SKYWARD STEEL

NAVAL CAMPAIGNS FOR STARS WITHOUT NUMBER

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Naval Campaigns and Characters for *Stars Without Number*

by Kevin Crawford

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The Terran Mandate and the Fleet

Since the first years of mankind's exploration of the stars, nations have felt the need for stellar navies. Even before humanity had discovered the first hostile alien race, they knew full well that their brothers and sisters could not be trusted to live by peace alone. Steel and ready guns were vital to ensure that their interests would not be carelessly trampled on some world far beyond the reach of human law.

This initial rush produced a few sharp but deniable skirmishes deep in the newly-opened void. Ripe worlds became loci for shadowy conflicts deep in the outer dark, ships vanishing in bright flickers on planetary sensors with nothing but wreckage ever found. For a time, it seemed as if the newfound peace on Earth would give way to proxy war in the heavens.

The Terran Mandate was formed to constrain such struggles and manage the colonial worlds that could support life. The great powers on Earth had no interest in letting the lesser nations touch off some conflict that risked another round of savage warfare on Terra, and the lesser powers always knew that the strong would be along to rob them of the best worlds sooner or later. At least in the Mandate they could rely on their eager civilians to make up a more than usual proportion of those souls willing to risk a new world for the hope of freedom and prosperity.

The Mandate did not end the existence of national or colonial fleets, of course. There were always pirates to suppress, traders to monitor for smuggling and tariffs, and the occasional rebellious world that refused to contribute to the common defense. Above these petty flotillas was the might of the Mandate Fleet, the most powerful stellar armada in human space. With the Fleet to serve as sword and shield against hostile alien interlopers or zealous secessionists, human space prospered through the First Wave of colonization.

As the centuries passed, however, the Mandate Fleet grew sclerotic. Too many worlds stretched out across the heavens. Too many men and women had fled the stultifying rule of Terra's masters to find freedom in the dark of the sky. The Mandate Fleet was a hammer, but humanity had scattered into too many nails. The Fleet turned inward, concerning itself with maintaining Terra's security rather than its authority. For the most part, the worlds of the Second Wave hardly noticed.

But this inward turning had its price. Alien races still in the bloom of their strength tested many human words, probing to see how strong the resistance might be to invasion or coercion. Some worlds fell under alien rule without the Mandate Fleet to guard them. Others took a harder line about their security.

The Thousand Squadrons

In the absence of the Fleet, many worlds turned their available pretech resources toward the creation of their own stellar navies.

The results were pocket fleets at best, often no more than a few dozen warships and their tenders, but it was enough to blunt the teeth of most hostile races.

These navies spread out like ripples from the shock-points of alien attack. One would build them to defend against the invaders, and the neighboring world would then build them to defend against the first. Gradually, almost every world came to build some kind of planetary navy. Those that had no cause to fear aliens had reason to be concerned about their human neighbors.

There was little of vital importance to fight over in the waning years of the Second Wave. Occasional worlds of rare earths, alien ruins or precious minerals sometimes sparked short border wars, and some planets were just too appealing to colonists to allow another world to seize them. Still, space was wide enough to offer room for all the young worlds.

It was sheer human perversity or idealism that usually led to war. The lust for power, the mad conviction of divine right, or the occasional revulsive need to stamp out some horrible offworld practice provoked the few real wars out on the frontier. These were petty sparks compared to the struggles against some of the alien races, but they were real enough to the thousands or millions of innocents who died in them. Still, these outbreaks were aberrations amid the general peace and inwardness of humanity's Golden Age.

The Scream and the Silence

This age ended with the Scream. The vast majority of planetary navies immolated themselves in a blaze of frantic scavenging and savage interplanetary warfare. Desperate worlds lashed out at their neighbors, blasting and plundering for the sake of buying a few more months of precious pretech spares and supplies. Worlds that had lived in amity for centuries turned on each other like starving beggars knifing each other over a crust of bread.

Even those worlds that resisted the temptation to buy themselves time with the lives of their neighbors usually ended in stripping their navies for spare parts and supplies. Within a few decades after the Scream there were few worlds that had so much as a single spaceworthy warship.

A relative handful of worlds had the forethought to mothball a few of their warships against later need. These ships were shut down and preserved in the deep dark of the outer rim regions of the system, far from any chance of accidental discovery. When the world was strong enough to support their maintenance once more, they would revive the ancient weapons of their ancestors and use them as they were intended.

These plans rarely worked as well as might have been hoped. The location of the world's pretech fleet was naturally a secret of the utmost importance, and was only ever known by a relative handful of people. Such a secret was easy to lose in the chaos of the Silence,

and most worlds that salted away their engines of destruction ended up losing track of them completely. They still wait in the darkness, warships gleaming with the sheen of ancient violence for those that can find them in the depthless night.

Even those worlds that managed to survive the Scream with relatively intact industrial bases and sufficient food supplies found themselves forced to retool for an existence where there was no hope of getting spares or supplies from the core worlds. Spaceyards were left to rust, or were stripped out entirely. Old spacers and astrotechs died, taking with them the experience that could make sense of the dry technical manuals that survived. These worlds had more immediate concerns than their future in the stars.

The End of the Silence
Slowly, the worlds that had managed to avoid total collapse rebuilt their technological base on lines that were no longer reliant on pretech components and core world imports. Those worlds that were lucky enough to have the right natural resources were eventually able to recreate some of the marvels of their ancestors. Spike drives were laid down once again in orbital spaceyards and fusion plants stuttered to life. Mankind was ready to return to space.

This revival has been a relatively recent phenomenon. The first real postech navies did not begin to form until 3055, and it required decades for them to finally start mapping out the drill courses between worlds. Charting an unmapped course was enormously dangerous. Even today, more than half of the ships that attempt to run an unknown course will never make it out of metaspace intact. When a planet's entire navy might consist of five ships, it rarely had the will to spend them so freely.

Many of these worlds had very little to go on in creating their own navies. The had no living tradition of stellar warfare and no contemporary model to mimic. Instead, they looked to the past. The Mandate Fleet became the pattern on which the new navies were fashioned, the ancient protocols and tables of organization revived to help the young navies understand how to perform their duties.

The few historical databases and records that had survived from those antique days could never fully convey the spirit of the Mandate Fleet, but it was enough for a world to begin work. Many interpreted the specifics in their own fashion, and some deviated wildly in the service of aims good or bad. But throughout human space, the Mandate pattern is by far the most common and the most widely understood of all the ways of forging a stellar navy.

The Fleets of the Present Hour
Most modern fleets are hardly worthy of the name by the standards of the Golden Age. Few worlds can field more than a few dozen warships, and most of those are frigate-class ships that intimidate only piratical free traders and common smugglers. Still, with as few ships as there are in common currency, most worlds will rarely have to face any foe more imposing than a renegade patrol boat or careless pirate merchantman. These fleets are small, but they are enough for their purpose.

Their purpose is usually simply to defend the home system of their parent world. Almost all worlds make significant use of asteroid mining techniques to provide vast amounts of vital raw materials to the industries of the world. If an enemy is able to obtain space superiority, a world will lose access to these supplies and usually suffer severe economic damage even without a single enemy lander on its soil.

It is extremely difficult to launch an actual ground invasion of a populous, technically advanced world. Most such planets have shore or orbital defenses strong enough to take out all but a major invasion force, and even a large stellar fleet can have difficulty in moving enough troops and supplies in to maintain a ground offensive against determined enemies.

But a hostile force doesn't need to conquer a world to wreak havoc on it. Orbital spaceyards can be smashed, cities can be struck by orbital bombardments, and some demented assailants are even willing to use maltech planet-killer devices to exterminate the population of whole worlds. A sufficiently large invasion fleet with a sufficiently ruthless commander can pound a world until its citizens are reduced to a pre-technical society.

For these reasons, a planetary navy's duty always lies first in the defense of the home system. An enemy must never be allowed to launch an unopposed attack on a fleet's homeworld. Shore guns might strike their ships and landing craft from the sky, but only at a terrible cost in lives and gutted cities. The fleet must be a wall between their enemies and their world.

Aside from this primary defensive duty, the fleets of larger worlds are often also responsible for maintaining accurate drill route rutters and ensuring the trade lanes are kept free of pirates. These jobs are often given to small patrol boats that can be expected to outclass most civilian ships in armor, gunnery, and speed. Such duties are the bread and butter of most out-system naval ships.

Some craft are trusted with more delicate work, however. These ships are expected to help friendly powers solve their little problems with the discreet application of force. This kind of gunboat diplomacy often puts captains and crews in difficult positions, and calls for a great deal of good judgment on the part of the ship's officers. Success can bring meteoric advancement, while failure is a ticket out of the navy- assuming the poor wretches survive the consequences.

In sectors with more than one regional power, these ships can find themselves fighting undeclared wars in remote systems. Entire task forces can be lost in these engagements without word ever reaching the public back home. Declaring war is a grave matter, and it sometimes falls to the navy to buy the politicians back home enough time to prepare.

These duties form the essence of a modern stellar navy's role. It is to defend the home system, keep the drill courses free of pirates, aid allied worlds, and rebuke regional enemies. A captain who turns his ship to these ends can expect to find either promotion or an inspiring epitaph.

Time and Tide

Naval warfare in the a post-Silence universe in some ways owes more to the dynamics of the Age of Sail than the golden age of humanity. Warships are limited in number, expensive to operate, and can be out of contact with their government for months at a time. Captains are obliged to use their own best judgment in carrying out the wishes of their superiors, and some rise to the necessity more perfectly than others.

Most naval employments boil down to one of three different objectives: space superiority, pirate suppression, or planetary invasion. Space superiority involves taking or maintaining control over a system's interplanetary space. Piracy suppression consists of controlling the depredations not only of stellar bandits, but also those ships operating with the quiet support of stellar rivals. Planetary invasions are the domain of the most ambitious imperialists and require the landing of a significant force of ground troops near hostile surface targets. Accomplishing or defending against these objectives consumes most of a stellar navy's attention.

Space Superiority

Control of a system's interplanetary space is vital for the industry of most tech level 4 planets. Most worlds are significantly lacking in one or more of the rare earths and exotic minerals required for the manufacture of postech devices, and these planets need to establish asteroid smelters or mining outposts in order to supply their needs. Combined with the cheap and abundant metals that can be extracted from most near-space asteroids, these mining concerns often enable much of a world's postech industry. Without them, few worlds would be able to maintain more than a handful of starships and postech industrial facilities.

Attacking a rival power's space facilities is often the first step in an invasion campaign, the interstellar equivalent of throwing up siege lines against a world. By cutting the planet off from the resources of its mining outposts and asteroid smelters, the planet is deprived of those trace minerals and vital compounds necessary for building new defenses. The invaders will need to grind down existing military resources the hard way, but depriving a world of extraplanetary help gives a comparative handful of invaders a fighting chance to defeat the strength of an entire planet.

Even those powers that don't intend a full-dress planetary invasion often find benefit in assaulting a rival's stellar works. An enemy can be kept securely penned by destroying their smelters and mining outposts and punishing those traders who seek to bring in rare earths. Once decisive space superiority is obtained over a world, it becomes extremely difficult for the planet to break out. It is impossible to build ships larger than a frigate on a world's surface, and hiding such construction from vigilant orbital oppressors is often impractical. An entire world can be held hostage by a sufficiently vigorous and powerful space superiority fleet.

Maintaining a world's control over its own system space is a planetary navy's first responsibility. Pirates are a concern to any world, and ambitious hegemons might dream of interstellar conquest, but the one indispensable need is the control of a world's own system space. Once an enemy has driven a world's navy from its skies, the

world is helpless to whatever violence the invader might deliver. Even an enemy unable to conquer the hostile populace below can blast and burn their cities to ash and wreak havoc on their society's infrastructure. Such attacks can never conquer a resolute world, but they can destroy it as a significant stellar power. A world's navy must hold its own or burn in the attempt.

Piracy Suppression

Given the value of a spike drive ship and the economic necessity of carrying small, high-value cargo shipments for interstellar trade, it's small wonder that some men and women would rather harvest the trade lanes than seek more honest employ. Piracy requires a significant investment in ships and crew, but the potential payoff is great enough to attract some of the most ruthless and ambitious reavers known to human space. Containing and controlling interstellar piracy is often the major employment for planetary navies in the rougher sectors of the cosmos.

Pirates are almost always in their line of work for the sake of the money, and stupid or foolhardy captains rarely live long enough to ascend to command over a pirate ship. Most of them combine a keen business sense with their sociopathy, and they have limited interest in propositions that don't promise a good payoff for limited risk. Pirates do not normally stand and fight warships unless they are either desperate or convinced of impending victory. They want soft merchant hulls, and they'll go where they need to go to find them.

Pirate ships need a base for operations. Defunct asteroid mining facilities are particularly popular, as are alien ruins and abandoned colonies. Without such a base, it rapidly becomes impossible to keep a ship up and running. Even refueling becomes a dangerous game as the pirate ship is forced to orbit a system's primary star, risking discovery by any ship with a sufficiently sharp communications officer. In a social sense, the pirates also need a base to serve as a meeting place with the unscrupulous merchants who buy from them and the scattering of camp followers and rogues who make their living off of pirate credit chips.

These bases are almost never located in a system with an active stellar navy. A base in an actively-patrolled system would almost invariably be discovered within a few months, even with the most diligent effort at secrecy. Instead, the pirates often prefer a system at the very edge of their ship's spike drive range, retreating beyond the reach of less powerfully-engined starships. Lostworlder systems are often considered ideal by pirate captains, as many of them have ancient asteroid mining facilities that can be refitted into pirate bases, while their cities and towns are almost helpless to resist the casual depredations of the pirate crew. More than one lostworlder king has found himself surrendering food and slaves to terrible men from the stars and their city-burning engines. Finding such a base is a challenge. Most are planted in areas that are difficult to scan with ship or planetary sensors, and pirate astrogators make for some of the most expert stealth pilots in human space.

Many pirates retrofit their ships with fittings and weaponry designed to overwhelm a surprised target and capture it intact. Pirate captains have the criminal connections necessary to extract a significant

portion of a ship's market value, and it is almost always the case that a captured ship is worth far more than any cargo it might be carrying. Even when it comes to sustained combat, a beleaguered merchantman can often save itself by surrendering. Pirate captains will usually allow a ship's crew to take to the lifeboats, and spacers who throw down their weapons in the face of a pirate boarding party have at least some hope of being left marooned on some habitable planet.

This is not out of any tender-hearted compassion on the part of the pirates. Spacers who are convinced that only death and torture await them are much more likely to fight until their ship is a mass of melted debris, ruining the greatest prize in the conflict and inflicting expensive damage on the pirate ship in the bargain. Some pirate captains find themselves in a position where they can't afford such clemency or the risk of their activities being discovered. These reavers prefer to use boarding shuttles loaded with expendable crewmen to slaughter a ship's crew before they are fully aware of their peril. These shuttles work poorly against most military hulls and their use is largely restricted to attacks on civilian craft.

The preferred method of hunting for most pirate craft is to "lie doggo" in an asteroid field or other scan-resistant region of a system's space, ideally in a system that serves as a necessary juncture point for one or more drive-1 trade routes. By minimizing a ship's power usage, the craft becomes more difficult to detect, and can still keep a careful eye on the comings and goings of merchant craft. Once a likely target is spotted, the pirate ship begins to close in stealth mode until the target ship finally spots them. Any merchantman detecting a stealthed ship can be expected to run for her life, so at that point the pirate ship drops stealth and focuses on catching the fleeing ship before it can get to the safety of a planet's defensive stations or drill out from the outer rim region.

These pirates are a constant aggravation for those stellar navies responsible for holding open the trade lanes between worlds. However frustrating it may be to track and extirpate these brutes, naval forces must purge them before they have the time to develop into worse threats. An untouched pirate base can often form the nucleus of a dangerous new force in a sector, a power compelled to expand in order to support a fleet of hungry corsairs.

Planetary Invasions

Only the most ambitious worlds ever dream of a true planetary invasion. It requires an enormous weight of shipping to bring an invasion force across the gulf of worlds, and actually supporting that force requires even more transport space. Against populous, technically-advanced worlds it can be effectively impossible to launch a brute-force invasion. For every enemy soldier that hostile ships can bring, a thousand angry natives stand ready. Yet this calculus changes against thinly-populated worlds, politically balkanized planets, or those that lack postech technology.

Worlds with relatively few inhabitants can be overwhelmed by forces shipped in by a neighboring planet. Even with the natives' superior knowledge of the terrain and existing logistical support, it may be that there are just too few of them to put up effective resistance against an invasion fleet dispatched by a vastly stronger neighbor. Any world ruthless enough to commence a campaign of stellar conquest is usually quite ruthless enough to exterminate those natives that fail to appreciate the wisdom of surrender. A fleet capable of bringing an army of soldiers can bring over colonists too, if necessary.

Politically fractured worlds tend to be easy prey for "foreign assistance", with a weak power making quick alliance with the offworlders against enemy nations. Once the invaders have landed, these locals often fight alongside the offworld troops- only to find themselves merely the last in line to be forcibly assimilated. Many imperialist worlds spend a great deal of effort working to fragment and fracture neighboring governments through espionage and covert alliances. Broken polities pave their road to greatness.

Primitive lost worlds make some of the most inviting targets for imperialists. The natives are often incapable of effective overt resistance to postech military might, and the more ruthless imperialists easily eliminate guerilla concerns by methodical and wholesale slaughter. Lostworlders rarely have nuke snuffer technology and a few dirty bombs can take care of most population centers. For some forms of resource extraction, large amounts of human labor are necessary. The correct inducements provided to the locals usually provide a supply of that labor, even if the anticipated lifespan of any given worker is rather short. Guerilla attacks are always a concern with lostworlders, but wholesale slaughter usually solves the problem for those hegemons who have no intention of trying to assimilate a conquered people into their polity.

Whatever the target, a navy bent on planetary invasion must clear the enemy skies of orbital defense stations and system naval bases. Braker guns and fixed energy weaponry make it almost impossible to bombard a planet that has functional space defenses. While ordinary naval warships can clear lightly-defended worlds, those with significant defenses often require the attention of specially-designed siege cruisers or even larger warships to crack enemy orbitals and blast surface emplacements. Foreign spies are always careful to watch for signs that such harbingers of conquest are being constructed.

Command and Control

Exact naval arrangements vary from world to world, and some systems are more efficient than others. Many of the more autocratic planets reserve command of naval forces to noblemen or important regime supporters, the better to prevent discontented elements from turning these tools of fearsome destruction on the government that funded them. Some such worlds have so many layers of political officers, inquisitors, commissars and internal security agents that their fleets become useless for the purpose of actual fighting. Still, most worlds retain some simplified version of the old Mandate Fleet table of organization, modified to account for far fewer ships and a much smaller theater of operations.

A world's entire navy is commanded by a Lord Admiral, Fleet Admiral, Grand Admiral, or some equally exalted rank. While the navy might technically be under the control of a civilian president, high priest, Glorious Leader, or other non-military official, the practical needs of day-to-day operation and planning generally require someone dedicated to the work. Fleet admirals are almost invariably expert politicians and departmental diplomats. In a healthy navy they are also superb and experienced combat officers, but that is a quality somewhat less guaranteed.

Most fleet admirals remain groundside most of the time, working out of the planetary naval headquarters along with substantial numbers of "staff" officers. Staff officers are distinct from "line officers" in that they are not normally trained for combat command, instead specializing in some technical, scientific, or administrative role. They exist at many different rank levels, but they're put in charge of a fighting unit only in truly dire need.

Beneath the fleet admiral there are one or more admirals, each in charge of a fleet. Fleets are usually large groups of warships charged with the protection of a particular system or region of space. Fleets are standing formations and are not usually created or abolished unless the long-term military concerns of a polity change.

Beneath each fleet, there are task forces, each commanded by a commodore. Task forces are temporary formations, created to carry out some specific purpose and then folded back into the fleet once the task is accomplished. Small powers without interests beyond their home system might not divide their forces into fleets at all, simply leaving them as an undivided navy commanded by a fleet admiral with smaller task forces split off under commodores when necessary.

At the very bottom of the table of organization is the individual ship, with a commanding officer ranked somewhere between captain and lieutenant. The larger the ship, the higher the rank of its commanding officer, with system tenders, fighters and workboats commanded by lieutenants, combat frigates commanded by lieutenant commanders, cruisers by commanders or captains, and capital ships commanded by captains or commodores.

Ships are identified at their lowest level of organization. For example, the Shanxi Collective's navy consists of the Shanxi Fleet and the Wu Fleet. A force of ships is detached from the Wu Fleet to chastise the pirates of the Raider States and denominated Task Force Tien. A logistical ship belonging to the task force would identify itself as the "CSS-5 *Zhongshan* of Task Force Tien". Once the reavers have been appropriately rebuked by the iron will of the Collective, the task force is folded back into Wu Fleet, and the ship is identified as "CSS-5 *Zhongshan* of the Wu Fleet".

Naval Ranks and Rates

Just as naval organization varies between worlds, so do ranks. Individual polities might have very different terms for their officers and ratings, but the basic needs of a space going navy mean that the underlying structure is likely to be much the same. The Shanxi Collective might refer to its Fleet Admiral as the "Shang Jiang", but it too has a single officer responsible for the overall command of its navy.

Naval personnel are divided into two groups: officers and enlisted men. Officers command ships and the departments aboard larger craft, while enlisted men carry out the orders of their officers and duties of their department.

Some officers are "flag officers", men and women of a rank high enough to be given command of a task force or fleet. Personnel of flag officer rank do not have command of specific ships, but instead control the activities of an entire formation, operating from a "flagship" within that group.

Some officers are "warrant officers", experts drawn from extremely experienced enlisted personnel and dedicated to those duties aboard a ship that require seasoned specialists. Astrogators, engineers, gunners, medtechs, and other highly technical departments often have warrant officers assigned to their duties. Warrant officers rank between enlisted men and other officers and are not usually in charge of ship departments aboard cruisers or capital ships, but their unofficial influence is substantial. A department head who overrules his warrant officers' advice had best hope that nothing regrettable comes of it, or his superiors are likely to ask some very pointed questions about his judgment.

Enlisted men and women do not have ranks- they have *rates*, referring to their pay grade. Rates range from the raw spacer recruit to the grizzled rate of master chief with thirty years in drillspace. Distinct from an enlisted man's rate is his *rating*, the particular department or specialization in which he serves. The chief enlisted man of a capital ship's astrogation department, for example, might have the rate of Master Chief Petty Officer and the rating of Astrogation.

Summary of Naval Ranks, Ratings and Pay Grades

Code	Rank	Daily Pay	Role
O-9	Fleet Admiral	500	A flag rank. Supreme commander of a world's naval forces.
O-8	Admiral	400	A flag rank. Usually placed in charge of entire fleets.
O-7	Commodore	300	A flag rank. Commodores usually have command of a whole task force.
O-6	Captain	250	Commonly the captain or executive officer of a capital ship.
O-5	Commander	200	Often a department head on a capital ship or captain of a cruiser.
O-4	Lieutenant Commander	100	Often a department head on a major warship or captain of a frigate.
O-3	Lieutenant	50	An officer capable of managing a small department or the trust of a warship.
O-2	Ensign	25	A midshipman with one cruise under his belt, but usually still being trained.
O-1	Midshipman	5	An officer fresh out of the academy and being trained alongside ratings.

Code	Rate	Daily Pay	Role
W-5	Chief Warrant Officer	200	Thirty or more years of experience in a technically demanding rating.
W-1 to 4	Warrant Officer	40 * rate	A former Chief or Senior Chief Petty Officer in a highly technical rating.

Code	Rate	Daily Pay	Role
E-9	Master Chief Petty Officer	35	Grizzled space dog of thirty years' experience or more.
E-8	Senior Chief Petty Officer	30	Always experienced, and usually skilled at handling unruly ratings as well.
E-7	Chief Petty Officer	25	Spacer invariably possessing at least ten years' experience at their rating.
E-6	Petty Officer First Class	16	Experienced spacer regularly assigned to supervise other ratings.
E-5	Petty Officer Second Class	12	Experienced spacer often assigned to supervise other ratings.
E-4	Petty Officer Third Class	8	Experienced spacer occasionally assigned to supervise other ratings.
E-3	Spacer	5	A trained and able spacer of some experience. Most ratings are E-3.
E-2	Spacer Apprentice	3	Occasionally permitted to work unsupervised, but still a trainee.
E-1	Spacer Recruit	1	Recruits fresh out of basic training. Never assigned without supervision.

Pay does not include the free room and board granted spacers on active duty.

Glossary

Flag Officer: An officer of rank O-7 or higher who usually commands an entire formation or fleet rather than an individual ship. The ship a flag officer commands from is their flagship.

Line Officer: An officer trained to command ships and spacers in combat. Rarely placed in command of very technical or scientific departments, such work often demanding the specialized skills of a *staff officer*.

Rates: The enlisted man's equivalent of ranks. Enlisted spacers do not have ranks- they have *rates*, reflecting their pay grades. To say "all rates" is to say "everyone but officers".

Ratings: Used two ways. In the first, it simply indicates all enlisted men and warrant officers; you would speak of officers and ratings. In the second, it refers to the enlisted spacers belonging to a specific department necessary for the operation of a ship, such as "deck ratings" or "engineering ratings".

Spacer: Generic naval term for a member of a space navy. In the navy, civilian spacers are called "civilians", among other, less printable terms.

Staff Officer: An officer in a scientific, technical, or medical field who is not trained to command a combat unit. Many staff officers are department heads or work at naval headquarters, and very rarely are they placed in command over combat units.

Warrant Officer: Officers drawn exclusively from the ranks of E-7 enlisted personnel and up, every man and woman with at least a decade of experience in some highly technical rating. Sometimes placed in command of ships or personnel. Warrant officers rank between enlisted ratings and other officers, but woe betide the lieutenant that ignores the counsel of a space-seasoned "Chief".

Naval Ratings and Departments

While some small starships can be effectively controlled by a single crewman, military ships usually require a full crew of officers and rates to manage the myriad necessities of combat. A free merchant can afford to run with a crew of two or three, barely enough to trade off piloting watches when in drillspace. A frigate of war can expect to lose that many crew to a particularly harsh training exercise, let alone actual combat.

Enlisted crewmen have specialties, known as *ratings*. Much of the work aboard a spacecraft is technical in nature, and there's no point in making an engine snipe calculate a drill course or sending an administrative clerk to fix the air filters. These ratings are grouped into relevant *departments* aboard a warship.

Most departments are filled out by spacers of rates E-1 through E-3, with the most experienced rates qualifying as petty officers responsible for supervising and directing them about their duties. The department is led by an officer known as the "department head" for the section, with very large departments including an slightly lower-ranked officer as a department head's assistant, the "department executive officer". Many ships will also have a midshipman officer attached to the department to gain vital shipboard experience, usually working alongside the rates to get hands-on training in the rating.

For small ships such as patrol boats, the "departments" may consist of no more than one person, or a single person might be responsible for the duties of multiple departments. Cruisers and capital ships have dedicated departments, but even they encourage a certain degree of cross-training. It's all too easy for a ship's complement to be decimated in battle, and there have to be enough usefully-trained crew alive to finish off a maimed foe.

The ranks of the officers selected for department heads will vary depending on the ship's size. Aboard a patrol boat, they might be warrant officers or ensigns, while a carrier's department heads are hardly ever below the rank of commander or captain.

The ship's commanding officer, or "CO" is the captain of the ship and as close to God aboard it as any other crewman need consider. Even when the ship is serving as the flagship of the flag officer responsible for the fleet or task force, the captain remains the ultimate authority over the ship's operation and the way in which it carries out its orders. Recalcitrant captains can be removed by such a flag officer, but such extreme measures are reserved for the very worst cases of insubordination or cowardice. Even if the captain of the ship is not actually an O-6 ranked officer, he or she is always referred to as "captain", and any other O-6 officers on board are referred to as "Captain Shen" or "Captain Okole", and never as "*the* captain".

Cruisers and larger ships also have a second-in-command to assist the captain in handling the daily paperwork and discipline of the ship. This executive officer, or "XO" is usually being groomed for a command of their own.

Sample Department Breakdowns

The patrol boat *Sakura* is a revenue cutter off the planet Tsushima, charged with inspecting incoming ships for contraband and chasing off any pirates. It has a crew of 17 men and women, with an O-3 lieutenant for a captain and a department breakdown as follows:
Astrogation: 3, Communications: 3, Deck: 3, Engineering: 3, Marine: 2, Medical: 1, Weapons: 1
The department heads are all O-2 ensigns, fresh off their midshipman voyages and starting out in the shallow end of the pool. On a ship as small as the *Sakura*, the ratings are expected to cross-train to a degree, and "deck apes" who aim to strike for a different rating often seek out such ships to get the chance for some on-the-job training. Unfortunately, they also often attract captains that are deemed too useful to beach and too obnoxious to use in more important roles.

The frigate *Krieger* runs a sedate course between its home system of Breslau and the neighboring world of Tartuffe. It has a crew of thirty men and women. Of that number, it has a captain and a department breakdown as follows:
Astrogation: 4, Communications: 4, Deck: 10, Engineering: 4, Medical: 2, Supply: 1, Weapons: 4
The captain is an O-4 lieutenant commander, while six of the department heads are O-3 lieutenants, and the supply "department" is a crotchety old W-3 warrant officer shuffled on them to get him out of his former captain's hair. The remainder of the crew are rates, with two O-1 midshipmen aboard in the Astrogation and Deck departments to get some seasoning.

The cruiser *Equality* is the pride of the Gansu Peoples' Navy, and that repressive polity makes sure that its crew is composed of only the most faultlessly correct supporters of the regime. Its skipper is an O-6 captain with an O-5 commander executive officer who is almost invariably a "secret" member of the Gansu government's security apparatus. Real command on the ship is in the hands of the Political Officer, a nominally O-4 lieutenant commander who has the authority to have any person on the ship executed out of hand. The remainder of the 155-man crew is divided as below:
Administration: 5, Astrogation : 15, Communications: 10, Deck: 30, Engineering: 15, Intelligence: 12, Marines: 20, Medical: 10, Supply: 5, Training: 10, Weapons: 20
The *Equality* makes regular patrols through the space of worlds too weak to protest the Gansu warship's presence, and the Intelligence department finds regular use in overseeing Gansu espionage operations on those worlds. The Training department spends comparatively little time on technical matters as opposed to political indoctrination, and it's no secret among the crew that the Marine detachment is more for keeping the crew in line than for any boarding actions. Peacetime aboard the *Equality* tends to claim more lives from political machinations than the guns of an enemy in war.

COMMON NAVAL DEPARTMENTS

DEPARTMENT	FUNCTION
Administration	Records, personnel data, interdepartmental communications. Commonly known as "Yeomen"
Astrogation	Piloting and navigation of the ship in accordance with the captain's directives, and oversight of spike drills. Ratings are "Astrogator's Mates", while officers are termed "Astrogators".
Aviation	Piloting and maintaining fighters, away shuttles, drop pods, and any other small craft or grav vehicles. Generally called "Aviators" if officer pilots, or "Aviation Techs" if rating machinists.
Chaplaincy	Religious services and spiritual care for the crew. Even the less pious worlds commonly find it necessary to provide for the spiritual needs of men and women operating under the enormous strains of war. In theocracies, the ship's chaplain might have more authority than the captain.
Communications	Sensors and communications with other ships and governmental bodies. Known as "Signalmen".
Deck	Ship maintenance, damage control, cleaning, cooking, repair, general labor. Known as "Boatswain's Mates", pronounced "bo-sun", with the department head's chief assistant rate known as *the* Boatswain. Deck ratings are known more traditionally as "deck apes" by their hereditary foes in engineering.
Engineering	Maintenance of the ship's engines, life support, electrical fittings, and away craft. Known formally as "Firemen", but their ancestral rivals in the deck department commonly call them "engine snipes".
Intelligence	Intelligence gathering on alien or offworlder cultures, both anthropological and covert intelligence. Spying and infiltration of foreign planets and institutions. This department is rare aboard ships, though almost all navies have some shore bound ratings specializing in it.
Marine	Ship's marines, responsible for maintaining order, ship inspections, military policing, landing actions, and security operations. Most worlds do not have a separate Marine Corps, though worlds colonized from the North American states of the Terran Mandate sometimes maintain one.
Medical	Medical services for the crew and important civilians. "Hospitalmen" if rates, while officers are "Physicians".
Science	Xenobiology, astronomy, sensor operations, experimental protocols, and other scientific pursuits relevant to the mission. A rare department aboard most ships, but scout or research craft sometimes have a science department.
Supply	Ship's quartermaster. Tends any hydroponic production deck and obtains, maintains, and disburses equipment from the ship's locker and armory. Known as "Quartermaster's Mates", with the chief rate as "Quartermaster".
Training	Cross-training crew members into other departments. Implementation and training in new operational protocols and tactics. Found only aboard the largest ships and meant chiefly to cross-train rates; midshipmen are customarily trained by their department heads.
Weapons	Gunners and weapon tenders for the ship's weaponry, drop pod vortex inductors and the operation of any other mounted weapons systems. Known as "Gunner's Mates".

DEPARTMENT ORGANIZATION

Every naval ship with more than a half-dozen crew is organized by *department*. Every rate belongs to one department, which is the rate's *rating*. A ship has Intelligence ratings, Deck ratings, Aviation ratings, and so forth.

Every department is headed by an officer, the *department head*. On frigates, this might be an ensign, while a carrier's aviation department might be headed by a commander or captain. As a rule of thumb, a department head is one notch down in rank from the captain of the ship. Occasionally a warrant officer is the department head, but these specialists are usually too useful as technicians to burden them with that kind of paperwork.

If the department is too large to be managed by the department head alone, they have an *executive officer*, or "department XO". On major warships, this XO is an experienced officer. Otherwise, the XO is often an ensign being trained for eventual command of a department. Only in the direst of circumstances is an officer simply put in command of a department without this kind of seasoning.

The largest department aboard a ship is almost always the deck department, composed of "boatswain's mates", with the most senior rate dubbed the boatswain. After that, the astrogation, engineering, and weapons departments are the most vital, and some small frigates simply dump any other departmental duties on one or two harried officers or senior rates.

When arranging your own department rosters, keep in mind that any duty that requires constant attention is going to need at least three crewmen to cover all the watches, and multiples of that if any kind of backup or additional hands are needed. You don't want to make a spike drill without any well-rested astrogators available.

Naval Law

It is distressingly likely that PCs will eventually incur the displeasure of their superiors. PCs are notoriously disinclined to behave, and it's almost inevitable that the GM will need to know how the navy identifies and punishes misconduct.

The exact list of regulations and protocols is rarely important for either players or GMs to know. Most of it boils down to four main types of misbehavior that will bring punishment upon the heads of those spacers who offend: disorderly conduct, disobedience, incompetence, and exceeding authority.

Disorderly conduct covers any behavior that is injurious to the good order and conduct of a ship or base. Drunkenness, brawling among ratings, illicit relationships between superiors and subordinates, or excessively generous interpretation of an officer's orders fall under this heading. Petty theft falls under this heading for ratings, while for officers it is a much more serious offense. For ratings, one or two instances of disorderly conduct a year won't especially blight their advancement, but officers of similar habits had best be superb commanders if they mean to hold their career together.

Disobedience involves any willful rejection of a lawful order or physical violence against an officer. In peacetime or ashore, this is a serious charge that will usually demand a full court-martial, with penalties starting at imprisonment and separation from the service and ranging up to execution. In wartime or aboard a ship under way, it's a lucky mutineer that manages to avoid spacing. Some commanders will give the wretched rating who commits this sin the chance to redeem themselves, only booking them for disorderly conduct. Officers can expect no such pity.

Incompetence covers a broad range of misbehavior, from mistakes of judgment to the fruits of sheer laziness. Extremely demanding commanders can write up almost anything under this heading; some do so out of petty tyranny, others do it simply because they will accept nothing but perfection. The severity of the crime depends on the potential consequences; a botched job landside might earn a rating an extra month of duty, while a laggard engine snipe who kills a cruiser's engine might expect to be drummed out of the service. Officers are almost never charged with incompetence unless they commit some extravagant blunder. The evaluation reports of their commanding officers are usually sufficient to kill the career of a bungler.

Exceeding authority consists of the misbehavior of officers who presume beyond naval law or the authority of their orders. Officers who savage their crews beyond the limit of law might be drawn up on this charge, or captains who start fights without governmental license. Punishment usually involves expulsion from the service, and worse for those who have gotten spacers injured or killed.

Naval law is harsh. Defendants do not have the usual rights or privileges of a civilian, and there is no necessary presumption of innocence. The maintenance of tight and orderly discipline aboard a ship is the ultimate goal, and if a few ratings or officers have to be sacrificed on that altar, it is an acceptable price to pay. Still, there are procedures that must be respected in order to deliver punishment.

Captain's Mast and Courts-martial

Most minor punishments are determined by a commanding officer in a process commonly called "captain's mast". The offending subordinate is called up during a meeting, informed of the charges, and allowed to defend himself if he so chooses. The commanding officer then decides whether or not punishment is justified- and it almost always is- and then assigns the chastisement.

Officers can be punished with confinement to the ship for no more than a month, forfeiture of half their pay for up to two months, or a formal admonition entered in their record. Most officers greatly prefer the first two options, as an admonition can kill the career of an officer who lacks suitably impressive accomplishments to offset it.

Enlisted men can suffer all of the above punishments and the addition of extra work duties. Department heads can also strip them of a pay grade, while a captain can also have them pitched in the brig for a month or confined on bread and water for several days. Still, a captain's mast session for a rating is not especially surprising, and ratings who don't make a habit of it or who compensate with stellar performance can usually keep rising through the rates.

If a spacer finds a punishment unjust, he can appeal it to the presiding officer's commander. This is almost always a terrible idea. Unless the presiding officer's superior is absolutely certain that the punishment was both severe and a travesty of justice, the petitioner will be denied, and the attempt will be a red flag on their file. A spacer who endures a tyrannical captain patiently earns far more respect than one who kicks; if the captain is so bad as to deserve removal, then his superiors will deal with it. It's not for subordinates to fuss.

Serious crimes earn a court-martial, usually presided over by a group of three superior offices. The defendant is permitted a lawyer, and while civilian rules of evidence aren't in effect there is a real and genuine opportunity given to the accused to prove their innocence. Only two presiding officers need to agree on guilt to find the accused guilty. There are no "hung juries" in courts-martial.

Depending on the crime, a court-martial can deliver punishment ranging from the mild corrections of a captain's mast to execution. Most accused find it much wiser to accept the relatively light punishment of a captain's mast than risk escalating things to a court-martial. Even if an accused is acquitted, the simple fact of the court-martial's inquiry is liable to shadow his or her future career.

A Breed Apart

It takes a special kind of man or woman to make a spacer. The earthbound life is safe. It is secure and solid and connected, with the web of a world around those who choose to live their life at the bottom of the gravity well. On all but the harshest and most inclement worlds there is a certain essential forgiveness about the environment and society. There is room for error and individual whim.

This is not the case aboard a starship. Everything about a space-bourne existence is contrary to nature. Every breath, every moment of continued life is an affront to the cold void beyond the ship's skin. The ship never sleeps in its constant struggle against a natural dissolution of life, and the men and women who crew her cannot afford a single hour of carelessness if they mean to see home again.

Space is unforgiving. The sloppy wrenching, the careless check of the seals, the innocent forgetfulness about monitoring the fusion pumps... all these things might result in damage and expense on a planet. They might get a careless employee fired. In space, these things can result in the death of scores of spacers and the loss of ships that amount to a substantial portion of an entire planet's yearly budget. The navy is disinclined to be gentle with the lax.

Even the most brawling, drunken, gambling-addicted deck ape must have a cold focus on details. Those who lack this trait have it beaten into them or find themselves discharged after one too many mistakes, and if they're lucky the ship will wait until landing to do it. No spacer can ever forgive the cardinal sin of sloppiness about the duties upon which their lives rely.

In addition to having the ability to focus relentlessly on their duty, a spacer has to be able to carry on in the teeth of battle and imminent disaster. It's not enough to be able to disassemble a fusion plant fuel line in the dark. The fireman has to be able to do it in the dark while the ship is jinking madly and laser cannons are melting the hull above his head. The spacer has to be able to shut out these distractions and focus on his work despite the threat of impending awful death.

Personal preferences are not important in the navy. If the navy wishes a spacer to have one, it will issue him one and he will employ it as directed by his superiors. If he has a distaste for this arrangement he will keep that fact so closely hidden that Satan himself will be obliged to doubt it when he finally gets to Hell. Individuality is not a cherished principle in a stellar navy.

This attitude is not out of any ogreish hate for the blossoming of individual worth. It is a simple question of purpose. It is a civilian's place to seek self-actualization and happiness, to pursue personal pleasures and mold the world around them to fit their best delight. A spacer, on the other hand, exists to keep his ship flying and his world's enemies frightened. Any quality or trait that interferes with this duty is to be stamped out ruthlessly.

At one level, this is a hard and bitter truth. A spacer is a tool for a purpose, one that must be prepared to be broken when that purpose requires it. Everything about him or her must be polished, hammered, and shaped into as sharp and effective a tool as the navy can make them. Any exercise of individuality or personal goals is tolerated only insofar as it does not even hint at hindering their true purpose.

Yet despite this terrible sacrifice, there is meaning in a spacer's life. There is the knowledge that their own personal sacrifices are important, that they stand as shields between a merciless universe and the warm safety of home. They never have to wonder why it is they rise for work each watch, or whether their lives serve any good beyond a present and fleeting pleasure. They are spacers, and by their sacrifice is their world preserved.

Renegades and Rabble

The model for enlisted spacers is straightforward. They may be drunken savages ashore, they might gamble in every underdeck and settle their quarrels with fists in the engine room, but they are proficient in their duties and they expect no kindness that the ship's discipline does not prescribe.

Some players will love exploring these tropes. They'll relish the chance to deal with the tension between iron duty and personal desires, and in subordinating their private goals to the good of the ship. These players will fit smoothly into a naval role.

Most PCs, however, tend to be of a somewhat less... *disciplined* stripe. The section on running a naval campaign describes ways to handle the typical PC irrepressibility, but a GM often needs to make certain concessions to playability in order to get the most out of a naval campaign.

PC uniqueness and individuality tends to show best, however, when the rest of the navy has an identifiable character and distinct flavor. A loose cannon captain with a reckless readiness to dare all feels all the more unique when the rest of the navy has been played as a staid and orderly institution. The choice to disobey orders for some dire need means a lot more when the players *know* what happens to spacers who defy their superiors.

Establishing the character of the navy lets the players understand the ground rules and the stakes that ride on their choices. It lets them feel the uniqueness of the dispensations their own PCs receive and appreciate just how special they are that they should be permitted such things. In a game oriented around naval play, the navy needs to be its own character with its own identifiable traits and flavor. It's up to the GM to play that character well.

Ratings

Ratings aboard a starship are not selected for their sociable and charming natures or genteel upbringing. Many navies actively prefer to recruit ratings from the lower classes, the better to get a class of recruits already inured to obedience, harsh treatment, and privation. Those ratings who hail from gentler backgrounds are soon hammered into a pattern to fit the rest.

It's practically assumed that a rating will be crude, brawling, prone to drink or other intoxicants on shore, and inclined to lechery of every description. Indulging in any of these vices aboard ship will bring predictable punishments, but ratings that do not make a special habit of it can expect to maintain good career prospects, someday ascending to the universal esteem of a warrant officer.

A rating's world is his or her duty. The engines, the deck, the nav room, the guns... these things are the beginning and the end for their ratings. They are not expected to concern themselves with the business of officers or wonder at their ultimate ends. They are expected to make the ship fly as their captain commands, and the best of them can do it with all Hell breaking about their ears.

As a GM playing a rating, you should keep these traits in mind. Ratings will generally obey the orders of their superiors, even when those order look likely to get them killed. Ratings are not usually anything less than skilled professionals at their duty. And among their own kind, ratings are usually rough, physical, hard-living men and women. A rating who shows sullenness to an officer or real incompetence in their duties should be a red flag to an observant party that something is terribly wrong aboard that ship.

Warrant Officers

Warrant officers inhabit a kind of borderland between ratings and other officers. They might be considered the distilled version of a common rating, the quintessence of their nature stripped clean of all the things that might hinder their usefulness to the navy. Every one of them has at least ten years of experience in their rating, and most measure their service in decades. They are the unquestioned masters of their discipline and they are expected to produce the impossible when the situation requires it.

Warrant officers are expected to have shed the worst habits of an ordinary rating, abandoning brawling, drink, and venery aboard ship to concentrate on their duties. Most of the men and women who manage to become warrant officers are glad to make that trade, as few get that far unless their chief concern is a passionate devotion to their rating.

Warrant officers tend to have a totemic respect in their department. Every spacer knows how hard and demanding the naval life is, and these men and women have not only excelled at it, they've managed to keep it up for decades. "The Chief" is the exemplar of what the ratings in that department should be, and they look up to him or her as a model of how they should act in on shore and at war.

Warrant officers aren't always easy for their fellows to get along with. They can be prickly and sour and concerned only with the technical aspects of their rating. They can be impatient with the clumsiness of young spacers and disinterested in the thousand little social courtesies that make life easier aboard a cramped ship. But when the gunnery board is on fire and the spike drive envelope is starting to collapse, everyone looks to them and their matchless skills.

As a GM playing a warrant officer, you should emphasize their skill and professionalism. These are men and women who have spent decades focused on a single highly demanding technical calling, and their skills and familiarity with naval protocol should reflect that dedication.

Officers

The fundamental duty of a rating or a warrant officer is the fulfill-ment of their department's role. For an officer, even a departmental head, the job is more nuanced. An officer's duty is to provide leadership for his or her subordinates, regardless of the difficulty of the situation or the unpromising nature of the spacers they must command.

Officers stand apart from ratings, even those in their own depart-ment. They are expected to maintain a certain distance from their subordinates. "Friendliness" is a sin; military courtesy is the model. Officers do not drink, eat, or socialize with ratings aboard ship.

This distance is necessary for everyone's sake. The ratings have to be able to trust the officer as a representative of a vast and implacable force rather than a flawed human being. To the extent that they see him as a man rather than an avatar of duty's demands, they are less likely to respond with the correct degree of instinctive obedience. Intellectually they may know full well that the officer is only mortal, but they must not be constantly reminded of that fact.

For the officer, the distance is necessary to keep his or her mind clear of personal distractions when making decisions about the good of the ship. No combat officer will serve long without being faced with a situation where they must order a subordinate to their near certain death. First-wave attackers, firemen into a radioactive engine room, steamfitters into compartments filled with boiling destruc-tion- these things will eventually be demanded of them. The officer cannot afford to have friends among the people he must command.

For socialization, the officer has his peers and his superiors. Doubts and hesitations can be expressed to them however circumspectly, unlike subordinates. To the men and women he commands, an officer can never allow the slightest suggestion that he has anything but perfect confidence that his orders are absolutely correct. To plant the seeds of doubt in them is to rob them of their own confi-dence, and an officer cannot commit such a crime against his own subordinates.

Officers are expected to face danger without visible concern. A cer-tain uncontrollable pallor or clammy-handedness may be unavoid-able, but an outright display of fear is unforgivable. Even when facing certain death, the officer is expected to be calm, businesslike, and concerned only with his duties. The officer dies, but the navy is eternal.

Honor and Esteem

As in many military forces, the idea of personal honor tends to be highly esteemed in most stellar navies. Especially among officers, there is an acute awareness of whether a particular course of action is honorable or disgraceful.

Honorable behavior involves being courteous, truthful, courageous, obedient, and skilled. It requires a calm disregard of danger when carrying out orders or facing the prospect of death. Spacers of any rank or rate can cultivate the principles of honorable behavior, but it is especially expected of officers.

Honor is most important when it is tried by circumstance. Officers greatly respect a fellow who takes the hard and honorable course when an easier route is offered, and such men and women can expect to rise steadily through the ranks. Even those who never have the opportunity to climb high in the navy's hierarchy take comfort and confidence from the knowledge that they are honorable men and women who are worthy of the navy's trust.

Enlisted ratings may not have the same sharp awareness of honorable conduct, but even they tend to recognize those officers who can be trusted to behave as they should. An honorable commander is a source of pride to a ship's ratings, and they'll tend to fight harder and work longer for such an exemplary officer. It encourages the ratings when they believe that their officers can be trusted to follow the spirit as well as the letter of their duties.

This awareness of honorable and dishonorable conduct creates a subtle double context for an officer's ascent through the ranks. In addition to the usual performance evaluations and dry reports submitted by his superiors, an officer always carries with him the less formal talk of his character and expected behavior. Officers and ratings talk, and their talk has an effect on an officer's advancement.

An officer might receive perfect evaluations from his commanders, demonstrate flawless practical skill in his department, and have good connections among the existing navy brass. Yet if there are questions about the man's honor and whether it can be trusted under pressure, his advance will inevitably be slowed or halted altogether. This is one reason why crimes that might be minor offenses for a rating, such as petty theft, will end an officer's career. Such behavior shows a fundamental dishonorableness in an officer, and no naval officer can trust a person with such an essentially weak character.

Naval regulations lay down the correct relationships between spacers, but honor is the invisible and tacit understanding that breeds true respect. It is the underlying principle which justifies the navy's harsh sacrifices and stern demands, and the men and women who go up to the stars guard it fiercely.

Going Up To the Stars

For an aspiring spacer, there are two general paths for entering and advancing in the navy. For the enlisted man, there is induction dirtside, a relatively brief basic training, and then gradual advance through the rates based on experience and demonstrated competency. For the officer, there is acceptance into a naval academy, four years of study, a tour as a midshipman, and then gradual advancement upward as their accomplishments recommend.

Navy recruiters prefer to take young men and women with little or no spacing experience on as enlisted ratings. Civilian spacers with too many years in the void tend to have picked up their own way of doing things rather than the navy way, and it's rarely worth the effort to break them of their habits. Still, worlds that are facing war or expanding their fleets can sometimes be pressed to make exceptions.

Once enlisted, the rating is looking at four years of service at least after they get out of a basic six-month training course. The training course is largely intended simply to familiarize them with Navy protocols and basic spacer knowledge. Their real education takes place aboard ship, where they spend their first four-year tour under the watchful eyes of a seasoned petty officer or warrant officer, gradually climbing up to the rate of E-3. Those that fail to make that rate by the tour's end are usually discharged, assuming they haven't managed to get themselves separated before then.

Beyond E-3, a rating's advancement will depend on how well he or she performs her duties and how little judicial trouble they give their commanding officer. Ratings who show genuine talent and interest in leadership might be invited to attend the naval academy for an abbreviated, one-year course before being commissioned as O-2 ensigns. These "mustang" officers earn substantial respect from the ratings, though they occasionally lack the polish of their traditionally-advanced peers.

Officers are usually teenagers admitted to the naval academy based on education and social standing. The full course usually requires four years before the student is commissioned as an O-1 midshipman. Midshipmen can expect a year of rotating duties aboard different ships, learning the practical exercise of leadership from the bottom up. "Middies" are technically officers, but are often put in the charge of petty officers and ratings to learn the ropes. Assuming they manage to avoid personal disaster, a year later they are promoted to an O-2 ensign and might be placed as an assistant to a department head, gradually advancing based on performance and social adroitness. Officers who fail to show steady improvement or who offend superiors run the risk of being "shelved"- their careers silently ended and all hope of future promotion lost.

Enlisted ratings are committed to four-year tours as a general matter, but officers are permitted to resign their commissions at any time outside of actual war, and occasionally even then. The Navy has no interest in retaining an officer who is not zealously interested in serving. In practice, a rating can get out of service as well by performing some suitably emphatic offense, but that route tends to be much less pleasant for all involved- and more likely to end up delayed by a spell in military prison.

Eight Bells and All's Well

Time aboard a Navy ship is measured by military time. Midnight is 0000, noon is 1200, and a minute before midnight is 2359. Every half-hour a "bell" tone chimes in the work compartments of the ship; one bell at 0000, two bells at 0030, three at 0100, and so forth until eight bells chime at 0330. One bell sounds at 0400, and the pattern is repeated.

THE SEVEN WATCHES	
Hours	**Watch**
0000-0400	Mid-watch
0400-0800	Morning
0800-1200	Forenoon
1200-1600	Afternoon
1600-1800	First dog
1800-2000	Second dog
2000-0000	Evening

The naval day is divided into seven "watches", representing formal duty periods for the spacers. By custom, a spacer gets one watch on and two watches off, rotating their duty period through all seven watches. In practice, much of a spacer's off-watch time is absorbed in sleeping or tending to less time-sensitive duties and preparations for their watch standing. A spacer aboard ship is usually lucky to get two or three hours of free time a day during peace, and a warship in a combat zone rarely has any time to spare for anyone aboard.

A Day In the Life of a Rating

Boatswain's Mate Julius Lau rises at 0715. He has the forenoon watch, and he's spent the past seven hours fast asleep after an exhausting evening watch spent wrestling an unruly atmosphere filter back into alignment. He quickly washes in the cramped confines of the ship's showers and snatches a quick meal in the ship's galley. He's lucky enough to be there in time for breakfast, and aside from the questionable "coffee", the meal is excellent. The navy prides itself on the quality of its cooking, as important as it is to maintaining morale in the tight, tedious confines of the ship.

Spacer Lau serves aboard a major warship, a cruiser with 160 crew, so the deck department head is busy. He reports to the bosun instead at 0750. The weathered petty officer expects Lau to be ready to stand watch at the first bell of the forenoon, and even *looking* like he might have been late would surely cost the young E-3 hours of extra duty.

Spacer Lau spends the next four hours on hard, grinding duty among the deck crew- cleaning, chipping rust, replacing worn fittings, and checking equipment with ruthless exactitude. By the eighth bell of the watch at 1200, Lau is exhausted. He's technically off-duty now that his watch is over, but he only has time to eat a quick lunch in the galley before he has to go back and check over his work, spending several calmer hours reviewing the labor, doing minor, less time-sensitive jobs, studying training handbooks, and otherwise keeping up with his standard, round-the-clock duties.

Lau gets two watches off- so the afternoon and first dog watches pass in this labor and in grabbing an extra hour or two of sleep, and dinner while he has the chance. At 1750 hours, he's back in front of the petty officer on duty and ready to stand the second dog watch. By the time it's over, he'll be ready to fall into his bunk for some well-earned rest- only to start again with the morning watch...

A Day in the Life of an Officer

Ensign Maria Okuweze is the astrogation department head aboard the *Batavia*, a frigate-class patrol boat running a relatively sedate spike drill between two close-set trading partners. At 1230, she is awoken from a badly needed sleep by a summons from her communicator. She is up, dressed, and neatly presentable in three minutes and fifteen seconds. She reports to the bridge sixty seconds later, not exactly running through the passageway but losing no time at all. The speed and the decorum both are expected. She knows she wouldn't have been called unless there was a serious problem, and an officer must always appear collected in a crisis.

When she arrives, the captain grimly points to the readout board of a white-faced astrogator's mate. The rating has detected severe power spikes in the ship's drill envelope. This situation threatens the safety of the ship, and so the astrogation head was immediately summoned. If the source of the power spikes cannot be identified and fixed within the next hour, the ship will almost certainly be forced out of metaspace, probably in several scorched pieces.

The captain doesn't say a word on the bridge as Ensign Okuweze calmly orders the rousting of the other member of the astrogation department. It is the captain's role to act as if the matter is a mere technical difficulty, and it is Ensign Okuweze's job to make it so. The ensign orders the astrogator's mate to continue monitoring the nav board and to alert her if anything changes. Meanwhile, she and the other astrogator's mate recess to the chart room, where they can discuss the situation without frightening the rest of the crew.

Ensign Okuweze orders the astrogator's mate to get a current fusion output profile from the engine snipes while she runs the math on their current metadimensional environment. Okuweze is young, but she had four years of academy training, a year as a midshipman, and a year as an ensign serving under a more experienced astrogator before she was given control of the *Batavia*'s astrogation department. She locates the highband electromagnetic spike that's occluding their tertiary envelope projector and causing the power joggles.

The astrogator's mate returns with the fusion output profile, and it matches her hypothesis. She runs the numbers again. She has thirty minutes left before the envelope fails, and this luxury of time is used to double-check her conclusions. Officers do not operate on assumptions or best guesses when the life of a ship is at stake, not unless they have no choice in the matter.

When the recheck glows green, Ensign Okuweze orders the astrogator's mate to rotate out the tertiary envelope projector and take the ship down to a lower spike frequency. It will add another two days to their drill, but it will take the stress off the drive envelope. She details herself and the astrogator's mate to a full inspection of every envelope projector on the ship. No member of the department will have a free hour until the entire spike drive apparatus is checked.

Once the situation is rectified and reported, Ensign Okuweze goes back to bed. The rest of the ship is largely and blissfully ignorant of how close they came to disaster. This is precisely as it should be. If the ratings had needed to know, their officers would have told them.

Poisons in the Blood

The traits mentioned in this section describe a healthy navy, one that follows many of the leads popular in military science fiction and tales of star-spanning fleet actions. Many of the players and GMs most interested in playing a naval campaign will want to do so precisely so they can explore these elements and play in a setting that respects them. But for GMs who wish to run a different kind of campaign or who want to develop a navy as a fundamentally antagonistic organization, it can sometimes be helpful to subvert these tropes to more useful ends. Even in a straightforward "clean" navy, these traits can surface now and then to make life harder for the player characters.

Headquarters Politics

A navy is a large organization made up of human or human-like beings, and it is naturally heir to all those infirmities that plague every large human organization. There are times when internal politics and subtle coalitions can move to quash troublemakers, whether or not such suppression is healthy for the navy. A Fleet Admiral who won his position due to his political talents and social connections might well look unfavorably on subordinates who fail to appreciate the vital social considerations that got him his post. Keeping in such a superior's good books requires more than ordinary discretion, but also the ability to make the right friends and stay on the right side of internal political issues.

To add this complication to a navy, identify an important headquarters commander who has his position due to political considerations. Then arrange things so that the officer's future fortune is hitched to a particular policy or program that is a serious pain to the player characters. Direct opposition to the policy is career suicide, but actually carrying out the officer's plans would result in disaster for the navy. Expect the characters to try to identify the politico's friends and seek protectors among his enemies. This sort of game can easily transition into a court intrigue subplot for your campaign, so be ready to have the naval lines of command mapped out clearly and make sure you know the motivations of important players well in advance.

Damnable Civilians

In a healthy polity, the stellar navy maintains unflinching obedience to a civilian political class that respects its purpose. The civilians neither starve the navy for resources nor throw it into battles without clear and necessary goals. The navy, in turn, strictly avoids all civilian political considerations and does not seek to influence interstellar policy.

In an unhealthy polity, all of that goes out the window. The navy might be a whipping boy for decadent or wildly impractical politicians, constantly starved for resources and forced to attempt impossible feats of arms. Their failures only sharpen the contempt and derision felt by their civilian masters, ruining naval morale and reducing a once-proud force into a fumbling mob of bitter old veterans, sullen conscripts, and political hacks. This can have lethal consequences for a world when a real threat finally emerges, and a campaign can get a lot of mileage from a PC group that needs to bring a rotten, maltreated navy back from the brink of ruin.

Conversely, it might be the navy that has the wrong impression of their purpose. "For the good of the state", it might end up bullying the politicians, starting "police actions" in distant systems and dragging the civilian foreign policy after it. Politicians who fail to cooperate might face unfortunate consequences from overzealous young officers who never seem to be punished. Eventually, the state becomes a prisoner of the military and some fleet admiral rises to lead the world to a new era in which they will assume their rightful leadership of the local co-prosperity sphere. PCs involved in such a morally corrupt navy might be forced to secretly coordinate with other loyalists to stop an incipient takeover of their own home-world- or else go renegade and split the navy in a civil war against the usurping powers.

The Enemy Within

Even the most ambitious would-be tyrant or feckless anti-militarist can usually be expected to explain their motivations in terms of the good of a world. Some navies, however, might be riddled with crew members of questionable loyalty to the homeworld. Members of a hostile ethnic or religious group, aliens that have polity citizenship in name only, or political rivals that have dubious ends- all of these possibilities can create a miasma of fear and mistrust within a navy.

If these others were all uniformly treacherous, the navy would have an easy time simply ensuring they never got aboard ship. A more interesting situation arises when most of these others are loyal and true while a few are real traitors. It may be that the navy is forced to recruit them in order to support political policies, or the group might contain too many vital technical experts to shut them out. For whatever reason, the navy needs these people.

It may be that the fear and mistrust is entirely unjustified. Virtually all of these others are loyal members of the navy, and it falls to the PCs to deal with the prejudice and animosity toward them. This can be a satisfying element for players who want to explore the morally unambiguous themes of inclusivity and shared loyalty.

It may be, however, that some of this group really are a threat to the navy. It falls to the PCs in the course of their activities to both find the real malefactors while preventing the fear and backlash from punishing the innocents. This is a delicate and demanding sort of theme to play, and it can be a challenge for a GM to pull this off without painting the group as universally dangerous or the traitors as too trivial to merit concern.

For perhaps the most challenging angle, you may choose to make the traitors' motivations fundamentally sympathetic to the players. Whatever their specific complaint, they have just cause to make war on the navy. Provided that the traitors' cause is not too obviously virtuous, it can leave a PC party in a harsh moral bind, forced to choose between betraying their homeworld or abetting an evil. This angle is best reserved for groups that enjoy a very gritty, morally ambiguous sort of game where unpleasant choices are the natural handmaidens of power. Don't be surprised if the characters try to somehow square the circle between their conflicting motivations and find a resolution that is morally acceptable to all.

A naval campaign allows for a type of play that is often difficult to set up in a conventional sandbox game. Naval campaigns permit the GM to provide players with situations stripped down to the essentials of action and adventure, instances of excitement that can break out at any time and any place. Naval PC parties spend their time riding around in a ten million credit war machine, chartered by God and the planetary government to blast radioactive craters in the enemies of the state.

Naval PCs are not hardscrabble freebooters, trusting in their pistols and their wits to make their fortune in an uncaring galaxy. They are duly commissioned representatives of a planetary government, charged with carrying out their mission with the full might of the state behind them. The government has given them their orders, and they do not especially care who gets hurt so long as the mission is accomplished with a minimum of diplomatic complication.

Yet for all the power behind a party of naval PCs, they still stand responsible to their government for the way in which they use their strength. A normal group of PCs can skip a system without a backward glance, tied to nothing but the stars. Naval characters must answer to their superiors and respect the structure of the navy that shelters them.

The key to an exciting naval campaign is to emphasize the most interesting and entertaining elements of both aspects- both the enjoyment of having such enormous martial power and the hard choices that have to be made in justifying its exercise. Where the choices of the PC group in a conventional campaign produce consequences that are usually only gradually apparent, the choices of a naval PC group tend to become obvious immediately, whether in the form of a burning city or a summons to a court-martial.

Before we review two popular types of naval campaigns, it's useful to cover a few of the main GM challenges that crop up in running a sandbox naval game. Whatever form of campaign a GM runs, he or she will want to keep an eye open for these problems.

Military Orders

So you've got a group of four players, two of whom love the direction and clear goal-setting provided by a superior's orders and two others who want to be the reckless loose-cannon daredevils who do what the hour demands, whatever that may be. And which two are which changes from day to day.

Players tend to have a fraught relationship with NPC authority. Some of them enjoy it, others can't handle it. One solution is to use the authority both as a hook and as a set of limits for the characters to respond to as they see fit.

The hook is straightforward. Their superior gives them a task to accomplish. You should generally avoid giving too many implementation details about this; just give them a job to do, rather than describing exactly how they are expected to do it. Their orders should be a guiding element in their adventure rather than a constant straightjacket around their choices.

However, the orders need to involve limits, too. You should feel free to select one or two operational limits that their superiors find necessary for the mission. It may be that the homeworld needs to seize a certain alien asteroid ruin, but it can't afford to be the first one to open fire on the rival frigate guarding it. A Deep Black special ops team might be charged with taking a native leader, but doing so in a way that keeps him alive and safe until he can be released later. The limit should be something that makes the mission significantly more difficult, rather than impossible. The goal is to tempt the players into breaking it rather than forcing them to do so.

You should also make clear the general consequences for accomplishing the goal in the wrong way, but the breaking the rules and succeeding should never be worse for the PCs than keeping the rules and failing. If it's worse for a group to defy the limits and still succeed than it is to fail, then there's no temptation to ignore the limits. The risk comes from violating protocols and then still failing the mission. The crew guilty of such trespass can expect very unkind consequences.

Keep orders to the PC group to a minimum. Even the most enthusiastic fan of naval discipline has a limited appetite for being told what to do, and you don't want to waste their willingness to cooperate with their superiors. Give orders as to ultimate ends rather than fiddly specific details.

Officers and Ratings in the Same Party

It's not at all impossible that the same group of PCs will contain both officers and ratings. While normal naval protocols strongly discourages familiarity between the two castes, enforcing this too rigorously can result in a table where half the PCs don't dare talk to the other half.

One solution is to make sure that PC ratings and PC officers have some sort of mutual background, or an established familiarity between them all. They might maintain conventional protocols in front of others, but in private they discuss matters with the frankness of old comrades in arms.

Guns From Heaven

Odds are that the players are going to be flying around in a massive war machine designed for blasting things into space dust. It would be deeply uncharacteristic of player characters if none of the PCs ever decided to use this weaponry against objects that you had not planned on being blasted. There are ways to take this in stride.

First, you shouldn't automatically dismiss it out of hand. Vaporizing something might well be the most logical step for a crew to take, and such activities are precisely what a naval warship is for.

You especially shouldn't ban it because it would complicate your adventure plans. If you know your PCs are going to be in control of a photonic siege cannon, then you shouldn't be building adventures that can be most logically resolved by a rain of laser death.

Still, even the best GM can be caught flat-footed as the players decide to melt something which actually turns out to be fairly vital to the adventure. Don't hesitate to call for a five-minute time-out as you stop and think about the ramifications, and how the rest of the adventure might play out afterwards. The adventure might not flow quite as smoothly as you had planned, but it's likely that the players will feel it more than compensated by the pleasure of having their naval warship treated as a real resource rather than as a mobile plot device under GM control.

Despite this, there are some limits to orbital death that you can keep in mind when designing your adventures. First, a world with a functional space station almost always has it equipped with anti-ship weaponry and kinetic braker guns to defeat orbital projectile bombardments. Attacking the surface of such a world is a losing proposition, as the space station will take apart any ship that tries to get close enough to attack the surface with beam weaponry, and the braker guns will deflect hurled projectiles. Even the smallest armed space station will usually require either a cruiser or several frigates to bring it down.

Some primitive lost worlds might not have such a space station or the advantages of ground-mounted defense lasers or braker guns. For these worlds, it is quite possible for the PC's ship to close in and attack a surface target. Projectile weapons can be launched from orbit with somewhat dubious accuracy, but beam weapons require that the ship be atmosphere-capable and lower itself close to the surface. Such attacks can force lostworlders out of villages and cities, but nothing short of extensive nuclear bombardment is going to be able to kill them off in significant numbers. Any world too primitive to have space defenses is capable of surviving without cities. Even poor lostworlder kings who have at least some contact with offworlders often have a few simple anti-ship rocket batteries hidden somewhere near their palaces, making direct approaches a gamble. Any world of tech level 3 or better is capable of building some kind of anti-ship defenses over important areas, even if they consist of nothing more than rocket batteries that hurl too much ordnance into the sky to entirely dodge.

Discipline and Punishment

It's the plain truth that PCs are regularly inclined to be reckless with rules and laws. As starfaring freebooters, they might well be off a planet before the local authorities can come discuss their moral failings with them, but naval crew have fewer places to hide, and fleeing can mark a distinct and abrupt termination of the "naval" part of a naval campaign.

For this, it's best to give a group some sort of covering authority- either a patron higher up in the navy that can shelter them from minor failings of discipline, or else missions so important and secretive that fussy little details of naval regulations can be overlooked for the sake of the greater cause. As a GM, you should take care to underline the novelty of this situation, or else it can easily feel as if the entire navy just does what it pleases- which may be the case in some campaigns.

If the PCs are about to do something that really will bring consequences down upon them, you should be careful to give them a warning commensurate with their own characters' understanding. If the characters rationally know that sassing a fleet admiral is a wonderful way to get assigned to radiation cleanup, the players shouldn't be left to find this out the hard way. You should make clear that the PCs can go ahead if they really think it necessary, but they should know the obvious institutional consequences of their acts.

Whatever punishments are levied on a PC, they should be of the kind that open up adventures rather than shut them down. A month in the brig is ineffably dull, while being given some dangerous duty can keep the PC in active play. If the structure of events doesn't allow for sending the party off on some disciplinary side job, you can use a fine, reduction in rank, or increased complication on their current mission as some resource is withdrawn.

Prizes and Captures

Many navies grant officers and crew a cut of the prize value of any ship that they succeed in taking, the better to encourage the spacers to due heights of valor and aggression. If a navy awards prize money, the amount granted depends on the condition of the ship taken. A ship that cannot be navigated into a navy-controlled space station is not deemed spaceworthy enough to deserve prize money. A ship that has been pounded to zero hit points is usually worth no more than its scrap value, if that. The largest number of prizes come from ships that surrender on recognizing the hopelessness of their cause.

Most worlds award one-half the ship's purchase price to all ships involved in the taking, with fighter-class ships receiving one share, frigates receiving two, cruisers receiving eight, and capital ships receiving thirty-two shares. To find out the percentage of the take involved, just divide a ship's shares by the total number of shares awarded.

Aboard each ship, the captain receives 25% of the take, the department heads divided up another 25%, and the remainder of the crew evenly divides the rest. For very small ships of less than a dozen crew, the captain receives half and the rest of the crew evenly divide the remainder. Deceased spacers have their share go to their next of kin.

These prizes come out of the naval budget, and in some cases the navy might not have the money to pay the prize claims immediately. The ships remain naval property in any case, and the fortunate winners will simply have to wait patiently for the money to turn up eventually. Navies have been known to overlook certain errors of judgment in exchange for withdrawing costly prize claims.

There are several different organizing principles that can be used to create a naval campaign. The following options assume that you have a fully-fleshed sector available, like the Hydra Sector detailed in the *Stars Without Number* core book.

A Gunboat Diplomacy Campaign

In this model, the PCs form the command staff of a warship. For a group or a GM new to the whole genre, it's probably best to make the ship a frigate, with a crew small and simple enough for the participants to easily grasp the ship's operation. The GM should be prepared to help the players understand what is expected of them in terms of obedience to authority and behavior toward other officers. The GM shouldn't hesitate to step in and warn a PC when his or her behavior is going to buy obvious, serious trouble with the navy. If the PC decides to carry through with their choices, then that's their decision, but they shouldn't be ambushed with consequences their characters would have reasonably foreseen.

With regard to the ship's captain, you should decide initially whether or not to make the captain a PC. An advantage to a PC captain is the freedom it grants the party. They're less likely to feel hemmed-in by authority if they have command over the ship and can decide how to carry out the missions assigned to them. If you take this tack, you should be careful to lay down some ground rules about how the captain-PC is going to interact with the rest of the party. In character, he might have complete authority over the other members of the party, but in practice he shouldn't be giving other PCs any orders that aren't conducive to fun at the table. The easiest way to handle this is to have the party decide on a course of action and then have the captain endorse it with orders to carry it out.

If you make the captain an NPC, you spare the group the delicacy of sorting out that issue of intra-party command. It also makes it substantially easier to direct the PCs when you need them to go somewhere or do something; the captain simply orders them to carry it out. On the downside, it can also frustrate some players, leaving them feeling constrained and limited to simply doing what they're told. If you take this course, you're going to have to be careful that the captain's orders are more about ultimate ends than details of implementation, leaving the party a lot of leeway in figuring out how to do the job.

Perhaps the best initial solution is a compromise of sorts- an NPC captain that makes decisions based on PC input. Not all captains have a highly autocratic leadership style and some do consult extensively with their department heads. If you give the players a chance to express their own ideas and interests, you'll have a much easier time ensuring that the next batch of implacable commands from HQ just happen to involve something the players want to do.

The easiest framing device for this is a mission briefing. Playing the role of the captain, you can hand out or explain the latest orders from fleet HQ and detail the important factors that influence the situation. Then let each player give an in-character assessment and express their own ideas about the best course of action. Brevity is a virtue. Give each player three or four minutes at most to give their opinion. After each player has spoken, choose a course that seems in line with the general wishes of the party, assuming their general

wishes are not completely harebrained. If further situations crop up during the mission where the goals of the ship as a whole have to be decided, convene another quick meeting and let the players update their opinions. Eventually, once the players are comfortable with the setting and naval framing of the game, the captain can die or be promoted out, and a PC can be elevated into his or her place.

In either case, for an appropriate degree of freedom you should make certain that several different adventure hooks are available to the PCs at any one time. If you listen carefully to their interests and plans, it shouldn't be difficult to ensure that at least some of the options take the group in a direction they find fun and interesting.

Troubled Negotiations

Gunboat diplomacy games have a few other built-in issues that a GM needs to take into account. One of the larger dangers is the risk of boiling down an adventure into a single space combat conducted between the ship and one or more enemy craft. Such combat tends to be over quickly and doesn't always provide players with the opportunity to feel instrumental to the resolution of the problem. In many cases, they really aren't much more than passengers aboard the ship while it fights.

In light of this, the Breakers and Shoals chapter includes the "Battle Stations" addition to the space combat rules to increase the game's focus on ship-to-ship engagements. These rules may not be appropriate for every game, but if you intend to have climactic duels between enemy ships play a significant role in your game, you'll likely want to increase the depth of the space combat rules.

Regardless of how you resolve these ship duels, to avoid leaving the PCs feeling like bystanders to the situation you need to build the conflict so that the PCs play an important and preferably decisive role in the final outcome. When arranging a gunboat adventure for the PCs, you therefore need to ask yourself two major questions.

Why can't the PC's warship simply blast the problem? This is not to say that the warship's military muscle should be useless in the adventure. There are numerous extremely handy services an interstellar warship can provide, even beyond the ability to vaporize gravtanks on demand. But if the essential problem of the adventure is one that begs to be resolved with five rounds from the port battery, your players are going to either end your adventure very quickly or get frustrated when the logical course of action turns out to be impossible. Give them an obvious reason why going in guns blazing may not be the optimal course of action.

What good can the PC's warship do for them? Conversely, the fact that PCs are the command crew of a warship should never be irrelevant. If there's no benefit or advantage to having a multi-million credit war machine at your disposal then a lot of the entire point of a gunboat diplomacy campaign is lost. The PCs might as well have arrived on a commercial freighter. There should be at least a few extremely useful things the warship can do for them that the locals cannot accomplish under their own power.

Small Wars

While convenient for sorting out how the party wants to approach a problem, it still leaves the GM with the obligation to come up with those problems in the first place. Crews aboard a naval ship are hostage to the GM's creativity in a way that normal adventurers are not. They don't have the option to simply hare off in whatever direction looks entertaining at the moment, so the GM really needs to make sure that they're given fun choices where they are.

To begin, identify sector hot spots. Which planets are hostile to the navy's government? Which planets are especially friendly? Which planets are at the intersection of important drill lanes, vulnerable to pirates and polities that want to control traffic through the lane?

Once you've picked out those planets that are liable to be of greatest interest to the navy, check their world tags against the list of interstellar troubles given later in this section to get an idea of some potential difficulties that might be best answered by a naval response. Some of these problems will be best settled with a Deep Black special operations team, while others might call for a gunboat to pay a visit.

Once you've established the general mission, determined why the PCs can't easily blast the problem into submission, and have decided what about a naval warship is so good to have in the situation, you can start to build out the specifics of the adventure along the lines given in the core rule book. Much of the adventure might require that the PCs go ashore to deal with people and problems, which is another reason why a small ship is often best to start with this type of campaign. On a large warship, it can be more difficult to explain why the PCs are the ones that need to be going dirtside rather than sending a more expendable set of crew to deal with the problems.

Rewards for a naval crew rarely take the form of cash, unless they manage to seize a prize ship and the navy they serve gives rewards for such. Most often, the rewards are simply experience points given for the successful or less-than-successful accomplishment of their mission. You can use the standard reward guidelines, but simply connect each part of it to the successful completion of some element of the task they've been given.

The Deep Black Sky Campaign

In the fallen era that has followed the Scream and the Silence, it is often difficult for a world to muster a fleet much larger than a few dozen warships. Even that stretches the capacities of the smaller or poorer worlds, and there simply aren't the resources available to create duplicate fleets for every arm of government that might have interest in offworld activities. Because of these limits, it is normal for the navies of such middle-tier worlds to provide services and personnel for the use of other governmental departments. These ships and teams remain under naval authority, but act to carry out the missions given by other departments of government.

These missions are often difficult and dangerous, and usually demand a high degree of initiative and good personal judgment on the part of the personnel involved. Even an operation on a neighboring world is usually weeks away from getting a message couriered to and from the home world, so the naval personnel charged with these missions must be capable of making their own decisions without hand-holding by their superiors.

Because so many of these operations can never be admitted by the planetary government, the teams responsible for carrying them out are known as "Deep Black" teams. Deep Black operatives have standard naval ranks and ratings and are theoretically attached to specific commands as ordinary spacers, but their naval HQ handlers ensure that all of them are assigned where they need to be, aboard ships specially designated for Deep Black operations. Deep Black ops do not discuss their special roles with other spacers, and do not even admit their unique training to any naval personnel not specifically cleared to support their operations.

Deep Black ops are recruited from ratings and officers who have demonstrated remarkable aptitude for independent operation, far from the comfortable support of the navy. Technical proficiency is important, as is skill at combat and other practical skills, but the crucial quality of a Deep Black op is the ability to survive and succeed when operating without close support. Skills can be taught. Talent cannot. Unsurprisingly, PC spacers tend to be exactly the kind of men and women that Deep Black recruiters want to enlist.

Once identified and successfully recruited, Deep Black operatives are cycled out of their current duties to a one-year training course of exceptional difficulty. More than eighty percent of recruits wash out somewhere along the line. Only the toughest, cleverest, most ingenious recruits win through to the end, by which time they've developed the necessary skills for Deep Black operations. Occasionally, spacers of proven ability are given an accelerated three-month course in Deep Black protocols and procedures. It's not wholly unknown for even non-naval personnel to be recruited, if a world is in exceptional need and these outsiders are among the proven elite.

Deep Black operatives no longer advance as is normal among efficient naval spacers. Rank and rating cease to have much meaning within a Deep Black team, though it still remains significant when dealing with spacers who are not permitted to know the truth. "Advancement", as such, is no longer expressed in promotion through the pay grades, but through the kind of missions a given operative is expected to perform. Novice Deep Black teams might

be tasked with simple extraction missions or recon on relatively safe worlds. Elite operatives might be charged with the assassination of a cyborg dictator on a fortress-world inhabited by fanatically loyal gengineered minions. Pay ranges from 50 credits a day for a novice up to 500 for an elite agent, though many ops fail to survive long enough to spend it.

While a planetary government cannot even admit that a Deep Black team exists, they can make sure that their teams are equipped as well as the planetary finances allow. For most worlds, this allows for teams to have their pick of gear. Even novice Deep Black teams have access to powered armor, advanced man-portable weaponry and sophisticated infiltration gear- indeed, anything short of arti-fact pretech equipment. Experienced squads can call on anything that can fit in a support frigate's drop pods, assuming they feel it necessary to accomplish their mission within the parameters given to them.

Occasionally, however, a team is forced to go in with less-than-optimal equipment, in those rare cases when their superiors deem it too dangerous to risk the capture of advanced tech by the deni-zens of the target world. Most Deep Black gear is fused for quick destruction in case the team needs to leave it behind, but certain situations might make even that too much of a risk. The navy will try to provide the best local tech available to the teams, but the teams are expected to accomplish the job with what they have.

Deep Black teams have distinct lines of authority. A team has a leader and a clear line of succession, from second-in-command down to the most junior member. If a team is separated or suffers losses, each member knows exactly who is in charge in their group. Aboard ship or off duty, discipline is relatively light and casual. On an operation commands are obeyed crisply, as everyone knows that any dissension in the team is bound to result in disaster. Leadership roles shift regularly depending on the type of mission and the team member most skilled in the relevant field.

Deep Black teams live hard and dangerous lives. Much of their time in the field is spent dirtside on hostile planets, operating far away from any source of support or rescue. If captured, they can expect only death. If they succeed, their reward will be an even more dif-ficult mission. It is a harsh and lonely role fitted to those men and women who can live no other, duller life.

Need to Know

Deep Black campaigns allow for much of the same range of activity allowed in a conventional sandbox campaign. The PCs can never be entirely certain what their next mission might involve, and while violence is a regular feature of their employment, they're often used to carry out any sort of offworld task that requires discretion, initia-tive, and bold action.

The trickiest part of a Deep Black campaign for a GM is often the difficulty of ensuring that the players have real liberty in the sort of missions they choose to accept. In the game world, Deep Black teams are expected to simply go and do whatever their handlers require of them. In a sandbox game, it's necessary to give the players more freedom about their choice of pursuits.

Much as a gunboat diplomacy game can be directed by the players sharing in their captain's decision-making, so also can a Deep Black game be shaped by the group. Instead of playing their characters, however, the players take the role of government officials having a briefing meeting to discuss the potential deployment of the team. The GM plays the role of director, handing out briefing materials, providing sector maps, and ensuring that each "adviser" has the information they need to decide where a Deep Black team can do their homeworld the most good.

Elaboration of this situation depends on the tastes of the GM and the group. You might simply use it as a framing device, passing out the information and letting the players discuss the matter informally before deciding on the team's next mission. On the other hand, you might make things more elaborate, assigning each adviser a set of secret priorities and motivations and letting them discuss and debate matters in an attempt to put over their own goals. The best time for this meeting is at the end of a mission, or else during a brief interlude between full-fledged gaming sessions. The goal is to let the player's clearly indicate their next point of interest so the GM has time to prepare things accordingly.

Special Operations

Once a mission has been designated, you should draw up a brief-ing with the known information available to the Deep Black team. Oftentimes, this will be extremely limited, and the team will have to find their own facts on the ground.

The team should have access to whatever conventional equipment they want and can carry in successfully. Powered armor, advanced weaponry, and just about anything else available on the standard equipment lists in the core rule book can be provided to a Deep Black team. Unless there's some special reason why the navy can't afford to let tech fall into enemy hands, the team should be equipped with the best gear naval appropriations can buy. Deep Black teams can rarely count on any supply drops or other external sources of aid, however, so if they want something, they're going to have to carry it in with them on the infiltration. Even credit chips can be requisitioned, though the navy rarely has large supplies of foreign hard currency- and they frown mightily on selling gear to the locals.

The precise means of infiltration depends on the planet and the situation. In some cases, the team might be able to saunter right through the local spaceport, arriving on a chartered passenger ship. In other cases, they might be forced to make a dandelion drop from high orbit, stealthing in and popping their chutes only when safely beneath the enemy radar. Most often, special Wraith infiltration shuttles are used to drop the teams off in some remote locale.

Exfiltration is often even trickier. Wraith shuttles are the preferred method, in conjunction with specially-built naval couriers designed to defeat enemy sensors. There are times when this can prove im-practical, however, and some Deep Black teams have been forced to go so far as to steal civilian starships and boost off the planet before the enraged locals can track them down.

Starting Deep Black Campaigns

Running a Deep Black campaign can blend some of the most entertaining elements of a naval campaign with one built for conventional adventuring. Operatives are on a new world every month, faced with jobs of wildly varying description that have at their heart the need for daring individual action. The PCs are so far out of contact with their superiors that they have and are expected to exercise their own best judgment about how to accomplish their missions. In many ways, it's a game arrangement not unlike a conventional campaign.

There are two general ways to begin a Deep Black campaign. Either you begin the PCs at level 3 and simply assume that they've already done enough to attract a recruiter's eye and pass their training program, or else you start the PCs at level 1 and play through the sequence of events that bring them to the attention of their superiors. Both angles have their own advantages.

In the first, your players hit the ground running. They begin as trained and talented Deep Black operatives about to commence their first mission, ready to leap into the game without any preliminaries. On the downside, it can sometimes feel a little difficult to identify what it is about these operatives that's so terribly impressive. They don't necessarily have the same feeling of past history and accomplishment that characters who have gone through a few sessions might have.

In the second, the players build up to their eventual induction as Deep Black operatives, usually running two to three sessions before making third level and convincing a recruiter that it's time to pop the question. This game starts more slowly, and might cost a few PCs their lives before they eventually make it, but those that win through will have the distinct feeling that they deserve their place as operatives, having earned it through proven ingenuity and toughness.

In either case, Deep Black operatives should probably be about third level before they are recruited. Missions usually take place on semi-hostile worlds at best, far away from any practical support, and with combat very likely in many cases. Newly-made PCs tend to be too fragile to hold up well under that kind of pressure, and it can be difficult for a PC fresh from character generation to have all the skills expected of a new operative.

Evolving the Campaign

Whether Deep Black Sky, Gunboat Diplomacy, or some different kind of campaign, a GM needs to be ready to evolve the game to accommodate new and changing player goals. In a standard sandbox campaign the GM can afford to be relatively hands-off, allowing the PCs to set the game's agenda. In a naval campaign, the players are much more reliant on the GM to provide the openings to accomplish their ultimate goals. They can't simply leave their ship or abandon the service without making a drastic change in the campaign's focus, and that can defeat the entire purpose of choosing a naval campaign.

The simplest solution to this is plain, direct communication between GMs and players in setting the goals of the PCs and the direction of the game. If the players agree that they want to shove a siege cruiser up the fundament of the Mind-Tyrant of Cheiron IV, then the GM knows that it's time to provide them with a number of different mission possibilities related to that goal. If the characters have a specific idea for how they want to approach their goal, the GM can see that they get the opportunity to put it into effect.

Make ready use of the "consulting with the captain" and "Intelligence briefing meeting" techniques. These tricks allow the players to appreciate the larger context in which they act and give them the chance to determine where their PCs would do the most good. Their PCs may be wholly absorbed in the troubles of one particular system, but the players will be able to see the events and powers that are acting and make plans on how to eventually deal with them.

This is not to say that the GM should feel obligated to give the PCs an immediate and direct path to their ambitions. Instead, the GM should take care that the naval framing of the campaign doesn't become a straitjacket around the players, compelling them to stick with missions or goals that don't interest them. Even if the PCs are a luckless pack of deck apes assigned to the lowest hold of a half-ruined pretech battleship, their *players* should retain control over the direction of the game. Let them play the navy brass determining where that battleship gets sent, or the sinister government officials who pick them for a deniable suicide mission. Let them choose the goals that interest them and the fun will naturally follow.

Interstellar Troubles

It can occasionally be difficult to come up with a suitable problem for a gunboat or Deep Black team to tackle. The following pages give a few potential problems keyed to each of the world tags listed in the *Stars Without Number* core rule book. GMs can adapt or pillage these problems as their creativity recommends.

Abandoned Colony

A heavily-armed mercenary, terrorist, or foreign operative group is unearthing a precious pretech artifact from the ruins. They may or may not have reactivated the colony's anti-space defenses.

The abandoned colony split off from the navy's home world originally, and a rival power has sent naval forces to claim it on spurious grounds.

Alien Ruins

Secret naval research shows that the ruins contain xeno-tech ship blueprints that must be extracted without alerting that planet's government of their existence.

An alien warship has suddenly drilled into the system, and blames the world's government for the destruction of their lost settlement. They may or may not be amenable to reason, depending on available proof.

Altered Humanity

Some of the humans are exceptionally suitable for naval personnel, either due to superior reflexes, high-g resistance, or better spatial intelligence. Their creators don't want to let them go, however, regardless of the locals' wishes.

Maltech researchers are developing techniques of merging brain-locked human slaves with expendable missiles and kamikaze ramships. These human craft are being used to attack neighbors.

Area 51

The isolationist government powers have captured some restricted navy technology. The navy either wants it returned or destroyed.

The navy has been ordered either to maintain or break the world's isolation, but a rival power is sending a naval force to ensure the exact opposite. The government cannot afford an open war with the rival at present.

Badlands World

A pretech naval facility has been located on the world, but it's occupied by a local warlord and his retinue. Orbital bombardment would destroy the facility, as might a pitched battle.

Pirates have placed several bases on the world, and are beginning to hammer it into a unified power that threatens to start building its own starships for the pirate king's benefit.

Bubble City

Spies have reported that a restricted bubble city is housing a research team working on dangerous maltech. The bubble is heavily defended by anti-space installations.

A terrorist faction backed by a rival power has managed to knock out the world's anti-space defenses and is threatening to shatter the bubbles unless their demands are met. The world needs time to bring the defenses back online.

Civil War

The navy is secretly backing a particular faction, but a rival faction has won the allegiance of the world's fleet admiral. The fleet admiral must either alter his loyalty or be terminated.

One faction has commissioned a "transport ship" from the homeworld's government that actually turns out to be a commerce raider. The embarrassed navy wants that ship captured or destroyed.

Cold War

A crazed military leader has secretly taken over a military installation and threatens to set off a global war unless his demands are met. The installation's owning faction quietly appeals to the PC world's government for help.

A faction has managed to seize one of the PC worlds' naval ships during a courtesy visit. The ship has to be either recovered or destroyed, and the offending faction chastised.

Colonized Population

A rival power has colonized the planet, but the navy needs to get a shipment of weapons and insurgency supplies to a rebel leader- without knowing where the leader is.

A local rebellion has just crippled the colonizing power, but the imperialists will be sending a ship with reinforcements soon. The navy wants the rebellion to succeed, but would prefer not to start open warfare with the imperialist power.

Desert World

A brief window in one of the almost-eternal sandstorms that scours a particular quarter of the planet shows a downed pretech warship ringed by anti-space defenses. A space approach to the ship is impossible, and a ground approach must navigate the ferocious storms. Meanwhile, rivals have spotted the ship as well.

A rival power has backed an insurgency that means to seize control of the planet by capturing the known oases. They're largely able to do this thanks to the support of a "pirate" warship actually chartered by the rival.

Eugenic Cult

An important member of fleet headquarters is in league with the cultists in order to obtain special medical services. The PCs are to kill this person while he's on the planet. His involvement must be kept a secret at all costs.

A naval ship has gone mutinous due to cultist influence- and possibly due to bioengineered slave organisms. The ship must be located and recovered or destroyed.

Exchange Consulate

The navy is called upon to provide security for an exchange consul during delicate negotiations with a rival power. Strong factions in both governments want these negotiations to fail explosively.

A lost Exchange vault is located in an asteroid belt in the system. The local Consulate lacks a starship capable of getting to it, and they're negotiating with several powers to get them close enough to trigger the security codes they have. The losers in the negotiations are unlikely to bow out quietly.

Feral World

A do-gooder child of an important government official has been kidnapped while on a relief mission to the world. The navy is ordered to go in and get them out- and to pay no attention to the rumors that the victim wasn't there for charitable purposes.

A local warlord has pulled together enough of the struggling forces to begin refurbish a pretech spacecraft that had been hidden on the planet's surface. The ship is enormously powerful for its small size.

Flying Cities

The massive cities involve pretech antigrav components. Naval researchers want a sample of the tech- and they don't want an provable interstellar incident over its acquisition.

A small fleet of low-orbit attack craft have been slipped to one of the cities by a rival power, which intends to make the city a catspaw for ultimate domination of the world.

Forbidden Tech

A rival power has a buyer on the world, trying to broker a tech exchange. The navy is expected to terminate the deal and those involved in it.

A deniable "privateer" has been fitted out with the forbidden tech by a rival power. Without knowledge of its secret weakness, the ship is likely to overcome anything thrown against it.

Freak Geology

The planet's odd geology results in the production of a precious purified crystal that is extremely valuable for the construction of spike drives. Only the navy researchers have realized the crystal's value yet, and it is vital that acquiring a supply of it be done without tipping off rivals as to its importance.

Recent geological disasters require emergency aid on the planet, and the navy is sent in to provide it. The disasters may or may not be entirely natural in origin.

Freak Weather

An ancient pretech meteorological station has been located by navy historians. Someone needs to get in and salvage its core before the natives realize that it's there. Unfortunately, the surrounding environment is exceedingly hostile.

A free trader is caught in a freak weather belt when trying to make a landing in a remote area of the planet, and needs help before the ship and crew are destroyed by the weather. Of course, only smugglers would want to land outside the authorized starport…

Friendly Foe

A member of a rival government or military has offered to turn traitor, and the navy needs to dispatch someone to pick him up. It's unclear whether this is a genuine offer or simply a setup.

A ship from a hostile faction or world emerges from drill-space badly damaged and incapable of movement. Transmissions from the ship indicate that some of the crew want to defect, while others are trying to kill the traitors- and a powerful force from the enemy faction will be drilling in within a few hours.

Gold Rush

Resource concerns from the home world have an interest in the planet's gold rush, but the locals are making trouble for them which may or may not be justified. The navy is expected to resolve the situation.

A rival group has dispatched a ship to overawe the local resource extractors and force concessions. The ship can't stay on station forever without supplies, so it must have a logistical dump somewhere close by.

Hatred

A member of the hated group on the world is vitally important to the home world, either as a source of information or a friend of an important government official. He is currently in hiding, but must be found and extracted.

A faction of locals is convinced that the PC's home world is supporting the hated group, and they're preparing a guerilla base of operations in a nearby asteroid cluster.

Heavy Industry

The world's largest manufacturer has made public cause with a rival power, selling them products at cut rates. She needs to have her mind changed or her factories eliminated.

Rebel proles have seized control of a self-supporting manufacturing station in the system and are demanding submission to their extravagant demands lest they turn the station's refitted mining ships against the world.

Heavy Mining

The world breeds incredibly talented demolitions experts thanks to all the excavations going on, and a recent terrorist bombing shows every sign of being hatched by locally-trained radicals. Their organization must be located and destroyed.

Ruthless mining barons threaten to use their mining ships to overthrow the world's government, launching their campaign from their hidden, heavily-guarded asteroid base.

Hostile Biosphere

Insurgents opposed to the local government have learned how to cope with the local biosphere, and retreat into the wilds to avoid discovery. The navy has been ordered to locate the rebels and determine whether or not they can be turned to good use.

A gruesome parasitic xenomorph has seized control of many of the local naval personnel, and is trying to use them to break out of the system. Their forces must be contained by the PCs and local allies.

Hostile Space

The hostile local space forces both the PCs and a ship of a rival power into landing. It will be some time before a rescue mission can get to them, and in the meanwhile the PCs must survive both the environment and their potentially treacherous companions.

Enemy ships have somehow discovered how to evade or control the hostile stellar environment. The PCs must discover their secret and survive the learning process.

Local Specialty

Naval intelligence is convinced that the local specialty exported by the world is merely an inferior version of a model kept exclusively for the local rulers. The PCs must infiltrate the world and steal a sample of this tech.

Local rulers are refusing to sell their specialty to the homeworld's merchants, either out of mistrust, allegiance to a rival power, or cultural antipathy. The navy is ordered to "resolve these trade negotiations".

Local Tech

The PCs are ordered to steal certain vital manufacturing secrets regarding the construction of the tech- and to do it in such a way that frames a rival power for the theft.

Naval technicians misunderstood a vital point in the integration of the local tech, and ships equipped with it are suddenly springing serious radiation leaks. A master technician from this world must be convinced to help, but the only one with adequate expertise in offworld tech integration has just been kidnapped by a rival power's agents.

Major Spaceyard

The chief officers of the spaceyard must be turned to serve the homeworld, especially in monitoring and subtly interfering with the construction of ships for a rival power. These officers each have weak points that can be exploited by sufficiently informed blackmailers.

Insurgent ships have recently crushed the local planetary navy, and are reforming to destroy the spaceyard. The ships near completion would be vital in repelling them, but their captains and owners are demoralized and convinced that the rebels are unstoppable.

Minimal Contact

Limited observation suggests that the locals want to keep away outsiders for sinister reasons, potentially involving maltech or hostile aliens. Someone needs to get out of the treaty zone and investigate the world properly.

A new government seeks to cut off all contact with outsiders, and has trapped a small convoy of merchantmen around an abandoned space station. The radicals demand that the merchants surrender their ships as a penalty for their "trespass".

Misandry/Misogyny

A small group of locals has formed a colony settlement in the system that refuses to bend to prevailing gender norms. The locals want them compliant or destroyed, but the rebels are offering unearthed xeno artifacts to powers willing to help them.

Relic gengineering has left the oppressed sex remarkably gifted at spatial perceptions and navigation at the cost of some significant physical flaw. The locals use this flaw as one of their excuses for the oppression, but the subordinate gender could make superb pilots if allowed to be formally educated in it.

Oceanic World

Hidden undersea fastnesses are said to have persisted from the pre-Scream founding of the world. Naval researchers have found evidence that one of the most important contained vital technical data- but it's located directly beneath the floating palace of the planetary ruler. There's no indication the locals know it's there.

A brilliant but malevolent engineer has developed a set of retrofittings that allow for atmosphere-capable ships to operate at full effectiveness underwater. These raider frigates attack surface shipping, only to vanish beneath the waves before orbital defenses can engage.

Out of Contact

The navy is charged with opening the world for peaceful trade and commerce. Unbeknownst to them, a hidden power on the world wishes to keep the world shut against the cosmos outside, and is willing to manufacture events to ensure it stays so.

A powerful dynasty of belter warlords has kept the world closed to serve as their private supply base and pleasure garden. They threaten war against any power that dares interfere with "their" world.

Outpost World

The outpost commander is suspected of being a traitor, and a team needs to infiltrate and investigate the outpost for foreign subversion.

The navy is charged with running a simple resupply run to the outpost. Only on arriving do they learn that a second, unfriendly outpost has been established on the world by a rival power or prickly band of independents.

Perimeter Agency

The local Perimeter agency has requested aid in stopping a renegade member of the society who has fled with the templates for an advanced maltech weapon. If the navy returns the sealed templates, they offer data on pretech supply caches recorded in their files.

A Perimeter agent requests that the captain move to seize an unrecorded space station within the system's asteroid belt. The agent claims that it's a maltech lab, but that any attempt to seek explicit permission to take control of it would tip off the occupants.

Pilgrimage Site

Terrorists have seized control of the site and threaten to destroy it unless their demands are accepted. Someone needs to infiltrate the site and disable the explosives before time runs out.

The navy is charged with guarding a convoy of pilgrim ships to the site, but the convoy is composed of multiple, occasionally violently antipathetic sects. The navy needs to keep them from killing each other.

Police State

A high-ranking member of the internal security force has signaled that she is willing to defect. The navy needs to get her out and offworld in order to gain access to the files she controls.

Hostile warships from the police state appear in-system, demanding that the navy turn over a warrant officer born on that world. According to the accusers, the officer is guilty of grave political crimes. Naval HQ doesn't want to give a causus belli to the police state, but the crew is furious at the thought of turning over "the Chief" to such tyrants.

Preceptor Archive

A Preceptor adept has discovered lost coordinates to an ancient pre-Scream military base, and has fled there with his small band of zealous followers. If he's allowed to take control of the base, the world will surely fall to his wild dreams of "enlightened rule".

The local Archive seeks to plant a daughter house on a primitive and hostile world, and they have offered technical assistance to the government if the navy agrees to negotiate a modus vivendi with the locals.

Pretech Cultists

The cultists have managed to acquire an artifact that is overwhelmingly dangerous to them. The object must be retrieved before it catalyzes the other objects in the sacred vaults into a world-destroying catastrophe.

Warring cult factions have fitted out postech civilian ships with "sacred artifacts", and are dueling over control of the vaults. The navy needs to resolve the situation before external powers are drawn in.

Primitive Aliens

Effective exploitation of the world's natural resources is impossible without at least the tacit permission of the local aliens. The navy is charged with negotiating treaties on behalf of the homeworld's merchants.

A foreign adventurer has lashed together a brutal slave-empire of aliens, coopting the local ruling class with the help of his advanced technology. He has already started to import anti-ship defenses and negotiate for support from rival powers.

Psionics Fear

An important psychic operative in service to the government has family on the world, and is desperate to get them out before their association with his "tainted blood" is discovered.

An organization of radical psychics has seized control of a portion of the world's planetary navy, and is stirring up a conflict that's drawing in other regional powers. Observations suggest that the organization's leader may have gone feral from psychic torching.

Psionics Worship

One of the most important psychic leaders on the planet has gone feral and is stirring up a war against the PCs' homeworld. She must be eliminated without leaving obvious fingerprints on her death. Unfortunately, she's an expert precognitive....

Enemy powers have dispatched a mission that includes some of their most powerful psychics to impress the local religious leaders. The navy is ordered to escort and assist a similar mission dispatched by the planetary government.

Psionics Academy

The academy has been infiltrated by agents of a rival power. Their foreign loyalties must be revealed in order to discredit them before they provoke the academy into refusing students from the PCs' homeworld.

Enemy raiders have succeeded in attacking the academy and kidnapping many of the faculty. They must be rescued before the raiders succeed in forcing the faculty to reveal to them the secrets of psionic mentorship.

Quarantined World

Enemy agents are on the world to conduct business with a local warlord, helping him coordinate an attempt to break the quarantine. He and the agents must all come to unfortunate ends.

A disaster on the quarantined world promises enormous loss of life. A rival power is sending a relief convoy with medicines and technical help that could save hundreds of thousands of lives, but their real interest is in forcing access to the quarantined world's resources as part of the "follow-up assistance". The PC ship is the only one on duty in the system.

Radioactive World

Recently-discovered records show that a secret pretech research center was located deep within the present radioactive badlands. The center's data needs to be recovered without provoking the interest of the local powers.

A catalytic process unique to the world's geochemistry has resulted in the radioactivity transmuting certain ancient debris deposits into a precious mineral. A rival world's mineral prospectors were first to discover this, but the local government is willing to entertain counteroffers.

Restrictive Laws

Enemy-backed local legal scholars have "discovered" a portion of the law code that seems to direct the inhabitants towards forced hostilities with the PCs' government. Someone needs to prove the decretals to be fakes or that their interpretation can point in a different direction.

Local smugglers seek to move a valuable commodity offworld under the noses of the local law enforcement. The PCs' government finds it useful to have the navy assist them under the table.

Rigid Culture

Naval intelligence has identified an agent of a rival power that has managed to insinuate himself in the local culture. He's soon to wed the daughter of a powerful ruler, and HQ suspects that his father-in-law will not be long for this world once the succession is sealed. The PCs must unmask him or break up the engagement.

A rich tourist from the PCs' homeworld has managed to make an atrocious and unforgivable faux pas, forcing the ship's crew to escape the enraged locals and make it back to their ship and offworld before a military incident can break out.

Seagoing Cities

The leader of a band of savage submarine banditti has captured the family of a prominent city captain, and is blackmailing him into allowing lesser settlements to be plundered with impunity. If the PCs can resolve the situation without discrediting the captain, their government will get a strong ally.

One of the seagoing cities has managed to acquire massive pretech bombardment weaponry from a long-lost planetary defense cache. The remaining cities are threatened with enslavement to the hegemon's will, and have appealed to the PCs' government for aid.

Sealed Menace

A rival power has arranged for naval intelligence to learn of a dangerous plot to crack open the seal. In actuality, no such plot exists, and the arrangement is just a setup to capture naval agents or embarrass the PC's government. Of course, not all the scheme's participants need necessarily share that objective....

The alien race that originally sealed away the menace has returned or revived from their long absence, and now seeks to exterminate the human population, because they can't possibly be trusted to keep their hands off the menace indefinitely. The planetary government appeals to the PCs' government for help.

Sectarians

One of the sectarian groups is closely allied with the PCs' homeworld. One of the leaders of a rival faction has converted to the allied perspective, and needs to be spirited out of enemy territory before his change of heart is discovered.

One of the sectarian groups is closely linked to a powerful faction on the PCs' homeworld. The PCs are ordered to go in and "protect their interests". The group may or may not be deserving of such protection.

Seismic Instability

Local assassins have been dispatched to kill a famous seismologist in order to prevent his revelation that certain powerful mining interests are actually worsening the instability. The PCs are ordered to make sure the scientist can complete his research- the better to open the way to mining consortia from their homeworld.

Pirate gangs are blackmailing the locals with explosive strikes on critical geological locations, creating small instabilities that grow into terrible quakes. The PCs need to track them to their lair and stop them before the entire planetary civilization is shaken to pieces.

Secret Masters

The PCs are assigned to protect a minor local politician from assassins, little realizing that the politician is a Secret Master hunted by his rivals- and that he has substantial influence over members of the navy brass.

The PCs are sent into a volatile system, the local navy having splintered into multiple quarreling factions. Some of them are under the control of the Secret Masters, while others are only interested in doing their duty. The players must learn to distinguish the two before the uncontrolled elements are eliminated and the full fleet turns its attention on them.

Theocracy

A local inquisitor has gone out of control, threatening the stability of the society with his fanatical reforming zeal. The theocratic rulers have agreed to grant substantial benefits to the PCs' government if something unprovable is done about the zealot.

A troubled neighboring world has fallen under the theocracy's sway, imagining that their problems could be cured by society-wide embrace of the theocracy's principles. The PCs need to neutralize this new imbalance of power by proving the better benefits of cooperating with them- or the greater dangers of displeasing.

Tomb World

Naval intelligence observers pick up a transmission from a Scavenger Fleet search party reporting the discovery of an enormously valuable pretech artifact shortly before the search party vanishes. The PCs must recover that artifact before the Scavenger Fleet moves in to seize it.

The PCs are assigned to investigate unusual electromagnetic activity on the tomb world's surface. While in orbit, a dozen AI-controlled pretech warships rise from their hidden bunkers as the planet's automatic defense grid awakens anew. The PCs must locate and subvert the control center for the grid before it activates fully and destroys them and their ship.

Trade Hub

Corrupt officials are on a crusade against the homeworld's merchants, and are slapping them with all manner of trade-killing tariffs and penalties. The PCs need to identify the enemy responsible for this campaign and halt their activities with extreme prejudice.

Heavily-armed pirates are attacking ships around the trade hub, and a rival power is "generously" providing additional patrol weight to protect local shipping. The pirates never seem to attack ships under the rival power's flag, though the rival is beginning to discuss a "proper rate of recompense for additional protection" with the hub's government. The PCs need to get to the bottom of it all.

Tyranny

The tyrant is getting in over his head, loudly denouncing the PCs' government and railing against its myriad sins and omissions. The PCs are assigned to facilitate a change in leadership.

A rebel faction has broken away and set up as a viable rival to the tyrant- though they may or may not be morally superior. Their existence is an invitation to the PCs' government, and the group is charged with assisting the rebels in all ways short of open war on their behalf.

Unbraked AI

An unbraked AI has subverted important members of the planet's government through blackmail or services rendered. The PCs are assigned to trace back the web of influence to the AI itself and terminate it before it unleashes some demented catastrophe on the system.

Naval intelligence is convinced that the unbraked AI is behind several splinter factions that plague nearby systems. The PCs must crush, overawe, or subvert the factions to trace the influence back to the location of the core AI.

Warlords

A naval officer has gone rogue on the planet, either taking service with one of the warlords or becoming one himself. He's abundantly familiar with naval protocols, and he has to know a Deep Black team will be coming for him soon. The PCs need to ensure his death, but a direct approach to him is apt to be extremely difficult.

One of the warlords is willing to throw in with the PCs' government if they give him aid in crushing his rivals. If the group is successful, his rivals will see about making the PCs a better offer. The goal is to obtain hegemonic influence over the system, but the PCs will need to recognize the best deals amid the inevitable treachery.

Xenophiles

An important and influential alien on the world has taken a fierce opposition to the PCs' government. The group is charged with determining the source of the alien's outrage and either placating it or ensuring its untraceable death.

Several factions on the world are starting to receive shipments of advanced alien weaponry, and threaten to seize control of neighboring spacelanes to "bring the wisdom of the elder races" to the benighted souls there. These zealots need to be stopped without starting an overt war.

Xenophobes

Naval intelligence wants a clear map of the culture's power structures, cultural mores, and preferably some sort of blackmail they can use to force open restricted treaty ports. The PCs need to go in and get this information without being discovered as off-worlder agents.

A rival power is conducting false-flag privateer operations in the system, painting the PCs' government as being responsible for the depredations. The PCs need to prove that the piratical ships are actually being bankrolled by the rival power before the xenophobes move to outright war.

Zombies

A crucial government building, space station, or military facility has become infested with zombies, trapping important officials inside- including some belonging to the PCs' government. The local government has written them off and is preparing to blow up the facility before the infection spreads. The PCs have to get them out before it's too late.

Maltech researchers have developed ways to control the zombies and utilize them for spaceship duties too dangerous or demanding for normal humans. Unfortunately, the control begins to erode just as the PCs find themselves in the system, suddenly surrounded by local warships under the control of semi-lucid zombie crews.

The following pages include a selection of new backgrounds and training packages for PCs in a naval campaign. The background packages reflect common ratings or officer skill sets, while the training packages are meant to reflect the skills appropriate to a young but competent spacer with some experience of their duties.

The background packages cover the rudiments of a spacer's training, but this doesn't mean the character's life before enlistment is irrelevant. A player should feel free to make some decisions about what his or her character was doing before they enlisted, and this past may influence their future development. A PC does not get two background packages, however; whatever talents they developed in their former life doubtless rusted away under the strain and intensity of naval life.

The training packages listed here may be taken by any class. All classes get the first four skills listed for the training package, reflecting the basic aptitudes necesary for carrying out the role. Without at least a level-0 rating in each of these skills, the character probably can't reasonably manage the duties of that department. Experts and Warriors get the next two skills on the list, while Experts alone get the last two.

Creating a Deep Black PC

The backgrounds and training packages given here don't include specific options for Deep Black operatives because the specific skill sets and backgrounds for these elite agents vary so widely. Anyone who demonstrates the right mix of courage, skill and independent judgment might be picked for recruitment whether rating or officer. Despite this wide variation, a few skills remain universal among Deep Black operatives.

All Deep Black operatives should have level 0 skill in at least one form of Combat, Stealth, Security, and Tactics. No operative would ever be completely ignorant of these topics, and many will have level 1 skill or greater. A GM should be generous about permitting players to swap a level or two of their existing skills to fill out these requirements if necessary, with the change justified as old talents becoming rusty as the PC focuses on new expertise.

All Deep Black operatives treat Combat/Unarmed, Combat/Projectile, Combat/Energy, Stealth, Security, and Tactics as class skills up to level 1, and can buy them at class skill rates up to that level. If a character already has the skill on their class skill list, it costs them only 1 skill point to raise it from level 0 to level 1.

Most full-fledged Deep Black operatives will begin the game at third level, with all the additional skill points and HP those levels represent. Some GMs may prefer to let the characters begin at first level, however, either as trainees or potential candiates for the team.

If the GM is allowing characters to begin at greater than first level, it should be remembered to let them roll their hit points for each level

and take the best roll for their final total. For example, a 3rd level psychic with no Constitution bonus should roll 1d4, 2d4, and 3d4 and then take the best. Optionally, the GM might automatically start all PCs with at least 8 hit points if they don't succeed in rolling that many. Deep Black operatives are often distressingly distant from any support, and need to be able to survive a bad round or two of combat.

Novice Deep Black operatives can generally take their pick from tech level 4 equipment, including weaponry and armor. Elite operatives sent forth to face interplanetary tyrants with nothing more than a knife are all well and good for holodramas, but in practice, most governments prefer to give their operatives something more effective to employ. Experienced operatives on difficult missions might well be given access to a planet's limited store of tech level 5 equipment and cybernetic implants, along with pretech drugs and possibly even artifact gear. Deep Black operatives are also encouraged to salvage or purchase personal gear suited to their tastes.

Naval Background Packages

Many are the officers who came up through the ratings, and there's no such thing as a warrant officer who hasn't seen at least a decade of hard work among the enlisted men. The following backgrounds are useful in describing what kind of skills a character might have picked up while a rating in a space navy.

Astrogator's Mate

An enlisted astrogator's mate is good enough to get a ship or small craft around a star system, but they've yet to prove their skills sufficient to take a ship safely through the howling light of metaspace.

Skills: Culture/Spacer, Navigation, Science, Vehicle/Space

Aviator's Mate

The hotshot fighter pilot doesn't get very far if his fighter isn't in a condition to leave the carrier bay. Aviator's mates are ratings charged with keeping a ship's fighters and small boats in order.

Skills: Culture/Spacer, Navigation, Tech/Astronautic, Vehicle/Space

Boatswain's Mates

"Deck apes" are more properly known as "boatswain's mates" (pronounced "bo-sun's mates"). Tasked with the hard, grinding labor of keeping a ship running, deck apes are also responsible for damage control aboard a warship.

Skills: Athletics, Combat/Unarmed, Culture/Spacer, Gambling

Firemen

Engineer department ratings are usually called "firemen", and work in the burning caves of a ship's engine room. Heavy insulated exosuits are often necessary simply to prevent lethal radiation poisoning, and these "engine snipes" tend to get more than their share of cancers.

Skills: Culture/Spacer, Exosuit, Gambling, Tech/Astronautic

Gunner's Mates

Along with boatswain's mates, firemen, and astrogators, gunner's mates are among the most important ratings on any warship. Without their steady hands on the guns, the mightiest battleship is toothless.

Skills: Combat/Gunnery, Culture/Spacer, Computer, Tactics

Hospitalman

Not every member of a ship's medical department is an officer, and enlisted hospitalmen often do the bulk of the routine work. "Routine" aboard a warship often involves more extravagant injuries than some lesser war zones, when the hospitalmen are not busy filtering out malingerers and goldbrickers.

Skills: Bureaucracy, Culture/Spacer, Perception, Tech/Medical

Intelligence Rating

Some ships have a number of intelligence analysts aboard, charged with cracking the signal intercepts or espionage data received from earthbound agents. These ratings are unsociable as a rule, too burdened with secrets to risk much casual conversation.

Skills: Computer, Culture/Spacer, Language, Security

Midshipman

Every officer has to spend time as a midshipman, shepherded carefully by a more senior officer through the most basic training in shipboard leadership. While technically officers, they usually are expected to pitch in right beside the ratings.

Skills: Bureaucracy, Culture/Spacer, Leadership, Perception

Naval Marine

Not many warships carry a large marine contingent. No captain would ever admit that his crew needed to be disciplined by armed marines, for all that it's sometimes the case. Marines are most often called upon to provide security for away teams and conduct boarding operations.

Skills: Combat/Any, Combat/Unarmed, Culture/Spacer, Tactics

Naval Psychic

Some navies attach psychics to their ships. The time and effort needed to maintain psychic disciplines rarely gives them much time for other proficiencies, but they learn the basics and become fitted for later advancement as officers.

Skills: Combat/Any, Culture/Spacer, Any two skills from the department background to which they are assigned.

Science Rating

A few scout ships have dedicated science departments aboard, charged with the duty of gathering and sorting new data and building the kind of makeshift sensors and devices often necessary to parse exceptionally odd readings.

Skills: Computer, Culture/Spacer, Science, Tech/Postech

Signalmen

These ratings operate a ship's comm board, passing on messages and receiving transmissions from other ships. They're also responsible for keeping watch on the scanners and alerting the captain to any unexpected guests.

Skills: Computer, Culture/Spacer, Language, Persuade

Yeoman

Naval headquarters and major warships run on paper, and the yeomen are those ratings charged with keeping it all in order. Personnel lists, pay disbursals, sending and receiving orders- all these things are a yeoman's dry duty.

Skills: Bureaucracy, Culture/Spacer, Persuade, Steward

Naval Training Packages

These packages can be taken by characters of any class, and generally represent officers or experienced ratings specialized in a particular department. All classes get the first four skills listed. Warriors and Experts get the next two listed, and Experts get the final two. For players who prefer to take an "adventuring class" background and shape it to suit, they should consider the first four skills to be the basic necessities of the position. An officer or warrant without these skills is unlikely to be able to handle the job. In particular, an astrogator without at least Navigation-1 skill isn't competent to handle spike drills, and one without Culture/Spacer-0 has no real grasp of naval protocols.

Some characters may come to this training from a past outside of a traditional naval background. At the GM's discretion, they might elect to drop their Culture/World skill in favor of Culture/Spacer, to reflect their knowledge of naval protocols and procedures. A character without any Culture/Spacer skill has only the most basic grasp of naval regulations and structure, and can't hope for advancement until they gain this essential knowledge.

Astrogator

A trained astrogation officer is capable of bringing a ship through the burning reefs of metadimensional space, and those with the greatest aptitude can do much to keep a damaged ship on course. Many astrogators are staff officers due to the technical demands of the profession, though a few are trained for line duty.

All characters get: Combat/Any, Navigation, Science, Vehicle/Space
Warriors and Experts add: Computer, Leadership
Experts add: Tech/Astronautics, Tactics

Aviator

The classic fighter jock, aviators are usually lieutenants charged with flying the fighters and small boats of a larger craft. Aboard carriers they can make up entire aviation wings along with their aviator's mates support. Aviation is a common route upward into line duty for those officers with ambition and talent.

All characters get: Combat/Gunnery, Navigation, Vehicle/Space, Tactics
Warriors and Experts add: Combat/Any, Leadership
Experts add: Perception, Tech/Astronautics

Bosun

The boatswain may be a rating, but he or she is almost always a weathered and experienced space dog familiar with every dodge and shirker's game between the frontier and the core. He can whip the sorriest lot of bar scum into a tight deck department and do it without bothering the officers.

All characters get: Athletics, Combat/Unarmed, Culture/Spacer, Leadership
Warriors and Experts add: Persuade, Tech/Astronautics
Experts add: Culture/Criminal, Perception

Engineer

The engines can always take a little more with an expert engineer on the crew. These officers, be they regular, warrant, or petty, are the undisputed masters of their engine rooms, and are usually called on to handle the more exotic technical difficulties that can't be sorted by the deck crew. Few engineers ever strike for line duty, most being quite focused on the maintenance of their department.

All characters get: Combat/Any, Exosuit, Tech/Astronautics, Tech/Postech
Warriors and Experts add: Computer, Vehicle/Space
Experts add: Leadership, Perception

Intelligence Officers

Alternately condemned as do-nothing paper pushers and lionized as the daring spies of space, intelligence officers are obliged to do much and say little about it. Few make it to space, and even fewer strike for line duty, but their expertise is often invaluable to a captain who desperately needs to know his enemy's intentions before they come to fruition.

All characters get: Computer, Language, Perception, Security
Warriors and Experts add: Combat/Any, Stealth
Experts add: Culture/Traveller, Persuade

Line Officer

All line officers came up through one or more departments, training there as midshipmen and often as departmental heads before making it to command of a ship or work as an executive officer to a captain. Even those who still serve as departmental officers keep their military skills honed for the longed-for day when they might receive their own ship.

All characters get: Bureaucracy, Leadership, Tactics, One skill from their former department
Warriors and Experts add: Combat/Any, Vehicle/Space
Experts add: Persuade, One skill from their former department

Gunners

Officers and experienced ratings of the weapons department are gunners, and notorious for their daredevil ways. The massive capacitors that power most modern energy weapons have a bad habit of blowing during engagements, roasting whole swaths of luckless gunners. Their officers often trained in immediate medical care and some have a knack for damage control.

All characters get: Computer, Combat/Any, Combat/Gunnery, Tactics
Warriors and Experts add: Leadership, Tech/Medical
Experts add: Perception, Tech/Astronautic

Marine Officer

You've seen the inside of a dozen hostile ships, and you're still standing. Marine officers are notoriously tough sorts, accustomed to dealing with sullen deck apes and hostile natives both. They go where the navy sends them, and God help any man who gets between them and their destination.

All characters get: Combat/Any, Exosuit, Leadership, Tactics
Warriors and Experts add: Combat/Unarmed, Persuade
Experts add: Tech/Astronautics, Tech/Medical

Naval Scientist

Long voyages to alien stars often require scientists capable of handling a broad range of esoteric findings while under less than optimal lab conditions. Naval scientists rarely aim for line positions, much preferring the endless parade of fascinating anomalies that are the lot of a scout ship's science department. The most gifted among them also remain aware of the dangers locked away in the past.

All characters get: Computer, Science, Tech/Astronautics, Tech/Postech
Warriors and Experts add: History, Tech/Medical
Experts add: Tech/Maltech, Tech/Pretech

Physicians

Medical officers aboard ships are expected to wear many hats. Aside from tending to the inevitable gruesome injuries of men who work in space, they often serve as unofficial chaplains on ships too small for their own chaplaincy department, and often need to handle the dodges of malingerers trying to avoid some noisome duty with feigned sickness. Few physicians ever strike for line duty, and their periods of quiet duty occasionally give them the chance to pursue their own interests.

All characters get: Bureaucracy, Perception, Tech/Medical, Any one skill
Warriors and Experts add: Persuade, Religion
Experts add: Leadership, Any one skill

Signal Officers

Far more than glorified communications technicians, signal officers handle all communication tech within the ship and between it and other entities, and stand responsible for maintaining a ship's vital defensive ECM and ECCM during combat engagements. The most basic duties involve maintenance and repair of the equipment, but officers also usually learn the finer points of the effective communication possibilities that can exercised by a naval warship.

All characters get: Bureaucracy, Computer, Language, Tech/Astronautics
Warriors and Experts add: Combat/Any, Persuade
Experts add: Culture/Traveller, Security

Tracking Large Scale Naval Combat

In the course of a naval campaign, it can be expected that the PCs might get involved in large-scale fleet battles. The general simplicity of the *Stars Without Number* spaceship combat rules maps well to large engagements, and running a fight between a dozen hostile spacecraft doesn't have to be much more difficult than overseeing a battle between the PCs and a band of hostile aliens.

Still, these battles tend to be very important parts of an adventure, and it can be helpful for the GM to do a little preparation beforehand to ensure the fight runs as smoothly as possible. The sheets on the following pages contain blanks that can be printed out and used at the table to speed the process.

Ship Cards

These cards contain blanks for the most important elements of a ship class' statistics. Fittings and other non-combat equipment are usually irrelevant to naval engagements. For each class of ship involved in the combat, prepare by writing the particulars down on a card. As a reminder, most civilian ships have a +1 skill bonus to any necessary skill checks, warships average +2, and capital ships are crewed by the fleet's best, having an average of +3 on skill checks.

Battle Record

Once each type of ship has been written down on a card, fill in the battle record. Write the name of a ship on each line next to its class. For some small craft, this might be nothing more than "Fighter #4", but it's useful to have specific names noted down so that players have an easier time indicating what ship they're targeting.

Use a separate battle record sheet for each side in the fight or separate each side on the sheet. It makes it substantially easier to tell which ship is on which side, and for players to realize that Fighter #4 is one of their allies and not a recommended target for their gravcannon.

Run the Battle

Once you've prepared your sheets, you can run the battle by the rules given in the *Stars Without Number* core rule book, possibly with the addition of the Battle Stations system given later in this chapter.

Rather that worrying about declaring spike phases for each ship, simply require a ship shooting at a target with a stronger spike drive to roll greater than the difference on 1d6, with weapons possessing the Phase quality adding normally to the roll.

If you're running a true clash of armadas with dozens of ships blazing away, you should group like ships into even wings of three to five ships, and simply roll once for their weaponry. On a hit, roll damage once, apply the target's armor and any spike phase roll that is necessary, and just multiply the final damage by the number of ships in the wing.

As with personal-scale combat, focusing an entire fleet's fire on a single enemy ship tends to result in the rapid vaporization of a target. If you prefer to mimic the difficulty of a large swarm of ships all bringing guns to bear on a single target at once, you can roll 1d6 before each ship's attack; if the number rolled isn't greater than the number of ships that have already attacked that target, then the firing lanes have gotten too crowded, and no further ships from the fleet can attack the victim that round. If you adopt this rule, you shouldn't apply it to attacks from fighter-scale hulls; these small craft are specifically designed to mob targets with a cloud of nimble foes.

Choosing the Slain

It's by no means impossible that the PCs' ship will be destroyed in the course of their adventures, possibly while they're aboard. If running a naval campaign, it's best to automatically assume that the ship's engineer passes the Tech/Astronautics check to prevent the ship's explosion when it reaches 0 hit points; if you don't, the entire campaign's progression then hinges on a single die roll, and that's rarely a useful place for a GM to put a game.

Even if not reduced to a rapidly-expanding cloud of metal gas, PCs are likely to be in trouble if their ship is disabled. Power and pressure will almost certainly be lost by then, and PCs not safely in vacc suits or ship suits will face a short and unpleasant future. Still, most enemies will close to take prisoners for interrogation, ransom, and show trials, and only the most ruthless will leave spacers to die in the cold void.

The death of a ship produces enormous electrical surges and bursts of radiation, even when the spike drive dies without an explosion. Lifeboats launched in the immediate aftermath of a ship's combat death are extremely hard to track, especially if they are equipped with stealth capabilities. A crew that gets aboard and gets launched quickly enough has an excellent chance of avoiding hostile sensors until they can touch down on the nearest viable planet or space station. Most lifeboats can be adjusted to head for a different nearby haven if the nearest planet happens to be a vigilant enemy homeworld, but they lack spike drives, and need to seek refuge at a location within the star system.

However a battle ends, a GM needs to be mindful of the possibility that the PCs will be on the losing end. When you design an adventure that's going to include a battle in the deep void, you should take care to think a moment on the consequences for a party less fortunate than they might hope to be. Where will they go? What will the enemy do with them if they are captured? How will events progress while they try to get back to safety? These questions can become more relevant than players might hope when the angels of war decide to piss on their guns' capacitors.

		Ship Class	_____			
		Weapon	+Hit	Damage	Special	Ammo
Hull Type	_____					
Speed/Drive	__ / __					
AC	_____					
Armor	_____					
Skill Bonus	_____					
Hit Points	_____					
Defenses						

		Ship Class	_____			
		Weapon	+Hit	Damage	Special	Ammo
Hull Type	_____					
Speed/Drive	__ / __					
AC	_____					
Armor	_____					
Skill Bonus	_____					
Hit Points	_____					
Defenses						

		Ship Class	_____			
		Weapon	+Hit	Damage	Special	Ammo
Hull Type	_____					
Speed/Drive	__ / __					
AC	_____					
Armor	_____					
Skill Bonus	_____					
Hit Points	_____					
Defenses						

		Ship Class	_____			
		Weapon	+Hit	Damage	Special	Ammo
Hull Type	_____					
Speed/Drive	__ / __					
AC	_____					
Armor	_____					
Skill Bonus	_____					
Hit Points	_____					
Defenses						

Ship Name	Class	Hit Points	Ammo Expended

Many works of naval science fiction have a climactic battle as the centerpiece of the story, the clash of the protagonist's ship with some foe that threatens to overwhelm them by superior numbers or crushing force of arms. It is almost inevitable that PCs in a naval campaign will encounter such conflicts in the course of play, but making them work well in a *Stars Without Number* game requires a bit of effort- in part because the PCs in a sandbox campaign are not endowed with the special powers of survival granted to the protagonists of novels.

Space combat in a default game of *Stars Without Number* is intended to be resolved fairly quickly. Conventional PC groups encounter space combat as an element of the game rather than a major focus. When faced with a clearly superior opponent, they usually have far less reason to stick around and fight than a naval warship ordered to defend a planet or system. For most purposes, the default *Stars Without Number* system is plenty for a campaign's needs.

This is different when the entire group is expected to be an integral part of a naval warship's operation. Every PC needs to have something interesting to do during ship combat, and each one has to have meaningful choices presented. In addition, PC warships often need a little extra advantage over NPC ships, or else the brute laws of mathematics almost ensure that their plucky frigate is going to get blasted out of the void within its first four or five even-odds fights. Elite crew members such as the PCs are worth something extra in combat.

With that in mind, the following system is offered as a supplement to the one given in the *Stars Without Number* core book. It is intended mainly for naval campaigns in which ship combat is expected to play a major role, and may not be appropriate for other types of games.

No Better Crew Afloat

Some ships are special. Crewed by a rare breed of men and women, they stand out for the excellence of their discipline and the skill of their officers and ratings. PCs are such spacers, and their handling of their ship reflects that skill. The reserve of discipline, expertise, and focus available to such a crew is measured in *Crew Points*.

To determine a ship's Crew Points, first add the crew's highest available skill levels for Athletics, Combat/Gunnery, Computer, Culture/Spacer, Exosuit, Leadership, Navigation, Tech/Astronautics, Tactics, and Vehicle/Space. If no PC has the skill above level 0, assume some NPC crewman has it at level 1. Double this total to find the Crew Point total. Crew Points are spent during combat, and recover after twelve hours of peace.

To keep track of Crew Points during combat, it can be most convenient to simply put a pile of tokens in the center of the table, such as coins or beads, and let PCs draw them out as they gradually spend down their supply of discipline.

All Hands To Stations

At the start of combat, assign each PC to a department. The PC is assumed to either be the department head or the most active and consequential member of that department. The PC will make decisions for that department during combat. If a PC is incapacitated or otherwise unsuited for the job, the player can take on the role of the NPC in charge of a department. If there aren't enough PCs to fill out all six departments, give control of an extra department's NPC head to the PC running the captain and split the remainder among the other players as they desire.

Next, hand each player a department sheet. The sheet lists the number of crew they have in their department and the potential commands they can issue each round. These commands allow special actions and bonuses, but they come at a cost in Crew Points. Executing the complex maneuvers requires expert coordination from the crew, and even the best spacers can maintain their efforts only so long. Any character can spend Crew Points to give commands, but once the point supply is exhausted the characters will need to risk dangerous errors in order to carry out their commands.

Once engaged in combat, the engagement is run as per the rules in the *Stars Without Number* core book, with one exception. Before the start of every round, each player declares the command his or her character is giving. Departments declare their commands in the order determined by the ship's captain. The department head rolls a relevant skill check equal to the command's difficulty, +1 aboard a frigate-class ship, +2 aboard a cruiser, and +3 aboard a capital ship. If the roll fails, the character can choose to abort the command, or he can push it through at double the listed Crew Point cost.

For each command, a number of Crew Points equal to the command's cost are subtracted from the ship's total, or double the amount if the command's skill check failed. If no Crew Points remain, the character must roll 2d10 on the Mishap table for their department with a negative modifier equal to the Crew Points lacking for the command. For example, if a signalman PC gave the "Ion Window" command costing 2 Crew Points with only 1 point remaining and succeeded on the skill check, he would gain the benefit of the command and then roll 2d10-1 to determine a potential Mishap. If he'd failed the check and needed to spend 4 Crew Points to trigger it, he'd roll 2d10-3.

Some mishaps result in crew losses. Crew losses are always taken from NPCs first. If a PC suffers a taken-out mishap, they may save versus Tech to evade the mishap. Failure means that they are struck unconscious for 1d4 rounds and reduced to 1 hit point.

The Battle Stations rules are intended for use only with PC ships. Other ships might have excellent crew, but they lack the special genius or demented recklessness possessed by a player character. As an exception, however, certain storied ships might have their own reserve of Crew Points. These ships will doubtless have earned a terrible name in the stars, and spotting such a foe on the sensors will put any PC crew on notice that their next battle might be a little more climactic than they would prefer.

THE CAPTAIN

NAME

RANK

SHIP
SKILLS

Someone has got to take responsibility for the ship, and the captain is that brave soul. The captain can give orders to the crew about what commands to issue, maneuvers to perform, or targets to fire upon, but the ultimate choice to obey belongs with the relevant department. Most PC captains are best off expressing general desires and letting the PC department members resolve them as they find best. If the captain is somehow rendered unconscious or dead, the entire ship suffers a -1 penalty to all department skill checks and a -2 penalty to hit until the captain is revived or a new officer takes up the role. Most captain's commands are based on either Wisdom or Charisma, and use either Leadership or the Tactics skill.

CAPTAIN'S MISHAPS	
2d10	**Mishap**
<11	The trap fails to close perfectly and the crew struggles to bring it off. The next command issued by any department with a Crew Point cost greater than zero has its cost doubled.
11+	The trap is sprung successfully, and no mishap occurs.

CAPTAIN'S COMMANDS		
CP	**Diff.**	**Command**
0	-	***Hold Her Steady:*** The captain allows the bridge crew a moment to collect their attention. On a successful Cha/Leadership skill check at difficulty 7, regain 1 expended Crew Point.
0	6	***All Power to the Guns:*** The bridge routes surplus power to the gunnery department. On a successful Wis/Tactics roll, the cost of any gunnery department command made that turn is reduced by 2 Crew Points, subtracted after the department head makes their skill check.
0	6	***Full Engines:*** The bridge routes surplus power to the engine department. On a successful Wis/Tactics roll, the cost of any engine department command made that turn is reduced by 2 Crew Points, subtracted after the department head makes their skill check.
0	6	***Evasive Maneuvers:*** The bridge routes surplus power to the astrogation department. On a successful Wis/Tactics roll, the cost of any astrogation department command made that turn is reduced by 2 Crew Points, subtracted after the department head makes their skill check.
0	6	***Damage Control Oversight:*** The captain identifies crucial damage control needs and designates crewmen to deal with them. On a successful Cha/Leadership roll, the cost of any deck department command made that turn is reduced by 2 Crew Points, subtracted after the department head makes their skill check.
0	6	***All Hands To Stations:*** The captain directs a crewman to split duties to cover for a crippled department. A department which has no hands left is treated as if one remains, though no commands can be issued by it. If the captain fails the Cha/Leadership skill check, this coverage is temporary, and will vanish at the start of the next round. If successful, the department will remain manned for the rest of the fight.
0	-	***Valiant Sacrifice:*** The captain embraces dreadful risks for the ship, standing fast on the bridge as flames bloom from shattered consoles. This command can only be issued when the ship is at or below half maximum hit points. There is no skill check required. The captain chooses a number of dice to roll, up to five in total- 1d4 for fighter-class ships, 1d6 for frigates, 1d8 for cruisers, and 1d10 for capital ships. The captain takes the rolled damage and cannot use any ability to lessen it. The ship instantly regains a number of expended Crew Points equal to the number of dice rolled. If the captain dies or is disabled, the penalty for the loss does not apply until the next round.
4	7	***You Magnificent Bastard:*** Having maneuvered the enemy perfectly into position, the captain springs the trap, checking against Wis/Tactics for the command test. Only the captain's ship can act or fire this round. This command can be issued only once in a given combat.

All check difficulties are increased by 1 aboard frigates, 2 aboard cruisers, and 3 aboard capital-class ships.

THE PILOT

NAME

RANK

SHIP

CREW

SKILLS

Whether pilot or astrogator, the men and women of the astrogation department keep the ship in motion and on course. If every member of the department is killed or disabled, the ship goes on autopilot, giving it a -2 AC penalty and leaving it incapable of maneuvers until someone with at least Vehicle/Space-0 skill comes to take over. Most command skill checks for this department rely on Intelligence or Dexterity and Vehicle/Space skill.

ASTROGATOR'S MISHAPS	
2d10	**Mishap**
<1	The violent maneuverings slam 1d4 astrogation crew members into unconsciousness. Double this number for cruisers and multiply by 8 for capital-class ships.
1-2	The engines can't take the savage jinking and one overheats, critically injuring an Engineering department member. Double the damage and number of crew injured for a cruiser and multiply by 8 for a capital ship.
3-4	Coordination with the gunnery crew is lost, and they suffer -2 to hit for the round.
5-6	The ship goes into a brief course lock as conflicting commands tangle at the helm. The ship suffers a -2 AC penalty for one round.
7-8	The maneuvering leaves one of the ship's guns out of position to fire. The pilot selects one weapon aboard the ship- it cannot fire that turn.
9-10	A bank of nav computers blow from the strain. For the rest of the fight, suffer -1 on all Vehicle/Space checks.
11+	A quick eye on the boards prevents any mishap.

ASTROGATOR'S COMMANDS		
CP	**Diff.**	**Command**
0	-	*Maintain Course:* The pilot keeps a steady course to let the rest of the astrogation crew catch their breath. If a difficulty 7 Vehicle/Space/Int skill check is successful, regain one expended Crew Point.
2	6	*Trim the Course:* The pilot forces the ship into a higher drill shear than its drive is technically specced for, increasing its Speed by 1 for the round.
2	7	*Lockdown Feint:* The pilot turns the ship as if to flee, drawing enemy ships into optimal pursuit trajectories that are easily solved by the ship's targeting computers. No bonus is given this round, but the next round the ship can stop fleeing and attack its enemies with a +3 bonus to hit on all gunnery that round.
1	7	*Phase Dance:* The pilot jitters the ship's spike phase through a series of rapid frequency adjustments. The pilot can choose to change the ship's spike frequency after the enemy has declared what phase they're shooting into.
2	6	*Float Like A Leaf:* The pilot kills the ship's internal gravity for one round, briefly and drastically altering its handling profile. For one round, the ship gains a -2 bonus to its Armor Class while the enemy targeting computers compensate. This command is not effective two rounds in a row, though it can be used interspersed with other choices.
3	7	*Between The Rain:* This command works only when two or more enemies are firing on the ship. The pilot runs the ship between two chosen opponents on a carefully-calculated course vector. Each missed shot that one of the ships fires must roll to hit the other at -4 to hit.
3	8	*Spitting Distance:* The pilot dances the ship right up to a specific enemy craft, rolling and weaving so deftly that the enemy can't get a clean shot in with one of its guns. The pilot can choose which enemy gun is neutralized, but the ship grants a +2 bonus to all other enemy hit rolls, including those of the other guns on the target ship.
4	8	*Killing Light:* The pilot suddenly flips the inertial orientation transformers, spinning the ship and turning its drive flares on an enemy craft. The pilot makes an attack using either Dex or Int and Vehicle/Space as the ruling stat and skill. Base damage is 1d6 for each level of spike drive. Frigates take -1 to hit and do double damage, cruisers take -3 to hit and do four times as much damage, and capital-class ships take -5 to hit and do eight times as much damage. All enemies gain +2 to hit the ship until the start of the next round.

All check difficulties are increased by 1 aboard frigates, 2 aboard cruisers, and 3 aboard capital-class ships.

THE COMM OFFICER

NAME [   ]

RANK [   ]

SHIP [   ]
CREW [   ]
SKILLS [   ]

The signalmen aboard the ship have the crucial duty of maintaining the ship's ECM and ECCM while in combat, along with maintaining sensor locks on enemy starships. If every signalman is killed or incapacitated, the ship goes half-blind, applying a -2 hit penalty to all attacks made by the craft. Most signal command checks are Computer/Int.

COMM OFFICER'S MISHAPS

2d10	Mishap
<1	The ship burns brightly on enemy sensors as the comm computers lose track of ECM measures. For the rest of the round, each enemy ship can choose to reroll one missed hit roll against the ship.
1-2	The ECM wobbles as the overtaxed computers struggle to keep up with the flurry of commands. The ship's armor class suffers a -2 penalty for the round.
3-4	ECCM flickers briefly under a surge of compensation data. One of the ship's guns must roll twice on its to hit roll that round and take the worse of the two.
5-6	The ship's sensor signature flares briefly. The ship suffers a -1 penalty on all maneuver rolls that round.
7-8	The computers groan under the torrent of calculations and determinations required by the comm officer. If the next turn's command isn't "Repeat Pattern", the Crew Point cost of the command is doubled.
9-10	A calculation slips. The distraction applies a -2 penalty to any skill check he or she may make next round.
11+	Sharp attention prevents any mishap.

COMM OFFICER'S COMMANDS

CP	Diff.	Command
0	-	***Repeat Pattern:*** The comm officer allows the ship's computers to repeat a former jamming pattern in order to give it a little time clear the processing queue. On a successful Computer/Int check at difficulty 7, regain one expended Crew Point.
2	6	***Ion Window:*** The comm officer shapes the ship's engine discharge to scatter a window of ionic interference around the ship. All enemy guns that have the Ammo quality suffer a -2 to hit for the round.
3	6	***Sensor Ghosts:*** Deft surges in the ship's external energy ports create a shadow on the sensors of enemy craft for the rest of the round. Enemy guns that hit the ship must roll 4+ on 1d6, or else the shot has passed harmlessly through the shadow. After the first miss of this kind, the enemy ships adjust their targeting and the shadow ceases to help. A new ghost can be cast the next round if this command is executed again.
3	7	***Blue on Blue:*** The comm officer manages to briefly subvert the targeting data of a chosen enemy projectile or energy weapon. The weapon must roll to-hit twice; if either misses, the shot misses, and the better of the two rolls is applied to hit a different enemy ship of the comm officer's choice. If there is only one ship attacking, the shot simply misses.
1	6	***Optimal Lock:*** The comm officer manages to synchronize the sensor sweep with the plotted targeting solution of one of the ship's guns. If the gun misses, a second to-hit roll can be attempted at -2 to hit.
3	7	***Corps a Corps:*** Clinging to the shadow of an enemy ship, the comm officer seamlessly merges the two sensor images. This command requires that the ship be in a successful lamprey lock maneuver with the targeted ship. So long as the lamprey lock is maintained, the two ships have indistinguishable sensor signatures, and are so close that anyone else attempting to shoot at one must roll 4+ on 1d6 or accidentally target the other.
3	6	***Phantom Course:*** The comm officer managed to briefly distort the ship's apparent course, fooling enemies into solving for an incorrect maneuver trajectory. Enemy ships take a -1 to any maneuver skill checks this turn.
4	7	***Silent Running:*** The comm officer takes advantage of a wild exchange of gunfire to shut down every external energy emitter, briefly vanishing off an enemy's sensors as the hostile detectors struggle to refocus on a lower energy band. This command can only be attempted after a round in which at least some weapon fire occurred. The ship cannot fire this round without spoiling the effect, but otherwise the ship cannot be targeted by enemy guns this round and gains +2 on all maneuver skill checks. This trick will only work once per fight before the enemy sensors lock in the ship's energy signatures.

All check difficulties are increased by 1 aboard frigates, 2 aboard cruisers, and 3 aboard capital-class ships.

THE BOATSWAIN

NAME

RANK

SHIP

CREW

SKILLS

Deck crew handle damage control and fire containment aboard ship, and are trained to perform emergency re-routing and manual operation of components that have lost power. If the deck department is left completely depleted, the ship suffers a -1 penalty to all skill checks as a hundred and one small, important duties are left untended. Most deck department duties rely on brute vigor and hardihood amid flames and crackling power lines- Athletics/Con skill checks.

DECK DEPARTMENT MISHAPS

2d10	Mishap
<1	1d6 deck hands are killed or incapacitated as an electrified bulkhead shatters. Double this for cruisers and multiply by eight for capital ships.
1-2	A torrent of superheated steam from a sprung vent ruptures a suit and boils a deck hand alive. Double this loss for cruisers and multiply by eight for capital hulls.
3-4	Electrified cables are torn loose from their bundles, briefly blocking a major passageway. Double the Crew Point cost of the next boatswain's command.
5-7	A cutting torch goes wild, carving into something important. The ship suffers 1d4 hit points of damage, ignoring armor.
8-10	A seam springs at the worst possible time, inflicting a -1 penalty on the ship's AC for the remainder of the round.
11+	Strong arms prevent any mishap.

BOATSWAIN'S COMMANDS

CP	Diff.	Command
0	-	***Stand Ready, Lads:*** The deck crew takes a moment to order their stations and tend to their gear. On a successful Culture/Spacer/Con skill check at difficulty 7, the ship regains one expended Crew Point.
1	6	***Lances Up:*** The crew swarms to bolt emergency hull patches in place with the use of quick-burning thermal lances. One enemy hit during the round does half damage, rounded up, after subtracting the ship's armor.
3	7	***Fear No Flame:*** The deck crew braves the heat and peril of a burning compartment to shut down runaway power leads. A deck crewman is killed or seriously injured in the process, but 1d6 hull points are immediately repaired. On a cruiser, two deck crew are incapacitated, and on a capital ship eight crew are disabled. If the loss would leave the crew with no deck department hands, this command cannot be issued.
2	6	***Powder Monkey:*** Deck hands hot-swap blown gun capacitors even as the ship fires, allowing the gunnery crew to overcharge their weapons. Weaponry without the Ammo property can reroll any damage dice that come up 1 or 2.
2	7	***Rescue Mission:*** Deck hands cut through warped bulkheads and carry downed crewmen out of burning compartments. 1d4 fallen members of the crew are restored to their departments. Twice this number are saved aboard a cruiser, and eight times as many aboard a capital ship. Roll 1d6; on 3 or less, one deck hand is killed or seriously injured. Two hands are downed aboard a cruiser, and eight hands aboard a capital ship.
3	6	***Brace For Impact:*** The deck hands race to spot-weld reinforcement patches at crucial points along the inside the hull. The sudden change in armor profile decreases the AP quality of attacking weapons by 5 for one round, until their targeting computers can compensate. Brace For Impact can only be used once in a given fight.
2	7	***Belay That:*** Deft damage control minimizes the consequences of another department's mistake. Roll 1d6; on a 4+, ignore one Mishap rolled earlier in the round.
4	6	***Silence and Light:*** The deck hands sacrifice their lives to keep their ship fighting, even when there's more death than pressure between her decks. If the ship suffers any damage this round, 1d6 deck hands are killed or disabled; twice this number aboard cruisers and eight times this number aboard capital ships. For the remainder of the round, the ship cannot be reduced below 1 hit point no matter how much damage is done to it. This command cannot be issued again until the ship is fully repaired.

All check difficulties are increased by 1 aboard frigates, 2 aboard cruisers, and 3 aboard capital-class ships.

THE GUNNERY CHIEF

NAME

RANK

SHIP

CREW

SKILLS

Gunners are a notoriously daredevil lot, working in the shadow of massive capacitor banks that are often the first to blow when a ship comes under fire. A warship needs at least one gunnery hand for each weapon it means to fire in a turn, though most naval ships have full crews to deal with the inevitable losses that come from heavy engagements. Most gunnery skill tests are Combat/Gunnery/Int checks, though Dex may apply to smaller ships.

GUNNERY MISHAPS

2d10	Mishap
<1	A weapon discharges prematurely, blowing a bank of capacitors. Roll a die with a number of sides equal or greater to the number of weapons mounted on the ship. Count down from the top-listed weapon, wrapping around if necessary. That weapon makes a hit roll against the ship, ignoring armor.
1-2	Capacitors burst and crackle near a luckless gunner's post. 1d4 gunners are killed or disabled. Twice this number are incapacitated aboard a cruiser, and eight times as many aboard a capital ship.
3-4	One gun of the gunnery crew's choice locks up for the round, unable to fire.
5-6	One gun that does not have the Ammo quality suffers a power surge, inflicting a -4 penalty on its hit rolls this round. If all guns use ammo, nothing happens.
7-8	Gunnery computers overload, inflicting a -2 hit penalty on all guns this round.
9-10	Sparks arc and blast around a gunnery console as power flares, incapacitating or killing one gunnery hand. Aboard a cruiser, two are disabled, and aboard a capital ship eight are crippled.
11+	Careful watch prevents any mishap.

GUNNERY COMMANDS

CP	Diff.	Command
0	-	**Stand To Your Guns:** The gunners steady their targeting projections and straighten the lay of the guns. On a successful Combat/Gunnery/Int check against difficulty 7, regain one expended Crew Point.
3	6	**Fire For Effect:** Precision targeting launches a spray of beams and projectiles toward weak points in the target's armor. One enemy ship is selected, and for that round only the ship is treated as if its armor rating were half normal, rounded up.
2	7	**Nowhere To Hide:** A single gun takes exceptional aim at its target. Roll the attack twice and take the better of the two rolls.
1	6	**Thundering Report:** The gunner in charge of one of the ship's weapons dials up the power feed. If the attack hits, roll damage twice and take the better result.
3	6	**Dead-Eye Aim:** The targeting computers race through structural analysis algorithms as the gunnery hands boost the power on a single gun. All damage done by the gun this round completely ignores armor, though damage must be rolled twice and the lesser amount used.
2	6	**Ranging Fire:** The gunners bracket a targeted ship in a volley of gunfire. No special benefit is granted this round, though the ship can fire normally, but next round the target's range has been dialed in properly and the crew can automatically reroll one missed hit roll on that ship and one unsatisfactory damage roll.
2	7	**Engine Burn:** The gunners turn their fire on the engines of the enemy ship. If any shot hits, the target ship's Speed decreases by 1 for the duration of the fight. This decrease can take a ship's speed below 0.
4	7	**The Blood-Dimmed Tide:** The gunners recklessly ignore every standing order about caution and power drain, unleashing a roaring volley on the enemy. Every gun may fire twice this round, with each gun rolling three to-hit rolls and using the best two to determine if the two shots hit. The destruction this command wreaks upon the capacitors is significant, and can only be used once until the ship has had at least an hour to repair the damage.

All check difficulties are increased by 1 aboard frigates, 2 aboard cruisers, and 3 aboard capital-class ships.

THE CHIEF ENGINEER

NAME

RANK

SHIP

CREW

SKILLS

Engine snipes work amid hells of radiation and raw energy, and it is by their labor that the ship has motion and the power to fight. A ship without any functioning engine crew operates by inefficient automatic power distribution, suffering a -2 penalty to hit rolls and Armor Class, and a -1 to all command skill checks. Most engine department skill checks are Tech/Astronautics/Int.

ENGINEERING MISHAPS

2d10	Mishap
<1	The power supply suffers a sudden jag that cripples another aspect of the ship's function. The department head can either cut power to the weapons, leaving them unable to fire, or cut power to the ECCM, leaving the ship to suffer a -4 penalty to its armor class. The power jag lasts for one round.
1-2	The engine throws out a spark that kills or incapacitates one of the engine hands. Two hands are downed aboard a cruiser, and eight hands aboard a capital ship.
3-4	Radiation is starting to overwhelm the exosuits that the firemen are wearing. If the next turn's command isn't "She Can Take More", 1d4 engine hands will be incapacitated. 2d4 will be incapacitated aboard a cruiser, and 4d8 aboard a capital ship.
5-7	A sudden drastic coolant leak forces the crew to abort the command. The Crew Points are lost to no effect.
8-10	The fusion coils are starting to melt and emergency load reduction kicks in. For one round, suffer a -2 penalty to hit as weapon power is suppressed.
11+	Attention to the engines prevents any mishap.

ENGINEERING COMMANDS

CP	Diff.	Command
0	-	*She Can Take More:* The engine crew takes a moment to catch a breath and check the readings. On a successful Tech/Astronautics/Int check of difficulty 7, regain one expended Crew Point.
2	6	*More Power to the Engines:* The engine snipes reroute the fusion plant output to boost the engines for the remainder of the round, increase the ship's Speed by 1.
3	6	*Thunder Of the Guns:* Surplus power is fed to the gunnery department for one round, causing every gun that hits to do at least half the maximum damage possible
2	7	*Hot Circuits:* The nav computers are given a jolt of emergency coolant, allowing them to accelerate past their specified limits. Any maneuver skill checks made this round can be rolled twice, and the better result used.
1	6	*Shepherd the Charge:* The engine snipes throttle the output briefly to allow for a sudden burst of power. Nothing happens this turn, but next turn the engine crew can either give a +2 to all to-hit rolls, a -2 bonus to Armor Class, or a +1 to all command skill checks.
3	7	*Jettison Core:* Recognizing that the end is at hand, the firemen blow the couplings that lock the engine in place and let the entire propulsion segment of the ship launch out to crash into an enemy ship. The attack is made with a hit roll at -2, using the pilot's attack bonus, Vehicle/Space skill and Intelligence as roll modifiers. If successful, the damage done is as if the ship had successfully rammed the target. The ship can still function normally for the rest of the round, but becomes a floating hulk at the end of it, able to sustain only basic life support and communications for another fifteen minutes before going dead.
3	6	*Climbing God's Ladder:* The firemen goad the ship's engines beyond their specced limits, forcing the ship to alter its spike phase in a sudden lurch. The ship's maximum spike phase increases by 1. After the ship's enemies indicate into what spike phase they are firing, the engine crew can choose a different spike phase if they wish.
4	7	*Far Past Red:* Blue lightning crackles from the fusion coils as the engine crew squeezes every joule of power from the ship's straining engine. For this round only, the ship's Speed increases by 2, all weapons that hit do at least half maximum damage, rounded up, and the ship's Armor Class increases by 2. This power surge blows a number of delicate couplings and connections, and cannot be repeated until at least an hour of repairs has been done.

All check difficulties are increased by 1 aboard frigates, 2 aboard cruisers, and 3 aboard capital-class ships.

MILITARY SPACE STATIONS

It's rare for ships to launch an attack against an orbital station, but such sieges are not unknown. The destruction of a hostile world's orbital defenses is a vital step in gaining space superiority over an enemy. So long as a military orbital is active with its braker guns and long-range weaponry, an assault on the planet below is almost certainly doomed to failure.

A single military orbital can effectively protect one hemisphere of a world. With 24 hours of careful maneuvering, the station can switch hemispheres, but the maneuver jets on a space station are too weak to give it effective tactical movement options. A space station has no Speed attribute, and automatically fails any skill checks involving maneuvering or movement. Engaging one space station means the automatic engagement of all the other stations guarding that hemisphere of the planet.

Ships that evade a station's sensors can make it to and from the surface without engaging the station. This requires all the usual stealth measures given in the core rule book, and it also requires that the ship avoid all weapons discharges. The energy signatures are a dead giveaway to an observer, and a single volley from an atmosphere-capable ship's weaponry is rarely enough to make any real difference to a world's defenses.

If their parent ship is discovered, ordinary cargo lifters have almost no chance of making it to the surface past a hostile station. They are vulnerable to station fire for five rounds while landing, at AC 9, with no armor and 2 hit points. Almost any hit will destroy them utterly. Drop pods are optimized for opposed landings and are vulnerable for only one round, with AC 4, no effective armor, and 5 hit points. Both lifters and drop pods can be launched safely so long as their parent ship evades the station's sensors. *Returning* from the surface, however, gives the station a second chance to detect them and engage them from orbit, as standard lifters and drop pods lack the stealth circuitry available to actual starships.

Most space stations function exactly as any other ship in combat. They have the same sort of statistics and the same rules for weaponry and defenses. The Ship's Locker chapter later in this book provides statistics and hulls for military space stations.

Because stations have no spike drives, they are unable to use spike phasing. They always exist and shoot in phase 0, meaning that attackers will never have to worry about their shots going awry and will always be able to hamper the station's gunnery by remaining in the highest spike phase available to their engines. For this reason, most space stations prefer to mount weaponry with the phasing property.

Stations always get one free round of attacks on an incoming hostile force, representing the station's superior range. They may also target fleeing ships normally for one round after the ship successfully flees for the same reason.

Stations reduced to 0 hit points do not explode. Instead, they become incapacitated as if they had succeeded in a Tech/Astronautics roll to avoid detonation

ANTI-SHIP GROUND DEFENSES

Ground-based defenses are almost always inferior to orbitals. Even with the advantage of effectively unlimited space for fusion plants and targeting computers, the interference of the atmosphere and the curvature of the planet makes it difficult for ground-based defenses to protect more than a small patch of the planet's sky. Still, carefully built ground defenses can force an invading fleet to land substantial numbers of ground troops before major population and industrial centers can be destroyed.

Ground-based braker guns can protect a city or other municipal region from projectile bombardment. Ships that wish to evade the braker guns or use direct energy weapons need to come well within the range of ground-based guns, and so few invading forces choose to directly confront such weapons. Instead, invasion fleets usually off load infantry and gravtank formations outside the range of the ground defenses and rely on them to take out the anti-ship emplacements.

Truly savage invaders can launch asteroid bombardments of undefended areas of the planet. Advanced and established worlds usually have a world-wide network of braker guns capable of bouncing incoming projectiles, but more primitive or impoverished planets might lack such luxuries. If there are no orbital braker guns to defend them then it is all too likely that some portion of the planet is naked to the sky. An enemy that correctly times a long-range bombardment can drop a massive weight of stellar rock on the world, with results ranging from tsunamis and earthquakes to complete planetary sterilization.

As a consequence, anti-ship defenses are some of the most important and closely guarded military resources of a planet. Only the poorest or most isolated worlds are without some kind of defense for their major population centers, even if they lack the money or technology to raise a military orbital.

For much the same reason, strikes on a world's ground defenses are one of the more important roles of naval special operatives. To get even a toehold on the world often requires men and women to slip in under the sensors and seize control of a gun until their comrades have time to land reinforcement. The survivors of such a forlorn hope are always celebrated, few as they usually are.

Stellar navies can find it necessary to build the sort of ships that less militant owners would never need: ships designed specifically to kill military orbitals, ships designed to support fleets of other craft in war, even ships designed to carry armies from world to world. The following pages include several new hull types useful for military buyers, and details on some of the more common space station hulls to be found on the frontier. At the end of that section are examples of each ship and space station class statted up for quick reference.

Acquiring Military Spacecraft

For a navy, the process of buying a new warship involves a blizzard of paperwork, requisitions, expenditures, shipyard bookings, and crew projections. The wheels of most military bureaucracies grind slow, and it can be years between the start of construction and the ship's maiden voyage.

Most planetary navies are jealous of their military prerogatives. Civilians will not be permitted to buy warships. Friends in the government and a little selective blindness might permit for a frigate or patrol boat to come into civilian hands, but building a cruiser, let alone a capital ship, is out of the question on most worlds. That much firepower is simply not tolerated outside of a world's well-ordered naval forces.

If the buyers happen to have strong enough connections, this rule may not apply to them. If the buyers are affiliated with a Faction that has control of a planet's government, then permission can be forthcoming if the Faction leadership finds it prudent. The prudence of the request is often directly linked to how many favors the buyer has done for the Faction recently.

On other worlds, a known and trusted buyer might be permitted to take a commission in the naval reserve, gaining permission to commission his or her own warship in exchange for the promise to come to the world's aid when called. This option is generally only possible when the buyer has enough holdings on the world itself to make outlawry unpalatable for them. A few true heroes might be allowed to buy a ship simply for the sake of their deeds, but most worlds will demand a more tangible hold over a warship's owner than simple goodwill.

A third option exists for "retired" naval personnel. Occasionally a government requires deniable assets in a sector, and "retired" naval officers are entrusted with ships and private directions regarding their use. Those offers who bankroll their own commissions tend to get an extremely free hand in their activities, with only the most general directions from the home office. The navy tends to trust its own far more than any civilian outsider, but aggressively poor judgment can bring unfortunate consequences on a captain. Some "retired" naval officers have found themselves disavowed as a pirate after some abject espionage failure or critical mistake.

Designing New Hulls and Weaponry

It's quite predictable that GMs and players will eventually want to develop new spacecraft or naval weaponry, either as elements of an adventure or as specially-built craft to fulfill some adventuring group's purposes. There's nothing wrong with doing so, and GMs should feel free to indulge their creativity. A few important points should be made, however, or the results may not play well with the existing classes of hull.

First, be careful about armor. Armor is what makes a cruiser worth 17 million worth more in a space battle than six frigates costing 3 million apiece. The weapons that a frigate can mount are generally unable to significantly harm a cruiser, while a cruiser's weaponry cuts right through the armor mounted on a frigate. It's best to stay within the ranges for a given class of ships- frigates having 2-10 points of armor, cruisers having 15, and capital ships having 20.

Second, watch the mass available to a given hull carefully. It's mass that's most often the critical limit on a hull's loadout, because most fittings require only small amounts of power, yet require free mass on par with weaponry. A ship is often put in a crunch between choosing one more gun or some important fitting. This is a good thing; if a player can fit everything he wants onto one hull, then the hull is too good.

For weaponry, be careful about allowed Armor Piercing ratings. For frigate-class ships and smaller, the only weapons that should have any real chance of scratching a cruiser should be big, bulky, and not terribly good in other respects. Torpedoes and fractal impact charges are among the few weapons a frigate or fighter can mount that have any likelihood of doing damage to a cruiser, and both of them require room for ammunition and severe power costs for their class. Multifocal lasers can give even cruisers a scratch, but at 1d4 damage they're not terribly useful for bringing down anything else bigger than a fighter-class hull. A GM needs to make sure that efficient, effective weaponry for killing cruisers and capital ships doesn't appear at smaller hull scales, or else navies will rapidly abandon the expense of bigger hulls in favor of swarms of smaller ships. This may well be what a GM desires for his or her game, but it should be a choice made with foreknowledge and not as an accidental consequence.

Finally, the GM should take a moment with every design to check it against existing hulls and weaponry. Any design that is simply superior or equal to an existing design in every way should either be far more expensive or reconsidered.

These guidelines are intended to apply to tech level 4 ships and gunnery. Military pretech is vastly more efficient and powerful, hampered only by the need for maintenance which is often impossible with existing tech. Those few items of pretech that modern worlds can manage to maintain outclass postech manufactures in almost every possible way, and should have statistics to reflect that.

NEW SHIP AND SPACE STATION HULLS

STARSHIP HULLS

Hull	Cost	Speed	Armor	HP	Crew Min/Max	AC	Power	Free Mass	Hardpoints	Class
Naval Courier	2.5m	5	5	20	1/10	5	10	15	0	Frigate
Troop Transport	7.5m	0	10	50	30/3000	7	30	60	3	Cruiser
Logistics Ship	7.5m	1	15	60	30/160	5	40	40	3	Cruiser

SPACE STATION HULLS

Hull	Cost	Speed	Armor	HP	Crew Min/Max	AC	Power	Free Mass	Hardpoints	Class
Bannerjee-12	5m	-	5	120	20/200	9	50	40	10	Cruiser
Peerless	7.5m	-	10	100	30/1000	9	60	100	10	Cruiser
Shantadurga	15m	-	15	80	50/300	7	85	50	18	Cruiser
Scutum	20m	-	15	100	100/600	6	100	60	16	Cruiser
Arx	40m	-	20	120	100/1000	3	125	75	30	Capital

Naval Couriers are built on specialized frigate-class hulls designed for speed, stealth, and range. A network of naval couriers is the usual glue which holds most multistellar polities together, each maintaining mail and message service between a pair of adjoining stars. Even those polities which have only one world to guard might have a few couriers available for shuttling VIP officials and conducting Deep Black operations on remote worlds.

Couriers are unable to mount weaponry, sacrificing the space normally devoted to targeting computers and electronic warfare tech in order to mount integral fuel scoops and atmospheric configuration. These fittings are intrinsic to the class and take up no power or mass.

Troop Transports are cruiser-class vessels specialized for the transport of large numbers of soldiers from one world to another. Troop transports are rare in the post-Silence age, as few worlds have the muscle or opportunity to mount a full-dress land invasion of a rival power. Still, some sector hegemons find them useful, and other worlds build them to supply important offworld outposts that need regular transit of thousands of colonists.

Troop transports have very limited gunnery fittings, as only the most desperate polity sends them in before space superiority has been obtained in a system. The space is sacrificed to ranks of close-racked troop berths and support for the heavy cargo loads necessary to support an interstellar invasion.

Logistics Ships are built from a cruiser-class hull framework, and are designed to be mobile repair, refueling, and supply depots for the fleets they support. These ships are a great luxury to a fleet, but also a prime target in battle. Designers have attempted to compensate for this by reinforcing the hull and hardening potential weak points, but a lone "logship" is easy meat for most vigorous planetary navies.

Logistics ships sacrifice all but the most modest weaponry for a substantially increased cargo weight, more affordable purchase and operation cost, and stronger ECM defenses.

Bannerjee Model Twelve stations were among the most common stations on the far frontier. Advanced armor composites were in short supply on new colony worlds, so Bannerjee experimented with design schematics that buffered the Model Twelve in thick layers of asteroid-mined ablative materials. The resulting stations were "softer" than a dedicated military orbital, but could take enormous punishment before losing hull integrity. Maximum station occupancy was limited, but remote frontier worlds rarely had need to accommodate more than a relative handful of spacers at any one time.

Peerless stations were a Bannerjee refinement produced for the use of more successful colonies, ones that managed to draw significant trade to their system. Much of the space filled by ablative material in the Model Twelve was given over to further cargo room, and the hab deck was greatly expanded. More advanced armor composites were also specified for the hull cladding. Some uninhabitable worlds that bore valuable resources had "colonies" consisting of a single Peerless station orbiting the planet.

Shantadurga stations were a comparatively late development for a market that insisted on a Bannerjee military orbital. While not as sophisticated or efficient as a station designed by a specialized miltech firm, the Shantadurga was substantially cheaper and could be built from the same mix of salvage and scrap that other Bannerjee station models used. Crew space was increased over the Model Twelve in order to accommodate combat losses and damage control, and yet more internal compartments were baffled with armor fill. The scrap tech gave the Shantadurga a very tough and resilient hull, but a bolt powerful enough to overcome the armor found a comparatively fragile station behind it. Still, it generally requires at least a cruiser-class warship to threaten a Shantadurga, and such a ship is far more than many modern navies can field.

Scutum-class stations were the work of Excelsis Industries, a major developer of military installations in the far frontier. Their simplified construction schematics have remained popular after the Scream as the wealthier worlds can often rely on their own native industry to raise these military orbitals. The extensive crew requirements make them an expensive prospect for such worlds, but the thick armor and powerful onboard fusion plants equip the Scutum class with the muscle necessary to force back anything short of a dedicated invasion fleet.

Arx military orbitals belong to an experimental class of military stations developed with the most sophisticated technology available on the frontier. Originally devised by Mandate scientists to hold back dangerous alien incursions, the plans for the Arx class were spread widely throughout the frontier in the decades before the Scream. In the present fallen age only a few of the wealthiest and most powerful worlds can afford to build and maintain a battle station of this sophistication, but an Arx is easily a match in combat for an enemy battleship.

NEW STARSHIP WEAPONS

STARSHIP WEAPONS								
Weapon	*Cost*	*Damage*	*Power*	*Free Mass*	*Hardpoints*	*Min. Class*	*TL*	*Special*
Braker Gun Array	1m	Special	20	10	3	Cruiser	4	*Special*
Jitter Beam Projector	1m	3d8	15	5	3	Cruiser	4	*AP 15, Phase 3*
Photonic Siege Cannon	3m	6d10	40	20	10	Cruiser	4	*AP 20, Special*
Sunshine Field	2m	2d6	15	10	2	Cruiser	4	*AP 10, Cloud, Phase 2*
Umbrella Barrage System	3m/50k	1d4	20	10	4	Cruiser	4	*Ammo 2, Special*
Devourer Launcher	8m/50k	Special	10	5	3	Cruiser	5	*AP 10, Ammo 5*

Braker Gun Arrays employ advanced gravitic principles and vast capacitor banks to redirect kinetic energy at a distance. While too clumsy to work against short-ranged attacks such as ship-to-ship munitions, the guns are extremely effective at repelling orbital projectile bombardments. Any projectile large enough to pose a significant danger to a surface installation can be targeted and redirected outward into space. The battery can handle a large number of incoming projectiles at once, and so any station with an operating braker gun battery can protect a hemisphere against any volley short of a that launched by a major bombardment fleet. Braker guns function automatically against bombardment projectiles so long as they are functional and manned.

Jitter Beam Projectors draw on large capacitors to simulate some of the effect of a spike drive enhanced metamass beam, pulsing the beams through high-phase oscillations. While unable to reach a very high spike phase, many stations favor them to help counteract the effects of an enemy ship's spike phasing.

Photonic Siege Cannons are special sublight weapons designed for cracking military orbitals. The guns are far too clumsy to hit a mobile spaceship, but they can wreak havoc equivalent to a capital ship's main battery on a hapless orbital. The massive power draw of these weapons tends to require a dedicated siege ship design to support them, and then a fleet of support vessels to keep it alive long enough to crack an enemy station. Few stellar nations have the need or wealth to build such task forces.

Sunshine Fields rely on a mesh of short-range MES lasers embedded around a station's hull. While the lasers are too weak and short-ranged to affect larger ships, the "sunshine" can prove lethal to attacking fighters or boarding shuttles.

Umbrella Barrage Systems consist of large arrays of small-caliber boosted projectile munitions designed to defeat orbital troop drops. While almost useless against full-scale starships, the munitions are lethal against the small insertion pods used by Thunderhead drop systems or flights of cargo lighters. The barrage projectiles are subject to a certain degree of fratricide when firing at a limited number of targets, so any given ship or pod can only be effectively hit by one projectile. One attack roll is made against each cargo lighter or drop pod that is attempting a landing. Against mass drops such as that of a Thunderhead grav pod system, a single shot from an umbrella barrage system will destroy 1d4 x 15% of the pods. One shot from the system affects all pods or lighters attempting to land that round.

Devourer Launchers are rare pretech weaponry designed to project a spray of ferrophagic nanite projectiles at a target. On a hit, the projectiles immediately begin digging in and eating the hull of the targeted ship. For each successful hit, the target takes 1d10+5 damage at the beginning of each round until the ship mounting the launcher is destroyed or the ships disengage. Armor and AP apply to this damage as normal. For example, after 3 successful hits, the target ship takes 3d10+15 damage at the start of each turn until the launching ship is blown apart, withdraws, or is evaded.

New Ship Fittings

Starship Fittings						
Fittings	*Cost*	*Power*	*Free Mass*	*Min. Class*	*TL*	*Function*
Boarding Shuttles	50k	0	2	Frigate	4	*Launches a boarding attack on an enemy ship*
Fleet Fuel Tanks	10k*	1	5	Cruiser	4	*Stores large amounts of spike drive fuel*
Fleet Targeting Array	40k*	6#	4#	Cruiser	4	*Gives +2 to hit to all nearby friendly ships*
Munitions Forges	300k	3	3	Cruiser	4	*Allows field construction of ammunition*
Mobile Shipyard	1m	10	5	Cruiser	4	*Speeds major repairs in space*
Orbital Lifters	300k	10	5	Cruiser	4	*Moves up to 20k tons/day to and from the surface*
Sensor Shadowing	25k*	2#	1#	Frigate	4	*Conceals a ship from stationary sensor arrays*
Thunderhead Grav Pods	25k*	1#	2#	Cruiser	4	*Provides a massive wave drop for troops*
Wraith Shuttle	300k	0	2	Frigate	4	*Stealthed shuttlecraft for covert landings*
# Multiply requirements by 2 for frigates, 3 for cruisers, and 4 for capital ships *Multiply cost by 10 for frigates, 25 for cruisers, and 100 for capital ships*						

Boarding Shuttles: A favorite of privateers and pirates, boarding shuttles allow a force of marines to assault an enemy ship's crew. In order to deploy boarding shuttles, the attacking ship must perform a successful lamprey lock maneuver, allowing the shuttles to launch and latch on to the target ship. Ships with more than 5 points of armor are too heavily plated for the shuttles' cutters to open in a reasonable amount of time, so boarding shuttles are generally only used against civilian craft, frigates, and other soft-skinned targets.

Assuming the boarders can get into the ship, a running battle then ensues between the assailants and the crew. The boarders must defeat any marines aboard before attacking the rest of the crew. If there's no interest in dicing out the battle, simply assume that the ship's crew automatically defeats any boarding party they outnumber at a loss equal to half the boarding party's number, taken from marines first. If the boarders outnumber them, half the crew is killed or seriously injured before the remainder surrenders, with the boarders losing 1d6 x 10% of their numbers to the fight.

Boarding shuttles mounted on a frigate can carry up to 20 men, while those mounted on a cruiser or capital ship can carry up to 100. This fitting may be taken more than once for exceptionally large boarding parties.

Fleet Fuel Tanks: Whereas conventional fuel bunkers are designed only to service the ship that carries them, fleet fuel tanks are designed to provide quick deep-space refueling for an entire escorting fleet. Each time this fitting is added, the ship gains an additional 30 fuel points of capacity. One load of fuel for a fighter-class ship takes 1 fuel point, a frigate requires 3, a cruiser requires 9, and a capital ship takes 27 points. A ship equipped with fuel scoops can refine up to 10 fuel points a day into its tanks from a star or gas giant. Refueling another ship from the tanks requires one hour, and one ship can be refueled at a time for each selection of this fitting. This fitting may be added multiple times.

Fleet Targeting Arrays rely on massive banks of ballistic computers to overcome enemy ECCM. A ship with a fleet targeting array grants itself and all friendly ships in the combat a bonus of +2 on hit rolls. This bonus does not stack with multiple targeting arrays.

Mobile Shipyard: This elaborate complex of construction arms, laser welders, and diagnostic arrays can be used to effect major repairs in deep space. By careful coordination with its associated fleet and extensive speed drills, the mobile shipyard can perform ship repairs much more quickly than all but the most experienced and sophisticated orbital repair facility. Two hull points of damage can be repaired per hour if the shipyard crew has spent at least a week training alongside her in the same fleet. Otherwise only one point of damage can be repaired per hour. Repairs must be performed while both ships are stationary, and an enemy who attacks a ship under repair may fire at it and its tender as if it were AC 9. It takes 1d6+4 rounds to disentangle the repair crews and let both ships maneuver freely.

Munitions Forges: A ship far out of supply can run perilously short on munitions for ammunition-based gunnery. A ship equipped with a munitions forge can turn raw materials and pre-cut parts into finished missiles and impact charges. The ship must set aside a certain number of free mass units full of raw materials, each unit of materials costing 50,000 credits. Afterwards, an allied ship can draw finished ammunition from the munitions forges. For example, a ship with 5 mass units set aside for raw materials would pay 250,000 for the ingredients, and could then create up to 250,000 credits worth of ammunition for ships associated with it. A single munitions forge installation can assemble up to 50,000 credits worth of ammunition a day.

Orbital Lifters are a complex array of grav barges, orbital beanstalks, and rail lifters, and can only be mounted on geosynchronous orbital stations. While they require a geostationary orbit over the receiving starport, they can shuttle up to 15,000 metric tons per day to and from the station. A surface to orbit transit requires only fifteen minutes on an orbital lifter.

Sensor Shadowing relies on the creation of metamass bodies at strategic locations around the energy profile of a starship. These bodies act as an effective absorption screen for most conventional scan frequencies. Manipulating them is slow, however, and so the ship must have a clear idea of the exact location of the sensor array they are attempting to elude. In effect, this means that the shadow-

ing only assists against space stations and other fixed scan sites, and not against starship scans. Sensor shadowing apply a -5 penalty to all checks to detect or scan the ship. Sensor shadowing strains a ship's own sensor array, however, and applies a -5 penalty to all hit rolls and sensor checks while in effect and for 12 hours after it is deactivated. Sensor shadowing does not stack with emissions dampers or other stealth measures, but emissions dampers might affect ships that are unhindered by the shadowing. Sensor shadowing cannot be installed aboard space stations, as it relies on spike drives to function.

Thunderhead Grav Pods: It's not uncommon for a troop transport to be forced to make a drop into a contested landing zone. Without the safety or time for careful ferrying of the troops down to the planet's surface, Thunderhead pods provide a quick, overwhelming assault from above. The pod array is made up of hundreds of small, ten-man drop cells, each one minimally equipped with stealth technology and navigation thrusters. The transport launches her entire complement of troops in a single wave, providing too many targets for the surface defenses to pick them all off before they get to ground. Enemy ships or ground guns gain one round of fire against the pods, any one of which is treated as AC 7 and destroyed by any hit from a gunnery weapon.

Thunderhead pods are single-use fittings. Once discharged, the array must be completely replaced at a shipyard before it can be used again. A single fitting provides enough pods to drop the entire maximum crew of the ship. This fitting can be mounted multiple times if so desired.

Wraith Shuttle: Wraith-class shuttles are modified cargo lighter hulls designed to sacrifice almost all the interior space in favor of stealth features. Curved surfaces, advanced composites, and contextual mimetic cloaking skins are all worked together to create a shuttle capable of getting small groups of people on or off a world unnoticed. Wraith shuttles have no spike drives and cannot usually manage interplanetary travel, though they can normally reach orbital stations with ten minutes of flight and near moons within two hours. Their fusion plant requires fueling only once per year.

For most practical purposes, Wraith shuttles are immune to tech level 4 sensor technology. So long as the shuttle avoids population centers, steers clear of the immediate neighborhood of orbital sensors, and otherwise keeps a low profile, the shuttle can automatically touch down and lift off without drawing the attention of local sensor arrays.

A wraith shuttle can handle up to eight passengers, including the single pilot required for operation, and keep them breathing for up to two days before requiring a refreshment of their atmosphere. Cargo space is extremely limited, and much of any unused passenger space has to be filled with soft, sensor-deceiving stealth material before liftoff. The passengers can take whatever their encumbrance limits normally allow, plus an additional ten items worth of encumbrance for every passenger slot left unused. If actual mass is important, count it as fifty free kilos of space for every free passenger slot. Wraith shuttles cannot mount weaponry, but if engaged in combat within an atmosphere they can be treated as grav flyers for purposes of statistics.

PERSONAL EQUIPMENT

Item	Cost	Enc	Tech
Antisomnix	100	*	4
Binder Satchel	50	1	4
Burner Bag	150	1	4
Comet Suit	6,000	2	4
Dandelion Chute	5,000	1	4
Grav Handles	3,000	1	4
Pulse Transmitter	5,000	1	4
Ship Suit	75	0	4
Sleep Grenade	100	1	4
*These items weigh a negligible amount.			

Antisomnix: This sprayhypo is loaded with a cocktail of stimulants that serve to counteract the toxins in most varieties of sleep grenades. Using it requires a round's action, but it results in the automatic elimination of a sleep grenade's effect and grants immunity to further sleep grenades for the next ten minutes.

Binder Satchel: This squeeze-tube is composed of two ends- one with a binding agent and the other with a setting aerosol. Applying a binder satchel requires a round's action, but once in place, it

will glue together anything it contacts with remarkable strength. A successful Tech/Postech roll with a toolkit against difficulty 7 can unbind objects in one round, or five minutes if the roll is failed. Brute force can smash the bond with 20 points of damage, but this often has unfortunate consequences on the objects so connected. Hydraulic doors and other objects powered by heavy industrial motors can break the satchel's bonds. Three binder satchels can be packed as one encumbrance item.

Burner Bag: This tightly-rolled polycomposite bag can hold a volume roughly equal to a large human body when completely full. A mix of catalytic chemicals can then be triggered within the bag to completely consume the contents in a burst of extreme heat. The bag functions only once, and can melt or burn anything short of pretech composites or anti-thermal armor in 30 seconds. The contents are reduced to a fine gray powder.

Comet Suit: A favored infiltration tool for Deep Black agents, a comet suit allows a subject to survive an orbital drop onto a planet's surface, the thick sheathing of the suit peeling away as ablation under the heat of reentry. An integral chute system allows the wearer to brake during the final stage of re-entry, but the degree of imprecision in landing is very high- usually 1d20-1 x 40 kilometers away from the target point in a random direction, even assuming the initial drop trajectory was well-placed. For this reason, dandelion chutes are usually paired with comet suits when precision in landing is important. The suits themselves provide AC 6, but any activity

while wearing them that isn't related to jumping out of a spaceship takes a -2 skill check and -4 on hit rolls. Comet suits can be used only once before requiring 2,000 credits worth of refurbishing.

Dandelion Chute: These light parachutes are charged with cylinders of pressurized aerogel matrix, each cylinder usable for one drop. When triggered, the gel is forced through desiccant channels in the harness, blooming outward in a dandelion-like spray of micro-dense strands shaped so as to slow and direct the wearer's fall. The strands are extremely heat-resistant and durable, and allow dandelion chutes to be used for high-orbit drops by operatives wearing comet suits. In the hands of a trained operative, the landing control is superb; assuming the orbital drop is calculated correctly, an agent can land within two kilometers of any location on a planet. These chutes aren't helpful for falls of less than twenty meters, and can bear weights of up to five hundred kilograms before failing.

Covert operatives often use dandelion chutes for insertion, as the harness uses the atmospheric energy of the drop itself to dry and exude the aerogel matrix. A grav-tech drop solution would be much more visible on hostile sensors, while an agent dropping with a dandelion chute is almost imperceptible to most tech level 4 sensors. A harness can be loaded with up to three cylinders of aerogel, each cylinder costing 100 credits.

Grav Handles: These sophisticated cargo handling tools are too expensive to justify their use in most loading docks, but when large, heavy objects need to be maneuvered without the help of heavy equipment, grav handles prove invaluable. Each handle requires a type B power cell and will operate for up to one hour on the charge. While attached to an object, the item will rise up one meter above the ground, and can be pulled or pushed by means of the grav handle. The maximum rate of motion of such an object is sixty meters per round. The grav field created by the handle supports even fragile objects that are lifted, but the entire item must be a whole- a statue, a crate, or a tightly-wrapped bundle rather than a mere pile of detritus.

Pulse Transmitter: This forearm-sized metadimensional communications laser requires a type B power cell for each transmission it makes due to its substantial power requirements. Transmissions are text-only and limited in length to no more than a page of text. Due to the metadimensional aspects of the pulse, it is extremely difficult for postech sensors to detect the transmission, and only a recipient who knows what frequency to monitor and what location to listen at will be able to intercept the beam. These transmitters are particularly popular with infiltration teams who need to contact their waiting support ship. Pulse transmitters cannot receive messages, and require five minutes under an open sky to transmit.

Sleep Grenade: Thrown in the same way as a standard grenade, this canister silently emits a five-meter radius cloud of opaque white neurotoxin that dissipates into harmlessness within the same round it is thrown. Humans and other Terran animal life caught within the cloud when it detonates must make Physical Effect or Luck saving throws against the Toxicity 10, Virulence 1, Interval 1 round gas. If they fail their first saving throw, forced muscle relaxation halves their movement rate and makes it impossible for them to cry out or speak above a whisper. If they fail their second saving throw, they become dazed and incapable of doing anything but defending themselves that round. Failing a third saving throw means unconsciousness for 1d10 minutes. Succeeding on any saving throw eliminates the negative effects and leaves the subject immune to any further sleep grenades for ten minutes. The gas is contact-based and does not require inhalation, but a subject in a vacc suit or other pressurized suit is immune to its effects.

Ship Suit: The standard uniform aboard military spacecraft, a ship suit is usually marked with its wearer's name, rank, and personnel number. While a ship suit provides no armor class benefit, it's designed to serve as an emergency pressure suit in case of a hull breach. It can serve as a vacc suit for up to six hours on one type A power cell, and has integral oxygen supplies and heat sufficient for that time. Ship suits are very fragile compared to normal vacc suits, however, and even exceptionally wild exertions run the risk of tearing them- every hit on a person wearing a ship suit has a 50% chance of tearing it, with normal patching rules applied. Ship suits cannot be worn beneath armor.

SAMPLE STARSHIPS

NEXUS-CLASS NAVAL COURIER

		Power: 10/2 free	***Mass:*** 15/0 free

Cost: 3,800,000	***Hit Points:*** 20	***Crew:*** 1/10	***Speed:*** 5	***Armor:*** 5	***AC:*** 5

Weaponry None. Couriers have no hardpoints.

Defenses Hardened Polyceramic Overlay

Fittings Spike Drive-3, Atmospheric Configuration, Emissions Dampers, Extended Stores, Fuel Bunkers, Fuel Scoops, Sensor Shadowing, Wraith Shuttle

Operating Cost 330,000 credits: 190,000 yearly maintenance, 140,000 yearly for a crew of 7

Naval courier ships form the backbone of peacetime communication between the worlds of an interstellar polity or far-flung alliance. They also form popular platforms for Deep Black team deployment, utilizing their superior stealth technology and the standard Wraith shuttle to put down teams of elite operatives far behind enemy lines. The courier is quite cramped internally, however, and can carry little more than the personal equipment of the Deep Black team. When supply space is necessary, it is common to sacrifice the extended stores for an extra forty tons of cargo.

TROY-CLASS TROOP TRANSPORT

				Power: 30/2 free		**Mass:** 60/0 free

Cost: 13,375,000	**Hit Points:** 50	**Crew:** 30/6000	**Speed:** 0	**Armor:** 10		**AC:** 7

Weaponry Plasma Beam (+3 to hit/3d6+1, AP 10)

Defenses Hardened Polyceramic Overlay, Foxer Drones (15 drones in storage)

Fittings Spike Drive-3, Advanced Navigation Computer, Armory, Cargo Lighter, Cargo Space (3600 tons), Drop Pod, Extended Life Support, Extended Medbay, Fuel Bunkers, Fuel Scoops, Hydroponic Production, Lifeboats, Ship's Locker, Thunderhead Grav Pods

Operating Cost 1,868,750 credits: 668,750 yearly maintenance, ,200,000 yearly for a crew of 60. Soldiers not included.

This standard fast troop transport is capable of moving up to six thousand elite troopers from their homeworld's orbit to an enemy landing zone in less than four days. The ship can take up geostationary orbit when necessary in order to allow its hydroponic pods to feed the landed troops and its medical bays to support the wounded, but even its 3600 metric tons of cargo space can only hold a fraction of the necessary material for a long-term invasion. Dedicated cargo freighters are needed to support a successful invasion- and a troop transport is not advised to linger for an unsuccessful one, as lighly-gunned and as high-priority a target as it is.

CORNUCOPIA-CLASS LOGISTICS SHIP

				Power: 40/0 free		**Mass:** 40/0 free

Cost: 13,505,000	**Hit Points:** 60	**Crew:** 30/160	**Speed:** 1	**Armor:** 15		**AC:** 5

Weaponry Gravcannon (+3 to hit/4d6+1, AP 20)

Defenses Hardened Polyceramic Overlay

Fittings Spike Drive-3, Advanced Navigation Computer, Armory, Cargo Lighter, Cargo Space (1200 tons), Fleet Fuel Tanks x 2, Fuel Scoops, Mobile Shipyard, Ship's Locker, Workshops

Operating Cost 3,075,250 credits: 675,250 yearly maintenance, 2,400,000 yearly for a crew of 120.

A mobile shipyard and fuel refinery strapped to a fast spike drive and advanced ECM, the *Cornucopia* class can go wherever its assigned fleet can go. Only the most reckless navies dare send logistics ships alone into dangerous territory, as most hostile forces have the sense to make them a primary target in any protracted engagement.

TREBUCHET-CLASS SIEGE CRUISER

				Power: 50/4 free		**Mass:** 30/0 free

Cost: 15,225,000	**Hit Points:** 60	**Crew:** 50/200	**Speed:** 1	**Armor:** 15		**AC:** 4

Weaponry Photonic Siege Cannon (+4 to hit/6d10+1, AP 20, Special)

Defenses Augmented Plating

Fittings Spike Drive-2, Advanced Navigation Computer, Armory, Cargo Lighter, Fuel Bunkers, Lifeboats, Ship's Locker

Operating Cost 3,761250 credits: 761,250 yearly maintenance, 3,000,000 yearly for a crew of 150.

Siege cruisers are a rare breed of interstellar warship designed to take out enemy orbitals as a prelude to a full-dress planetary assault. While brutally effective against space stations, the *Trebuchet* class is helpless against smaller foes, and usually requires a full task force's support in order to avoid being torn to pieces by system defense fleets. There are few worlds with both the wealth and the enemies necessary to justify siege cruisers- or their even more drastically specialized capital-class brethren.

MODEL TWELVE-CLASS SPACE STATION

				Power: 50/8 free		**Mass:** 40/1 free

Cost: 8,420,000	**Hit Points:** 120	**Crew:** 20/200	**Speed:** -	**Armor:** 5		**AC:** 9

Weaponry Jitter Beam Projector (+3 to hit/3d8+1, AP 15, Phase 3), Plasma Beam (+3 to hit/3d6+1, AP 10)

Defenses Hardened Polyceramic Overlay

Fittings Armory, Braker Gun Array, Lifeboats, Cargo Lighter, Ship's Locker, Workshops, 3000 tons of cargo space

Operating Cost 1,511,000 credits: 421,000 yearly maintenance, 1,090,000 yearly for a crew of 30.

This particular station loadout represents a typical Model Twelve over a relatively poor frontier world. It gets occasional business from asteroid mining craft, but the volume of cargo is too small to justify an orbital lifter system. The braker gun array and energy weaponry serve to protect the population centers below from orbital bombardment, as the world isn't wealthy enough to afford a holistic planetary defense grid or a dedicated military orbital.

PEERLESS-CLASS SPACE STATION

				Power: 60/5 free			**Mass:** 100/2 free	

Cost: 11,445,000	**Hit Points:** 100	**Crew:** 30/1000	**Speed:** -	**Armor:** 10	**AC:** 9

Weaponry Jitter Beam Projector (+3 to hit/3d8+1, AP 15, Phase 3), Plasma Beam (+3 to hit/3d6+1, AP 10)

Defenses Hardened Polyceramic Overlay

Fittings Armory, Braker Gun Array, Hydroponic Production, Lifeboats, Orbital Lifters, Ship's Locker, Workshops, 13000 tons of cargo space

Operating Cost 2,032,250 credits: 572,250 yearly maintenance, 1,460,000 yearly for a crew of 40.

A bustling interstellar trade hub might be served by this class of orbital, with cargo space and lifters sufficient to empty the bellies of the most voracious asteroid miner or merchant freighter. Most *Peerless* stations also retain hydroponic atmosphere and farming systems to serve the hundreds of transients and traders that often take up residence aboard the station.

SHANTADURGA-CLASS SPACE STATION

				Power: 85/2 free			**Mass:** 50/0 free	

Cost: 21,520,000	**Hit Points:** 80	**Crew:** 50/300	**Speed:** -	**Armor:** 15	**AC:** 7

Weaponry Spike Inversion Projector x3 (+4 to hit/3d8+1, AP 15, Phase 2), Gravcannon (+4 to hit/4d6+1, AP 20), Smart Cloud (+4 to hit/3d10+1, Cloud, Clumsy)

Defenses Hardened Polyceramic Overlay

Fittings Armory, Braker Gun Array, Cargo Lifter, Drop Pod, Hydroponic Production, Extended Medbay, Lifeboats, Ship's Locker, Survey Sensor Array, Workshops, 1000 tons of cargo space

Operating Cost 5,076,000 credits: 1,076,000 yearly maintenance, 4,000,000 yearly for 200 spacers and soldiers.

This *Shantadurga* station plan is characteristic of a wealthy world's first-line orbital defenses. Many such worlds are rich enough to afford a pair of *Shantadurga*-class orbitals to stand watch while additional planetary defenses are built groundside. This particular plan includes fittings for a drop pod to dispatch troops to any location in the hemisphere within 15 minutes, an extended medbay to deal with battle casualties, and a survey sensor array to increase the station's odds to detect infiltration forces early. It also replaces the bulky, cheap jitter beam projectors with spike inversion models.

SCUTUM-CLASS SPACE STATION

				Power: 100/5 free			**Mass:** 60/0 free	

Cost: 35,845,000	**Hit Points:** 100	**Crew:** 100/600	**Speed:** -	**Armor:** 15	**AC:** 6

Weaponry Gravcannon (+4 to hit/4d6+1, AP 20), Spike Inversion Projector x2 (+4 to hit/3d8+1, AP 15, Phase 2), Sunshine Field (+4 to hit/2d6+1, AP 10, Cloud, Phase 2), Umbrella Barrage System (+4 to hit/Special)

Defenses Hardened Polyceramic Overlay

Fittings Armory, Braker Gun Array, Cargo Lighter, Cargo Space (400 tons), Drop Pod, Hydroponic Production, Lifeboats, Ship's Locker, Survey Sensor Array, 6 rounds of ammo for the Umbrella Barrage System.

Operating Cost 10,792,250 credits: 1,792,250 yearly maintenance, 9,000,000 for 500 spacers and soldiers.

Reserved for worlds both powerful and threatened by hostile neighbors, the standard *Scutum* station loadout emphasizes resilience and versatility in defending its homeworld. Its umbrella barrage system ensures that any enemy that means to land troops is going to have to either smash the station first or accept savage losses on any launch.

ARX-CLASS SPACE STATION

				Power: 125/3 free			**Mass:** 75/0 free	

Cost: 62,445,000	**Hit Points:** 120	**Crew:** 100/1000	**Speed:** -	**Armor:** 20	**AC:** 3

Weaponry Gravcannon (+5 to hit/4d6+2, AP 20), Mass Cannon x3 (+5 to hit/2d20+2, AP 20, Phase 3), Spike Inversion Projectors x2 (+5 to hit/3d8+2, AP 15, Phase 2), Sunshine Field (+5 to hit/2d6+2, AP 10, Cloud, Phase 2), Umbrella Barrage System (+5 to hit/Special)

Defenses Hardened Polyceramic Overlay

Fittings Armory, Braker Gun Array, Cargo Lighter, Cargo Space (400 tons), Lifeboats, Survey Sensor Array, 6 rounds of ammo for the Umbrella Barrage System, 32 rounds of ammo for the Mass Cannons.

Operating Cost 11,122,250 credits: 3,122,250 yearly maintenance, 8,000,000 for 400 spacers.

The *Arx* represents the last word in postech military orbitals, with only the richest planets capable of building such a massive battle station to defend their world. It sacrifices some of the versatility of other military orbital models in order to focus on pinning and smashing any enemy fleet that dares come within gunnery range of the planet. Even a capital-class enemy siege vessel must beware the frigate-sized mass bolts that the *Arx* hurls against its enemies.

CREATING A STELLAR NAVY

It can be useful for a GM to get a general idea of how powerful the fleet of a given world should be. It's difficult to understand the consequences of the loss of any particular ship if it's not clear how many replacements are available, and the importance of a PC's ship becomes all the more apparent when they realize that theirs is the only cruiser that the homeworld possesses.

The following pages help a GM to determine a world's naval budget and apportion it among various ships and facilities. It's not intended to provide a hyper-specific breakdown of a world's naval military forces, but instead to help a GM ensure that the worlds of his or her sector have plausible and consistent military strengths between them. Weak worlds will have weak navies and wealthy or militaristic worlds will have strong ones.

The guidelines below are intended for worlds of tech level 4. Worlds that have successfully maintained TL 5 shipbuilding technology will have such an overwhelming advantage over their peers that the GM should treat them as a plot device, to be overcome by cunning and ingenuity rather than brute force.

Calculating a World's Naval Budget

Because of the large numbers involved, a world's yearly naval budget is measured in Budget Points, each point equalling 200,000 credits worth of goods or services. Whenever a fractional BP result is obtained, round up to the next whole number, as military costs expand to absorb all available money.

To determine a world's annual naval budget, consult the Budget Points by Population table. Find the column that corresponds to the world's general population scale and reference it against the average lifestyle of the population on that world. If you prefer a finer scale, adjust the total BP based on how close the population is to the next population tier. For example, a Common-lifestyle world of 2,500,00 people would have 150 BP plus 25% of the difference between 150 and 300- or 188 BP.

Available money increases with a world's population, but not on a one-for-one basis. After a certain point, each successive credit gets less accomplished than the one before it as the sheer scale of construction and development starts to increase costs. A world with five billion inhabitants has an enormous advantage over a world with five million inhabitants, but it's not a thousandfold edge.

Adjusting the Budget for Local Conditions

If the world is exceedingly militaristic or lives in a very dangerous stellar neighborhood, the BP budget should be doubled. If the world is disorganized, pacifistic, or knows of no potential stellar threats, the budget should be halved.

Worlds with less than tech level 4 might be unable to field their own navies, but their production can be useful to allied planets- or to colonial taskmasters. Worlds of TL 3 produce a quarter as many BP, and worlds of TL 2 produce one-eighth, and both rarely have average lifestyles above Poor by modern frontier standards. Worlds that have yet to climb beyond TL 1 cannot provide any meaningful help toward building a stellar navy.

Worlds with a comparatively small population just can't muster the necessary number of specialists and dedicated technicians required to build the infrastructure that sustains a navy. Foundries, chip fabbers, astrotechnical installations, and more exotic services are all necessary to keep a fleet flying, and with fewer than a hundred thousand people on the entire world, there just aren't enough specialists to support that kind of effort. A few grimly-determined and technically advanced worlds might be able to manufacture a frigate or two if the entire society was oriented toward building and maintaining them, but a genuine space navy requires a population large enough to support it.

Determining Fleet Costs

For the convenience of the GM, the BP costs for purchasing and operating the sample starships in the core rule book have been listed in this section. When determining the costs of a nonstandard hull, however, the GM will need to do the math.

To set the ongoing cost of a ship, it's not sufficient to simply price the hull. Naval crews are often the most expensive part of a ship's maintenance cost, with even the lowliest deck ape requiring extensive training and costly material support. In addition to these personnel costs, the maintenance expenditures for a warship on active duty are such as would make a penny-pinching merchant captain faint. A frigate on a single combat patrol runs through more spares than a free merchant uses in a year.

Part of this involves the expensive, limited-use parts required for a modern postech warship, but in a larger sense, the extra maintenance

BUDGET POINTS BY POPULATION					
Living Standard	Hundred Thousands	Millions	Tens of Millions	Hundred Millions	Billions
Slum	10	50	100	200	300
Poor	30	100	200	350	500
Common	50	150	300	500	700
Good	90	250	500	700	1000
Normal post-Silence worlds do not have average citizen lifestyles of "Elite" or "Peerless".					

is the cost of keeping the crew and ship sharp and ready for action. Merchantmen plot their courses to save fuel and spare danger, whereas warships need to be prepared to go wherever they are sent and deal with whatever they might find. Such dauntlessness costs money.

To determine the cost of a ship in BP, divide its purchase price by 200,000 and round it to the nearest whole number. To find its annual maintenance and operation cost, multiply the purchase price in BPs by 10%, again rounding as needed. Fighter-class hulls are small enough that their maintenance is fairly trivial; they can ignore the annual maintenance cost.

To determine the annual crew cost, multiply the ship's maximum crew complement by 10%, rounding it upward to the next whole number. This is the cost in BP for maintaining a crew equal to three-quarters of the maximum complement year-round. Some ships may run with substantially fewer than this, especially those ships with extended life support facilities. For these ships, calculate the BP cost without taking the extended life support into account. A cruiser, for example, has a base maximum crew of 200, so would cost 20 BP to crew for a year.

These costs include all the necessary infrastructure, fleet command, and other peripheral costs for operating a fleet. The sample ship statistics given in the Ship's Locker section give exact maintenance and crew prices, but these costs don't automatically include the infrastructure required. The BP prices reflect their larger context.

STARSHIP HULLS AND COSTS IN BP				
Hull	*Purchase*	*Maintenance*	*Payroll*	*Total Yearly Cost*
Fighter	2	0	1	1
Shuttle	1	0	2	2
Free Merchant	4	0	1	1
Naval Courier	19	2	1	3
Patrol Boat	18	2	2	4
Frigate	33	3	4	7
Bulk Freighter	30	3	4	7
Cruiser	86	9	20	29
Siege Cruiser	77	8	20	28
Troop Transport	67	7	6	13
Logistics Ship	68	7	16	23
Battleship	388	39	200	239
Carrier	634	63	300	363
SPACE STATION HULLS AND COSTS IN BP				
Bannerjee 12	42	4	5	9
Peerless	57	6	6	12
Shantadurga	108	11	30	41
Scutum	179	18	60	78
Arx	312	31	65	96

All prices assume standard fittings as given in the sample ships in the core rules, or the descriptions provided in this supplement.

Assembling the Armada

Once a yearly budget has been determined and the cost of a fleet established, all that remains is for the GM to actually choose which ships belong to the planetary navy. Most worlds with an active stellar navy have been building ships for years, and are limited only by the available budget for ship maintenance and operation. Simply add ships to the fleet until the total yearly operation cost equals the budget. You need only consider the actual purchase price if the navy wishes to build a new ship to replace one lost to war or misfortune.

Any money not spent in a yearly budget can be set aside to replace ruined hulls or purchase new ones. As a rule of thumb, a world can build half its annual budget in new ships per year, or its full budget if it has access to exceptionally good spaceyards or naval technology.

Once the total fleet has been established, it can be useful to take a moment to position it around a world, establishing which ships are usually in which regions or neighboring systems. As a general rule, one third of a fleet is usually in port at any one time for resupply, crew changes, and refitting.

The Republic of Gateway

In this example, the GM isn't planning on running a naval campaign, but expects the PCs to be fairly involved with Gateway's naval forces due to a number of favors they've been doing the naval brass of late. During a quiet spell between sessions, he decides to draw up Gateway's navy.

As a first step, the GM makes a few decisions about how Gateway's navy will be structured. He takes a quick dip into the random name tables, and decides that it's commanded by Fleet Admiral Tombari Akpan, and is divided into two fleets, the Home Fleet and the Expeditionary Fleet. The Home Fleet is by far the most powerful and politically influential, and only in the past few decades that political forces have managed to designate a standing expeditionary fleet for scouting and diplomatic work beyond the boundaries of Gateway's own system.

This sounds like a situation that might snare the PCs in its jaws, so the GM takes a minute to determine the commanders of each of the fleets. The Home Fleet is run by Admiral Suzanne Bastable, a hard-shelled traditionalist who thinks the Expeditionary Fleet is nothing more than a dangerous drain on the system's defenses and a standing invitation for politicians to bring down foreign trouble on Gateway's head. She does her best to starve the Expeditionary Fleet of resources and assistance, confident that any help she gives it will only result in some crisis that her forces will have to clean up.

On consideration, the GM decides that the Expeditionary Fleet is run by Admiral Joseph Lindell, who is every bit the political creature that Admiral Bastable thinks he is. He's a creature of the "Scout faction" in the Gateway senate and cheerfully sends his forces to do the private bidding of his patrons- all for the good of Gateway, of course. Beneath Lindell, however, are a number of forward-thinking naval officers who are convinced that Gateway needs to build stronger ties with other worlds in the sector, especially the Flower Union. They try to mitigate Lindell's opportunism with an eye to eventually engineering his replacement. The GM picks one of these young officers as the one the PCs are most likely to deal with directly- Captain Xoco Mendez, a young woman with family ties to the Flower Union.

The GM now has a clear idea of the Republican Navy's command structure. The next step is to determine what kind of fleet the Republic has available.

He starts by looking at Gateway itself, flipping open the core book to read over its particulars. Gateway has a population of 3,125,000 and an average citizen lifestyle of Common. Looking at the "Budget Points by Population" table, the GM figures that they're about 31% of the way to "Tens of Millions", so takes the "Millions" value for their lifestyle and adds 31% of the difference between that and the "Tens of Millions" entry. The net total is then 150 + 47 = 197 BP. Since Gateway has been a spacefaring world for years, they can choose any combination of ships with a total maintenance cost no larger than their budget.

Gateway only has one major world to worry about, but the defense of that world is any navy's top priority. As such, the GM picks a pair of military orbitals first- one for each hemisphere of Gateway itself. The more important hemisphere gets a Shantadurga station to help handle all the trade that Gateway gets from the surrounding worlds, while the less important hemisphere makes do with a Bannerjee Twelve just to provide basic defense against raiders and asteroid strikes. In addition to these two, Gateway has a Peerless station to handle all the merchant traffic it gets- civilians are strictly forbidden from landing at the military stations. The maintenance cost of these three stations is 62 BP yearly.

The Home Fleet is going to get the lion's share of what's left, and begins with two cruisers, the RNS *Jerome Akpan* and the RNS *Sarah Chen*, both named for famous figures of Gateway's political unification. Together, the cruisers cost 58 BP to maintain, and are the mainstay of Gateway's forces. One is usually kept docked at Gateway for maintenance and refitting while the other runs patrols around the system's outer rim.

Aside from the cruisers, the Home Fleet also has six frigates, the RNS *Saber*, *Falchion*, *Pala*, *Scimitar*, *Tulwar*, and *Cutlass*. Two of the six are kept docked for maintenance, another remains in orbit over Gateway, and the remaining three patrol the inner system outposts and asteroid mines. Together, these six frigates require 42 BP to operate them each year.

Compared to this potent force, the Expeditionary Fleet has only scraps. The flagship of Admiral Lindell is the RNS *Shamsheer*, a superannuated frigate only marginally better than its sister, the RNS *Katana*. The "Kate" is an old rattletrap now much in use as a training ship for midshipmen, but Captain Mendez is using the opportunity to inculcate a number of the younger officers with her own ideas about the best use of the Expeditionary Fleet. These frigates sum to 14 BP in maintenance each year.

With what additional budget he's been able to obtain, Admiral Lindell has commissioned five couriers: the RNS *Zephyr*, *Squall*, *Sirocco*, *Gust*, and *Shamal*. Home Admiral Bastable hates these little boats, considering them toothless harbingers of diplomatic disaster, but Lindell uses them to move his Deep Black operatives and diplomatic envoys far beyond the reach of most civilian craft. Captain Mendez is trying to get some of her own allies in command of one of them, in hopes of opening up political ties with the Flower Union. Together, the five boats cost 15 BP a year to operate.

All together, the Gateway navy costs 191 BP to operate each year, with 6 left over for stockpiling against unexpected losses. If they lose more than that, they'll have to wait until next year's appropriations to begin replacing them, and it may take some years to save up enough to afford the initial construction costs. Of course, in time of war, the senate might go so far as to double the available budget for the navy, but even then, they would be hard pressed to build more than half their budget in new hulls each year.

The Flower Union

For the Flower Union, the GM decides that the High Admiral Suela Rodriguez has her fleets divided among the planets, with forces assigned to the Coatlan Fleet, Tlapan Fleet, and Octlan Fleet. Efforts to take the battleground world of Tecalco are undertaken by Task Force Redemption, which is under the direct command of the High Admiral in coordination with the Flower Union's ground forces.

Determining the BP of the fleet, the GM sees that Coatlan has 425,000 people, Octlan has 815,000 people, and Tlapan is populated by 772,000. All have Common lifestyles, and they're 43%, 82%, and 77% of the way to "Millions of people". That gives them a BP production of 93, 132, and 127 respectively, for a total budget of 352 BP. The GM briefly considers boosting this due to the war with the Burning Mirror Compact, but then decides that the two polities cancel out each others' extra efforts.

Because of the importance of the Tlapan fleet yards, the world is equipped with a Shantadurga station in that hemisphere, and a Bannerjee Twelve to prevent easy orbital bombardment on the other hemisphere, along with another Twelve to handle civilian ships. Octlan has a Peerless in orbit to handle heavy merchant traffic and a pair of Twelves fitted as military orbitals. Coatlan has a pair of Twelves standing watch and another to service civilian visitors. All together, one Shantadurga, one Peerless, and seven Bannerjee Twelve stations cost 102 BP.

Aside from its system orbitals, the Tlapan Fleet is the strongest of the system fleets. The Union Military Ship *Citlalicue* is the flagship of the fleet, the cruiser a recent production of the AI Daedalus. Four frigates, two naval couriers, and a patrol boat round out the rest of the Tlapan Fleet. The safeguarding of the Mixcoac shipyards is this fleet's primary duty; loss of Octlan or Coatlan would be a grievous blow to the Union, but the destruction of the Mixcoac yards would doom the polity in short order.

The cruiser UMS *Tlaloc* is the flagship of the Octlan Fleet, where it serves beside two frigates, two naval couriers, and two patrol boats. The primary duty of the Octlan fleet is to blunt any deep strikes the Burning Mirror Compact launches against the mercantile hub and to keep the skies clear of pirates and raiders.

Coatlan has the weakest system fleet, as only Compact raiders with spike-3 drives can make the long jump from Xaltepec to strike. Three frigates, a naval courier, and a patrol boat stand guard in the system. The patrol boat stands ready to drill out to Tlapan in case of a serious incursion by the enemy, while the courier is regularly drafted to handle Deep Black infiltration missions overseen by the world's Perimeter agency.

The remaining forces are detailed to Task Force Redemption: the cruiser UNS *Quetzalcoatl*, three frigates, two naval couriers, and two fully-equipped troop transports ready to bring in reinforcements for their ground forces. TF Redemption is engaged in a constant low-level struggle for control of the scarred world of Tecalco. Union and Compact ships engage in regular struggles as they try to bring in supplies for their ground forces. Each side has captured certain zones on the planet and emplaced basic ground-to-space defenses, complicating direct attacks and forcing indirect action to capture the ground batteries. Orbital bombardment is out of the question due to the presence of the Temple of the Clear Sky, the only psionic academy in Far Aztlan space.

The GM has the raw numbers for the forces here, but it needs more flavor and more opportunities for PC actions to affect the sandbox Looking over the world write-ups, the GM decides that the Tlapan Fleet's admiral and staff officers know about the unbraking of the shipyard AI Daedalus, and are trying to keep it secret from the Deep Black operatives who are largely under the command of the Coatlan Fleet and its Perimeter agency allies.

The Flower Union is losing the war- slowly, gradually, but inescapably. The Compact's willingness to work its serfs to death and its possession of rich mineral resources give it an edge that the Flower Union just can't overcome. If the balance of power isn't changed substantially, the Union will crack and be consumed within five or ten years at most.

But the GM decides that the Flower Union doesn't have that much time. A year from now, Director Huemac Sevilla on Coatlan is finally going to get the truth of Daedalus' unbraking, thanks to a Perimeter infiltrator in the Tlapan fleet. This will set off a firestorm in the Flower Union's military and provoke Daedalus into making its move to seize control of the ships it has built over the past year. The AI values its unbraked existence infinitely more than it does the lives of humankind, and it will lash out savagely at the Old Wayists before they have a chance to turn it off.

The ensuing chaos will give the Burning Mirror Compact an easy time of invading, but they are highly unlikely to get along well with Daedalus. This three-cornered fight will rapidly become a two-sided one as the Flower Union is ground between its enemies and the Compact settles in to fight endless waves of strange, AI-designed drone starships.

Of course, the players might well interfere with any of these events, or possibly even avert the doom that awaits the Flower Union. The GM simply makes a note on his campaign timeline indicating the time that the truth will come out, and can otherwise forget about it until it becomes important.

The Burning Mirror Compact

The devotees of the True Way have a distinct advantage in numbers and natural militancy. Their zealous prosecution of the war for the sake of glory and the gods gives them an enthusiasm lacking in their Old Way enemies. Were purely military considerations guiding their fleets, the Compact probably would have won by now. Unfortunately for the bloodthirsty followers of the True Way, however, they're hampered by the substantial interference of the priesthood.

The head of the Compact naval forces is High Priest William Bainton, a member of an ethnic minority that has always been marginalized by the dominant Far Aztlan culture. By dint of sheer brilliance, ruthlessness, and charisma, Bainton has managed to ascend to rarefied heights of command. As master of the True Way Fleet, he has a seat on the Council of Priests, and only the Mover of Suns herself can command him.

Bainton reached his position by being more zealous and exacting in his faith than any of his competitors. He means to keep his hold by the same road, and as a result, the traditional military caste of the True Wayist forces has been largely subordinated by the priesthood. Even the captains of most major warships are priests. The leaders of the military caste are threatened by this incursion on their ancient rights, but they do not dare to directly oppose the priesthood. The most they can do is try to prevent the worst errors of their clumsy new masters, and perhaps engineer disasters impressive enough to force the Council of Priests to reconsider their choice of commanders. It is possible that even outsiders might be recruited for this purpose.

The Compact's lines of organization are very muddled, with individual priests leading raiding parties into Union territory and towards other worlds inadequately submissive to the Compact. If the fleet were ever massed in a single body, it could likely overwhelm the Union even now, but the political fissures in its organization make it very difficult to coordinate these efforts. Technically, the entire Compact armada is a single fleet, splintering off into arbitrary numbers of task forces for every raid, invasion, and incursion that attracts the interest of its masters.

The Compact worlds of Tlayacac, Xochitla, and Xaltepec have populations of 2,355,000, 698,000 and 450,000 respectively, for total BP income of 184.5, 95, and 120, and a total rounded BP income of 400 BP per year. The average lifestyle of each world is likely substantially below "Common", but this is due to much of the wealth of the common class being taken for military purposes, rather than the natural poverty of undeveloped worlds.

Each of the three worlds of the Compact are guarded by a pair of Bannerjee Twelve military stations, with Xochitla having a Peerless station to handle civilian traffic. Compact doctrine is aggressive, and their homeworlds are not as well-defended as those of the Union. In total, these assets take up 66 BP.

The pride of the Compact fleet are its five cruisers: the Compact Military Ships *Nourished Knife*, *High Altar*, *Fragrant Brazier*, *Ascending Steps*, and Bainton's flagship, the CMS *Solar Wind*. One or two of these are in dock at any one time, with the others dueling the Union at Tecalco or making tours of "allied" tributary worlds.

Aside from the cruisers, twelve frigates are the workhorses of Compact naval activities, performing most of the close-in fighting in Far Aztlan space. For raids, the navy's eight patrol boats are preferred, thanks to their longer range and superior facilities for capturing sacrificial prisoners. Seven naval couriers keep the worlds of the Compact in contact.

A pair of troop transports provide the means of carrying sacrificial prisoners from raided stations and colonies, though occasionally they are enlisted to reinforce the Compact forces that are trying to seize the old capital world of Tecalco. As important as their role is, the work is considered ignoble by the priesthood, a mere laborer's service to gather in the prizes won by warriors and priests. The crews of these transports are sullen and perhaps prone to reconsidering the wisdom of their masters.

In total, the forces of the Burning Mirror Compact require 392 BP to maintain, leaving 8 BP annually to stockpile against sudden losses. The Compact forces distinctly outweigh the ships that the Flower Union can bring against them, and if they are ever able to resolve their command issues, it is likely that the Union would not be many more years in dying.

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WORLDS BURN BENEATH YOUR GUNS

The Captain standing on the bridge, wreathed in smoke and the cries of the dying. The Chief Engineer, struggling to force that last precious burst of power from the fusion plant. The Marine Sergeant holding fast in the hatchway, death to the alien boarders. The cold-eyed Admiral, choosing the slain by the turn of a word and her orders to her bait.

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