come from backroom studios and fly-by-night hacks — that is until now. Lavender Organics, the pioneer in neuro-computer integration, has introduced a popular and reliable selection of programmed reflex routines.

Legality: Legal
Cost: 500cs for uploader and one program, 425cs for each additional program.

Autoload

This program was designed with military and law enforcement personnel in mind. The routine prevents those embarrassing moments caused when a firearm runs out of ammunition unexpectedly, or a person forgets to reload a spent weapon. While active, this reflex compels the user to count the rounds (or bursts) fired, so that he is always certain of his ammo status. Additionally, when the user fires the last round from a clip, he is subject to a compulsion that forces him to reload before doing anything else.

Balance

This routine improves the user's agility by hardwiring his physical responses to imbalance. This reflex is integrated with the sensory nerves from the user's inner ear and the motor responses from his cerebellum. The effect is triggered when stimuli from the user's inner ear indicate he has begun to lose balance. The cerebellum initiates nominal responses, but short circuits the cognitive interference that can sometimes hinder the body's natural response to imbalance.

This reflex provides a +1 Target Number bonus to the user's Coordination rolls, but only when the action depends primarily on balance. Use of this programmed reflex in zero-g environments may result in seizures and physical injury.

Checklist

Originally designed for commercial and military pilots, variations of this routine have begun to appear in a wide variety of fields. In its original form, the program activates whenever the user enters the pilot's seat of his vehicle, and prompts him to complete all steps of a preprogrammed preflight checklist before taking off. This helps ensure a safe flight without depending on the pilot's memory. Variations on this program are becoming available for most occupations or activities where routine procedures are detailed but important.

Coolness Under Fire

Many law enforcement and military personnel swear by this reflex program. It is an artificial reflex arc that effectively eliminates the spastic, useless body movements that often accompany a sudden fright or start. Unexpected visual, tactile, or auditory stimuli that might otherwise startle the user are automatically dampened, allowing the user's cognitive center to comprehend the circumstances and act accordingly.

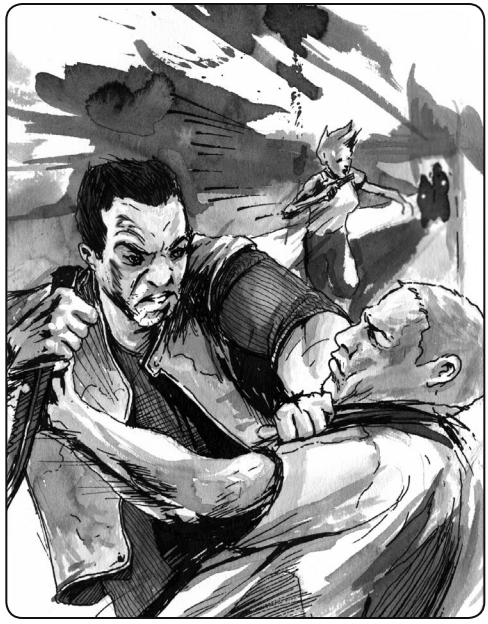
The effect is that the user gains a +2 Target Bonus bonus to his first Reflexes roll for Initiative immediately following a surprise or fright.

Defender

This programmed reflex is a favorite among law enforcement personnel, martial artists, bouncers, and anyone else with a need to defend themselves in hand-to-hand encounters. This routine makes blocking melee attacks an instinctual response. The program is categorized based on a variety of different attacks and their associated defenses. When visual stimulus convinces the user's implants that the user is being assaulted, the routine selects the most appropriate of a suite of possible defenses and initiates that response. Because of the variety of attacks and their complimentary defenses, this program occupies two of the available slots in the user's implant — one for unarmed and the other for armed combat. This reflex allows the user to parry up to three attacks in close combat, in the same Action Round, with no penalty.

Kata

This reflex program allows the user to perfect specific martial arts moves by instinctualizing the actions. Given the appropriate stimuli, the user is subsequently able to execute each move precisely and accurately every time. Each move and its associated stimuli must be specified and individually programmed, and each action fills one of the available slots in the reflex implant.



This program gives the user a +1 Target Number bonus to his Armed or Unarmed Combat skill, but only when he is performing one of his programmed moves.

Lifeguard

A Hydrospan programmer designed this routine after nearly drowning in a boating accident off New Fremantle. He was an accomplished swimmer but panicked after falling overboard and was actually swimming deeper underwater when a cetacean colleague managed to bring him to the surface. The program is triggered whenever the user is unexpectedly submerged in water. It prevents the user from reflexively inhaling, relaxes all of his major voluntary muscle groups, and positions his body face-up. The user will naturally float upwards, and once he breaks the surface, can deactivate the program, begin breathing normally, and evaluate his situation without panicking.

No-Shock

This program can be a life saver. One of the most immediate dangers associated with life-threatening injury is metabolic shock, which can kill a victim before the actual effects of his injury can prove lethal. The effects of shock are physiological responses to trauma, but they can be aggravated by the mental state of the victim. Fear and high stress accelerate the effects of shock and can dramatically reduce the patient's chances of survival. The no-shock program is a reflex arc that is triggered when certain vital signs reach preset

threshold values. The arc interrupts the cognitive biofeedback loops that aggravate the victim's condition, delaying the onset of shock and improving his chances of survival.

A victim using the no-shock program gains a +1 Target Number bonus on all trauma rolls.

Quick Draw

This program was originally developed at the request of the GEO Marshal Service and is now available for the first time on the public market. This reflex forces the user to execute an instinctual fast draw of a holstered sidearm when confronted with a variety of stimuli. This allows the character to draw the designated weapon with a Delay of 0 (zero). Common trigger stimuli for this reflex are gunfire, animal attack, or being held at gunpoint. Players may select any such stimuli they wish, but must provide the Game Master with a descriptive list.

Sleepwalker

This program is uniquely useful in certain occupations and is favored by military personnel, guides, wardens, and government operatives. This routine monitors the auditory stimulus received by the sleeping user's ears, and correlates them with a library of sound profiles. If the sound matches a trigger profile, the implant instantly wakes the user. Common trigger profiles include footsteps, rustling vegetation, heavy breathing, or soft voices. The basic program can accommodate 10 classes of sounds, and players must provide the Game Master with a list of their trigger profiles.

RAF Modulator

This relatively simple cybernetic implant artificially stimulates and inhibits the reticulating activating system of the midbrain, allowing the user to consciously control the mechanisms that prevent and induce sleep. With biofeedback, the user of this biomod can remain awake and alert for up to 60 hours with negligible physiological effects. Subsequently, for each additional five hours or portion thereof the user remains awake, he suffers a cumulative –1 penalty to all his attributes.

With an alternate mental command, the user of this implant can also induce a deep and restful sleep in seconds. This induced sleep is no deeper or longer than normal, the onset is simply immediate.

Additionally, the implant can be used to bring the sleeper instantly from a state of groggy semiconsciousness to one of immediate alertness, eliminating any penalties associated with lingering fatigue.

Healing Time: 2 weeks
Legality: Legal
Cost: 5,200cs

Waker

The "waker" is a small, artificial gland connected to a simple microprocessor and located near the user's carotid artery. When activated by a simple mental command, the microprocessor begins to monitor the user's brainwave patterns, watching for signs of sleep. When a certain user-configurable threshold is reached, the gland is activated, releasing small quantities of stimulants into the user's bloodstream in order to awaken him. If the user also possesses an implanted microcomputer, or is connected via neural jack to a bodycomp, the waker can also be used as a biological alarm clock, releasing its stimulants and awakening the user at a preset time.

The waker is popular among long-haul pilots and traders on Poseidon, as well as certain military personnel. It can be safely used for up to 60 hours of continuous wakefulness. Beyond this point, further use is strongly discouraged, as it can lead to hallucinations, mental disturbances, and other unpleasant side effects.

Healing Time: 3 weeks
Legality: Legal
Cost: 7,500cs

Anatomical Cyberware

Cybernetic Ears

Cybernetic auditory enhancement is available, though uncommon. These tiny electronic devices are implanted deep in the inner ear and are not apparent to visual inspection.

When activated, they provide a +2 Target Number bonus to Cognition rolls to hear sounds. However, when the user's hearing is amplified, any loud noise such as explosions or nearby gunfire may cause temporary deafness. More expensive designs contain dampeners that automatically reduce the implants' sensitivity when they register a sound above a certain decibel threshold.

Durability: 1
Legality: Legal
Healing Time: 2 weeks
Cost: 5,000cs for enhanced audio, 7,000cs for audio with sound dampeners

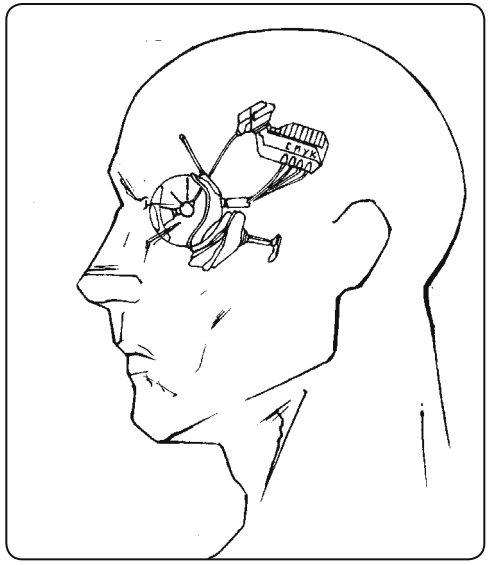
Cybernetic Eyes

A wide variety of enhanced sensory options are available for cybereyes. In addition, individuals with improved cybereyes can change the color of their eyes at will, including colors not found in nature. This is often helpful in disguising one's identity.

Note that the costs listed below are for each eye — while both eyes normally have the same options, cost-conscious users may elect to modify only one eye. If only one eye possesses a given sensory mod, any actions relying on that modification will receive a –1 Target Number penalty.

Durability: 1
Legality: Legal
Healing Time: 2 weeks
Cost: 3,500 each

The following options are available for cybernetic eye implants.



Freeze-Frame

This modification features a digital camera integrated with the cybereye. The camera focuses wherever the user's vision is oriented, and the camera can take advantage of any vision modifications implanted in the eye. The camera can store up to 100 high-resolution color pictures and can download them to an implanted microcomputer or to an external computer through the user's neural jack. Unlike most other cybereye options, there is no penalty for having this option in only one eye. However, if both eyes are equipped with this option, the user can generate stereoscopic 3D images.

Cost: 950cs per eye

Infrared

Infrared sensors integrated with a cybereye allow the user to perceive infrared and thermal energy as visual stimulus. This gives the user the same abilities as viper implants.

Cost: 1,100cs per eye

Light-amplification

Light-amplifying cybereyes provide the same bonuses as the night vision biomod. They include integrated flash suppression, and any excessively bright input is automatically reduced to a tolerable level.

Cost: 1,050cs per eye

Telescopic Vision

Telescopic cybereyes provide the user with up to 5X magnification. The character gains a +2 TN bonus to Cognition rolls to see things at a distance.

Cost: 875cs per eye

Ultraviolet

Ultraviolet sensors in a cybernetic eye allow the user to perceive the ultraviolet range of the light spectrum. They allow a character to see in dark areas where UV light is present including outside at night or indoors with a UV flashlight or spotlight.

Cost: 1,200cs per eye

SkyEye™ Targeting Cybereye

The SkyEye is a cybernetic eye purpose built for extreme long range shooting. It features ×10 telescopic enhancement and advanced satellite-linked targeting algorithms. When linked to an icomp or bodycomp and a satellite uplink, the SkyEye can obtain a satellite view of the target with speed, bearing, wind and weather data and use it to plot a near-foolproof targeting solution. The net effect is to negate Target Number penalties for range and target speed. The SkyEye is hampered by Poseidon's considerable cloud cover, though, and not always usable. The character must spend at least one action to aim. The SkyEye requires the character have a jacked weapon, neural jacks or uplink neural jacks, targeting interlink and an icomp or bodycomp with satellite uplink.

Durability: 1
Legality: Restricted
Healing Time: 2 weeks
Cost : 25,000cs

Cybernetic Limb Replacements

Cybernetic replacements are available for arms and legs. Ordinary cybernetic replacements have no noticeable game effect, except that they mass more than the original limb and impair the user's

ability to swim. Each cybernetic limb reduces the character's Aquatics skill by 2 (cumulative) and makes floating impossible. Improved replacements may be designed to include a wide variety of additional advantages.

The user of any cybernetic replacement limb may lock any or all of the limb's joints into place — or unlock them — with a programmed muscle "twitch" command. This can be useful in certain circumstances, but may also be dangerous if used improperly. A character bench-pressing a heavy weight, for instance, could lock the elbow joints on his cyberarms to keep them from bending. However, his shoulders and torso would still need to support the weight, and the locked joints would provide no extra strength. When he could no longer support the weight, the character's cyberarms might swing down onto his legs or back over his head, potentially causing damage either way. In extreme cases, the weight might even tear one or both cyberarms out of their shoulder attachments.

Cybernetic Arm

Standard cybernetic arms serve as replacements for lost limbs and exactly replicate the strength of the original. The ability to lock the hands grants a +1 Target Number bonus to Physique rolls that depend on hand strength or endurance, such as gripping, climbing or hanging from something. The hardness of the material that makes up the arm gives a +1 bonus to unarmed melee Damage Rating.



Durability: 3
Legality: Legal
Healing Time: 3 weeks
Cost: 12,000cs

Cybernetic Arm, Improved

Improved cybernetic arms serve as replacements for lost limbs and feature higher strength than the original. The ability to lock the hands grants a +2 Target Number bonus to Physique rolls that depend on hand strength or endurance, such as gripping, climbing or hanging from something. The hardness of the material that makes up the arm and the improved strength gives a +2 bonus to unarmed melee and armed melee Damage Ratings.

Durability: 3
Legality: Legal
Healing Time: 3 weeks
Cost: 17,000cs

Cybernetic Leg

Standard cybernetic legs serve as replacements but do not significantly improve the user's jumping ability; the legs' increased strength is offset by their increased mass. The hardness of the material that makes up the leg gives a +1 bonus to unarmed melee Damage Rating.

Durability: 3
Legality: Legal
Healing Time: 3 weeks
Cost: 15,000cs

Cybernetic Leg, Improved

Improved cybernetic legs serve as replacements and have stronger and faster servos to improve speed, but only if both legs are replaced. In that case, the legs add 2 meters per action to the character's Scramble and Sprint rates. The hardness of the material that makes up the leg and the enhanced strength gives a +2 bonus to unarmed melee Damage Rating.

Durability: 3
Legality: Legal
Healing Time: 3 weeks
Cost: 20,000cs

Spacer Legs

Spacer legs, or "bird legs," are an exotic and specialized form of cybernetic leg replacement. Like

the natural limbs of spacers, these cyberlimbs are double-jointed and include prehensile feet with an opposable thumb in place of the big toe. Users receive a +1 Target Number bonus for tasks in which they are able to use all four limbs at the same time, and also receive +1 Target Number bonus to Climbing rolls. The user's Sprinting pace, however, is reduced to 7 meters per action.

At one point, spacer legs were the only viable option for pure-strain humans who wanted to seriously pursue a career as a spacer. Those numbers were never very large to begin with, and with spacer modifications now available as an affordable biomod, demand for such cyberlimbs has almost vanished. They are still occasionally seen among those who work primarily in zero-g, but who travel planetside often enough that they do not want to undergo the full spacer biomods and suffer the corresponding difficulties when working in a gravity well.

Durability: 3
Legality: Legal
Healing Time: 3 weeks, plus an additional 3 weeks of training
Cost: 45,000cs

Implanted Micro-Toolkit

This device consists of a wide alloy wristband with many small, retractable robotic arms, probes, fiber optic micro-cameras, and similar integrated micro-tools. There are several configurations of this device available, and once the basic interface is implanted, users can switch among the various toolkit packages at will.

The two most common toolkits contain electronics and medical/surgical tools. Specialty models for biochemistry, mechanical repair, and artistic applications exist as well. This device gives the user a +1 bonus to all task rolls that are facilitated by the specific tool set.

Legality: Legal
Healing Time: 2 weeks
Cost: 15,000cs; additional tool sets cost around 1,500cs

Genetic Redesign

Before the discovery of Long John, genetic redesign was very difficult and very expensive. In the era from 2050 to 2180 only four notably successful genie types were created: aquaforms, hybrids, spacers, and transhumans. The Anasi redesign, the Brainchild, is still not regarded as a complete success. These projects were all large-scale ventures in which governments or corporations were uniquely motivated to spend extraordinary time and effort to create the desired genetic templates.

At the end of the 22nd Century, humanity has reached a point in scientific development and technical achievement at which it can direct its own evolution. Genetic modifications can be passed down from generation to generation, creating new types of human beings who differ from each other by far more than the superficial variations between the traditional human races.

Individual genetic biomods have become routine by the end of the 22nd Century, and even full-body biomods are widely accepted. The identity of a pure-strain human who, for whatever reason, elects to undergo the spacer transformation remains unchanged, despite the radical changes in his body. His memories, attitudes, and personality are largely unaltered. The creation of a new type of genetic redesign, however, represents a true leap into the unknown. The first representatives of a new species have no parents to emulate and no cultural history to draw on, and no one can accurately predict how they will react to the world, or vice versa. As the creators of the initial hybrid races learned to their dismay, creating a species designed for a specific purpose does not necessarily mean that the new species will be committed to that purpose.

For this reason, few new redesigns of the human genome have been proposed over the last century, and fewer still have been produced in any significant numbers. A wide variety of genetically engineered animal and plant species have found their way into the ecology of various human-occupied worlds, but humanity as a whole has shied away from creating further variants of itself.

Race Relations

Despite its technical and scientific achievements, humanity has yet to evolve beyond the discomfort, fear, and even hatred with which many people react to appearances and customs different from their own. The various genie species have been subject to the same discrimination and prejudice that historically affected racial minorities in most of Earth's nations. While the issues are complex and generalizations are problematic, it is possible to provide a broad overview of relations between human species and subspecies. This overview is necessarily a generalization, and it must be emphasized that different cultural systems — especially religions — significantly

influence the relations within and between these genetic groups.

Pure-strain humans, and even modies who have undergone minor genetic modification, tend to fall into three distinct camps regarding their opinions on the various genie races. The first is the contemporary liberal view. Most people in the developed regions of Earth and the Colonies believe that while genies may look different — in some cases, very different — from pure-strain humans, they can and should be judged on their own merits on an individual basis. No matter how much their genome varies from that of unaltered humans, they are still human in the legal and ethical sense of the word. They are entitled to the same rights as unmodified humans, and these rights should be protected by law.

The second camp is most common in traditional religious cultures, as opposed to the homogenized Western global village that dominates much of Earth and the Colonies. In these cultures, many believe that the engineering of the human genome represents a real and ongoing threat to the continued survival of pure-strain humanity — the human race created in God's image. Personal violence against genies is not uncommon in these communities, and the political controversy over genetic engineering of humans has sparked widespread violence, rioting, and terrorism in some parts of Earth. Human genetic engineering is punishable by death in the United Islamic Republic, and the UIR and the Anasi city-state in Beirut have been locked in an effective cold war since Anasi destroyed Damascus with a nuclear missile in 2117.

The final camp is one whose ranks are filled with futurists and visionaries who regard the genie races as the future of humanity, the next step in the species' evolution. Like the anti-genie factions, this group believes that the engineering of the human genome threatens the long-term existence of pure-strain humanity — and they seek to encourage this obsolescence as much as possible.

Interestingly, transhumans are subject to anti-genie prejudices only in the most conservative cultures. Sociologists suggest that Alphas suffer this discrimination to a lesser extent than the "exotic" genie races simply because they are for the most part visually indistinguishable from pure-strain humans. Even people who are opposed to human genetic engineering in principle will often willingly accept transhuman friends, coworkers, and neighbors. Ironically, some transhumans actively participate in the anti-genie movement, apparently believing that they represent the best of "true humanity" and that the other genie races are aberrations against nature.

The two primary types of aquaforms are usually lumped together in the public eye, and indeed many non-aquaforms have difficulty telling squid and divers apart unless the squid's gills are visible. Aquaforms have historically suffered surprisingly little discrimination, largely because they remain very rare on Earth. The first time that unmodified humans came into contact with aquaforms in any significant number was during Recontact, by which time the aquaforms had claimed Poseidon as their own world and developed their own culture. Due to the aquaforms' exceptional familiarity with and adaptation to the waterworld, it was difficult for pure-strain human newcomers to develop any sense of superiority over the aquaforms. The new colonists' familiarity with Poseidon is beginning to breed some contempt for the aquaforms, though, and an increasing number of arriving colonists view the natives as uneducated primitives. The extent to which the aquaforms' genetic modifications contribute to this prejudice remains unclear.

Hybrids have suffered the worst racial discrimination of any genie species. As the first genie race to appear in any significant numbers, they felt the full brunt of pure-strain human racism before humanity had come fully to grips with the idea of genetic engineering. The hybrids were created in secret using methods of which the public did not approve, and the use of animal genes in their creation made it inevitable that some would consider them subhuman.

The hybrids were created and trained to fight, a role that most did not accept, and when they chose to reject violence they had no "purpose" and were abandoned by those who had created them. As a result of this painful history, most hybrids feel an understandable distrust for pure-strain humans, which tends to develop into a self-perpetuating cycle of suspicion. As for the other genie races, hybrids frequently feel jealous of their younger cousins. Aquaforms and spacers did not have to suffer nearly as much public backlash when they were first created, partly because of the hybrids' difficult struggle for equality and acceptance years before. Some hybrids feel the younger genie races owe them a debt of gratitude, but most simply shrug their shoulders stoically and go on with their lives.

Spacers are, in many ways, the most alien of the genie races. Aquaforms are still recognizably human, and hybrids mix predominantly human characteristics with those of well-known animals. Spacers, however, cannot even be accurately

described as "humanoid" due to their distinctly non-human feet and legs. Their gait seems unnatural to most humans and even other genie races, and in most cases, a person seeing a spacer walk for the first time tends to simply stop and stare. As with aquaforms, spacers manage to avoid prejudice from pure-strain humans by avoiding contact with them. Spacers tend to be an insular and close-knit group, keeping very much to themselves even in mixed communities. They tend to lump the other human species, modified or otherwise, together as "downsiders," and affect an attitude of disdain towards any grounder who passes through their domain. Spacers are supremely well adapted to working in space, and they know it; anyone else, as far as they are concerned, is simply passing through and getting in their way.

The Future of Genetic Redesign

Human genetic redesign in the traditional sense, that of creating new species in the lab rather than modifying existing individuals, seems to be a practice whose time has passed. With the discovery of Long John, extensive genetic changes can be made on full-grown adults, which is generally much less risky and less expensive than trying to generate a new species from scratch. Unless a new niche is found for a redesigned race — one that requires such extensive modifications that they cannot efficiently be achieved through biomods — there is little economic motivation for any corporation or government to spend the vast sums needed to create and perfect a new design. Small-scale genetic redesign projects are still occasionally undertaken by groups that hope to exploit a niche market before the Incorporates do, or by those who feel that a newly created race can somehow be bent to its creator's will. As the designers of the hybrids can attest, this latter approach is much harder to manage than it appears.

Aquaform (Diver, Squid)

Aquaforms are amphibious humans. The aquaforms were originally created as biomods in 2080 by a joint venture involving the UN and the GenDiver Corporation in support of the Poseidon colonial effort. Two varieties of aquaforms were created in this early effort. Technically known as Diving Reflex Analogs and Systemic Osmoforms, they are better known commonly as divers and squid, respectively.

Divers were modified to share many characteristics with marine mammals. They have collapsing respiratory systems and increased levels of



more efficient red blood cells. They can hold their breath for almost an hour and have a depth limit restricted only by temperature, swimming speed, and oxygen debt.

Squid have true gills hidden in folds of flesh that run from below the ears, down the neck, between the shoulder blades to the middle of the back. These gills are covered by folds of skin and muscle that seal tight when the body is not immersed in water. Squid also have collapsible respiratory systems, but have a depth limit of about 500 meters, due to pressure effects on their metabolism.

Both types of aquaforms were modified in a variety of ways to enable them to become fully amphibious. Divers and squid both have slightly elongated feet, with long, webbed toes. Their feet remain quite suitable for dry land, however. Their fingers are webbed as well, to the second joint, and with spread hands, this vastly improves their swimming efficiency. They have nictating membranes, sealing nostrils, and skin tolerant of long immersion in salt water. In addition, divers and squid can both drink and metabolize sea water without harm. Both divers and squid tend to be smooth but thick-skinned, with minimal body hair. They also possess a notably thicker fat layer, enabling them to tolerate temperatures down to 5°C.

The original aquaforms were actually primitive biomods — adults modified by surgery, tissue grafts and retroviruses. Their new body forms, therefore, could not be passed on to their progeny without additional modifications. To simplify and minimize these demanding and expensive

reproductive modifications, the aquaform genes were spliced into the ova and spermatagonia of the colonists. This means that any child a female colonist might have, even with a pure-strain father, will be an aquaform.

Aquaform Modifications:
+1 Physique
+1 Endurance
+3 Aquatics Skill
+1 Meter/Action to swimming pace
Salt Tolerance
Cold Tolerance (+2 to Toughness against cold extremes)
Hold Breath 1 hour (Diver)
Gills (Squid)

Divers (Diving Reflex Analogs)

Legality: Legal
Transformation Time: 4 months
Cost: 22,000cs

Squid (Systemic Osmoforms)

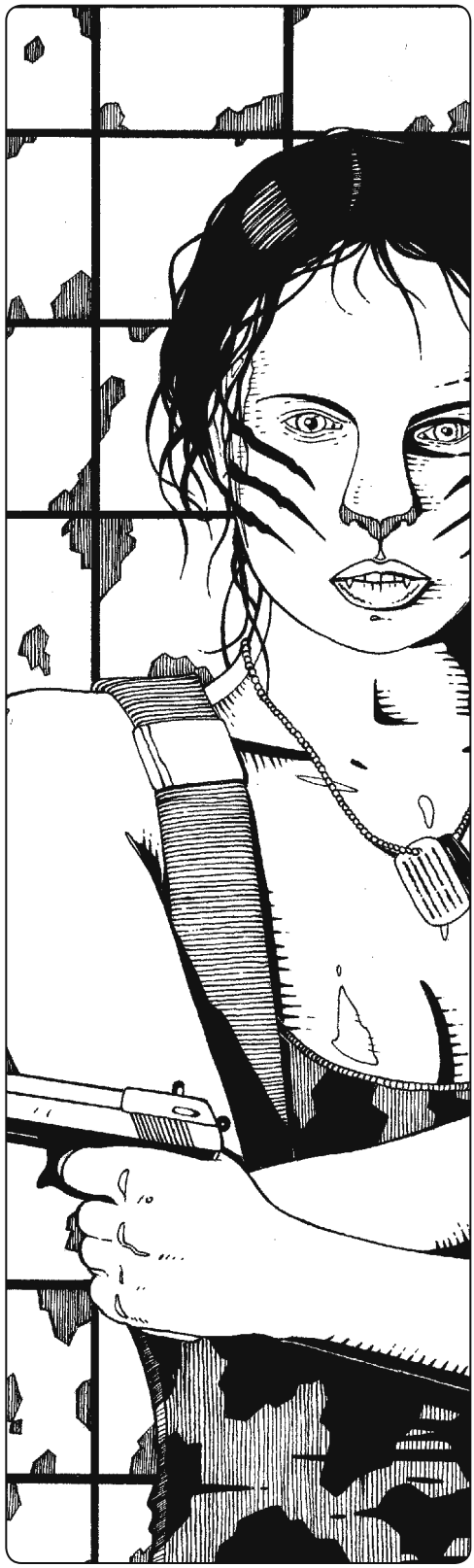
Legality: Legal
Transformation Time: 5 months
Cost: 28,000cs

Cognitive Synergist (Brainchild)

The early goals of genetic engineering typically focused on the physical performance of the human body, attempting to improve such attributes as speed and strength. The mechanisms for these functions had long been understood, and increasing their performance was simply a matter of enhancing or supplementing existing biomechanics. Conversely, handicapped as physiologists were by their lack of understanding of brain function, gene therapists met with little success in their early attempts to enhance human mental function.

The disparity between physical and mental enhancement remained problematic until the Moore Synergy was accidentally achieved in an Anasi physiology lab by researchers studying the effects of cetacean uplift therapy analogs on human cognitive development. Though the precise causes of the synergy remain poorly understood, subsequent research has produced a form of genetic redesign that produces individuals with significantly higher brain function and increased mental capabilities.

A "Brainchild," as the popular press chose to label such a genie, has an eidetic memory, an IQ of at least 160, and the abilities of a so-called natural calculator. Unfortunately, these benefits



come at a significant cost. Brainchildren are prone to severe mood swings and emotional breaks. To combat these problems, most brainchildren require a strict regimen of drug therapy, and in some cases, even mood-regulating cyberware. To date, cognitive synergy has not been achieved post-natally and is an option only available as a full genetic redesign.

Brainchildren who submit to emotional regulation receive the following modifications:

+2 Cognition
–1 Psyche
–1 Reflexes

Brainchildren who refuse emotional stabilization therapy, or who are removed from it for more than a few days, receive the following modifications:

+3 Cognition
–3 Psyche
–2 Reflexes

Legality: Restricted
Cost: 124,000cs

Hybrid, Cat and Silva

These beings were first created in 2065 as part of a secret program by the United States, Germany, and the Biogene Corporation in an attempt to produce an unstoppable super-soldier. The project may have been technically successful but planners had failed to anticipate that their new soldiers might not want to be soldiers. As rebellious sentiment swept through the ranks it became apparent that keeping the hybrids under control would eventually become impossible. Word also leaked about the project, and under increasing political and public pressure, combined with the hybrids' unrest, the work was abandoned.

Just over 1,500 hybrids, the vast majority Silvas and Cats, had been created. In a UN arbitrated settlement, Biogene turned the research facility in which they had been reared over to the hybrids. Located on several thousand hectares of semi-arable land in central Africa, the facility became a sort of hybrid reservation. As best they could, the small hybrid nation established a self-sufficient colony, but extreme public prejudice and lack of resources made life difficult. Then, with the onset of the Blight in 2090, life became impossible.

Trained as soldiers and now unable to support themselves, the hybrids made a desperate offer to the newly established Global Ecology Organization. They offered to serve in the Peacekeeping Force. Hopelessly undermanned, the GEO accepted their offer. The hybrids served with distinction, and even became symbolic of the ecological struggle against the Blight. Despite their favorable press and best efforts, the hybrids were unable to overcome public fear and prejudice, so when the Blight ended, their future seemed bleak.

Recontact with the colony on Poseidon, however, changed everything. In exchange for past service, and as a demonstration of its commitment to human rights, the GEO offered to sponsor a hybrid colonial effort on Poseidon. Births within the hybrid population itself had raised their numbers to over 6,000, and almost to a person, they accepted the GEO offer.

Cats

Cats tend to have sleek and lithe bodies, completely covered with fine soft fur in a variety of patterns and colors. Their large mobile ears and slit pupils give them the natural equivalent of the amplified hearing and night vision biomods. Cats also have non-retractile claws on both their hands and feet. However, Cats have poor color vision as well as short, intimidating, but rather useless fangs. These fangs give them slurred, somewhat lisping speech.

Cat Modifications:
+1 Physique
+2 Coordination
–1 Psyche
+1 Reflexes
Claws: Damage Rating 2
Poor Color Vision
Amplified Hearing
Night Vision

Silvas

Silvas are large and heavily built, averaging around 1.75 meters in height and 85 to 110 kg in weight. They have profuse, fur-like body hair and distinctly ape-like facial features. Silvas have deep resonant voices but have trouble pronouncing certain sounds as they have very large, prominent canines.

Silva Modifications:
+2 Physique
–1 Coordination
–1 Psyche
+2 Endurance
Require specially designed equipment due to large size.

Hybrid (both)

Legality: Legal
Transformation Time: 4 months
Cost: 40,000cs

Spacer

Spacers were created by the Martian government, with aid from the Lunar interests, in 2102. They were created as part of an effort to enhance Martian and Lunar utilization of the asteroid belt. Spacers have metabolic modifications to maintain their health in zero-g, increased radiation resistance, and increased temperature tolerance. They also have double-jointed legs and prehensile feet with opposable grip. Spacers are effectively four-armed humans who are well adapted to the confined and low-gravity habitats of space.

Spacers can endure temperature ranges from 5 to 45°C. Their modified feet are almost as dexterous as human hands, providing them with an additional +1 to Coordination when all four extremities can be used at the same time (this adds to the normal +1 bonus). Spacers can stand and walk in earth-normal gravity, but find it tiring and uncomfortable. Spacers are somewhat more comfortable on Luna due to its lower gravity, but they still prefer zero-g. In a gravity well, spacers are able to move at a maximum of scramble pace.

Approximately 60,000 spacers, as well as 70,000 other Belters, have moved to the Serpentis System and have set up mining, trading, smuggling, and similar operations in the asteroid belt, as well as on the system's smaller moons.

Spacer Modifications:
+1 Coordination
+1 Endurance
Cold, heat, and radiation Tolerance (+2 to Toughness against cold and heat extremes and radiation)
Additional +1 to Coordination when all four limbs can be used (zero-g or underwater).
Legality: Legal
Transformation Time: 3 months
Cost: 25,000cs

Transhuman (Alpha)

First created in 2074 by Lavender Organics, transhumans, or alphas, are usually children of the rich. Unlike most genies, alphas appear to be perfectly ordinary though invariably fit and attractive humans. Alphas possess innate immunity to most diseases and conditions, including cancer, arthritis, and tooth decay. Alphas heal twice as fast as normal humans and without scarring. They have no anatomical vestiges, no genetic defects, and need only 4 to 6 hours of sleep per night. They possess the equivalent of the improved blood oxygenation biomod, and their natural life span is in excess of 120 years without additional medical aid. This life span can be raised to over 160 with modern medicine and with access to longevity therapy, it is almost certain that they will be fully immune to the effects of aging. It is unknown exactly what percentage of children and young adults are alphas, but the numbers are rumored to be as high as 50% among the wealthy and upper-level Incorporate classes.

Transhuman Modifications:
+1 Physique
+1 Cognition
+1 Psyche
Immunity to most diseases.



Heal from injury twice as fast as normal.
Require only 4 to 6 hours of sleep a day.
Improved Blood Oxygenation (+1 Endurance, Hold breath up to 10 minutes)
Long lifespan
Legality: Legal
Transformation Time: 1 month
Cost: 25,000cs

Genies and Biomods

There is no reason genies can not undergo further modifications. However, genies cannot gain more than an additional +1 bonus from biomods on any attribute already modified by their genie heritage. Additionally, because of their exotic heritage, all biomods for hybrids must be specially designed and cost 50% more than normal.

GENETIC MODIFICATION

Because Long John has made it possible to extensively modify adult humans, the emphasis of biotechnology has shifted from cybernetics and genies to genetic modification. Almost any modifications originally requiring genetic redesign can now be achieved though biomods. And, since such modifications can also be made to breed true, their growing prevalence is slowly, but permanently, changing the overall composition of the human species.

Simple biomods have been in use since the early 21st century. However, the technology for creating sophisticated biomods has only developed since the advent of Long John. In the past 15 years, genetic modification has become more popular and more widely used than any form of cosmetic surgery or cybernetics. A person can now truly change race, sex, and — within limits — species. The sick can be healed and the old can become young in a world where the human form is limited only by the imagination.

The biomods listed below represent common, established genetic modifications. Characters can also have most biomods customized. However, such enhancements will cost at least twice as much as any similar existing modification and are limited to minor changes. New and radical biomods may also be designed, but are often prohibitively expensive and can have unforeseen side effects. The creation and use of such modifications is always at the discretion of the Game Master.

Rigging Value: The Rigging Value of all biomods is Impossible.

MEDICAL BIOMODS

The most common use of biomods and Long John is in various medical applications. Long John allows doctors to perform medical miracles previously only dreamed of.

Longevity Therapy

The dream of eternal life may finally be realized. Prior to the discovery of Long John, the average life span for healthy, unmodified humans had risen to just over 100. Now, those who can afford it can live much longer. Because of the recent development of this treatment, the exact life span recipients can expect is unknown. However, minimum estimates range from 250 to 300 years. There are indications, however, that the extended life spans of regular Long John users may be even greater.

As more is learned about the nature of xenosilicates, this therapy becomes more refined. Currently, each treatment metabolically arrests the aging process, but treatments must be received every 10 to 12 months. Though longevity therapy restores youthful appearance and vigor by rejuvenating certain metabolic processes, it only slows the aging process — it does not actually reverse it. Subsequent treatments are necessary to maintain the effects granted by the therapy. Longevity treatments remain quite expensive due to the large amounts of Long John required.

Legality: Legal
Cost: 50,000cs per treatment

Regeneration

The genetic manipulations allowed by Long John give modern doctors the power to heal and repair almost any disease or injury. Damaged limbs and malfunctioning organs can be fully, perfectly regenerated. Diseases, injuries, and burns can be fully cured, eliminated, or healed. Skin, muscle, bone, glands, nerves, everything can be regenerated or replaced. In some cases the replacement tissue is implanted and grown in place. In other cases the replacement structure is grown in a lab, and implanted later.

Legality: Legal
Cost: 2,000–150,000cs, depending upon the extent of regeneration

METABOLIC BIOMODS

The various metabolic biomods are some of the most popular available. They are simple to perform and take effect rapidly.

Adrenal Shunt

In times of surprise or stress, the "fight or flight" response that humans have inherited from their animal ancestry can actually be a handicap. It can stun a person into inactivity, or cause him to react inappropriately, or even recklessly. The adrenal shunt is a complex of nerve connections and a glandular reservoir that can inhibit or moderate the hormonal mechanisms that trigger the fight-or-flight response. When a so-called adrenaline rush would normally occur, the shunt traps the associated hormones, arresting their effects and giving the user crucial moments of clear headedness and calm. Subsequently, as the situation warrants, the user can choose to dump the hormones harmlessly into his digestive tract or directly into his circulatory system. The latter causes a sudden, heightened, but expected rush that accentuates the user's awareness, speed, and strength.

An adrenal shunt eliminates any penalties due to surprise, stress, or fear. Subsequently, if the character chooses to allow the adrenaline rush to occur, he receives a +1 bonus to Reflexes for a number of seconds equal to 10 + (Physique x 10), as well as a +1 TN bonus to rolls involving physical strength and +1 to unarmed and armed melee Damage Ratings.

Legality: Legal
Transformation Time: 2 weeks
Cost: 7,500cs

Anti-Poison

This biomod renders the user immune to most ingested poisons and allows the user to safely eat spoiled food and other toxins. The subject is also resistant to most animal venom and plant toxins. The user is not immune to acids or other corrosive agents, but any simple chemical toxins are usually metabolized without harm. Users also possess all the benefits of the salt tolerance modification. This biomod is rather uncommon, and the only regular market for it is as a safety measure among the politicians and corporate heads of Luna, as well as the frontiersmen of Poseidon. This modification gives characters a +3 bonus to their Toughness for purposes of determining the Damage Rating of poisons, venom, or toxins.

Legality: Legal
Transformation Time: 2 weeks
Cost: 8,000cs

Improved Blood Clotting

This biomod involves enhancing the fibrin and platelets required to make blood clot in a wound. The improved clotting factors reduce bleeding to a minimum and help reduce further trauma and hemorrhagic shock. Subjects with this biomod suffer a somewhat higher incidence of embolism and stroke.

Characters with improved blood clotting gain a +1 TN bonus on stun and trauma rolls made when suffering serious or critical wounds. The biomod also provides a +2 TN bonus to characters attempting to perform first aid on the user.

Legality: Legal
Transformation Time: 3 weeks
Cost: 8,000cs

Improved Blood Oxygenation

This biomod increases the oxygen delivery capability of the subject's blood. Individuals with this biomod have increased endurance and are able to hold their breath for up to 10 minutes, even while physically active. This biomod also gives the subject a +1 bonus to Endurance.

Legality: Legal
Transformation Time: 1 month
Cost: 6,000cs

Mind-Job

A mind-job is a specialized, sometimes illegal, version of multiglands that alters the personality of the user. Legal mind-jobs are prescribed by licensed psychiatrists as a way to help patients permanently overcome problems with anger, depression, or some forms of addiction. Illegal mind-jobs are the subjects of numerous horror and suspense holo-vids, in which unsuspecting individuals are kidnapped and subtly altered so that their personalities are permanently changed.

Illegal mind-jobs do occur in real life, but they are rare. Fortunately, while a person's emotional makeup can be radically altered, it has so far proved impossible to use mind-jobs to instill loyalty or to completely brainwash a subject. A hedonistic free-thinker can be turned into a grim fanatic, but those performing the mind-job would have no way to ensure they would be obeyed. In effect, a mind-job can cure or produce a wide variety of minor or major neuroses or psychoses. Though part of legitimate psychiatric care, mind-jobs have a bad reputation, and people often react negatively to anyone known to have had one.

Legal Mind-Job

Legality: Restricted
Transformation Time: 1 week
Cost: 4,000cs

Illegal Mind-Job

Legality: Proscribed
Transformation Time: 1 week
Cost: 15,000cs or more

MultiGlands

This biomod gives the subject's endocrine system a greater range of response and provides the user full control over these responses. The subject controls the output of all hormones, like adrenaline and endorphins, and therefore can control key aspects of physiology, such as the fight-or-flight response and emotional state.

Proper use of this biomod requires extensive training, but it remains a very popular modification. It is used by a wide variety of individuals, including those in business looking for a way to out-perform their competition, mystics who wish to truly know their bodies, mercenaries and spies who want an extra edge, and jaded thrill-seekers who see it as a new way to get high.

This level of control allows the user to experience any emotion on demand, to prevent undesired emotions, to hallucinate, and to experience the full effects of most common recreational drugs at will. Multiglands also give users a permanent +1 bonus to Psyche due to their chemical control over their mental states. Emotional control allows the user to experience the effects of the drugs Anti Shock and Reflex Serum. Control over hormone production also allows the subject to effectively block pain, allowing the user to reduce all impairment penalties for injury by 1 (non-cumulative). Users of this biomod have such fine control over their mental state that they are excellent liars and receive a +2 TN bonus to Fast-Talk rolls. They may use this bonus as a penalty towards characters using enhanced vipers.

It is also possible to use multiglands to temporarily increase Reflexes or Endurance by 1. Increasing one or more characteristics takes 30 seconds of concentration, and no characteristic can be increased for longer than a number of minutes equal to 50 + (10 x Endurance). After the user stops boosting the attribute, the characteristic drops to 1 below its normal level for a period equal to the time it was boosted.

Legality: Legal
Transformation Time: 1 month
Cost: 17,000cs

Pheromones

This biomod enables the user to control and concentrate his body's pheromones, the chemical signals that convey social and sexual messages to members of the same species. Despite centuries of advertising to the contrary, concentrated pheromones will not permit users to seduce or dominate others on their whim. Pheromones can, however, provide a slight edge during negotiations, whether those negotiations are financial, personal, or sexual in nature. The biomod can also inhibit the emission of normal pheromones.

The pheromones biomod gives the user a +1 bonus to his Persuasion skill, as long as he is within two meters of the target. It is only useful against targets of the same species group. Pure-strain humans and transhumans are considered to be a single species group, as are squid and divers. Each species of hybrid is considered to be a separate species group, and orcas and dolphins comprise two different species groups as well.

Legality: Legal
Transformation Time: 2 weeks
Cost: 9,000cs

Respiratory Filter

This biomod allows the user to breathe highly polluted atmospheres and other contaminated air without harm, as long as sufficient oxygen is present and there are no corrosive compounds in the air. This biomod is fairly expensive and is generally only used by emergency workers and others whose profession brings them into regular contact with contaminated atmospheres.

Legality: Legal
Transformation Time: 2 weeks
Cost: 9,000cs

Salt Tolerance

This specialized biomod is very popular on Poseidon and allows the user to drink salt water, safely eliminating the excess salt.

Legality: Legal
Transformation Time: 2 weeks
Cost: 5,000cs

Implanted Biomods

Implanted biomods are modifications that are grown in the laboratory and then surgically implanted into the subject. Physiology requires that all implanted biomods must be grown specifically for each customer. Most implanted biomods involve a combined use of surgical alteration, tailored retro-viruses, and Long John therapy.

Dexterity Enhancement

This biomod involves a number of lesser modifications that synergistically improve the user's manual dexterity. This complex of enhancements includes

insulation of specific motor nerves, isolation and augmentation of various muscle groups, and redesign of various joints, tendons, and ligaments. The modification also includes a dedicated processor that improves commonly repeated actions by providing auxiliary muscle control through the use of active digital memory and motor neuron filters.

This modification provides the user with a permanent +1 bonus to Coordination, but only for the modified hand. If both hands are modified, the bonus is +1 for tasks requiring the use of one or both hands.

Legality: Legal
Transformation Time: 2 months
Cost: 11,700cs per hand

Electro-Muscular Analogs (Myo-lecs)

Electro-muscular analogs, or myo-lecs, are muscles modified to generate electric current, much like many species of Terrestrial fishes. All cyberware too demanding to be powered by body heat is powered by myo-lecs. Note that though cyberware itself does not fatigue, using myo-lecs is as demanding of metabolic resources as normal muscles. Therefore, heavy use of myo-lec powered cyberware can quickly tire the user.

Specially designed myo-lecs can also be used as a defensive measure, much like taser weapons. Such defensive myo-lecs must be integrated with metallic discharge points imbedded in the skin, usually on the fingers or hands. Contact with the target must be clean, otherwise the user risks shocking himself as well. Use of such weapons underwater or in wet conditions is therefore dangerous. Most myo-lec defenses are only capable of stunning targets, though small organisms can be killed and unshielded electrical devices can be shorted out by the discharge.

Power Myo-lecs

Legality: As per associated cyberware
Transformation Time: As per associated cyberware
Cost: Included in the price of associated cyberware

Defensive Lecs

Legality: Legal
Transformation Time: 2 weeks
Cost: 7,500cs

Glider

This rare modification was developed by a small biotech firm based in Arthur on the asteroid Vesta. After undergoing the glider biomod, the subject develops patagia — large, membranous flaps of skin — stretched between his upper and lower extremities. The lower end of the patagia is attached about halfway between the knee and ankle, while the upper end is attached between the elbow and wrist.



As the name suggests, the membranes allow the subject to perform controlled glides and aerial maneuvers in the pressurized, microgravity of an asteroid settlement. The glider receives a +2 bonus to the Freefall skill and can stay aloft in low-g environments indefinitely using the habitats artificial air currents and thermals. The membranes are not large enough to sustain controlled gliding in higher gravity environments such as Luna.

Legality: Legal
Transformation Time: 1 month
Cost: 5,500cs

Immunological Symbiote

One of the most common biomods is the immunological symbiote. A symbiote is simply a colony of artificial amoebas designed to reinforce an individual's immune and repair systems. Symbiotes are specific to an individual and non-transferable.

Symbiotes serve to enhance the host's immune system by devouring infectious organisms. Symbiotes also help keep their host healthy by scavenging cholesterol plaques from arteries, strengthening weakened blood vessels, destroying pre-cancerous cells, and speed healing by producing various chemicals that assist in cell regeneration.

Preparing a symbiote for a specific individual takes two or three days. An individual with a symbiote heals twice as fast as a normal person, and can expect a 25% increase in life span. Symbiotes eliminate allergic reactions and asthma and make their host immune to cancer and most infectious diseases. The bonuses from having a symbiote are fully compatible with those from all other biomods. Symbiotes also give their hosts a +2 bonus to their Toughness to resist radiation damage.

Legality: Legal
Healing Time: Immediate
Cost: 10,000cs

Nictitating Membranes

Nictitating membranes are analogs of the "third eyelids" found in many animal species. They are thick, retractable, transparent eye covers that protect the surface of the eye without impairing vision. This renders the character immune to being blinded by smoke, blown dust or dirt, riot gas or other irritants. Note that it doesn't permit the character to see through visual obscurement. On Poseidon, they are most often used underwater, but are also useful in dusty or otherwise contaminated environments. Nictitating membranes are an integrated component of aquaform modifications.

Legality: Legal
Transformation Time: 2 weeks
Cost: 5,000cs

Organ Composite

Organ composite is a radical and expensive biomodification that requires multiple surgeries and extensive genetic transformations. The OC mod replaces many of the body's internal organs with a spongy complex of multi-function tissues that decentralizes the glandular, renal, hemo, and hypatic functions of the body's natural organs. Except for the cardiopulmonary and gastrointestinal systems, which remain intact, the body cavity is filled with a soft and flexible tissue composite. This composite disperses the physiological functions of the replaced organs so that, even after suffering significant damage, the body retains vital capabilities.

This modification was originally designed for use in the rumored Mk VI GEO Shock Troopers, but several prototypes have apparently already reached the commercial market. The mod is sure to become popular with mercenaries, frontiersmen, and the underworld element.

Recipients of this mod gain a permanent +1 bonus to their Toughness and a +1 TN bonus on trauma rolls. Unfortunately, this biomod also imposes a –2 TN penalty on all Medicine rolls intended to treat the user's internal injuries.

Legality: Legal
Transformation Time: 2 months
Cost: 58,600cs

Skinlights

Adapted from various species of deepwater fish and certain insects, cells that produce the enzymatic chemical reactions responsible for bioluminescence can be implanted in tissues throughout the body. While the light generated is not particularly bright, it does provide enough illumination to enable individuals with night vision to see at least a few meters in what would otherwise be complete darkness. Bioluminescence can also be used to provide "task lighting" that does not carry very far. Applications for bioluminescent fingers, for instance, range from picking locks in the dark to reading in bed without disturbing one's spouse. Skinlights are also useful as a method of underwater communication, a task for which much of nature's original bioluminescence was evolved. Finally, artistic uses of bioluminescence are common — skinlights are very popular among dancers and musicians as a means of adding extra visual expression to their performances.

Users can turn the bioluminescent tissue on or off at will, though they cannot control its brightness. For an additional investment, skinlights that illuminate in a variety of colors are also available.

Legality: Legal
Transformation Time: 1 week
Cost: 100cs per square centimeter (single-color); 200cs per square centimeter (multi-color)

Stinger

This highly illegal biomod grows a retractable, hollow stinger in the finger of one hand connected to a small venom sac in the hand. A particular muscle action brings the stinger out through a sealed flap at the end of the finger and a jab automatically releases venom into the target. A successful Unarmed Melee roll is required to hit the target, with the modifiers listed in the Poison section. A successful hit with at least one success inflicts no wound, but injects the poison into the target. Since this biomod was created specifically to be a tool of assassination, the venom is usually highly toxic, with a Damage Rating typically from 5 to 9. Once used, the venom sac requires 14 hours to refill. A person discovered by law enforcement to have this biomod will be arrested, automatically charged and will have the stinger mod surgically removed.

Legality: Proscribed
Transformation Time: 1 week
Cost: 10,000cs

Swim Bladder

The swim bladder enhancement is a uniquely useful biomod for Poseidoners. The modification consists of a number of small, interconnected pockets located in the upper abdomen and pleural cavity, analogous in function to the single swim bladder of Terrestrial bony fishes. These pockets are linked to the user's circulatory system by capillary networks from which, and into which, gases are diffused. Using the bladder, a customer can readily alter his neutral buoyancy to any desired depth, even while carrying a load of up to five kilograms. Additionally, the user is able to remain afloat, his head above the water's surface, with negligible effort.

Users of this modification gain a permanent +1 bonus to their Aquatics skill.

Legality: Legal
Transformation Time: 2 months
Cost: 3,200cs

Venom Sacs

This illegal biomod grows a pair of venom sacs in the character's head, taking up some space in the sinus cavities. They connect to a set of tubes that run down through each cheek to the corners of the lips. When opening the mouth, and flexing the jaw muscles in a certain way, the character can spray venom up to 2 meters away, not unlike a spitting cobra. To hit the target requires an Unarmed Melee roll with a +1 TN bonus due to the area of the spray. The venom spray may be dodged, but not parried. If the dodge is failed, the target takes the effect of the venom. If failed by 3 or more, the target is hit in the eyes and is blinded as well until medical attention is received. The venom typically has a Damage Rating of 5 or 6. The venom sacs require 20 hours to refill. A person discovered by law enforcement to have this biomod will be arrested, automatically charged and will have the sacs surgically removed.

Legality: Proscribed
Transformation Time: 2 weeks
Cost: 8,000cs

Webbed Digits

As the name implies, these mods are comprised of artificial webbing inserted between the fingers and toes in order to improve swimming ability. This grants the user a +1 meter per action increase in his swimming pace. The user's fingers are only webbed up to the second knuckle; this causes no impediments to the user in activity on land, except for an inability to wear standard gloves.

Legality: Legal
Transformation Time: 1 week
Cost: 2,500cs

Sensory Biomods

Sensory biomods enhance and supplement a customer's natural senses, adding capabilities to the user's existing senses. Genetically modified sense organs function as normal organic systems, so extremely strong sensory stimuli can overload enhanced senses, rendering them temporarily useless. No permanent damage results unless the stimulus is strong enough to cause physical trauma.

Amplified Hearing

This biomod significantly enhances the subject's sense of hearing. It offers a +2 TN bonus to Cognition rolls to hear sounds.

Legality: Legal
Transformation Time: 3 weeks
Cost: 4,000cs

Echolocation

There are two kinds of biomod echolocation. Standard echo only functions underwater, with a range of about 30 meters. Improved echo may be used in both air and water. This improved variation has a range of 40 meters in air and 100 meters underwater.

With echolocation, users bounce ultrasonic pulses off of their surroundings, forming images of these surroundings by interpreting the echoes. Echolocation does not require light and cannot perceive color. However, echo can give the user information about the interiors of thin-walled objects. For example, the user can tell if a barrel is empty or full of water. The user is also capable of hearing other ultrasonic sounds such as those made by certain mechanical and electrical devices.

Individuals with this biomod have a slightly enlarged larynx for producing ultrasonics, and small bulges behind enlarged external ears to house modified inner ear structures. Echolocation allows the user to replace all close-range vision rolls with hearing rolls. Note that the amplified hearing biomod will not provide a further bonus to these hearing rolls.

Legality: Legal
Transformation Time: 3 weeks
Cost: 6,000cs for basic, 9,000 for improved

Enhanced Smell

This biomod gives the user a sense of smell equal to that of an average Terrestrial dog. The user can identify individuals by their scent, and can track by smell as long as the trail was made within the last several hours and has not been otherwise obscured. This biomod gives the user a +2 TN bonus to Tracking rolls to track by scent.

Legality: Legal
Transformation Time: 3 weeks
Cost: 5,000cs

Night Vision

The user can see in low-light conditions as well as nocturnal predators. The user's pupils can be slit like a cat's, or just extremely variable in size. Night vision removes all vision penalties caused by poor lighting conditions. However, even night vision remains useless in complete darkness.

Legality: Legal
Transformation Time: 3 weeks
Cost: 5,000cs

Perfect Pitch

A very popular mod among musicians, perfect pitch allows the user to precisely identify any musical tone within the range of normal human hearing. This biomod confers a +3 TN bonus to the user's Performance skill when performing music. Beyond its artistic benefit, perfect pitch is useful for humans attempting to understand cetacean speech, and allows additional precision in interpreting the results of echolocation data. Users with both the echolocation and perfect pitch biomods gain a +1 TN bonus to their rolls when using echolocation.

Legality: Legal
Transformation Time: 2 weeks, plus a week of training
Cost: 3,000cs

Sense of Direction

This biomod represents an increased sensitivity to a planet's electromagnetic field, permitting the user to orient himself in the direction of magnetic north. This sense can be "tricked" by strong magnetic fields and is susceptible to local variations in planetary magnetism. When traveling in the wilderness, however, it can provide life-saving assistance to a lost traveler. The location and strength of magnetic fields vary widely from planet to planet, so if the modification is not reapplied when the user moves from one planet to another, it is effectively useless.

Legality: Legal
Transformation Time: 2 weeks, plus a week of training
Cost: 4,000cs

Telescopic Vision

This biomod gives the subject's eyes variable magnification up to 5X.The character gains a +2 TN bonus to Cognition rolls to see things at a distance.

Transformation Time: 3 weeks
Cost: 5,000cs

Full-Body Biomods

Full-body alterations can involve radical modifications to the entire anatomy and physiology of the subject. These changes are the most expensive and time consuming modifications. While the transformations can be set in motion rather quickly, it can take many weeks or months for the various cells and systems of the body to adapt and integrate the implanted tissues. Such changes often involve major discomfort, including severe aches in muscles and joints as the tissues alter. Transformations of this type usually involve extensive surgery and an extended stay in a modification lab. It can take up to six months for the body to fully heal and adapt, and several more for the subject to be fully adjusted to the changes.

All existing varieties of genies can now be produced as biomods. These transformations are among the most common full-body biomods, since the risks and problems associated with these physical forms are well known. Many other full-body transformations are available, but transformation into radically different forms can be prohibitively expensive and may have unexpected side effects.

Accelerated Neurons

Pilots, security personnel, athletes, criminals, and other "professionals" who rely on their reflexes to survive often opt for the accelerated neurons, or quick nerves, biomod to give them an edge. This modification enhances major neural pathways so that nerve impulses travel faster and with greater coordination. This modification does raise the metabolic energy demands of its recipients, requiring them to both eat and drink about 20% more than previously.

Modifications:
+1 Coordination
+1 Reflexes
Legality: Legal
Transformation Time: 2 months
Cost: 35,000cs

Aquaform

With modern biomods it is possible to transform adult humans into both types of aquaform. These modifications give the subject the same abilities as true genie aquaforms.

Divers (Diving Reflex Analogs)

Legality: Legal
Transformation Time: 4 months
Cost: 22,000cs

Squid (Systemic Osmoforms)

Legality: Legal
Transformation Time: 5 months
Cost: 28,000cs

Body Sculpting

Body sculpting is the ultimate in plastic surgery. An ugly Caucasian man can become a beautiful Asian woman or an underweight wimp can become a muscle-bound bruiser. Most people use these transformations to become taller, thinner, or otherwise more beautiful. However, it is also possible to create body-types and forms which have never existed before and to mix and match the attributes of various racial groups and even various animal species. Changing facial features, weight, skin color, and other superficial features is quite easy and common, involving only minor modifications. Elaborate and drastic changes are more difficult, requiring major expense and considerable time.

Changes in height, especially reductions, require extensive surgery and retro-virus therapy. It is generally impossible to reduce height by more than 15cm or to increase it by more than 20cm. Similarly, changing a large person with a wide or heavy framed bone structure into a slight, narrow framed person also involves extensive surgery and viral therapy. The reverse is somewhat simpler to achieve but is still not easy.

There are also illegal uses for such transformations. If someone possesses a sample of an individual's genetic material, a bit of skin or a drop of blood, it is possible to transform another person into an almost exact duplicate of that individual. Using surgery and retro-virus therapy, the disguised individual can pass finger- and retinal-print scans, and with some practice can also pass voice analysis. In effect, the copy becomes physically identical to the original. The potential illegal uses for such transformations are obvious, and capturing or even detecting identity criminals can be very difficult. The only way to detect such a modification is to perform extensive genetic comparisons between the suspect individual and the original.

Basic Body Sculpture

Legality: Legal
Transformation Time: 2 weeks to 3 months depending on the extent of the alterations
Cost: 5,000–55,000cs depending upon the degree of modification

Body Duplication

Legality: Proscribed
Cost: 70,000cs or more

Double Joints

"Double-jointed" people do not, in reality, have any more joints than normal people — their joints are simply looser and more flexible. This biomod replicates this condition by making the user's tendons capable of stretching farther without damage. The joints modified in this way are more susceptible to dislocation, but they also tend to heal more easily.

Users of this biomod receive a +1 bonus to their Coordination in situations where bodily flexibility is important. This is at the Game Master's discretion, but examples include crawling through a cramped tunnel or escaping from a straitjacket.

Legality: Legal
Transformation Time: 3 weeks
Cost: 10,000cs

Hybrids

While it is possible to transform someone into any variety of hybrid, this is done very rarely, since few people wish to voluntarily join their ranks. Many hybrids, however, have given into prejudice and have received biomods to turn them into "ordinary" humans. Such ex-hybrids are typically regarded with scorn by other hybrids.

Legality: Legal
Transformation Time: 4 months
Cost: 40,000cs

Myo-Skeletal Enhancement

A limited, semi-legal version of the Shock Trooper conversion is available and is used by various government militias, private security forces, and mercenary groups. Many criminals have taken advantage of its availability as well. Popularly known as "bruisers," recipients of this biomod are notably larger than ordinary humans. They receive the improved blood oxygenation biomod, and have the same nearly unbreakable bones as Shock Troopers. This transformation also adds up to 25kg to the recipient's mass.

Myo-Skeletal Enhancement Modifications: +2 Physique



–1 Psyche
+1 Endurance
Hold breath for up to 10 minutes
Weight +25kg
Legality: Restricted
Transformation Time: 5 months
Cost: 150,000cs

Photoskin

Photoskin is an unusual new mod from Biogene, one that may herald an extended series of biomods based on plant, rather than human or animal, DNA. The photoskin process involves modifying the user's skin cells to produce synthetic chloroplasts, the organelles in plant cells responsible for photosynthesis. The modification enables the transformed cells to use sunlight as an energy source for the conversion of water and carbon dioxide into carbohydrates and proteins. These nutrients are insufficient to sustain human life for an extended period. However, with a sufficient water supply, photoskin can help the user stave off starvation in dire circumstances. Extremely small quantities of food can be rationed out for an extended period of time, with the photoskin providing extra nutrients to help compensate for the meager diet. With a combination of the photoskin and salt tolerance biomods, the odds of survival for those stranded in Poseidon's wilderness are greatly increased. Subjects with the photoskin biomod can be recognized by the slight but noticeable green tint to their skin.

Legality: Legal
Transformation Time: 2 weeks
Cost: 8,000cs

Shock Trooper

Shock Troopers are the elite of the GEO Peacekeeping Force. Highly trained commandos, Shock Troopers have extensive genetic and cybernetic modifications, and the Shock Trooper transformation is severe and obvious. Shock Troopers are heavy framed and tall, and they have a noticeable plastic sheen to their hairless skin. The transformation adds up to 40kg to their weight, much of which is obvious in their increased musculature.

Early model Shock Troopers, pre-Long John, were the products of extreme cybernetic modification and were often more machine than human. The modern Shock Trooper transformation involves biomods which increase muscle mass and efficiency, adding to strength and stamina. Alterations to metabolism help improve healing rate, and supplementary organs provide redundancy, reducing the effects of wounds and injury. The Shock Trooper modification also integrates various other biomods in the transformation. These integrated modifications are equivalent to an immunological symbiote, night vision, telescopic vision, amplified hearing, enhanced smell, improved blood oxygenation, respiratory filter, and accelerated neurons.

The Shock Trooper transformation also increases bone density, as tailored viruses cause bone tissues

to deposit high-strength organic polymers in and around the existing skeleton. As a result, the bones of a Shock Trooper are effectively unbreakable. Shock Troopers also have integrated dermal armor. Tissue grafts and viral infection transform their skin into a damage resistant organic polymer. This armored dermis is obviously not natural, nor as soft and flexible as ordinary skin. However, it provides natural armor with a rating of 2. Shock Troopers assigned to Poseidon usually undergo additional modifications to give them the abilities of the diver aquaform. Note, however, that such modification will not further increase endurance, as Shock Troopers already have the improved blood oxygenation biomod.

Shock Troopers are fitted with numerous cybernetic modifications as well. Vipers, an icomp with GPS, programmed reflexes implant, and an uplink jack are common enhancements.

Shock Trooper Modifications:
+2 Physique
+1 Coordination
–1 Psyche
+1 Reflexes
+2 Endurance
Hold breath up to 10 minutes
Weight +30kg
+2 Toughness against radiation
Skin gains Armor Rating 2
Icomp with GPS
Uplink neural jack
Programmed Reflexes (Autoload, Checklist, Defender)
Enhanced Vipers
Legality: Restricted
Transformation Time: 6 months
Cost: 500,000cs (available to select GEO personnel only)

Spacer

Many Martian- and Earth-born individuals seeking their fortune in the depths of space or the rocks of the Belt undergo this transformation. Biomod spacers have the same abilities as true spacer genies.

Legality: Legal
Transformation Time: 3 months
Cost: 25,000cs

Subcutaneous Insulation

This mod provides an additional layer of insulating, fatty tissue all over the user's body, in effect providing a natural wetsuit. The slightly obese appearance that results from this biomod is unattractive by prevailing Western standards of beauty, but the modification is very useful for extended deep-sea operations.

Subjects with this biomod reduce the rating of all damage caused by hypothermia by 1. Subcutaneous insulation also provides slightly increased buoyancy, giving the user an effective +1 to his Aquatics skill when attempting to stay afloat.

The aquaform genie package includes this modification.

Legality: Legal
Transformation Time: 3 weeks
Cost: 4,000cs

Transhuman

This transformation is very popular among those who can afford it. Biomod alphas have the same abilities as true transhumans.

Legality: Legal
Transformation Time: 1 month
Cost: 25,000cs

SURGICAL MODIFICATION

Surgical modifications involve the grafting of custom-grown organs or other tissues into a patient's body or the structural or cosmetic alteration of existing tissues and organs. New tissues may be modified replacements for the patient's original ones, or may be auxiliary organs designed to supplement what nature has provided. In either case, they represent a middle ground between the wholly artificial implants of cybertechnology and the genetic modifications in which the patient's own body is engineered to grow the new organs.

As with cybertechnology, surgical modifications may appear to be unnecessary in the age of Long John. When customized genetic modifications can be set in motion with the simple injection of a transform virus, the actual surgical insertion of foreign tissues seems almost primitive. Why bother to have gills, or any other desired organs, surgically implanted when your body can simply be instructed to grow its own?

The first and most common answer is "to save money." Despite the technological breakthroughs spawned by the discovery of Long John, the development of transform viruses remains an extraordinarily expensive and difficult process. When a straightforward and established surgical procedure exists to effect a certain type of modification, it is often simply more cost-effective to use the surgery

rather than invest time and effort in developing a genetic equivalent. The first transform viruses were developed to generate the most sought-after modifications, and the research required to design them has long since paid for itself. Other surgical modifications are generally rare or highly specialized, and genetic engineers tend to concentrate on the more profitable arenas in which genetic modifications can do what surgical ones cannot.

There are also individuals who are uncomfortable with the idea of genetic modification, even as the 22nd Century draws to a close. Some conservative groups feel that, for moral or ethical reasons, tinkering with human genes is unnatural and prefer to obtain any necessary modifications through surgery or cyberware so that their genes remain "pure."

Surgical Techniques and Recovery

By 2199, almost all surgery that does not directly involve a major internal organ is done on an outpatient basis. Any small-scale operations are performed using surgical lasers, leaving scars that are effectively invisible until they heal completely. Those operations that require the implantation of larger organs, and thus a larger surgical aperture, are still performed with lasers to minimize scarring. The incisions are closed with organic adhesives that break themselves down as the wound heals, and professional medical care almost guarantees that there will be no significant scarring.

Surgical rejection is almost unheard of in 2199. The majority of replacement limbs or organs, whether simple replacements or enhanced structures, are grown directly from samples of the patient's own DNA. In cases where there is insufficient time to grow a gene-matched replacement, "generic" tissues are a practical alternative. These genetically "neutral" tissues are matched to the patient's blood type, rH factor, and several other genetic flags that have been determined to trigger the body's immune system. When properly selected, generic tissues will cause a minimum of complications that are easily compensated for with advanced anti-rejection drugs.

Industry Leaders

While there is some overlap between the use of genetic modifications and surgical ones, the leading designers and manufacturers of surgical biomods are not the same as the leading genetic modification companies. Anasi Systems is the single largest purveyor of surgical mods, and its diverse healthcare holdings are a major asset in this field. Anasi surgical mods are frequently designed in Anasi labs, manufactured in Anasi plants, and implanted in Anasi hospitals and clinics, thus capturing the revenue stream from the entire industry for the parent corporation. Anasi is also one of the few companies designing new surgical mods, which are usually available only at Anasi hospitals, thus perpetuating the cycle.

Hanover Industries is the only other Incorporate state that is particularly active in the field of surgical modifications. However, its various research, manufacturing, and implantation facilities are owned by separate subsidiaries that often pursue their own strategies and agendas, making it difficult for Hanover to seriously compete with Anasi in this arena.

Generic surgical mods developed by smaller corporations are also available for implantation at any moderately well-equipped hospital. However, they generally need to be ordered in advance, as the demand for such mods is so small that the necessary equipment and raw materials are rarely kept on hand. The exception to this rule would be mods such as gills on Poseidon, which are in relatively high demand and usually available on short notice.

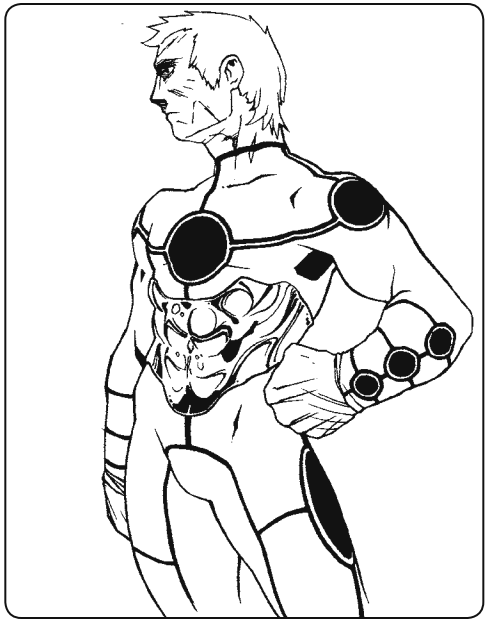
Gills

Similar to those implanted in first-generation squid, these are organically grown gills and support tissues implanted in the user's neck and back and connected to his circulatory system. They permit the user to breathe underwater indefinitely, but confer no other benefits with regard to safe diving depth. Gills only function when the user is immersed in water or similar oxygen-containing liquids — if other liquids are involved, it is still very possible for a character with gills to drown.

Legality: Legal
Healing Time: 5 weeks
Cost: 7,000cs

Rib Covers

Rib covers, also known as "carapaces," "shells," or "body bags," are designed to reduce the risk of damage to internal organs by stopping knives or any other foreign objects that might otherwise penetrate the torso and damage internal organs. They consist of a tough biopolymer mesh encasing the ribcage and lower abdomen. The mesh has enough flexibility that it "breathes" along with the user, but is strong enough to prevent penetration by all but the slimmest weapons. The mesh also helps reduce damage from blunt trauma by dissipating it over a larger area, leading to extensive bruising but less permanent damage.



In game terms, rib covers provide an Armor Rating of 1, over and above any other armor the user may be wearing. This stacks with the Shock Trooper biomod. At the GM's discretion, extremely thin stabbing weapons, such as a thin-bladed stiletto or icepick, may not be subject to this armor protection.

Professional fighters and soldiers are the only individuals who commonly opt for this mod. Undercover agents and street criminals also occasionally have rib covers implanted. For others, the benefit is usually not worth the cost and lengthy recovery period.

Legality: Legal
Healing Time: 3 weeks
Cost: 7,500cs

Subdermal Plates

These biomods are also sometimes referred to as "brass knuckles." Despite this nickname, they are neither made of brass nor necessarily located in the hands. They are hard, smooth bioplastic plates implanted directly under the user's skin in various locations depending on their intended purpose.

These implants were originally designed for security personnel at schools, nightclubs, and other locations where traditional weaponry would be inappropriate. At first, the plates were purely defensive in nature, and were implanted along the user's forearms to enable them to block incoming weapon attacks without sustaining major damage — the skin over the plates might be broken, but the bones and underlying tissues generally remained unharmed. Gradually, more offensive versions of the plates were introduced. These were implanted in the various striking surfaces of the user's body — along the outside edges of the hands for open-hand martial arts strikes, along the tops of the fingers for closed-fist punches, around the metatarsal bones of the foot for front kicks, and so forth. Other versions were developed for the elbow and knee joints, serving both offensive and defensive functions.

Subdermal plates are most commonly used by athletes, from professional fighters seeking an edge to hydroshot players wanting extra protection. Those who travel in dangerous areas but do not wish to travel armed also sometimes get these implants. However, individuals who genuinely want to avoid conflict usually find it more effective to carry an unconcealed weapon as a deterrent, at least in areas where they can legally do so.

In game terms, characters with subdermal plates receive a +1 bonus to the Damage Rating of their unarmed attacks. Those with defensive forearm plates may parry armed attacks at no penalty.

Legality: Legal
Healing Time: 3 weeks
Cost: 5,000cs

CETACEAN BIOTECH

As a general rule, cetaceans are psychologically averse to most forms of biotechnology, especially cybernetic implants. Though some individuals still opt for cybernetics, most fins who undergo modification choose genetic transformation instead. Biomods are often as radical as any cybernetic modifications, but for some undetermined reason, the organic nature of the process and the biological function of the final form are somehow more acceptable to the typical cetacean. Fin psychologists debate the reasons behind this mindset, but a consensus is still forthcoming.

Despite this cultural attitude against the practice, an increasing number of cetaceans are undergoing modification. As a result, the increasing demand is driving the development of new, strictly biological modifications for cetacean customers. Poseidon is a dangerous place and every advantage means an increased chance of survival.

There are a number of human biomods, such as anti-poison, multiglands, or immunological symbiotes, that can be adapted to cetacean users, providing them with uniquely valuable capabilities. In general, these mods have the same effects in game play, but due to the smaller market support, their costs are typically doubled.

Autonomic Streamlining

The remarkable speed with which cetaceans can swim and the endurance they demonstrate are in part the result of the unique hydrodynamic characteristics of their skin and body shape. Autonomic streamlining is a complex biomod that enhances these evolutionary traits, adding to the efficiency and speed of the cetacean form.

The primary components of the modification are bundles of muscle fiber that are linked to the autonomic nervous system and the coordination center of the brain. These muscle bundles are grown along the edges of a cetacean's flukes and fins, and serve to adaptively alter fin shape during power strokes and control-surface movements. The end result is increased power and improved real-time streamlining that adds both speed and endurance to fin movement. This modification increases a cetacean's top speed by 3 meters per action and adds a +1 bonus to his Endurance for purposes of long-distance swimming.

Legality: Legal
Transformation Time: 2 months
Cost: 32,000cs

Chromatophoric Pigmentation

Chromatophoric pigmentation gives cetaceans camouflage capabilities similar to those of Terrestrial squid or octopi. The modification provides fins with dermal chromatophores that are controlled by the voluntary nervous system and linked into the visual cortex. With a thought, visual input is coordinated with muscular response and specific colors of chromatophores are expanded while others are contracted. The end result is that almost instantaneously the cetacean's skin takes on the colors, shades, and patterns of its surroundings. Patterns and colors are not static either, and as they shift around the fin, they move similarly across his body. This provides a significantly higher level of visual camouflage than a phototropic body skin, giving anyone visually searching for the user a –6 penalty.

With practice, cetaceans with this biomod can vary their skin colors arbitrarily, displaying, flashing, or otherwise patterning any colors, in any ways they wish. This often makes for some impressive effects when fins have been taking baggies or are listening to live music.

Legality: Legal
Transformation Time: 3 months
Cost: 18,500cs

Enhanced Echolocation

This mod does not change the basic capabilities of cetacean echolocation, it simply improves them. Increased neural interface and modified jaw and skull structures serve to double the effective sensory range and to increase the stunning effect of fin sonar. Cetaceans with enhanced echolocation can sonically stun close-range targets with much the same results as a stun gun. The effects are similar but ranges are halved and the action penalty for the duration of the stun is only –3.

Legality: Legal
Transformation Time: 1 month
Cost: 10,500cs

Improved Blood Oxygenation

This modification is essentially the same for cetaceans as it is for humans, increasing the oxygen delivery capability of the blood and oxygen storage capacity of the muscles. However, because the physiology of an unmodified fin is already so well adapted in this respect, the end result is a compounded effect that improves the capabilities of this mod over those of the human version.

Cetaceans with this modification can hold their breath for an additional 20 minutes, even when active, and they receive a +1 bonus to Endurance.

Transformation Time: 2 months
Legality: Legal
Cost: 11,000cs

Larynx Analog

This is a rare modification with problematic function, but as development continues and improvements are made, it could become both much more common and useful. The larynx analog is an artificially designed organ grown deep in the respiratory tract, well inside the blow hole. It contains vocal cord, tongue, and lip-like structures that form and control sounds. The larynx analog essentially gives the cetacean user the power of human speech.

Unfortunately, due to anatomical differences, the end result is not entirely satisfactory. The placement of resonating structures, such as the lungs, the lack of natural lingual structures, and the demands of cetacean breathing prevent this biomod from simulating speech that sounds anything like an actual human voice. The sounds emitted are high-pitched, squeaky, and coincidentally reminiscent

of the audible buzzes and clicks of cetacean sonar. Though the words are usually understandable, the voices are universally cartoon-like and comical.

Legality: Legal
Transformation Time: 1 month
Cost: 6,000cs

Manipulators

This is an exceptionally rare modification, but a useful one. The basic version provides cetaceans with two dexterous, tentacle-like structures that can be used to grab, hold, and manipulate objects. These muscular arms grow from, and can be withdrawn into, a pair of folds running from just behind the pectoral fins, along the user's flanks. Drawing the tentacles into these folds allows the user to maintain streamlining and swimming speed.

Each tentacle in approximately one and a quarter meters in length and branches into three separate 20 centimeter manipulators at its distal end. The tendrils can move in opposition to each other, and are each covered with small ridges that provide gripping friction.

A cetacean with this modification uses the arms with an effective Physique and Coordination of –2.

Legality: Legal
Transformation Time: 3 months
Cost: 24,500cs

Muscular Enhancement

This modification enhances the metabolic and structural efficiency, and therefore the strength and endurance, of the major muscle groups cetaceans use for swimming. Though their external appearance remains essentially unchanged, fins with this mod gain a five percent increase in body mass. Users gain six meters per action on their top speed and an additional three meters on their jumping distance. Users also receive a +1 bonus to Endurance for the purpose of long distance swimming.

Legality: Legal
Transformation Time: 4 months
Cost: 85,000cs

Olfactory Analog

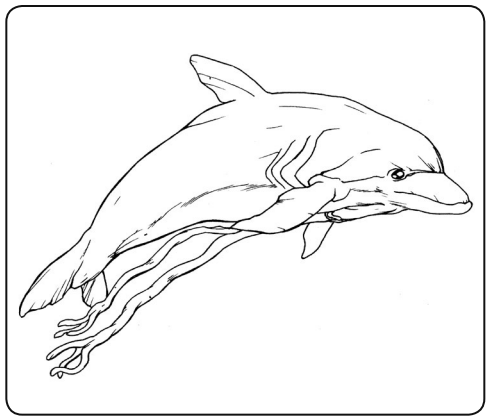
Cetaceans naturally lack any sense of smell. This modification provides that missing sense at an enhanced level. The mod is relatively simple and involves an array of chemoreceptive pores across the cetacean's rostrum. These receptor pores give the cete the ability to make Cognition rolls to detect and recognize smells.

Transformation Time: 6 weeks
Legality: Legal
Cost: 5,000cs

Systemic Osmoform

The capabilities of cetaceans would be greatly increased if they were not limited by their need to surface every few minutes to breathe. It follows then that one of the most versatile biomods for fins would be an analog to the human systemic osmoform.

For cetaceans, the modification is a bit simpler as they are already well adapted to life in an aquatic environment. The key components of the mod are a gill system and the equivalent of improved blood oxygenation. The gills are unobtrusive structures on the dolphin's flanks, just behind the skull. In shape and appearance, they resemble the gills of a Terrestrial shark. Cetaceans with this biomod can remain submerged indefinitely.



Transformation Time: 3 months
Legality: Legal
Cost: 27,500cs



CHAPTER 7: VEHICLES

VEHICLE TECHNOLOGY KEY

There are thousands of different vehicles in service throughout Earth and the Colonies, from patrol hoppers to native catamarans. Safe, fast, and efficient transportation, so often taken for granted on Earth, can be difficult at best and often nearly impossible in the far-flung reaches of Poseidon. The relative lack of manufactured parts and repair facilities adds further obstacles to movement between settlements and makes reliability and ruggedness a key feature in vehicle design.

The following listings can be used as templates for several popular vehicle classes. As with other equipment in BLUE PLANET REVISED (see **Chapter 4: Hardware**, p. 117), there are certain conventions used to describe the capabilities of vehicles.

Description

This is a description of the typical construction and role of a particular vehicle. In a world where technology is always being improved, there is always variation between designs. These descriptions present the average capabilities, functions, and statistics for each vehicle.

Dimensions

These values represent the average size and mass of the described vehicle.

Power Source

This indicates the vehicle's type of power plant. Most are powered by hydrogen fuel cells.

Fuel Efficiency

This lists the number of kilometers a vehicle can travel using a single liter of fuel.

Range

This lists the number of kilometers a vehicle can travel at its cruise speed on a single tank of fuel.

Speed

This lists the vehicle's cruising and top speed in kilometers per hour. The number before the slash is the vehicle's cruising speed and the number after the slash is the vehicle's top speed.

Combat Speed

This lists the vehicle's movement in action sequences, listed as a number of meters per Action Round.

Power

A vehicle's Power is a simple representation of its ability to change its velocity, either by accelerating or decelerating.

Handling

A vehicle's Handling is an abstract representation of its maneuverability and responsiveness.

Rigging Value

This is a description of how easy it is to repair, modify or or otherwise tamper with a vehicle.

Basic: These types of vehicles are easily modified or repaired, even without special tools or spare parts. Characters modifying or repairing these kinds of vehicles receive a +1 Target Number bonus.

Standard: This sort of vehicle requires at least basic tools and specific parts for modification or repair.

Impossible: These vehicles are impossible to modify or repair without the resources and engineering skills used to manufacture them. Even then, it still may not be sufficient to allow modification or repair.

Legality

This describes any legal restrictions on possessing or using a specific vehicle. Legality can vary widely depending on legal jurisdiction, especially among the Incorporate. The legal statuses provided are in accordance with GEO statutes.

Legal: The possession and use of these vehicles are unregulated.

Restricted: These vehicles usually require some form of license or permit for possession or use, or have regulations restricting the time or area of use. This includes vehicles that only certain people are allowed to possess, such as soldiers or law enforcement.

Availability

This is a description of the relative availability of a vehicle. There is no connotation of legality, only of abundance. A given vehicle may be abundant and still be illegal. Note also that vehicles are typically scarcer in the Colonies than they are on Earth.

Very Common: The vehicle is easy to find, and can be bought almost anywhere.

Common: The vehicle is available in many places and can be obtained with minimal difficulty.

Uncommon: The vehicle is somewhat unusual and can be obtained only from specialized dealers or through factory orders.

Scarce: The vehicle is difficult to find and may require special knowledge or contacts to obtain.

Rare: The vehicle is very difficult to find because of such factors as production difficulty, expense, or legality.

Cost

This represents the standardized relative value of a vehicle, in corporate scrip, with no regard to its legality or availability. Legally restricted or hard-to-find vehicles will fetch higher prices, regardless of their standard cost. Because of the extreme variety of circumstances in BLUE PLANET, Game Masters should consider availability, legality, and the character's situation before setting a final price for a given vehicle.

Armor

This is the armor protection provided by the vehicle's frame or actual military-grade armoring materials that have been incorporated into its design.

Durability

This is a description of the relative dependability and ruggedness of a vehicle. The Game Master should use durability to gauge the level of use and abuse a vehicle can take before failing. If a vehicle is damaged, the player must make an attribute roll against the vehicle's Durability to determine the extent of damage.

Crew

This is the number of people required to effectively operate the vehicle.

Passenger/Cargo Capacity

This is the number of passengers or the amount of cargo the vehicle can transport.

Standard Accessories

This lists the typical accessories with which a vehicle of the given type is likely to be equipped. Complete descriptions of vehicle accessories can be found on p. 270.

Armament

This lists the typical weapon systems with which a vehicle of the given type is likely to be equipped.

GROUND VEHICLES

Traditional wheeled vehicles move more people and cargo on Earth than any other form of transportation. On the Moon, wheeled and tracked rovers, rolligons, and truck caravans are the most common form of transport. Mars boasts an ever-increasing volume of airship traffic but still relies on a highly developed system of roads. In comparison, Poseidon, because of its geography, has almost no road infrastructure at all. Still, there are some roads in and around most of the major settlements, and some of the larger islands boast overland tracks built by colonial, mining, and logging operations. Consequently, a few ground vehicles have become relatively common on the waterworld.

MOTORCYCLE

Ground vehicles of any kind are extremely uncommon anywhere on Poseidon, due to the obvious terrain disadvantages they face. Motorcycles and especially scooters, which are fairly common in the large settlements of Poseidon, are the only exception to this general rule.

Dimensions: 1.9 meters long, 150 kilograms
Power Source: Fuel cell
Fuel Efficiency: 20 kilometers/liter
Range: 200 kilometers
Speed: 72/216
Combat Speed: 60
Power: 1
Handling: 1
Rigging Value: Standard
Legality: Legal
Availability: Common
Cost: 5,000cs
Armor: 2
Durability: –2
Crew: Driver
Passenger/Cargo Capacity: 1 passenger, no cargo
Standard Accessories: Onboard computer, security system

SCOOTER

Dimensions: 1.4 meters long, 90 kilograms
Power Source: Fuel cell
Fuel Efficiency: 20 kilometers/liter
Range: 180 kilometers
Speed: 50/128
Combat Speed: 40
Power: –1
Handling: 1
Rigging Value: Standard
Legality: Legal
Availability: Common

Cost: 2,000cs
Armor: 1
Durability: –3
Crew: Driver
Passenger/Cargo Capacity: 1 passenger, 10 cubic cm storage box behind seat
Standard Accessories: Onboard computer, security system

Swamp Thing™

Developed by Hiatsu-Cat, an NIS subsidiary, for use over soft, boggy terrain, the Swamp Thing line of buggy tractors is based on a standard design, incorporating an enclosed cab in the front and an open cargo bed in the rear, mounted on a chassis of independent plastic treads. They are all awkward, slow, and offer notoriously bumpy rides. However, these are worthwhile design compromises as Swamp Things can travel through light forest, bog, tidal flat, ice sheet, snow, shallow water, or even soft sand with equal ease.

Dimensions: 3.3 meters, 620 kilograms
Power Source: Fuel cell and twin tracks
Fuel Efficiency: 15 kilometers/liter
Range: 150 kilometers
Speed: 50/90
Combat Speed: 40
Power: –1
Handling: –2
Rigging Value: Standard
Legality: Legal
Availability: Uncommon
Cost: 15,500cs
Armor: 5
Durability: 1
Crew: Driver
Passenger/Cargo Capacity: Two passengers or 400 kilograms
Standard Accessories: Onboard computer, security system
Armament: None

Northwind Tricycle™

North American Navigation's low-cost, high-efficiency export to Poseidon, the Northwind Trikes have been a spectacular failure. They function poorly when off prepared roads and in foul weather and they have largely become the vehicle of choice for rank newcomers. In strong winds, the Northwinds are unwieldy and they are susceptible to the effects of fast fungus. In some circles, driving a new Northwind ranks as high on the social scale as the unsightly red spots left by recent IHMS.

Dimensions: 2.3 meters, 215 kilograms
Power Source: Fuel cell
Fuel Efficiency: 40 kilometers/liter
Range: 120 kilometers
Speed: 72/144
Combat Speed: 60
Power: 0
Handling: –1
Rigging Value: Standard
Legality: Legal
Availability: Common
Cost: 7,000cs
Armor: 3
Durability: –2
Crew: Driver
Passenger/Cargo Capacity: 1 passenger or 80 kilograms
Standard Accessories: Onboard computer, security system
Armament: None

AIR CUSHION VEHICLES

Hovercraft, or air-cushion vehicles, initially saw common use as military landing craft. Popularized in the late 20th Century, hovercraft were used because of their high speed and ability to move over variable but level terrain with ease. Early ACVs were, however, severely limited. They required an incredible amount of power to lift their heavy loads. Even the heftiest military hovers were nearly useless on anything more than a gentle grade. Hills of any kind caused ACVs to veer off course and become almost unmanageable. The result was a progression of craft that were too expensive for anyone but the military or commercial water ferry lines to operate, and then only in specialized missions or heavily traveled routes.

Several major advances brought hovercraft into the popular arena. The first was a series of breakthroughs in fan design that produced a staggering increase in available thrust. Fan design advances and improvements in materials technology produced much greater thrust at lower power output.

At the same time, increases in speed and decreases in size made an ACV's notoriously poor maneuverability a significant problem. Their tendency to skid in anything but the widest turns made most hovers nearly unmanageable on narrow roadways. The second major innovation that helped mainstream hovercraft was the addition of a suite of road sensors coupled to

computer-controlled drive fans to allow more precise course control. When passenger-size hovercraft equipped with more powerful fans and augmented controls hit the market, the popularity of ACVs rose quickly.

Computer guidance and the most efficient fan designs notwithstanding, ACVs are typically limited to beachside communities, marine environments, and tidal flats. Although their limitations are not as severe as the earliest models, even the most current hovers still have difficulty with hills and sloped roadways. All hovercraft, for both safety and versatility, are designed to float when landed on water. Modern hovers range from lumbering 12-fan cargo behemoths, to six-fan assault transports, to three-fan personal models, to single-fan banzai racers. On Poseidon, with its endless bays, beaches, and coastal plains, the hovercraft is among the most ubiquitous forms of surface transportation.

APC Hovercraft

These vehicles are in service with GEO and Incorporate military and security personnel, and are used as light, combat troop transports.

Dimensions: 15 meters long, 8 meters wide, 12 metric tons
Power Source: Fuel cell and 8 turbofans
Fuel Efficiency: 3 kilometers/liter
Range: 900 kilometers
Speed: 72/144
Combat Speed: 60
Power: 2
Handling: –3
Rigging Value: Standard
Legality: Restricted
Availability: Rare
Cost: 500,000cs
Armor: 9
Durability: 4
Crew: Pilot
Passenger/Cargo Capacity: 20 soldiers and equipment
Standard Accessories: Auxiliary fuel tank, CAT system [3], ECM suite [2], gunner's turret, onboard computer, radar suite [2], security system, targeting computer
Armament: Auto cannon in turret, 8 missiles

Heavy Hovercraft

Dimensions: 20 meters long, 12 meters wide, 15 metric tons
Power Source: Fuel cell and 12 turbofans
Fuel Efficiency: 6 kilometers/liter
Range: 1200 kilometers
Speed: 72/144
Combat Speed: 60
Power: 1
Handling: –3
Rigging Value: Standard
Legality: Legal
Availability: Uncommon
Cost: 100,000cs
Armor: 6
Durability: 3
Crew: Pilot
Passenger/Cargo Capacity: 80 passengers or 10 metric tons of cargo
Standard Accessories: Auxiliary fuel tank, onboard computer, radar suite [1], security system

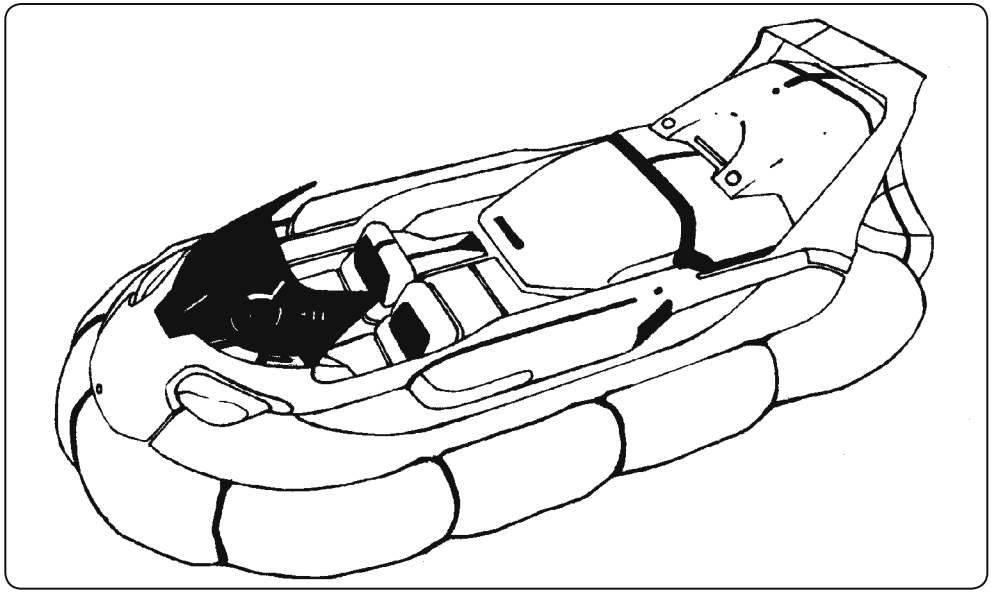
Light Hovercraft

Dimensions: 15 meters long, 8 meters wide, 10 metric tons
Power Source: Fuel cell and 8 turbofans
Fuel Efficiency: 8 kilometers/liter
Range: 1,600 kilometers
Speed: 86/173
Combat Speed: 72
Power: 1
Handling: –2
Rigging Value: Standard
Legality: Legal
Availability: Common
Cost: 75,000cs
Armor: 4
Durability: 2
Crew: Pilot
Passenger/Cargo Capacity: 50 passengers or 5 metric tons of cargo
Standard Accessories: Auxiliary fuel tank, onboard computer, radar suite [1], security system

Mistral™

The Mistral™ has built a reputation for itself as an uncomfortable, unattractive vehicle but one of the most reliable on the market. The Mistral's awkward control arrangements and its poorly designed interior discouraged buyers for the first two years of production. However, when consumer organizations began to publish the Mistral's outstanding maintenance records, sales improved.

The latest Mistral models have attempted to address previous concerns over passenger comfort but have been largely unsuccessful. Drivers approaching two meters in height feel crowded by the low roof, and the seats are small and cramped. Nevertheless, its powerful engine and



three independent fans — one lift, two drive — provide plenty of reliable power.

Dimensions: 3.8 meters, 816 kilograms
Power Source: Fuel cell, 3 turbofans
Fuel Efficiency: 15 kilometers/liter
Range: 1,125 kilometers
Speed: 100/200
Combat Speed: 83
Power: 1
Handling: –1
Rigging Value: Standard
Legality: Legal
Availability: Common
Cost: 15,000cs
Armor: 4
Durability: 1
Crew: Driver
Passenger/Cargo Capacity: 3 passengers, 340 kilograms
Standard Accessories: Onboard computer, security system
Armament: None

Jefferson Overland Hovertrain

When Hendrik vaan Klavern first explored the vast plains of southern Prime Meridian, they seemed to him to be an "endless expanse, unbroken by track or trail, unmarked by any feature save the distant mountains, isolated as no other place in the Universe." For 80 years he was right. The families that farmed and ranched the back country of Prime Meridian were almost completely cut off from the rest of the colony. All this came to an end in 2174 when Jefferson Overland began operating its transport routes.

As the services provided by Jefferson Overland have expanded, so have its facilities. In 2193, the company transitioned from large trucks and purchased a fleet of air-cushion vehicles. Designed to operate in a train configuration, two of the 10 hovercraft were built specifically as tractor units. The other eight are equipped only with lift fans and small thrusters to keep them on course. These new hovertrains are equipped with facilities to handle live cattle, refrigerated goods, fragile cargo, and passengers. Two of the cars have been equipped with sizable vaults, allowing the secure transport of especially valuable items. Jefferson Overland offers guard services for such cargoes and it is worth noting that even in the isolated countryside of Prime Meridian, no Jefferson Overland train has ever been successfully robbed.

The hovertrains themselves are an amazing cultural landmark. Without the service of the 34 cars now in operation, many of the smaller farms would fail. Without their predecessors — the single trucks, truck caravans, and lone hovers — many more farms would never have started.

Dimensions: 3 meters wide by 10.6 meters long and 15 metric tons
Power Source: Fuel cell, 4 drive fans (tractor unit), 6 lift fans
Fuel Efficiency: 12 kilometers/liter
Range: 6,000 km
Speed: 86/173
Combat Speed: 72
Rigging Value: Standard

Legality: Legal
Availability: Unique
Cost: 630,000cs
Armor: 7
Durability: 2
Crew: Pilot and 2 engineers
Passenger/Cargo Capacity: 240 passengers, 75 metric tons
Standard Accessories: Onboard computer, radar suite [1], security system
Armament: None

JUMPCRAFT

Jumpcraft or "hoppers" are the most common form of transport on Poseidon. Jumpcraft are vertical take-off and landing aircraft, but lack the traditional flight surfaces of true VTOLs. Instead, jumpcraft rely solely on the lift generated by multiple high-performance turbofans spaced evenly about the frame.

Jumpcraft can traverse any terrain on Poseidon and can also climb above surface storms when necessary. Hoppers have a typical operational ceiling of 5,000 meters, dependent upon atmospheric pressures. Jumpcraft can also operate from the surface of the water. Most designs imported to, or manufactured on, Poseidon are amphibious, a decided advantage on the waterworld.

Jumpcraft are among the most inefficient modes of transportation on Poseidon. However, their relatively high speed, small footprint, and unique maneuverability make them ideal for many different applications. Essentially VTOL aircraft without lifting or control surfaces, the advances in fan design and light, high-output power plants pioneered by the NIS and a consortium of North American aerospace firms were absolutely essential to the development of jumpcraft as a viable concept.

Most early designers were convinced the idea of a craft depending entirely on fans for lift and thrust without the benefit of either ground effect or air cushion was impossible. The NIS, though, resurrected the design idea in 2043 with the development of a wide fuselage with three universal high-thrust ducted fans driven by a diminutive fuel cell. The result was a high-speed police and military transport that could keep up with most VTOLs but had all the maneuverability of a rotary-wing aircraft.

Unrestricted by traditional lifting surfaces, jumpcraft can use controlled "skids" to continue flying in any direction and point in almost any other, making them attractive as assault transports and patrol craft. This lack of any firm directional control is also a drawback. When traveling at high speeds, a jumpcraft's lack of stabilizers gives it an absurdly large turning radius.

Although the earliest models were priced out of the range of many companies and all but the wealthiest private citizens, the NIS's Dragonfly-series jumpcraft led the way into the consumer market, and the follow-up Skyhook load lifters began a slow revolution in the cargo-hauling market. Modern jumpcraft have gone through several design revolutions. Recent trends have been away from externally mounted fans and towards semi-internal ducted lifters. Computerized flight-dynamic systems and hovercraft-style gyroscopic guidance have improved safety and performance. Jumpcraft remain an inherently inefficient design, but their superior maneuverability and high speeds make them an integral part of the colonization of Poseidon.

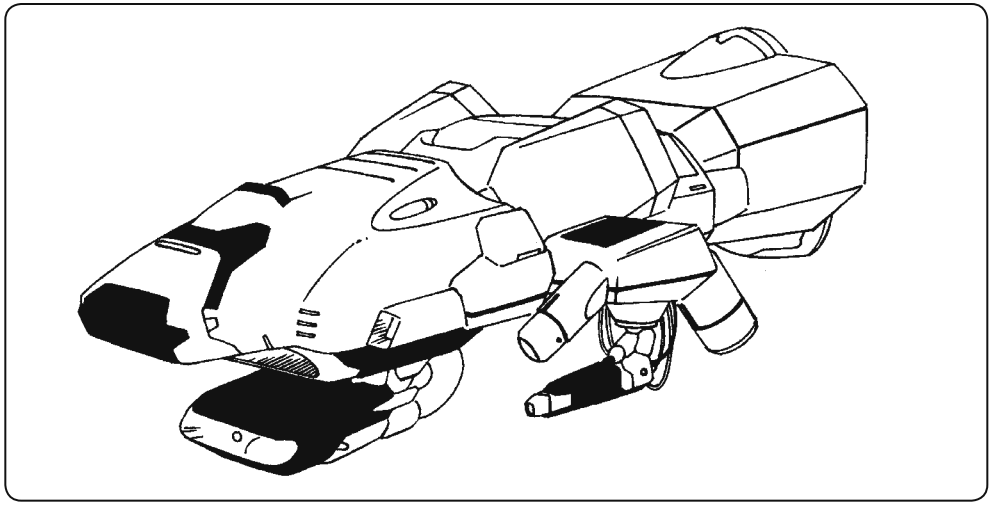
Assault Jumpcraft

This vehicle is the evolutionary offspring of modern jumpcraft and traditional military weapons platforms. Extremely versatile, these jumpcraft have become the all-purpose alternative to traditional ground support aircraft and mobile artillery.

Dimensions: 12 meters long, 7 meters wide, 10 metric tons
Power Source: Fuel cell and 8 HO turbofans
Fuel Efficiency: 5 km/liter
Range: 1,000 km
Speed: 216/360
Combat Speed: 180
Power: 3
Handling: 0
Rigging Value: Standard
Legality: Restricted
Availability: Rare
Cost: 1,000,000cs
Armor: 8
Durability: 3
Crew: Pilot and gunner
Passenger/Cargo Capacity: None
Standard Accessories: Armor, auxiliary fuel tank, CAT system [3], ECM suite [3], gunner's turret, HO turbofans, onboard computer, radar suite [3], security system, targeting computer, VR cockpit
Armament: 2 auto cannons (1 forward, 1 turret), 6 missiles

Cargo Jumpcraft

Cargo jumpcraft are typically used on Poseidon to transport cargo over long distances or to locations



where the terrain is difficult for — or inaccessible to — surface ships or hovercraft. They are powered by eight to 12 industrial turbofans.

Dimensions: 12 meters long, 7 meters wide, 10 metric tons
Power Source: Fuel cell and 8 turbofans
Fuel Efficiency: 8 kilometers/liter
Range: 800 kilometers
Speed: 144/288
Combat Speed: 120
Power: 2
Handling: –1
Rigging Value: Standard
Legality: Legal
Availability: Uncommon
Cost: 250,000cs
Armor: 4
Durability: 2
Crew: Pilot
Passenger/Cargo Capacity: 20 passengers or 2 metric tons of cargo
Standard Accessories: Evac pods, onboard computer, radar suite [1], security system

JUMPBIKE

This class of vehicle is one of the most extreme machines on Poseidon. Amounting to a dangerously fast personal aircraft, jumpbikes come in a variety of designs, but share some common characteristics. Most versions are sleek and streamlined, with the driver riding hunched over or semi-reclined behind a wrap-around cowling.

Tiny wing-like control surfaces allow control at higher speeds, and a set of stabilizing gyros give the craft some basic stability. Otherwise, there is little to this vehicle class but frame, fans, fuel cell, and farings. The safety harness is optional…

Dimensions: 2.3 meters long, 1.1 meters wide, 150 kilograms
Power Source: Fuel cell and 2 turbofans
Fuel Efficiency: 15 km/liter
Range: 150 km
Speed: 144/468
Combat Speed: 120
Power: 4
Handling: 2
Rigging Value: Standard
Legality: Legal
Availability: Uncommon
Cost: 25,000cs
Armor: 2
Durability: –2
Crew: Pilot
Passenger/Cargo Capacity: None
Standard Accessories: Onboard computer, security system

SCOOTMAN™ JUMPBIKE

The Scootman is the antithesis of the classic jumpbike. It is slow, lacks power and is the second most ridiculed form of transportation on Poseidon (right after the Northwind Trike). The Scootman was originally developed on Earth as a cheap personal jumpcraft for urban use. While practical, with decent fuel efficiency, it was simply not a popular jumpbike as most felt it lacked any kind of "cool" factor. Unlike many jumpbikes, the Scootman has an array of safety features including a speed governor, an engine cutoff and emergency landing feature if there isn't enough weight on the seat (thus preventing stunts), and a full safety harness which must be fastened in order to start the jumpbike. All of this has combined to give the Scootman a laughable reputation.

Dimensions: 2.0 meters long, 1.1 meters wide, 90 kilograms
Power Source: Fuel cell and 2 turbofans
Fuel Efficiency: 20 km/liter
Range: 160 km
Speed: 60/120
Combat Speed: 50
Power: –2
Handling: 1
Rigging Value: Standard
Legality: Legal
Availability: Common
Cost: 3,000cs
Armor: 1
Durability: –2
Crew: Pilot
Passenger/Cargo Capacity: Cargo box (10 cubic centimeters)
Standard Accessories: Onboard computer, security system

HURRICANE™ JUMPRACER

Jumpbike racing traces its roots to a loose organization of North American aerospace enthusiasts who used single-engine pods salvaged off of junked commercial jumpcraft to build fast one-person runabouts. Lakes were a favorite site for jumper drags because of the open, flat spaces they offered and the relatively soft landing they could provide a racer whose engine picked the wrong time to fail. With improved performance, jumpbike racing moved off the open spaces and into natural obstacle courses like river valleys and canyons.

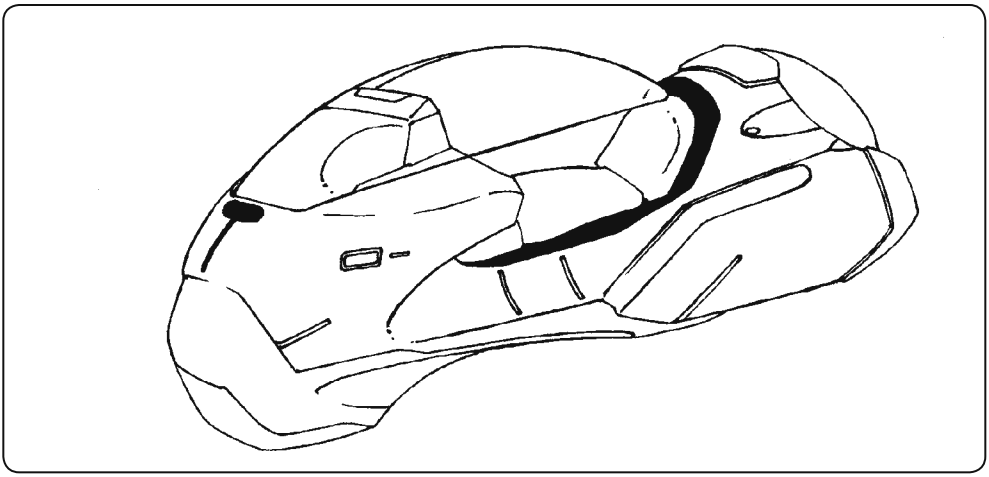
The deaths of star jump racer Sue St. Valentine and four others in an eight-bike pileup during the 2130 North American Grand Nationals in Moab, Utah resulted in the first of a long series of government attempts to regulate the sport. Government intervention raised the price of jump racing out of the reach of most people until 2137, when Mitsu Motors unveiled the first Hurricane. Built mostly from parts manufactured for other, more profitable products, the Hurricane delivered street-legal performance at a price that made it available to the majority of racers.

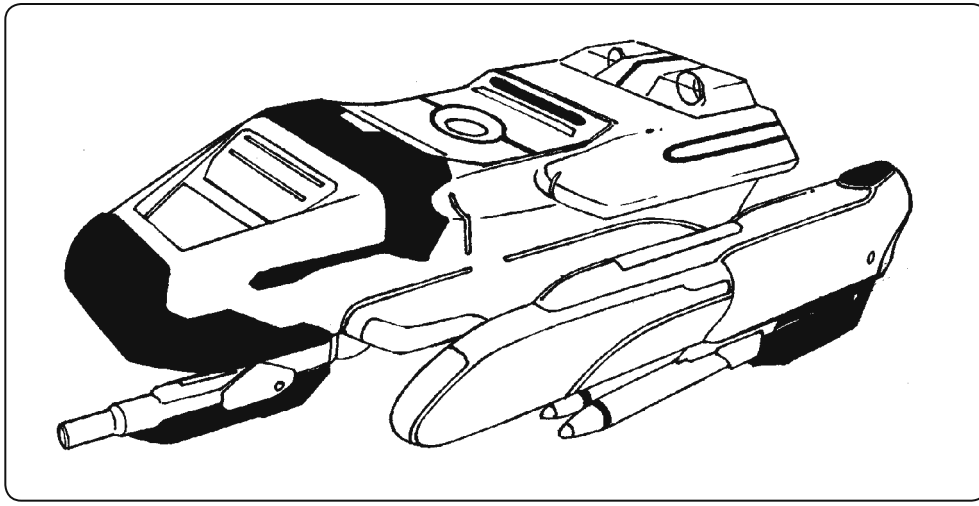
The basic Hurricane-XC offered a single engine that delivered moderate thrust over a 60-kilometer range, and the controls used less than a dozen moving parts. Mitsu Motors also offered a series of mod kits, including a more efficient fan, more complex control surfaces, strap-on saddle tanks, a series of smaller windscreens, lighter frame, fan bearings, and modified engine intakes and exhaust systems. The kits, while not in themselves restricted, could turn a factory Hurricane into an illegal racer capable of outrunning and outmaneuvering even the most dogged pursuit.

The institution of a special Hurry League made racing available to riders with Hurricanes or Hurricane clones in several different stages of modification, from unaltered stock rides to the ultimate in customized polycarbonate-frame, supercharged, cutting-edge wind rockets. The sport's popularity leapt ahead, and the North American Jump Racing Annual Circuit (NAJRAC) became one of the most-watched sporting events.

Mitsu Motors was acquired in 2103 by Hanover Autoworks, the vehicle manufacturing division of Hanover Industries. Hanover has been releasing new Hurricane models annually since the end of the Blight.

Dimensions: 2.25 meters and 125 kilograms
Power Source: Fuel cell and 2 turbofans
Fuel Efficiency: 17 kilometers/liter
Range: 85 kilometers
Speed: 160/400





Combat Speed: 133
Power: 5
Handling: 2
Rigging Value: Basic
Legality: Legal
Availability: Scarce
Cost: 32,000cs
Armor: 2
Durability: –2
Crew: Pilot
Passenger/Cargo Capacity: None
Standard Accessories: Onboard computer, security system
Armament: None

MacLeod Model 227™

Operated by the GEO as the Goblin scout jumpcraft, the Model 227 has been a mainstay of the GEO's air mobile and cavalry units for more than 20 years. Initially brought into service as the Model 225, the 227 reflects two decades of experience and changes in jumpcraft design. The result is a vehicle that performs solidly and will likely remain in the arsenals of not only the GEO but several Incorporate states for years to come.

Substantially scaled down from its predecessor, the 227 keeps the same six-fan arrangement, with four fans on external mounts at the nose and waist and two mounted in the rear of the airframe itself. The smaller, more efficient turbofans used in the 227 are rated at a maximum load of 15 fully equipped combat troops or three metric tons of cargo.

The Goblin is essentially an updated Model 225. Designed for operation in the murderously corrosive environment of Poseidon with its ubiquitous salt spray and fast fungus infestations, the Goblin is constructed of a more resistant grade of bioplastic. Another important modification is essential to operations on Poseidon — the Model 227 floats.

Although built primarily as a transport for combat troops, the Goblin packs substantial armament. The Goblin also operates as the primary search-and-rescue vehicle for the Emergency Response Teams. In its SAR configuration, the Goblin-E, the forward gun mount is replaced with a powerful searchlight and a more elaborate optics suite. The side launch boxes can be replaced with auxiliary fuel tanks, giving the Goblin-E an impressive loiter time.

Dimensions: 7.5 meters long, 3 meters wide, 3.5 metric tons
Power Source: Fuel cell and 6 HO turbofans
Fuel Efficiency: 6 kilometers/liter
Range: 1,200 kilometers
Speed: 288/432
Combat Speed: 240
Power: 4
Handling: 2
Rigging Value: Standard
Legality: Legal
Availability: Uncommon
Cost: 380,000cs
Armor: 8
Durability: 2
Crew: Pilot and copilot
Passenger/Cargo Capacity: 15 passengers or 1.5 metric tons
Standard Accessories: Armor, auxiliary fuel tank, CAT System [3], onboard computer, radar suite [3], security system, targeting computer
Armament: Auto cannon

Patrol Jumpcraft

This variant of the utility jumpcraft is in service with GEO law enforcement and military personnel, as well as Incorporate security.

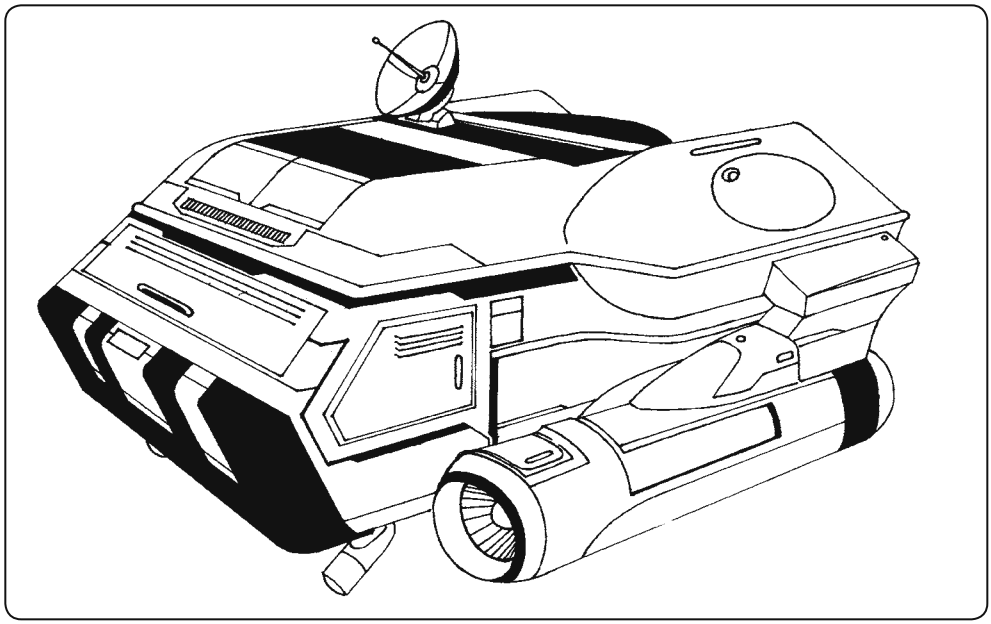
Dimensions: 5 meters long, 3 meters wide, 3 metric tons
Power Source: Fuel cell and 4 HO turbofans
Fuel Efficiency: 6 kilometers/liter
Range: 900 kilometers
Speed: 288/432
Combat Speed: 240
Power: 4
Handling: 1
Rigging Value: Standard
Legality: Restricted
Availability: Uncommon
Cost: 250,000cs
Armor: 7
Durability: 2
Crew: Pilot and co-pilot
Passenger/Cargo Capacity: 6 passengers or 600 kilograms of cargo
Standard Accessories: Armor, auxiliary fuel tank, CAT system [3], ejection system, gunner's turret, onboard computer, radar suite [3], security system, targeting computer
Armament: Auto cannon in turret

Skyhook™ Heavy-Lift Jumpcraft

The Skyhook jumpcraft breaks many of the design rules for jumpcraft. It has almost no distinct longitudinal axis, built instead with an almost circular fuselage. Instead of relying on its main engines for both lift and directional control, the Skyhook mates six colossal turbofans with a seventh whose output can be ducted through any of a dozen ports to maintain position even in substantial and shifting surface winds. The Skyhook also uses dual controls, adding an entire second flight deck that faces in towards the center of the aircraft and down towards the load. In contrast to many of the aircraft designed specifically for Poseidon, the Skyhook has an elaborate avionics suite. This includes three separate positioning system receivers and a centimeter-band radar, allowing the pilot to keep both the aircraft and the load precisely in position.

At maximum load, a Skyhook can stay on station approximately three hours, and then only if a fueling site is nearby. The NIS sells an aftermarket kit that allows the Skyhook to be continuously refueled from a specially equipped ground site. When so equipped, Skyhooks can remain in the air almost indefinitely. However, mobility is severely limited by the fueling umbilical to a height and radius combination of 500 meters.

Dimensions: 9.5 meters long, 10.5 meters wide, 7 metric tons
Power Source: Fuel cell and 7 turbofans
Fuel Efficiency: 8 kilometers/liter
Range: 1,600 kilometers
Speed: 144/288
Combat Speed: 120



Power: 1
Handling: –2
Rigging Value: Impossible
Legality: Legal
Availability: Rare
Cost: 350,000cs
Armor: 5
Durability: 2
Crew: 2 pilots, 1 loadmaster
Passenger/Cargo Capacity: 8 metric tons
Standard Accessories: Evac pods, onboard computer, radar suite [2], security system
Armament: None

Utility Jumpcraft

This class of jumpcraft is the most common found on Poseidon. They are typically powered by three to six turbofans, spaced about the frame. Utility jumpcraft are used to carry everything from heavy mining gear to Incorporate security teams.

Dimensions: 6 meters long, 4.5 meters wide, 2 metric tons
Power Source: Fuel cell and 4 turbofans
Fuel Efficiency: 9 kilometers/liter
Range: 900 kilometers
Speed: 216/360
Combat Speed: 180
Power: 2
Handling: 0
Rigging Value: Standard
Legality: Legal
Availability: Common
Cost: 50,000cs
Armor: 5
Durability: 1
Crew: Pilot
Passenger/Cargo Capacity: 8 passengers or 800 kilograms of cargo
Standard Accessories: Evac pods, onboard computer, radar suite [1], security system

VTOL Aircraft

VTOLs are traditional fixed-wing jet aircraft with vertical take-off and landing capability. The development of sophisticated computer control and navigation systems has made these aircraft accessible to the public but expense prohibits widespread civilian ownership. VTOLs are powered by one or more hydrogen turbojets capable of vectored thrust.

VTOLs are positioned at the other end of the spectrum that includes air-cushion vehicles and jumpcraft and feature a unique set of advantages. Like jumpcraft, they have little in the way of landing-site restrictions, requiring only a relatively flat, obstacle-free surface. They can loiter above a given point, hovering like traditional helicopters. They are not restricted to as low a service ceiling as jumpcraft and can usually fly above threatening weather or other flight hazards. Like hovercraft, many models have long ranges and load capacities far greater than comparable jumpcraft. This successful combination of range, maneuverability, speed, safety, and cargo capacity makes VTOLs the most common form of air transport on both Poseidon and Earth.

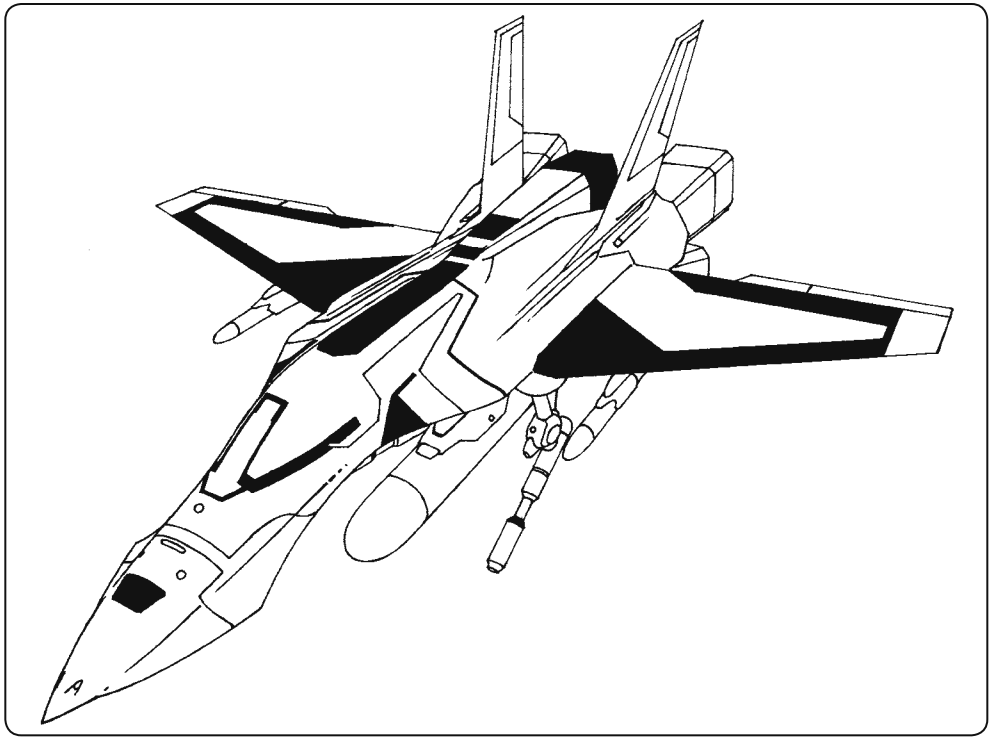
Kingfisher Turboprop™

The craft that launched Hanover's highly successful line of simple, no-nonsense aircraft, the Kingfisher combines high maneuverability and short-field capabilities with relatively low maintenance requirements. In addition to a much better safety record than many of its competitors, the Kingfisher has an exceptional cargo and passenger capacity. With a maximum cargo load of nearly 3,100 kilograms at short range and 1,300 at maximum range, Hanover's flagship VTOL is uniquely suited to work in the Poseidon back country and is a favorite with bush pilots around the planet.

The Kingfisher's low-priced simplicity is not without its down side, however. The avionics suite is ridiculously simple, leaving the craft vulnerable to sudden weather changes and making navigation in the absence of clear satellite signals a challenge. Hanover has since recognized this deficiency and now offers a variety of upgrades and aftermarket options.

A substantial drawback to the Kingfisher's rugged construction and enormous paddle-bladed props is the sizable footprint these features produce on even rudimentary detection gear. Although a number of groups have tried using the Kingfisher in gunship and assault roles, hoping to capitalize on its simple, survivable design, it was not designed as a military craft and performs poorly in that capacity.

Dimensions: 21 meters long, 13.5 meters wide, 14 metric tons
Power Source: Fuel cell, 2 turboprops
Fuel Efficiency: 9 kilometers/liter
Range: 2,300 kilometers
Speed: 216/360
Combat Speed: 180
Power: 4
Handling: 0



Rigging Value: Standard
Legality: Legal
Availability: Common
Cost: 325,000cs
Armor: 7
Durability: 2
Crew: Pilot
Passenger/Cargo Capacity: 25 passengers, 3.1 metric tons
Standard Accessories: Evac pods, onboard computer, radar suite [1], security system
Armament: None

Strike Fighter

This class of VTOL is the most common combat aircraft found on Poseidon. It offers an excellent combination of stealth and low-altitude maneuverability, both necessities on the modern electronic battlefield. These aircraft are effective in both interceptor and ground-attack roles.

Dimensions: 15 meters long, 9 meters wide (wingspan), 9 metric tons
Power Source: Hydrogen turbojet
Fuel Efficiency: 4 kilometers/liter
Range: 2,000 kilometers
Speed: 1,080/3,600
Combat Speed: 900
Power: 7
Handling: 0
Rigging Value: Standard
Legality: Legal
Availability: Rare
Cost: 1,500,000cs
Armor: 7
Durability: 1
Crew: Pilot
Passenger/Cargo Capacity: None
Standard Accessories: Armor, CAT system [5], chaff launcher, ECM suite [5], ejection system, onboard computer, radar suite [5], security system, stealth suite [10], targeting computer, VR cockpit
Armament: Auto cannon linked to CAT system, air-to-air and air-to-ground missiles (6 each)

Utility VTOL

These small, utility aircraft are used to transport passengers and light cargo when speed is of the essence.

Dimensions: 18 meters long, 12 meters wide (wingspan), 12 metric tons
Power Source: 2 Hydrogen turbojets
Fuel Efficiency: 6 kilometers/liter
Range: 1,200 kilometers
Speed: 432/864
Combat Speed: 360
Power: 5

Handling: 0
Rigging Value: Standard
Legality: Legal
Availability: Uncommon
Cost: 250,000cs
Armor: 5
Durability: 0
Crew: Pilot
Passenger/Cargo Capacity: 10 passengers or 1 metric ton of cargo
Standard Accessories: Evac pods, onboard computer, radar suite [2], security system

Valkyrie Assault VTOL

Designed to operate in all environmental conditions, the Valkyrie is a formidable addition to the GEO arsenal. With models used by the Marshal Service, local Patrol offices, the Peacekeepers, several ERT units, and the Marine Corps, the Valkyrie is one of the most popular military airframes in use on Poseidon. With capacity for 20 fully loaded troops or three tons of cargo, the Valkyrie's high cruise speed and featured stealth characteristics help to make it a uniquely capable weapons system.

Built around a pair of powerful turbojets, the Valkyrie's lines reflect its utilitarian purpose. The tail sits high on top of a rather stubby boom, and three vertical stabilizers have as much grace as a matched set of barn doors. The engines are mounted above the wings, with three ducted exhausts aft, fore, and mid-wing. The cockpit is constructed for survivability rather than grace and is fat and bulbous. Generally considered one of the ugliest planes in service, the Valkyrie nevertheless has developed an admirable battle reputation.

In addition to a standard side door and tail ramp configuration, the Valkyrie incorporates a unique method for troop deployment. A belly door can be opened, allowing troops to deploy directly under a Valkyrie that is hovering above the ground or has made a water landing. This allows passengers to exit the craft without the loss of armor protection that opening large side or tail doors entails.

Dimensions: 22 meters long, 16 metric tons
Power Source: 2 hydrogen turbojets
Fuel Efficiency: 6 kilometers/liter
Range: 1,200 kilometers
Speed: 400/800
Combat Speed: 330
Power: 6
Handling: –1
Rigging Value: Standard
Legality: Restricted
Availability: Rare
Cost: 450,000cs
Armor: 9
Durability: 2
Crew: Pilot and copilot
Passenger/Cargo Capacity: 20 troops, 3 metric tons
Standard Accessories: Armor, CAT system [3], chaff launcher, ECM suite [3], evac pods, onboard computer, radar suite [3], security system, stealth suite [6], targeting computer
Armament: Auto cannon

GROUND-EFFECT PLANES

One of the most successful solutions to the unique transportation needs of Poseidon is the ground-effect plane (GEP). Not truly an airplane, hovercraft, or a boat, the GEP combines features of all three. In general, these craft are designed to take advantage of a trick of aerodynamics. As air moves over the wing of an aircraft, some of that air is forced downward. In aircraft traveling more than a few meters high, this overpressure is simply lost to the surrounding air. However, when craft travel low enough this air cushion is reflected back by the ground, creating a region of local high pressure under the vehicle. This higher density air acts to buoy up a moving aircraft as long as it stays within range of the ground effect — usually 10 to 15 meters. The result is an increase in lift for a given wing area, so smaller wings can be used, generating less drag and allowing greater fuel efficiency.

Less maneuverable than traditional aircraft, ground-effect planes trade agility for fuel efficiency, range, and lifting capacity. Their biggest limitation, however, is the terrain over which they can operate. Broken ground, hills, and heavy vegetation prevent the formation of the ground-effect air cushion, robbing the GEP of the extra lift it needs to stay airborne. Although GEPs can carry heavier loads further than typical airplanes, they are restricted to operating over flat ground, tidal plains, wide rivers, or open water. Even heavy seas can reduce a GEP's effectiveness, or ground it entirely. Nevertheless, in a landscape dominated by endless oceans, the GEP is an effective, economical compromise.

Cormorant™

Built around a cabin that can seat up to 30 people, the Cormorant was designed to allow

travel at aircraft speeds, but with lower maintenance requirements and a greater lifting capacity. Although the Cormorant shares the same P2250 turboprop made popular by Hanover's successful Kingfisher, its cargo capacity is more than double that of the more agile VTOL. This comes as part of a compromise, trading much higher wing loading and a service ceiling of 15 meters for its increased lifting capacity and range.

If all passenger accommodations are stripped out, the Cormorant is capable of lifting more than six and a half metric tons of cargo at maximum fuel load and almost eight tons over significantly shorter distances. In keeping with Hanover's no-frills philosophy in designing the Cormorant, they elected to build the Cormorant without conventional landing gear, preferring instead to rely on the GEP's boat hull for water landings.

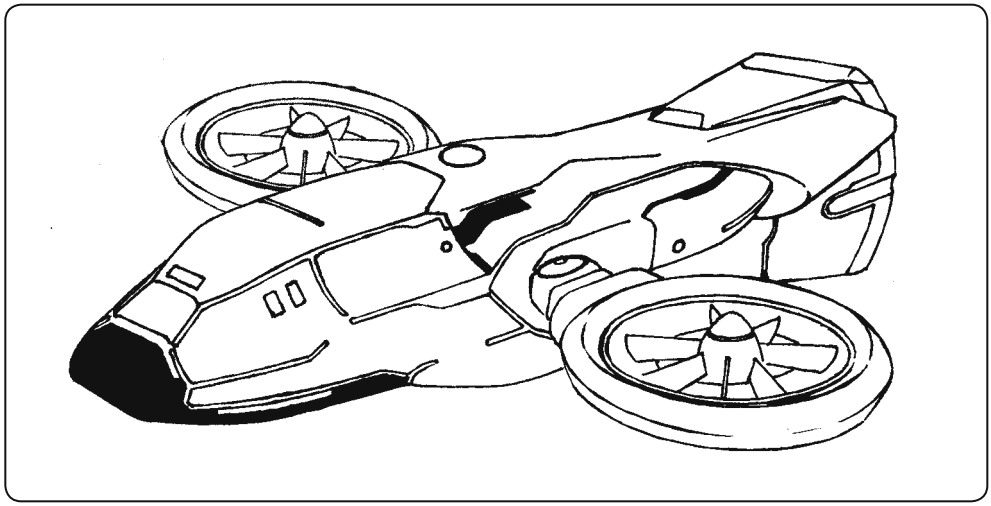
Although initially designed as a light-to-medium transport, the Cormorant has proven itself to be very reliable, and some models are still in service after more than 20 years. The GEO operates a dozen Cormorants on Poseidon and has distributed them throughout various Commissions, with half in service to the Emergency Response Teams. Cormorants have been modified for low-speed flight to accommodate wildlife researchers from the HIST, and Lavender Organics employs a fleet of Mod-II Cormorants as executive ferries serving Dyfedd. There have even been reports of occasional eccoterrorist groups refitting surplus Cormorants as combat aircraft. The GEO Peacekeepers have begun an investigation into developing an assault gunship based on the Cormorant airframe, but this project is still in the early planning stages.

Dimensions: 20 meters long, 13 metric tons
Power Source: Fuel cell and 2 turboprops
Fuel Efficiency: 20 kilometers/liter
Range: 4,000 kilometer
Speed: 180/300
Combat Speed: 150
Power: 3
Handling: –3
Rigging Value: Standard
Legality: Legal
Availability: Uncommon
Cost: 350,000cs
Armor: 7
Durability: 2
Crew: Pilot
Passenger/Cargo Capacity: 40 passengers, 6 metric tons
Standard Accessories: Evac pods, onboard computer, radar suite [2], security system
Armament: None

SANDPIPER™

Originally designed to fill the classic role of a bush plane, the Sandpiper's current design has proven too unstable to be of much use in the extreme weather common to the Storm Belt. Along with unsolved maintenance glitches in the powerful P1125 turbofans, this has made the Sandpiper an expensive executive toy and light, short-range personal transport, keeping it out of the long-endurance, medium-lift role for which it was originally intended.

Nevertheless, the Hanover designers managed to wrangle a functional aircraft out of the restrictions imposed by management. The passenger accommodations are pleasant, and various options can make them almost luxurious. The baggage compartment reflects the Sandpiper's history, with more room and total weight allowance than



anything else in its class. Conformal fuel tanks and optional wingtip pods help increase the Sandpiper's range far beyond that of similar craft.

Dimensions: 18 meters long, 10 metric tons
Power Source: Fuel cell, 2 turboprops
Fuel Efficiency: 24 kilometers/liter
Range: 4,800 kilometers
Speed: 200/360
Combat Speed: 166
Power: 4
Handling: –3
Rigging Value: Standard
Legality: Legal
Availability: Uncommon
Cost: 310,000cs
Armor: 6
Durability: 1
Crew: Pilot
Passenger/Cargo Capacity: 30 passengers
Standard Accessories: Evac pods, onboard computer, radar suite [2], security system
Armament: None

GD–91 Rhino™

Built exclusively at the Hanover aerospace yards in Köln, Germany, only two Rhinos have been imported to Poseidon, but these elephantine GEPs need not be rare to be oddities. The lumbering giants are marvels of engineering. Measuring more than 82 meters long, the Rhino is capable of hauling 100 metric tons over 9,000 kilometers. Reduction of the cargo capacity by installing additional fuel tanks allows an extension of the Rhino's range to more than 15,000 kilometers with a cargo load of just over 60 metric tons.

Hanover incorporated a number of unique design features into the GD–91. Forward and rear ramp docks allow for cargo to be loaded and unloaded simultaneously. The boat-hull fuselage has electrostatic and mechanical features that reduce drag, surface tension, and boundary-layer turbulence, saving fuel during take-off and taxi runs. The fuselage incorporates specialized skins that also reduce drag, further improving fuel efficiency in flight.

The high payload and abbreviated wings of a GEP combine to make a craft that is singularly difficult to maneuver. Wing-loading values are extreme for the Rhino, and anything but gentle turns at such low altitudes are out of the question. This means that, for the most part, Poseidon's Rhinos stick to established routes that are long, straight, and free of obstructions.

Both GD–91s on Poseidon are owned by Hanover and are used in a variety of roles. Both have even been fitted with their own electrolysis and filtration units, allowing them to slowly refuel themselves while at rest on the ocean's surface.

Dimensions: 82.27 meters long, 31.2 metric tons
Power Source: Fuel cells, 12 turbofans
Fuel Efficiency: 10 kilometers/liter
Range: 8,000 kilometers
Speed: 150/260
Combat Speed: 125
Rigging Value: Standard
Legality: Legal
Availability: Scarce
Cost: 1.2 million cs
Armor: 14
Durability: 2
Crew: Pilot
Passenger/Cargo Capacity: 100 metric tons
Standard Accessories: Evac pods, onboard computer, radar suite [2], security system
Armament: None

SURFACE VESSELS

ERT 14m Cutter

Built exclusively on Poseidon by Hydrospan under contract to the GEO, the ERT 14-meter cutter has quickly earned an unmatched reputation for reliability and survivability. The 14m design came about in response to a GEO conference on marine engineering, where it was decided that the existing fleet of 10-meter boats were not up to the task of serving in Poseidon's unique environments. The uncompromising advisory board rejected nine separate designs before settling on the Hydrospan Model 317.

Built from the keel up to take on the worst of Poseidon's weather, the Model 317s have exceeded even their exceptional design specifications. The cutters reach a top speed of 85 km/h and readily navigate even the heaviest seas. The boat's strong righting moment, sealed compartments, and integral crash couches means it can capsize yet right itself instantly and continue its mission.

Dimensions: 14 meters long, 4 metric tons
Power Source: Fuel cell, propeller
Fuel Efficiency: 16 kilometers/liter
Range: 2,000 kilometers
Speed: 44/88
Combat Speed: 36
Power: 0
Handling: 0

Rigging Value: Standard
Legality: Legal
Availability: Uncommon
Cost: 50,000cs
Armor: 6
Durability: 2
Crew: Driver
Passenger/Cargo Capacity: 10 passengers, 1.5 metric tons
Standard Accessories: Evac pods, onboard computer, radar suite [3], security system, sonar suite [2]
Armament: None

Hobart-Class Research Corvette

Constructed of prefabricated parts, the Hobarts were designed to be shipped in pieces to convenient port facilities and then assembled on site. The intent was to provide an inexpensive, efficient vessel that could be used in any number of different scientific disciplines.

The result was a line of slow, ungainly vessels that were prone to breakdowns and mechanical failures of all types. Their one advantage has been their extraordinarily low up-front cost. Nevertheless, the price of owning a Hobo tends to mount over time. Engine overhauls are frequent, prompting many owners to have the engines replaced with newer, more efficient aftermarket models.

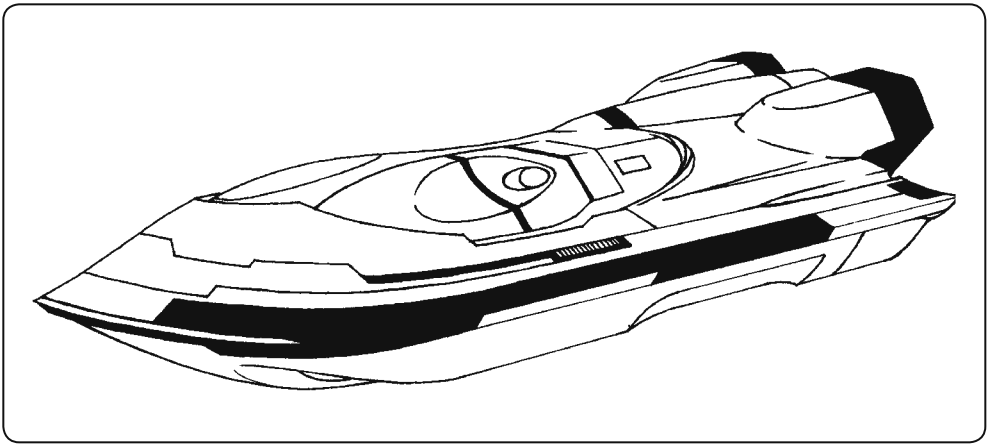
Still, the Hobart has become a common addition to waterfronts on both Earth and Poseidon. Much of the groundbreaking ecological research done on the colony world has either been done onboard one of these vessels or using data collected from them. For all their failings, much of the scientific revolution that has marked humanity's expansion over the face of Poseidon would have been impossible without the Hobart corvettes.

Dimensions: 40 meters long, 12 metric tons
Power Source: Fusion reactor
Fuel Efficiency: 50,000 kilometers/tank
Range: 100,000 to 200,000 kilometers
Speed: 36/72
Combat Speed: 30
Power: 0
Handling: –4
Rigging Value: Standard
Legality: Legal
Availability:Uncommon
Cost: 1 million cs
Armor: 14
Durability: 3
Crew: 4
Passenger/Cargo Capacity: 24 passengers
Standard Accessories: Evac pods, onboard computer, radar suite [3], security system, sonar suite [3]
Armament: None

Hydrofoil

These craft are used for recreation, short-range transportation, and certain military applications. Hydrofoils feature multiple fin-like structures that lift the hull from the water at higher speeds. This greatly reduces drag, increasing speed and efficiency. Hydrofoils are the most common variety of light powerboat on Poseidon, but larger cargo hydrofoils are becoming increasingly common as Poseidon's planetside manufacturing base continues to grow.

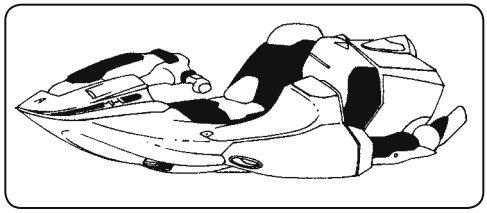
Dimensions: 3.5 meters long, 2.5 meters wide, 1.3 metric tons
Power Source: Fuel cell and water jet propulsion
Fuel Efficiency: 10 kilometers/liter
Range: 500 kilometers
Speed: 72/144



Combat Speed: 60
Power: 1
Handling: –1
Rigging Value: Standard
Legality: Legal
Availability: Common
Cost: 20,000cs
Armor: 3
Durability: 0
Crew: Driver
Passenger/Cargo Capacity: 4 passengers or 500 kilograms of cargo
Standard Accessories: Evac pods, onboard computer, radar suite [1], security system, sonar suite [1]

Power Ski

Powered by a small MHD drive, these aquatic recreational vehicles are seldom used as serious transportation on Poseidon. They are, nonetheless, common in Haven Harbor and anywhere else water sports enthusiasts are found.



Dimensions: 2.5 meters long, 1.4 meters wide, 120 kilograms
Power Source: Fuel cell
Fuel Efficiency: 10 kilometers/liter
Range: 100 kilometers
Speed: 43/86
Combat Speed: 36
Power: 0
Handling: 2
Rigging Value: Standard
Legality: Legal
Availability: Common
Cost: 7,500cs
Armor: 2
Durability: –1
Crew: 2 sailors
Passenger/Cargo Capacity: 6 passengers or 600 kilograms of cargo
Standard Accessories: None

Sailboat, Hypersail

Rather than conventional cloth sails, these craft use vertical wing-like structures that function much like airplane wings. The air movement that creates the lift is caused by the wind, rather than the motion of the craft as in traditional airplanes. This lift pushes the boat's keel against the water, propelling the craft forward.

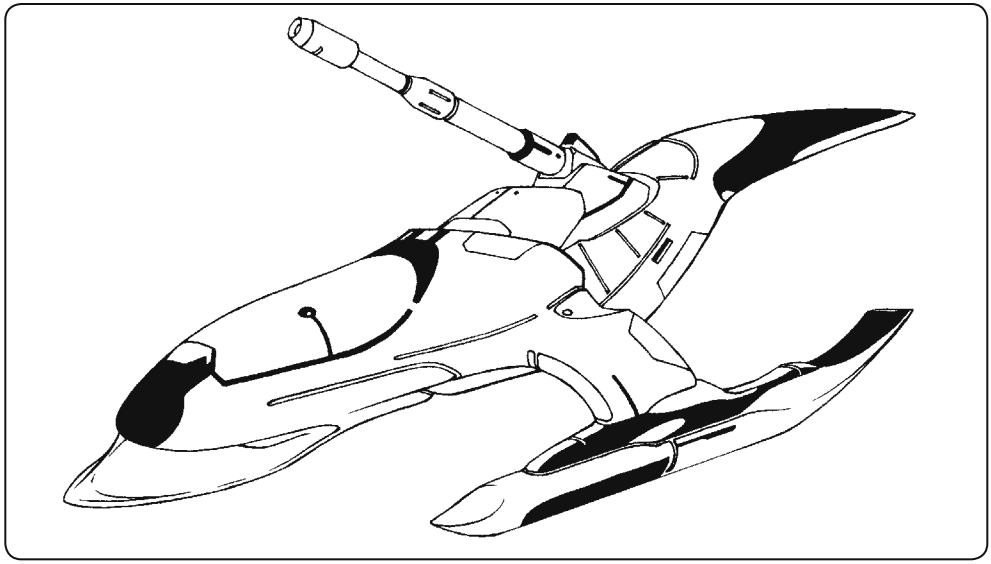
Hypersails come in a variety of designs, but most are extremely reliable and computer controlled. This allows a single sailor to operate even multi-sail systems with complete efficiency.

Dimensions: 15 meters long, 5 meters wide, 3 metric tons
Power Source: Wind
Fuel Efficiency: Not applicable
Range: Unlimited
Speed: 28/43
Combat Speed: 24
Power: –3
Handling: –2
Rigging Value: Standard
Legality: Legal
Availability: Uncommon
Cost: 75,000cs
Armor: 3
Durability: 0
Crew: 1 sailor
Passenger/Cargo Capacity: 12 passengers or 1.5 metric tons of cargo
Standard Accessories: Onboard computer, security system

Sailboat, Native Catamaran

Catamarans are the most common small sailing craft among the natives of Poseidon, favored for their speed and efficiency. Though native vessels are typically constructed of relatively primitive materials, they are nevertheless often technically sophisticated and quite seaworthy.

Dimensions: 6 meters long, 4 meters wide, 200 kilograms
Power Source: Wind
Fuel Efficiency: Not applicable
Range: Unlimited
Speed: 14/21
Combat Speed: 12
Power: –4
Handling: –2
Rigging Value: Standard
Legality: Legal
Availability: Common
Cost: 5,000cs
Armor: 2
Durability: –2
Crew: Driver
Passenger/Cargo Capacity: 1 passenger, 200 kilograms of cargo
Standard Accessories: None



TRIDENT™ FAST-ASSAULT TRIMARAN

The Trident™ was originally constructed to operate in shallow, in-shore environments in areas of low-level conflict. Intended to serve in multiple roles, including troop-landing craft, short-range fire support, and medium-range patrol, the Tridents were built according to a design that made extensive use of modular components. The trimaran hull design was developed as a compromise between survivability, stability, and low drag. The twin engines are mounted in the two outriggers. This makes maintenance during extended patrols difficult, but in the case of engine failure allows entire outriggers to be switched at any moderately equipped port facility. With a top speed of nearly 120 km/h, the Tridents make for a particularly fast raiding platform and have been used effectively by the GEO for many years.

Built under contract for the GEO by Hanover Industries, the Tridents were among the first marine vehicles to make extensive use of remote-piloting technologies. Models built after 2175 do not have a forward windscreen, with all piloting being done through onboard imaging equipment. The modular design allows the same basic hull to operate in many different roles. Weapons mounts can be traded out to include rocket-assisted torpedo launchers, depth charges, mine racks, antiaircraft missile mounts or high-velocity cannon, direct-fire rotary guns, or even light artillery used in beach landing support. There is even an intelligence-gathering package that includes specialized electronic eavesdropping gear.

Dimensions: 5 meters long, 2 metric tons
Power Source: Fuel cell, twin propellers
Fuel Efficiency: 25 kilometers/liter
Range: 5,000 kilometers
Speed: 72/180
Combat Speed: 60
Power: 1
Handling: –1
Rigging Value: Standard
Legality: Restricted
Availability: Rare
Cost: 240,000cs
Armor: 12
Durability: 2
Crew: Driver
Passenger/Cargo Capacity: 10 troops
Standard Accessories: Armor, CAT system [3], evac pods, onboard computer, ECM suite [2], radar suite [3], security system, sonar suite [2], targeting computer
Armament: Auto cannon

TSUNAMI™ MOTOR YACHT

Built exclusively at the new marina at Simushir, the Tsunami™ is the NIS's first foray into the field of pleasure boating. Although intended to be the premiere luxury vessel available to Poseidon's wealthy, the Tsunami is expensive, difficult to maintain, and unusually short ranged. Consumers' biggest complaint with the Tsunami is its remarkably low fuel capacity and efficiency. Even with the optional fuel pods that replace the aft berth, the Tsunami is limited to an average range of 275 kilometers.

NIS designers intended the Tsunami to have all the comforts expected by cultured executives, but berthing for six, an entertainment center, wet bar, and gourmet-quality galley raised the cost substantially.

The first basic Tsunamis cost more than 80,000cs per unit, and the loaded luxury models topped out at just under 100,000cs. In addition to the Tsunami's high up-front cost, it quickly developed a reputation as a maintenance nightmare. One Haven shipyard took to referring to the craft as the "Super Nummy" in internal communications, earning it a quick libel suit from the NIS. Poor placement of maintenance hatches and tight interior spaces made the Tsunamis difficult to access.

The Nippon Industrial State has made several assurances that simple design fixes planned for the 2200 model year will address many of its customers' complaints. If true, the 2200 Tsunami should prove to be an expensive but otherwise worthwhile upper-class toy.

Dimensions: 9.1 meters long, 3.5 meters wide and 3.2 metric tons.
Power Source: Fuel cell, propeller
Fuel Efficiency: 8.5 kilometers/liter
Range: 2,750 kilometers
Speed: 36/72
Combat Speed: 30
Power: –1
Handling: –2
Rigging Value: Standard
Legality: Legal
Availability: Common
Cost: 85,000cs to 98,000cs
Armor: 10
Durability: 1
Crew: Driver
Passenger/Cargo Capacity: 6 passengers
Standard Accessories: Evac pods, onboard computer, radar suite [1], security system
Armament: None

SUBMERSIBLES

In 2199, the vast majority of submersible craft are powered by magneto-hydrodynamic (MHD) propulsion. The basic component of an MHD system is the mag-tunnel, a tube lined with superconducting magnets running the length of the vehicle. When an electric current is passed through the tunnel and its powerful magnetic field, seawater, as the conducting medium, is propelled down the length of the tube by the laws of electromagnetism. The flow of water serves to propel the craft forward or back, according the orientation of the fields.

MHD systems are extremely silent, highly efficient, and very reliable. Standard fuel cells are used to power the system in smaller craft, but fusion reactors are employed in larger subs.

Poseidon's unique economic and political landscapes have forced the development of whole new submarine technologies. The freighter submarine, unknown on Earth, is crucial to the survival and economic viability of several of Poseidon's marine habitats. Since Long John is found beneath the waves, underwater mining has forced extensive advancements in technology. In military roles, combat hard suits, strike submersibles, and sub carriers have all been introduced since Recontact.

Atlas DR–14 Mining Rig

Underwater strip-mining dredges are universally slow, ugly, ungainly machines, and the DR–14 is no different. What the DR–14 has over the competition is the advantage of mobility. Unlike previous models, the DR–14 incorporates a massive MHD drive as part of its hydraulic gear. Where most strip miners require the service of several tugs to move from one site to the next, the DR–14 can redirect the output from its MHD system to separate drive ducts. Coupled with cavernous ballast tanks, the drive makes the rig mobile in three dimensions and can push the behemoth along at a staggering 0.5 kilometers per hour. During normal mining operations, the rig moors itself to the bottom using an extensive grid of anchors and stanchions.

This mobility allows the DR–14 to effectively operate in low-yield xenosilicate fields that might otherwise be unprofitable. The DR–14's onboard holds store up to 2,000 metric tons of unprocessed ore, giving it a cargo capacity that is somewhat smaller than some of the older drag units.

Dimensions: 45 meters long, 18.5 meters wide, 7,000 metric tons displacement
Power Source: MHD Drive, fusion reactor
Fuel Efficiency: N/A
Range: N/A
Speed: 0.5
Combat Speed: N/A
Power: N/A
Handling: N/A
Rigging Value: Standard
Legality: Legal
Availability: Rare
Cost: 1,500,000cs
Armor: 18
Durability: 4
Crew: 5
Passenger/Cargo Capacity: 4 passengers, 2,000 metric tons
Standard Accessories: Evac pods, onboard computer, sonar suite [2], security system

Benthic Universe-Class Cargo Submarine

Developed by Atlas Materials to supply underwater research and mining facilities, the Benthic Universe was first launched in 2185. Displacing more than 35,000 metric tons when submerged, the Benthic Universe was the largest submarine yet built on Poseidon when it was launched, and is today surpassed in size only by her sister ship, the Benthic Empress.

In an interesting arrangement, the Benthic Universe was built by Atlas, sold to Lavender Organics, and is used in a supply route that mainly services Atlas installations. Lavender wanted to acquire a large, undersea cargo vessel and negotiated a favorable contract under terms that the sub would continue to serve the route between al-Mamlakah and several of Atlas' primary facilities for two additional years.

The Benthic Universe-class submarines are intended as container and bulk-cargo vessels operating at depths of up to 4,500 meters. This allows them to reach all but the very deepest research stations and travel well below even the largest cyclonic storms.

The GEO has purchased one of these supersubs, the *Walter S. Dusquenne*, for the servicing of such facilities as Down Home Station. It has also entered into negotiations with Atlas for a smaller version of the Benthic Universe hull to serve as an interceptor sub carrier.

Dimensions: 175 meters long, 23 meters wide, 3,500 metric tons
Power Source: Fusion reactor, MHD drive
Fuel Efficiency: N/A
Range: 20,000 kilometers
Speed: 28/57
Combat Speed: 24
Power: –2
Handling: –3
Rigging Value: Standard
Legality: Legal
Availability: Rare
Cost: 4.5 million cs
Armor: 16
Durability: 5
Crew: 14
Passenger/Cargo Capacity: 15,000 metric tons
Standard Accessories: Evac pods, onboard computer, sonar suite [2], security system

Cetacean Power Shell

In an effort to provide cetaceans with superior speed, range, and functional capabilities, engineers at Hydrospan have developed a line of MHD sleds for use by both dolphins and orcas. The devices are essentially part hard suit and part submersible. The user slips into the form-fitting forward cowling which snugs securely about the anterior body. The oversize MHD drives are positioned just below the user's tail and provide tremendous speed and power. Sensitive mechanical linkages relay the pilot's own instinctual body movements to the fin-like rudder surfaces, allowing subtle control of the fast and nimble craft.

Power shells are essentially sleek mini-subs that lack a pressure hull. They therefore increase a cetacean's speed, endurance, and cargo capacity, but not his depth limits. Standard designs provide artificial gill life support and a variable suite of sensory equipment and computer power. Interfacing with the onboard systems is usually accomplished through neural jacks or sonic trodes.

Most designs sport hardpoint attachments for small cargo pods or weapon systems. The dolphin versions typically have three, while orca shells can have up to four. Because power shells are inherently streamlined, each occupied hardpoint reduces both of the craft's speed ratings by 10%.

Most power shells are constructed of various composites of bioplastic and ceramics. Dolphin shells are powered by industrial batteries, and orca shells by small fuel cells. It is a matter of public record that the GEO has contracted for a series of military-grade power shells with integral weapon systems and armored cowlings. It will not be long before paramilitary power shell models are available on the open market.

Dimensions: 320 kilograms and 4 meters long
Power Source: Industrial cell and MHD drive
Range: 500 kilometers/charge
Speed: 100/252
Combat Speed: 84
Power: 1
Handling: 2
Rigging Value: Standard
Legality: Legal
Availability: Uncommon
Cost: 80,000cs
Armor: 3
Durability: 0
Passenger/Cargo Capacity: None/200 kilograms divided into 3 cargo pods
Standard Accessories: Onboard computer, security system, sonar suite [2], targeting computer

HARD SUIT, SEABAT™ COMBAT

Built under contract to Hydrospan, the SeaBat combines the agility, independence, speed, and stealth characteristics of a cetacean with the endurance parameters and striking power of a fully equipped fighter sub. The SeaBat corrects many of the design flaws commonly seen with older models.

The SeaBat eliminates the problems of decompression and has a depth limit of 10,000 meters. In the SeaBat, Coordination is reduced by 2 , but Physique is increased by 2. If the servos are off, Coordination and Physique are both reduced by 5.

The SeaBat's shell encloses the operator entirely, with a fused lower segment, a transparent helmet section, and two hydraulically activated arms. The arms can be mounted with any of a number of different attachments. The most popular are manipulators, mini-torpedo launchers, or mine layers. A less common but certainly effective accessory uses a heavy gripper coupled with a powerful cutting torch for breaching and boarding actions.

Primary propulsion comes from a single MHD that runs along the spine of the suit, and attitudinal thrust is derived from a pair of ducted impellers. Buoyancy is controlled with small tanks and miniature dive planes. Communications utilize blue-green lasers, fiber-optic cables, or a frequency-agile underwater hydrophones setup. Sensing capability is also modular, with the default package including an effective passive rig and a small, high-frequency active sonar unit. Pathfinder units have had their passive sonar replaced with elaborate electromagnetic gear that can reportedly detect targets from as far away as 10 kilometers.

Dimensions: 100 kilograms
Power Source: Industrial cell
Fuel Efficiency: N/A
Range: 50 hours
Speed: 35/70
Combat Speed: 30
Power: 1
Handling: 1
Rigging Value: Standard
Legality: Restricted
Availability: Rare
Cost: 100,000cs
Armor: 10
Durability: 3
Crew: 1
Passenger/Cargo Capacity: None
Standard Accessories: Armor, ECM suite [2], onboard computer, sonar suite [3], security system, stealth suite [3], targeting computer
Armament: Mini-torpedo launcher

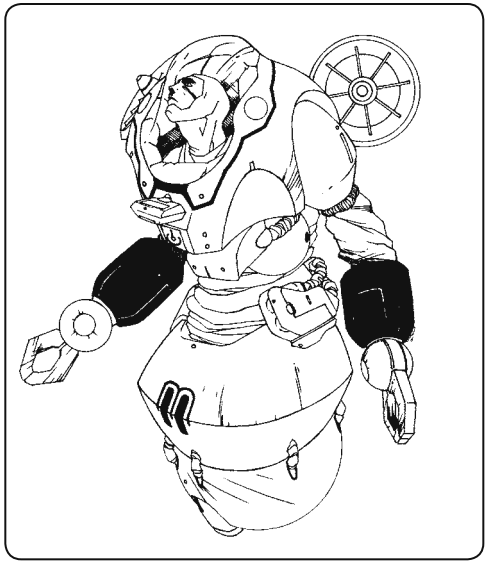
HARD SUIT, MINING

Designed to provide individual workers with the maneuverability and dexterity of divers at temperatures and depths that normally require traditional submersibles, the hard suit is crucial to Poseidon's deep-sea mining industry.

Originally developed in the 1970s, hard diving suits are tiny submersibles that are only slightly larger than their single occupant. The first suits were poorly articulated, extremely heavy, and relied on tethers to supply power, air, and communications. Modern suits are often as flexible as their occupants and have self-contained life support and sonic or laser communications.

Atlas Materials' TG–19 mining hard suit is a typical example of a modern hard suit. The suit itself is built around an Electroflex powered exoskelton. The bulk of the suit reduces Coordination by 2 , but Physique is increased by 2. If the servos are off, Coordination and Physique are both reduced by 5. Various attachments allow the arms to function as impact hammers, rock drills, or as various fine-scale manipulators. A computer regulator allows the suit operator to control its movements using his own musculature or using the suit's integrated skeleton for heavier work. Motive power comes from the suit's four universal ducted impellers. Stability during heavy work is provided by up to 10 separate anchor lines, each of which is individually tensioned.

Dimensions: 80 kilograms
Power Source: Heavy cell
Fuel Efficiency: N/A
Range: 50 hours
Speed: 28/57



Combat Speed: 24
Power: 0
Handling: 0
Rigging Value: Standard
Legality: Legal
Availability: Uncommon
Cost: 75,000cs
Armor: 7
Durability: 2
Crew: 1
Passenger/Cargo Capacity: None
Standard Accessories: Onboard computer, security system, sonar suite [1]
Armament: None

Interceptor

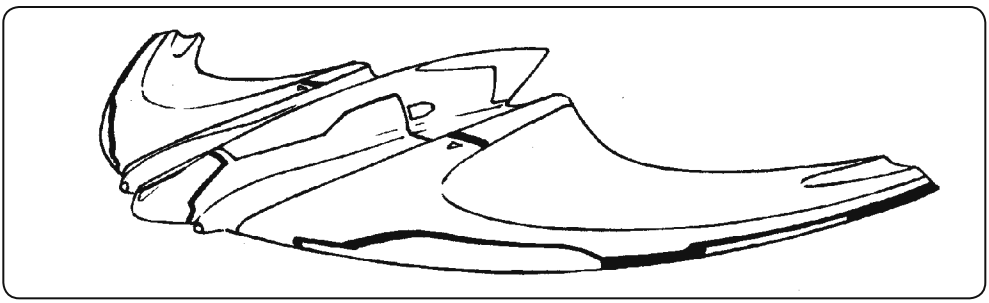
This is the standard fighter sub in 2199, serving as an integral part of both GEO and Incorporate military operations on Poseidon. This class of sub is the cutting edge in marine engineering, exploiting the latest in streamlining hull designs. Interceptors are typically powered by multi-tunnel MHD systems, making them exceptionally fast, stealthy, and maneuverable. Fighter subs typically have a safe operating depth of 2,000 meters.

Dimensions: 3 meters long, 6 meters wide (wingspan), 1.2 metric tons
Power Source: Fuel cell and MHD drive
Fuel Efficiency: 8 kilometers/liter
Range: 800 kilometers
Speed: 144/288
Combat Speed: 120
Power: 2
Handling: 2
Rigging Value: Standard
Legality: Restricted
Availability: Rare
Cost: 500,000cs
Armor: 6
Durability: 2
Crew: Pilot
Passenger/Cargo Capacity: None
Standard Accessories: ECM suite [3], ejection system, onboard computer, security system, sonar suite [4], stealth suite [6], targeting computer, VR cockpit
Armament: Torpedo tubes (2)

Reef Raider™ Strike Submersible

The largest of Hydrospan's line of combat submarines, the Reef Raider is designed to fulfill the marine close-support and strike roles. A complement to the GEO Benthic Universe sub carrier, the Reef Raider incorporates a number of the features that have made Hydrospan's other combat subs so successful. One important change, however, is a noticeable improvement. Early versions incorporated fixed positive buoyancy, which was counteracted by downward force from the dive planes. This was intended to simplify systems and serve as an additional safety measure in the event of a control-systems failure. Unfortunately, the result was a vessel that had to maintain forward motion in order to maintain a fixed depth. This made stealthy approach problematic and was eventually abandoned in favor of a more traditional ballast system.

Dimensions: 3.5 meters long, 1.5 metric tons
Power Source: Fuel cell, MHD drive
Fuel Efficiency: 8 kilometers/liter
Range: 800 kilometers
Speed: 150/300
Combat Speed: 125
Power: 2
Handling: 2
Rigging Value: Standard
Legality: Restricted
Availability: Rare
Cost: 600,000cs
Armor: 8
Durability: 3
Crew: Pilot
Passenger/Cargo Capacity: None
Standard Accessories: ECM suite [3], ejection system, onboard computer, security system, sonar suite [5], stealth suite [8], targeting computer, VR cockpit
Armament: Torpedo tubes (2)



Research Submersible

This class of submersible is very common on Poseidon. The variably configured subs are typically cramped, but very effective in their role. Research subs are can reach depths of up to 15,000 meters and come equipped with a variety of scientific equipment and sensors.

Dimensions: 12 meters long, 2.7 meters in diameter, 3 metric tons
Power Source: Fuel cell and MHD drive
Fuel Efficiency: 16 kilometers/liter
Range: 3,200 kilometers
Speed: 14/28
Combat Speed: 12
Power: –1
Handling: –2
Rigging Value: Standard
Legality: Legal
Availability: Common
Cost: 200,000cs
Armor: 4
Durability: –1
Crew: Pilot
Passenger/Cargo Capacity: 4 passengers or 400 kilograms of cargo
Standard Accessories: Onboard computer, security system, sonar suite [2]

Utility Submersible

This class of submersible is used to carry cargo and passengers through the Storm Belt and to undersea facilities. The passenger compartments of these submersibles are notoriously uncomfortable, and most people make an effort to avoid long voyages in them. Most cargo submersibles are designed to operate at depths no greater than 1,000 meters. However, a few more durable designs service exceptionally deep seafloor habitats.

Dimensions: 25 meters long, 8 meters in diameter, 20 metric tons
Power Source: Fuel cell and MHD drive
Fuel Efficiency: 12 kilometers/liter
Range: 3,600 kilometers
Speed: 28/57
Combat Speed: 24
Power: –1
Handling: –3
Rigging Value: Standard
Legality: Legal
Availability: Common
Cost: 500,000cs
Armor: 5
Durability: 0
Crew: Pilot and co-pilot
Passenger/Cargo Capacity: 30 passengers or 3 metric tons of cargo
Standard Accessories: Onboard computer, security system, sonar suite [2]

SPACECRAFT

Orbital Craft

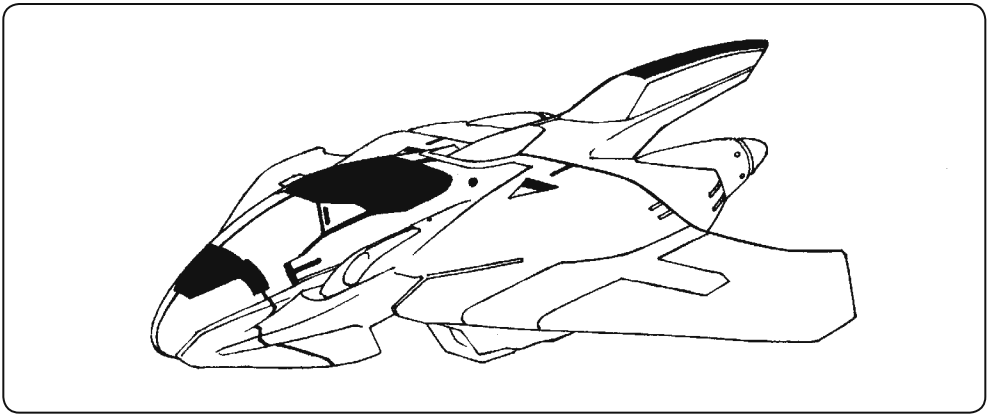
Modern orbital craft take many different forms. Passenger sub-orbitals and cargo lifters that take off and land horizontally often use exotic scramjets or multi-stage hybrid engines. Military craft typically use fusion engines because of their greater thrust. Strictly orbital craft most commonly use smaller, more efficient fusion engines for operational economy. Regardless of engine or type of platform, orbital craft have been key to the modern aerospace economy.

Marine Corps Assault Dropship

When the Marine Corps was given the mission of providing security to GEO assets on Poseidon, initial logistical estimates were staggering. One analysis suggested that more than two mechanized regular infantry divisions would be required to supply sufficient troops to garrison the system. When asked to provide their input, the Heavy Cavalry claimed they could provide armored rapid response to the entire planet with just two platoons. Although this was later increased to a full company, the Cav has managed to perform its mission admirably and with remarkably few resources.

One of the major reasons for this is the orbit-to-ground assault dropship. The assault ships allow a team of soldiers stationed in orbit to drop into a combat zone anywhere on the planet. One dropship is always kept in a ready condition, allowing launch within 5 minutes, and drop to the planet's surface in 7 to 15 minutes depending on drop location. Known as Gargoyles, because of the menacing lines of their monstrous fusion engines, the drop ships are designed to fall from orbit to sea level as fast as possible. Guided only by a pair of stubby wings and a set of forward canards, the dropships rely more on brute force and speed than aerial agility to avoid ground fire and get the job done.

The ships can carry a fully equipped squad, loading and dusting them through a belly ramp under the tail boom. Intended to support both the Cav and mechanized infantry, dropships are capable



of delivering ground transport vehicles and APCs, artillery or crew-served ground weapons, and even some models of light-patrol subs.

Gargoyles are also capable of providing substantial air support. Rotary cannons mounted in turrets under the aircraft's chin and tail boom, as well as pepperbox multi-tube launchers for self-guided antipersonnel and antivehicle missiles, give the gunner a formidable arsenal at his command. Dropships are even capable of making a water landing, unloading troops through side doors.

The dropships do have a few significant limitations. Their enormous fuel requirements coupled with the great weight of both the ship and its cargo limit the Gargoyles to only a few minutes on site if a return to orbit is planned without refueling. Additionally, the volatile nature of the Gargoyles' fuel, armaments, and cargo put the craft at unusually high risk for explosion if damaged in combat. The fusion engines used by the dropship function in atmosphere as well as space, and are not as dangerous as torchship drives.

Grissom-class Orbital Patrol Boat

In the orbital environment of Poseidon where a handful of active spaceports send less than 100 flights to orbit on an average day, control of access to orbit and the near-planet space lanes is possible. The space around Poseidon and in the approaches to both sides of the wormhole are monitored by the GEO and traffic in these areas is tightly regulated. One of the chief instruments of this mission is the Grissom-class patrol boat.

Built specifically for short patrols with multiple thrust periods, the Grissom boat has a relatively large fuel capacity and an exceptional acceleration for its size. Another strong feature is the craft's detection and tracking instrumentation. The hulls of these vessels bristle with radar dishes, optical tracking gear, and radiation detectors.

Early versions of the Grissom patrol boats were equipped with a high-velocity gun tube aimed along the axis of thrust. This main gun fired small projectiles and rockets. Later versions abandoned this arrangement in favor of the current armament of independent, guided torpedoes.

Hercules Heavy-Lift Tug

Transport between worlds, though romanticized, is only part of the process of interstellar commerce. The huge transports would be useless without a means of moving their cargoes to and from the surface. This task falls to the hundreds of shuttles, lighters, and tugs that flock around the great carriers. Among the most common of these are Atlas Materials' Hercules-class tugs.

The Hercules tugs are cursed with an almost comical profile. Tubby, short, and wide, these hybrid lifting body craft are designed to take off horizontally like a conventional aircraft and lift directly to orbit. Cargo is stored in a classic mid-section bay that can be fitted with a pressurized compartment to give the vessel a 300-seat passenger capacity.

Although capable of hauling nearly any load in a single stage, the Hercules tugs can be fitted with a zero stage, a semi-autonomous strap-on booster that uses high-output turbojets designed to operate in the thicker atmosphere around sea level. The addition of a zero stage allows a Hercules to reserve more of its fuel for operating at greater altitudes or in space.

Interplanetary Craft

Shannon Marie-Class Tugs

The Shannon Marie tugs were built by Dundalk Shipbuilding to carry loads between the planets and asteroid colonies of both the Sol and Serpentis systems. The Shannon Maries are also used to shuttle cargo from orbital marshaling yards to and

from the larger freighters and orbiting stations. They are also seeing increasing service recovering unmanned cargo pods launched through the wormhole.

These boxy vehicles lack any aesthetic features. The forward surface is a flat plate pitted and pocked with attachment points for tie downs and hookups for cargo containers. The dual bridges extend far to port and starboard of the rest of the vessel, allowing pilots to see down the length of an attached load of cargo containers. A pair of steerable fusion torches provide power, giving these redoubtable tugs exceptional maneuverability.

INTERSTELLAR CRAFT

From the first Argos probes, those vessels that ply the long night between the stars have been objects of fascination. When men and women began to sail this perilous sea, they became larger than life. Today, there is a cultural fixation with anyone or anything that travels between the stars.

Most modern interstellar craft are cargo vessels, and the vast majority are Incorporate owned and operated. Design philosophies vary between shipbuilders, but enough engineering constants exist to standardize interstellar ship design. Freighters tend to be large and slow, but with enormous delta-V capacity. Recreation and medical facilities are larger than would ordinarily be necessary due to the rigors of long journeys, but life-support systems are smaller due to the limited crew size.

There are two broad classes of interstellar spacecraft in the world of BLUE PLANET. The first class is comprised of state-of-the-art transports built exclusively by the GEO and largest Incorporate states to ship passengers and highly valuable cargo — usually Long John — between the Solar System and Poseidon. These massive vessels can make the run from the inner Solar System to Poseidon in approximately six months, but their design specifications begin to approach the physical limits of fusion rockets, and they are extraordinarily expensive to design, construct, operate, and maintain. The second class is more representative of the majority of interstellar craft; these ships are designed as general purpose interplanetary craft, and most of them never travel through the wormhole at all. These ships require a significantly longer time to make the long-distance trip than the express transports, but they are much cheaper to build and operate since the reactor designs are far less exacting and the fuel requirements are much lower.

Traffic between Earth and Poseidon is dominated by slow boats in terms of gross tonnage; when it comes to passengers, the two methods are more nearly equal, since a much larger percentage of the express boats' cargo is used for passengers than is the case for slow boats. The truly desperate and optimistic might be willing to risk a multi-year voyage in cold sleep, but most of the really slow voyages are made by unmanned craft carrying only non-perishable cargo, such as ice for the fueling stations at Wormhole–1.

Travel between the Solar and Serpentis systems is complicated by the fact that it is necessary to decelerate before traversing the wormhole. The potential consequences of a ship massing 100,000 metric tons impacting the wormhole's gravity well while moving at millions of meters per second are catastrophic enough that traffic control and approach protocols are exact and strictly enforced. As a result, a ship must first accelerate and then decelerate on each leg of the journey. To maximize fuel efficiency, acceleration and deceleration burns tend to be relatively short and the ship coasts at a constant velocity through most of the trip. At WH–1, new fuel tanks are installed on the ship and filled with liquid hydrogen from the station's refueling facility. Transporting ice to the station's fuel refineries is a major source of income for belters.

Fusion Rockets

The drives used in interstellar spacecraft are staggeringly efficient, high-mass-flow fusion rockets. The basic reaction is very similar to the fusion cycle that powers main-sequence stars, such as the Sun and Lambda Serpentis, and involves the conversion of four hydrogen atoms to a single helium atom. This cycle is well suited to interstellar travel since it is fueled by ordinary hydrogen, rather than one of the more rare isotopes.

The exhaust from a fusion drive is roughly as hot as the interior of a star, measured in the millions of degrees. It consists predominantly of alpha radiation (helium nuclei, the final product of the fusion cycle), beta radiation (electrons), and gamma radiation (low-wavelength photons). The high-efficiency drives used in express boats feature power densities on the order of 200MW per kilogram of drive mass. These drives are inherently more efficient than fusion reactors, because they have very little shielding and no turbines for generating electricity. Because these systems represent the vast majority of a fusion reactor's mass, they never exceed power densities of about 10 kilowatts per kilogram of reactor.

These fusion rockets are truly awesome machines and necessarily potential weapons of mass destruction. Their exhaust is so energetic that it barely remains in a plasma state — it is a deadly mixture

of alpha, beta, and gamma radiation that extends many tens of kilometers behind the spacecraft. At 100 kilometers, this radiation is about as strong as sunlight on the surface of the Earth, though a much lower percentage of the radiation is visible light. Traffic control is therefore very strict anywhere near inhabited planets or manned stations. Though it has never been officially confirmed, it is rumored that the GEO Aerospace Command is required to use immediate deadly force against vessels committing potentially dangerous traffic violations.

Express Boat

The most common, cost-efficient express boats mass approximately 1,000 metric tons, excluding fuel. Roughly half of this mass is accounted for by the fusion drive. The other half includes about 350 tons of payload and 150 tons for the superstructure, radiation shielding, and ship's systems (e.g., sensors, communications, life support, etc.). The express boat's payload corresponds to about 700 passengers in IHMS capsules, but most flights are not completely dedicated to passenger transport. The typical ship in this class is a cylinder about 150 meters long and only four meters in diameter at its narrowest point. The payload module is a fatter, shorter cylinder about 20 meters in diameter and 10 meters long attached to one end of the superstructure. The other end is dominated by the fusion drive and exhaust port. The long, thin drive structure is designed to get as much distance as is practical between the payload module and the inferno that is the exhaust.

The express boat's fusion drive is capable of generating about 100 terawatts of power, a truly awesome figure that roughly corresponds to about 0.05% of the total power the Earth receives from the Sun. The drive's effective exhaust velocity is 24 million meters per second, or about eight percent of light speed. The mammoth drive devours 0.35 kilograms of fusion fuel each second, yielding a thrust of 8.4 million Newtons. The ship's acceleration peaks at about 0.83 g when the remaining fuel approaches zero.

The drive is fueled by liquid hydrogen stored in external inflatable balloon tanks constructed of carbon buckytubes. As each tank is emptied, it is deflated and pulled into the drive chamber to be melted and used as reaction mass. This is highly efficient, and depending on the design, between 10 and 20% of the drive's reaction mass is actually composed of fuel tank materials rather than spent fusion fuel. Waste heat from the drive is radiated into space by a huge, gossamer-thin sheet about two kilometers in radius. The radiator is usually kept folded into the ship, but must be reeled out before the drive can be engaged. While burning, the torchship is a truly impressive sight. The exhaust jet glowing as bright as a sun, surrounded by the huge, brightly glowing halo of the radiator, completely eclipses any view of the ship itself.

Flight Plan between Earth and WH–1:

1. Accelerate for 35 days. This burn requires 1,070 tons of fuel. Acceleration begins at 0.32 G and reaches 0.52 G toward the end of the burn. When the acceleration ends, the ship has already moved about 120 AU from Earth.
2. Coast across 590 AU. This takes 85 days at a coasting speed of 12 million m/s.
3. Decelerate for 22 days. This burn requires 650 tons of fuel. Deceleration ranges from 0.52 G to 0.86 G and takes place over about 70 AU.

Flight Plan between WH–2 and Poseidon:

1. Accelerate for 9 days. This burn requires 256 tons of fuel. Acceleration begins at 0.59 G and approaches 0.71 G. The distance covered during the burn is about 11 AU.
2. Coast across 60 AU. This takes 23 days at a coasting speed of 4.6 million m/s, 1.5% of light speed.
3. Decelerate for 7 days. This burn requires 211 tons of fuel. Acceleration grows from 0.71 G to 0.86 G during this burn. The distance covered during the burn is about 9 AU.

Total Flight Time: 181 days

Total Fuel Consumption: 2,187 tons, or about 31,000 cubic meters of liquid hydrogen.

Slow Boat

Common slow transports mass 1,000 tons, the same size as the express boat. The drive is about 200 tons, and the remaining 800 tons are divided between 240 tons of structure and 560 tons of payload. These ships can carry about 1,100 IHMS passengers, but they usually only transport cargo.

A slow boat's effective exhaust velocity is "only" 18 million meters per second, and the fusion drive is a less exacting and efficient design than the express boat's. Fuel consumption averages about 0.12 kg/second, and the drive generates about 19 terawatts of power, for a power density of 95MW per kilogram of drive mass. The drive's delivered thrust is 2.16 million Newtons, with a maximum acceleration of about 0.22 g. The ship's radiator sheet is only about 900 meters in radius — 2.5 square kilometers.

Flight Plan between Earth and WH–1:

1 Accelerate for 52 days, consuming 553 tons of fuel. Acceleration ranges from 0.11 to 0.16 G. The distance covered during the burn is about 80 AU.
2 Coast across 640 AU for 185 days with a coasting speed of 6 million m/s.
3 Decelerate for 37 days, consuming 396 tons of fuel. Deceleration ranges from 0.16 to 0.22 G. The distance covered during the burn is about 60 AU.

Flight Plan between WH–2 and Poseidon:

1 Accelerate for 16 days, consuming 171 tons of fuel. Acceleration ranges from 0.17 G to 0.19 G, and the distance covered during the burn is about 11 AU.
2 Coast across 59 AU for 41 days at a coasting speed of 2.5 million m/s.
3 Decelerate for 14 days, consuming 149 tons of fuel. Acceleration ranges from 0.19 G to 0.22 G, and the distance covered during the burn is about 10 AU.

Total Flight Time: 345 days
Total Fuel Consumption: 1,269 tons, or 18,000 cubic meters of liquid hydrogen.

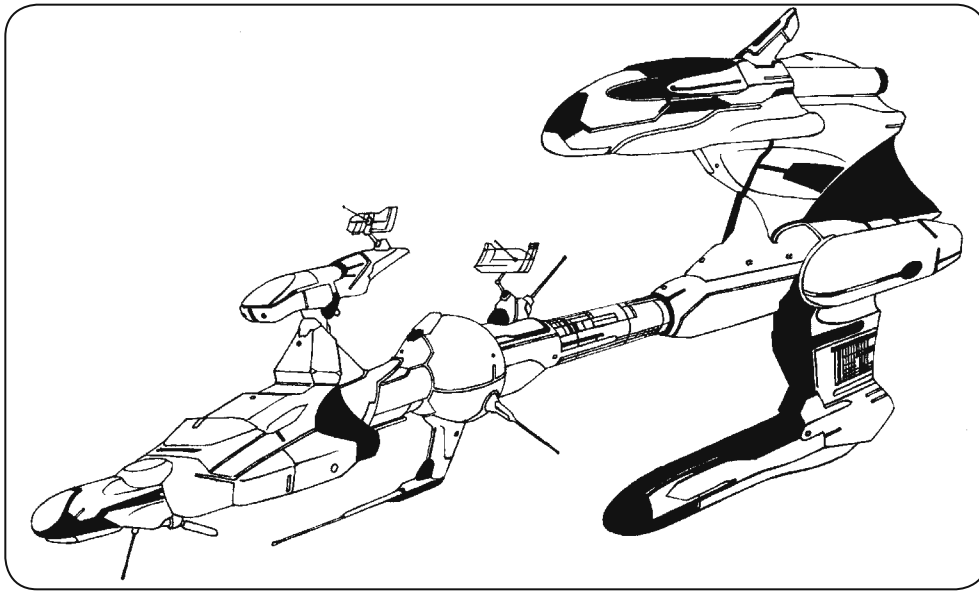
Jebel Mousa

The *Jebel Mousa* is unique among all the ships plying the Earth-to-Poseidon run. Named for peaks in the North African mountain range from which Atlas Materials took its name, *Jebel Mousa* and its ill-fated sister-ship, *Jebel Chelia*, were built to carry entire mining operations to the Serpentis System. These two behemoths smashed all previous records for the largest powered objects in space. With its extraordinary displacement, *Jebel Mousa* was a bold venture for Atlas and was designed to operate independent of sophisticated orbital receiving yards. As a result, it carried its own small fleet of tugs, workpods, and remote-operated vehicles.

Construction of the two monster vessels presented innumerable challenges, and the techniques developed during the process helped Atlas, and later partner company Dundalk, stay decades ahead of competitors in the field of orbital construction. Some problems, though, were never satisfactorily solved. Airflow in some of the more distant crew spaces is a persistent problem. The helium flash that eventually wrecked the *Jebel Chelia* could have been prevented had lower fuel flows been acceptable or had Atlas engineers solved the filtering problem.

The *Jebel Mousa* and *Jebel Chelia* were essential to the early days of Atlas' operations on Poseidon. The changing economic conditions of Earth-Poseidon trade, though, have made the continued operation of *Jebel Mousa* questionable. The ship has become a dinosaur. Its engines, once the most efficient in space, have become obsolete. The ship's enormous cargo capacity necessitates long layovers at both ends of the route while cargo is offloaded, and even longer waits while cargo to be shipped is collected and lifted to orbit.

Atlas management is considering a number of options for *Jebel Mousa*'s future. One solution includes dismounting the engines for use as single units in smaller vessels and using the hull as the



basis for an orbital manufacturing facility. Other choices include cannibalizing the ship in the same manner as was the *Jebel Chelia* (as described in the *Game Master's Guide*). One particularly far-looking design group is working on plans to turn the ship into a deep-space exploratory vessel.

Admiral Robert Perry Survey Vessel

The *Perry* is really just a smaller version of the *Cousteau*, which is understandable given the similarity of their missions. Both ships had copious IHMS berthing space, as well as cavernous cargo holds for moving everything up to and including whole fusion reactors. Both were equipped with numerous landers and shuttle craft for ferrying cargo both from orbit to ground and between ground sites.

However, there were also notable differences. Advances in horticulture and food science allowed a substantial reduction in the volume dedicated to hydroponics, as well as stored foods and seed supplies. Improvements in fusion technology allowed *Perry* to function with smaller fuel and drive assemblies. When constructed, *Perry* was the most advanced spacecraft yet built, and it provided valuable data for the later Ballard-class transports.

Over its lifespan, the *Perry* has "shot the hole" more than 40 times, making it the most traveled vessel in existence. One object, however, has more kilometers logged than even *Perry* herself. The ship's bell from Cousteau, a gift from the original colonists, was placed aboard *Perry* for her trip back to Earth and has never left the ship's bridge. Although the bell and the ship have made the same number of transits through the wormhole, spacer lore insists that its initial trip, and the years spent circling Poseidon, have earned the bell the title of "furthest traveled man-made object in existence."

Ballard-Class Interstellar Transport

The third generation of interstellar craft, the Ballard transports used design lessons garnered from construction and operation of the *Perry*. The result is a series of vessels that are reliable, relatively efficient, and easy to operate. They are an incremental improvement over the *Perry*, rather than an entirely new class of vessel.

There are currently 13 Ballards in service, ensuring the departure of at least one GEO-sponsored flight from either planet every two weeks. There is considerable variation within the class, with the last ship built, the *Nathaniel Bowditch*, being 26 meters longer than the *Robert S. Ballard* and incorporating drastic changes in onboard automation and scientific packages. *Ballard*, *Shackleton*, *Byrd*, *Norgay*, and *Lowe* are all scheduled for refits in the next two years. This program will increase the IHMS capacity of each to nearly 3,000 and add 4,000 cubic meters to the onboard cargo capacity. This refit will keep the oldest of the Ballards at the forefront of spacefaring technology.

VEHICLE ACCESSORIES

Vehicles in BLUE PLANET REVISED may be equipped with a vast array of accessories, and new features and equipment are in constant development. Examples of the most standard equipment have been listed in the vehicles' descriptions. Any of these craft may be equipped with additional accessories, subject to availability and GM approval.

ANTI-MISSILE DEFENSE SYSTEM

This system is a multi-barrel rotary cannon interfaced with a dedicated targeting computer. The fully automated system is designed to track and destroy incoming missiles. The system has superior aptitude in Military Weapons and the effective Target Number for the attack is 5. No modifiers for such factors as the speed or size of the incoming missile are necessary. The AMDS can engage multiple missiles in the same round, but each attack after the first suffers a cumulative –1 Target Number penalty.

Rigging Value: Impossible
Durability: 2
Legality: Restricted
Availability: Rare
Cost: 50,000cs

ARMOR

The body and chassis of an armored vehicle are constructed of military-grade ceramic composites. Each level of armor increases the vehicle's base Armor Rating by 1, up to a maximum of twice the base Armor Rating. Each level of armor protection reduces the vehicle's fuel efficiency by 1 kilometer/liter. Unlike other military vehicle accessories, vehicle armor is unrestricted.

Rigging Value: Standard
Durability: 3
Legality: Legal
Availability: Rare
Cost: 5,000cs per Armor Rating

Armor, Ablative

This material is designed to blunt the effects of explosive weapons by generating its own diffusing blast wave on impact. The counterblast destroys a patch of the ablative armor but hopefully saves the vehicle in the process. Ablative armor is sold as flat or curved plates of foamed industrial bioplastic with a proprietary blend of binary propellants in the voids. It counts as foamed bioplastic for armor and weight purposes but has triple the cost. It has six times its standard Armor Rating against shaped charges and explosions. It must be backed by standard armor of at least this rating to be effective (e.g., to provide Armor Rating 12 against an explosive weapon, it must be backed by regular armor with a rating of at least 12).

Ablative armor is only activated by an explosive weapon with a Damage Rating at least triple the armor's base rating. For example, ablative armor with a base rating of 2 (12 against explosive weapons) would only be activated by an explosive weapon of Damage Rating 6 or higher. If activated, the effective rating of the ablative armor is reduced by the Damage Rating of the attack. For example, an explosive weapon with Damage Rating 6 would reduce the above armor from 12 to 6.

Since ablative armor can also act as a flotation device, its use is very common on Poseidon military vehicles, typically in 16mm or 32mm plates secured by environmental sealant. A one-square-meter plate 16mm thick will have a mass of four kilograms, a standard Armor Rating of 4, and an Armor Rating against explosions of 24. A 32mm plate has double the mass, an Armor Rating of 5, and an Armor Rating against explosions of 30. Some military body armors now have 4mm plates of ablative armor.

Dimensions: 1 kilogram per 1m x 1m x 4m section
Power Source: Standard cell
Rigging Value: Impossible
Durability: 0
Legality: Restricted
Availability: Rare
Cost: 1,200cs per square-meter of coverage
Armor Rating: 2 (12) per 4mm thickness

Auxiliary Fuel Tank

All vehicles can be equipped with additional fuel capacity. If excessive fuel capacity is added, however, the vehicle's cargo and passenger capacity is significantly reduced.

Rigging Value: Basic
Durability: 0
Legality: Legal
Availability: Common
Cost: 350cs per 50 liters.

Chaff Launcher

A disposable ECM device, chaff launchers are linked to vehicle sensors and release clusters of electronic mimics that are programmed to exactly match the deploying vehicle's signature in the event that hostile fire control achieves target lock. A chaff launcher provides a +3 bonus to evasion attempts, but this bonus drops by 1 every round as the decoys disperse and enemy computers or weapons begin to distinguish the decoys from the real target. Chaff decoys cost about 100cs per unit, and each use deploys a single unit.

Dimensions: Mass and volume vary by vehicle size
Power Source: Standard cell
Rigging Value: Standard
Durability: 0
Legality: Restricted
Availability: Rare
Cost: 100cs

Computer-Assisted Targeting System (CAT)

The CAT system offers a +1 to +5 bonus to the Heavy Weapons skill of a character firing any assisted weapon. CAT systems may only be used with unguided weapons.

Cost: Bonus rating x 10,000cs + 10,000cs for each weapon type. For example, it would cost 40,000cs for a CAT system [3] that will control twin autocannons, and 50,000cs for a CAT system [3] controlling twin autocannons and a rotary cannon.

Crash Protection System

This computer-controlled mechanical system detects an impending crash and injects flame retardant, impact-absorbing foam into the interior of the vehicle the instant before impact. The foam dries moments later and crumbles away, facilitating extrication of the passengers and crew. Unfortunately, near misses or radical maneuvering can sometimes activate the system at inopportune times, actually causing a crash.

If a passenger is strapped into a standard safety harness, the CPS will reduce all crash Damage Ratings affecting the passenger by 2.

Rigging Value: Impossible
Durability: 2
Legality: Legal
Availability: Common
Cost: 2,500cs

Direction and Distance Finder

The DDF is an accessory for any sort of receiver, usually radio or sonar. Combined with three or more antennas, it allows virtually instant pinpointing of any signal the receiver can pick up, giving directional bearing and distance with a fraction of a percent error. Networked to a GPS unit or computer with a mapping database, it can provide a virtual picture of transmitter locations. With the capabilities of a maincomp network hub and sufficient data, it could identify transmitters by manufacturer, species, or other characteristics often too subtle to be noticed. A DDF reading is sufficient to launch a guided weapon anywhere within its range, provided the weapon is equipped with the same type of receiver.

Dimensions: 50 grams, negligible volume
Power Source: Mini cell
Rigging Value: Impossible
Durability: –1
Legality: Restricted
Availability: Scarce
Cost: 200cs

Ejection System

Ejection systems are commonly used in military VTOLs, jumpcraft, and fighter subs. Aircraft versions are zero-zero systems, meaning that the vehicle can have a speed and altitude of zero and the system can still function safely. Aircraft ejection systems integrate the features of evac pods, and submarine ejection systems integrate the functions of rescue balls. The ejection system itself typically launches the flight deck seats from the cockpit, with the crew still strapped in their safety harnesses. Parachutes safely drop aircraft systems to the surface, while those from submarines float quickly upwards.

Rigging Value: Standard
Durability: 0
Legality: Legal
Availability: Common
Cost: 5,500cs

Electronic Countermeasures (ECM) Suite

Electronic countermeasures systems are used to defeat guided missile target "lock-on." The ECM suite's rating determines the vehicle's ECM rating for the purposes of target acquisition. ECM ratings range from 1 to 5.

Rigging Value: Impossible
Durability: 0
Legality: Restricted
Availability: Rare
Cost: 10,000cs x Rating

Evacuation (Evac) Pod

Evac pods are self-deploying emergency life rafts and are common on most modern vehicles on Poseidon. E-pods are similar to rescue balls and are equipped with water filters, emergency rations, and standard medical kits. Some pod designs are manually activated and others are deployed automatically. Most emergency ejection systems have integrated e-pods.

Rigging Value: Standard
Durability: 0
Legality: Legal
Availability: Common
Cost: 1,000cs (two-person), 3,000cs (six-person)

Excavator

A heavy plastic blade on a pivot, typically mounted on the front of a wheeled or tracked vehicle. The excavator can tilt, swing, and lift, allowing obstacles to be efficiently cleared without risking damage to the vehicle itself. Excavator blades are typically a meter high and as wide as the vehicle they are mounted on. Made of industrial bioplastic 16 millimeters thick, a blade masses about 75 kilograms per meter of width, including the linear actuators and support structure.

Dimensions: 1 meter high, 75 kilograms per meter of width
Power Source: External
Rigging Value: Basic
Durability: 3
Legality: Legal
Availability: Very Common
Cost: 1,000cs per meter of width

Gunner's Turret

An unguided vehicle weapon mounted in a gunner's turret may be fired by a gunner inside the vehicle. The turret offers a 360° field of fire and significant protection for the gunner. It is powered by independent servos and responds to either manual controls or cybernetic interface. The gunner's station limits the amount of space available for passengers or cargo by about 20%, and it is typically integrated with a CAT system.

Rigging Value: Impossible
Durability: 0
Legality: Restricted
Availability: Rare
Cost: 10,000cs plus the cost of the CAT system

High-Output Turbofans

These high-performance turbofans are often used in conjunction with power-assist systems and superchargers to enhance the overall performance of a jumpcraft. A full set of HO turbofans increases a jumpcraft's Power rating by 1 and increases its maximum speed by 20%.

Rigging Value: Standard
Durability: 2
Legality: Legal
Availability: Uncommon
Cost: 5,000cs per fan

Jammer

Jammers act on different principles than chaff decoys. These devices generate a harsh signal on all the various bands used for sensing and communications, overloading the weapon's onboard sensors and interfering with its ability to communicate with remote sensors. While a jammer provides a +2 bonus to evasion attempts, it also decreases the vehicle's Stealth Rating by 5 while it is activated. Jammers also require huge amounts of electrical power, typically one kilowatt for every cubic meter of vehicle volume. Jammers provide a bonus to nearby vehicles as well — a +1 bonus for those in close formation. Bonuses from multiple jammers are not cumulative. Jammers can make most radio or sonar communication impossible for distances of several kilometers, and the sonar disruption can be debilitating to cetaceans at close range.

Vehicles using jammers may preset small windows of open radio communication and coordinate this with other vehicles. These millisecond openings constantly jump frequency, and only those linked into the control network will be able to communicate effectively within the jamming zone. These communications windows can still be defeated by enemy jammers, however.

Dimensions: 1.2 kilograms, 1.0 liters
Power Source: External
Rigging Value: Basic
Durability: 0
Legality: Restricted
Availability: Rare
Cost: 2,200cs

Onboard Computer

All late-model vehicles come equipped with interactive access chips and an onboard computer that can control most of the vehicles' functions. The onboard computer can be used to pilot the vehicle remotely, as long as the operator has the appropriate equipment, the system's access codes, and a communications link to the vehicle's computer. This system can often function as a personal computer as well and comes standard with a communications software suite, radio-communications, satellite uplink, and GPS unit. These computers also typically contain expert diagnostic programs and extensive technical databases to facilitate maintenance and repairs. Many vehicles that have high processing requirements, such as those used in scientific research or by the military, are equipped with a standard maincomp.

Rigging Value: Standard
Durability: 0
Legality: Legal
Availability: Common
Cost: 2,000cs

Power-Assist System

This jumpcraft system consists of custom installed computer-control hardware and flight-control turbofans. The system helps manage power distribution and supplements the craft's standard turbofans for greater flight performance. A power-assist system increases a jumpcraft's Handling by 2, but reduces its fuel efficiency by 2 kilometers/liter.

Rigging Value: Standard
Durability: 1
Legality: Legal
Availability: Uncommon
Cost: 10,000cs

Radar Suite

This sensor package uses high-frequency radio waves to determine the range, position, velocity, and other characteristics of surface vehicles and aircraft. Most vehicle radar systems have a line-of-sight range of between 50 and 250 kilometers, depending on their rating. Radar suites may have a rating between 1 and 5.

Rigging Value: Impossible
Durability: 0
Legality: Legal
Availability: Common
Cost: 5,000cs x Rating

Security System

Most security systems are multipurpose expert programs that monitor access-control functions and intrusion countermeasures. Numeric combination keypads and fingerprint scanners are typically responsible for access-control, while motion detectors, infrared scanners, and fiber-optic cameras detect intrusion. When intrusion is detected, a standard audiovisual alarm will be triggered. If the vehicle is also equipped with an onboard computer,

the system will notify the owner and appropriate local authorities.

Rigging Value: Impossible
Durability: 0
Legality: Legal
Availability: Common
Cost: 1,000cs

Sonar Suite

This sensor package is used to detect and identify underwater objects, including submerged vehicles. The system can be used passively to listen for sounds in the surrounding environment, or actively, transmitting sound waves that reflect off of distant objects. Most sonar systems have a range of between 10 and 50 kilometers. This range is doubled if active sonar is used. Sonar suites may have a rating between 1 and 5.

Rigging Value: Impossible
Durability: 1
Legality: Legal
Availability: Common
Cost: 5,000 x Rating

Stealth Suite

A stealth suite combines high-end ECM systems and electronics with radar-absorbent hull skins and faceted superstructure components. The maximum Stealth Rating is 10.

Rigging Value: Impossible
Durability: 0
Legality: Restricted
Availability: Rare
Cost: 1,000cs x (rating x vehicle mass in tons)

Supercharger

This array of supplementary batteries is used to augment a jumpcraft's normal power supply to increase acceleration or deceleration. A supercharger increases a jumpcraft's power rating by 2.

Rigging Value: Standard
Durability: 1
Legality: Legal
Availability: Uncommon
Cost: 2,500cs

Targeting Computer

Targeting computers are used for target acquisition and fire control, and are necessary to fire guided weapons.

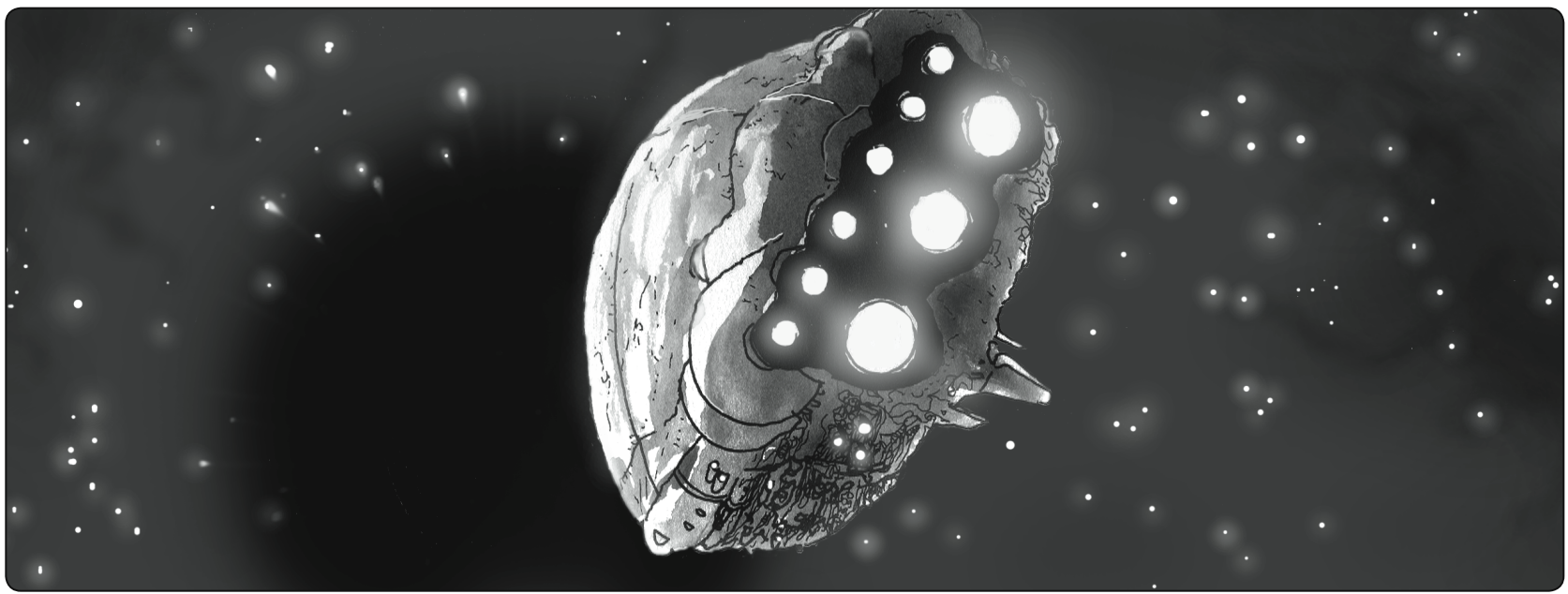
Rigging Value: Impossible
Durability: 0
Legality: Restricted
Availability: Scarce
Cost: 50,000cs

Virtual Reality (VR) Cockpit

The limitations of the pilot's canopy on both the airframe and stealth capabilities have resulted in its obsolescence in almost all military aircraft. The VR cockpit offers a 360° field of vision, as well as a seamless integration of data output from the aircraft's sensor and computer systems. The VR cockpits in high-performance military aircraft are typically direct neural interface systems. VR cockpits are also used extensively in military submersibles.

Rigging Value: Impossible
Durability: 0
Legality: Legal
Availability: Rare
Cost: 100,000cs

CHAPTER 8: HISTORY



FUTURE HISTORY

The world of BLUE PLANET is a complex setting rooted in a carefully drawn extrapolation of historical events and trends. Every effort has been made to seamlessly incorporate the fictional events and developments of the future into the fabric of Earth's present and past. Insofar as the world of BLUE PLANET is one possible future, it is the legacy of a developing human civilization that dates to the end of the last Ice Age.

For all practical purposes the BLUE PLANET story begins in the last quarter of the 21st century. In 2075, two astronomers discovered a wormhole on the remote edge of the Solar System. Three years later, a robotic probe traversed the wormhole and discovered a new star system on the other side, one with a habitable planet in its second orbit. This monumental discovery launched the Athena Project — the colonization of the water world, Poseidon — and irrevocably changed the course of human history.

THE ATHENA PROJECT

The Athena Project was born when the *Prometheus II* made its historic traverse of the wormhole in 2078. The colonization of the Solar System was already well under way through the combined efforts of several space programs, including NASA, the ESA, and the UNSA. The principal objective of the UNSA was a manned mission to Serpentis II, or Poseidon as the new planet was called.

The UNSA reached its goal two years later when *Argos 12* touched down on the surface of the distant world. The *Argos* astronauts found a planet that was, in most respects, perfectly suited to human habitation. Poseidon had a pristine oxygen-nitrogen atmosphere, temperate regions with a comfortable and stable climate, and a well-developed ecology. And yet, this world was not quite an Eden: its few landmasses accounted for only three percent of the planet's surface, and many of them were characterized by dangerous levels of tectonic activity; its cyclonic storms were monsters many times larger than Earth hurricanes; its two moons were capable of driving horrendous tides; and its complex ecology was hostile and savage.

Early in the six-week mission, field tests established that the genetic basis of life on Poseidon was fundamentally indistinguishable from that on Earth. The biospheres of both worlds were based on DNA. This meant that terrestrial plant and animal life could be successfully introduced to Poseidon, and human beings could survive on indigenous food sources. This implied that large-scale human colonization was feasible, as there would be no need to ship foodstuffs through the wormhole or terraform the topsoil for agriculture.

In 1996, evidence of ancient life on Mars was discovered in a meteorite that had fallen to Earth billions of years earlier. Seventeen years later, a rather primitive unicellular organism was discovered by an ESA probe on Europa, one of Jupiter's moons. Both discoveries fueled speculation on the possibility of the interplanetary dispersion of life. The discovery of DNA-based life on Poseidon 80 years later seemed to support these conjectures. Was it possible that a piece of Poseidon's crust, dislodged by some impact billions of years ago, could have traversed the wormhole and seeded life in the Solar System? The odds against such an event are astronomical.

When the returning *Argos 12* team landed at Delphi Station on Ceres and reported their discoveries, the future of humankind was changed forever. The results of the mission fueled a renaissance in the bio-sciences, but it also offered powerful motivation for a major colonization effort. The colonization of the Solar System was continuing unabated, but none of its planets were likely to ever support large human populations. They were simply too hostile, too unforgiving, and the technological infrastructure necessary was both demanding and expensive. This new world, however, was as well suited to human habitation as Earth, and did not share the legacy of environmental degradation that had driven humanity into space in the first place.

Within one month of *Argos 12*'s return, the UN General Assembly, in cooperation with several national governments, approved initial funding for the Athena Project, a five-year plan for the colonization of Poseidon. The UNSA contracted with Dundalk Shipbuilding for the construction of a massive, fusion-powered colony ship — at that time the largest, most technically sophisticated spacecraft ever built. In addition to transporting the colonists, their equipment, and their supplies through the wormhole, the ship's modular components would provide the colony's heavy infrastructure before full-scale industrial development could be initiated.

The UN mission planners also contracted with GenDiver, a little-known biotechnology firm, to provide certain modifications for the Athena Project colonists. Though the techniques of that time were quite limited and prohibitively expensive, the UN hoped to provide the colonists with

every advantage. This included a series of modifications that would enhance the colonists' overall strength and physical fitness. The colonists would be capable of extended strenuous activity, possessing highly developed, adaptive immune systems, a broadband resistance to a host of conventional ailments and diseases, and the ability to tolerate climatic extremes.

The colonists would also undergo more radical genetic and micro-surgical modifications to adapt them to a semi-aquatic existence, adding broad versatility to their abilities. Colonists capable of tending and harvesting aquaculture facilities without technological assistance would be more productive and would eliminate the need for an entire class of marine technology and equipment, along with the support personnel and parts needed to maintain it. The same advantages could be realized in crucial areas such as construction, field research, search and rescue, and exploration.

The Athena Project would create the first aquaforms: the first truly amphibious humans. The plans called for the development of two distinct variants, known technically as diving-reflex analogs and systemic osmoforms. Both variants received extensive restructuring of the extremities. Webbing was added to both hands and elongated feet to improve aquatic mobility. The aquaforms were given nictating membranes, sealing nostrils, thicker subcutaneous insulation, and a redesigned dermis resistant to prolonged exposure to salt water. The digestive systems of the aquaforms were also modified allowing for safe metabolism of saltwater. Finally, the aquaforms were given enhanced erythrocytes and myoglobin analogs, greatly improving the oxygenation of their blood and their aerobic performance.

Diving-reflex analogs, or divers, were modified to share many characteristics with marine mammals — collapsing respiratory systems, specialized nitrogen-absorbing tissues, and tailored enzymes that limit the elevation of dissolved nitrogen in the bloodstream. These modifications allow divers to operate safely at significant depths without danger of nitrogen narcosis. Divers are capable of holding their breath for close to an hour, and have depth limits restricted only by temperature, swimming speed, and oxygen debt.

Systemic osmoforms, or squid, were surgically implanted with true gills. These organs run from behind the ears to the middle of the back and are covered with layers of skin and muscle that seal tight when the body is not immersed in water. Like divers, squid also have collapsible respiratory systems, but have an effective depth limit of 500 meters, due to pressure effects on the metabolism of their gill systems.

Considering the limited genetic engineering techniques of the time, and their prohibitive expense, most of GenDiver's modifications were accomplished through sophisticated microsurgeries and hormone therapies. However, in spite of the cost of such an endeavor, one crucial genetic modification was performed upon the gonads of the colonists. The ova of females and spermatagonia of males were modified to include artificial genetic code that would pass genetic versions of their predominantly surgical aquaform modifications on to their offspring via the X chromosome. This level of genetic targeting and micro-manipulation was but one of the hundreds of technological breakthroughs that characterized the Athena Project, and would, in itself, be considered Nobel Prize winning work. The colonization of the water world was to be facilitated tremendously by an elite group of native colonists who knew the planet and were ideally suited to life in its largely marine environments. This innovative technique assured the colony a continuing aquaform heritage, without financially crippling an already fiscally ambitious undertaking.

In 2082, the UNSA selected 5,000 candidates and 1,000 alternates from an estimated pool of more than 500,000 qualified applicants. Without exception, the candidates represented the highest echelon from all key professions — military personnel, professional astronauts, administrators, scientists, technicians, engineers, computer specialists, and medical professionals.

Because cetacean abilities were still so poorly respected in the world at large, only a small number of slots were made available to cetaceans in the Athena Project colonial effort, and even those few came about only after stringent lobbying from scientists working with the UN Space Agency. Though many scientists were thrilled by the research opportunities the UNSA provided for modifying humans into aquaforms, a sizable minority saw the efforts as a waste of resources when so many Earth citizens — the cetaceans — were already perfectly adapted to life on a waterworld. Despite their inherent abilities, most decision-makers at the UNSA could not conceive of letting cetaceans lead or even dominate the mission.

Cetaceans everywhere jumped at the chance to join the colonial effort headed for Poseidon. Over 90% of all the genlifted whales on Earth applied for the five hundred cetacean posts on

the *Cousteau*. Ultimately a joint selection committee made up of CCS and UN Space Agency representatives was established to choose the most qualified applicants. Applicants were assessed by education, skills, health, age, and sex, as well as a host of other potential qualifiers. Pilots were devastated to discover that they had been numerically disqualified and would not be allowed to participate in the project. Population geneticists, both human and cete, were convinced that the global pilot population was still too small to remain viable if divided between two planets. In the end, the ship left carrying an envied and excited crew of three hundred bottlenoses and two hundred orcas.

In late 2085, construction was completed on the colony ship and it was christened the *UNSS Cousteau* in honor of the 20th-century pioneer in marine research and exploration. Hundreds of metric tons of supplies and equipment were loaded onboard the *Cousteau* during the following months. This equipment included three fusion-powered orbital landers capable of atmospheric flight, weather and communications satellites, surface and air vehicles, computer equipment, tons of light machine tools, construction and agricultural machinery, fully equipped, modular scientific laboratories, pharmaceutical supplies, medical equipment, and the habitation modules and cryogenic facilities required to support the colonists during their long voyage to Poseidon.

The cost to the United Nations of the initial phase of the Athena Project was enormous. The massive sums of money injected into vital sectors of the global economy, including genetics, pharmaceuticals, heavy industry, manufacturing, and construction, resulted in a period of unparalleled global economic growth, but was accompanied by spiraling inflation and interest rates. When preparations for the colonization effort were completed, the resulting shock to the global economy caused an immediate and severe recession, as markets vanished, prices plummeted, and industrial enterprises were compelled to lay off millions of employees in desperate downsizing efforts.

Many historians argue that the Athena Project's incredible drain on world resources and disruption of global economic stability was largely responsible for the failure of world governments to contain and control the devastation wrought by the Fischer Virus in the early years of the Blight. Others argue that, without the countless spinoff technologies introduced by the Athena Project, especially biotechnology, the Blight might not have been defeated at all.

On May 19, 2086, the *Cousteau* left Earth orbit and accelerated toward the wormhole. When the ship arrived in orbit around Poseidon on December 12, it truly did mark the beginning of a new era for the Athena Project colonists. Approximately 100 colonists were revived from cold sleep, primarily astronauts, administrators, and medical personnel. For almost three weeks, the crew made detailed surveys of the planet from orbit, identified a site for the first colonial settlement, ran computer simulations of the colonization plan, and prepared for planet fall. On January 3, 2087, the *Calypso*, one of the *Cousteau*'s landers, splashed down in the blue waters of the new world.

In the months that followed, tons of equipment, modular structures, and the remainder of the colonists, most still in their coolers, were transported to the planet's surface. Most of the colonists' energies were devoted to the initial construction of Haven, the first colonial settlement. The construction of Haven on an islet off the coast of Argos Island in the Pacifica Archipelago was a massive undertaking: buildings were raised, biocrete roadways were laid, water and sewage systems were constructed, communications networks were established, piers and breakwaters were built, agricultural projects were initiated, and solar-powered hydrogen-cracking facilities were put into place. The project tested the colonists' extensive training and determination,



as well as the most sophisticated technological resources ever assembled by human beings.

The building of Haven also tested the colonists' ability to cooperate and work together. The Athena Project mission planners back on Earth had been understandably concerned about the emergence of factions and political infighting during the early stages of the colonization effort. The problem was complicated by the fact that many of the colonists, a cross-section of Earth's technical and scientific elite, were often used to a great deal of personal independence and autonomy in their professional pursuits. The success of the Athena Project, however, was entirely dependent upon the colonists' ability to cooperate and organize their efforts efficiently.

Ultimately, the mission planners' fears proved to be misplaced. For the colonists, the Athena Project had gained a significance — an almost palpable presence — far greater and more powerful than any one individual. As soldiers are united by a common bond of camaraderie in time of war, so were the colonists drawn together in this historical endeavor. The administrators and logisticians handed down assignments, and the colonists implemented them as quickly, professionally, and efficiently as they were capable. A magnificent but often implacable adversary, Poseidon offered endless challenges, and the Athena colonists faced each one together.

Though the construction of Haven was an ongoing project, it eventually reached a threshold when the settlement became self-sufficient. At this point, the colonists were free to turn their attention to other efforts, most notably the exploration and scientific investigation of their new world. Systematic studies of the planet's climate and weather, tectonic activity, and ecology were launched. The planet's surface was thoroughly mapped from orbit, and exploratory missions were dispatched to several of the water world's major landmasses and archipelagos. Robotic research submersibles with sophisticated sonar-mapping technology were launched to begin charting the hidden terrain of the deep-ocean floor.

The colonists also attended to the necessities of procreation, a challenge that was all the more complex because of its emotional and political sensitivity. Marriage, while not unheard of, was somewhat uncommon in the early years of the colonization effort, a cultural trait that would continue throughout the history of the colony. The fact was, the colony's cooperative ethic tended to emphasize professional relationships, often at the expense of more traditional, personal ones. Thus, colonists tended to spend the vast majority of their time, and develop the closest personal relationships, with those with whom they shared their specific tasks and projects. This often resulted in whole groups of colonists developing very strong personal ties, rather than individual couples. As a result, procreation in the earliest days of the Athena Project was usually the result of very open, informal pairings or was accomplished through the in-vitro fertilization of frozen embryos brought from Earth. This medical technology was largely responsible for the colony's ability to sustain itself without developing a politically unstable reproductive "division of labor."

The care and raising of the colonists' children, of course, was a far more formidable challenge, one that could not be circumvented by technological resources. Ultimately, the colonists approached this challenge as they did all others — through cooperation. From the earliest days of the colony, the care and education of children was a collective responsibility. At first, this was accomplished primarily through a voluntary program whereby groups of two or more colonists would apply together to adopt a child that had been conceived in the medical labs of Haven. Without exception, there were always far more qualified applicants than there were available children. Quite often, this program was supplemented by the far less formal efforts of some groups of colonists. For example, a woman that was part of a field research team cataloging the flora and fauna of an island archipelago would bear a child, and the rest of the team would then shoulder the responsibility for the child's care and upbringing. In the years that followed, as new settlements were founded across the planet, this responsibility became a communal one shared by all members of a settlement.

The founding of the Athena Project colony marked the greatest technological accomplishment in human history and represented the historical peak in the United Nation's power to harness the technological, economic, industrial, and human resources of the entire world. And, if a global population can truly be said to share a common morale, it too had soared to new heights. For all the mistakes human beings had made in their history — the wars, the injustices born of human greed and intolerance, the wholesale destruction of the environment that followed humanity's rise to technological maturity — the species seemed poised on the threshold of a new era. If human beings could build a home for themselves under

Prometheus 2 Returns: Wormhole described as "Shortcut to the Stars"

CommCore/Times Net News Archive/Science and Technology/03.13.78

Over the past three years, people the world over have been following the unfolding drama. of the spacetime wormhole that was discovered. in the outer Solar System billions of kilometers from Earth. Dr. Josef Ben-Gurion, the Nobel Prize-winning physicist who leads the UN Space Agency team charged with investigating this remarkable phenomenon, claims that the wormhole was created during the first second of the Big Bang, the cosmic explosion that marks the birth of our universe.

"In the early 20th century," Ben-Gurion explains, "Albert Einstein constructed a mathematical model of the geometry and topology of four dimensional spacetime on large, cosmological scales. At very small, submicroscopic scales, the domain of quantum mechanics this topology is in constant flux, a quantum foam of violent particle fluctuations. At these ultrasmall scales, the topology of space-time is riddled with wormholes, most of them so small and short-lived that we could never identify them. However, in the earliest moments of the universe, quantum black holes with incredibly small masses are created. The gravitational forces of these black holes 'squeeze' the nearby vacuum and create a zone of negative energy capable of stabilizing a primordial wormhole. We believe it is this process that explains the Masters-Vishenko wormhole that was discovered in the outer Solar System."

The wormhole was first detected when the effects of its gravitational forces on the trajectories of comets from the Oort cloud were analyzed by two astronomers, John Masters and Yuri Vishenko, three years ago. In January of 2075, Masters and Vishenko published a paper In Physical Review Letters, a reputable scientific journal, which, presented evidence for a massive, non-luminous object approximately 783.17 Astronomical Units (AU) from the Sun. One AU is the mean distance between the Sun and the Earth, or 149,597,870 kilometers. By comparison, Pluto, the outermost planet of the Solar System, is a mere 39.44 AU from the Sun. At that time, popular explanations for this phenomenon in the tabloids and CommCore newsgroups ranged from black holes to alien spacecraft. Scientists were quick to point out that none of these sensationalist hypotheses at all matched the data that Masters, Vishenko, and other astronomers had collected.

In February of 2076, after analyzing data collected from the Gravity Wave Array, a network of incredibly sophisticated deep-space satellites capable of detecting disturbances in a gravitational field, Dr. Ben-Gurion and his team at the UNSA suggested that the phenomenon could be a stable "Lorentzian wormhole." The team claimed that this was, so far, among the few hypotheses that could satisfactorily explain all of the observational evidence accumulated.

Early the following year, a fusion-powered probe, the most sophisticated uncrewed spacecraft of its day, was designed by the aerospace engineers at the Jet Propulsion Laboratory and launched by the UNSA. After nearly a year of travel at speeds approximately 1.5% that of light, the *Prometheus II* reached the source of the anomalous gravity waves and began transmitting data back to Earth. At this distance, it took these radio signals traveling at the speed of light more than four days to reach the World Space Center in Earth orbit. Ben-Gurion's team concluded that this data could be satisfactorily reconciled with the current theoretical models of spacetime wormholes.

As expected, optical imaging of the wormhole opening itself proved very difficult. From high-resolution video footage collected by the Prometheus, the wormhole appeared to be a featureless, black sphere approximately 13.8 kilometers in diameter, only vaguely identifiable against the background starlight. Scientists claim that the visible phenomenon recorded by the probe is actually the aperture of the wormhole, only one part of the entire structure. The sphere is a kind of three-dimensional cross-section of a four-dimensional flaw in the fabric of space-time. While the wormhole is a region of very high space-time curvature with strong gravitational forces, the Prometheus discovered that these tidal forces fell to levels at the object's center that might permit the passage of a spacecraft.

Once the *Prometheus II* completed its initial data collection, UNSA controllers initiated the next phase of the mission. Last week, on November 25, 2078, at 9:43 Greenwich Mean Time, the *Prometheus II* accelerated into the center of the black sphere. The probe was programmed to transmit a continuous signal during its voyage through the spacetime tunnel, but the signal was lost

as it entered the mouth of the wormhole. This was, again, as scientists had expected it was predicted that the intense electromagnetic fields within the aperture of the wormhole would make the transmission of any electronic signal impossible.

After five days of interminable waiting, the UNSA mission team received the first signals from the returned Prometheus. The probe had exited the wormhole on the fringe of the Lambda Serpentis System, some 35 light years distant from Earth. After a full 24 hours, during which its sophisticated sensor arrays dutifully collected extensive data on this faraway star system, the Prometheus returned through the wormhole to the outer Solar System. At a press conference from the World Space Center yesterday, an excited and animated Dr. Ben-Gurion, surrounded by his colleagues, made the following announcement.

"On March 8, 2078, the *Prometheus II* mission team at the World Space Center began receiving data transmissions from the probe, which had been sent through the Masters-Vishenko wormhole five days previously. After careful analysis of the data, we have concluded that the wormhole links our own Solar System with the Lambda Serpentis System, approximately 35 light-years away. It does not appear that the traverse has damaged the probe in any way. Among the extensive data collected by the Prometheus is strong evidence for an Earth-like world in the second planetary orbit of Serpentis. We are told that the UN Security Council is meeting to formulate a response to this monumental discovery, which we at the World Space Center believe will have a dramatic impact on the course of human history. Against all improbability, humankind has discovered a shortcut to the stars."

In the aftermath of this announcement, speculation and conjecture are rampant in both scientific and popular forums. A poll conducted by TimesNet indicates that 73% of the public believes the wormhole is an artifact created by an advanced extraterrestrial intelligence.

"The scientific community is scrambling for a way to explain the wormhole, but the fact is, it's just extremely improbable that it is a naturally occurring phenomenon," said Dr. Michael Wang, a SETI astronomer. "It is true that we have strong evidence for the existence of primordial wormholes, but it is just too much of a coincidence to find a stable one linking two star systems with life-supporting worlds. We also have no satisfactory explanation for the size of the object or the stable distribution of mass and relative velocity between its ends. It was demonstrated in the late 20th century that a sufficiently advanced technology might be capable of constructing a traversable wormhole, and I think it's pretty clear that this has now been verified."

While current models of quantum gravity suggest that a primordial wormhole would have been initially stabilized at a very small mass scale, the wormhole's mass would increase as it swallows matter from the dense vacuum of the early universe. However, just as an end of the wormhole would gain mass as it swallows matter, the other end would lose mass as it ejects the matter swallowed by its counterpart. Scientists have expected that the end of a primordial wormhole positioned in a region of space with a lower matter density than the other might have continued to lose mass until it eventually became characterized by a negative value. Astronomers have been searching for such "gravitational negamasses" for more than 80 years, and several likely candidates have been discovered in the galactic halo that surrounds the Milky Way.

Scientists have also suggested that it is very improbable that the two ends of a primordial wormhole would have had a similar history of relativistic velocity. The cosmic explosion at the birth of our universe began an inflationary period in which all matter in the universe is propelled outward. We can detect the immense velocities with which distant galaxies are moving away from our own because of the way that light from these galaxies is redshifted by their relative velocity, a kind of cosmic "Doppler effect."

The two ends of a primordial wormhole, it is claimed, would have been hurled away from each other at relativistic speeds by the early expansion of the universe. The implications of this possibility are enormous: due to the effects of time dilation, the two ends of the wormhole would connect not just two different points in space, but two different points in time. One could travel one direction through the wormhole into the future, and the other direction into the past.

Other scientists argue that this possibility is simply irrelevant in the case of the Masters-Vishenko wormhole. The two ends of the wormhole are so close together that it is unlikely they would

have experienced a history of relativistic velocity. Additionally, because a traversable "time tunnel" would likely permit gross violations of causality, the principle which requires that a cause precede its effect, our current models of quantum gravity suggest that vacuum fluctuations in the mouth of a wormhole would begin to build at the "Cauchy horizon," the point at which the wormhole's geometry became "timelike." These fluctuations would quickly destabilize the wormhole, causing it to collapse before any enterprising humans could use it as a time' machine. In other words, physicists claim, we could only hope to discover a traversable wormhole the ends of which had not .experienced a divergent history of relativistic velocity. In any case, they insist, whether created by superaliens or the quantum forge of the Big Bang, the Masters-Vishenko wormhole certainly does not permit any kind of time travel.

While scientists at the UNSA and around the world have hailed the discovery of the wormhole as an unparalleled opportunity to improve our understanding of the universe, public opinion, it seems, is less willing to accept a natural explanation of the wormhole's origin. It is being widely hailed as conclusive evidence of alien visitations to Earth and used in support of claims ranging from UFO sightings, to crop circles, to livestock mutilations. Conspiracy theorists argue that governments and space agencies have known about the wormhole for years, and that they've been withholding this knowledge from the public, and people from all over the globe have reported "close encounters" with the creators of the wormhole.

"The Space Lords came to me and told me it was time for us, for all humankind, to take our place among the star-spanning civilizations," said Steve Dickens of Olympia, Washington. "They explained that they sent a telepathic message to Masters and Vishenko, telling them to follow the comets to the stargate.' I sensed that they were infinitely wise and powerful, supremely benevolent. I believe they are angels."

This kind of "ET hysteria" is sweeping the globe, as humanity lifts its eyes in collective awe to the stars. In the coming years, we expect to discover once and for all if the wormhole is an artifact of some hyperadvanced civilization, or simply one more surprise sprung on us by a very old and remarkable universe.

the light of an alien sun, it seemed there was nothing that could not be accomplished.

The reality of Earth's future, of course, was to prove far less utopian than the optimistic visions of the late 2080s. Already, the gene engineers at Fischer Foods were beginning the development of a new virus designed to protect rice crops from a variety of troublesome parasitic infestations. Less than five years later, the Fischer Virus would be loosed in the Mekong Delta, and humanity's greatest achievement would be overshadowed by the specter of imminent extinction.

The Blight

In 2088, the Vietnamese government contracted with a US agricultural science and biotechnology corporation, Fischer Foods, for the design of an effective viral counter-agent for parasitic fungal infections threatening rice crops in the Mekong Delta. In 2090, this tailored virus was released into the environment, and the course of human civilization was changed forever.

The first catastrophic crop failures occurred in southern Laos and northwestern Kampuchea. Upon discovery, scientists with the UN Food and Agricultural Organization named the unknown disease the Mekong Rice Blight. Within days, international teams of scientists ranged the field in search of samples, while others desperately sought to positively identify the blight and its origins.

Had Fischer Foods stepped forward, admitted responsibility, and disclosed its research and technical data to the FAO, it is possible that the Blight may have been contained in Southeast Asia. However, fearing that it would collapse under the economic weight of the inevitable legal actions, Fischer chose to cover up its involvement and even interfered with the early collection of field data.

As a result, it was a full 14 months before Meing Xu Yuen, an FAO microbiologist, isolated the original Fischer trial strain. When the origin of the virus became widely publicized, Fischer was forced to cease operations and file for bankruptcy protection in the United States. The corporation continued to deny any involvement. Tragically, the virus proved too mutagenic to combat with standard means and the crucial early efforts to contain the disease failed. Within a few short years, no region of the world would remain uninfected by the virus.

The Fischer Blight was brought to reign in 2116 and fully eradicated by 2120. Rumors abound of samples kept in government storage, of original samples taken in the field by the United Islamic Republic, India, China, or the current specter of the hour. In the subsequent 80 years, the Earth has followed the slow road to recovery, one step at a time. In 2090, just before the Blight struck, the world population had risen to approximately 10.5 billion. By 2120, it had fallen to 4.8 billion, a figure that last matched the world population in 1986. Since 2120, the population has increased slowly, under strict GEO regulations limiting the number of children per family in member nations to two.

Europe

The European Community lost approximately half of its inhabitants during the course of the Blight Years, and given this region's relatively low birth rates, has been slower to recover than the rest of the world. While some in Europe, as in North America, remained relatively untouched by mass-starvation, few escaped the national and ethnic conflicts that flared back to life in the struggle to acquire and retain foodstuffs. As many as two-thirds of the deaths that occurred in Europe between 2090 and 2120 have been attributed to violence.

The political face of Europe proper would no longer be recognizable to anyone born before the Blight. Bosnia, Croatia, France, Herzegovina, Italy, Russia, Spain, and Turkey no longer exist. Many of these countries have fallen into anarchy, while the rest are warded by the GEO and a collection of Incorporate states.

Of the vestigial nation-states that survived, only Germany, the Scandinavian nations, Switzerland, and the United Kingdom remain relatively unchanged, though severely depopulated. The badlands that the Balkan peninsula has become still regularly flares into armed conflict, either with the GEO, or more often, among the ethnic groups that refuse to come to peaceful terms. While overall less violent, the cities of Italy have returned to almost medieval ways, shutting their gates at night and manning the walls, waiting for the coming of dawn. The Low Countries literally lost ground to the invading North Sea when their dikes were breached through terrorist sabotage. Of all of Europe, only Iceland remained untouched by violence during the Blight Years.

To the north, Russia is no longer a threat to China, Europe, or anyone else. Reeling from the disintegration of the USSR, Russia managed to survive and begin to rebuild itself in the early 21st century, as many nations supported her in hopes of containing the growing power of the United Islamic Republic. Russia did not, however, have the necessary resources or infrastructure to survive the Blight. The first to second the Emergency Resolution that placed the UN and the rest of the world under GEO control, Russia suffered horrendous losses during the Blight Years, as entire cities were wiped out when crops failed and winter set in. Once the Fischer Virus had been eliminated, the Russians began stoically rebuilding with GEO support, though they have not yet forgiven their once-enemies-turned-allies, the United States, for President Thomas Kesslar's refusal of their pleas for emergency aid.

Balkan Europe suffered similarly, though to a somewhat lesser degree than did Russia, primarily because the political instability in the region had never settled into a state of peace, and the rationing of resources had long been a fact of life. The citizens of these states were among the best prepared to deal with the famines and the first Westerners to employ slash-and-burn tactics to combat the spread of the virus. Despite these measures, the Balkans look like the war zone they have been, on and off, for the last 200 years. The corpses of hamlets line roads pocked with craters, feral dogs prowl abandoned cities in packs, and bandit gangs prey on the weak and vulnerable. The horror of unending war has already eclipsed memories of the Blight.

The Americas

Of the inhabited continents, the Americas numbered among the least affected by the Fischer Blight. Only Australia/Oceania suffered less direct losses. However, even with only a 35% population loss, 760 million North and South Americans died during the 30-year outbreak.

Mexico, Central America, and the Caribbean were hit the hardest when the US stopped exporting food. Long an unstable region, governments from Havana to Santo Domingo to Panama collapsed, as 143 million people perished. Puerto Rico was quickly granted statehood and support from the US in 2095, and much of the former Haiti and Dominican Republic are governed by the Morris-Reynolds Incorporate city-state at Port-au-Prince.

Despite the United States' xenophobic response to the Blight, 185 million US citizens died, most of them as the result of the anarchy, violence, and ethnic unrest that washed through America's cities in the wake of the famine. Canada and Quebec, which became separate states in 2014 then reunited in 2096, escaped much of the devastation, losing only 54.2 and 31 million, respectively.

Of all the nations of North and South America, Canada was also the least affected by social chaos and violence.

In South America, the Blight hit the nations east of the Andes the hardest, decimating the agricultural industries of Argentina, Brazil, and Uruguay. Colombia, with the exception of the Biogene city-state at El Dorado, drowned in a tidal wave of anarchy and violence. Chile escaped the brunt of the destruction only through mobilization of the Chilean Army, which managed to save several non-infected crops through the use of slash-and-burn tactics. Relief efforts, primarily from the Catholic Church, buoyed the desperate battle against the Blight, and are probably all that kept much of South America from utter annihilation. Nevertheless, approximately 350 million South Americans perished during the Blight Years.

Since the end of the Blight, most of the Americas have rebounded with vigor. The United States and Canada have established colonies in the Solar System, and both have a growing presence on Poseidon. Chile retains its Independent status, while Ecuador and Bolivia have led GEO agricultural production in South America. Mexico, Central America, and the Caribbean number among the poorest of the GEO's wards, and guerrilla fighting breaks out often throughout Central America, though the GEO does maintain a strong force in Panama to protect the canal.

Africa and the Middle East

The Blight was most severe in sub-Saharan Africa, where it destroyed countless species of grasses, grains, and fibrous plants. While the destruction of their agricultural resources crippled many countries beyond recovery, others, like Zimbabwe and South Africa, rode out the Blight through the judicious management of their natural resources. In 2199, the nations of the "New Africa" boast the highest per-capita income growth rate in the world, as they have parleyed their natural wealth into technological and industrial development.

At the same time the New Africa began its rise to prominence, much of the rest of the continent descended into chaos. When the Blight wiped out the crops of the coastal nations along the Gulf of Guinea, they too tried to utilize their resources to trade for food and Western medical support. Their efforts failed, however, and when civil war broke out in Niger in 2107, then quickly spread to neighboring countries, most of the world wrote western Africa off the map. In the wake of the Blight, the resources necessary to maintain extended conflict were unavailable, and a constant state of low-to-mid-level conflict remained characteristic of the region throughout the century. The instability further hampered GEO efforts to control the Blight, and the region has yet to fully recover from the combined devastation of war, poverty, famine, and plague.

The Mediterranean African nations suffered acutely under the lash of the Blight. Libya, for years losing a battle with the Sahara, had essentially ceased to exist as a political entity when its economy collapsed after the exhaustion of its petroleum reserves in 2056. The Nile river valley suffered greatly, as the Fischer Virus devastated its primary cash crops of cotton and rice. Egypt, Sudan, and Ethiopia suffered immense losses, in terms of both life and exportable trade crops. The UIR, the dominant economic power in the region, had long-standing trading relationships with these nations, but the countries of North Africa found themselves with very little to offer.

The hybrids on their reservation in Tanzania were threatened with immediate extinction when the Blight spread to central Africa. Shunned by its neighbors, some of them prosperous members of the New Africa, and with dwindling support from the UN, the hybrids pledged their support to the newly formed GEO and volunteered for military service with the Peacekeeping Force. In the course of their service and dedication, the hybrids became symbolic of the GEO's efforts to combat the Blight. In 2176, over 95% of the hybrid population participated in a GEO-sponsored colonization effort on Poseidon. In 2199, the reservation has been abandoned and control has reverted to the GEO.

Several Middle Eastern nations, long used to being able to trade for and import foods as necessary, have faded back into the desert sands. Others, such as Syria and Jordan, were peacefully annexed by the United Islamic Republic. The UIR was remarkably successful in protecting the fertile lowlands along the Tigris and Euphrates, and was among the most successful nations on Earth in its technological mobilization of alternatives to grain crops in agricultural production. In 2199, the UIR, which stretches from Palestine to Afghanistan, from Kazakhstan to the Persian Gulf, is one of the wealthiest and most powerful Independent nations of Earth.

Asia

While 639 million died in Africa and nearly 680 million in Europe, the Blight's devastation of Asia was more extreme than in any other region of the world. With almost 3.5 billion dead, entire Asian

peoples ceased to exist. The suffering caused by famine was exacerbated by the Second Indo-Chinese War. In 2101, Chinese forces invaded India and Pakistan when the Chinese government claimed that it had uncovered "irrefutable evidence" that the Blight had been caused by a virus designed at a biological warfare facility in Jaipur. The violence quickly spread when the opportunistic UIR moved forces into neighboring Afghanistan. The protracted conflict continued until the summer of 2118, as none of the participants were able to mobilize the necessary resources to force a satisfactory conclusion. Just two years later, in 2120, violence would flare up again, as China annexed the Korean and Indochinese peninsulas. Chinese forces appeared to be massing in Burma for another attack on India, but were withdrawn when both India and the GEO threatened nuclear retaliation should the Chinese cross the border.

In the aftermath of the Blight, the Chinese have tinted their expansionism with a return to traditional insular, almost xenophobic, attitudes. Closing the borders to foreign influence and trade, save for access through designated ports such as Hong Kong and Guangzhou, China in 2199 echoes 18th and 19th Century attitudes toward Western foreigners — keep them out. Political and military tensions in the "Asian Triangle" formed by the UIR, India, and China continue to be higher than those in Central Europe during the Cold War of the 20th century.

Australia and Oceania

Australia is among those nations that failed to survive the Blight Years. The aborigines have largely faded into the Outback, and the English cities clinging to the coasts of New South Wales and Western Australia have either perished, been reorganized under GEO or Incorporate governments, or survive on the treacherous margins of the Free Zones.

By the time the Fischer Blight crossed the South China Sea into the East Indies, the island nations had prepared for the worst. The Blight faltered, however, and never reached the level of lethality in the Pacific Islands that it attained on the mainland. Scientists have even speculated that some unidentified, natural competitor may have slowed and weakened the virus. In any event, while Oceania suffered the least of any region on Earth, on a relative level, their losses equaled those in Asia — nearly one person in two died as a result of the Blight. In some cases, entire islands were depopulated during the 30-year pandemic. Since then, the Pacific Island nations have slowly returned to normal. The GEO has stepped in to fill the roles of departed French and British protectors, and the United States provides what assistance it can to its remaining territories.

Antarctica

Antarctica is the only continent of Earth that was unaffected by the Blight, and then only because the scientific community there was evacuated in 2098. Though research stations have been reestablished on Antarctica, no project on the scale of the SnowDome experiment of the 21st century currently exists. On the whole, the continent has been abandoned.

Earth Orbit

Like Antarctica, Earth Orbit was largely spared from the Blight because most of its residents were evacuated to Earth or Luna. A few stations were able to continue operations, either because their hydroponic gardens made them self-sufficient or through trade with Luna. However, while more than 75% of Earth's space stations were abandoned during the Blight, all of them remained intact and most were fully repopulated by 2150.

Luna, Mars Colony, and the Asteroid Belt

Unable to spare food shipments planet side, the several million residents of Earth's Moon looked on in horror at the devastation caused by the Fischer Blight. Unwilling to expose themselves to infection from the virus, the residents of Ibrium City declared the Earth quarantined and denied entry to any ship or cargo hailing from Earth during the crisis. Moon-grown plants, seed stock, and replicated DNA allowed for the preservation and reintroduction to Earth of several varieties of grains, grasses, and fibers eradicated by the Blight. African cottons and several species of rice would have been lost without the Moon's support efforts.

Mars Colony, still struggling when the Blight hit, suffered immensely during the Blight Years. Following the Moon's quarantine of Earth, Mars reluctantly followed suit. As many of the shipments destined for Mars were routed through Luna, the people of Mars Colony didn't have much choice but to follow Luna's lead. For several years, food shortages resulted in forced rationing as Luna assumed Mars' resupply burden and continued railgunning foodstuffs to the colony.

Driven by the need for resources that Earth could no longer provide, daring Martian settlers set out into the asteroid belt in the early years of the 22nd Century. These colonies have prospered and grown so that their population of five million is almost equal to that of Mars itself.

The Death Toll

The Blight killed more than 5.4 billion of an estimated 10.5 billion people before being controlled in 2126. One person in two died as a direct result of famine or the plague and violence that it left in its wake. Geographically, the Blight hit Asia and Africa the hardest, though no inhabited regions escaped its impact.

ESTIMATED DEATH TOLLS	
Continent (% of World Pop.)	Victims (Millions)
Africa (12.1%)	639.85
Asia (60.7%)	3489.06
Europe (13.1%)	679.62
N. America (8.1%)	285.97
S. America (5.8%)	309.13
Oceania (.5%)	25.08

The Global Ecology Organization

In the face of the devastation already wrought by the early stages of the Blight, no one questioned the urgency with which humanity needed to respond to the looming threat. British Prime Minister Marilyn Brown's speech in 2093 with which she brought UN Emergency Resolution 24072093.4c to a vote painted a grim picture of humanity's eventual extinction unless the "peoples of the Earth united to defeat the virus." In the face of such danger, nearly every member nation of the UN voted in favor of ER4c and placed their full scientific resources at the disposal of the UN and the newly created Global Ecology Organization.

By 2100, famine was widespread throughout much of the Earth. In a desperate act intended to focus efforts to combat the Blight, the UN Security Council voted to subordinate all UN resources and agencies to the UNGEO. The seven-year transition from UNGEO to GEO, from administrative overseer and enforcer of UN-sanctioned orders to the governing body of a united Earth, spurred a flurry of dissent among several of the old-world powers.

Many of these nations maintained ties to the GEO's scientific teams and coordinated efforts, while others ignored the Blight or worked wholly on their own. The resultant seven years of duplicated efforts and competition for scientific and economic resources gave the Blight time to mutate from a rice-specific disease into a variety of strains that attacked most members of the grain family. These reservoir-transmitted strains subsequently gave rise to aerosol forms that spread worldwide within two years.

GEO Protectorates and Independents

In an attempt to accommodate the dissenting nations, as well as other nations that were not UN members at the time of the UN's abdication, the GEO created two secondary classes of membership, Protectorates and Independents. Each shares characteristics with full members, though neither receives the same level of GEO support and protection. Protectorate membership grants the member states full access to GEO resources, such as satellite infrastructure and defense by GEO military forces. Protectorate representatives may attend GEO General Assembly meetings and present the positions of their government, but may not vote.

Initial GEO Protectorates included Eritrea, Kiribati, Macedonia, Monaco, Nauru, Tonga, Tuvalu, Vatican City, and the former Yugoslavia. In addition, the GEO recognized Ireland and Taiwan as independent states almost immediately by granting them Protectorate status, and thus prevented any potential internal dissent while focusing on more important matters. Of the original Protectorates, only the Pacific Island nations of Kiribati, Nauru, Tonga, and Tuvalu retain that status. The rest have accepted full membership in the GEO.

Several nations — generally the pre-Blight great powers, such as the US, France, the United Kingdom, the UIR, China, and India — joined the GEO grudgingly, and only when it became obvious that without one focused effort to defeat the Blight, humanity might not survive it. In order to secure the research and resources of these holdouts, the GEO negotiated with each individually, and granted each limited sovereign rights over and above those of the General Assembly membership. These Independents could vote, and in some cases were granted special advisory offices within the High Commissions.

The United States was one of the first and most aggressive opponents of the newly created world government, and the fledgling GEO was forced to move its headquarters from New York to Geneva, Switzerland, the site of the old League of Nations. Switzerland became the first nation granted Independent status within the GEO Charter. In return, however, Switzerland was required to relinquish all territorial claims to much of Geneva and the surrounding area. Because it is a fully sovereign territory within an Independent state, the legal status of the GEO enclave in Geneva is closer to that of Vatican City in Rome, rather than a traditional federal district, such as Washington, DC.

In 2199, China, India, Switzerland, the United Islamic Republic, the United States of America



and several smaller nations still stand in various states of semi-independence from the GEO. The US, the UIR, and China all prescribed withdrawal measures within their treaties with the GEO. For these nations, the GEO became an overseer, an addition to the governing bodies already in existence.

The GEO remains a vast and powerful political and economic force throughout Earth and the Colonies. Challenged by the reinstated UN, the Independent nations, and the Incorporate states, it is still the largest and mightiest empire in human history.

The Incorporate States

By 2094, the Blight had spread to South America, and the government of Colombia was on the verge of collapse. Widespread social chaos and a crumbling economy had resulted in the complete inability of the Colombians to continue governing their country. After extended consultations with the Colombian government, Biogene Corporation, a leader in biotechnology and genetic engineering, petitioned the United Nations to recognize the sovereignty of a Biogene city-state in El Dorado, Colombia. Representatives from Biogene claimed that its "economic resources and administrative infrastructure far surpassed that of the traditional government," and that these resources could be used to return political stability to the region and improve the quality of life of its citizens.

After a heated debate in the General Assembly, the UN passed a resolution granting "formal sovereignty to any 'incorporated city-state' capable of satisfying the obligations of government in regions where traditional national governments have failed to do so." Throughout the Blight Years, some of the most powerful multinational corporations — generally, those strong enough to survive the economic chaos of the time — established city-states within the borders of collapsing nations.

This recognition of Incorporate city-states came after the outbreak of the Blight but before the formation of the GEO. In 2100, the Incorporate states were able to use this decision to claim Independent status within the GEO hierarchy. The political sovereignty they had been granted by the UN only six years previously, their representatives contended, remained binding through the UN's reorganization. Legal and political maneuvering aside, the GEO needed the economic and technological resources of the Incorporate states, and likely granted them Independent status on that basis alone.

For the most part, the Incorporate states enjoy much the same privileges and obligations as traditional nation-states. They can tax their citizens, maintain armed forces, and make diplomatic agreements with other states. In principle, they are required by the terms of their membership charters with the GEO to meet certain standards of human rights, observe international law, and abstain from waging aggressive war against other GEO member-states.

In practice, the Incorporate states are a political entity entirely without precedent in the pre-Blight world. For one thing, the Incorporate institution is typically both the central political and economic power within the state. For example, most citizens of an Incorporate state are directly employed in their government's business concerns. For this reason, there are rarely any formal taxes in these states — the government simply manipulates the income of its citizen-employees to provide itself with revenues for "public projects."

Likewise, the populations of the Incorporate states are more in line with those of major, pre-Blight cities, rather than traditional nations. Most Incorporate states have a citizenry of several million, at most. In many respects, the Incorporate powers are true city-states, with a limited population and land area. One of the most complex legal issues of the late 22nd Century, however, is the status of real estate and natural resources throughout Earth and the Colonies that the founding corporations acquired during the Blight. For example, Atlas Materials claims that its extensive mines in central Africa became the sovereign territory of the Atlas city-state in Marrakesh when the governments of that region collapsed. The Incorporate state contends that it continued to satisfy "the obligations of government" in this region throughout the Blight Years, therefore meeting the criteria of the UN statute granting Incorporate sovereignty over a region.

On the other hand, the Incorporate states have generally escaped the traditional limitations of corporations. For example, while most of the corporations that evolved into Incorporate states are still on the books as such in their charter countries, their stock is almost entirely in private hands. The worldwide economic collapse that followed in the wake of the Blight resulted in stock prices plummeting to historic lows. While this market crash ruined many multinational corporations, those that survived were able to buy up their stock for pennies on the dollar. As a result, the commercial enterprises that rest at the heart of the Incorporate states are typically owned by an elite cadre of powerful families — usually the descendants of those executives who directed the

corporations through the Blight Years. Likewise, the net worth of many Incorporate states have grown to such staggering proportions because antitrust legislation was simply impractical in an era of widespread economic collapse, and the Incorporate's Independent status with the GEO now makes the passage of such legislation problematic.

While all of the Incorporate states maintain some degree of market specialization, they are in fact more diversified than any multinational corporations in Earth history. In addition to an Incorporate state's traditional commercial focus, they are all involved in such crucial industries as banking, insurance, health care, construction, and utilities, if only within their own political borders. For example, in El Dorado, Biogene enjoys a virtual monopoly over these central services. It has also been remarkably successful in marketing its financial and health care services globally. And, of course, Biogene remains a global leader in the biotechnology industry. Along with a lack of antitrust controls, this diversification has enabled the Incorporate states to grow to many times the size of the largest multinational corporations of the past.

The result of the Incorporate states' unique historical and legal evolution is that they represent unpredictable wild cards in the already chaotic global arena of post-Blight Earth. Some analysts, many of them within the GEO, have compared the governmental structure of the Incorporate states to that of the fascist nations of 20th-century Earth, with a seamless centralization of political, economic, and military power. While the Incorporate states are nowhere near as large as the Independent nation-states of Earth, and are individually dwarfed by the power and resources of the GEO, military technology in 2199 tends to level the playing field of the global arena, and the Incorporate states have emerged as a powerful force in world affairs.

The largest and strongest of the Incorporate states include Anasi Systems, in Beirut, Lebanon; Atlas Materials, in Marrakesh, Morocco; Biogene, in El Dorado, Colombia; Dundalk Shipbuilding, in Belfast, Ireland; GenDiver, on Guadalupe Island, Mexico; Hanover Industries, in Hanover, Germany; Hydrospan in Perth, Australia; Lavender Organics, in Adelaide, Australia; MacLeod Enforcement, in Mombasa, Kenya; and the Nippon Industrial State, in the Kuril Islands. Many of the Incorporate powers have also established colonial city-states on Poseidon, known as "company towns" among colonists.

The Natives and the Abandonment

During the 10 years following Planetfall, the Poseidon colony prospered despite the inevitable hardships. Colonists occasionally lost their lives in accidents, attacks by predators, or to infections and diseases that could not be diagnosed or treated in time. In 2092, more than 200 died when Goodall, a small settlement about 1,000 kilometers from Haven, was destroyed in a mammoth cyclonic storm. Through all of these challenges and setbacks, the colonists persevered, united by their common goal. Haven continued to thrive and grow, as did other major settlements, such as Second Try, Atlantis, and Kingston. As the 10th anniversary of the Athena Project neared, the colonists' spirits soared as they awaited the planned resupply ships from Earth and the second phase of the colonization effort.

The incredible expense of the initial phase of the Athena Project had ruled out a solid timetable for the arrival of the first resupply ship. The colonization plan called for a message probe to be launched by the UNSA in 2096 that would transmit a detailed schedule for the first stages of the resupply effort to the colony. The second phase of the Athena Project would be a continuing effort intended to establish a permanent human presence on the alien world. Perhaps the most crucial element of this ongoing effort would be the delivery of the heavy machinery and technology that would allow the development of a permanent industrial base on the planet. While the Athena Project colonists had extensive technological resources, they did not have the industrial infrastructure to replace much of their equipment or develop new technologies. As a result, the colony would only be truly self-sufficient once the second phase of the Athena Project was underway.

Unknown to the colonists on Poseidon, by 2096, the Earth had been suffering in the deadly grip of the Blight for more than six years. The virus continued to mutate into increasingly virulent strains, and mass starvation was becoming rampant. Already, more than two billion human beings had perished as a direct result of the catastrophic outbreak. The 2093 executive order by the UN's Secretary General had created the Global Ecology Organization, and by 2096, the UNGEO was well on its way to becoming the de-facto world government of Earth.

The UNSA's budget, of course, had been devastated, as more and more of the world's resources were redirected in controlling the Blight. There would be no resupply ships, no second phase of

the Athena Project. After persistent campaigning by the UNSA mission team, the General Assembly approved funding for a single message probe that could be sent through the wormhole to the Serpentis System. The probe would transmit news of the disaster ravaging the Earth and inform the colonists that the Athena Project had been indefinitely suspended.

The probe was launched on March 8, 2097. However, catastrophic failure of the guidance systems prior to entering the wormhole caused the probe to bypass it entirely. The probe continued on its errant course and left the Solar System without delivering its message.

For the colonists on Poseidon, 2096 was a year of elation and despair. Through all of the challenges and hardships they had confronted and endured, the colony's 10th anniversary and the arrival of the resupply effort had drawn them onward. They looked back with collective pride and satisfaction at their experiences and accomplishments, and looked forward to passing them on to the rest of humanity. Their anxiety deepened and morale plunged as the weeks and months wore on and still the resupply ships did not arrive.

By the end of the year, the colonists were forced to admit that something had gone wrong, that the Athena Project's timetable, as loose as it was, had somehow been derailed. Some held out hope that there had been only minor delays and that the ships would arrive in orbit any day. Most, however, realized that the failure of the UN to even send word of the delay was a far darker omen. What could have happened so terrible that Earth was unable to launch a simple message probe? Speculations of nuclear war, catastrophic comet impacts, and plague began to circulate in the human settlements on Poseidon. The group suicide of an entire Haven family marked the darkest hour of this difficult time.

At first, there was very little pressure to make drastic changes. Though suddenly isolated from Earth in a way it had never been before, the colony was thriving and seemed capable of sustaining itself for years to come. The prevailing sentiment was that the colonists should dig in, continue their efforts, and wait for the ships to arrive. Slowly, as the shock of their abandonment subsided, spirits began to rise once again and, for the most part, life in the colony returned to normal.

However, as more years passed with no sign of the resupply effort, the colonists became convinced that the colony was on its own. Most put their fear and anxieties behind them and faced this realization with renewed determination. The second-generation colonists were also maturing at this time. These teenagers, the first true natives of Poseidon, had grown up immersed in the day-to-day struggles of the colonization effort. For them, the Athena Project was a central institution of almost mythic power and significance, one that vastly overshadowed the importance of Earth, a world they had never known. Poseidon was their home, and the lack of contact with Earth was almost irrelevant. Their goal, inherited from their parents and communities, was the continued survival and prosperity of the Athena Colony, and their isolation from Earth seemed just another challenge to face.

This eventual acceptance of their isolation, however, did initiate broad changes in the colony's plans, priorities, and efforts. The dominating importance of Haven and the other primary colonial settlements faded, as many groups volunteered to establish settlements in other regions of the planet. The colonists had experienced firsthand how destructive and hostile Poseidon could be, and spreading out would improve the colony's chances for long-term survival. Most importantly, though, the colonists began to prepare for the inevitable deterioration of their technological resources.

The technological infrastructure of the Athena Project had been formidable, and had allowed the colony to survive and prosper during the crucial early years. However, the mission plan was designed for a 10-year colonization effort, and the colonists' equipment had been part of that design. As a result, while the colonists had fusion reactors, orbital landers, surface vehicles, and computers, they did not have the manufacturing resources to build new equipment. There were ample stockpiles of spare parts, of course, and even machine tools for the fabrication of simple mechanical components. But the advanced infrastructure and technology needed to manufacture complex components, from reactor coils and industrial lasers to optical circuits and fuel cells, simply did not exist. The colonists realized their supply of spare parts would eventually be exhausted, and that all their equipment would finally wear out or be lost to accidents.

Of course, the colonists' limited population further compounded this crisis. Their existing technology was such that they may well have been able to establish and sustain a late 19th Century technological and industrial base — printing presses, steam-powered and internal combustion engines, limited manufacturing, electrical power, and primitive telecommunications. However, while their existing technology might have been sufficient



for such an endeavor, their numbers clearly were not. Most critically, the exploitation of the natural resources necessary to fuel and sustain this industrialization would have been extremely labor-intensive, and labor was a resource in very short supply. After much deliberation, the colonists accepted that they would be forced to survive at a technological level not seen on Earth for centuries. It was decided that, as a whole, they should opt for a level of technology that would be sustainable by small communities over an indefinite period of time.

Fortunately, the colonists had ample time to prepare, and their technology could actually help them learn to do without. Ultimately, they simply had to retrain themselves. They had been trained to exploit their technology as effectively as possible, and now they had to learn to develop and use new, simpler resources. Their knowledge and abilities had served them well throughout the colonization effort, and it would continue to serve them for the indefinite future. They had extensive computer databases that could show them how to farm without robotic harvesters, how to build dwellings and boats without construction machinery or assembly lines, and how to treat the sick and injured without diagnostic computers or laser scalpels.

These years marked the beginning of what some newcomers have called the natives'"slide into primitivism."The reality, of course, was far more complex and was a continuing process as the years passed. In the early years, this technological transformation of the colony was approached in much the same way as previous efforts. The leadership at the Colonial HQ in Haven organized reeducation and vocational training programs, planned and coordinated new settlement efforts throughout the planet, and allocated existing technological resources, both to individual colonization groups and communities and to centralized facilities in Haven and other major settlements. In this respect, the Athena Project survived the Abandonment, as the natives came to call their isolation from Earth. Its objective, however, was transformed from a short-term effort to prepare the way for a permanent human colony, to the long-term survival and prosperity of its people.

As the years passed, however, the Athena Project's greatest accomplishment was the facilitation of its own obsolescence. As the human population of Poseidon continued to climb, as new communities were established in remote regions, and as the colonists adapted to a new way of life, the efficiency of and necessity for centralized planning and coordination steadily declined. As more communities became self-sufficient, contact with other settlements became a choice, rather than an imperative. Many communities maintained strong relations with each other, based on geographical, historical, economic, and personal ties. A few withdrew into relative isolation. As each new generation came into its maturity, the Athena Project lost more of its significance. The new lives they had built for themselves, rather than a struggle to colonize Poseidon in the name of a distant world called Earth, became the anchor of the colonists' worldview and identity.

It was also during these years that the cetacean colonists truly came into their own. In the early years of the colony, humans had been the undisputed masters of the little island of sophisticated technology in Poseidon's wilderness sea. After the Abandonment, the human colonists found themselves facing a new world that seemed primitive, alien, and frightening. In this world, the cetaceans were the new masters.

The cetacean colonists, of course, had learned to use their share of technological resources, but these tools had never become a central part of their sense of themselves or their world. They continued living without any physical or psychological dependence on technology. More importantly, however, their new found ability to think like, and communicate with, humans gave them the opportunity to help their fellow colonists discover a similar technology-free way of life. Indeed, the Athena Project's ingrained

tradition of deference to expertise resulted in cetaceans assuming leadership roles in many new communities and settlements.

It was this social transformation that characterized the years immediately following the Abandonment, and it was the crash of the *Calypso*, the colony's last functional shuttle, that marked the end of this transitional period. With the loss of the *Calypso*, the colonists no longer had the capability to reach orbit, and as such, the colony lost its ability to maintain its satellite network. Most crucially, this resulted in the steady degradation of the colony's communications resources, and subsequently, the Athena Project's identity as a coherent colony.

In the 50 years that passed between the loss of the *Calypso* and the arrival of the *UNSS Admiral Robert Perry* in orbit around Poseidon, the Athena Project colonists continued to develop their relationship with their new world. The colonization of Poseidon's countless islands continued in an ever-expanding circle centered on the Haven Cluster. Despite hardships and tragedies, the new "natives" of Poseidon prospered, and the human population of this alien world continued to climb beyond all expectations. As expected, the natives' high-tech resources continued to dwindle, and their ability to do without them continued to improve. By 2165, the former colonists of the Athena Project and their descendants had adapted to a technological level and way of life reminiscent of the traditional peoples of Earth's Pacific Islands.

Recontact

In July of 2165, a young girl living in a large community on Epoch Island became the first native to locate the *UNSS Admiral Robert Perry* in orbit around Poseidon. The girl sighted the *Perry* from a simple observatory her village had maintained on the slopes of the island's dormant volcano. Almost 70 years late, the promised resupply mission from Earth had apparently arrived.

In the first years after Recontact, very little changed for the vast majority of the native population. Many welcomed the technological and pharmaceutical resources brought by the GEO representatives, and few newcomers strayed from the major settlements. For the most part, the newcomer presence on Poseidon was so small and unobtrusive as to almost escape notice. A small GEO enclave was established in Haven and staffed with a handful of scientists and researchers.

In 2172, the *UNSS Ballard* arrived in Poseidon orbit with more than 500 scientists and technicians. This more than doubled the size of the GEO base in Haven, as GEO researchers began to establish scientific stations and permanent research facilities throughout the Pacifica Archipelago. Representatives of several Incorporate states also arrived on the *Ballard* and began exploring possibilities for the economic exploitation of Poseidon's resources. Contact between natives and newcomers became more frequent, but Poseidon still seemed to have little enough to offer any but the scientific community.

The Long John Rush

All that changed in 2185 when an Atlas mineral survey discovered the new class of minerals classified as xenosilicates, popularly known as Long John. When the minerals' applications in biotechnology were discovered in 2187, the oceans of Poseidon became the focus of a "gold rush" unrivaled in human history.

By the end of 2188, the GEO had awarded contracts for three new fusion torch ships capable of traversing the vast distances between Earth and Poseidon. The Incorporate states began funneling billions of corporate scrip into the R&D and restructuring projects that would allow them to launch massive Long John harvesting efforts on Poseidon. Over the next several years, tens of thousands of Incorporate scientists, technicians, executives, and deep-ocean miners flooded to the colony world. Incorporate company towns sprang up across the archipelago as Biogene, GenDiver, Hanover Industries, Lavender Organics, the Nippon Industrial State, Hydrospan, Atlas, and others expanded their colonial holdings and operations.

The exploding Incorporate population of Poseidon was also accompanied by increased conflict, as competition for valuable Long John fields led to bush wars and incidents of industrial espionage. When an Atlas Materials deep-sea facility was destroyed in an apparent GenDiver attack, an open Incorporate war erupted and the Incorporate states began funneling thousands of security personnel to the water world. This outbreak of violence in turn prompted the GEO to expand its own presence on Poseidon in an effort to keep the peace. In 2194, the first GEO Marshals, Magistrates, and Shock Troopers arrived on the colony world, and the GEO permanent orbital facility, Prosperity Station, came online in 2195.

The first truly violent confrontation between natives and newcomers occurred in 2189, ironically, in the very same community that had been the first to sight the *Perry*. After a deep-sea survey

identified a rich Long John node near Epoch Island, Biogene representatives approached the island's native inhabitants with an offer to purchase the rights to these deposits, as well as permission to build an offshore harvesting and refining facility. The offer was unequivocally refused.

Less than two weeks later, the village's docks and most of their small fishing fleet were destroyed in an explosion. Three natives were killed in the blast, and a dozen more were seriously injured. Several days later, the Incorporate representatives returned to the village and repeated their offer. A native fisherman named Kuahei, the father of a child who was killed in the explosion, shot and killed one of the representatives with a spear gun. In the ensuing clash, the entire Biogene delegation was killed, along with Kuahei and four other natives. The community whose young astronomer had been the first to welcome Recontact also became the first native people classified as "hostile" by the GEO and Incorporate states.

Since this incident, the tensions between the natives and the newcomers have continued to increase. The most serious conflicts have occurred between aggressive native groups and those Incorporate states who refuse to recognize the legitimacy of the natives' claims to Poseidon. Much of the problem lies in the fact that the politics of colonization were never formalized after the initial Athena Project mission, as the attention and resources of Earth were diverted to the developing crisis caused by the Fischer Blight. The original UN mandate gave the administrators of the Athena Project the authority to grant property rights to the colonists, but after the Abandonment, such legal issues understandably lost their significance. As far as the Incorporate are concerned, no legitimate political authority was originally present on Poseidon, and the natives' claims are entirely without legal foundation.

The problem is compounded in that the GEO defends a claim of governance over the colony since the launch of the Athena Project in 2086. The GEO is primarily concerned with maintaining the peace and the integrity of the biospheres over which it governs. However, the resources of Poseidon promise too great a hope for the future of Earth for the GEO to ignore them. In its efforts to arbitrate, patrol, and protect, the GEO has made both friends and enemies among Poseidon's various native groups. Caught in the midst of growing tensions and brush-war violence, all interests recognize that the stern presence of the GEO may be all that keeps Poseidon from erupting into a true war zone.

Officially, the GEO is firmly committed to preserving native rights in the face of Incorporate expansion. In practice, the GEO has fallen back on its historical foundation of political authority by using environmental policy to restrict Incorporate activity on the planet. As one example, the GEO has since denied Biogene's request to build its refining and harvesting facility offshore of Epoch Island because it would endanger the spawning waters of several indigenous fish species. While most natives recognize and appreciate the GEO's motives, they publicly protest the message this sends: the rights of fish have more weight with the GEO than those of the natives themselves.

As this crisis continues, the natives of Poseidon are becoming increasingly divided. There are those natives who seek to protect themselves by working within the legal framework provided by the GEO. This attitude is most common among Poseidon's larger native communities. They are often the ones receiving political, financial, and legal assistance from non-violent, Earth-based environmental and political action groups.

Other native groups refuse to recognize the authority of the GEO. Many of these groups are becoming openly hostile to the GEO, the Incorporate, and the national governments that have established a presence on the water world. Though still in the minority, these groups are a potentially formidable threat and are beginning to receive backing from extremist groups on both Earth and Poseidon. Native attacks on GEO and Incorporate personnel and facilities are becoming increasingly common, and there has even been sporadic violence between hostile natives and independent newcomer settlements in the colony world's outlying regions.

On the Horizon

In 2199, Poseidon has become a locus for the momentous social, political, and technological changes reverberating throughout Earth and the Colonies. The GEO, the Incorporate, the natives, and the newcomer pioneers all face a tenuous present and uncertain future.

With tensions and conflict beginning to spread throughout the Pacifica Archipelago, the GEO has taken steps to increase its military presence on Poseidon. The number of active Armed Forces personnel on the colony has doubled over the last three months. These new deployments have resulted in growing political opposition

and public protest, both on Earth and Poseidon. Incorporate and Independent representatives in the General Assembly argue that this increased militarization of the colony world can only lead to escalating violence.

Travis Denton, the US representative in the General Assembly, has stated, "This military buildup on Poseidon is further evidence that the GEO, once a benevolent and heroic institution, has degenerated into a despotic empire. What the leadership of this empire cannot command by political or moral right, it will take by force."

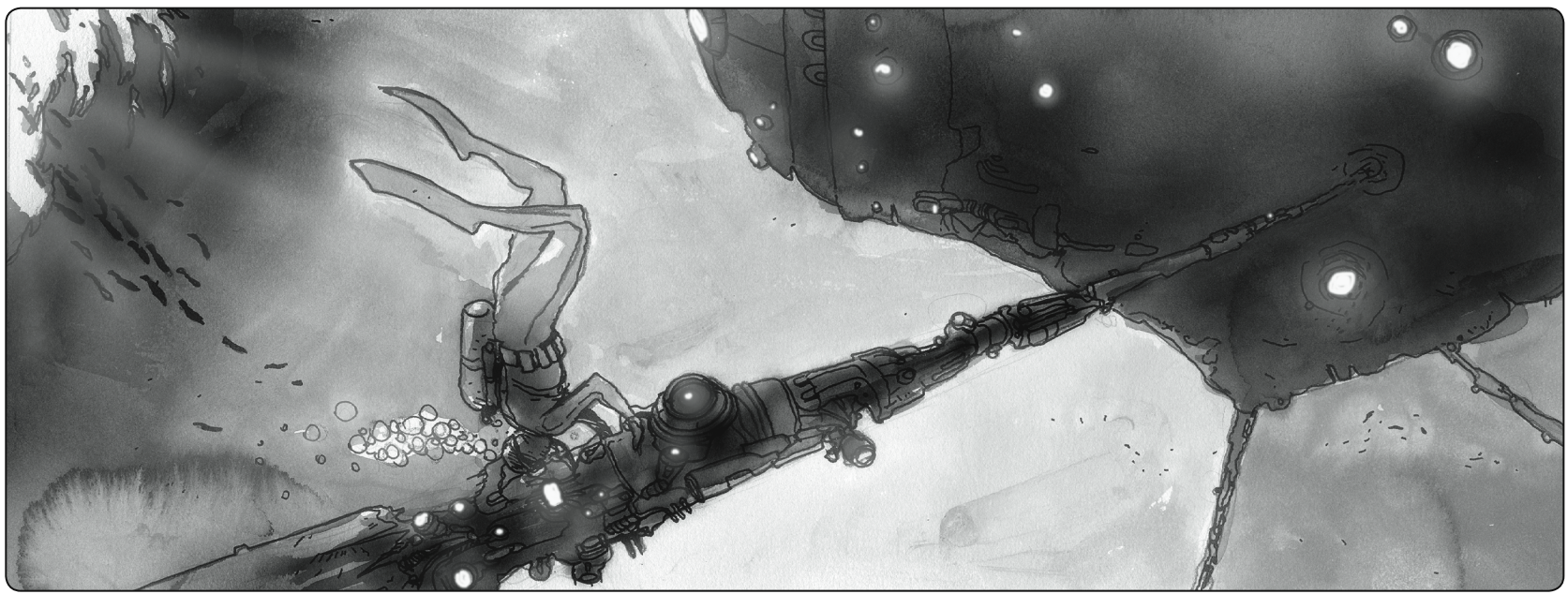
Already strapped for the resources necessary to administrate the vast territories it governs across two star systems, the GEO is caught in a highly unstable political and economic position. Continuing to exist through sheer historical inertia, its heroic struggle to preserve human civilization has been transformed into a desperate one of simple survival.

The Incorporate states face a similar struggle. Often portrayed in the media as driven only by profit and greed, they are in fact waging a subtle political war with the GEO, the Independent nations, the reinstated UN, and even public opinion for their continued existence as sovereign states. This crisis is especially acute for Hanover Industries, whose city-state will become a GEO territory in the next two years. In the coming years, the Incorporate could be consigned to the pages of history or evolve into a new form of social and political organization that replaces the obsolete institutions and irrelevant political borders of traditional nations.

Poseidon's natives are perhaps in the most tenuous situation of all. Most simply wish to be left alone, to continue the lives they have built for themselves over the last century. They see the newcomers as a threat to their way of life and to their adopted world — for most of them, the only world they have ever known. They are outnumbered by more than 20 to one, and their technological resources pale in comparison to those commanded by their adversaries. Many respond by retreating further into Poseidon's wilderness, while others conspire in the shadows of the newcomers' own settlements.

In a hundred years, human civilization has moved from the brink of extinction to the dawn of a new age. Humanity has colonized a new frontier and discovered the key to its own immortality. And on the water world, humans are beginning to unlock an enigmatic alien legacy, one that could lift civilization to new heights, or destroy it utterly.

CHAPTER 9: FRONTIER



A WORLD IN CONFLICT

Poseidon is a world in transition, a frontier colony beginning to boil with internal dissent, instability, and violent confrontation. For all of the political centralization that occurred on Earth during the Blight Years, human civilization remains fractious and divided. In many ways, Poseidon has become a distant battleground for the competing ideologies and power blocs of Earth. The GEO, the newly reinstated UN, the Incorporate states, and Independent national governments are the political legacy of the Blight, and they have brought their history of conflict and tension to the new world. At the same time, factions unique to the colony are emerging, as natives, criminal organizations, insurgent groups, and even the elusive aborigines vie for control over Poseidon's future.

This pattern of tension and often-violent confrontation is becoming more complex on an almost daily basis. Incorporate interests ruthlessly pursuing the economic exploitation of the planet inevitably find themselves in conflict with the native population. The natives feel that their world and way of life is in jeopardy, and in turn, are beginning to organize, receiving increasing support from radical environmental and anti-Incorporate groups from Earth or based in Poseidon's major settlements.

The GEO is most often at odds with the Incorporate states and struggles to protect native rights and the water world's ecological integrity from Incorporate excess. Ironically, the GEO finds itself often siding with the Incorporate against the native resistance groups, in an increasingly futile attempt to maintain the peace. Many newcomers who favor the colony's independence from the GEO find a common ground with the natives, but clash with them in territorial disputes over Poseidon's limited landmasses. Perversely, while the native cetaceans have demonstrated a remarkable willingness to cooperate and live peacefully with the newcomers, the cetacean newcomers — most of them veterans of the extended military conflicts that characterized the Blight Years — are swelling the ranks of the most militant native tribes. The aborigines, too, are suspected of increasingly common acts of violence and sabotage, and they do not discriminate between newcomers.

The colony's rampant social instability is apparent to even the most unschooled observer. Most colonists, native and newcomer alike, believe that the only thing preventing overt conflict is the complete lack of alliances among the colony's many factions. Everyone agrees that there is a storm on the horizon, but no one is sure what direction it is heading or how fast it is coming. The colony's instability is mirrored by events on Earth and throughout the Solar System, where the UN has been reinstated and many powerful voices are speaking out against the immense power of the GEO. Many suspect the fragile order the GEO has managed to maintain throughout the Blight and its aftermath is about to collapse.

Regardless of how these tensions ultimately play themselves out, there is a sense among the colonists that something important is about to happen. On the CommCore newsgroups and in the watering holes of Haven, everyone has a theory or a prediction. Some think the UN has begun a secret military buildup with the cooperation of several Independent states, and that there will be civil war on Earth. Others think that natives and insurgents will lead a colonial rebellion against the GEO on Poseidon. Still others are convinced that there will be increasingly violent confrontations between the Incorporate, as the already scarce deposits of Long John become more difficult to find. Some colonists profess darker visions of enraged aborigines and an ancient legacy as yet unknown.

Though few colonists agree and fewer still truly understand what is happening around them, throughout the water world there is one thing everyone knows.

There is a storm on the horizon, and it is coming…

THE NATIVES

Culture and Psychology

As is always the case when discussing the characteristics of a group of people, it is often tempting to generalize and stereotype to the point of attributing identical characteristics to all of the individual and unique societies and cultures within a population. One should always bear in mind that the native peoples of Poseidon are diverse and heterogeneous, and such generalizations are made at the risk of inaccuracy. The reader is encouraged to study the profiles of individual native communities for an illustration of their tremendous diversity. Nevertheless, their unique history and nearly 80 years of isolation and self-sufficiency have given the natives of Poseidon their fair share of cultural and psychological idiosyncrasies. Their perceptions



of themselves, Poseidon, and Earth all point to a markedly different worldview from that shared by most of the new wave of Earth-born colonists.

The Native View

Native communities exhibit a very strong emphasis on cooperation. The mundane tasks of day-to-day life are approached cooperatively, children are raised and educated cooperatively, property is usually based on an informal system of communal ownership, and individuals demonstrate a remarkable willingness to both ask for and lend assistance whenever it is needed. Obviously, this characteristic has its roots in the earliest history of the Athena Project, and if anything, has only become stronger and more deeply entrenched in their traditions.

By contrast, in their relations with outsiders, native communities are often characterized by a strong sense of collective self-reliance. Native communities are usually fiercely independent: they are extremely reluctant to ask for outside assistance and deeply resentful of any unwanted interference. These communities are also quick to take offense when confronted with condescending attitudes and presumed superiority, as many GEO and Incorporate functionaries have discovered since Recontact.

Another product of the natives' historical experience is their emphasis on integrity, honesty, and personal honor. A native's word carries a great deal of obligation and commitment. On the other hand, honor and trust are typically viewed as privileges that must be earned, and unfortunately, many natives relate to the newcomers with a great deal of distrust and suspicion. These characteristics may be traceable to the deeply ingrained professional attitudes and values of the scientific and technical elites that founded the original colony.

The culture and society of the native Poseidoners is also marked by their unique notions of personal privacy. Again, these cultural traits are typically traced to the experience of Poseidon's first colonists. In the early years of the colony, the colonists' survival was very much in question. With their population hovering around 5,000 and completely isolated from any contact with Earth, the colonists were compelled to adopt a strong ethic of intimate cooperation. They were forced to live and work closely simply to survive the savage and alien world they had adopted.

As a result, the natives tend to be relatively open both emotionally and physically. Native Poseidoners will often weep, laugh, rage, or exhibit other emotional displays publicly, and have difficulty understanding or sympathizing with the discomfort this causes newly arrived colonists. There is almost no concept of the traditional family unit in many native communities, and many of the roles usually ascribed to that institution in Earth cultures are instead shared by the community as a whole. Childcare is predominately a communal activity, and interpersonal relationships within the community are often considered a collective responsibility. For example, difficulties between a mated couple will often be shared with the community as a whole, and offers of assistance or mediation are generally welcomed by the individuals involved.

This lack of emphasis on personal privacy is also evident in the natives' physical openness. The natives are not at all embarrassed about their bodies, and nudity is rather common during the hottest times of the year in the low latitude regions of Poseidon. The fact that all but the most loosely fitting apparel will often interfere with the functioning of a native's gills also contributes to this tendency.

Relations Between Divers and Squid

While a few communities are composed only of divers or squid, the vast majority of native communities include members of both subspecies. In general, relations between divers and squid are amicable, though there tends to be a strong division of labor along subspecies lines. The gilled osmoforms are typically given responsibility for extended underwater tasks, such as most aquaculture and underwater construction, while divers are responsible for deep-water work and surface tasks, such as hunting and fishing.

While a formal institution of marriage is uncommon in most native communities, extended interpersonal relationships are, of course, quite common. Most such pairings are between members of the same subspecies, but there are no general taboos against the pairing of divers and squid. The GenDiver engineers who created the aquaforms foresaw such possibilities. In male offspring, since the determination of an aquaform's subspecies is entirely dependent upon the mother's modified chromosomes, genetic incompatibly is not an issue. In female children, since both parents contribute X chromosomes, specific artificial sequences deactivate the genetic contribution of one member of the modified X pair. Which X chromosome is deactivated is completely random and is initiated by the lower levels of testosterone in the developing female embryo.

The Natives and Poseidon

The natives' view of their adopted home world has been strongly influenced by scientific tradition, and a stubborn pragmatism is a defining feature of the native worldview. Many Earth-born colonists forget that the "natives" of Poseidon are the descendants of a scientific and technical elite. Most natives approach life as a challenging task to be completed through careful planning, hard work, and determination.

The natives' relationship with the planet is characterized by a healthy sense of competition, but also a deep respect and reverence. In recent generations the native culture has, as a result, also been characterized by a strong spiritualism. For many natives, Poseidon has a kind of quasi-sentience, a view reminiscent of the Gaea hypotheses of Earth's late 20th century. The oceans, for obvious reasons, are central to this worldview. Natives tend to a cyclical view of life, which, like the tides, comes in paired highs and lows. References to water and the oceans abound in their dialect, and the sea and its symbol, the circle, are common images in native art.

This facet of the natives' culture and psychology is often the most difficult for newcomers to grasp, and is also the most common source of misunderstanding between the two populations on Poseidon. For all their relatively "primitive" technology, traditional lifestyles, and often deep spiritualism, the natives of Poseidon are not a primitive people. Their grandparents, some still living, were among the most respected and accomplished scientists and engineers of pre-Blight Earth, and their pragmatic, scientific worldview still provides the foundation for the complex cultures that have evolved over the last eight decades.

The Natives and Earth

Most of the original colonists' descendants, it seems, wish nothing more from Earth than to be left alone. They are neither openly hostile nor favorably disposed to the Earth or its representatives. Their only acknowledged link to Earth is a steadfast recognition of the lessons of history, and their consequent responsibilities to their adopted world.

In addition to this silent majority, there are many natives who have become embittered by the experiences of Recontact. These natives may harbor an intense dislike of the Earth-born colonists, but either have too much to lose or feel they are effectively powerless to actively oppose Earth's exploitation. Many of these may be willing to harbor fugitives from GEO or Incorporate justice, or even secretly provide aid to anti-Earth insurgents.

There are also an increasing number of natives who actively and openly oppose the newcomer presence on Poseidon. These natives demonstrate little concern for GEO or Incorporate authority, and many have become involved in increasingly frequent acts of violence and terrorism.

These violently anti-Earth natives often organize into small, unified groups around a shared goal, conviction, or leader. In other cases, whole native communities may be characterized by violent, anti-Earth sentiments. The native tribes of the Sierra Nueva Cluster are an infamous example, and tribal elders apparently began preparing their people for an inevitable war with the "Despoilers" long before Recontact. It is unknown how such radical traditions could evolve within a society founded by scientists and technicians in such a relatively brief period of time. Some historians have suggested that the Sierra Nueva may have been used as an exile colony for the violently insane in the early years of the colonization effort. A common rumor circulating on Poseidon is that the natives of the Sierra Nueva and similar peoples have been manipulated by Poseidon's' aborigines. There is little solid evidence for either of these claims.

Finally, there is also a significant number of natives who have embraced and welcomed Recontact. These natives are very much in the minority, representing only a small portion of the native population. Most suffer a kind of second-class citizenship and are often indentured to the Incorporate.

These natives invariably live in the colonial cities, as opposed to the traditional native settlements and communities, enjoying lives of technological ease limited only by their typically meager financial resources. These limitations are often considerable, and an overwhelming sense of desperation is a common characteristic of those natives who struggle to integrate themselves into newcomer society. The lifestyle they idealize is extremely expensive, particularly for a culture that has survived for nearly 80 years on subsistence agriculture. Their powerful desire to meet the perceived standards of their adopted society leads many of these natives into a life of petty crime. The native ghettos in Poseidon's major cities are often unsafe, as thievery, prostitution, and the illegal drug trade are all on the rise. Unfortunately, these natives often suffer the prejudice of both the newcomers and other natives, who perceive them as sell-outs and traitors to both their own heritage and to Poseidon.

Technology

Among the native communities of Poseidon there is little that could be classified as a technological



standard. The natives have learned to adapt what they have to the task at hand. They are remarkably efficient in their use of tools and resources, and always try to find new uses for any equipment that has worn out or been replaced. The high-tech legacy of the Athena Project is still very much in evidence in many native communities, as the colonists quickly developed a strong tradition of recycling and adapting their technological resources for new applications. Salvaged industrial plastic and other materials, much of it having once been part of the Cousteau's modular components, were used in the construction of native dwellings and other structures. Radar systems were stripped from nonfunctional aircraft and used in makeshift weather stations. Fuel cells and turbines were stripped from vehicles and machinery to power handcrafted boats. Scrap metal was reforged to produce simple tools and implements. Fuel tanks can be found in many villages serving as water cisterns. Fiber optic cable, one of the technological foundations of the Athena Project, is often used as a component in fishing nets.

Poseidon is also rich in the simple resources required by a traditional culture, and the natives use a variety of indigenous woods, clays, seaweeds, and grasses in the construction of everyday necessities, from tools to dwellings. For example, the sands of Poseidon's beaches have an extremely high silica content, mostly due to its high concentration among the biosphere's corals and seaweeds. As a result, the sand makes remarkably good glass, and this is a common material for many household items, including bowls, cups, pipes, and even chopsticks. Glass-blowing has enjoyed a resurgence on Poseidon and has sparked an interest among the more wealthy newcomers in owning native-produced glassware. This has given many native communities a valuable trade commodity with which to acquire high-tech and manufactured products.

The clothing common in most native communities is stylistically similar to that of the Pacific Islanders of Earth history. Both men and women favor wraps of various styles around their waists, and most women also wear a wrap across their chest. This style of dress has been adopted for several reasons. First, it is comfortable and practical in Poseidon's hot and humid climate. Second, it is relatively simple for native tailors to fashion. Finally, it allows a free range of action on both land and water, and can be easily removed for greater speed and mobility when swimming.

The cloth itself is often purchased in larger towns and settlements. There is, however, a local fabric, and like many of the natives' products, it is an algae-based resource. Water hemp is a long, thin seaweed that grows in the sunny shallows near Poseidon's landmasses. This plant is characterized by its long resilient fibers which maintain their suppleness even when removed from the water. The fibers can be spun to produce a thin, strong thread which is in turn woven into a

light, airy fabric. Alternatively, water hemp fiber can be beaten and felted, after a fashion, to produce heavier cloth.

Water hemp cord is also braided together to make resilient ropes that maintain their integrity even after repeated immersion into Poseidon's seas. This cord is also used in the construction of the fishing nets that are so important to the prosperity of native villages. Finally, water hemp, as well as many indigenous grasses, is also used in the crafting of items such as baskets and roof thatch.

Almost all natives rely heavily on the use of boats. While they are, of course, extremely strong swimmers, distance and cargo capacity are still issues. Boats have become integrated into almost every aspect of native life: work, trade, recreation, ceremony, shelter, and of course, transportation. Native watercraft can be characterized as those modern boats acquired in Poseidon's major settlements, those constructed by the natives themselves, and those that are hybrids of the two.

The modern, mass-produced craft purchased in large settlements like Haven and Second Try are usually the least common and most difficult to distinguish from other, similar boats. Most of the native communities on Poseidon possess at least one such craft, often an inflatable dinghy with a small electric motor. Some settlements also possess one or more hard-hulled, prefabricated craft, though vessels of this kind are far more common close to the major settlements. It should be noted that these boats are not always purchased, as among those native peoples who have reacted to Recontact with violence, boats are considered among the most valuable spoils of war. More extreme native groups have even been known to steal boats from the harbors of Poseidon's major settlements.

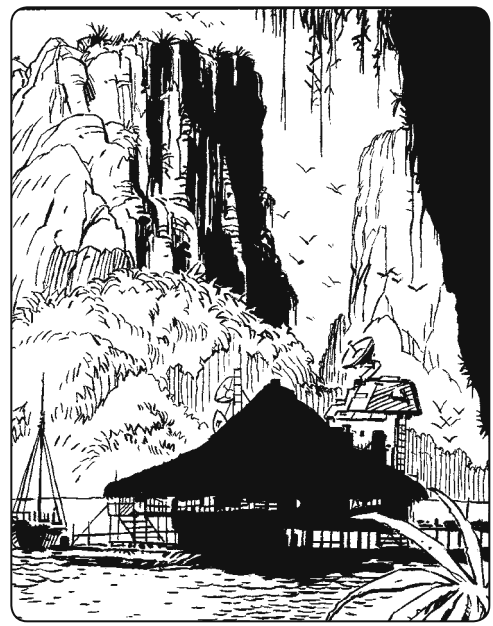
The natives are also adept at constructing their own boats from indigenous materials. Such craft are powered by sails, oars, or multiple paddles. Sailboats of all sizes and descriptions are most common, and even the small oar-powered fishing boats typically have auxiliary or emergency sails on board. These craft include outrigger canoes and sailboats of varying sizes, as well as catamarans and trimarans. Hulls are often made of animal skins, which are treated with plant tars and stretched over a frame of timber spars and gunwales. The skins are maintained through regular applications of various animal oils, which help to prevent dehydration and cracking and seal the wooden frame against moisture.

Salvaged and modified boats are also common, and include anything that, with a little work, can be turned into a serviceable craft. Such salvaged craft are hodgepodges of cobbled-together items from a variety of sources. For example, the fuel pods of orbital shuttles are often used as floats for large houseboats, and it is not uncommon to see the undercarriages of defunct hovercraft serving as hulls for larger craft. Salvaged boats are also likely to have rebuilt and reconditioned engines or patchwork sails.

Native Settlements

Though no two native villages are exactly alike, most do share some common characteristics. Most settlements have been consciously designed to integrate ecological harmony and practical efficiency. Of course, to an outsider, a native settlement may appear little more than a random collection of wooden dwellings, scavenged steel supports, piece-glass windows, and plastic sheet greenhouses. Salvaged or purchased technology is almost always present, even if it is little more than a radio, a solar panel, or plastic pier. A number of settlements have communications systems, including computers, with which they stay in contact with distant settlements. Some very prosperous settlements may even have a hydroponics lab or small fuel cell generator.

The sites of native villages in the Storm Belt are most often selected for the protection they provide. Villages built in the cones of dormant volcanoes or the recesses of canyon lands are common in the stormiest latitudes. There are usually many fissures and tunnels through this terrain leading



to the village, and these are often barricaded with wooden gates and fences to help protect the village from the planet's more curious and aggressive predators.

The dwellings themselves are often large, multistory structures, open to the breezes to keep them cool during the daytime. Their construction is simple and efficient, and somewhat representative of many Asian architectural traditions. A frame of indigenous timber or cane is filled in with either thatched seaweeds or wattle and daub to seal the structure against the elements. Roofs are either thatched or made of wooden planks or salvaged materials, such as industrial plastic sheeting and corrugated metal.

Dwellings are often arranged in a circle, usually around a central community area and fire pit. Outside of this circle are the secondary structures, such as smokehouses, rabbit hutches, and pig pens. The tunnels passing through the cone often lead down well-worn paths to the settlement's docks, which may have one or more outbuildings for storing nets and tackle or processing fish. These paths also typically lead to the settlement's beaches and algae pens.

Another much less common type of settlement in the Storm Belt is built within large cavern systems. Such villages can be found both in terrestrial caverns as well as in rare, air-filled, underwater caves, accessible through long, twisting submerged tunnels. Families typically share larger rooms or caverns, though with the traditional family unit's general lack of importance in many communities, this is by no means always the case. A central cavern serves as the communal gathering place where much of the village's collective activity takes place.

In the submerged caverns, mollusks and crustaceans may be farmed in smaller side caverns, and there may be additional rooms where meats and seaweeds are dried and stored. These communities are also very likely to include cetaceans, and one or more large underground lagoons are typically reserved for their use.

Settlements outside the Storm Belt are much more free form. These are more representative of what many outsiders think of as "typical" native villages; timber and thatch huts, hodgepodges of expensive high-tech and salvaged equipment, lots of boats, and a relatively large population living in pastoral splendor on white sand beaches.

Dwellings typically rest on risers, though their height will depend on the structure's distance from the shore and the community's proximity to the Storm Belt. The dwellings are most often arranged in a semi-circle fronted by the shoreline. Several docks usually jut into the water with the fish pens and kelp fields a short distance away. Secondary structures often form a loose ring around the primary dwellings. Where electricity is unavailable or unwanted, handcrafted wood or cane flambeaus will be anchored in the sand at various intervals, providing light for the community after sunset.

The most unusual settlement type, found primarily in regions outside the Storm Belt, are floating towns, where boats, rafts, and barges are lashed together into an ever-changing, nomadic community. These settlements are typically nestled safely within a cluster of small islands or reefs. Some of these dynamic settlements have existed for decades, and can approach the size of terrestrial towns. Such older settlements have, for all practical purposes, lost their nomadic nature, and as whole units, have not moved in years. However, even the older floating villages remain dynamic, as organic material rafts decay quickly on Poseidon and require constant repair and replacement.

Aquaculture and Agriculture

Most native communities are firmly rooted in a tradition of subsistence agriculture. Most settlements practice some form of animal husbandry in addition to the cultivation of various seaweeds and algae. Indigenous, semi-domesticated fish are a common sight and are usually penned near the kelp fields with nets and, less commonly, electric fences. Many natives selectively breed these fish for various traits, such as size and meat production.

Rabbits are also common in many villages, simply because of their high ratio of meat production to mass. A settlement's hutches are almost always communal property, though individuals with a special talent for caring for the animals will sometimes be given greater responsibility for them.

Like rabbits, marine iguanas are also raised in (aquatic) hutches, and the genetic modifications they received on Earth have made them extremely viable food sources. Iguanas require very little space and are fairly omnivorous. With minor genetic adjustments, their fecundity was enhanced and now they are a primary source of animal protein in the native diet. In fact, the iguana was perfectly suited for the environment of Poseidon. The temperatures are ideal, and the iguana is naturally a strong swimmer. The iguana has forced some less aggressive native scavengers and herbivores out of their niches and has in turn been largely ignored by most predators. As a result, the iguana population exploded in the early years of the colony, and in 2199, it is a rare sight indeed to find even



the smallest outcropping of reef or rock without a dozen or more of the reptiles basking in the sun or grazing on seaweed.

Pot-bellied pigs are also very common on Poseidon. Also omnivorous, the pigs are satisfied eating just about anything. The meat produced, while a bit greasy, is quite flavorful. A favored feature of most native celebrations, festivals, and ceremonies, its hardy nature and large litters make the species an ideal food source.

Fishing, however, is the nutritional mainstay of most of Poseidon's natives. Every conceivable form is practiced, and techniques vary based on the waters and the species being fished. Netting is the most common practice. Purse seining and gill netting are common in deeper water, and cast nets are used to catch the smaller fish species and other swimming creatures that school in the shallows. Hand lines and deep-ocean long lines are used to catch larger fish, while traps, pots, and weirs are used to capture an endless variety of fish, crustacean, and shellfish species.

Spearfishing is also pervasive, as the natives are supremely adapted to this activity. Spearfishing allows the natives to take some of the large game fish that might otherwise destroy a net or trap. Native spear fishers usually hunt near the reefs and shores, as open-ocean predators are are simply too dangerous to risk encountering. Bow fishing is also popular in the shallow waters of tidal basins, reef pools and lagoons.

Some native groups also hunt the marine mammalians and non-fish species of Poseidon's oceans. The caneopoise, or sunburst, is the most commonly hunted animal, and it provides a wide range of resources. While many zoologists fear that the caneopoise will eventually be hunted into extinction, the newcomer poachers who hunt the animal for its valuable hide are the real threat to its existence.

Lifestyle

In many ways, the daily life of the Poseidon natives resembles that of historical, pastoral societies. The natives plan their lives around the storm seasons. During the calms, agriculture, hunting, and fishing proceed in earnest, and daily life is active and full. When the storm season approaches, the natives move out of their hunting and fishing camps into more secure settlements. There they weather the storms, subsisting on preserved food while making and mending equipment, tools, and clothing for the coming season of renewal.

The average native's day begins at dawn, the adults rising from their beds with the sun. Those adults assigned to the fishing fleet load their boats and depart. Others remain behind to tend the algae plots, the crop fields, and the livestock. The children rise early as well and often assist with the morning chores. The rest of their day, however, is devoted to learning and play.

Education is highly valued, as would be expected in a culture descended from scientists and other highly educated individuals. Quite often, formal learning is combined with light chores and practical tasks, and children begin to learn about their environment at a young age through their day

to day interactions with it. They learn by watching their elders and asking questions, as well as through specific instruction. While practical learning is emphasized, the scientific foundations of their activities, such as hydroponics, animal husbandry, biology, ecology, and chemistry, are equally important and part of their daily lessons.

Since Recontact, many of the larger and more prosperous native communities have begun importing computers and other technology in an effort to improve their educational resources. Some communities have even begun sending promising children to the GEO-sponsored schools in the major settlements, while others have begun hiring Earth-born teachers for local schools.

Most of Poseidon's major settlements are in the tropics, braving the Storm Belt in favor of more hospitable temperatures. Such communities often enjoy a traditional siesta, reminiscent of those of Latin American cultures on Earth. A native's lunch is usually light, consisting of spiced seaweed and smoked fish. In some settlements, the boat crews return at midday, while in others, they remain on the ocean until late afternoon. These fishermen often break for midday dives in the cooler water.

Evening is a time for community. The natives take turns preparing a communal dinner, usually the largest meal of the day. The staple seaweeds and fish may be supplemented by pork, iguana, and rabbit. Prosperous settlements may also enjoy a variety of hydroponically grown fruits and vegetables. There are also many indigenous fruits, vegetables, and herbs gathered by native communities, but cultivation is usually restricted by limited land area.

After dinner, native communities enjoy a time of social interaction, as leisure time accompanies the light chores that remain at the end of the day. Nets are repaired, sails and clothing are sewn, and the natives, like people everywhere, gossip and trade stories. Often boat crews return to the sea at sunset to reset nets, drop crustacean traps, and make a few spearfishing dives.

Ritual and Ceremony

The fact that Poseidon's natives are descended from scientists and technicians has done little to inhibit the development of cultural traditions, rituals, and ceremonies. Many anthropologists suggest that this fact is not at all surprising, as these traditions would have helped to support the sense of communal identity and cooperation that was so important to the survival of the original colonists.

Births are an extremely important occasion for any native village, as they represent both a validation of



past struggles and a renewed hope for the future of the community. Births are celebrated with several nights of feasting and revelry, culminating in the immersion of the newborn into the sea. This is a symbolic baptism as well as a practical test of an infant's diving reflex. This first immersion is called the Welcoming Ceremony among most native groups.

Likewise, death is treated with a great deal of ceremony, as the body is returned to the ocean that welcomed it at birth. Cremation is universal among native cultures and floating pyres launched to sea are most common. There is a great deal of feasting and toasting at a native's wake, during which the friends and family with which they shared their lives will reminisce and share stories of the departed. There is very little mourning, and ironically, the entire event closely resembles a birthing celebration.

The largest, and by far the most revelrous native celebration, is the week-long festival called Planetfall. This event is a joyous time in which everyone is encouraged to forget the hardships of life and enjoy the hope, community, and bounty of the planet. The festival honors the anniversary of the original colonists' arrival on Poseidon and culminates with Founder's Day, a frantic and emotional celebration of the first landing. Whole villages come together for a raucous, non-stop party, reminiscent of Earth's many carnival-style holidays. Coincidentally, almost one-third of annual native births

occur during a time that has come to be called the Baby Wave, roughly nine months after the previous year's Planetfall celebration.

While the natives of Poseidon continue to be a predominantly pragmatic people, many other rituals and ceremonies have been identified within individual native communities. Traditions involving the coming of the storm season, the hunt, mating, the aborigines, and other phenomena have been reported among the more isolated native communities. Further surveys are needed to verify these reports, but the often extreme hostility of these native groups makes any such efforts problematic at best. Recent statistics indicate that field anthropology is becoming one of the most dangerous occupations on Poseidon.

THE GEO ON POSEIDON

The Global Ecology Organization has maintained a continuous presence on Poseidon since the Adm. Robert Perry arrived in orbit in 2165. This presence has expanded from a few scientific teams clustered in the Pacifica Archipelago to thousands of GEO personnel and dependents stationed throughout the water world.

The relationship between the GEO and Poseidon is complex and fraught with conflict. Even the history of the relationship is disputed. The GEO claims 119 years of support and governance of the colony, dating from the UN's Argos 12 mission in 2080. Native activists argue that the GEO's claim on the colony ended with the Abandonment in 2096. Political opinions aside, no one disagrees that the GEO plays an increasingly important role in the daily affairs of every colonist on Poseidon.

John Bishop, the Colonial Administrator, heads the Office of Colonial Affairs and is the highest ranking GEO official on Poseidon. Each of the GEO High Commissions is represented by a Deputy Commissioner who is responsible for his Commission's assets and activities on Poseidon. The Deputy Commissioners are, in principle, subordinated to the Colonial Administrator, but in practice, they enjoy a great deal of autonomy with which to pursue their responsibilities.

Currently, the Deputy Commissioners hold regular meetings at the Government Center in Haven to coordinate their efforts. Given the colony's relatively loose administrative structure, however, the level of this cooperation is completely dependent on the personalities of the Deputy Commissioners and the leadership of John Bishop.

HUMAN RESOURCES

The HCHR maintains an extensive presence on the colony world. This Commission has primary responsibility for providing the colony's many settlements with educational resources, disaster relief, and development assistance.

Education continues to be one of the GEO's top priorities on Poseidon. Currently, organized primary and secondary schools exist in the vast majority of newcomer settlements, though most of them are quite small. Most of these schools have been built and maintained with direct support from Human Resources. The Commission oversees the schools' curricula, provides funding, and supplies teaching materials, computer equipment, CommCore access, and many other valuable resources. In addition, Human Resources coordinates several programs that bring well-trained and enthusiastic teachers to these settlements.

Poseidon is an often-savage world, and disaster relief is one of the most valuable services provided by Human Resources. In addition to coordinating the development of local fire and flood protection in settlements throughout the colony, the Commission maintains several Emergency Response Teams. These highly trained teams respond to natural disasters and accidents and perform a variety of search-and-rescue functions. The Teams' actions are coordinated by Anastacia Flores, the Emergency Response Manager on Prosperity Station.

The ERTs are well publicized and enjoy a great deal of support from the colonists, newcomer and native alike. Natives account for more than 15% of all ERT personnel, and an additional 10% are Earth-born cetaceans. The ERT service is one of the few GEO programs that enjoys widespread support from native colonists.

An ERT Training Camp was established in 2188, but it has since been supplanted by the Poseidon Training Academy. The Academy is tasked with training suitable candidates for all nonmilitary positions within the GEO hierarchy, including the ERTs. Human Resources' goal is to eventually recruit 75% of the GEO's colonial staffing requirements from the local population.

Human Resources is also charged with providing development assistance to the colony's settlements. The Commission provides financial and technical assistance for a wide range of public projects, including power grids, desalinization plants, and hospitals.

Natural Resources

The HCNR's primary role on Poseidon is to regulate the booming economic exploitation of the planet and investigate violations of GEO environmental statutes on the colony world. The HCNR is allowed by law to send Environmental Inspectors to all industrial sites on the planet. This includes Incorporate facilities and operations, though the details of Incorporate treaties with the GEO may stipulate further conditions on these inspections. There have been occasions when inspection teams required the assistance of Marshals and even GEO Peacekeepers to gain access to Incorporate facilities.

The HCNR also maintains a network of global surveillance satellites in Poseidon orbit, similar to the Commission's EarthWatch network. These satellites have been remarkably effective in identifying environmental violations and have also provided valuable scientific data on Poseidon's ecology.

Environmental Inspectors also visit colonial settlements on an infrequent basis. The inspection teams look for many of the same things they do at an industrial site, including sanitation and environmental overload. Even where problems exist, these inspections do not often result in legal action. The data is usually turned over to Human Resources so a solution can be implemented.

Science and Technology

The HCST's presence on Poseidon is one of the most extensive of any GEO Commission. There is a growing horde of scientists on the planet, as botanists, zoologists, geologists, meteorologists, oceanographers, and researchers from countless other fields scatter across and below the planet's surface. Science and Technology is responsible for coordinating and funding many of these research efforts. The Commission founded the Haven Institute of Science and Technology in 2188, and the WSA's Darnel Observatory, an orbital facility named for a GEO astronomer, became operational in 2195.

The HCST has also established an underwater research facility called GEO Prime near the Zion Islands. The laboratories at GEO Prime focus on the research of Poseidon's marine life, including the aborigines, the planet's tectonic activity, and the nature and origin of xenosilicates. More than 25% of the GEO personnel stationed at GEO Prime are dolphin scientists and orca technicians.

Communications

It has been the monumental task of the HCC to develop the telecommunications infrastructure of the frontier colony. The Commission has established a network of communications satellites in orbit and has also installed a local CommCore network. Though it remains significantly less sophisticated than the one on Earth, the network's growth is pacing that of the colony as a whole, and most every newcomer on Poseidon carries at least a bodycomp with full CommCore access.

Communications on the planet can nevertheless be somewhat unreliable, for reasons partially outside the HCC's control. The planet's furious surface storms can sever communications with outlying settlements for weeks at a time. Even where storms do not occur, Poseidon's often-dense cloud cover and attendant electrical activity frequently render satellite communications unreliable.

Internal Security

Though the HCIS maintains offices on Prosperity Station, not even the Colonial Administrator knows the extent of the quietly growing IS presence on Poseidon. Incorporate activities on the planet have been a major concern for the Executive Council, and Astumo Nakano, the current High Commissioner, has brought his legendary "Black Crusade" against the Incorporate to the water world.

State and Internal Affairs

The SIA is confronted with one of the most difficult tasks confronting any GEO Commission on Poseidon. It is SIA's responsibility to maintain peaceful relations between the GEO and the colony world's many competing factions, including the Incorporate, the natives, and the independent colonists. SIA maintains consular offices in many Incorporate company towns, including Cliffside, Santa Elena, and Al-Mamlakah. Additional consulates exist in Poseidon's major colonial settlements as well, such as Haven, Second Try, and Kingston.

SIA Envoy Teams are charged with identifying and contacting previously unknown native communities. When such a settlement is discovered, the Envoy Team evaluates its needs and negotiates with its leadership for GEO services and protection. The Envoy Teams are also trained to provide basic medial care, from the inoculation of children to the instruction of settlers in basic first aid and emergency procedures. After first contact has been established, these duties are typically turned over to Human Resources.

The Office of Colonial Affairs is an SIA agency, though John Bishop, the Colonial Administrator, actually outranks the SIA Deputy Commissioner on Poseidon. The OCA is responsible for the general administration of the colony and for coordinating

the efforts of the Deputy Commissioners. While the OCA is headquartered in Haven's Government Center, each of Poseidon's major settlements maintains an OCA office.

The OCA is charged with the management of all immigration to Poseidon. The backgrounds of prospective immigrants are screened electronically, but this process is notoriously easy to circumvent. The OCA also supervises the briefing and medical procedures that each immigrant must undergo, and maintains the passenger receiving facilities on Prosperity Station.

All new colonization efforts must be approved by the OCA. Such efforts must be carefully planned according to established guidelines, which include zoning restrictions and population ceilings. Any expansion beyond these initial settlement plans must receive OCA approval. In practice, of course, there is almost no official supervision of many settlements on Poseidon. The OCA's limited personnel and resources are simply insufficient to keep pace with the colony's explosive growth.

Armed Forces

There is a heavily reinforced brigade stationed on Poseidon under the command of Luther Gideon, a Marine Corps Lieutenant General. The brigade includes five companies of Peacekeeper Special Forces (the Blue Berets), a company of Marine Corps Heavy Cavalry (Shock Troops), and six regiments of Peacekeepers. The total strength of this infantry force is approximately 10,000. Support from the GEO Aerospace and Naval Commands includes VTOL strike-fighters, patrol jumpcraft, missile hydrofoils, and fighter subs.

The primary downside military base is near Kingston, New Jamaica, but many of the Peacekeepers are dispersed in company-size garrisons around the planet. Spread out and isolated, the Peacekeepers are in a situation similar to that of the US Cavalry in the 19th Century American West. This analogy, of course, has escaped the attention of neither the popular media nor the soldiers themselves.

Justice

The GEO has assigned three Magistrates to the Poseidon colony. Each of them commands eight Marshals and the GEO Patrol personnel and resources within their jurisdiction. The Justice Commission is planning to expand the GEO's law enforcement presence on the water world as resources become available. Currently, even with the assistance of specialized Peacekeeper units on loan from Armed Forces, the GEO has insufficient personnel to effectively maintain the peace in many isolated areas.

The municipal facilities of Poseidon's major settlements include permanently maintained offices for Magistrates, Marshals, and their support staffs, as well as detention facilities. Most of these settlements also have at least one Patrol precinct. All but the most isolated settlements have designated offices that can be used by the Magistrates. On a rotating schedule, a Magistrate, accompanied by one or more Marshals, will hold court in the settlement. The Magistrate hears any civil cases that



have been filed since his last visit and also conducts any necessary criminal trials. These facilities usually include a small jail, though the most violent or dangerous prisoners are held locally only until a Marshal can be dispatched to transfer them to Prosperity Station.

The UN established the Marshal Service during the early years of the Blight. More than 100 years later, it has become a powerful federal police organization with a major presence throughout Earth and the Colonies.

Each Marshal stationed on Poseidon answers to a Magistrate and commands one or more Deputy Marshals. In addition, they have command authority over local Patrol personnel. For the most part, local law enforcement is the responsibility of the Patrol precincts in Poseidon's major settlements. Marshals and Deputy Marshals are typically involved in large-scale investigations, from terrorism to organized crime. Marshals are also frequently in charge of investigating alleged violations of GEO statute by member states, including the Incorporate.

The Marshal Service maintains offices in most of Poseidon's major settlements, including Prosperity Station in orbit. Marshals have the authority to act with a great deal of independence, though they are always answerable to their Magistrate. When not engaged in a major investigation, Marshals spend much of their time circulating between the offices in their district, overseeing local law enforcement efforts and pursuing investigations at their discretion.

Just as on Earth, local law enforcement in Poseidon's major cities and settlements is the responsibility of the GEO Patrol. The Patrol's organization is similar to that of police agencies throughout the modern era, except that each precinct ultimately answers to a GEO Magistrate. Patrol Officers have a wide range of typical law enforcement responsibilities within their jurisdictions, from traffic violations to homicides.

In practice, the Patrol is so understaffed and poorly funded that many crimes on the frontier colony are not even investigated. For example, there are less than 1,000 Patrol Officers on duty in Haven, a city of more than 500,000 people. All too often, there is a sort of "triage" in effect in the Patrol precincts. Officers focus on violent crimes, such as assaults, rapes, and homicides, and ignore the countless other criminal activities, from small-time drug trafficking to property crimes, that plague Poseidon's major settlements.

In an effort to address the critical shortage of law enforcement personnel on Poseidon, as well as to generate goodwill among the native population, the Justice Commission created the Native Patrol in 2193. The goal of the Native Patrol is to establish a legitimate law enforcement presence among those native settlements and areas that have resisted both Incorporate and GEO intervention. Members of the Native Patrol are trained in standard law enforcement procedures and are authorized to draw upon GEO Patrol and Marshal Service resources when necessary.

Native Patrol officers have developed their own traditions and are fiercely loyal to their own people. Initially intended as an official GEO presence within the native population, the Native Patrol is in practice a native presence within the GEO hierarchy. The first loyalty of a Native Patrol officer is almost always to his community, and cooperation with GEO authorities is typically viewed as a necessary means to a desired end. In most areas, the relationship between the Native Patrol and the GEO is cordial and cooperative, if not exactly friendly. In others, there is almost no contact between local Native Patrol officers and the GEO chain of command.

Law Enforcement on Poseidon

The most crucial problem confronting the Justice Commission on Poseidon is not the shortages of personnel and resources, which are real enough, but the issue of what laws apply to the colony world. Shortly after Recontact, the General Assembly approved a bill that applied all GEO laws to Poseidon, but this action has been caught up in a fair amount of controversy and ambiguity. As has already been noted, many native activists deny the GEO's claim of a continuous presence on Poseidon since the launch of the Athena Project. These voices of dissent have been joined by those of the Incorporate and Independent governments, each of whom have a stake in loosening the GEO's grip on the colony world.

Politics aside, colonists on Poseidon face many issues and situations that are simply not addressed by any of the laws that were drawn up on Earth. One of the most dramatic is the legal status of the apparently sentient aborigines. Another is the natives' right to property for which they have made no legal claim, but have occupied, in some cases, for more than 100 years. These problems, and others like them, are compounded by the fact that, while the executive branch of the GEO has a strong presence on Poseidon, the colonists as yet have no voice in the General Assembly.

While not the only problem confronting law enforcement on Poseidon, the lack of sufficient

personnel and resources is certainly a major obstacle for the Justice Commission. As noted above, the Marshal Service typically focuses on major investigations, while even the Patrol Officers in major settlements are forced to ignore a wide range of criminal activity. In isolated or outlying settlements, a village constabulary, the Native Patrol, or a wandering Marshal may be the only law. Likewise, GEO law enforcement officials are rarely seen in the company towns, where the only law is that enforced by Incorporate security.

The result is pretty typical of any frontier society from the pages of history, though not quite so romantic. In many cases, colonists are responsible for their own protection. Private citizens often carry sidearms and other weapons, as the law gives them a great deal of room to protect themselves and their property. On Poseidon, self-defense is both a very strong legal defense and an important right for every colonist.

On the other hand, the right of self-defense is just that: it should never be mistaken for a license to kill. If a burglar is shot and killed by a law-abiding homeowner, the Patrol is more likely to thank the citizen than to bring him in for questioning. Indeed, due to the Patrol's priorities, petty criminals face the wrath of their victims far more often than that of the Justice Commission. But a colonist who seeks out and kills someone he believes has wronged him will be prosecuted to the full extent of the law. The average colonist has a great deal of freedom on Poseidon, but there are seldom running gunfights in the streets of Haven.

Trade and Industry

The HCTI has a growing presence on Poseidon, resulting from the xenosilicate boom and the colony's accelerating industrial development. It is the HCTI's task to manage the economic exploitation of Poseidon in accord with GEO statute. The Commission works with private corporations, Incorporate states, other Commissions, and individual settlements to implement long-term development strategies, and funds countless programs designed to bring the colony to economic self-sufficiency as quickly as possible. In the meantime, the HCTI also coordinates with the OCA to schedule and administer regular resupply efforts from Earth.

The HCTI is typically the Commission with the least popular support among the colonial population, despite the crucial role it serves. Its poor public image is likely the result of its relationship with the Incorporate states. The Commission's position is a difficult one: on the one hand, it has a responsibility to promote the economic welfare of both the colony and Earth. As has been the case throughout the last century, that welfare is largely dependent on the Incorporate powers. On the other hand, Trade and Industry is as much a GEO High Commission as Natural Resources or Justice. It is firmly committed to the standards of environmental responsibility and human rights on which the GEO was founded. Many colonists, native and newcomer alike, fail to realize that the HCTI is often most responsible for curbing the excesses of the Incorporate states on Poseidon.

The Incorporate States on Poseidon

Since the discovery of xenosilicates in 2185, the Incorporate states of Earth have driven the exploitative rush on the colony world. In 2199, the Incorporate are a permanent fixture of life on Poseidon, and their activities continue to have a profound effect on the political, economic, and social makeup of the frontier planet.

Anasi Systems

Colonial Holdings: None

Though its longevity therapies, biomods, and health-care facilities have lifted Anasi to the forefront of the biotechnology field on Earth, it has not yet established a colonial presence on Poseidon. Anasi contracts with several Incorporate states for the xenosilicate ore it requires for its products, services, and research programs. However, there are persistent rumors that Anasi intends to acquire one or more private Earth-based corporations with experience in deep-sea mining operations. The entry of yet another major player into the Long John industry has several GEO Commissions concerned about escalating conflict between rival Incorporate states. The fact that Anasi is the only Incorporate state to have used a nuclear weapon in a conflict makes the situation even more tense and unpredictable.

Anasi is also conducting a careful survey of Poseidon in hopes of finding a satisfactory location for a new "luxury arcology" similar to the Xanadu complex on Earth. The Incorporate state intends to construct this arcology on the seafloor, hoping to capitalize on the romantic and exotic image the water world has enjoyed on Earth. Anasi is thought to be negotiating with both Atlas and Hydrospan for the construction of this submerged arcology. The Incorporate

state's plans are meeting resistance both from the GEO and several native activist groups.

Atlas Materials

Colonial Holdings: Al-Mamlakah (pop. 27,500)

Habib al-Muhammadi is Atlas' Chief of Operations on Poseidon. Al-Muhammadi and his deputy, Saide ibn-Fahad, are the driving force behind an Incorporate state that is poised to reap billions from mankind's exploration of the stars.

Although Atlas Materials is one of the wealthiest Incorporate states, it has a relatively small downside presence on Poseidon, since the planet does not yet have the infrastructure to support a large manufacturing operation. As a result, Atlas continues to reap immense profits from the fleet of transports that ship manufactured goods and materials to and from Earth.

However, the Atlas leadership realizes that colonial enterprises will only pay the huge costs of interstellar shipping so long as there is no alternative. Consequently, Atlas' presence on Poseidon is growing daily. Its major emphasis is on increasing the available construction, manufacturing, and repair facilities on the colony world. Its major downside port is the town of al-Mamlakah.

Al-Mamlakah is the only city on Poseidon that has the necessary facilities to build and repair large orbital shuttles and the massive fusion reactors required to power them. The majority of the shipbuilding and manufacture of vehicles such as jumpcraft and hovercraft that occurs on the water world also takes place in Atlas' industrial center. There are also limited construction and repair facilities for specialized spacecraft and heavy machinery, though the planet's orbital stations continue to provide most of these services.

Al-Mamlakah's most prominent feature is its Mosque. The building's central spire is built around the control tower of the Atlas spacecraft, Jebel Chelia. Rising more than 250 meters above the surrounding industry, the tower provides a platform from which the muezzin can be heard for more than 20 kilometers across the ocean. While the vast majority of Atlas citizens on Earth are Muslim, the Incorporate state's operations on Poseidon accept independently contracted employees of any faith and ethnic background.

Biogene

Colonial Holdings: Cliffside (pop. 49,450)

Ever hungry for any opportunity to turn a profit or expand its operations, Biogene was among the first generation of Incorporate states on Poseidon and continues to play a major role in water world politics. Even though its major concerns fall within the field of genetics, Biogene has at least a limited interest in most commercial operations on Poseidon. The genetics giant has more than 30% of its net worth invested on the colony world and is one of the leading exporters of xenosilicates to Earth.

Biogene is represented on Poseidon by its Executive Vice President for External Affairs, Carl d'Augustino. Born in Medillin, Colombia, D'Augustino is a graduate of the Harvard Business School. He is reputed to be a formidable opponent both at the negotiating table and below it. Having secured a position at the top of the Biogene hierarchy through marriage to one of the Ballard daughters, d'Augustino has acquired a reputation as a masterful power broker who can engineer lucrative deals both with rival Incorporate states and the GEO.

D'Augustino is backed by a Board of Governors that includes some of the shrewdest economists and political strategists in the system. Members of the board include a retired Major in the GEO Peacekeeping Force and a former high-level bureaucrat in the HCTI. As a result of this diversity, Biogene's leadership on Poseidon has always been aggressive and visionary.

Biogene's colonial holdings and operations are widespread. They include the massive spires of the Ballard Building in downtown Haven, the research stations and laboratories scattered across Poseidon's surface, several undersea mining facilities located near xenosilicate deposits, and the company town of Cliffside. Cliffside is an ocean town, a collection of sturdy platforms atop concrete pilings anchored in the bedrock 100 meters below. It gets its name from the nearness of the continental slope, which begins less than a kilometer from the center of town. In addition to its crucial role as a supply and distribution center for Biogene's operations throughout the region, it is a popular stop for tourists and a common downside vacation spot for Biogene citizens and employees.

Biogene has the largest Incorporate security force on Poseidon. Biogene Security officers enjoy state-of-the-art training and equipment, and many of them are genetically enhanced. Biogene Security serves a number of roles on the colony world, from law enforcement in Cliffside to the military defense of Incorporate facilities, personnel, and operations. Biogene Security is supported by a number of VTOL aircraft, patrol jumpcraft, surface vessels, and fighter subs.

DUNDALK SHIPBUILDING

Colonial Holdings: Colonial Station (pop. 15,500)

Dundalk's only holding beyond the Solar System is Colonial Station in Poseidon orbit. This massive facility is one of the largest orbital stations in the system, and is the center of not only Dundalk's industrial efforts on Poseidon, but its political presence as well. Colonial Station is primarily used as a supply, maintenance, and repair facility for the Dundalk spacecraft fleet, but it also boasts expanding construction operations that provide orbital shuttles, satellites, and modular deep-sea habitats to the booming colonial market.

Sean Kirkpatrick is the Vice President of Colonial Operations on Poseidon. The nephew of Dundalk President Annette Kilkenney, Kirkpatrick shares his aunt's vision and charisma. On Poseidon, Dundalk has maintained its reputation for fair play and responsible management, and continues to enjoy solid relations with both the GEO and its Incorporate rivals. Colonial Station is currently the center of a joint research venture by Dundalk and Hydrospan intended to develop new breakthroughs in the engineering of submerged habitats, and Dundalk is also benefiting from cooperative efforts with Atlas Materials. As Atlas continues to focus its colonial efforts on expanding its downside infrastructure and manufacturing facilities, it has allowed Dundalk to acquire many of its space-based resources. These include several small orbital stations, shuttles, and even a few transport craft that make the run between Earth and Poseidon. As a result, Dundalk stands to become the undisputed Incorporate leader in space-based operations and technology.

GENDIVER

Colonial Holdings: Santa Elena (pop. 20,150)

GenDiver has been one of the most aggressive Incorporate states in expanding its operations on the colony world. GenDiver has established numerous mining operations and refining facilities across the planet, and its somewhat adversarial approach has resulted in numerous confrontations with the GEO, the natives, and its Incorporate rivals.

Since the reinstatement of the UN, GenDiver has officially refused to recognize the GEO as a legitimate governing body. It has withdrawn its representatives from the General Assembly and has repeatedly denied HCNR Environmental Inspectors access to its facilities on Poseidon. Ironically, however, its confrontations with the GEO have been more overt on Earth than on the colony world. The GEO's control of the wormhole — and therefore all access to the Serpentis System — makes the Incorporate state somewhat hesitant to test the GEO's limits on Poseidon.

Nevertheless, Steven Crawford, the Director of Operations on Poseidon, has touched off a cold war between GenDiver and GEO personnel. The SIA consulate in Santa Elena is subject to heavy electronic surveillance by GenDiver Security, as Crawford realizes that most of the personnel there are in fact attached to Internal Security. GenDiver uses this and other intelligence assets to monitor the activities of the GEO and ensure that its own operations continue uninterrupted.

GenDiver has also been prone to conflict with its Incorporate rivals, particularly Atlas Materials. The hostilities between the two Incorporate states have a long history, beginning in the first years after the discovery of Long John and its commercial potential. In 2192, a squadron of GenDiver fighter subs escorting an ore-carrying transport submersible inexplicably veered off course and launched multiple torpedoes at Undersea Habitat 1, Atlas' first deep-sea facility on Poseidon. More than 200 Atlas citizens died in the attack.

While GenDiver claimed that the attack was the result of "pilot error," it refused to disclose its recordings of communications between the submersibles and the administration in Santa Elena. Survivors also testified that the fighter subs circled the facility, making visual contact before they launched the attack. In any event, the incident touched off the first major Incorporate hostilities on Poseidon, and was the first such conflict to occur since the last years of the Blight.

In 2199, Poseidon still has a reputation for lawlessness, and though deserved, things are tame compared to the years before the arrival of the GEO Magistrates and their Marshals. Bloody confrontations between GenDiver and Atlas personnel were common during this time, and hundreds of Incorporate security personnel and employees lost their lives. The violence reached a peak in 2194 when five colonial civilians were killed in a gunfight between more than a dozen GenDiver and Atlas laborers on leave in Kingston, New Jamaica.

Such confrontations have become more covert, if not more infrequent. Isolated research stations are occasionally attacked, cargoes are sabotaged, research data is stolen, and GenDiver and Atlas executives are sometimes the casualties of mysterious circumstances. However, even GenDiver rarely involves itself in activities that cannot be covered up and plausibly denied.

As if to make matters worse for the troubled corporation, GenDiver has suffered more from the attentions of hostile native groups than any other

Incorporate state. The natives of the Sierra Nueva Cluster seem to have taken a particularly violent interest in the company. For the most part, the natives have confined their attacks to isolated research outposts, weather stations, and other small facilities, but in recent years GenDiver shipping has come under increasingly frequent attack.

GenDiver Security frequently sends personnel into the Sierra Nueva to investigate these attacks. On several occasions, these security teams have been involved in violent confrontations with natives who likely had no part in attacks on GenDiver personnel or resources. The latest of these incidents, the Stone Bridge Massacre in June of 2198, resulted in the death of seven natives, and was well publicized in the media of both Poseidon and Earth. The massacre has resulted in loud protest from the Haven Council and native rights groups throughout the colony. Deacon Kingsley, the prominent native activist and councilman, has referred to the GenDiver Security teams as "death squads." The incident has also prompted the GEO to expand the Native Patrol presence in the Sierra Nueva and expand the Peacekeeper garrison on Crusoe. Most observers are unsure whether these actions will help to pacify the region or only serve to escalate the violence.

Santa Elena is GenDiver's only major territorial holding on Poseidon. It is a mid-size town on the southeast coast of Isla Verde focusing on aquaculture, biological research, and Long John refining. Security around the town is very tight, and visiting journalists have described it as an "armed camp." Visas are required to enter the company town, and applicants are subject to intensive screening and background checks by GenDiver Security.

Hanover Industries

Colonial Holdings: Lebensraum (pop. 25,650)

Hanover Industries has perhaps a bigger stake in the colonization of Poseidon than any other Incorporate state. Because control of the Hanover city-state will revert to Germany in 2201, Hanover Industries depends upon Poseidon for its economic and political independence. As a result, its activities and operations on the colony world are both numerous and widespread.

Lebensraum, the Hanover company town, is located on Sable Bay, on the coast of Mandalay Island about 1,500 kilometers from Haven. Founded only six years ago, Lebensraum is quickly becoming one of the largest settlements on Poseidon. Along with Atlas Materials, Hanover is leading the effort to industrialize the colony world, and Lebensraum is becoming a thriving manufacturing center. The German conglomerate has also made a concerted effort to position itself in consumer services, a sector of the frontier economy that has traditionally been dominated by small, privately owned concerns. As a result, Hanover Colonial Bank is one of the largest financial institutions in Haven, Hanover-owned supermarkets and discount stores are being opened in several of Poseidon's major settlements, and the Hazards casino in Kingston is a Hanover property. Hanover Autoworks is constructing a manufacturing plant that will turn out everything from jumpcraft to hydrofoils, and plans to open dealerships in Haven, Kingston, and Second Try when the plant is completed. The vehicle division is also constructing a number of full-service fuel stations across the colony.

The President of Hanover Colonial is Werner Keinz. Keinz is the ranking executive on Poseidon, and his office is responsible for coordinating the activities of each Hanover division on the colony world. The local operations of each of these divisions are managed by an Executive Vice President, and each of them is answerable to Werner Keinz. Keinz has been extremely careful to cultivate good relations with the Office of Colonial Affairs and the other government agencies on Poseidon, as tensions between Hanover and the GEO remain high on Earth. Keinz hopes that if Hanover keeps its nose clean on the colony world, there will be less political resistance to the transition that is coming in 2201.

Hydrospan

Colonial Holdings: New Fremantle (pop. 18,910)

Hydrospan has been extremely active in the reopening of the Poseidon frontier. One of the first Incorporate states to establish a presence on the water world, Hydrospan's earliest efforts were devoted primarily to environmental research and a few GEO contracts for downside construction jobs. Hydrospan's Poseidon-based aquaculture research in the 2170s even paid dividends by alleviating food shortages in several regions of Earth that were hardest hit by the Blight. Hydrospan also made early contacts with several native communities, and took a leading role in providing those who wanted it with technological assistance and resources. In 2176, Hydrospan established temporary clinics around the colony that provided any native cetacean who came in with a free translator implant. The results of the effort were mixed, but it was indicative of Hydrospan's attempts to facilitate the reintegration of native colonists and newcomers.

With the discovery of Long John and the ensuing colonial rush, Hydrospan began to expand

its operations on Poseidon. New Fremantle was established in Poseidon's Antilles in 2189 and shares much the same architectural patterns as the Fremantle EcoDomes on the Australian coast. The town sprawls from the coastline, across and below the water, and like its counterpart on Earth, it is home to one of the largest cetacean populations on the planet.

In 2199, Hydrospan's colonial operations continue to be dominated by scientific research and the construction of marine habitats. However, it has recently begun construction on manufacturing facilities that would provide watercraft, submersibles, underwater equipment, and cetacean accessories to the growing colonial market.

Hydrospan Poseidon is directed by Steward, a dolphin executive who has served with the Incorporate state his entire life. The dolphin's choice of a title is indicative of the way he perceives his relationship to Hydrospan and to Poseidon. He treats both as a household that has been delivered into his care, and is equally concerned with the prosperity of each. As is the case on Earth, Hydrospan enjoys good relations with the GEO, and along with Atlas Materials, is awarded more GEO contracts on Poseidon than any other Incorporate state. Hydrospan's citizenry is also expanding rapidly, as both native and newcomer cetaceans are coming to New Fremantle to live and work in increasing numbers.

Lavender Organics

Colonial Holdings: Dyfedd (pop. 6,235), Caernafon (pop. 15,500)

Lavender's President, Charles Crandal, was quick to recognize the potential profits of supplying the exploding consumer market for biomods and organic computer technology on Poseidon. The result of this vision was Dyfedd, Lavender's first colonial company town. Named after a region of Wales, Dyfedd was the first modern free-floating settlement on Poseidon. A modest first effort, the town nevertheless marks a milestone in the settling of the water world. Dyfedd consists of a collection of interlocking, bioplastic barges that provide enough buoyancy and stability to support the town, but enough flexibility to withstand the formidable Poseidon weather. Each barge has integrated station-keeping MHD drives, and a flotilla of powerful tugs can be used to maneuver and relocate the entire settlement as weather forecasts and research objectives dictate.

Dyfedd is usually located to the southeast of Westcape Island, just beyond the southern edge of Poseidon's hurricane belt. Supported by efficient fusion- and solar- power facilities, high-capacity desalination facilities, and extensive hydroponics gardens, the floating city is essentially self-sufficient. The southernmost settlement in the Pacifica Archipelago, Dyfedd is usually found more than 2,000 kilometers from its nearest neighbor.

While the company town remains a valuable center for corporate research and development, it is becoming an increasingly important on site lab for scientists studying Poseidon's oceans. The Haven Institute of Science and Technology has established a state-of-the-art oceanographic research facility on Dyfedd, and at any one time, over a hundred scientists from all over Poseidon and Earth can be found working out of the floating city.

Because of its unique design and pleasant summer climate, Dyfedd is also becoming a popular vacation destination for Poseidon's pampered rich. Several posh hotels have been built in recent years, necessitating the addition of two new rafts to Dyfedd's superstructure. With this lucrative and eclectic diversification of the Dyfedd facility, Lavender Organics maintains its reputation as an eccentric but successful company.

Lavender's other major holding on Poseidon is Caernafon, a company town located on the northeast coast of the Highlands in the Channel Islands. Caernafon is Lavender's primary administrative and commercial center on Poseidon. To date, Lavender's activities have focused on understanding Poseidon's complex ecology and on serving the growing colonial market for biomods and pharmaceuticals. Lavender field researchers have systematically studied the native cures developed from Poseidon's indigenous plant and animal life, in hopes of finding new drugs and other organic chemicals for the markets of both Earth and Poseidon.

Lavender has also committed significant resources to the study of the aborigines and the exploration of the deep-sea trench off the western coast of the Highlands. The leadership of Lavender Organics believes that the ruins found on the Dunedin Seamount offer evidence that the aborigines once had a technological civilization and are hoping to discover revealing relics and artifacts from that era. On several occasions, Lavender research stations and submersibles have suffered what are believed to have been aborigine attacks, and the leadership accepts this as further evidence that their efforts may eventually be rewarded.

MacLeod Enforcement

Colonial Holdings: None

While it has not yet established a company town on the colony world, MacLeod's presence on Poseidon is growing rapidly. The vast majority of its business on the planet involves providing private security personnel, high-tech security equipment, and non-military weapons to the independent settlements of Poseidon. Dangerous wildlife, hostile natives, and violent criminals ensure there is a steady market for these services.

It is also widely known that MacLeod has contracted with several native groups to provide intensive military training to their young men and women. In most cases, these contracts are not explicitly illegal, unless MacLeod provides such training to native groups that the GEO has classified as hostile. Of course, hostile natives are precisely the ones most in need of military training, so MacLeod's activities have spurred a number of investigations within the Justice Commission.

Of course, MacLeod also balances these services by supplying several Incorporate states with additional materiel and personnel. The security concern stands to benefit tremendously from increasing tensions between the various factions on Poseidon, and it has certainly done nothing to ease them. Unless MacLeod decides to build arms manufacturing facilities on Poseidon, it is unlikely that it will establish a company town on the colony world.

Nippon Industrial State

Colonial Holdings: Simushir (pop. 26,450)

Like Hanover, the NIS has established diversified operations on Poseidon. The NIS is expanding its manufacturing facilities, and will soon be able to offer everything from marine habitats to heavy mining equipment on the colonial market. The NIS is also the largest exporter of xenosilicate ore to the Pacific Rim.

Simushir, the NIS company town, is located on the island of Ina, approximately 1,000 kilometers from Cliffside. Because both Biogene and the NIS are heavily involved in mining the New Hawaii chain for xenosilicate deposits, there has been sporadic conflict between the two Incorporate states. Simushir is a sprawling industrial complex, and its processing facilities, machine parks, and manufacturing plants are expanding all along the coast of its island paradise.

Most of the NIS personnel stationed at Simushir are indentured laborers, and many of them failed independent prospectors and miners. The NIS provides these employees with cheap, semi-permanent housing that is not designed to withstand fast fungus and Poseidon's harsh weather. Reliable electricity, efficient plumbing, fresh water, health care, and fire protection are also often in short supply in these satellite slums that are expanding around the central industrial center. The living conditions are so bad that they have inspired a proverb among the independent miners and prospectors on Poseidon. A miner who is down on his luck or known for poor judgment is said to be "on the road to Simushir."

THE NEWCOMERS

While Recontact with the Poseidon colony is marked by the arrival of the Adm. Robert Perry in orbit around the planet in 2165, it was 20 years before the colonial rush truly began. Prior to the discovery of Long John, the enormous expense of maintaining a viable extra-system colony seemed to ensure that Poseidon would remain home only to the natives and a few dedicated scientists.

Between 2165 and 2185, the population of Poseidon, native and newcomer alike, grew by just more than 15,000. The vast majority of these newcomers were clustered in Haven and the other major settlements of the Pacifica Archipelago, though there were a few scientists in isolated research stations, and a handful of GEO Human Resources personnel working in outlying native villages.

With the discovery of Long John and the new found commercial potential of Poseidon, it has become increasingly feasible for private citizens and small organizations to emigrate from Earth. In the aftermath of the Blight, there are millions of human beings on Earth desperate for a chance to start a new life on a new world. In many areas, poverty, disease, malnutrition, economic opportunities, and living conditions are only marginally better than they were during the darkest years of the 22nd Century.

Whether fleeing Ebola epidemics in central Africa or epidemic unemployment in the world's cities, humanity looks to Poseidon for hope. The dream is realized, of course, by only a few. After more than a decade of explosive growth, the Poseidon colony still represents less than .04% of the human population. The Office of Colonial Affairs estimates that it approved only one in every 1,000 applications for immigration to Poseidon between 2186 and 2196.

Most of the first newcomer settlements were organized and subsidized by the GEO. Through

the coordinated activities of several Commissions, colonization plans were drawn up and applicants were selected from the millions being sent to dedicated CommCore data sites. The Office of Colonial Affairs was responsible for organizing all aspects of these settlement efforts, from the equipment they would need to the range of skills the colonists would require. An OCA administrator was often assigned to oversee the activities of a new settlement for several months, and the colonists were bound by contract to follow GEO directives.

While the GEO is rarely directly involved in the organization and sponsorship of new colonization efforts in 2199, new settlements are still regulated by the OCA. Independent groups are free to develop their own settlement plans, but these plans must meet the OCA Colonial Settlement Guidelines, available on CommCore. These guidelines cover a broad range of issues, including settlement size and location, minimum financial resources, construction standards, environmental impact assessments, and disaster response plans.

The OCA guidelines are fairly restrictive, but there are several factors that limit the GEO's ability to enforce them. Most importantly, the OCA simply lacks the resources to maintain even infrequent supervision of the hundreds of settlements on Poseidon. In most, the discovery of an OCA violation is often an accident or the result of a GEO investigation into a disaster. Further, there is often little the GEO can do to prevent changes in the plans of a colony or of individual colonists once they are on Poseidon.

In recent years, the OCA has focused on the regulation of immigration to Poseidon. Applicants must not have a criminal record, must be in good health, and must be able to show a relatively stable work history in a useful field. Applicants with experience in a profession that is in short supply on the planet, such as teachers, medical professionals, and technicians, are much more likely to be approved.

Unfortunately, for all the GEO's efforts, a large number of private and Incorporate services will transport anyone who can pay to the new world. False records, bogus Incorporate citizenships, and outright smuggling bring thousands of undocumented immigrants to Poseidon every year. Unsuccessful applicants, criminals fleeing the authorities, and ecoterrorists all find these alternatives expensive but effective.

Many of those who opt for immigration to Poseidon do so because they think the planet offers the promise of an easier life. In fact, however, the average colonist on the water world will face greater hardships than all but the most disadvantaged and miserable of Earth. The adversity begins with the chemical baths and viral therapies of preflight and continues throughout the colonist's life. Along the way, the colonist must contend with ferocious storms, lethal parasites, dangerous predators, and frontier violence.

The life of a colonist is also one of few luxuries. While the millions on Earth take for granted their daily dependence on reliable technology, the colonists of Poseidon depend on scarce, overworked, and unreliable equipment for their very survival. Farm machinery, fishing boats, communications equipment, medical supplies, survival gear, and hunting rifles are often all that stand between the colonists and a savage planet. The colonists of Poseidon, those who survive, are almost uniformly stalwart, resourceful, independent, and lucky.

Most of all, a colonist must be willing to work. On Poseidon, there are kelp farmers, fishermen, prospectors, technicians, teachers, builders, and countless others, and hard work is a feature of all their lives. Newcomers who come to Poseidon seeking the carefree lifestyle of holovid natives wind up dead or huddled in the slums of Haven and Second Try. Because colonists rely on the hard work of others as well as their own, few newcomer settlements will tolerate slackers.

A census sponsored by Human Resources placed the number of newcomer settlements in 2199 at approximately 300. They range in size from a single family running an isolated trading post to large towns with populations of 50,000 or more. The Poseidon colonists are diverse, with different motivations, dreams, customs, and lifestyles. Regardless of their reasons for coming, they all share one thing in common: they now call Poseidon home.

Pioneers

The pioneers of Poseidon are tough, hardworking people who came to the colony world in search of freedom, prosperity, and a simpler life. Pioneers immigrate to Poseidon to escape Earth's crowded cities, government administration, and the corporate rat-race. These are the colonists who build new settlements with their bare hands, colonists who spend their days in kelp fields and on fishing trawlers, working to provide for themselves and their families. There are pioneer settlements built on GEO and Incorporate grants, family wealth, religious devotion, and the will of charismatic leaders. All are built on the blood, sweat, and dreams of men and women searching for a new life on a new world.

While the realities of colonial life are very different from the myths perpetuated in Earth's entertainment industry, the truth is, every pioneer is something of a romantic. There is something epic, something noble, in humanity's struggle to carve a civilization from an alien wilderness, and only the most dour and reserved pioneers are immune to its lure. Most pioneers come to Poseidon to build a new life for themselves, but find that they are also building a new future for humanity.

The daily life of a pioneer is an ironic interplay of the routine and the unexpected. Each morning, pioneers rise early and share breakfast with their families. For the next couple of hours, the children will often help their parents with the morning chores before going to their settlement's small schoolhouse or returning to their homes to access CommCore. The parents will go to the docks, the kelp fields, the algae pens, the workshop, the general store, the clinic, or the town hall to begin the day's work. Most of the day will transpire like all the others before it, but inevitably, there will be some crisis to disrupt the routine. A young man working on a construction team will be injured, a marine predator will threaten the fishing crews, a storm front will move in, a property dispute will arise between neighbors, or a stranger will come to town.

Pioneers depend on each other for survival, and the pioneer communities of Poseidon are tightly knit. If a pioneer needs help on his trawler, bringing in a kelp harvest, or building a house, most of the community will be ready and willing to lend a hand. Like small towns everywhere, just about everybody in a pioneer settlement knows everybody else, and few secrets are kept for very long. Because many settlements are also vulnerable to the human predators who roam the frontier, the close ties among the members of a newcomer community often translate to a general distrust of strangers. While pioneers will often appear polite and even friendly when dealing with outsiders, this appearance often masks fear and suspicion.

The GEO and Incorporate remain the major players in the colonial arena, and the natives receive the majority of the media attention on Earth, but pioneers are the backbone of the Poseidon colony. They are building islands of civilization in a sea of wilderness, and they will be forging their own destinies on the colony world long after the last kilogram of Long John has been scraped from the planet's crust. The pioneers are a quiet faction in the politics of the water world, but they are also independent, dedicated, and passionate. Scattered across the planet in isolated settlements, they are united by a common dream, and eventually, their voices will be heard.

Colonial Calendar

The tourist had paid a small fortune for the trip, a short, overnight cruise with his wife aboard an old fashioned sailing yacht. He wasn't happy about the money, he wasn't sure about the sailing, and he even had doubts about his wife. But at least he'd managed to find a good charter service.

"Okay, I've got you booked for eighty-four ninety-nine, returning eighty-five dot ninety-nine," the captain said. Is that correct?"

"Uh, well…huh?"

"Good, and we'll be sailing from Haven Marina, Dock 4, Pier 32, at 26:30, right?"

"Yes, no…uh, what?"

Earth and Poseidon have very different rotational and orbital periods. As a result, the way time is measured in days and years is different for each. While some amount of confusion is inevitable, the people of Earth and Poseidon have developed some conventions that facilitate understanding and communication.

Earth's day lasts approximately 24 hours and its year lasts about 365 days. Each year is further divided into 12 months, and this convention is common in the Earth-Luna system. On Poseidon, however, each day lasts just over 30 hours and each year is 330 days. Because Earth's days are six hours shorter than Poseidon's, one year on the colony world lasts just over 413 Earth, or Standard, days.

The original Athena Project colonists decided they would track daily time using a modified military scale of 30 hours. Each year would be measuredby the 330 thirty-hour day orbit of Poseidon around Serpentis. The colonists also decided it was impractical to continue counting these days from 2086, the date of their arrival. Instead, they began counting days and years "since planetfall" (SP). This means 001.1 is the colonial date of Planetfall, and 163.70 the date for the day of Recontact. Likewise, the current year is 99 SP by colonial reckoning.

Prospectors

Poseidon offers the irresistible promise of untold wealth, and the Incorporate have not been the only ones to catch "Long John fever." The discovery of Long John sparked a colonial rush, and independent prospectors and miners flood to the colony with hopes of striking it rich. Many of these

fortune-seekers have few financial resources and most have even less experience in deep-sea mining. Thousands of prospectors have fallen victim to old and poorly maintained equipment, marine predators, hostile natives, and their own bad judgment. Many more have been forced to abandon their dreams and pursue other, safer careers on the frontier.

Nevertheless, there are those who continue to chase the big prize, from solitary prospectors in obsolete submersibles to independent collectives of hard-suited miners scouring the ocean floor for deposits the Incorporate have missed. Ironically, the very idiosyncrasies of xenosilicates that make it difficult to mine also make it possible for independents to compete with the industrial giants. An independent prospector with a decent magnetometer and reliable hard suit has almost as good a chance of finding a deposit as an Incorporate survey team. Moreover, the prospector doesn't have to harvest much of the ore to ensure his financial future. A single gram of unrefined Long John commands about 300 to 400cs on the colonial market. Lucky prospectors retire to a life of luxury after discovering their first strike.

When not piloting their submersibles along the sea floor or wrestling with a sediment dredge, independent prospectors spend their free time in the dozens of small mining towns dotting the frontier. These towns are usually little more than a collection of run-down saloons, brothels, pharium dens, and repair shops huddled along a rocky beach or floating in the tiny cove of some unnamed island. Most prospectors are stereotypically irritable and quick-tempered, and barroom brawls and even shootings are a staple of daily life in Poseidon's mining towns.

The life of an independent prospector on Poseidon is a hard and often lonely one, and only the most skilled and fortunate will ever enjoy fame and fortune. It is a life that many find unenviable. For most prospectors, though, the solitude, challenge, and risk are stronger motivations than the promise of riches. When the bills are overdue and wealth seems an elusive dream, pride and determination drive the prospector onward in the relentless pursuit of the prize.

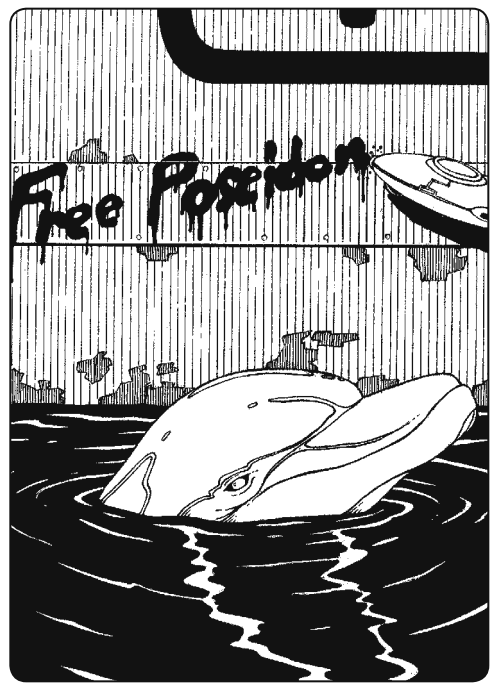
Opportunists

The Poseidon colony's booming economy and underdeveloped private markets have attracted thousands of independent entrepreneurs looking to corner a piece of the water world's prosperity for themselves. Most of these opportunists flock to the colony's cities and major settlements. Arriving on Poseidon with only a little credit and a lot of hopes, they open general stores, repair shops, fish markets, wilderness outfitters, fuel stations, charter services, and countless other enterprises.

While there truly is a world of opportunity on Poseidon, the colonial economy has its share of problems. Retailers have difficulty keeping goods in stock, simply because there are still so few manufacturing operations on the planet. Several Incorporate states and a few private corporations are beginning to rectify this, but most manufactured goods are still in short supply. As a result, most of the manufactured goods on Poseidon are preowned. There is a steady trade in second-hand clothing, vehicles, electronics, and just about every other durable good. This scarcity ensures that the entrepreneur's profit margins on this merchandise remain fairly high.

Of course, there is a darker side to opportunism. Some of the colonists with dreams of prosperity are either unwilling to risk their capital on legitimate business ventures or do not have the capital to risk. Others balk at the life of hard work and patience that the entrepreneur must embrace. These colonists hope to get their piece of the action by operating on the margins of the law, or by leaving it behind entirely. Con artists, black marketeers, and even organized crime have become major forces in the economies of the large settlements.

Quite often, the challenges facing legitimate businesses are magnified by the activities of these



underworld entrepreneurs. In the cities, most small businesses are vulnerable to protection rackets, and the GEO Patrol has had little success in breaking up these schemes. Similarly, the scarcity of manufactured goods has forced many retailers to look to the black market for products ranging from vehicle parts to unregulated pharmaceuticals. Construction and transportation businesses, two of the most prosperous industries on Poseidon, are favorite targets of organized crime, and are subject to arson and hijackings if they don't cooperate.

From independent shopkeepers and mob enforcers to native sell-outs peddling "genuine aborigine artifacts" on the waterfront, Poseidon is where the action is. Sparked by boomtown commerce, the private sectors and criminal underworlds of the colonial settlements are growing at a frantic pace. The strongest, wisest and luckiest of Poseidon's opportunists are swept up in this tide of prosperity. Many more are left penniless, their dreams shattered, huddling in the slums of Brighton or running small-time hustles in the mining towns.

CETACEANS

Since the first five bottlenose dolphins were genlifted in 2042, dolphins have become a part of society, both on Earth and Poseidon. At the time the Athena Project was conceived, bottlenoses, orcas and pilot whales had been genlifted. However only bottlenose dolphins and orcas were accepted into the ranks of the initial Poseidon colonists, and are the only two species in the native cetacean population.

After Recontact common dolphins, belugas and pilot whales all came to Poseidon to join their brethren, though they were not always welcomed. Bottlenose dolphins and orcas are detailed below. The other three cetaceans — beluga whales, common dolphins and pilot whales — are detailed in the *Ancient Echoes* sourcebook.

HISTORY

In 2042, capitalizing on the tremendous breakthroughs in cetacean communication achieved by Dr. Marcos Gottfried, the Woods Hole Oceanographic Institute, in cooperation with Johns Hopkins University, successfully uplifted the first dolphin subjects to full sentience. At a time when genetic engineering and neuro-viral therapy were in their infancies, this accomplishment stunned the scientific community and captured the attention of the world.

The first decades of the 21st century had been a difficult time for cetaceans. The last known humpback whale washed ashore in Hawaii, hailing the extinction of the great whale species. Most of the rare, open-ocean dolphin and porpoise species had not been encountered for decades, and even the common and bottlenose dolphins were rapidly declining in number. The orcas, once common in cold waters worldwide, had also begun to vanish. Eventually, those few pods uplifted at Woods Hole, and at a small number of similar facilities around the world, were all that remained.

Relations between sentient cetaceans and humans were tense, almost from the very beginning. Possessed of an intimate, spiritual relationship with the natural environment, cetaceans looked upon the ecological destruction wrought by humans with horror and incomprehension. The fact that humans were essentially responsible for the extinction of all but a few cetacean species did not exactly endear human society to them either. The first generation of genlifted cetaceans retained the memories of their primal existence, remembering when they had shared the oceans with the great whales. Most perceived humans as genocidal and brutal savages.

The cetaceans were victims of extreme social prejudice and legal discrimination as well. The unalienable "human rights" of which society was so proud did not seem to apply to the newly sentient animals, who therefore had no real place in the human social order. Legally, they were often able to claim stronger protections by virtue of endangered species legislation than by the limited civil liberties granted them as new world citizens.

Ironically enough, genlifted cetaceans found their initial acceptance in the world's military forces. Indeed, the navies of several major nations had been experimenting with dolphins in various military applications for decades, and it had been defense funds that supported the Woods Hole efforts. Cetacean soldiers served in search and rescue teams, reconnaissance units, and as special operatives. Unfortunately, even these opportunities were marred by deep-seated discrimination. In many armies, cetaceans were eligible for only the lowest enlisted ranks and were never promoted. In practice, they were often viewed as materiel rather than soldiers.

When the Athena Project was launched, the UN selected 500 cetaceans to participate in the colonization effort. It is estimated that well over 85%

of the world's cetacean population volunteered for the Project. The opportunity to begin a new life on a pristine ocean world seemed a chance at spiritual redemption. Poseidon became a promised land that would finally free them from a world scarred by pollution and prejudice.

The Athena Project marked a profound division within the culture of the uplifted cetaceans. The dolphin and orca colonists, while facing extreme hardship and challenge, did indeed find their promised land. On Poseidon, they found a life and a world they could share with humans, and they were offered the chance to participate in a common social endeavor in which they played a crucial role.

The cetaceans who remained on Earth, however, were destined for a very different future. Like all the other peoples of Earth, the Blight left indelible marks on their minds and souls. While their counterparts on Poseidon were exploring new freedoms and possibilities and forging new relationships in human society, the cetaceans of Earth were trapped in a nightmare of war, disease, starvation, and wholesale environmental destruction.

Life on Poseidon

This divergent experience has resulted in two distinct cultures characterizing the native and the newcomer cetaceans on Poseidon. While the natives are more deeply spiritual (and, some newcomers would say, incomprehensible), they nevertheless find it easier and more rewarding to interact with humans. They have forged intimate relationships with the humans who share their communities, and rarely have any preconceived prejudices against newcomers. They are, for the most part, willing to trust humans, giving them the benefit of the doubt. Even native cetaceans many humans would characterize as extremists — such as Bataku, the orca leader of the Sierra Nueva insurgents — have formed and maintained close relationships with humans.

The Earth-born cetaceans, on the other hand, harbor a fundamental distrust of human nature. Most believe that humans are inherently greedy and destructive of the natural world, and that the Blight was simply the latest manifestation of this pathos. While most came to Poseidon as soldiers in the GEO and Incorporate armed forces, they hope that the colony world will eventually offer them the chance to completely isolate themselves from their fellow newcomers.

In several cetacean units around the planet, a kind of racial militarism is taking root. For many of these cetaceans, distrust has been transformed into racial hatred, and some believe that Earth-born cetaceans should join with the native pods to permanently rid Poseidon of the human newcomers. The recent and increasing defections of cetacean soldiers to several hostile native groups is only one symptom of this growing sentiment. The Justice Commission has launched an ongoing investigation into alleged anti-human fraternities in the GEO Armed Forces. An orca Marine belonging to a group called the Deep Ocean Cadre was recently court-martialed and extradited to Earth for imprisonment after he assaulted and maimed a human superior. The DOC has been accused of crimes ranging from vandalism and insubordination to desertion, sabotage, and murder.

Whatever their destiny holds, cetacean hopes rest with Poseidon and its future. For most, Earth was part prison and part graveyard, a slow death of human design. The GEO Armed Forces have enjoyed tremendous gains in cetacean recruitment on Earth, simply because most cetaceans see military service on Poseidon as their chance of escape. The cetaceans arguably have the greatest stake in Poseidon's future. For them Poseidon is their last hope for redemption, salvation, and grace.

Bottlenose Dolphins (Tursiops truncatus) Also called Fins

Anatomy and Physiology

Modern, genetically uplifted, or genlifted, dolphins are primarily of bottlenose stock (Tursiops truncatus), and they are commonly referred to as Tursiops sapiens in the media. The dolphins themselves seem to find this title immensely amusing.

The morphology of most genlifted dolphins resembles that of the coastal ecotype of the species. They average three to four meters in length and weigh between 250 and 450 kilograms. In most cases, adult males are somewhat larger than females. Dolphins have a sleek, streamlined form, and their coloration is typically a soft gray to grayish green or brown dorsally, fading to white or pink ventrally. When their ancestors left the land and entered the seas some 40 to 50 million years ago, they began an evolutionary process that has culminated in a modern form that is well suited to life in an aquatic environment.

A dolphin's pectoral flippers have all of the skeletal characteristics of land mammals, including individual but flattened finger bones. Dolphins use their pectoral flippers to steer when swimming and are also capable of a surprising range of subtle gestures that help them to communicate

with humans when technological assistance is unavailable.

The horizontal lobes of a dolphin's tail are called flukes, and are composed of tough, fibrous tissue completely without bone or muscle. Muscles along the dolphin's back are used to move the flukes up and down, propelling them through the water. The dolphin's centrally located dorsal fin is made of tissue similar to that of the flukes, and acts as a keel to stabilize the dolphin as it swims.

Dolphins have an enlarged, rounded melon that acts as a kind of "acoustic lens" for focusing and transmitting echolocation signals. Dolphins have a well-defined snout, or rostrum, marked by a lateral crease, and their lower jaw is structured to aid in receiving the dolphin's "echoed" signals. Genlifted dolphins typically have between 80 and 100 conical and interlocking teeth. Their eyes are on the sides of their heads, near the corners of their mouths. Their ears, which have no external flaps, are small openings just behind their eyes. A dolphin breathes through a single blowhole on the dorsal surface of the head.

A dolphin's physiology is well adapted to the aquatic environment, and they served as the first models for the aquatic modifications of humans. They can swim almost effortlessly for considerable distances at speeds between eight and 10 kilometers per hour, and can manage short bursts up to 40 kilometers per hour. Though most dives do not exceed 50 meters, dolphins are capable of diving to depths in excess of 500 meters without technological assistance, and they can remain submerged for up to 30 minutes, when necessary. A dolphin's blubber and highly adapted circulatory system allow them to maintain a comfortable body temperature even when diving in cold waters.

Modern dolphins eat as much as 15 kilograms a day, preferring various species of fish, which are swallowed whole. A dolphin's lifespan can exceed 50 years with access to adequate medical care, and as with humans, lifespan is indefinite with regular longevity therapy.

Psychology

Though there are countless stereotypical portrayals of dolphin psychology in the media, in truth, these creatures' psychological and personality traits vary as widely as humans. However, as a species, dolphins demonstrate a number of distinct psychological characteristics, just as humans do.

Dolphins tend to a somewhat poetic and philosophically complex view of the world. This worldview has been at times described as holistic, animistic, and pantheistic. Though any interspecies communication of such fundamental notions as make up a worldview is extremely difficult, it would seem that dolphins do not experience their environment in terms of the subject-object dichotomy that characterizes all human sensory experience.

Specifically, dolphins seem to identify themselves as one aspect of an individualized world, rather than one thing (self) separate from other things (objects, others). This characteristic manifests itself in dolphin behavior in ways that are often startling and disconcerting for humans. For example, most dolphins react to damage or destruction of their workspaces, prized possessions, and natural environment in the same way a human would to an attack on himself or his family. Dolphins are often willing to sacrifice their own lives for these things without a moment's hesitation, because to them, they are sacrificing only one part of themselves to preserve the whole.

It is also thought that dolphins do not share the distinct barrier between the subconscious and conscious mind that characterizes human cognition. Researchers have even tried to relate this theory to the dolphin's unusual sleeping habits: one hemisphere of a dolphin's brain sleeps while the other remains semi-active and conscious. A sleeping dolphin will lie floating in the water with one eye open and the other closed. Periodically, the dolphin will switch, allowing the other hemisphere to rest.

Some psychologists have suggested that genetic uplift served only to "bracket off" a small corner of the dolphin mind, allowing them to function on a conscious level more similar to humans. This more structured, orderly consciousness, in turn, allows dolphins and humans to communicate more meaningfully. Interspecies communication could as easily have been achieved, these researchers claim, by altering the human brain in such a way that the conscious-subconscious barrier was weakened or dismantled.

The dolphin's mind is uniquely suited to conceptual and analytical tasks. Most can accomplish at will the sort of mental feats that have been likened to an idiot savant's capacity for almost instantaneous calculation, or the "eureka effect" that many scientists and scholars experience in relaxed states, when the conscious-subconscious barrier is lowered and there is a kind of "free play" between both cognitive faculties. Dolphin characters will often "know" something or become committed to a specific course of action without being able to explain or justify themselves to their human companions. This is extremely aggravating

to many humans, but dolphins accept it among themselves as a matter of course.

Unfortunately, new discoveries and insights into the dolphin mind often introduce more questions than they answer. For this reason, a truly adequate understanding of dolphin cognition, both before and after genetic uplift, will require a great deal more research. Regardless, it is certainly safe to say that there are radical differences between the ways dolphins and humans think and experience the world.

It is clear, however, that genlifted dolphins remain as playful, mischievous, and impulsive as their primal ancestors. They are notorious for their love of pranks, and their behavior is typically not as constrained as that of most humans. A dolphin's pranks will often be dangerous and sometimes lead to injury. For example, many dolphins seem to find it endlessly amusing to jam human navigational sonar with barrages of echolocation pulses, even when their "fun" threatens the safety of the vessel. Most dolphins who have frequent interactions with human groups, however, have learned to abide by more conventional standards of behavior.

Dolphin morality is so far completely impenetrable to human researchers. While most, if not all, dolphins clearly abide by some moral beliefs or ethical standards, it is not clear exactly what they are or how they have been chosen. A proverb common in the Church of Whalesong Theogony is translated roughly as, "The world decides the right of it and we observe." Some researchers believe this saying indicates that dolphins do not ascribe moral agency or responsibility to individuals as humans do. Dolphins who associate with humans often follow human moral codes, but it is usually clear that the cetaceans are not committed to them.

Dolphins are also famous for their sexual appetites. It is estimated that up to one-third of a primal dolphin's day was devoted to the pursuit of sex, and this inherited tendency is constrained among the genlifted only where necessary. Dolphin young typically begin pursuing sexual relations at the age of six weeks or less, long before they have reached reproductive maturity. Homosexual activity is very common, and their first couplings will typically involve their mothers and aunts. It is also well known that dolphins are fond of sexual contact with humans, though most humans do not welcome such encounters. The promiscuity and homosexuality of dolphins is usually accepted in human groups, but their propensity for incestuous and interspecies relationships is a common source of social friction.

Sociology

Socially, dolphins exhibit sharp distinctions based on their past experiences. Those native to Poseidon are predominantly gregarious, outgoing, and fun-loving creatures who are very fond of human company. Friendships between native dolphins and humans are quite common, and native dolphins are often more favorably disposed to the newly arrived colonists than are native humans.

Earth-born dolphins typically exhibit contrasting tendencies. It is thought that their experiences during the aftermath of the Blight may have soured them on human companionship, or humans in general. Most of the Earth-born dolphins found on Poseidon are, or have been, in military service with the GEO, and it is thought that their military training, indoctrination, and experiences may have had a considerable impact on their socialization.

On Earth, primal dolphin social organization was remarkably transitory. The role of motherhood is perhaps the dominant value in dolphin society. The most stable social groups are those organized around females and their offspring. By contrast, male dolphins play almost no part in the care and raising of their offspring. Likewise, the image-names of male dolphins are often near-copies of their mothers', translating to something like "so-and-so's offspring." Female dolphins always create their own image-names that are distinct from their mothers'.

Typically, young dolphins will remain close to the female members of their immediate family for a



year or more, after which it is common for them to switch social groups, almost on a daily basis. Dolphins claim that this migration is an important part of the early education and socialization of dolphin children. Once she reaches sexual maturity, a female dolphin will often rejoin her mother's pod. Males, on the other hand, typically form small fraternities of three to five dolphins. For primal dolphins, the purpose of these fraternities was largely sexual, as it was through these alliances that males would compete for the attentions of females.

The pursuit of sex remains a strong motivation for genlifted males, but these fraternities are also frequently based on professional ties. Humans have used this feature of dolphin sociology to organize everything from military units to scientific research teams. Dolphin fraternities are characterized by extremely strong and durable bonds of friendship, and they typically last throughout the lives of their members. As with many of the most intimate aspects of their lives, dolphins actually seem to incorporate the other members of these fraternities into their own identity or sense of self, and loyalty within the fraternity is extremely strong as a result. On some occasions, especially on Poseidon, human membership in these fraternities has even been observed. Usually, this occurs at the request of an established fraternity, but in some cases, solitary dolphins entering human associations have attempted to organize the group along fraternal lines.

While aspects of these social tendencies remain characteristic of dolphin society on Poseidon, the small population requires some compromise. For the most part, the familial groups of females and the fraternal groups of males serve as the core of wider social memberships, typically based on profession. Within an Incorporate research team, a GEO military unit, or a native community, these family and fraternal groups are the foundation of the dolphin's social life.

Culture

For obvious reasons, dolphin culture is closely tied to their social characteristics. Likewise, their sentience has indelibly marked their social organization and relationships. However, the social life of genlifted dolphins has taken on characteristics and tendencies that were impossible or meaningless in the wild. Scientists have used this distinction to draw a line between purely social and specifically cultural institutions and values.

One of the most widely publicized features of dolphin culture, on both Earth and Poseidon, is their refusal to take linguistic names for themselves. Dolphins seem to believe that human naming conventions serve to make an object of the one who is named, and they have tried to avoid it entirely. While dolphins do have so-called "image-names" for themselves, symbolic representations that can be exchanged and interpreted through dolphin communication, these image-names are notoriously difficult to translate into human language.

On the other hand, humans require some means of identifying dolphins if the two species are to have any kind of meaningful social interaction. As a result, dolphins adopt some form of professional title to identify themselves in human society. Titles like Soldier, Doctor, Scout, Teacher, Prospector, or Diver are common, as are more offbeat titles like Killer, Dreamer, or even Juju Man, in the case of at least one dolphin spiritual leader of a settlement in the Zion Islands. Whether rooted in traditional meanings or slang, dolphin titles will almost always have some connection to professional affiliation. This has caused some difficulty for dolphins engaged in criminal activity. If a law enforcement officer encounters a dolphin calling himself Gangster or Privateer, a thorough investigation is likely to ensue. Most dolphins have found ways to skirt this difficulty, however. For example, a dolphin engaged in the drug trade is likely to call himself Peddler, rather than Dealer, if only to avoid the incriminating connotations.

By far, the most widespread dolphin cultural institution is their religion. The Church of Whalesong Theogony was founded in 2063 by Preacher, a first generation genlifted dolphin in San Diego. Few human researchers have been able to make any sense of the faith, but a few of its basic tenets have been documented.

Whalesong Theogony is firmly rooted in the cetaceans' primal history. It seems to glorify various instinctual and physiological experiences, from the diving reflex to the mating ritual. Some human researchers believe this obsession with the primal is dangerous, in that it serves as an obstacle to the development of cultural institutions firmly rooted in the cetaceans' experiences since uplift.

The religion appears to involve a narration of Earth's evolutionary history, expressed through a difficult and obscure form of epic poetry. The dolphins claim that this epic begins when the first whales, the supposed authors of the narration, returned to the oceans some 60 million years ago. Though few human researchers lend any credence at all to the claim that great whales were creating epic, naturalistic poetry in the distant past, parts of the narration have been translated and are open to some intriguing interpretations.

For example, one sequence apparently refers to seals and sea lions as "young hunters." Interestingly, scientists have long believed that seals and sea lions are among the youngest of the marine mammals, having evolved from the first carnivores to reenter the oceans some 15 million years ago. Did the great whales witness this event and add new lyrics to their epic to commemorate it? Most dolphins seem to think so.

The Church is pervasive on Poseidon. Most of the major settlements offer dedicated places of worship, the largest and most famous of which is in Haven. Most churches are simple aquatic structures with little ornamentation, a place where members can assemble in relative privacy. These structures almost always have an organic architecture that is very different from the mechanistic, utilitarian style of most cetacean workspaces. There are rarely any scheduled ceremonies at these churches. Instead, members are free to congregate for worship, fellowship, food, and sex at all hours of the day. Even in settlements where there is no physical church, members will assemble at an agreed upon meeting place to share their faith.

Orcas (Orcinus orca) Also called Killer Whales

Anatomy and Physiology

Modern, genlifted orcas are descended from Orcinus orca, the primal killer whales. The genlifting procedure for orcas focused on development of the neocortex, which allows for higher level cognitive capabilities, and a cultivation of the orca's already advanced social and cooperative behavior.

A male orca will average between seven and eight meters in length and weigh between 3,500 and 5,500 kilograms. Females are somewhat smaller, averaging between five and seven meters and weighing between 1,500 and 3,500 kilograms. orcas share the sleek, streamlined form of dolphins, but their coloration is far more striking and distinctive. The dorsal surface and pectoral fins of an orca are black, with the exception of a gray saddle pattern behind the dorsal fin. The ventral surface and lower jaw are mostly white, while the undersides of the tail flukes are white, fringed with black. There is also a distinctive white eyespot located just above and slightly behind each eye.

An orca's physical form is very similar to a dolphin's. An adult male's pectoral flippers can grow up to two meters long and one meter wide. Their tail flukes will measure up to 2.7 meters from tip to tip. The adult male's dorsal fin is tall and triangular in shape, often reaching a height of nearly two meters. A female's dorsal fin is somewhat smaller and may curve slightly toward her tail.

An orca's rostrum, or snout, is far less pronounced and distinct than a dolphin's, and they have significantly fewer teeth, averaging around 50. However, these teeth are approximately 7.5 centimeters long and 2.5 centimeters in diameter. Like the dolphin's, they are conical and interlocking, designed for grasping and tearing rather than chewing.

Like all cetaceans, orcas are well adapted to life in the water, and they are among the fastest marine mammals. They are capable of short bursts up to 50 kilometers per hour, but more commonly swim between three and 10 kilometers per hour. While they will typically dive to depths between 30 and 60 meters, they are capable of diving as deep as 300 meters without technological assistance. An orca will usually remain submerged between four and five minutes when diving, though they are capable of diving as long as 20 minutes.

Orcas eat as much as 45 kilograms per day. A male's lifespan can exceed 50 years with adequate medical care, while a female can live up to 90 years. As with humans, regular longevity therapy can prolong an orca's lifespan indefinitely.

Psychology

Genlifted orcas are considerably less intelligent than their dolphin cousins, and their psychological makeup is also thought to be far less complex. Plodding, methodical thinkers, orcas are nonetheless able to respond with terrible quickness when they react instinctively. An orca's psychology is largely dependent upon the classification of their social relations and natural behavior.

Sociology

Resident orcas are highly social, peaceful creatures that interact very well with humans. On Earth, primal residents once gathered in pods of 50 or more based on familial relationships, feeding on a variety of fish and aquatic vegetation. Resident orcas will often be content with a lifestyle very like that of primal orcas and usually lack the personal motivation to become concerned or involved in human affairs. Earth-born dolphins are fond of referring to these orcas as "civilized" and often develop long-lasting friendships with them.

Resident pods are structured according to a matriarchal hierarchy. Each pod usually consists of an aged matriarch and her offspring, who usually spend their entire lives in their mother's group. Pods will sometimes split if they become too large, or merge if they become too small, but each pod

has a distinctive primal dialect. This dialect is unique enough that even human scientists can use it to identify the social membership of individual orcas.

Transient orcas are somewhat anti-social, aggressive, nomadic hunters. The favorite foods of their primal ancestors were other marine mammals, including whales, porpoises, dolphins, and seals. For obvious reasons, modern transients have had to curb some of these appetites. They travel in hunting pods that rarely exceed a dozen members, mostly male, and they sometimes join resident pods during the mating season. Genlifted dolphins have an instinctual fear of transient orcas and commonly refer to them as "savages." Most dolphins, of course, are reluctant to acknowledge any such fear, claiming instead that they are merely embarrassed by their cetacean cousins' primitive antics.

While primal transients did not share the same loyalty to a fixed territory as their resident brothers and sisters, their pods were nonetheless characterized by advanced social organization. It is believed that organization and cooperation were absolute necessities for the orcas to successfully hunt the larger baleen whales. With genetic uplift, transient orcas most readily adapted to life in human military organizations on the basis of these social tendencies.

Culture

Many of Earth's resident pods have exhibited very little cultural development since the Woods Hole-Johns Hopkins Cetacean Project. For the most part, they remain devoted to the ties of family and community, and are rarely willing to leave their home waters in pursuit of human goals. The lifestyle of most resident orcas is therefore largely indistinguishable from their primal ancestors. Feeding, playing, mating, and various other social activities dominate their waking hours.

The only real cultural development that human researchers have identified among resident orcas relates to the care and raising of the young. As with dolphins, this duty was the exclusive province of females in primal orca communities. In recent years, male orcas have begun to take a greater role in the care of their children. It has been suggested that this phenomenon is one aspect of an emerging emphasis on more formalized education among resident orcas. Fathers spend some portion of each day with their offspring, particularly their male offspring, instructing them in subjects ranging from the history of the species to hunting techniques and mating practices. Some researchers have claimed that this development represents a cultural achievement that even dolphins have not matched, the institution of true fatherhood.

Transient orcas have adapted most easily to interaction with the human world. The social cooperation of their primal ancestors has evolved into a deep-seated "teamwork ethic" that allows them to function smoothly and efficiently in human groups. Transient orcas are most comfortable in structured, almost rigid, social groups, where cooperation is a much more powerful motivation than competition. They perform admirably in professional groups with a clear hierarchy and in which each member of the group has a carefully defined role. Because of their intellectual limitations, transient orcas have most often found the opportunity to become involved in such groups within military organizations, but this is by no means always the case. Orcas have participated in such cooperative professional groups as research teams developing underwater technologies and exploring the wilds of Poseidon.

As with dolphins, spiritual life is important to both resident and transient orcas. While many orcas are devotees of the Whalesong, most human researchers believe the Church is dominated by dolphins. It is unclear whether this is true. It may just be that dolphins are more capable of communicating their spiritual beliefs and values to humans. Nevertheless, it certainly appears that most of the positions of leadership within the Church are filled by dolphins, and some researchers have suggested that orcas are portrayed as antagonists in some parts of the Whalesong epic. Because primal orcas hunted whales and dolphins, this is not entirely surprising. However, both orcas and dolphins have insisted that the hunting orca is just one of many powerful images in the Whalesong epic, that it is part of the history of the oceans, and that the epic does not attach the moral judgments to this image that humans do.

Technology

As mentioned above, cetaceans enjoy a wide variety of sophisticated technologies that have been developed to meet their specific needs. These technologies include sonic trodes, cybernetic weapons harnesses, and perhaps most importantly, CICADAs.

A few examples of how cetaceans can integrate specific skills with this technology should be helpful to Game Masters and players alike.

Cetaceans would use the Computers skill to access computers, just like humans, but they would typically do so through the use of sonic trodes. With cybernetic devices such as micro-toolkits, cetaceans can also design and repair computer systems, but

these tasks typically require a specially constructed environment or the use of remotes.

Cetaceans should use the Remote Operations skill to pilot CICADAs and hover drones. In addition, Electronics will sometimes be necessary to use the sensor systems often installed in these machines for difficult or specialized tasks. Cetaceans use Remote Weapons to fire weapons mounted on CICADAs, hover drones, and cybernetic weapon harnesses.

Lifestyle

The material needs of cetaceans are entirely distinct from those of humans. Unlike humans, cetaceans do not depend on durable or consumer goods, and most prefer to live in the open water rather than enclosed dwellings. Cetaceans do, of course, require food. While most prefer to hunt just as their ancestors did, many simply do not have the luxury of this time-consuming task. On both Earth and Poseidon, there are businesses in many coastal cities and settlements that provide food for cetaceans. Likewise, any professional organization with cetacean personnel will have the resources and facilities to feed them. For the sake of convenience, most cetaceans have adopted the mealtimes of the humans with which they live and work.

In any case, beyond the necessity of food, cetaceans need and desire few material possessions. They have no use for cars, boats, fur coats, jewelry, or exercise equipment. Many necessarily require the cybernetic equipment that allows them to fully access the human world, and these devices are often their only, but prized, possessions. While most do not require dwellings, they do need a secure place where they can keep this equipment when they are not using it. Many also require a place to perform tasks not suitable to a fully aquatic environment. Again, most coastal cities and settlements offer structures that are a combination of temporary residence, storage room, and workshop. Likewise, professional organizations that employ cetaceans, from the GEO to the Incorporate, provide similar facilities for their cetacean personnel. Cetaceans typically refer to these areas as "workspace."

The physical layout of the typical workspace is distinctly amphibious and heavily automated. Usually, the workspace will be partially submerged, allowing the cetacean to remain in the water while working with equipment that is safe and dry within the structure itself. The workspace is often controlled by a central maincomp, which the cetacean can access through a sonic trode or other interface. This computer will control typical functions, such as climate, lighting, and communications. The computer will commonly be networked to a number of simple robots, microcomputers, and other automation that the cetacean can use to transfer objects from the water to the workspace, or to work with dry equipment and delicate devices.

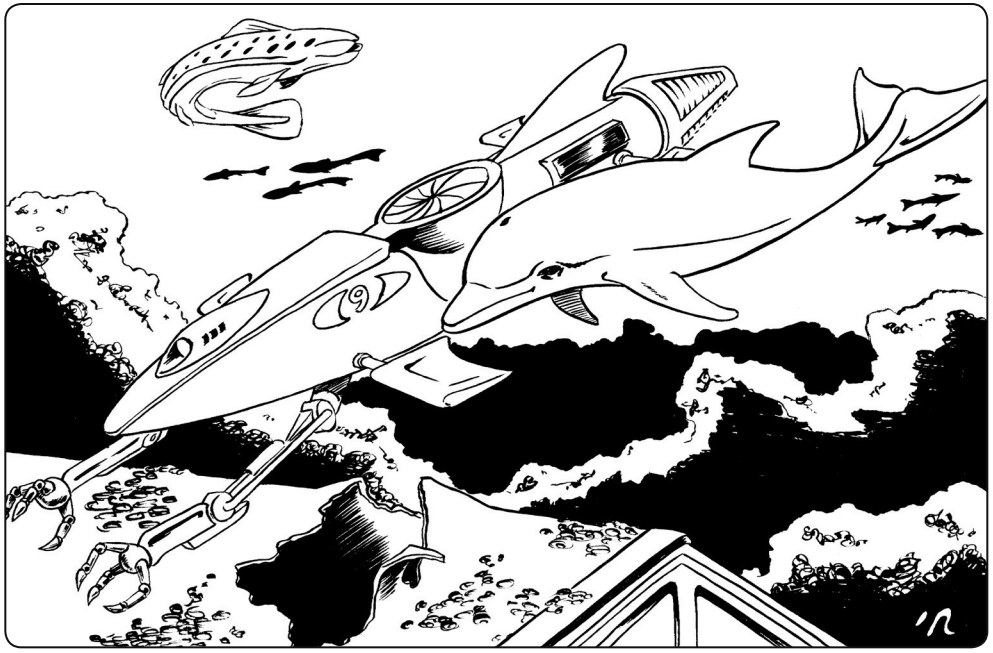
For the most part, cetacean workspaces are utilitarian. Cetaceans seem to have no desire to decorate or personalize these facilities, and they can usually be distinguished only by the function of the equipment they house. Similarly, the workspace is a place to pursue one's professional tasks, and is to be otherwise avoided in favor of the comforts of the open ocean, family, and friends.

Transportation

Because of the radically different environment to which they are adapted, transportation has been the greatest obstacle to the smooth integration of cetaceans into human society. Obviously, it is difficult for cetaceans to travel on land, and impossible without the use of expensive, bulky equipment. For most cetaceans, the hover drone component of CICADAs has offered an acceptable compromise with this limitation. With audiovisual equipment and a variety of other features, hover drones allow cetaceans to follow their human friends and colleagues most anywhere they go. Direct links to a hover drone are only possible over relatively short distances, but satellite uplinks and signal relays allow cetaceans to send their hover drones virtually anywhere.

These drones are also the primary alternative to long-distance transportation for cetaceans. Due to their size and life support needs, it is problematic and expensive to transport cetaceans long distances. While there are commercial air and rail carriers on Earth that offer service to cetaceans, they are rare and expensive. Unfortunately, these carriers are even more uncommon on Poseidon. The GEO Armed Forces and several Incorporate states are among the few organizations with the necessary resources. While special MHD harnesses, power shells, and other technologies are available to allow cetaceans to travel more quickly, most are content to remain at home and allow their remotes to take their places on long journeys.

An open comm link between a cetacean and a human companion with a sensory recorder and implant computer also allows a cetacean to see, hear, and feel everything the human does. This practice, called "piggybacking," is only common in cases where very close cetacean-human friendships have developed, and most humans find it a disorienting and somewhat schizophrenic experience. Communication between the host human



and piggybacking cetacean is so intimate that the host can even attempt tasks at the cetacean's direction for which he would ordinarily have no skill. For example, a dolphin technician piggybacking on a human with little or no computer training might be able to repair a maincomp, using the host as his eyes, ears, and hands. The Target Number penalty is dependent on the situation and left to the Game Master's discretion, but it will rarely be less than –3.

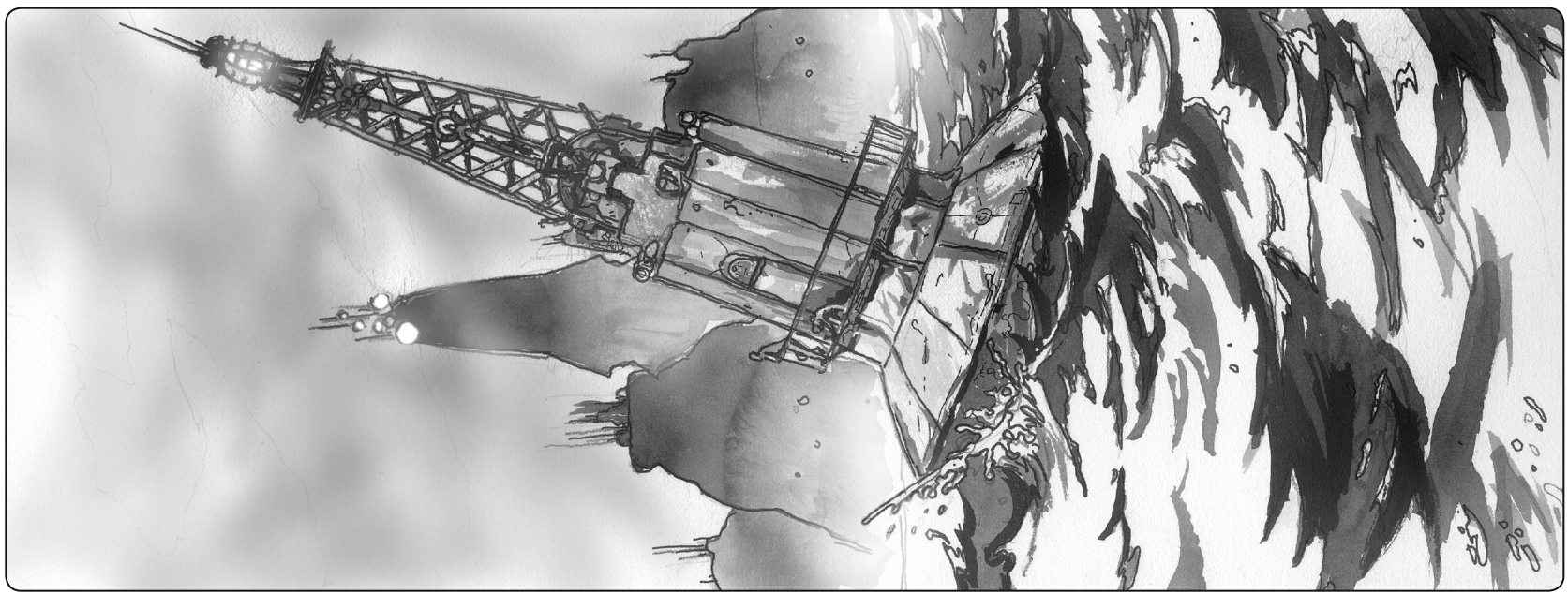
COMMUNICATION

Cetaceans were capable of basic communication with humans even before genetic uplift, but this communication was simplistic and rather one-sided. Dr. Marcos Gottfried is credited with surpassing this original and limited interaction and developing the basics of modern Interspecies Language, or Interspec.

Cetaceans are able to comprehend human language, and have actually demonstrated impressive linguistic ability, but their anatomy prevents them from easily pronouncing most human sounds. Conversely, humans are entirely unable to comprehend the subtleties of dolphin vocalizations, and have even more difficulty with pronunciation. Accordingly, Interspec is an odd language, one humans need only understand, and one cetaceans need only "speak." The language consists of a variety of simple human words, natural vocalizations, and gestures easily made by cetaceans and easily understood by humans. The language is difficult for humans to learn but is a valuable and effective form of communication.

Because the language is difficult and somewhat limited, some cetaceans have turned to modern technology for an alternative. In 2199, there are few cetacean newcomers to Poseidon who do not possess a translation computer. This streamlined device is typically mounted on a light harness or attached directly to the user's skin with organic adhesives. These translators function much like those used by humans. The integrated sonic trode allows the cetacean's vocalizations to be processed into human speech by the computer, which then outputs the human translation through integral speakers. Unfortunately, these devices are far from perfect, and their translations often range from the humorous or crude to the incomprehensible. While translators are common among newcomers, most native cetaceans still communicate exclusively through Interspec.

CHAPTER 10: TIMELINE



TIMELINE

1957 The Space Age begins in October when the Soviet Union launches the first artificial orbiting Earth satellite: *Sputnik Zemli*. *Sputnik 2* follows in November, this time with a passenger — a dog named Laika.

1958 The National Aeronautics and Space Administration (NASA) is formed in the US.

1960 Norris and Prescott find that bottlenose dolphins use echolocation to locate objects in the water.

Soviet cosmonaut Yuri A. Gagarin makes one orbit of the Earth in *Vostok 1*, making him the first man in space. During his flight time of 108 minutes, he reaches an apogee of 327 km and a perigee of 180 km. He lands safely in Siberia.

1962 John H. Glenn, Jr., aboard *Mercury-Atlas 6*, becomes the first US astronaut to orbit the Earth, in a flight of three orbits. In a speech delivered at Rice University, President John F. Kennedy challenges NASA to place a man on the Moon within 10 years.

We choose to go to the Moon in this decade and do these other things not because they are easy, but because they are hard. Because that goal will serve to organize and measure the best of our energies and skills. Because that challenge is one that we're willing to accept, one we are unwilling to postpone, and one we intend to meet.
— President John F. Kennedy

1967 Christian Barnard carries out the first heart transplant operation, transferring the heart of a 25-year-old woman into the body of Louis Washkansky, a 55-year-old grocer. Washkansky lives for 18 days.

1969 *Apollo 11* is launched. After entering lunar orbit, astronauts Buzz Aldrin and Neil Armstrong transfer to the lunar module. Michael Collins remains in lunar orbit following the separation, piloting the command and service module. The LM descends to the surface of the Moon on July 20, landing at the edge of Mare Tranquillitatis. Armstrong, at 10:56 PM (EDT), steps onto the surface of the Moon. He is joined by Aldrin, and the astronauts spend more than two hours walking on the lunar surface. They gather 21 kg of soil samples, take photographs, and set up a solar wind experiment, a laser-beam reflector, and a seismic experiment package.

1970 The first Earth Day is celebrated in the US.

1975 *Apollo-Soyuz* becomes the first international space flight.

1976 The National Academy of wScience reports that propellants from spray cans are causing damage to the ozone layer. Scientists at MIT announce construction of a functional synthetic gene, complete with regulatory mechanisms.

The tanker *Argo Merchant* runs aground, spilling millions of gallons of oil off the coast of Massachusetts.

1977 Apple introduces the Apple II, the first pre-assembled personal computer.

1978 Charon, Pluto's only moon, is discovered by scientists Christy and Harrington.

1979 At the Three Mile Island nuclear power station near Harrisburg, Pennsylvania, a coolant accident releases radioactive gas into the atmosphere. Although radioactive fallout is minimal, the political fallout is devastating, crippling America's nuclear power industry for years to come.

The first test tube baby, Mary Louise Brown, is born in England.

1980 The US Supreme Court rules that a microbe engineered by General Electric for oil clean up can be patented.

1981 Crippen and Young become the first astronauts to use a re-useable launch system with the first launch of the space shuttle *Columbia*.

The Centers for Disease Control and Prevention publish the first reports of the AIDS epidemic based on five unexplained cases of pneumoncystis pneumonia affecting gay men in Los Angeles.

IBM introduces DOS and markets the personal computer system to the general public.

The Chinese duplicate a golden carp, the first animal to be successfully cloned.

1982 William DeVries transplants the first artificial heart, developed by Robert Jarvik. The recipient, Barney Clark, lives for more than three months after the surgery.

Eli Lilly & Co. releases the first commercial product of genetic engineering: human insulin produced by bacteria.

1984 A Union Carbide plant in Bhopal, India releases several tons of methyl isocyanate into the air, killing more than 3,300 Indians in history's worst industrial disaster. The Indian government is awarded more than 470 million dollars in punitive damages from Union Carbide.

Allen Wilson and Russell Higuchi are the first to clone genes from an extinct species.

1985 A NASA TR–1 survey aircraft operating over Argentina and Chile confirms the existence of a "hole" in the ozone layer over Antarctica.

1986 The *Challenger* shuttle is destroyed 73 seconds after launch due to a failure of an O-ring gasket on one of its boosters. Seven astronauts and Christa McAuliffe, who had been selected the preceding year as the first "teacher in space," are killed in the disaster.

The *Mir* space station, designed as a successor to the *Salyut* series, is launched on February 19. Described by the Soviets as the core of the first permanently manned space station, it features six docking ports and can be occupied by two cosmonauts.

One of four reactors at the Chernobyl nuclear power plant explodes, spreading radioactive material over the Soviet Union and Scandinavia. More than 30 people die as a direct result of the accident, and more than 16,000 square kilometers are declared off-limits because of residual radiation and fallout.

The Department of Energy (DOE) announces its Human Genome Initiative after a meeting in Santa Fe, New Mexico, to explore its feasibility. Pilot mapping and information projects are pursued at DOE national laboratories to develop critical resources and technologies for genetic analysis.

1987 The Montreal Protocol, signed by 24 countries, bans the use of CFCs.

The world population passes the five billion mark.

1988 The US shuttle program is resumed on September 29, with the flight of *Discovery* and its crew of five astronauts.

More than 10,000 United Nations Peacekeeping troops stationed in Cambodia, Angola, and the Western Sahara are awarded the year's Nobel Peace Prize for their mediation of conflicts throughout the world.

The Human Genome Organization is founded by scientists to coordinate global collaboration.

The first patent for a vertebrate is issued to the Harvard Medical School for their genetically engineered mouse.

1989 Exxon Oil's *Exxon Valdez* runs aground in Prince William Sound and spills more than 260,000 barrels of crude oil into the ocean in the worst oil spill in history. The local ecology of Prince William Sound does not recover fully for more than 20 years and judgments against Exxon total more than $5 billion.

1990 The long-delayed $1.5 billion Hubble Space Telescope is deployed by space shuttle, but because of an optical defect, initially fails to provide the degree of resolution for which it was designed.

The Human Genome Project is launched.

1991 While fighting a rearguard action during the First Persian Gulf War, Iraqi soldiers set fire to hundreds of oil wells on the Arabian Peninsula. The soot from these fires, many of which burn for months, produces toxic plumes visible even from space.

1992 The membership of the United Nations grows to 172 nations.

UN member state Norway resumes whaling in the Arctic and North Atlantic oceans.

NASA begins the Search for Extraterrestrial Intelligence program (SETI).

The first genetic linkage map of the entire human genome is published.

1993 The Greenhouse Effect is reported as a statistical certainty when a team of meteorologists conclude an extensive global climatological survey.

1994 China resumes above-ground nuclear testing at its Lop Nor testing grounds in Xianjing province, releasing hundreds of tons of radioactive soil into the atmosphere. China, whose army outnumbers any other nation in the world by more than two to one, maintains that

the testing is completely legal under UN charter statements giving each member state the right to defend itself against aggression.

The genetic mapping five-year goal is achieved a year ahead of schedule.

The Genetic Privacy Act is the first legislative product of the Human Genome Project. It proposes the regulation of collection, analysis, storage, and use of DNA samples and the genetic information obtained from them.

1995 The Equal Employment Opportunities Commission guidelines extend the Americans with Disabilities Act employment protection to individuals experiencing discrimination based on genetic information related to illness, disease, or other conditions.

The Human Genome Project achieves its goal of a high-resolution map of mouse genes.

1996 The Centers for Disease Control report that more than 320,000 Americans have died of AIDS since its discovery in **1981**.

A treatment for the HIV infection is introduced, called highly active antiretroviral therapy, or HAART. It proves to be highly beneficial to many HIV-infected individuals.

Evidence of life on Mars is discovered. A NASA research team of scientists finds compelling evidence in a meteorite that strongly suggests primitive life may have existed on Mars more than 3.6 billion years ago. Inside an ancient Martian rock that fell to Earth as a meteorite are the mineral features characteristic of biological activity and possible microscopic fossils of primitive, bacteria-like organisms.

There is not any one finding that leads us to believe that this is evidence of past life on Mars. Rather, it is a combination of many things that we have found. They include Stanford's detection of an apparently unique pattern of organic molecules, carbon compounds that are the basis of life. We also found several unusual mineral phases that are known products of primitive microscopic organisms on Earth. Structures that could be microscopic fossils seem to support all of this. The relationship of all of these things in terms of location — within a few hundred thousandths of an inch of one another — is the most compelling evidence.
— JSC planetary scientist Dr. David McKay

Water-ice is discovered by the *Clementine* spacecraft at the bottom of a 13-kilometer-deep crater at the Moon's south pole.

Dr. Ian Wilmut, an embryologist at the Roslin Institute in Edinburgh, Scotland, becomes the first scientist to successfully clone a mammal. Dolly, a female domestic sheep, is born on July 5th and lives for 6 years.

1998 Astronomers find evidence to support the theory of dark matter and its role in the expansion of the universe.

1999 Significant advances in stem cell research lead to plausible near future cures for cancer, Parkinson's disease, spinal injuries and many other ailments.

2000 The first draft of the complete human genome is submitted to the Human Genome Project.

2001 Scientists assemble molecules into basic circuits, raising hopes for a new world of nanoelectronics.

2002 Scientists discover the properties of small RNA, which prompts biologists to change their view of the cell and its evolution.

2003 Astronomy research confirms that the universe is made up largely of dark energy and dark matter, and establishes a firm age and precise speed of expansion.

2004 Mars Exploration Rovers A and B, Spirit and Opportunity, are landed on Mars. Over the next several years the rovers make significant discoveries about the red planet including evidence of water having existed at one time.

2005 Full completion of human genome sequencing as well as many other genomes leads to a greater understanding of human evolution and relation to primates.

2006 Grigoi Perelman conclusively proves the Poincaré conjecture of mathematics. This breakthrough in topology helps the research of complex organic molecules used in many fields.

2007 Techniques that scan for hundreds of thousands of genetic differences at once link particular variations to particular traits and diseases in ways not possible before. Efforts to catalog and assess the

effects of insertions and deletions in DNA show that these changes are more common than expected and play important roles in how genomes work — or don't work.

2008 Scientists achieve a long sought feat of cell alchemy, cellular reprogramming. Skin cells are "wiped" of their developmental memory and reprogrammed into stem cells. This leads to early attempts at biomodification.

2009 Paleontologists announce the discovery of a near complete fossil skeleton of Ardipithicus ramidus. Dated at 3.9 to 4.4 million years old, the skeleton of a 50kg female, nicknamed "Ardi", is the oldest human ancestor found to date. Nearly one million years older than Australopithecus afarensis, Ardi sheds new light on human evolution.

The first quantum machine is created on August 4 by Aaron D. O'Connell while pursuing his Ph.D. under the direction of Andrew N. Cleland and John M. Martinis at the University of California, Santa Barbara . O'Connell and his colleagues couple together a mechanical resonator, similar to a tiny springboard, and a qubit, a device that can be in a superposition of two quantum states at the same time. They're able to make the resonator vibrate a small amount and a large amount simultaneously — an effect which would be impossible in classical physics. The mechanical resonator is just large enough to see with the naked eye — about as long as the width of a human hair.

2010 Bioengineers at the J. Craig Venter Institute create the first self-replicating, synthetically designed life form, Mycoplasma mycoides JCVI-syn 1.0. The scientists create the genome entirely on computers, assemble the DNA in pieces and insert it into a yeast cell. Within a few hours the DNA self-assembles and a new organism emerges.

2011 Lavender Organics patents a technique for manipulation of the human genome in newly conceived fetuses. The technique allows for the manipulation of simple characteristics like hair and eye color. The procedure makes basic genetic modification available to the public for the first time. Concerns and debate about the ramifications of manipulating the genetic code of human beings is renewed worldwide.

2012 A viable synthetic substitute for human blood is developed. While it is anticipated to markedly decrease the tremendous demand on the world's blood banks, public distrust and the potential for medical malpractice suits keep it out of most hospitals in developed countries.

2013 A researcher in Japan clones a cell taken from the flank of an albacore tuna. The cell is duplicated over a billion times into a slab of meat that is kept alive artificially for several weeks. The technique is proclaimed as the farming method of the future, but proves prohibitively expensive.

2014 Failure of the ruling government in Iraq and the looming sociopolitical unrest born of it leads to the formal unification of Iran and Iraq, and the United Islamic Republic (UIR) is born. Though UN observers are denied access to the elections during the unification process, the new republic is given membership in the United Nations and is recognized by most UN member states, with the exception of the United States and Israel.

Several of the largest internet provider companies merge into a single multinational corporation known as CommCore.

2015 An ESA probe to Europa discovers the first evidence of surviving life on another world in the form of organic polymers found on the ocean floor of the Jovian satellite.

It really is a fascinating organism. This little molecule scavenges things like magnesium and calcium from the rocks it's stuck to, then it uses the carbon and hydrogen in the rock to make more molecules. It's alive, and it's eating Europa.
— Roger Smythe, Johnson Space Center

CommCore, the world's primary online data service, announces that it moved more than 100 exabytes of information every hour during the preceding year. The FBI's annual crime statistics indicate a 250% jump in computer crimes during the same period.

2016 Ford Motor Systems introduces the world's first production passenger ground-effect vehicle. Hovercraft become popularly known as skimmers.

2017 A team of physicists from Stanford E, Fermilab, and the Russian Academy of Sciences initiate, control, and sustain a fusion reaction. The reaction is maintained for 57 days, but requires significant power to keep running.

2018 In response to pressure from the UN Security Council, the United Islamic Republic grants autonomy to the Kurds, creating the Republic of Kurdistan.

2019 More than 2,000 people die when a toxic compound is released into the water supplies of Los Angeles, Paris, Tokyo, London, and Berlin on Earth Day. Zero Nation, an organization protesting population growth, claims responsibility. Many survivors find themselves sterile, while others are burdened with children suffering severe birth defects.

2020 Indonesia emerges as one of the four major Asian powers, joining China, Japan, and India.

2021 Feinbaum-Blanc Investment Group completes Van Diemen Spaceport in the Australian Outback. Van Diemen begins regular weekly service to orbit providing resupply for the increasing construction needs of corporate space programs. Diagnosis of virtually any illness is possible in a few hours by examining a patient's Human Protein Index.

2022 The UIR invades Kurdistan, as well as the former Soviet republics of Azerbaijan, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan. A UN coalition led by the United States, Saudi Arabia, and Turkey deploy forces to the region in preparation for an expected attack on Afghanistan and Pakistan. The expected invasion never materializes, but the abundant resources of the former Soviet republics, together with the largest petroleum reserves in the world, elevate the UIR to the status of a legitimate superpower. Afghanistan and Pakistan become buffer states between the UIR, India, and China.

2023 Integrated Circuits creates the protein-based data card. One data card holds a terabyte (1,000,000 MB) of information. The data card is the precursor of the dataspike.

Back surgery is revolutionized with the release of artificial spinal discs. Made of titanium and cobalt chrome, these new discs are more affordable, last longer, and are rarely rejected by the body. Small springs are substituted for the cartilage cushions between the discs.

2024 Hakamichi World, a consortium of American, Japanese, and European corporations, initiates a fusion reactor that produces a permanently sustainable electric current. The prototype reactor itself, although significantly smaller than the Fermilab reactor, is known as "Humongous Hak."

2025 TransWare releases the first commercial direct neural interface. Once only found in certain military applications, this item creates an explosion of new devices and software.

Earth's population reaches eight billion.

2027 Biogene Corporation signs a treaty with the government of Colombia, giving it the legal authority to prosecute any party presenting a threat to the company or its employees. Biogene, which has supplied much of Colombia's tax revenue for several years, has long been pushing for a certain degree of autonomy. The treaty, viewed with skepticism by many in the international community, and especially the UN, gives Biogene the power to appoint judges, legislate and enforce laws, and arm a paramilitary security force.

Hmm… I dunno. They say that Biogene's going to take care of us. They've got all kinds of new authority under this treaty. Arrest, prosecute, even execute. I guess that's a good thing. But what I want to know is, who're they going to use this new authority on?
— Resident of El Dorado, Biogene company town

2029 Biogene puts its treaty with the Colombian government to the test. Eduardo de Jesus is arrested, tried, and convicted by a judicial system entirely appointed and

administered by Biogene. De Jesus' execution takes place in the central square of El Dorado early on the morning of February 1. Less than one week later, the United Nations threatens Colombia with economic sanctions and international censure, and the government rescinds the treaty.

Feinbaum-Blanc defaults on taxes to the Australian government. This action is met with legal protests from the Australians which FB lawyers drag through various government courts for the next 28 years. During this time, the spaceport continues operations.

2031 The United Nations reaches an unprecedented level of influence in the international arena, as more and more nations come to rely on UN protection from commercial interests.

Several manufacturing companies contract to build a station in orbit that will be capable of turning out enough zero-g-grown semiconducting crystals to supply more than 50% of the world's yearly market. Construction costs are expected to top three billion dollars and be recouped in the first year.

Biogene Corporation announced today that late last month, a Biogene employee carried to term a baby girl whose genome was modified in vivo. The girl had been engineered to be more efficient than an average human. Biogene public relations officials stated that modifications include a heart that is 40% stronger than normal and visual sensitivity well into the infrared. The cost of bringing this one child to term is estimated at nearly 50 million dollars. Biogene officials declined to comment on how many times this procedure has been attempted, or whether they plan to continue with the project. The baby girl has not yet been given a name. — Reuters News Service

2033 A torch ship on approach to Van Diemen Interplanetary loses attitudinal control and crashes into the Amazon basin. Its fusion drive fails catastrophically, and 50,000 square miles of rainforest burn to the ground. The firestorms created by the blaze disrupt weather over the entire basin.

In June, the Big One hits California. The first quake registers 7.6 in San Francisco and property damage is extensive, though there are only 400 fatalities. Berkeley loses 1,039 residents an hour later, and early the next morning Santa Barbara suffers a 6.4 quake. Throughout the day, Monterrey, Los Angeles, and Riverside are also hit by quakes ranging from 4.3 to 8.1 in magnitude. By the time the aftershocks have subsided, the quakes are responsible for more than 150,000 fatalities throughout the region. Geologists attribute the quakes to new growth faults, which are at low angles to the ground and very difficult to detect with seismographs. It will take many cities in California nearly 20 years to fully recover from the devastation.

2035 Biogene begins implanting all of their ranking executives with data transmitters. Each transmitter is designed to continuously record important health information and relay it to a central terminal. Biogene points to this as a revolution in the company's ability to care for its employees. The action is widely criticized in the UN and among human rights organizations as yet another attempt by a multinational corporation to transform itself into a police state.

So now the hoods at Biogene are interested in taking care of their people. That's a switch. But for some reason, they're going to start taking an interest in the health and safety of their employees. Or are they? Might it just be the location and physiology of their folks that Biogene is taking an interest in? Because those little LifeScan transmitters are set up to transmit location and metabolism of the subject at any time. Do you really want your boss to know where you are and what you're doing every minute of the day? When you eat, when you sleep, when you have sex, when you do drugs? Thanks, I'll pass. — Shannon Sterling, Columnist

2038 Much of South America and Asia are affected by severe food shortages. Starvation becomes one of the leading causes of death in more than 40 countries. The United Nations High Commissioner for Refugees requests the authority to requisition stockpiles of food in the United

States and Canada. In the US, her request is denied after several weeks of congressional debate.

The world's tenth major spaceport is built on the immense salt flats outside of Salt Lake City, Utah.

2042 The Woods Hole Oceanographic Institute, in cooperation with Johns Hopkins University, develops a procedure including viral and biochemical therapy that, when coupled with specific biofeedback training, uplifts cetaceans to apparently human-level intelligence.

2043 The humpback whale, last of the great whales, is declared extinct.

El Niño fails to form in the South Pacific for the eighth straight year. Much of Micronesia and the Caribbean becomes uninhabitable as Class Four and Five hurricanes repeatedly sweep the regions.

A researcher with Gibson Microelectronics develops a ceramic superconductor that has a resistance of zero at 257° Kelvin (–14°C). Forming only in zero-gravity, the ceramic is enormously expensive to produce in quantity.

2045 Anasi Systems, a French genetics firm, develops a counter-virus designed to neutralize HIV. The treatment, still in its experimental stages, promises to end the greatest medical threat of the 21st century.

2046 Feinbaum-Blanc investment group acquires the previously struggling SilverStar Manufacturing.

Biogene patents a genetically engineered drug that selectively suppresses the human immune system. With the arrival of Hysporine, the success rate for most transplants reaches nearly 90%.

Gibson Microelectronics refines its superconductor to be effective at 268° Kelvin (–5°C).

2049 SilverStar Manufacturing perfects an efficient and economical method for manufacturing fusion reactors. SSM becomes a billion-dollar-a-year business and increases production of fusion drives to one every nine days. Van Diemen Interplanetary reports a tenfold increase in traffic to and from near orbit.

2050 The United Nations contracts with SSM to produce a fleet of heavy-lift fusion craft to begin construction of a self-sufficient mining and research colony on the surface of the Moon. Ibrium City is intended to house more than 10,000 permanent residents when finished. Preliminary teams begin surveying various sites on the Moon.

On Earth, fertility rates stabilize at 1.7 children per couple. Global population reaches 8.8 billion.

2051 Atlas Aerospace finishes construction of its *Icarus Station* orbital facility. Icarus boasts room for more than a thousand individuals, most of whom are engaged in specialty manufacturing, although tourism of the facility also becomes a significant part of Atlas' income.

Biogene releases a follow-up to its enormously successful Hysporine. Omega-suferon is marketed as an immune-booster drug of unprecedented potency. Biogene claims that patients administered regular doses of Omega-suferon do not suffer from even the common cold.

2052 A site is selected for Ibrium City, and construction of an initial complex is completed.

2055 University College in London suggests that they have discovered a way to preserve human embryos indefinitely. This technique allows a couple to conceive a child while they are young and fertile, saving the healthy embryo until the parents are ready for the commitment and responsibility of raising a child.

2056 In an attempt to better its ailing reputation among the Swiss populace, SilverStar Manufacturing's parent corporation, Feinbaum-Blanc Investment Group, makes major contributions to the Swiss government.

It is this commission's opinion that both sales of FB-manufactured products and government decisions concerning FB projects will become increasingly favorable if FB makes itself an integral part of public life throughout Switzerland. The potential benefits of a population favorably disposed to Feinbaum-Blanc, coupled with a government whose decisions can be manipulated by that good favor, cannot be overestimated.
— Excerpt from FB internal memorandum

Dr. Josef Ben-Gurion's team begins construction of a gravity-wave detector in Earth orbit.

When Libya's petroleum reserves are exhausted, the economy collapses and the country is torn by civil war and social unrest.

2058 Ibrium City, the first permanent settlement on the Moon, is completed.

2059 DNA-based optical data storage becomes commonplace. A cubic centimeter of commercial grade storage gel can hold 2 petabytes of information. A typical 5 liter (**5000** cubic centimeter) data storage unit holds 10 exabytes of information.
Earth's population is now nearly nine billion.

2060 Ingratiating itself with the Swiss, Feinbaum-Blanc develops a controlling influence in the Swiss government to remove bureaucratic limitations on its interests. No public announcement is ever made, but no question remains who holds the reins of power in the Alpine nation. A grassroots political resistance movement begins among the Swiss people, but it remains largely powerless.

2062 A United Nations team uses a fusion torch ship to land a prefabricated station at the foot of Olympus Mons on Mars. The team claims all of Mars and its gravity-well for the United Nations.

2065 Albert Charboneau, Swiss Prosecutor General, is investigated for taking kickbacks from a dummy corporation that fronts for FB Investments. Charboneau is never indicted.

2068 A skyhook is completed atop Mons Pavonis on Mars. The structure reaches 17,000 km to *Ares One*, an orbital facility in stationary orbit.

2070 An exploration team launched from the UN World Space Station in Earth orbit lands on Ceres in the asteroid belt. The expedition's main outpost, Delphi Station, is a permanent structure, gathering and refining most of its required resources from the asteroid itself.

2073 India's Prime Minister, Devaki Kamath, directs Indian forces to invade Kashmir, as well as several border areas occupied by China. She also closes the border to Bangladesh and annexes Sri Lanka. These actions touch off a war between India, Pakistan, and China that lasts more than three years.

2075 Atlas Materials establishes a mining base in the asteroid belt and immediately realizes an enormous profit in mineral mining.
Astronomers John Masters and Yuri Vishenko discover evidence of anomalous gravitational forces at work on objects in the Oort cloud. They are able to rule out that the object is a protostar or black hole, but are unable to say what the object could be. Later in the year, they publish evidence of a massive object beyond the orbit of Pluto. Amateur speculations about the object range from UFO's to black holes.

2076 Physicist Josef Ben-Gurion proposes that Masters and Vishenko may have discovered a Lorentzian wormhole

2077 *Prometheus II*, a fusion-powered probe designed at the Jet Propulsion Laboratory, is launched by the UNSA to investigate the anomaly.

2078 *Prometheus II* enters the wormhole. Five days later, contact is reestablished with the probe, which had exited the wormhole in the Lambda Serpentis System, 35 light-years from Earth. After collecting data on this far-away star system, *Prometheus* safely returned to the Solar System.

2079 After nearly a decade of construction, the Earth Skyhook is completed. The structure links *Clarke Station* in geostationary orbit to Port Horizon, an international city on the outskirts of Quito, Ecuador.

2080 The UN launches the *Argos 12* mission to Lambda Serpentis II. The Argos astronauts discover an Earth-like world with a complex biosphere inexplicably based on DNA.
The UNSA begins construction of a massive colony ship, the *UNSS Cousteau*. The effort, called the Athena Project, is intended to colonize Lambda Serpentis II and is expected to cost more than a trillion dollars. Economists argue that either the world will be rendered destitute by such an exodus of resources, or that spin-off technology will fuel the global economy to new heights.
A relatively unknown genetic engineering firm, GenDiver, is contracted to provide limited modification of potential colonists. Modifications include webbing between fingers and toes, significantly

more efficient hemoglobin for carrying oxygen in the blood, and skin more resistant to saltwater.

2085 Work is completed on the *Cousteau*, and it is stocked with equipment and genetically engineered, cryogenically stored embryos. 5,000 colonists are selected from a pool more than 50 million applicants to participate in the colonization effort.

2086 The *UNSS Cousteau* leaves orbit. After rounding the sun, it leaves the Solar System and traverses the Masters-Vishenko wormhole. On December 12, the *Cousteau* enters orbit around Lambda Serpentis II, and the crew immediately begins detailed surveying operations.

2087 On January 3, the *Cousteau* begins a landing effort on the surface of Lambda Serpentis II. The Colonial Headquarters, a modular structure stripped from the colony ship, is established on the site of what would later become Haven.

In the economic depression following the first phase of the Athena Project, a number of multinational corporations sign the Icarus Accords aboard *Icarus Station*, pledging their mutual assistance against any perceived threats from the UN. A serious concern in the General Assembly, the agreement would have no consequences for the global balance of power for years to come.

2088 The Athena Project colonists finish construction of Haven, the first settlement on Poseidon. The first native Poseidoner, Jessica DeMarco, is born two months later. Haven aquaculture technicians begin farming the shallows around the island for several species of native seaweed.

2090 A virus genetically engineered by Fischer Foods to attack a parasitic fungus damaging rice crops is released into the environment. The virus, an untested strain, begins to infect the rice it is intended to protect. Hundreds of thousands of people in Asia starve as rice crops fail throughout the continent. The method of release is unclear, but many claim it was a premature and uncontrolled field test by Fischer.

Earth's population stands just shy of 10.5 billion, while Luna's permanent residents number 11 million.

2091 New strains of the Fischer virus are discovered in sampled crops. The new mutations are decidedly more virulent than the original. These new versions of the virus begin to attack not only rice, but many other species of grains and grasses as well. The United Nations begins massive hunger relief efforts in southern and central Asia.

Several more villages are founded on the surface of Poseidon by small groups of colonists. Among these are the towns of Atlantis and Second Try.

Ibrium City's mass driver begins operations, sending more than 10,000 metric tons of refined metal to Earth orbit in its first year of operation.

2092 Starvation is widespread throughout most of the Earth due to the Fischer Virus, and the catastrophic famine is now commonly known as the Blight. Many genetics corporations and national governments focus the efforts of their R&D teams on preserving their interests against the virus, rather than trying to destroy it.

A small settlement on Poseidon is destroyed in a cyclonic storm many times more powerful than any terrestrial hurricane. More than 200 colonists lose their lives.

2093 Conservative United Nations estimates place the global death toll as a direct result of the Blight at one person in 10.

An executive order from the Secretary General creates the Global Ecology Organization. The UNGEO is designed to monitor and enforce compliance of the UN member states and corporations with the emergency regulations enacted in response to the Blight.

The stations on Luna and in the asteroid belt, hydroponically self-sufficient, remain free of the Fischer Virus and are unaffected by the Blight. The government of Luna establishes a full embargo on all traffic from Earth. Mars Colony survives with needed supplies being launched from the mass driver on Luna.

The construction of the Athena resupply vessels is deferred in the face of the massive resource expenditures required to combat the Blight. In the coming years, the Athena Project ceases to exist as the UN is forced to continually ration its dwindling resources.

Okay, we — that is, Luke and Luke's little brother and I — we were out north of Haven, looking for rockhoppers. You know, those little brown jumping herpetoids? Well, we were over this reef, maybe five, 10 meters. I had a netbag full of hoppers, when I see this small school of stingrays. Well, not really rays, more like a combination of an overgrown nudibranch and a furless seal. They paid no attention to Luke or me, but definitely seemed interested in Luke's little brother — swimming around him, rubbing up against him. It was weird and kind of eerie. When Luke and I moved to fend them off, they disappeared over the deep edge of the reef. We got to Luke's brother and he was okay but was in some sort of trance… like he was drunk, or something. We got him to the surface fast, but by the time we hit air, he seemed to have come out of it. The whole thing was really creepy.
— Mikael McRunion, Poseidon colonist

2094 Protesting government ineffectiveness in response to the Blight, ecoterrorists bomb the Acropolis in Athens, destroying it completely. They demand immediate action, threatening to also destroy the Taj Mahal, Stonehenge, and the Louvre.
In response to social unrest and political ineffectiveness, Biogene Corporation, with the support of the Colombian government and the signatory corporations of the Icarus Accords, petitions the UN to recognize the sovereignty of its city-state at El Dorado. Biogene claims, unlike the Colombian government, it has the resources to restore social and political order to the region, thereby lessening the suffering of its citizens and the resulting burden on the UN itself. After heated debate in the General Assembly, the UN pushes through a resolution granting "formal sovereignty to any Incorporated city-state capable of satisfying the obligations of government in regions where traditional national governments have failed to do so." With this resolution, El Dorado becomes the first of the Incorporate city-states granted formal sovereignty.

2095 The UNGEO is given the authority to enforce its emergency mandates on member national and Incorporate states that violate regulations pertaining to the Blight effort. Its enforcement arm, the UN Marshal Service, becomes a powerful world police organization.
Cousteau's main computer crashes. Left without guidance or environmental controls, the vessel is completely stripped of all usable resources, sealed, and left in orbit. The last of her three reactors is taken to the surface to join the others in providing the colonists with power.

2096 The resupply ship from Earth fails to arrive and concern in the colony runs high as predictions of doom prevail. The colony experiences its first suicide when a Haven family uses a small mining charge to destroy their boat in the Haven harbor.
Terrorists detonate explosive charges along a section of the Earth Skyhook, about 10 km above the surface of the Earth. The massive cable is almost completely severed and remains inoperable for 40 years.

2098 The UN introduces its specially trained, genetically engineered Shock Troops in a strike against a food-processing plant in Russia. The plant, maintained by Vostonaya International, had been illegally hoarding food reserves and supplying a few corporate enclaves with disproportionate allowances.

2100 The World Health Organization announces that continued mutation of the Fischer Virus makes the containment of the Blight unlikely any time soon.
In a desperate and unanimous vote, the Security Council of the United Nations elects to subordinate all organizations and functions of the United Nations to the Global Ecology Organization, giving the GEO the necessary power to protect and salvage the planet's threatened ecology. One week later, the General Assembly approves this radical restructuring. Several nations, including the United States, Switzerland, and China refuse affiliation with the newly created world government.

2101 Claiming that the Fischer Virus was developed at a biological warfare facility in Jaipur, China launches a series of attacks into India and Pakistan. Sensing an opportunity, the United Islamic Republic invades Afghanistan. The fledgling GEO responds by leading a multinational coalition of its

member states in deploying troops to Saudi Arabia and Malaysia. Naval assets are also dispatched to the Persian Gulf, the Indian Ocean, and the Sea of Japan. Conflict continues at some level in the region for more than fifteen years, as the Blight prevents all participants from committing sufficient resources to end the hostilities. The Second Indo-Chinese War ends with the UIR controlling much of Afghanistan, and India controlling Pakistan and Bangladesh.

2103 While on a sub-orbital flight from Haven to New Jamaica, the *Cousteau's* lander, *Calypso*, reports observing a school of animals swimming just below the surface of the ocean at speeds of more than 40 knots. The school appears to cover more than 50 square kilometers. When a skimmer from New Jamaica arrives to investigate, no trace of the animals can be found.

2104 Most national governments become vestigial institutions as the GEO usurps more and more authority combating the Blight. Most popular support has shifted either to the GEO or to those Incorporate states that have managed to protect their interests and citizens from the horrors of the Blight.

Medical supplies on Poseidon run short in the wake of a major fire that destroys most of Kingston, a town more almost 3,000 kilometers from Haven.

The ray-like beings first encountered in 2093 are observed again, this time apparently herding a school of fish.

2105 With no resupply from Earth, the colonists assume they are permanently cut off and begin to redirect their efforts towards the simple goal of survival.

It's clear now that Earth has forgotten us. Ezra can talk about nothing else. 'We're alone,' he says. 'We'd better start acting like it.' I think it's just an excuse to have another baby. He wants a big family so bad. But how can I justify bringing a child into this strange world when I don't even know whether or not she'll have any kind of life? Aslen and Einer are so big, now. Fifteen and twelve. When I was twelve, I was still playing tag with the house 'bot. Einer killed five rubber shrimp yesterday, more than enough food for the four of us and the Jacobsons. This planet has made us all grow up fast.
— Kieran Connor, Poseidon colonist

2106 The Fischer Blight crosses the South China Sea, reaching the East Indies.

2107 Much of central Africa is engulfed in civil war and anarchy as economies, and then governments, collapse in the wake of uncontrolled famine and disease. Thousands of hybrids leave their reservation to join the GEO Peacekeeping Force dispatched to the region to suppress violence and offer humanitarian relief.

The 20th anniversary of Planetfall is met with mixed reactions by the colonists. The colony itself thrives, but the sense of isolation weighs heavily on its inhabitants. The Poseidon colony sets a new record for births in a year, as the population climbs towards 7,000.

2109 Faced with catastrophic famine, political paralysis, and rising social unrest, Syria and Jordan join the United Islamic Republic.

2110 A native Poseidoner, a teenager alone on a fishing trip to a group of islands near New Jamaica, reports having a short intelligent encounter with an alien ray. His report is largely discounted.

GEO predictions that the Blight may have been contained are proven false when much of central Canada's grain crops are devastated by a new variant of the Fischer Virus. GEO troubleshooters resort to scorched-earth tactics in an attempt to stop the spread of the new strain.

2111 A biological expedition exploring submerged reefs south of Atlantis holotapes a ray carrying an unidentified metallic object. Debate rages as to the significance of the observation.

2112 A research vessel off Atlantis is destroyed shortly after capturing a ray for study in a behavioral lab on the island. There are no survivors, and the cause of the boat's destruction is never discovered.

Rationing of transportation begins on Poseidon as vehicles begin to deteriorate and reserves of spare parts are depleted.

2113 The GEO subsidizes a mass-evacuation of Israel. Isolated from its political and military allies, the Jewish state is no longer capable of offering even token resistance

to foreign aggression. Shortly after the evacuation is completed, UIR forces garrison Jerusalem, Tel Aviv, and Haifa. Much of northern and eastern Israel is absorbed into the Syrian and Jordanian provinces, and the rest is subsumed under a newly created Palestinian province.

2114 Against GEO protest, Argentina annexes the Falkland, South Georgia, and South Sandwich Islands. Both Argentina and the United Kingdom are full member states, and the GEO immediately deploys a Peacekeeping Force to restore order to the region. After a brief skirmish, Argentina surrenders all of its military personnel and materiel to the GEO. A small garrison force remains in Argentina for the next 10 years.

2115 The last colonial shuttle, *Calypso*, is destroyed while attempting to land in heavy weather off Second Try. Its crew of five and all 23 passengers are killed.
Travel to and from orbit becomes impossible. Select groups of colonists volunteer to break away from the major towns on Poseidon to start their own settlements. It is hoped that spreading out will improve the colony's chances for survival.

2116 GEO officials announce that the Blight has been effectively eradicated. Efforts turn from containment to rebuilding.
US President Kesslar issues an executive decision bringing an end to all food exports. His decision is fiercely protested around the world.

2117 When UIR forces mobilize to annex Lebanon, Damascus is destroyed by a 10-megaton nuclear missile launched from the Anasi city-state at Beirut. An official dispatch from the Anasi leadership promises an unlimited nuclear attack on the UIR if their forces are not immediately withdrawn. The government in Tehran sends the head of the Director of its Central Intelligence Service to Beirut in a box, along with a personal message from the Ayatollah apologizing for the "ill-conceived attack on the sovereign soil of Anasi Systems."

2118 The orbit of *UNSS Cousteau* completely decays, sending the vessel plunging into Poseidon's atmosphere. Thousands of colonists watch the flaming *Cousteau* arc across the early evening sky to plunge into the deep ocean. A great deal of the wreckage, including *Cousteau's* computer core, is never recovered.

2119 Two years after the conclusion of the Second Indo-Chinese War, China again takes up arms and annexes the Korean and Indochinese peninsulas. A mobilization of forces in Chinese Burma appears to threaten a renewed invasion of India. When both India and the GEO promise the use of tactical nuclear weapons in the theater, Chinese forces are withdrawn from the Indian border.

2120 After 30 years, the GEO announces that the Blight is no longer a threat. The death toll attributed to the Blight exceeds 50%. Earth's population is now 4.8 billion.
The population of the colony on Poseidon reaches 9,000.

2121 Remains of a ray are discovered floating in the Kingston harbor. A scientific team begins immediate examination of the body. Reports from the outlying settlements of colonists interacting with the rays, now popularly called "aborigines," are still generally discounted.

2122 Colony researchers discover a sensory organ embedded in the skin of the aborigines that appears to be a chemical sensor of great precision. Protein-rich secretions in the aborigine's skin are believed to be related.

2123 Colony geologists begin to suspect that the island on which the town of Atlantis is built is tectonically unstable.
The population of Poseidon reaches 10,000.

2124 Mt. Odysseus, the central peak of the island on which Atlantis is built, erupts. More than a million tons of rock and soil are blasted into the atmosphere in a series of explosions. Many of the 400 colonists on the island are buried under the ash and ejecta from the mountain.

2128 The eighth anniversary of the defeat of the Blight is met with the WHO announcement that the previous year marked the first time in over 25 years that the human population of Earth enjoyed positive growth.
The Poseidon colony's population reaches 12,000.

2131 *Representatives of the Nikkei Stock Exchange announced today that the exchange has reached 50% of its pre-Blight*

trade volume. Many economists say they are not impressed, and are predicting many more years of hardship. Economic sectors likely to take the longest time to reach a meaningful level of recovery include the transportation industry, entertainment, and manufacturing. Agribusiness and genetics research continue to be the best bets for long term investment returns.
— ForbesNet

2133 The GEO announces its plans to institute worldwide population controls to avoid post-Blight drains on resources. The move is decried by many in poorer regions of the world as an attempt to keep agrarian peoples in subjugation.

2135 Planetwide storm distribution and an exceptionally wet rainy season that dumps an average of 3,200 cm of rain over many of the settled areas of Poseidon lead to widespread fungal infections among the colonists. Poseidon's irreplaceable supply of pharmaceuticals is severely depleted.

A coordinated effort by GEO, Incorporate, and independent personnel returns the Earth Skyhook to operational status.

The GEO develops plans to redirect much of Earth's economic redevelopment towards orbital industry.

2137 Discussion begins on Poseidon about the possible institution of a planet wide government for the nearly 15,000 colonists. The idea is quickly discarded as unnecessary.

The GEO resumes near-Earth industrial work that requires weekly service to orbit and Luna. The spotty resupply efforts to Delphi on Ceres and Ibrium City on Luna become regularly scheduled flights from the World Space Station.

2140 Colonial farmers report that much of their aquatic crops are being eaten by fish herded by the aborigines. An attempt to communicate with the aborigines about the humans' need for the plant erupts into violence when one farmer kills both himself and three of the seemingly unconcerned aborigines.

2144 The 57th anniversary of Planetfall sees the birth of the Poseidon colony's twenty thousandth human inhabitant.

2146 A helium flash in the last operational fusion reactor on Poseidon destroys the reactor and much of the surrounding Haven countryside. The town is plunged into darkness as its primary source of electricity burns to the ground. Nearly 150 colonists are lost in the accident and the fire-fighting effort.

2149 A GEO team, operating under the auspices of the World Space Agency, uses a solar sail to travel from Lunar orbit to orbit around Mars. The mission is hailed as an almost energy-free method of space travel, but the time required for a round trip is prohibitive for all but the lowest priority flights.

2150 A family farm south of Second Try claims to have "domesticated" a species of large, vegetarian fish. While the fish are not, in the truest sense of the word, domesticated, they have become dependent on the farmers for much of their sustenance, and are the product of a selective breeding program that has produced a strain of fish both larger and slower than the root stock.

The last of the colony's original drug supply is exhausted during the treatment of a number of colonists who were lost while on a fishing trip. Adrift for 43 days, the 27 survivors all suffer from exposure, as well as various fungal and parasitic infections.

The human population of Poseidon climbs to 25,000.

2155 The WSA begins work on a plan to send a recontact mission to the Lambda Serpentis colony. The plan, generally considered a long shot and projected to cost several billion dollars, is not met with a great deal of enthusiasm.

The population of Poseidon reaches 30,000.

2156 Against GEO policy, the United Nations is reinstated. A two-thirds vote of the original member nations, however, is needed to disband the GEO.

2157 The GEO announces that the last of the Fischer Virus has been exterminated. Small samples originally intended for deep freezing in vaults around the world are mysteriously destroyed in a series of freak accidents.

2159 Ernest Carslake, an independent industrial tycoon, dies of inoperable brain damage suffered during a massive stroke. Carslake's will leaves his entire fortune of $13.5 billion to the WSA's recontact

project. Widely regarded as a wealthy eccentric, Carslake's last years were spent trying to drum up popular support for the continued conquest of space.

The population of Poseidon reaches 40,000.

2162 Dundalk Shipbuilding is awarded a contract for a mid-size vessel capable of traversing the wormhole. The WSA refuses to comment on the ship's intended mission, but speculation runs rampant.

2164 The Dundalk vessel is completed. The GEO announces that the *UNSS Admiral Robert Perry* will be crewed and provisioned for a three-year recontact mission to the Athena Project colony in the Serpentis System.

2165 *Perry* arrives in orbit around Poseidon. The survey of the planet and its roughly 40,000 inhabitants takes just under two weeks from orbit. Perry's presence is detected by at least 40 colonists who have never given up watching the night skies for some signal from Earth.

2169 *Perry's* lander begins shuttling down both crew and small amounts of cargo to the planet's surface. The recontact with Earth is met with decidedly mixed emotions, particularly when the crew informs the Poseidoners of the Blight and its aftermath.

The United States begins withdrawing its formal political support for the GEO. Acknowledging the GEO's success in dealing with the Fischer Blight, the President expresses the country's gratitude, while insisting that "America must once again become a free and sovereign nation."

Several public and corporate organizations begin to push for the regular resupply ships and scientific expeditions originally called for under the Athena Project.

2170 Several Incorporate states, including Atlas Materials and Dundalk, are given contracts for large, high-efficiency supply ships to make regular runs to Poseidon.

The population of Poseidon reaches 51,000.

2172 *The UNSS Ballard* arrives in the Lambda Serpentis System, bearing more than 500 scientists and technicians in cold-sleep, and more than a half-million metric tons of supplies. The supplies are well received by the colonists; the scientists, less so.

2174 *The Ballard* arrives for a second time at Poseidon, this time bearing prefabricated components for an orbiting station. The facility is designed to expedite ground-to-orbit transport.

A floating scientific station less than 50 kilometers from Kingston is attacked by a herd of carnivorous marine mammals. Although New Jamaica is well within radio range of the station, no distress call is made, and the radio logs show nothing out of the ordinary. All aboard the station are lost.

2176 The first GEO administrators arrive on *Ballard's* sister ship, *UNSS Nerid*. *Nerid* also brings the first independent commercial interests to Poseidon. First to set foot on the planet are research teams from Lavender Organics, GenDiver, and Atlas Materials.

The population of the colony, including the colonists newly arrived from Earth, reaches 60,000.

2181 Atlas Materials finishes construction of a research lab 152 meters below the surface of the ocean to facilitate the exploration of the seabed. More than 250 people live in the facility, which is given the indifferent name of Undersea Habitat 1.

2185 An Atlas mineral survey discovers deposits of a previously unclassified form of silicate in the crustal plates of the ocean floor. It is discovered that these "xenosilicates" can be used to specifically manipulate biochemistry more accurately and efficiently than has ever before been possible. The potential benefits are enormous, and Atlas attempts to keep its discovery secret. Unfortunately, information about the minerals is sold by a disgruntled lab tech to an Earth-based media conglomerate for more than 100,000cs.

2187 An independent biochemistry lab on Earth uses a xenosilicate "template" to manufacture precisely tailored, programmable retroviruses. The introduction of these "smart viruses" in living cells appears to prevent cancer, fortify metabolism, and stop degradation of genetic expression, essentially arresting the aging process. A massive exploitative rush for the minerals, popularly referred to as Longevity Ore

or Long John, begins. Poseidon's newest resource promises to bring untold wealth to anyone who can harvest a share.

2188 GEO contracts for three more interstellar transport ships are awarded, and Incorporate states and large, independent corporations spend billions of dollars researching Long John harvesting technologies. Most of the more than 70,000 native Poseidoners vehemently oppose the massive influx of Incorporate interest and personnel from Earth, but are essentially powerless to stop it.

2190 More than 20,000 people, mostly miners and engineers employed by the Incorporate, arrive from Earth.

The first floating town, Dyfedd, is built by Lavender Organics.

2192 Commercial flights from Earth bring a total of 30,000 people to Poseidon this year.

Atlas Materials' underwater facility is destroyed in what appears to be an attack by rival GenDiver. A minor Incorporate war breaks out, and both companies begin importing security personnel.

A resolution is introduced to the GEO General Assembly which would repeal the UN treaty granting sovereignty to the Incorporate states. The bill is defeated, as many members have become outspoken advocates for returning power to the reinstated UN. This faction calls for the passage of a single resolution which would abolish both the Incorporate states and the GEO.

This institution has no more place in the post-Blight order than the Incorporate city-states. Both emerged from the chaos and desperation of that time, and both should now pass into the pages of history. I do not believe that this government has the legal or moral position to question the legitimacy of any political institution until it is ready to question its own.
—Travis Denton, US representative to the GEO General Assembly

2194 In response to the continued conflict between GenDiver and Atlas, the GEO appoints a garrison of 12 GEO Marshals, a company of Shock Troops, and a cadre of Magistrates to police the colony.

Kingston announces its refusal to recognize the authority of the GEO and declares itself an independent state. The announcement is met with a great deal of concern, and the GEO eventually decides to negotiate a political settlement with colonial representatives.

2195 *Prosperity Station* is built in polar orbit around Poseidon. The station serves as the home for GEO personnel on the planet, as well as a major staging point for cargo and colonists flowing both to and from the water world.

2197 The price of a single longevity treatment reaches 50,000cs on Earth.

2199 Incorporate competition and exploitation on Poseidon continues to increase as the planet's population explodes towards two million.

Acting on pictures taken by a weather satellite, a survey team sponsored by National Geographic explores the Dunedin Seamounts. The team finds what appear to be ancient, artificial formations atop the submerged mountains.

A group of young natives in the Sierra Nueva Cluster assaults a GenDiver transport, leaving it in flames and its crew dead. This incident — and GenDiver's retaliation — marks the start of the Sierra Nueva War.

Colonial Administrator John Bishop is left in critical condition after a terrorist bombing at the Government Center in Haven.

Responding to continuing violence in the Sierra Nueva and rumors of violence between natives and Hanover Security Service personnel in Westcape, the GEO begins shipping thousands of new military personnel to bases throughout Poseidon.

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blue planet™ CHARACTER SHEET 00.01

NAME _____

AGE _____ **HEIGHT** _____

SPECIES _____ **GENDER** _____

WEIGHT _____ **STATURE** _____

COMPLEXION _____ **EYE COLOR** _____

HAIR COLOR _____ **HAIR STYLE** _____

SPECIAL _____

CHIPS _____

PROFILE

Goal _____

Motivation _____

Attitude _____

Player's Choice _____

Role _____

TRAINING PACKAGES

Backgrounds _____

Professional _____

PRIMARY ATTRIBUTES

PHYSIQUE _____

COORDINATION _____

COGNITION _____

PSYCHE _____

DERIVED ATTRIBUTES

ENDURANCE _____

REFLEXES _____

TOUGHNESS _____

ABILITIES

SWIMMING _____

_____ _____

_____ _____

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ADMINISTRATION ☐
- Bureaucracy _____
- Economics _____
- Law _____
- Logistics _____
- Planning _____
- _____ _____

ATHLETICS ☐
- Aquatics _____
- Freefall _____
- Sports _____
- _____ _____

COMBAT ☐
- Armed Melee _____
- Heavy Weapons _____
- Remote Weapons _____
- Small Arms _____
- Unarmed Melee _____
- _____ _____

COMMUNICATION ☐
- Language _____
- Leadership _____
- Persuasion _____
- Writing _____
- _____ _____

CULTURE ☐
- Cetacean _____
- Colonial _____
- Earth _____
- GEO _____
- Human (Cetacean only) _____
- Incorporate _____
- Military _____
- Native _____
- Spacer _____
- Street _____
- _____ _____

FARMING ☐
- Animal Husbandry _____
- Agriculture _____
- Aquaculture _____
- Hydroponics _____
- _____ _____

FINE ARTS ☐
- Crafting _____
- Graphics _____
- Performance _____
- _____ _____

MEDICINE ☐
- Forensic Medicine _____
- Medicine _____
- Pharmacology _____
- Psychology _____
- Surgery _____
- _____ _____

SCIENCES ☐
- Astronomy _____
- Ecoscience _____
- Geoscience _____
- Life Science _____
- Physical Science _____
- _____ _____

SENTIENT SCIENCES ☐
- Anthropology _____
- Archeology _____
- History _____
- Politics _____
- Theology _____
- _____ _____

STEALTH ☐
- Disguise _____
- Fast Talk _____
- Forced Entry _____
- Forgery _____
- Misdirection _____
- Stealth _____
- _____ _____

SURVIVAL ☐
- Foraging _____
- Mountaineering _____
- Navigation _____
- Tracking _____
- _____ _____

TECH ☐
- Computers _____
- Demolitions _____
- Electronics _____
- Mechanics _____
- Remote Operations _____
- _____ _____

VEHICLES ☐
- Boating _____
- Driving _____
- Piloting _____
- _____ _____

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BIOMODS

GEAR

ITEM	WEIGHT	ITEM	WEIGHT

WEAPONS

	RANGE	FIRING MODES	DR	RECOIL/ DELAY	CAPACITY

PERSONAL INFORMATION

RESIDENCE

EMPLOYER

FINANCES

FAMILY

FRIENDS AND CONTACTS

RESOURCES

PROFILE DETAILS

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