SPACEDOCK

THE ADVANCED STARSHIP AND CONSTRUCTION MANUAL

STAR TREK
THE EXPANDED UNIVERSE

SPACEDOCK
The Advanced Starship and Construction Manual

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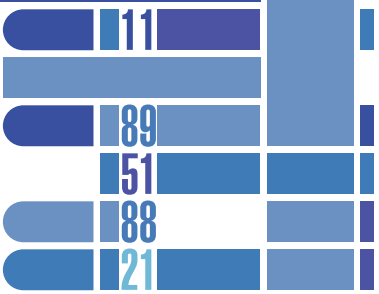

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Dedication: I'd like to dedicate this book to all the people at Last Unicorn Games who've made working on the Star Trek game lines such a delight over the past two years: Matt Colville, Ken Hite, Ross Isaacs, Danny Landers, Jay Longino, Don Mappin, Christian Moore, Charles Ryan, Tammie Ryan, Janice Sellers, Owen Seyler, George Vasilakos, and Inman Young. Without y'all, going boldly wouldn't have been nearly as much fun.

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INTRODUCTION

"And all I ask is a tall ship and a star to steer her by...."

John Masefield wrote that, about a hundred years ago. He was referring, of course, to ships which sailed the seas of Earth, using celestial navigation to find their way to their appointed destinations. But he could just as easily have been writing about the starships of the 24th century's Starfleet. They travel further, and faster, than any wooden sailing ship ever could, but they still steer by the stars.

Starships, and the technology responsible for them, have long been a subject of fascination to *Star Trek* fans. Names, registration numbers, weapons, capabilities, and a thousand other details are debated back and forth in the pages of fan magazines, the Internet, and other forums. Naturally, this interest extends to those gamers and *Star Trek* fans who play Last Unicorn's *Star Trek* roleplaying games. Since the whole purpose of a *Star Trek* roleplaying game is to create one's own adventures in the *Star Trek* setting, it's important to have as much information about, and tools to work with, that setting as possible, while at the same time not having so much information that it swamps the mind or chokes off the creativity of the Narrator and players. That means gamers who like starships need a resource to help them create and use those ships in ways which enhance game play and encourage their own imaginations.

Spacedock provides a way to satisfy that need. It contains all the rules you need to build starships and use them to confront problems ranging from enemy ships to dangerous stellar phenomena. If you're of a mind to, you can spend lots of time lovingly detailing the ship your series is based on, the NPC ships your Crew will encounter, or a few ships to help individualize the new species you've created specifically for your games.

Chapter One, ***Ship Types***, discusses how Starfleet categorizes starships. It includes descriptions of many current and future ship development programs.

Chapter Two, ***Starship Construction***, provides you with the nuts and bolts you need to gamma-weld hull plates to a skeletal structure, install the ship's systems, power your ship up, and sail beyond the sunset—or, at warp speeds, sunsets.

Chapter Three, ***Starship Combat***, provides expanded, advanced rules for starship combat in the Icon System. Building from the basic starship combat system presented in the *Star Trek: The Next Generation Roleplaying Game*, *Star Trek: The Roleplaying Game*, and *Star Trek: Deep Space Nine Roleplaying Game* core rulebooks, yet not remaining a slave to that deliberately simplified system, it provides all the rules you need to run detailed, realistic *Star Trek* starship combat. As always, you're free to pick and choose among the rules and use only what suits you; that way you can build a starship combat system which is as complex or as streamlined as you want it to be. If you want to use the rules for every system on the ship and track every point of Power you allocate, you can; if you prefer to resolve starship combat in a quicker, easier fashion, you can do that instead (perhaps using the simplified Fleet Combat rules).

Chapter Four, ***Miscellaneous Rules***, provides rules for interference and other stellar phenomena which may affect starship performance, and conversion notes for translating *Spacedock*'s rules back to the basic Icon System starship rules.

Chapter Five, ***The Ship Registry***, provides Starship Templates for, and information about, three ships as examples to get you started. For information about dozens of

other ships, refer to the ***Starship Recognition Manual, Vol. 1: The Ships of Starfleet*** and future volumes.

So, it's time to get busy building starships! I hope you enjoy using this book as much as I enjoyed writing it.

Steven S. Long
November, 2000

OF CANON AND CANNONS

Starship technical specifications are the subject of intense debate among many *Star Trek* fans. Unfortunately, in most cases relatively little hard data is available on many of these subjects, and details often change from episode to episode and series to series based on the needs of the story and other factors. The important thing in *Star Trek*, whether on TV or in gaming, is to tell well-crafted, enjoyable stories, even if that sometimes means overlooking or ignoring some details about the technology. Thus, the technical information published by the persons responsible for such matters on the shows may or may not correspond to, or continue to correspond to, what we see on the screen. What we see on television one week may contradict or conflict with something we see on the screen next week.

In many cases, the best a fan—or game company—can do is hazard an educated guess about the way something works. Last Unicorn Games does its best to remain aware of and incorporate into its products all relevant canon information on the subject of any given book, and then to extrapolate, in a logical and reasonable fashion, from that information to fill in the gaps left by the television shows. That holds doubly true for information about starships. Sometimes, in the absence of solid or verifiable information about, say, the dimensions of a particular class of starship, we have to take our best educated guess. But no matter how many steps Last Unicorn takes to ensure accuracy-and we take a lot of them-inherent conflicts in the source information mean a reader is likely to find some "errors" here and there.

So, if you find something in this book that you don't agree with, or which doesn't agree with the sources you rely on, the solution is simple—change it! That's one of the great things about roleplaying games; you can change any rule you want to suit yourself. If you don't think we included the right number of torpedo launchers on the *Akira*-class starship, or that the *Defiant*-class ship should only be 120 meters long, just cross out the objectionable material and write in what you think are the correct numbers. This will ensure that you get the maximum value and enjoyment out of this product-and that, of course, is Last Unicorn's goal.

Chapter One
Starfleet Ship Classifications

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Advanced Starship Design Bureau

Stardate 52372.4

Report on Current Starship Classes (Excerpted)

The present state of the fleet is precarious. Victory in the Dominion War exacted a very high price indeed. Featuring more large-scale starship battles in a shorter period of time than any war in the history of the Federation, the War likewise inflicted greater fleet casualties than any previous conflict. Thousands of ships were completely destroyed, and few of the surviving vessels came through the experience completely unscathed. Were it not for the fact that the two primary Threat species at the beginning of the War, the Cardassians and the Romulans, suffered casualties as great as or worse than ours, the Federation could be facing the very real possibility of invasion.

Unfortunately, not all Threat species can be described as equally weak. The Borg, in particular, remain a threat, and the extent of the surviving strength of the Breen, the only species to directly and successfully attack Earth since the founding of the Federation, cannot be reliably judged at the present time. Thus it remains imperative that Starfleet embark on an effort to repair its damaged vessels and build new ones to fill the gaps in the fleet.

Starfleet has an unprecedented opportunity to evaluate the current state of its starship development, construction, and deployment efforts. If Starfleet Command or the Federation Council feels that the current state of galactopolitical affairs justifies a change in shipbuilding policies, the new policies, once established, can be implemented immediately by the ASDB, Starfleet Corps of Engineers, and Office of Shipyard Operations.

The purpose of this report is to review the ship classes and types presently in service so that Federation policymakers may determine what course the development of Starfleet vessels will take during the final quarter of the 24th century.

The Starfleet Vessel Classification System

Starfleet Command classifies vessels according to their primary (and, in some cases, secondary) mission profiles, which in turn determine the sizes, shapes, and systems of vessels in a particular category. A ship whose primary purpose is to explore distant star systems will have a different shape, and different systems, than one intended to escort merchantmen in times of conflict.

However, one of Starfleet's primary moral and tactical principles is that of adaptability. Thus, unlike the often more mission-dedicated vessels of the Klingon Empire or Romulan Star Empire, any Starfleet ship can perform a wide variety of missions (even ones for which it is not primarily designed). For example, a Starfleet escort will have more advanced scientific and research systems than a comparative Klingon vessel, but will not be as heavily armed. Nevertheless, Starfleet ships are best used for the primary missions for which they were created.

HEAVY, LIGHT AND FAST

Within any given category of vessels, subcategories exist. In many cases, subcategories include Heavy, Light and Fast versions of the ship type.

Heavy vessels indicate a subtype which is more heavily armed and protected than the standard vessel of that category. Heavy subtypes often sacrifice a small amount of speed, maneuverability, or sensor capacity to compensate for the additional tactical systems.

Light vessels, conversely, are not as well armed or protected as standard vessels of that category. Instead, they typically possess more sophisticated peripheral systems, such as sensors or other scientific systems, and are intended for relatively specific mission profiles.

Fast vessels are similar to Light ones, but concentrate on speed and maneuverability (and sometimes on the capacity to perform long-range or extended missions). Those built for defense or tactical missions often have heavier weaponry than Light ships, however. Most of the Fast categories, such as Fast Frigates and Fast Cruisers, are relatively new additions to Starfleet and have helped to redefine rapid deployment and response doctrines.

STARSHIP CLASSIFICATIONS

Ship Type	Classification Code
Explorers	
Explorer	EX
Heavy Explorer	EXH
Light Explorer	EXL
Cruisers	
Cruiser	CA
Exploratory Cruiser	CEX
Fast Cruiser	CF
Light Cruiser	CL
Heavy Cruiser	CH
Strike Cruiser (proposed)	CS
Frigates	
Frigate	FR
Fast Frigate	FF
Heavy Frigate	FH
Light Frigate	FL
Escorts	
Escort (Perimeter Defense)	ES
Heavy Escort	EH
Light Escort (Corvette)	EL
Scouts	
Scout	SS
Heavy Scout	SH
Specialized	
Courier	SC
Deep Space Surveyor	SVH
Fighter	XF
Medical	MD
Research/Laboratory	SRS/SRL
Surveyor	SV
Support/Auxiliary	
Armored Transport	TTA
Cargo Carrier	TC
Runabout	RU
Shuttle (impulse)	IS
Shuttle (warp)	WS
Tanker	TA
Tender	TN
Transport	TT
Tug	TG

EXPLORERS

Explorers are the largest, most powerful, most versatile ships fielded by Starfleet. As their classification indicates, their primary purpose is exploration. Because they can encounter virtually any situation (including many threatening ones), and because they often conduct multi-year missions far from Federation space, they contain a wide variety of systems, including ones designed to ensure the comfort of the crew during extended assignments. They are also Starfleet's most heavily-armed vessels.

Since the earliest days of Starfleet, Explorers have served prominently in the fleet. From the early *Daedalus*- and *Ranger*-class ships, to the famous *Constitution*-class of James T. Kirk and his contemporaries, to the *Ambassador*-class developed earlier this century (now downgraded to Heavy Cruiser), each previous design has influenced the modern Explorers such as the *Galaxy*- and *Sovereign*-classes. The design style which now characterizes the Explorer ship type—primary hull ("saucer"), engineering hull, and nacelle-and-pylon—can be seen in even the earliest Explorers. Some Cruisers have also contributed design elements to the modern Explorers.

At present, Starfleet fields five classes of Explorers—*Andoria, Andromeda, Galaxy, Intrepid,* and *Sovereign*. The *Andoria*-class is one of the newest Explorers. It was launched in 2361, and is an "explorer" in the true sense of the word. Most *Andoria*-class vessels undertake multi-year deep space missions; they are equipped with some of the most state of the art sensory and scientific equipment available to the Federation. Prior to the Dominion War, Starfleet had planned to build three *Andoria*-class vessels per year. A re-evaluation of ship construction priorities following the War may dictate an alteration or cancellation of that plan.

The *Galaxy*-class, only recently displaced as the most powerful vessel fielded by the Federation, remains a mainstay of the fleet, particularly during military situations. After the initial planned production run of six vessels was completed in the early 2360s, no more were built until the early 2370s. The vessels under construction when the Dominion War broke out were rushed into production without complete exploratory and secondary systems so that they could assist with the war effort. Most came through the War intact, albeit damaged.

The *Intrepid*-class, the first of a planned line of Light Explorers which pack substantial exploratory capability into a spaceframe much smaller than most Explorers use, has proven an able ship and a fine premiere for the line. Equipped with bioneural gel pack computer systems, powerful warp engines, and many other state of the art systems, it is one of the most advanced ships in Starfleet. The resilience of the *U.S.S. Voyager,* NCC-74656, which remains lost in the Delta Quadrant, testifies to the ship's prowess.

Starfleet's most recent efforts in this area yielded the *Sovereign*-class Explorers, of which only two (the *U.S.S. Sovereign* and *U.S.S. Enterprise-E*) have been built. Designed following initial contact with the Borg, and thus reflecting the perceived need for greater defensive and tactical capabilities, the *Sovereign*-class features fewer exploration-oriented and more defense-oriented systems and design elements than any Explorer ever built.

EXPLORER CLASSES CURRENTLY IN SERVICE (REPRESENTATIVE SELECTION)

Class	Classification Code
Andoria	EX
Andromeda	EX
Galaxy	EX
Intrepid	EXL
Sovereign	EXH

CRUISERS

Cruisers are mid- to large-sized vessels which Starfleet can optimize for a wide variety of general or specialized mission profiles, from exploration, to interdiction, to tactical/defense. Although smaller than Explorers, they are easier and less expensive to produce, and therefore more of them have been built. In many ways they could be said to form the backbone of Starfleet.

Because of this ship type's versatility, Starfleet has created many subcategories for this classification to better designate a given ship's primary function. The basic Cruiser is a mid-size, multifunction vessel, able to perform many different duties well. The venerable *Miranda*-class ship and the somewhat younger *Renaissance*-class vessel are representative examples. As of 2375, "standard" Cruisers are typically tasked to one of three broad duty classifications: scientific/research vessels, which usually have

expanded scientific/sensor packages; military/interdiction, which usually have improved tactical packages; and long-range patrol craft, with uprated drive systems. *Miranda*-class ships are an example of the first type; *Renaissance*-class craft of the second type. The long-range patrol Cruisers are gradually being phased out in favor of Fast Cruisers and Fast Frigates.

Exploratory Cruisers are, in essence, a "junior" version of an Explorer, similar in some ways to a Light Explorer. They are equipped with many of the same systems (though space limitations on the CEX vessels may restrict the amount of equipment which they can carry vis-a-vis an Explorer) and are expected to perform the same wide variety of duties. The *Constellation-, Excelsior-,* and *Nebula*-classes are typical Exploratory Cruisers.

Fast Cruisers, such as the *Niagara-*, *Istanbul-*, and *Osaka*-class vessels, are relatively new additions to the fleet. They are intended to perform long-range diplomatic and courier missions. During the Dominion War, many also served as reconnaissance craft which performed daring behind-the-lines scouting and forward observation missions to gather information on Dominion-Cardassian alliance fleet movements.

Heavy Cruisers, which have been a part of the fleet for almost two centuries, often serve as flagships for Sector Deployment Commands or various branches of the fleet. Thanks to their heavy armament, they served at the forefront of many battle task forces during the Dominion War, and have also helped to counter recent Borg incursions. Examples include the *Akira*-class, with its multiple torpedo launchers, and the older *Wambundu*-class vessels, which have often been testbeds for phaser uprating packages. Heavy Cruisers remain a favorite with the ASDB; five new CH ships, including the proposed *Legacy-* and *Morningstar*-classes, are on the ASDB drawing boards as of stardate 52372.4.

Additionally, a modification of the CH ship tentatively designated as the *Strike Cruiser* has been proposed. A Strike Cruiser (CS) would take advantage of recent developments in warp field theory and warp engine technology to create a Heavy Cruiser with the speed and maneuverability of a regular Cruiser. Only one design, the *Falcon*-class vessel, is currently under development.

The longest-lived of Starfleet's Heavy Cruisers is the *Ambassador*-class, which has been in use since 2322. As the flagship of the fleet in its day, the *Ambassador*-class (originally designated an Explorer, but downgraded in light of modern fleet developments) incorporated many technological innovations and paved the way for the development of the *Galaxy*-class vessel, which it strongly resembles. Despite their age, surviving *Ambassador*-class ships remain in good condition and are expected to be able to serve, with standard repairs and maintenance, for an average of another 20 years.

Last but certainly not least, Light Cruisers fulfill many functions, including diplomatic and courier duties, support for Explorers and larger Cruisers in conflict situations, reconnaissance, and patrol of outlying (but relatively quiet) sectors. Because they rarely include breakthrough or experimental technology, they can be built quickly and cheaply, making them very com-

CRUISER CLASSES CURRENTLY IN SERVICE (REPRESENTATIVE SELECTION)

Class	Classification Code
Akira	CH
Ambassador	CH
Amsterdam	CA
Apollo	CL
Centaur	CA
Challenger	CL
Cheyenne	CL
Constellation	CEX
Curry	CA
Excelsior	CEX
Istanbul	CF
Miranda	CA
Nebula	CEX
Niagara	CF
Osaka	CF
Prometheus	CH
Renaissance	CA
Saber	CL
Sequoia	CH
Wambundu	CH
Yeager	CL
Zodiac	CA
Falcon (proposed)	CH (CS proposed)
Hermes (Apollo refits)	CF
Odin (proposed)	CL
Legacy (proposed)	CH
Morningstar (proposed)	CH

mon. Starfleet fields many classes of CLs, including the *Apollo*-class (due for substantial modifications and uprating to CF status as part of the *Hermes* Development Program), *Cheyenne*-class, and the proposed *Odin*-class.

Caveat: The term "cruiser" (lower case) is often employed in a general sense to indicate any large ship (frigate or larger) capable of extended missions and/or possessing substantial tactical "punch." While the term is not so employed in this report, the reader should be aware of it to avoid confusion in other venues.

FRIGATES

A *Frigate* is a medium-sized vessel designed for military, escort, patrol and rapid response missions. Although typically smaller than Cruisers, some Heavy Frigates are in fact larger than some Cruiser categories. Due to the Frigate's general utility, Starfleet has often had difficulty finding a "niche" for it within the fleet, leaving it simply to fill the ranks of the various fleets and Sector Command ship rosters. In fact, as of 2375, more Frigates are in active service than any other category of ship except Cruisers.

In general, Frigates are the most overtly "military" vessels fielded by Starfleet (with the exception, perhaps, of some Heavy Cruisers and Heavy Escorts). They tend to incorporate the latest technological developments, particularly in the fields of tactical systems, shields, and sensors.

The basic Frigate, such as the *New Orleans*- or *Mediterranean*-class vessels, are among the oldest designs still being actively produced by Starfleet. Having proved themselves over decades, they need only basic modifications to take advantage of the latest technology to keep them up to speed with ships of more recent design. Frigates are often assigned to duties such as convoy support and defense, planetary defense, and evacuation. During the Dominion War, Frigates typically served in reserve line support positions or to anchor wings of Fast Frigates or smaller ships. Some newer Frigates, such as the *Shir'Kahr*-class, are optimized for specific duties (in that case, scientific research and exploration). Similarly, the upcoming Aegean Development Project refits for the *Mediterranean*-class will make it more suited for orbital and near-system support duties.

Fast Frigates, such as the *Chimera*- and *Norway*-class vessels, are the slightly smaller cousins of the Fast Cruiser. They typically serve as part of Starfleet's various Perimeter Patrol and Rapid Deployment Forces, thus freeing up Escorts for the duties from which they derive their name. Thanks to the successful record amassed by the FF category, Starfleet has plans to produce many more to help patrol the Federation's ever-expanding borders.

Heavy Frigates, as mentioned above, can be larger than some Cruisers. Historically, FH vessels have filled a support role for Cruisers, but some of the newer FHs, such as the *Steamrunner*- and *El Dorado*-classes, have sufficient tactical punch to anchor strike wings themselves. The proposed *Oberon*-class FH has the most potent tactical package ever seen on a Frigate, surpassing the almost as heavily armed *El Dorado*-class thanks to Dominion War technological breakthroughs.

Light Frigates, including the *Springfield*- and *Ukora*-classes, are common sights along the Federation frontiers. Designed primarily for standard patrol duties in sectors with low to medium levels of activity, they are in many ways not very different from CLs.

FRIGATE CLASSES CURRENTLY IN SERVICE (REPRESENTATIVE SELECTION)

Class	Classification Code
Bradbury	FH
Chimera	FF
El Dorado	FH
Freedom	FR
Mediterranean	FR
New Orleans	FR
Norway	FF
Santa Fe	FL
Shir'Kahr	FR
Springfield	FL
Steamrunner	FH
Ukora	FL
Aegean (upcoming Mediterranean refit)	FR
Newport (Santa Fe class refits)	FL
Oberon (proposed)	FH
Pyrenees (proposed)	FR

ESCORTS

Escorts are, as their name indicates, primarily intended to escort transports, cargo convoys, and in some cases even larger Starfleet vessels. Design and production of them has increased markedly since the mid-24th century, when the

increasing number of threats to the Federation prompted Starfleet to begin creating more Escorts. As more Escorts sailed out of the shipyards, Frigates were freed up for other duties.

The standard Escort is a small, but relatively heavily armed, vessel which combines good speed with sufficient offensive power to deter many threats. Depending upon the availability of Frigates, they may also assume some Frigate duties in addition to their standard low-risk escort and patrol functions. *Capella*- and *Pollux*-class vessels are good examples of typical Escorts.

Heavy Escorts, such as the *Frontier*-class, are even more combat-oriented than the standard Escort. At most times they function as part of Starfleet's Perimeter Defense and Patrol forces. They often served as key components of attack wings during the Dominion War, and also proved their mettle during patrol of disputed regions during that conflict. The new *Defiant*-class EH, which has served as a testbed for numerous experimental tactical systems, was an instrumental part of the Federation's victory in the Dominion War.

Light Escorts usually escort troop and personnel transports, and sometimes cargo transports as well, through potentially dangerous regions of space. During times of conflict, they serve as backups to front-line Perimeter Defense vessels, and also perform troop drops, landings in hot zones, and other planetary support functions. The *Merced*- and *Nomad*- ship classes are the most common examples of ELs in the present fleet; a new EL developed in conjunction with Starfleet's Rapid Response forces, the *Umbria*-class, is projected to enter the service in the late 2370s (the Dominion War delayed its initial projected 2375 deployment).

ESCORT CLASSES CURRENTLY IN SERVICE (REPRESENTATIVE SELECTION)

Class	Classification Code
Capella	ES
Defiant	EH
Frontier	EH
Merced	EL
Nomad	EL
Pollux	ES
Surak	ES
Bolarus (proposed)	ES
Umbria (proposed)	EL

SCOUTS

The presence and mission profile of Scouts has diminished over the course of the 24th century. As technological capabilities improved, and the Federation became larger, the deep space exploration function once assigned to scouts was assumed by larger vessels, and their role as reconnaissance ships in times of war has similarly been assumed by other, stronger ships.

Still, there remains a place for the Scout within the present service. With their small bodies and large warp nacelles, they remain well-suited for stellar cartography missions, light exploration, system surveillance and reconnaissance, and similar duties. During the Dominion War, when larger ships were often engaged in direct confrontation with the enemy, Scouts ran many observation missions into Dominion-Cardassian territory, returning with valuable information.

The *Rigel*-class vessel and proposed *Orion*-class ship (part of the Long Range Survey Directive implemented in 2369, but delayed by the War) are both designated Heavy Scouts. "Heavy" in this case connotes a larger body, and thus the capacity to stay in the field for longer periods, more than it does heavier armament (though in fact those ships do have greater tactical capabilities than other Scouts).

SCOUT CLASSES CURRENTLY IN SERVICE (REPRESENTATIVE SELECTION)

Class	Classification Code
Hokule'a	SS
Rigel	SH
Talon	SS
Vigilant	SS
Orion (proposed)	SH

FIGHTERS

Fighters are small, heavily-armed ships which provide support for larger vessels in combat situations. Typically crewed by no more than one to four persons, they have no real function other than combat. For this reason, Starfleet, unlike the Cardassians, Dominion, or many other species, makes relatively little use of them. In fact, only one design, the Starfleet Attack Fighter, is being fielded at present, with no plans for any additional designs.

SPECIALIZED, AUXILIARY AND SUPPORT VESSELS

Obviously, any fleet of ships the size of Starfleet requires numerous auxiliary and support vessels to keep it running efficiently. From Cargo Carriers to Medical ships to Research/Laboratory (a.k.a. "Science") vessels, these ships form a vital, if somewhat unglamorous, link in the Starfleet chain.

A complete catalog of every specialized, support and auxiliary vessel used by Starfleet is beyond the scope of this document. Interested readers are advised to consult Document ASDB-1958573-Beta for complete information on this category of ships.

Armored Transports

This type of vessel, represented by the *Iowa* and *Utah* classes, came into its own during the recent Klingon-Federation and Dominion War conflicts after years of being regarded as something of an "ugly stepchild" by many Starfleet pilots. While not a sleek, beautiful ship, it makes up in functionality what it lacks in grace. Protected by ablative armor and heavy shields, Armored Transports carry key personnel and troops through extremely dangerous areas, such as war zones. Capable of atmospheric flight, they can set down, release a squad or two of troops, and then take off before enemy weapons can track and attack them.

Couriers and Surveyors

Couriers and Surveyors are, in essence, highly specialized Scout and Explorer ships. Couriers, of course, are ships designed for high speeds which Starfleet uses to transport important messages and personnel. At present Starfleet fields only two types of Couriers, the *Peregrine*- and *Loki*-class ships, though the proposed *Mercury*-class may soon replace *Loki*-class vessels lost during the Dominion War. Except for those vessels designed specifically for ferrying important dignitaries, Couriers tend to be spartan.

Surveyors, on the other hand, come in a variety of designs, including the venerable *Oberth*-class general science vessel, the *Korolev*- and *Sagan*-class Deep Space Surveyors and the smaller *Copernicus*-class ship. The former are designed for long-term deep survey missions; the latter for astronomic surveys which are quicker or cover a smaller area.

Research/Laboratory and Medical Vessels

Scientific pursuits remain at the forefront of Starfleet's agenda, and it is justly proud of its Research and Laboratory vessels. Ranging from the small *Fermi*-class "flying laboratory" which conducts experiments in zero-g and other space environments, to the large *Nova*-class planetary surveyor, they tend to be highly specialized. Many are modular, allowing different laboratory modules to be swapped in and out to reconfigure the ship for a specific mission with relatively little effort.

Medical vessels, such as the *Geneva*-, *Graceful*- and *Olympic*-class vessels, are much more predictable in their configuration and missions. Dedicated to healing the injured, treating the sick, and pushing back the frontiers of medical knowledge, they have saved uncounted millions of Federation lives. Instead of flying "patrols," they go where ordered by Starfleet Medical or Starfleet Command, or accompany large contingents of ships heading into battle or other dangerous situations (though they carefully remain to the rear and display their medical emblems prominently).

Runabouts

Perhaps the most intriguing of the support and service vessels is the runabout, developed as a sort of "expanded" warp shuttle. Better equipped and more heavily armed than a warp shuttle, a runabout is thus able to travel further and undertake a wider variety of missions. The first ship designated as a runabout, the *Danube*-class, has proven so successful that a second class, the *Caspian,* has been successfully proposed and is under development.

Cargo Carriers, Tenders, Transports, and Tugs

In the eyes of many, the foundation of the fleet is not Explorers or Cruisers, but the unglamorous, often ungainly, service vessels — Cargo Carriers, Tenders, Transports, and Tugs. Without these support ships, the larger vessels could not function for extended periods of time, dock for repairs, or the like.

Typically posted to starbases or space stations, or assigned to specific trade routes, these vessels (whose designations indicate their function) come in myriad configurations. The accompanying table lists several of the more common

SPECIALIZED, AUXILIARY AND SUPPORT CLASSES CURRENTLY IN SERVICE (REPRESENTATIVE SELECTION)

Class	Classification Code
Armored Transport	
Iowa	TTA
Utah	TTA
Yorkshire	TTA
Cargo Carrier	
Fiji	TC
Midway	TC
Rakota	TC
Couriers	
Loki	SC
Peregrine	SC
Mercury (proposed)	SC
Medical	
Geneva	MD
Graceful	MD
Olympic	MD
Research/Laboratory	
Fermi	SRS
Noble	SRL
Nova	SRL
Oppenheimer	SRS
Runabouts	
Danube	RU
Caspian (in development)	RU
Shuttlecraft	
Types 6, 7, 8, 9 Shuttlecraft	WS
Type 15, 16, 18 Shuttlepod	IS
Surveyors	
Copernicus	SV
Korolev	SV
Oberth	SV
Sagan	SV
Tanker	
Lauro	TA
Wei-fa	TA
Tender	
Andes	TN
Sierra (impulse)	TN-I
Ural	TN
Transport	
Deneva	TT
Sydney	TT
Tug	
Hogan	TG
Piper	TG

classes belong to these types.

ALLIED/THREAT SPECIES SHIP CLASSIFICATIONS

Species such as the Klingons, Romulans, and Cardassians, whose social and political opinions and agendas do not necessarily match those of Starfleet, use certain types of purely military vessels which Starfleet, an exploratory organization, eschews. These types are reviewed below as a comparison to Starfleet ship categories.

Battleships

Battleships are large, powerful, heavily-armed ships which serve as the flagships of fleets (and, sometimes, entire governments). Examples include the Romulan "dreadnoughts" and "heavy warbirds" (such as the *Vereleus*-class and *D'deridex*-class) and the Klingon flagship, the *Negh'Var-,* and *Gel'tar*-class vessel. Both the Klingons and the Romulans came through the Dominion War with substantial numbers of their Battleships intact; the Cardassians fared less well in this regard.

While their strong shields and potent weapons make them difficult to attack directly, their relative lack of maneuverability compared to a smaller ship is a weakness which an attacking force can sometimes exploit. For example, the *U.S.S. Defiant,* commanded by Captain Benjamin Sisko, enjoyed notable success destroying Cardassian *Kagor*-class Battleships during the War by moving in close to the target ship (to establish arc shadows which protected it from some of the target's heavier weapons) and then using its pulse phasers and quantum torpedoes to inflict significant damage.

Starfleet fields no Battleships. The *Sovereign*-class Heavy Explorer, if stripped of many of its exploration-oriented systems and uprated with additional weapons systems, would qualify as a Battleship.

Warships and Battle Cruisers

Similar to Battleships, but smaller, Warships and Battle Cruisers are the primary vessel of the Klingon, Romulan and Cardassian forces. Prominent examples include the *K'Vort-*, *Galor-*, and *Keldon*-class ships, and Romulan Light and Swift Warbirds.

The nearest Starfleet equivalent to a Warship or Battle Cruiser is an Explorer. A *Galaxy*-class

vessel, for example, is a match for one or more of any of the listed Battle Cruisers; with or without uprated shield and weapon capabilities, it might even rank as a Heavy Battle Cruiser.

Destroyers

Destroyers are vessels smaller than a Cruiser, but larger than a Frigate. Designed almost entirely for military purposes, they are as heavily armed and defended as a Cruiser (or even a Light Battle Cruiser). They serve as support craft for Cruisers, Battle Cruisers and Battleships. Examples include the Klingon *Sompek*-class Heavy Destroyer and the Cardassian *Aberax*-class Destroyer.

The Federation's closest equivalent to the Destroyer would likely be the Heavy Frigate or Heavy Escort. Experience in the Dominion War tends to suggest that these ships are closely matched with the Destroyers of potential Threat species; though less heavily armed, the quality of their tactical scanners, targeting systems, and operating personnel more than make up for the lack of pure "punch."

Fast Attack Ships

"Fast Attack Ship" is a Threat species term for a type of ship similar to a heavily-armed Fast Frigate or Fast Courier. In many ways they are little more than larger, slightly more powerful Fighters.

Chapter Two
Starship Construction

Building a starship is a difficult and complicated process. As you design a ship, you need to consider two perspectives: the *setting* perspective; and the *gaming* perspective.

THE SETTING PERSPECTIVE

The setting perspective is how the characters and institutions which are a part of the *Star Trek* setting—including your own characters—perceive and approach the starship construction process. Building a large starship is not an easy undertaking, even with 24th century administrative and technical acumen. Thousands of man-hours go into planning, developing, and ultimately building a new class of starship. They don't just sail out of Utopia Planitia every day.

Characters cannot just build new ships whenever they feel like it. First, they have to get the approval of Starfleet (or a similar organization) to proceed with research and development. After a year or more of hard work, they'll probably be ready to present a final report recommending that Starfleet build their new vessel as a ship of the line.

Assuming Starfleet agrees with that recommendation, the actual construction of the ship will still take years. The greater the size, complexity, and technological innovation of a new ship, the longer it usually takes. For example, the *Galaxy* Class Project was initiated in 2343, but the first *Galaxy*-class ships weren't launched until about 13 years later; the *Defiant*-class Heavy Escort and *Danube*-class runabout each had an initiation-to-launch period of about five years.

Thus, constructing a new ship, even with a pre-existing design, is not a matter undertaken lightly. It represents an enormous investment of resources, not the least of which is the time and creative energy of many talented Starfleet personnel.

THE GAME PERSPECTIVE

The "game perspective" means how players and Narrators view designing and building a new ship as a game artifact, and as an element of their series. If you're reasonably familiar with this book, it only takes a few minutes to skim the proper sections, choose the parts for your ship, and create a new vessel on paper. But introducing it into the game may be trickier. Unless the Narrator is willing to rule that the new ship has "been in development" for a few years, players face the gauntlet outlined above and cannot, realistically, expect to see their new ship completed within the lifetime of the average series.

However, never let "realism" get in the way of good gaming! If the Narrator feels the game could benefit from a new ship, and the players want a new ship, find a way to fit it into the game somehow, even if you have to fudge a few details here and there to get it into play. But don't make any changes which might adversely affect the setting as a whole—like having the Federation invent a new mega-replicator which can create huge chunks of starships instantaneously—unless you're willing to accept the consequence of those changes.

Each ship you create should be *special*. That's why starships have names, and

HEY, WHERE ARE THE KLINGON PARTS?

Readers of this book will quickly discover that it primarily discusses how to create Starfleet vessels. There are no warp engines, flight control systems, or other parts for Klingon, Romulan, Cardassian or other vessels—just for Starfleet ships. There are a few non-Starfleet weapons and other systems, such as disruptors and cloaking devices, but for the most part the book is limited to Starfleet equipment. There are two reasons for this.

First, there's only so much space in this book. As you can see, it's filled with details about Starfleet vessels. Adding information about other species's ships would have doubled (or more) the size of the book, making it economically unfeasible to produce.

Second, and more importantly, the differences between one species's or government's starship parts and another's is usually just cosmetic. There might be some significant technical differences between a Starfleet warp engine, a Romulan artificial quantum singularly engine, and a Klingon warp drive, but in game terms they're all pretty much the same. Every now and then one of those technical details might form the basis for an episode plot or clue, but by and large they're completely irrelevant. In the Icon System rules, one looks more or less like the others.

So, even though this book doesn't have species-specific rules for ship parts, you can still use these rules to create other species's ships—just rename the parts. Instead of installing a Type X phaser bank, you install a "Class J polaric disruptor array."

dedication plaques with unique, memorable quotes. If all that characters needed to do was identify them, a number would suffice. But starships hold a place of extreme importance within the campaign—indeed, they're really a sort of character themselves, the silent member of the Crew. Thus, they get names; characters (and players) tend to think of them as individuals, each with his or her own quirks and peccadilloes. Even if you're working from a standardized ship plan, find some way to make your latest vessel unique.

OVERVIEW OF STARSHIP CONSTRUCTION

To construct a starship, a player must first define what type of hull he will use, either by choosing a standard hull configuration (such as a *Defiant*-class hull or *Nebula*-class hull), or by deciding on the Size of his starship and creating the exact configuration of the ship on his own. In either case, the Size of the ship determines how many *Structure Units* (SUs) are available for the various systems which the ship needs. Every ship system, from warp engines to phaser banks to the main computer, costs a certain number of SUs. Players have to carefully choose which systems which will make their ship as effective as possible while still fitting all the necessary equipment into the hull. For example, a ship designed as a powerful weapons platform may take up so much space with weapons systems that it has to settle for a smaller warp engine.

Deciding What You Want To Build

Before you set pen to paper to start designing your ship, put aside the technical questions about how the game rules define starships and their systems. Instead, think about what sort of ship you want to build, and what that ship might have within its hull. A little thought about the nature of the ship you're designing will help you make choices when you start reading through the rules.

For example, suppose you want to build a small, fast ship with reasonably strong armaments—like a cut-down, sleeker version of the *Defiant*-class Heavy Escort. You've decided to call it the *Shrike*-class Fast Frigate. You envision it as having a spearhead-shaped saucer, a relatively short Engineering hull attached directly to the saucer without a connecting interhull, and two warp nacelles on downward-thrusting pylons.

What would a ship like that need? Well, for one thing, if you want it to be fast, it needs top of the line impulse and warp propulsion systems. That, in turn, means you probably want it to have a fairly strong structural integrity field and inertial damping field. Note that there aren't necessarily rules-related reasons for any of this; you're building for a *concept,* not to take advantage of various rules.

In terms of weapons, the *Shrike*-class ship probably needs to mount its most powerful weapons facing forward; thanks to its size and maneuverability, it won't need to worry much about attacking to aft, since it can easily turn to face its opponent. Perhaps a large dorsal phaser array and a smaller ventral array would do; maybe you could even make them pulse phasers. Instead of mounting the main torpedo launcher on the forward part of the Engineering hull like usual, you could mount them on the forward edge of the saucer section, giving them a better arc of direct fire.

These, of course, are just some of the things you'll want to think about when designing your ship. The point here, of course, is that you should take some time to think about what you want your ship to be like, instead of just putting a ship together based on rules effects and combat bonuses.

HOW BIG IS A STRUCTURE UNIT?

Structure Units do not have a predefined size or dimension. They're an abstraction; a way of representing in game terms how much of a hull's volume a particular system occupies. A single SU on one ship might contain more volume than one on another ship. Don't think of them as an absolute measure of volume; think of them as a handy tool which makes it easier for you to design starships. The text refers to systems "occupying" or "costing" a certain number of SUs.

As an abstract method of representing "reality," SUs also serve a game balance function. The more useful or valuable a system is, the more SUs it tends to cost. For example, ablative armor costs SUs, even though it's attached to the outside of the hull and, for the most part, doesn't occupy any of the ship's internal volume. Cargo holds, on the other hand, occupy a lot of volume. However, they have very little effect on game play, so they cost only a few SUs.

Rounding

In many places, the rules require you to multiply by a fraction or divide one number with another. Unless a specific rule states otherwise, round all fractions of .5 or higher up to the next whole number, and fractions of .4 or lower down. This applies to the combat rules as well.

Required Starship Systems Checklist

Starfleet vessels must have certain systems to function properly—without them, the ship cannot be built, and/or won't work properly. The systems which *every* ship must have are:

- Outer hull
- Inner hull
- Structural integrity field (SIF)
- Backup SIF (at least one)
- Crew quarters
- Basic life support
- Reserve life support
- Gravity
- Consumables
- Personnel transportation systems (Jefferies tubes)
- Impulse drive
- Reaction control system
- Electroplasma system
- Bridge (possibly in the form of a cockpit or the like)
- Computers (minimum number indicated in the rules on page 47)
- Optical data network
- Sensors (long-range, lateral, navigation)
- Navigational computer
- Inertial damping system (IDF) (minimum number indicated in the rules on page 47)
- Backup IDFs (minimum of one per two main IDF generators)
- Attitude control
- Communications

Additionally, a ship able to travel at warp speeds must have a warp drive system and a navigational deflector.

The Narrator should approach this list using common sense as his guideline. While transporters, security systems, and science systems aren't strictly required, no large Starfleet vessel is going to be without them—so if a player creates a vessel which doesn't have them (perhaps to make more room for weapons and large shield generators), the Narrator should reject that design. Similarly, while one *could* create a ship without any shields at all, that's such a foolish design decision that Narrators should normally require shields for ships, even though they're not in the list above.

Of course, the Narrator can alter or amend this list as he sees fit. And remember, it only applies to Starfleet vessels. Most species will have similar lists, but variations do occur. For example, Jem'Hadar ships may not need crew quarters, since the Jem'Hadar do not sleep (though their passengers, such as Vorta, might need to).

STARSHIP TECHNOLOGY AND THE TREK TIMEFRAME

The starship technology depicted in this book is primarily from the Next Generation/Deep Space Nine/Voyager era, from which the vast majority of Trek data, both about starships and about other subjects, derives. Attempting to include a thorough treatment of starship technology from the original *Star Trek* show, which details a period about a hundred years earlier than the TNG/DS9/VOY timeframe, would be like writing a book about 1990s sports cars while also covering the subject of Model T Fords—they're both the same thing, roughly speaking, but trying to give them both thorough coverage in the same book is not only an exercise in futility, it confuses the main purpose of the book.

Future *Spacedock* supplements will provide more information about Original Series-era starship technology and combat. In the meantime, readers who want to create Original Series-era ships with *Spacedock* can do so by restricting themselves to the lower end of the technological spectrum presented here. In tables of components, use the ones on roughly the upper half of the list (meaning the smallest ones with the worst performance), don't allow ships to buy uprating packages, and so forth. Apply a little common sense and adapt the rules to suit the earlier, more primitive, starship technology and you can obtain a good approximation of the way things worked back then.

Starship Construction Basics

Before getting into the nuts and bolts aspects of starship construction, you need to consider several basic issues.

Name

First, you need to name your starship. In many cases, starship names follow a common theme. *Danube*-class runabouts, for example, are named after rivers, and Explorers often have lofty-sounding names like *Enterprise* or *Odyssey*. If you're creating a new class of ship, you may want to choose a theme for its ships' names; if you're building it from a predefined plan or hull type, you should name your individual ship.

Class and Type

Unless you're building a ship which belongs to an existing class (such as a new *Excelsior*-class ship), you need to name your ship's class. Typically a class is named after the first vessel which belongs to it, so give that first ship a grand and inspirational name like *Galaxy* or *Intrepid* or *Defiant*. When you choose a name, also choose the ship's type, such as Explorer or Scout.

Registry

Every ship in Starfleet has a *registry number* which is used to identify it in computer records and the like. Most such numbers begin with the prefix NCC, which stands for Naval Commission Contract. In other words, a ship's registry number derives from the number assigned to the paperwork which authorized its construction. Experimental or prototype vessels may instead have the prefix NX (Naval Experimental). Civilian vessels use a plethora of designations.

A ship's registry often indicates the approximate timeframe during which it was built and commissioned (see accompanying table). Due to the vagaries of the Starfleet bureaucracy, snags in the contracting and construction process, ships named to honor earlier ships, and other factors, a number may be assigned (or reassigned) which, to outside observers, seems to contradict this system. A proper search of the relevant Starfleet records will always unearth the precise information about when a ship or its class was constructed.

STARFLEET REGISTRY TABLE

Number Series	Construction Timeframe
3- or 4-digit numbers	Prior to 2310
10000 series	2310s, 2320s
20000 series	2320s, 2330s, 2340s
30000 series	2320s, 2330s, 2340s
40000 series	2320s, 2330s, 2340s
50000 series	2340s, 2350s, 2360s, 2370s
60000 series	2350s, 2360s, 2370s
70000 series	2350s, 2360s, 2370s

Registry Code	Ship Type
NAR	A Federation civilian research vessel
NCC	A Federation Starfleet vessel in active service
NDT	A Federation civilian transport vessel
NFT	A Federation civilian transport vessel
NGL	A Federation civilian freighter or cargo carrier
NSP	A Federation civilian science vessel
NX	An experimental Federation Starfleet vessel

Commander

Unless one of the player characters is the captain of the ship, the Narrator should determine who the captain is and, at a minimum, his Intellect and Starship Tactics skill level. His Starship Tactics can determine the ship's initiative in combat and improve the ship's performance in combat. The captain's Command skill may also affect some actions aboard ship, as described under that skill.

Hulls and Hull Systems

The first step in starship construction is to design or choose a hull. A ship's hull and skeletal structure form the frame to which all other systems are attached, and are ultimately what protect the ship's crew from the vacuum of space. Starfleet hulls and skeletal structures are built of such materials as duranium, duritanium polyalloy, polyduranium, titranium, and tetraburnium. (See page 121 for rules regarding hulls in combat.)

STARSHIP SIZE TABLE

Size	Length Range	Beam Range	Height Range	SU	Mass Range
16	5,000-5,999 m	2,500-2,999 m	1,500-1,799 m	7,000-11,000	20,000,000-22,999,999 metric tonnes
15	4,000-4,999 m	2,000-2,499 m	1,200-1,499 m	5,000-8,000	17,000,000-19,999,999 metric tonnes
14	3,000-3,999 m	1,500-1,999 m	1,000-1,199 m	4,500-6,500	14,000,000-16,999,999 metric tonnes
13	2,000-2,999 m	1,200-1,499 m	800-999 m	3,500–5,000	12,000,000-13,999,999 metric tonnes
12	1,500-1,999 m	1,000-1,199 m	600-799 m	3,000-4,500	10,000,000-11,999,999 metric tonnes
11	1,000-1,499 m	800-999 m	400-599 m	2,750-4,000	8,000,000-9,999,999 metric tonnes
10	800-999 m	700-799 m	300-399 m	2,500-3,750	6,000,000-7,999,999 metric tonnes
9	700-799 m	550-699 m	200-299 m	2,250-3,500	5,000,000-5,999,999 metric tonnes
8	600-699 m	400-549 m	100-199 m	2,000-3,250	4,000,000-4,999,999 metric tonnes
7	400-599 m	200-399 m	80-150 m	1,500-2,750	2,000,000-4,000,000 metric tonnes
6	300-399 m	100-199 m	50-79 m	1,300-2,500	300,000-1,750,000 metric tonnes
5	150-299 m	50-99 m	31-49 m	900-1,900	200,000-500,000 metric tonnes
4	100-149 m	26-49 m	21-30 m	800-1,300	60,000-199,000 metric tonnes
3	51-99 m	11-25 m	6-20 m	600-1,000	31-60,000 metric tonnes
2	6-50 m	4-10 m	2-5 m	326-625	2.1-30 metric tonnes
1	1-5 m	1-4 m	less than 2 m	Up to 325	up to 2 metric tonnes

SIZE

SU Cost: None
Power Cost: None

Perhaps the most important characteristic of a hull is its Size, which dictates the length, beam (width), height, mass and number of decks which the ship possesses. In the Icon System, Size is rated along a scale ranging from 1 (probes and small shuttles) to 16 (a large Borg cube), though ships of Sizes beyond 16 may certainly exist. Size does not cost SUs or Power, but does factor into the SU cost of many systems.

The accompanying table indicates ranges for the length, beam, height and mass of ships for each Size category. The ranges are *guidelines,* not absolutes, so you may vary the entries a little here and there. If your ship has dimensions which fit into different categories (for example, a length of 612 meters [Size 8], beam of 350 meters [Size 7], and height of 130 meters [Size 8]), usually you should use its length to determine its Size, or choose the Size into which most of its dimensions fall. The Narrator has the final say on a ship's Size category, and can alter various parameters (such as Mass) if they don't fit his preconceptions of what a particular ship should be like.

Structure Units Per Size Category

Also included in the table is the number of SUs for each Size category. Again, the numbers listed are a range, to allow for flexibility. Players should assign their ships the number of SUs necessary for all pertinent systems (plus a reasonable amount for expansion), not simply choose the highest number just because they can. Narrators must approve all SU totals for a ship based on Size.

Note that the Starship Size Table does not include an entry for the number of decks a ship has. This is because a ship's decks are a function of its purpose and design and much as they are its height. As a good rule of thumb, each deck on a ship occupies 3-5 meters of height, but this can vary tremendously.

Increasing a Ship's Size

Sometimes, over the course of its lifetime, a ship adds structures to its overall frame. For example, a ship might add a warp nacelle to improve its maximum speed. The Narrator determines whether this is possible for a particular ship, and if so what the requirements are in terms of cost, development and assembly time, and so forth.

Provided that the new structure does not increase the ship's dimensions beyond those of its current Size category, simply add the new structure and increase the ship's SUs to compensate. For example, uprating a *Galaxy*-class Explorer to improve its Standard warp speed (defined by the designer as adding a third

HOW MANY BARS OF LATINUM FOR THE PROMETHEUS-CLASS SHIP?

Spacedock provides no prices, either in Federation credits, bars of latinum, or other means of exchange, for starships or starship components. Starships are an important part of any *Star Trek* campaign—in effect, they're NPCs, with lives and "personalities" of their own—so they shouldn't just be bought and sold like jumja sticks. If the Narrator wants a character or characters to have a ship, he can find a way to provide it for them; if he doesn't want them to have one, it doesn't make any difference how much latinum they've got to spend.

For Narrators running *Star Trek: Deep Space Nine* series, commerce holds a little more importance. Characters may want to engage in buying and selling starships or starship parts for profit, for example. In this case, as a quick and easy guideline, the Narrator can establish a value based on SU cost. For example, for each SU a component or ship has, perhaps it's worth 10 bars of latinum. This price might decrease if there's a glut on the market (for example, there's probably a lot of surplus floating around after the Dominion War), or increase in areas where ship parts are scarce (such as on many frontiers).

For campaigns using the *Vessel* advantage from *Raiders, Renegades, and Rogues*, here's how it works with *Spacedock*'s rules:

The character owns a ship, which he can use for legitimate purposes (transportation, carrying cargo) or illicit ones (piracy, escaping from the law). The cost of the advantage depends on the size of the vessel and its resources:

VESSEL

Cost	Vessel
2	Small Vessel (up to 400 SUs)
3	Medium Vessel (up to 600 SUs)
4	Large Vessel (up to 900 SUs)
5	Very Large Vessel (up to 1,500 SUs)

Cost	Resources
+0	**Standard Resources**
	Communications: up to Class 3 (no uprating packages)
	Sensors: up to Type 3 with Class 3 Strength (no uprating packages)
	Transporters: up to Type 3 personnel, Type 1 emergency, and Type 1 cargo, all with up to Class C coils
	Replicators: 1 food replicator system
	Weapons: None
	Shields: up to 200 Protection
+1	**Good Resources**
	Communications: up to Class 4 (no uprating packages)
	Sensors: up to Type 4 with Class 4 Strength (no uprating packages)
	Transporters: up to Type 4 personnel, Type 2 emergency, and Type 2 cargo, all with up to Class D coils
	Replicators: 1 food replicator system
	Weapons: 1-2 beam weapons causing no more than 100 points of damage each, no torpedoes
	Shields: up to 300 Protection
+2	**Excellent Resources**
	Communications: up to Class 5 (Class Alpha basic uprating package allowed)
	Sensors: up to Type 5 with Class 5 Strength (Class Alpha uprating package allowed)
	Transporters: up to Type 5 personnel, Type 3 emergency, and Type 3 cargo, all with up to Class E coils
	Replicators: 1 food replicator system, 1 small industrial replicator network
	Weapons: 1-3 beam weapons causing no more than 140 points of damage, one regular torpedo launcher
	Shields: up to 400 Protection
+3	**Superb Resources**
	Communications: up to Class 7 (Class Alpha basic uprating package and Class Gamma security uprating package allowed)
	Sensors: up to Type 7 with Class 7 Strength (Class Alpha uprating package allowed)
	Transporters: up to Type 6 personnel, Type 3 emergency, and Type 3 cargo, all with up to Class G coils
	Replicators: 2 food replicator systems, 1 small industrial replicator network
	Weapons: 2-4 beam weapons causing no more than 160 points of damage, two regular torpedo launchers
	Shields: up to 500 Protection

The player and Narrator should work together to create a Starship Template for the vessel; the Narrator must approve all vessels.

UPRATING AND DOWNGRADING

Many systems on a starship can be improved with additional systems, state of the art replacement parts, and the like. The process of improving a ship in this fashion is known as uprating. Because many of the uprating packages are relatively inexpensive in terms of SUs, you may be tempted to start the game with a ship which has uprating bonuses for all of its key systems.

Resist this temptation (or, if you're a Narrator, don't allow your players to get away with it). If you start the game with a top-of-the-line ship, where else is there to go? Start with the basic systems (which are powerful enough themselves), then install upgrades over the course of the series as the characters become more competent, begin facing more powerful opponents, and need better equipment to cope with them. This also models the television series well—both the *Enterprise-D* and the *Defiant* started out as powerful ships, but over the course of *Star Trek: The Next Generation* and *Star Trek: Deep Space Nine*, they gradually became better as their crews installed upgrades and improved the efficiency of various systems. This sort of gradual growth, which mirrors character growth, is better for your series than starting out with a fully state of the art starship.

In game terms, there are two ways to uprate a system. The first is to replace an entire system with a better version of that system. The SU cost of the old system is replaced by the cost of the new system, so in effect the cost of this form of uprating equals ((new SU) - (old SU)). For example, replacing Type 5D nacelles (70 SUs) with Type 6.9 nacelles (85 SUs) "costs" 15 SUs—the ship has to have 15 SUs free to replace the old system with the new one. In some cases the Narrator may allow a player to increase the number of SUs a ship has with an uprating package (see page 17).

The second way is to use the various upratings packages listed throughout this book to improve a ship's performance. This means installing uprating packages and new systems throughout a system to make it perform better overall. The effects of the various upratings "packages" (as Starfleet refers to them) are discussed under individual systems.

Conversely, you can sometimes conserve SUs by downgrading to a system which is slightly worse than standard Starfleet equipment. Starfleet frowns on this, for obvious reasons. When designing a ship, you cannot downgrade more than two systems, and must get the Narrator's permission for each downgrade. Downgrading can be done in two ways: replacing an existing system with a less powerful one; or taking a downgrading package. You cannot both uprate and downgrade the same system.

If a starship can separate into two or more parts, any uprating or downgrade packages apply to all parts of the ship; the ship does not have to purchase them multiple times.

warp nacelle) would add 6 SUs (the SU cost of a Package 3 uprating; see page 36) to the ship. It might cause the ship to exceed the height guidelines for Size 8, but probably not the other guidelines, so the Narrator rules that the ship remains Size 8. He further decides that the necessary retrofitting and testing will take three months at Utopia Planitia.

If adding structures increases a ship's Size category, you must recalculate the SU cost of any ship systems which derive their SU cost from a ship's Size. If the revised number of SUs exceeds the guidelines for the new Size category, you must scale down some systems to make the ship "fit" its new Size.

Structure Units and Damage

A ship's overall structural integrity is rated by its total SUs (sometimes referred to as "Structural Points" in this instance). A ship's SUs represents the amount of damage it can withstand from weapons, gravimetric shear, and other dangerous phenomena before being destroyed.

Borg Ship Regeneration

SU Cost: 10 x Size
Power Cost: 10 per round used

The Borg build their ships with regenerative technology which repairs the hull and internal systems automatically when they suffer damage. Every round after taking damage, a Borg vessel regenerates 1 SU worth of damage. The Narrator (or player operating the Borg ship) decides in what order damaged systems regenerate.

THE OUTER HULL AND PRIMARY SKELETAL STRUCTURE

SU Cost: 4 x Size
Power Cost: None

Starship hulls have two sections, the outer (or exterior) hull, and the inner (or interior) hull.

The outer hull consists of plates of duranium and other materials which are attached to the main tritanium/duranium trusses of the primary skeletal structure with duranium pins; between the spaceframe and the outer hull is an AGP ceramic fabric jacket for thermal insulation. The hull segments, jacket and duranium pins are gamma-welded together. The outer hull's materials and conversion coating help the ship to resist radiation and thermal energy. Incorporated into its plates are superconducting conduits and grids which help to form and shape the tactical deflector shields, act as subspace radio antennae, or are part of other systems.

On ships which have Saucer Separation capabilities, the primary skeletal structures of the saucer and engineering sections of the ship are completely separate.

You must buy both inner and outer hulls when designing a ship, and cannot buy more

than those two.

THE INNER HULL AND SECONDARY SKELETAL STRUCTURE

SU Cost: 4 x Size
Power Cost: None

A ship's inner hull is attached to the secondary framework of the skeletal structure (which consists of microextruded terminium trusses mounted to the main trusses with polyduranide rods). It includes multiple conduits, conductive members, and/or attachment points for various ship systems. Segments of the secondary framework can be separated from the primary framework to allow a crew to remove or replace sections of the inner hull if necessary.

RESISTANCE

SU Cost: Base of 2 per hull for free; 3 SUs per +2 points per hull, to a maximum of 10 total points per hull
Power Cost: None

While starships primarily rely upon their shields for protection against outside attacks and damaging phenomena, hulls themselves provide a small amount of additional protection against attacks which penetrate the shields. This is known as *Resistance*.

Both the outer and inner hull provide Resistance; Resistance is bought separately for each hull. Each has 2 points of Resistance automatically; this does not cost SUs. Each may have up to an additional 8 points of Resistance, at a cost of 3 SUs per 2 points. Thus, the maximum Resistance a ship can have, 20 (10 per hull), costs 24 SUs.

Resistance does not protect against many forms of hull stress which affect the entire vessel; that's what the SIF is for.

Ablative Armor

SU Cost: 2 SUs per 10 points (1500 points maximum)
Power Cost: None

Starships designed and built from the late 2360s onward can take advantage of a new defensive technology called *ablative armor*. When an incoming beam or missile strikes the hull of a ship, the ablative armor first distributes the energy of the attack around the hull via its initial radiative/conducting components. Then, when the energy inflow rate exceeds the armor's conductive capacity, the excess begins to boil the armor off, thus dissipating the force of the attack and preventing it from reaching the interior of the ship. In the case of beam weapons, the high-density particulate cloud also interacts with the relatively low-density energy of the beam to carry off some of its destructive force.

In game terms, ablative armor acts like extra Resistance, but only provides protection until it is destroyed. Each point of damage done to ablative armor reduces its effectiveness by one point; when all of its points of protection are gone, the armor has been completely destroyed. Thereafter the ship only has its normal Resistance to protect it. Apply damage to any existing ablative armor before applying it to normal Resistance. Ablative armor offers no protection against effects to which a ship's ordinary Resistance does not apply, such as gravimetric shear.

Example: *The* U.S.S. Jemm,asha *has Resistance 10 and 100 points of ablative armor. It's hit by an attack which, after its shields are applied, causes it 200 points of damage. This damage hits the ablative armor, which stops 100 points' worth of it, boiling away under the force of the attack as it does so. The remaining 100 points of damage is then affected by the ship's Resistance of 10, leaving 90 points of damage to actually damage the ship. If the* Indomitable *is hit by a second blast, its ablative armor no longer applies; it's gone until replaced.*

A ship of Size 4 or smaller may have up to 750 points of ablative armor. A ship of Size 5 or greater may have up to 1500 points of ablative armor. Each 10 points of it costs 2 SUs. Ablative armor costs no Power. Rebuilding or replacing ablative armor requires the facilities of a starbase, space station, or similar installation.

STRUCTURAL INTEGRITY FIELD

SU Cost: Varies (see table)
Power Cost: 1 Power per 10 points of Protection per round

As strong as it is, a starship's hull cannot by itself withstand the stresses of accelerating to impulse and warp speeds, or for that matter any other type of pressure or stress above a certain threshold. Under these conditions, a starship's structural integrity field (SIF) prevents it from collapsing. A SIF is a force field running through a structural integrity grid (a network of conductive elements in the hull) which provides

protection against gross structural compression (GSC, or, in less technical terms, "hull stress"). In short, it helps to hold the ship together.

The accompanying table lists the class, SU cost and Protection provided by various types of SIF generators. A SIF's Protection is similar to that provided by a ship's shields, except that it is not reduced by attacks, and only protects the ship against pressure, stress, and similar threats to its structural integrity (in the event of a hull breach, it also helps to hold in the ship's environment to prevent breathable gases from venting into space).

A SIF's Protection rating includes two numbers. The first is the Protection it offers under normal conditions; this Protection costs 1 Power per 10 points per round. The second number is the maximum protection which the SIF can offer; every 10 points of Protection beyond the first number costs 3 Power per round. Thus, a Class 3 SIF generator provides 60 Protection under normal circumstances, at a cost of 6 Power. To resist extremes of pressure, a ship can increase its Protection up to 90, at a cost of 3 Power per 10 points over 60 (thus, at full strength, it costs 15 Power per round). If necessary, a ship can increase the SIF only for a specific area of the ship equal to one-quarter of the ship's area or less; this only costs 1 Power per 10 points above the normal Protection.

Under normal conditions, a ship only has to maintain its SIF at half normal Protection (for example, 30 Protection for a Class 3 SIF) to preserve its structural integrity. Increasing the strength is necessary under conditions of extreme pressure, including combat (when rapid maneuvering stresses the hull), proximity to gravimetric phenomena, and the like.

Backup SIFs

Because the SIF is so important, most ships have at least one auxiliary (or backup) SIF generator system. A full-strength backup may be purchased for the normal cost, but most ships rely on half-strength backups to keep intact until the crew can effect repairs. A half-strength SIF generator costs half the SUs listed on the SIF Generator table and provides only half the listed normal Protection for the regular 1-for-1 Power cost, which cannot be increased. For example, a half-strength backup Class 5 SIF generator for a Size 6 ship would cost 15 SUs ((24+6)/2) and provide only 40 Protection at a cost of 4 Power per round; the ship cannot increase this Protection. A half-strength backup SIF system typically only works for 12 hours at the most.

For information on how the SIF works in combat, see page 123.

STRUCTURAL INTEGRITY FIELD GENERATORS

Class	SU Cost	Protection
Class 1	12 + Size	40/60
Class 2	15 + Size	50/80
Class 3	18 + Size	60/90
Class 4	21 + Size	70/110
Class 5	24 + Size	80/120
Class 6	27 + Size	90/130
Class 7	30 + Size	100/150

Specialized Hulls

Some ships have hulls which are modified to perform some special function or allow the ship to do something it otherwise could not. Several types are described below. Generally, these hulls must be built into the ship when it's constructed; they cannot be installed thereafter.

Atmospheric Capability

SU Cost: 1 x Size
Power Cost: None

Most starships cannot enter atmospheres; they're not built for it, so the stress of entering and flying in an atmosphere tears them apart (or at least causes substantial damage, though shield modifications can affect this [see pages 27, 172]). However, it is possible to build a ship with a specially designed and reinforced hull which allows for atmospheric movement. The necessary modifications occupy SUs equal to the ship's Size, but cost no Power. Ships with atmospheric capability take no damage when entering or flying in an atmosphere.

To make only the detachable part of a ship (like a separable saucer) atmosphere-capable costs only .25 x Size (minimum of 1 SU).

Energy Sheath

SU Cost: 3 x Size
Power Cost: None

An energy sheath is a special type of hull which, thanks to its materials and shape, makes detecting the ship with long-range sensors (but not lateral sensors), or reading what's inside it with any sensors, very difficult.

An energy sheath makes it a Difficult (13)

task to detect the ship with Shipboard Systems (Sensors) Tests using long-range sensors. A ship can remodulate its long-range sensors to make them sensitive enough to detect a ship with a sheath (this takes about an hour), but only if the sheath's composition is known (that way the sensors will have the correct remodulation sequence).

A ship cannot have both an energy sheath and a sensor-reflective hull.

Planetfall Capability

SU Cost: 1 x Size
Power Cost: None

This represents a starship which can land on a planet under controlled conditions and take off again. Only ships with Atmospheric Capablity can buy it.

To make only the detachable part of a ship (like a separable saucer) planetfall-capable costs only .25 x Size (minimum of 1 SU).

Ramming Hull

SU Cost: 1 x Size
Power Cost: None

Some ships (typically small ones, like scouts and fighters) have hulls which are reinforced or built in such a way that they do extra damage when ramming a target. A ship with a Ramming Hull is considered two Size categories larger for purposes of calculating ramming damage.

Sensor-Reflective Hull

SU Cost: 3 x Size
Power Cost: None

A sensor-reflective hull prevents the interior of a ship from being scanned with sensors. The ship itself can be picked up on sensors like any other ship. But any attempt to use sensors to determine what the ship's carrying in its cargo holds, who's on board, or how its wholly internal systems are configured will fail, regardless of the proximity of the ship performing the scan.

A ship cannot have both a sensor-reflective hull and an energy sheath.

Personnel Systems

Starfleet is quick to point out that it's not its ships which have made it so successful—it's the people who operate the ships, man the Away Teams, and make the sacrifices necessary to complete missions. Therefore Starfleet makes every reasonable effort to protect its personnel and provide for their comfort while they're aboard ship. Compared to a Klingon or Romulan ship, or even many commercial personnel transports, many Starfleet vessels are spacious, even luxurious.

For information on the use of the crew in combat, see page 84.

SHIP COORDINATE SYSTEM

Starships are often enormous vessels carrying thousands of people—entire towns moving through space. Finding one's way around them would ordinarily be very difficult, but Starfleet uses an internal and external coordinate system which makes it easy for any character to find his way, even on a ship he's never visited before. Every room is identified by a number, painted on its door, which indicates not only the deck it occupies, but its sector and compartment in the internal coordinate system, and by a numerical indicator of how many centimeters it is from predefined zero points. A ship with separation systems will have separate coordinate systems for each separable part and for when the ship is docked together.

For example, on a *Galaxy*-class Explorer, a room on the fourth deck of the saucer section might have the coordinates 04-2347. 04 indicates the deck, 23 indicates the arc (from 1 to 36) it occupies, and 47 indicates where the room is within that arc. A lab on deck 33 near the middle of the Engineering hull might be 33-5437 (the 5 indicates that it's the Engineering hull, the 4 which part of the hull; a prefix of 6 indicates port nacelle or pylon, and 7 starboard nacelle or pylon).

The Crew and Other Personnel

Starships are rated for Crew/Passengers/Evac. "Crew" represents the ship's normal crew complement; this number may fluctuate based on the type of mission being performed. Because of their advanced computers and automated systems, most starships can be operated for short periods in non-crisis conditions with far less than a full complement (sometimes as few as 20 people). "Passengers" represents the standard number of passengers which the ship can comfortably carry; this number is in addition to the crew. "Evac" represents the maximum number of persons which can be carried on the ship in an emergency situation; this number includes the Passengers, but does not include the Crew. Typically it takes days to load the full Evac complement onto the ship.

Crew/Passengers/Evac does not cost SUs or Power in and of itself. However, as indicated below, the quarters, life support systems, and

other systems needed for shipboard personnel do cost SUs and Power.

Crew Breakdowns

Gamers interested in statistics regarding ships' crew complements can consult the accompanying tables, which indicate the percentage of crew assigned to each branch on a given ship type, and the average number of crewmen on ships of various sizes. These figures are averages based on Starfleet personnel data; an individual ship may not match its "generic" profile exactly.

Narrators can use these numbers for other species and governments as well, but must take into account relevant differences. For example, since the Jem'Hadar have no need to eat, sleep, or recreate, their ships can get by with as few as one-third of the crewmen on a comparable Starfleet vessel.

Random Crewmember Generation

For situations where the Narrator needs to create a new NPC crewman quickly, or a player designing a ship wants to populate it with an appropriately random selection of crewmen, you can use the accompanying table to randomly determine the species and branch of a typical crewman.

Obviously, no table of this sort can list every single species or possible crew breakdown ever serving on a Starfleet vessel—hence the use of "Other," which allows the Narrator to include relatively uncommon species (such as the Cairn, Ktarians, Grazerites, Narrator-created species, and the like), characters with Mixed Species Heritage, or other persons of unusual nature. The table entries derive from the assumption that roughly half of Starfleet's personnel are Humans (with a substantial additional percentage of species like Centaurans and Betazoids, who are outwardly indistinguishable from Humans); if your series doesn't agree with that assumption,

CREW BREAKDOWNS

Branch	Explorer	Cruiser	Frigate	Escort	Scout	Science	Medical
Command	17	16	18	12	11	10	11
Operations							
Engineering/Technical	13	14	16	20	16	15	10
Operations, General	26	28	22	20	30	10	12
Security/Tactical	12	18	23	33	16	10	08
Science							
Medical/Support	12	10	11	10	08	13	47
Science/Research	20	14	10	05	19	42	12
Officers/Enlisted	32/68	29/71	30/70	28/72	65/35	27/73	45/55

AVERAGE NUMBER OF CREWMEN BY SHIP TYPE

Ship Type	Average Number of Crewmen per 100 SUs
Courier	3
Cruiser	25
Escort	3
Explorer	36
Frigate	23
Medical	42
Research/Laboratory	8
Scout	6
Surveyor	30
Transport	3

A ship's Passenger complement is usually about 10-20% of its Crew, but this may vary depending upon the nature of the ship (a personnel transport or medical ship is built to carry more passengers than an Explorer or Cruiser). A ship's Evac complement ranges from 5-15 times the size of its Crew (again, this may vary from ship to ship).

you should adjust the table to match your own preferences.

To use the table, roll two dice. Count the first die as a "tens" digit and the second as a "single" digit, resulting in a selection of numbers from 11 to 66. Roll once for the crewman's species, and once for the branch he belongs to.

Example: *Ross is narrating a game and wants to throw in a little random color. Since the Crew is in Ten Forward enjoying a drink, he decides to use the Random Crewmember Generator to find out who walks in the door and attracts their attention. His first roll is a 5, 4—a Trill. His next roll is a 4, 1. Since the characters are on an Explorer, it turns out the Trill is an Operations officer. So, he uses this crewman as a story hook: "As*

RANDOM CREWMEMBER GENERATOR

Roll	Species	Explorer/Cruiser	Frigate/Escort/Scout	Science/Medical
1, 1	Human	Science/Research	Security/Tactical	Engineering/Technical
1, 2	Centauran	Command	Operations, General	Medical/Support
1, 3	Human	Operations, General	Engineering/Technical	Science/Research
1, 4	Bolian	Engineering/Technical	Medical/Support	Command
1, 5	Tiburonian	Operations, General	Command	Science/Research
1, 6	Other	Security/Tactical	Science/Research	Medical/Support
2, 1	Betazoid	Science/Research	Engineering/Technical	Medical/Support
2, 2	Human	Medical/Support	Operations, General	Security/Tactical
2, 3	Centauran	Engineering/Technical	Security/Tactical	Science/Research
2, 4	Tellarite	Operations, General	Science/Research	Medical/Support
2, 5	Human	Science/Research	Security/Tactical	Operations, General
2, 6	Vulcan	Command	Operations, General	Science/Research
3, 1	Benzite	Command	Science/Research	Operations, General
3, 2	Human	Operations, General	Security/Tactical	Engineering/Technical
3, 3	Napean	Security/Tactical	Operations, General	Medical/Support
3, 4	Bolian	Operations, General	Command	Security/Tactical
3, 5	Other	Science/Research	Medical/Support	Science/Research
3, 6	Human	Medical/Support	Engineering/Technical	Command
4, 1	Human	Operations, General	Command	Science/Research
4, 2	Betazoid	Security/Tactical	Engineering/Technical	Operations, General
4, 3	Human	Science/Research	Operations, General	Medical/Support
4, 4	Andorian	Medical/Support	Security/Tactical	Engineering/Technical
4, 5	Human	Command	Security/Tactical	Science/Research
4, 6	Tiburonian	Engineering/Technical	Operations, General	Medical/Support
5, 1	Betelgeusean	Engineering/Technical	Medical/Support	Science/Research
5, 2	Human	Science/Research	Security/Tactical	Operations, General
5, 3	Andorian	Command	Operations, General	Medical/Support
5, 4	Trill	Operations, General	Science/Research	Command
5, 5	Human	Security/Tactical	Engineering/Technical	Science/Research
5, 6	Axanari	Operations, General	Command	Medical/Support
6, 1	Human	Medical/Support	Operations, General	Science/Research
6, 2	Other	Engineering/Technical	Security/Tactical	Medical/Support
6, 3	Vulcan	Security/Tactical	Operations, General	Command
6, 4	Tellarite	Command	Engineering/Technical	Security/Tactical
6, 5	Human	Operations, General	Command	Engineering/Technical
6, 6	Zakdorn	Science/Research	Security/Tactical	Medical/Support

you're sitting there enjoying your drinks, you notice a Trill Operations officer come into the lounge. He's got a pensive look on his face, like something's really troubling him."

CREW QUARTERS

SU Cost: Varies
Power Cost: None

Aboard Federation starships, crew quarters are designated Types A through N (a room's classification depends primarily on its size, arrangement, and occupancy, not on whether it falls into one of the game categories listed below). Additionally, there are special quarters for VIPs, diplomatic personnel, certain types of researchers, and the like. On most ships, the decks devoted to quarters are modular, so that occupants can easily move walls and compartments to create different living spaces as needed.

In game terms, all the different configurations of quarters are organized into one of five types: Spartan; Basic; Expanded; Luxury; and Unusual.

Spartan Quarters (cost 1 SU per 20 quarters; minimum of 1 SU if any are purchased) are the barest accommodations. They feature two bunks per room instead of beds, and usually lack replicators and other "creature comforts." Some of Starfleet's more military-oriented vessels, such as the *Defiant*-class Heavy Escort, use mainly Spartan Quarters.

Basic Quarters (cost 1 SU per 10 quarters; minimum of 1 SU if any are purchased) are minimal standard accommodations. Typically they're suited for one (maybe two) persons and are filled by enlisted personnel and the lowest-ranking officers with the least seniority.

Expanded Quarters (cost 1 SU per 5 quarters; minimum of 1 SU if any are purchased) are larger, and often more luxurious. They're used by families (on ships which allow civilian personnel on board), mid-ranking officers, and the like.

Luxury Quarters (cost 1 SU per 1 quarters) are the top of the line quarters—large, multiple-room suites with lots of amenities. This category includes most senior officers' quarters, special diplomatic and VIP quarters, and the like.

Unusual Quarters (cost 1 SU per 1 quarters) are for crewmembers with special needs—for example, a cetacean crewman who lives in a large water tank, or an Elaysian who needs a room equipped for zero-gravity. On many ships, about ten percent of Basic, Expanded, and Luxury Quarters can be adapted to non-Class M environments for crewmen who need standard quarters with only a slightly different environment.

STANDARD QUARTERS COMPLEMENTS

When you design ships, you're free to mix and match quarters as you choose to build just the ship you want. If you prefer a quicker and easier method, you can use the following guidelines for standard quarters complements. Simply decide how many quarters you need by adding the Crew + Passengers (assume one quarters per person), multiply that total by the percentages listed below to determine how many of each type of quarters you need, then determine the SU cost.

Courier: 35% Spartan, 40% Basic, 15% Expanded, 8% Luxury, 2% Unusual

Cruiser: 55% Basic, 33% Expanded, 10% Luxury, 2% Unusual

Escort: 30% Spartan, 35% Basic, 25% Expanded, 8% Luxury, 2% Unusual

Explorer: 50% Basic, 35% Expanded, 10% Luxury, 5% Unusual

Frigate: 50% Basic, 35% Expanded, 10% Luxury, 5% Unusual

Medical: 50% Basic, 25% Expanded, 15% Luxury, 10% Unusual

Research/Laboratory: 50% Basic, 25% Expanded, 15% Luxury, 10% Unusual

Scout: 55% Spartan, 30% Basic, 10% Expanded, 5% Luxury, 0% Unusual

Surveyor: 50% Basic, 25% Expanded, 15% Luxury, 10% Unusual

Transport: 35% Spartan, 35% Basic, 12% Expanded, 12% Luxury, 6% Unusual

ENVIRONMENTAL SYSTEMS

"Environmental systems" is a broad term covering the life support systems and related technology which makes it possible for people to live aboard a starship. Obviously, these systems are crucial; if they are cut off or damaged, everyone aboard the ship will die in a short period of time.

BASIC LIFE SUPPORT

SU Cost: 4 x Size
Power Cost: See table

Basic life support is the standard environmental and breathable gases systems which all starships must have (this includes the ability to adapt some living quarters for non-Class M environments). Multiple independent safety locks and redundant systems ensure that it is very difficult to disable such systems.

A ship's breathable atmosphere is conducted

throughout the vessel by a network of ventilation ducts; larger ships have two (or more) independent networks. Starfleet standards specify that all ships must have two primary atmospheric processing units for every fifty cubic meters of habitable volume. Other life support systems maintain the temperature and humidity aboard ship.

Basic life support costs Power. As indicated on the accompanying table, the Power cost depends on the number of persons which the ship can carry (not how many are currently on board, but how many could fit on it at full capacity).

If basic life support is cut off, reserve and/or emergency systems (see below) activate. If all systems were somehow disabled, a starship has enough breathable atmosphere for a period equal to Size x 3 in minutes. After that, apply damage to all characters on the ship as if they were drowning (*Star Trek: The Next Generation Roleplaying Game* core rulebook, page 131; *Star Trek: The Roleplaying Game* core rulebook, page 115; *Star Trek: Deep Space Nine Roleplaying Game* core rulebook, page 117-18).

Restricting Life Support

In crisis situations, when the ship is damaged or Power runs low, a ship's commander may shut off standard life support to some parts of the ship, thus conserving Power. To do this, determine what percentage of the ship's habitable space (maximum of 50%) has its life support shut off. Then reduce the Power cost of basic life support by that percentage. Remember, this is an extreme measure, not one which Starfleet captains invoke every time they go into battle just so they can boost the Power to the phasers a little.

BASIC LIFE SUPPORT TABLE

Power per Round	Crew+Evac
1	1-2
2	3-8
3	9-32
4	33-64
5	65-125
6	126-250
7	251-500
8	501-1,000
9	1,001-2,000
10	2,001-4,000
11	4,001-8,000
12	8,001-16,000
13	16,001-32,000
...and so on	

Reserve Life Support System

SU Cost: 2 x Size
Power Cost: Half the Power needed for Basic Life Support

In addition to the primary basic life support system, Starfleet vessels are equipped with a reserve system in case the primary systems fail. It functions at approximately 50% of the primary system's capacity for up to 24 hours. It shares the primary system's ventilation network. (Thus, if the primary system's network is damaged, reserve life support cannot function properly, so emergency life support must be activated.) Reserve costs half of Power needed to run basic life support.

Emergency Life Support Systems

SU Cost: 2 x Size
Power Cost: See text

If the primary and reserve life support systems fail (due to, for example, extensive damage to the ship), self-contained contingency atmospheric supply and power modules located at most corridor junctions maintain a breathable environment for 30 minutes, allowing the ship's personnel to evacuate to designated emergency shelter areas.

A ship of Size 3 or larger has a number of emergency shelters equal to its Size x 6 (sometimes a few more or less; smaller ships may have none). Each shelter has enough air, food, water, and power to preserve the lives of up to 65 persons for 24 hours with no external support, or 36 hours with minimal external assistance. Each shelter also has two Emergency Pressure Garments (EPGs), so that crewmembers can walk between shelter areas safely.

The power systems for emergency life support are independent of other ship's power systems. In game terms, emergency life support generates all of the Power it needs to operate. In situations of extreme crisis, the crew can drain the emergency life support power and use it for other systems (such as shields or phasers). This requires a Routine (5) Systems Engineering (Power Systems *or* Environmental Control) or Shipboard Systems (Mission Ops *or* Environmental Control) Test. If the Test succeeds,

it results in a *one-time* boost of (Size x 6) in points of Power (*not* that much Power per round) to a designated system, but completely incapacitates emergency life support power (the temporary amounts of consumables remain, and the crew can use them, but they'll have to eat and breathe in the cold darkness). Failure means the Power cannot be drained from emergency life support; Dramatic Failure that the Power accidentally drains out without transferring to any other system (it's completely lost).

The SU cost for a standard emergency life support system as described above is 2 x Size. A ship may have more emergency shelters if it wants (it cannot have fewer). Each additional 5 shelter areas cost 1 SU.

Gravity

SU Cost: 1 x Size
Power Cost: (.5 x Size) Power per round (minimum of 1)

Throughout the habitable areas of any starship, gravity generators are placed below the floor, thus providing a standard sense of "up" and "down" regardless of the motion or orientation of the ship. Gravity generators—disk-shaped devices about 50 cm in diameter and 25 cm high—create a controlled stream of gravitons similar to a tractor beam. Gravity generation costs half the ship's Size in Power per round.

The primary component of a gravity generator is a suspended superconducting stator which creates the gravitational field. If Power to the gravity generation system is cut off, the stator continues to provide gravity for approximately 240 minutes even though it receives no Power. However, the gravity will gradually degrade to about 0.8 *g* and then, after about 240 minutes, fail entirely.

Consumables

SU Cost: 1 x Size for one year's worth of basic consumables (minimum 1 SU)
Power Cost: None

Starships carry a lot of consumables—antimatter, deuterium, replicator raw material, and the like. (Most ships have the capacity to generate or collect small amounts of vital materials, but that's an emergency measure and will not sustain the ship for long.) Storing this material pending use requires a significant amount of space. For an SU cost of 1 x Size, a ship carries enough consumables for up to one year of normal operations (warp shuttles and similar small craft are assumed to have about a week's worth of consumables, at most, for no SU cost). Each increase in the multiplier (2 x Size, 3 x Size, and so on) adds up to another year's worth of consumables; this cost includes the technology for getting the consumables on and off the ship. The accompanying table indicates the standard consumables load carried by various ship types. Of course, a ship which knows it's going on an extended mission can take on extra supplies, storing them in cargo holds.

Ships not equipped with replicator technology include food as part of their consumables. This increases the SU cost to 1.5 x Size for one year's worth of supplies, 3 x Size for two years, 4.5 x Size for three years, and so forth.

CONSUMABLES CARRIED

Courier: One year (SUs = 1 x Size)
Cruiser: Three years (SUs = 3 x Size)
Escort: One year (SUs = 1 x Size)
Explorer: Three years (SUs = 3 x Size)
Frigate: Two years (SUs = 2 x Size)
Medical: Two years (SUs = 2 x Size)
Research/Laboratory: Two years (SUs = 2 x Size)
Scout: One year (SUs = 1 x Size)
Surveyor: Two years (SUs = 2 x Size)
Transport: One year (SUs = 1 x Size)

REPLICATOR SYSTEMS

Replicators, one of the greatest marvels of modern technology, can create virtually any sort of food or inanimate object, seemingly out of thin air. They actually use a variant of transporter technology to transform raw material—usually a sterilized organic particulate suspension formulated for ease of use, or recycled waste products—into other objects. This saves a ship the trouble of having to carry thousands of different types of foods, or countless bins full of spare parts. Instead, crewmembers can simply replicate whatever they want. (Ships still carry supplies of crucial spare parts for times when the replicators are not functioning.)

However, replicators are not perfect; they suffer from five major restrictions. First, they can only produce objects stored in the ship's computer's memory banks. If an object or food is not in the computer, or a crewmember doesn't have a sample to scan in, the replicators cannot produce it. Second, the larger the item replicated, the greater the energy cost. Thus, standard

procedure dictates that large items are produced one part at a time, instead of all at once, which can be time-consuming. (Industrial replicators are better suited to producing large objects all at once.) Third, and most importantly, replicators cannot produce items at the quantum level of resolution used by transporters. Therefore, living beings cannot be replicated, nor can certain items (such as some medicines) which require quantum-level resolution. (This relative lack of resolution explains why some people can discern the difference between replicated food and the real thing.) Fourth, some objects simply cannot be replicated for various other reasons. The most notable example is latinum, which explains its popularity as a medium of exchange. Fifth, safety interlocks prevent users from creating dangerous items (such as poisons or explosives) or weapons without special authorization.

Starships have two types of replicators: food replicators and industrial replicators.

Food Replicators

SU Cost: 1 x Size
Power Cost: (Size) Power per round

As their name indicates, these replicators create food and drink. They have a menu of 4,500 food and drink items. They are located in every quarters, the bridge, recreation facilities, and other appropriate areas of the ship. They cost the ship's Size in Power per round, assuming at least half of them tend to be in use; if fewer are in use in any given round, reduce the Power cost proportionately.

Industrial Replicators

SU Cost: 1 x Size for a network of small replicators; 3 SUs each for large replicators
Power Cost: 2 Power per network or large replicator per round of use

Industrial replicators produce spare parts and other inanimate objects. They range in size from units no larger than food replicators, to ones with emitter pads about 25 meters on a side (planet-based industrial replicators can be much bigger).

A network of small industrial replicators in appropriate areas of the ship (cargo holds, engineering, and so forth) occupies 1 x Size in SUs. Each large industrial replicator (defined as one with an emitter pad 5 meters on a side or larger) costs 3 SUs.

MEDICAL FACILITIES AND SYSTEMS

SU Cost: 5 per rating (see table)
Power Cost: 1 Power per rating per round (see text)

All but the smallest starships have sickbays

MEDICAL RATING

Rating	SUs	Medical Personnel	Test Bonus	EMK	EMH?
1	5	CMO: 2 (3) / Personnel: 1 (2)	+0	6	No
2	10	CMO: 3 (4) / Personnel: 1 (2)	+0	5	No
3	15	CMO: 3 (4) / Personnel: 2 (3)	+1	5	No
4	20	CMO: 4 (5) / Personnel: 2 (3)	+1	4	No
5	25	CMO: 4 (5) / Personnel: 3 (4)	+1	4	No
6	30	CMO: 5 (6) / Personnel: 3 (4)	+1	3	No
7	35	CMO: 5 (6) / Personnel: 3 (4)	+2	3	No
8	40	CMO: 4 (5) / Personnel: 3 (4)	+2	3	Yes
9	45	CMO: 5 (6) / Personnel: 3 (4)	+2	3	Yes
10	50	CMO: 5 (6) / Personnel: 4 (5)	+2	3	Yes

SU: The SU cost for the Medical rating.

Medical Personnel: The average Medical Sciences (including Specialization) Skill Level for the Chief Medical Officer and the personnel serving under him. For example, CMO: 3 (4) indicates that the CMO has a Medical Sciences Skill of 3, with a Specialization at 4.

EMK: The availability of Emergency Medical Kits at any given part of the ship. The number listed represents the Difficulty for an Intellect Test to locate the nearest EMK; characters searching for one may roll each round.

EMH: Indicates whether the medical facilities are equipped for installation of an Emergency Medical Hologram system (which must be bought separately).

and medical staffs devoted to preserving the health and well-being of the crew. Starship medical personnel and equipment stand ready to assist any crewman, regardless of his species, with any injury or medical problem.

Sickbay equipment includes workstations, biobeds with diagnostic monitors, an overhead sensor cluster, and generators to create force fields which are used to contain biohazards and create sterile operating environments. If necessary, doctors can attach surgical support frames (SSFs) to the biobeds. SSFs, or "clamshells," maintain a sterile treatment environment. They contain sophisticated medical sensors and can perform some basic medical procedures, such as administering drugs, emergency defibrillation, and cardiovascular support.

Sickbay facilities typically include the reception area; main patient ward; critical care/triage area; physical therapy room; primary, overflow, and biohazard intensive care units (ICUs); a trauma stasis unit; a surgical suite or suites; offices; laboratory facilities; and observation areas for patients needing special environments (such as zero gravity). Smaller vessels may not have the full range of facilities, or must make do with smaller ones.

The extent and quality of a starship's medical systems and personnel is determined by its Medical rating. The higher the Medical rating, the more extensive (and sophisticated) its facilities, and the better trained and more experienced its personnel are likely to be. The accompanying table provides Medical rating specifics, including SUs occupied and the bonus to any First Aid, Medical Sciences, or appropriate Life Sciences Tests made using the facility.

The higher a ship's Medical rating, the more likely it is to have the full range of personnel, facilities, and equipment discussed above. There are no hard and fast rules for which types of equipment and facilities are available for a given rating, though—Starfleet is flexible, and will rearrange medical systems to suit specific mission profiles or the desires of medical personnel, as appropriate. As always, the Narrator may make whatever changes he sees fit. Likewise, the number of personnel assigned to the Medical department varies from ship to ship and situation to situation; no hard and fast numbers apply. Narrators may use the crew figures listed on page 23 and apply those percentages to the ship's crew to determine exactly how many doctors are aboard if necessary.

Medical facilities cost 1 Power per point of Medical rating per round they experience significant use (for example, during battle, when they're busy treating injured crewmembers or preparing to do so, or when dealing with a shipboard epidemic). At other times the Power cost is half that.

A ship may have multiple sickbays if its builders so desire, bought at varying levels to reflect the sophistication of their facilities (for example, ship might have a primary sickbay of rating 7, and three secondary/auxiliary sickbays of level 4). These are bought using the Medical rating table, and cost Power just like the first sickbay. Ignore the "Medical Personnel" rating for all sickbays after the one with the highest rating; they're staffed by the same doctors who work in that one.

Emergency Medical Holograms

SU Cost: 5 for EMH Mark I; 15 for EMH Mark II; 18 for EMH Mark III; 20 for EMH Mark IV

Power Cost: 2 Power per round for EMH Mark I; 4 Power per round for EMH Mark II; 5 Power for EMH Mark III; 6 Power for EMH Mark IV

Beginning in 2371, Starfleet started to equip its most sophisticated ships with a new medical system called the Emergency Medical Hologram. The EMH is a holographic doctor. Its memory contains the sum of the Federation's medical knowledge—50 million gigaquads of information from 3,000 cultures (including psychospiritual beliefs), 2,000 medical texts, 47 physicians' personal experiences, and five million possible treatments. It can provide routine and complex medical care, up to and including detailed surgery, in the event that a ship's doctor is incapacitated.

An EMH system requires sophisticated holoemitters and sensors in the appropriate areas; Starfleet can install one only on ships with the most sophisticated medical facilities, as indicated on the Medical rating table. For the EMH Mark I, emitters are only installed in sickbay, requiring the sick and injured to go there for treatment. In 2375, Starfleet created an EMH Mark II for ships, such as the *Prometheus* class, which have holoemitters throughout the vessel. A Mark II EMH can go wherever on its ship it is needed. In 2376, the Mark III and Mark IV EMHs, both containing only slight improvements of the Mark II, became available.

When activated, an EMH immediately establishes a comlink with crucial areas of the ship. This allows it to "listen in" on what's going on

EMERGENCY MEDICAL HOLOGRAM

Attributes

Fitness 1

Coordination 4

Dexterity +1

Intellect 5

Presence 2

Empathy -2

Psi 0

Skills

Computer (Research) 4 (5) (Mark I-II) or 5 (6) (Mark III-IV)

First Aid (all Specializations known to Starfleet as of time of programming) 5 (6) (Mark I), 6 (7) (Mark II), or 7 (8) (Mark III-IV)

Life Sciences (all appropriate Specializations known to Starfleet as of time of programming) 4 (5) (Mark I), 5 (6) (Mark II), or 6 (7) (Mark III-IV)

Medical Sciences (all Specializations known to Starfleet as of time of programming) 5 (6) (Mark I) or 6 (7) (Mark II), or 7 (8) (Mark III-IV)

Physical Sciences (Chemistry) 5 (6) (Mark I) or 6 (7) (Mark II), or 7 (8) (Mark III-IV)

Disadvantages

Arrogant -1, Code of Honor (Hippocratic Oath) -2

Note: An EMH, although a computer-created hologram, cannot automatically access a ship's computer. That would require far more processing capacity than its holomatrix can support. Instead, it accesses the ship's computer like any normal crewmember.

An EMH cannot feel pain, cry, or bleed. If grabbed, it can become insubstantial and slip from its captor's grasp. Although not designed to work for more than 1,500 aggregate hours without substantial maintenance, if left on for longer periods it can, in some circumstances, learn and "evolve" beyond the limitations of its programming.

As of 2376, the creator of the EMH, Dr. Lewis Zimmerman, is working on a Long-Term Medical Hologram designed to operate for much longer periods without failure. Once completed, the LMH will have the same capabilities as the EMH Mark II, but can work for five times as long as an EMH without significant maintenance. It will cost 20 SUs and 6 Power per round.

USE AND ABUSE OF THE EMH

Many players, upon looking at the Emergency Medical Hologram's high attributes and skill levels, will want to activate it all the time, to deal with even the most minor problems. This is improper, and an abuse of both the rules and the equipment issued by Starfleet for very specific purposes. Narrators should not allow it, for several reasons.

First, as the name indicates, the EMH is for emergencies, not for everyday use (in fact, regular use can cause significant problems in its programming, so Starfleet regulations prohibit it). Starfleet is an organization of sentient, living beings, not robots and holograms. It does not rely on technology to solve all of its problems; technology's just a tool. It expects its personnel to do their jobs and do them well, even if the EMH outclasses them on medical knowledge. Only when the ship's medical personnel are incapacitated or in dire need of assistance should the EMH be activated. If a medical officer remains alive and able to do his job, he can, in his best medical judgment, overrule any attempt to use the EMH (even by the ship's commander) and shut it off, per Starfleet regulations—and most doctors won't hesitate to do so.

Second, despite its vast knowledge, instant recall, and flawless surgical technique (which its high skill levels reflect), the EMH has its limits. It's arrogant, annoying, has the bedside manner of a targ, and cannot empathize with its patients. Most humanoids don't particularly like being treated by one unless it's absolutely necessary. Furthermore, while technically adept, the EMH lacks the intuition and ability to innovate which humanoid doctors possess. It can do what it knows how to do extremely well, but when confronted with a situation it was not programmed to handle or which is outside the parameters of its knowledge, it may have trouble devising a solution.

Third, it's simply not dramatic to let the machinery do all the work. Let the doctors—PCs or NPCs—have the chances to make the astounding breakthroughs, save dying crewmen with innovative treatments, or diagnose that mystery disease. Otherwise the game loses some of its savor.

If the players insist on trying to use the EMH inappropriately, the Narrator has several options. In setting terms, he can have the characters' superior officers lecture them on the regulations regarding the use of the EMH. Enter black marks into their service records if they continue to misuse the EMH, thus imperilling their chances for promotion. Possibly the medical staff will even program the EMH with the ability to shut itself off if improperly activated. In rules terms, the Narrator can award negative Renown points to characters who are unwilling to use their own skills or to rely on their crewmates. He can also reduce Experience Point awards because of characters' failures to obey regulations, or deny them promotions.

and anticipate the arrival in sickbay of ill or injured persons.

RECREATION FACILITIES

SU Cost: 8 per rating (see table)
Power Cost: 2 Power per rating per round of use

It's easy for crewmembers to become bored or distracted during long starship voyages. To help keep crews mentally and physically alert and active, starships have recreation facilities. These can range from gymnasiums, to restaurants and lounges, to holodecks (see below).

Every starship has a Recreation rating, from 1 to 10. The higher the number, the more lavish and luxurious the ship's recreation facilities are (though even the most spartan ship may have special luxury areas set aside for VIPs and the like; these are not part of the Recreation rating). The accompanying table provides general guidelines for what comes with each rating level; Narrators may alter the guidelines as they see fit.

RECREATION RATING

Rating	SUs	Notes
1	8	No holodecks; a spartan mess hall; no lounges; maybe an exercise room or gym
2	16	1 personal holodeck; 1 small lounge
3	24	2 personal holodecks; 1 small lounge
4	32	1 main holodeck; 2 personal holodecks; large eating facilities; 2 small lounges
5	40	1 main holodeck; 5 personal holodecks; pleasant eating facilities; 2 small lounges
6	48	2 main holodecks; 10 personal holodecks; pleasant eating facilities; 1 large lounge; 2 small lounges
7	56	3 main holodecks; 15 personal holodecks; large, pleasant eating facilities; 1 large lounge; 3 small lounges
8	64	4 main holodecks; 20 personal holodecks; large, pleasant eating facilities; 2 large lounges; 4 small lounges
9	72	5 main holodecks; 25 personal holodecks; large, pleasant/luxurious eating facilities; 3 large lounges; 6 small lounges
10	80	6 main holodecks; 30 personal holodecks; large, luxurious eating facilities; 4 large lounges; 8 small lounges

Ship Type	Typical Recreation Rating
Courier	1-3
Cruiser	5-10
Escort	2-5
Explorer	7-10
Frigate	3-7
Medical	3-6
Research/Laboratory	3-6
Scout	1-3
Surveyor	3-6
Transport	4-10

Recreation systems cost Power—2 Power per point of Recreation (thus, a ship with Recreation 7 pays 14 Power to keep all of its entertainment facilities, excluding holodecks, operating). If an enemy attacks the ship, Recreation systems are usually among the first to be turned off. If only some of the ship's recreation systems are in use, the Narrator can reduce the Power cost proportionately.

Holodeck Power

Holodecks, the primary component of many ships' recreation facilities, come in main (large) and personal (small) varieties. For detailed information on the holodeck, a technological marvel which allows a starship to carry inside its hull the vacation spots of the galaxy and as many recreational simulations as its crew can dream up, please refer to *Holodeck Adventures* from Last Unicorn Games.

However, note that the Power cost for Recreation does *not* include holodecks. Holodecks are powered by *holodeck reactors,* which can function independently of the ship's main power systems (and thus do not cease functioning when the ship's power is low or drained, though sometimes fluctuations in the power grids can affect them). In emergency situations, a ship can drain the reactors for a one-time boost of 2 Power per main holodeck and 1 Power per personal holodeck. If any programs are currently in use when this is done, they will suffer disruption and damage—((4+1d6) x 10)% of the program is corrupted. If not totally ruined, the program can be repaired with one week's worth of work for each 10% damage.

PERSONNEL TRANSPORTATION SYSTEMS

SU Cost: 1 x Size for just Jefferies tubes, 3 x Size for turbolifts and Jefferies tubes

Power Cost: None for Jefferies tubes, 2 Power per round for turbolifts

Most starships are big enough that walking from one end to the other, not to mention climbing stairs between multiple decks, is slow and inconvenient. While ships of Size 4 and below can get by with normal walkways (but do not have to), ships of Size 5 and above usually need a turbolift transport system. A turbolift system consists of turbolift cars (cylindrical structures made of duranium) which move down vertical and horizontal turboshafts at accelerations approaching ten meters per second squared. By using one, a crewmember can go from one end to the other of even the largest ship in a very short period of time. Computer programs ensure that turbolift cars do not collide with each other and take the quickest available route to the indicated destination.

The crew also needs ways to move behind panels to access systems buried deep in the

ship's infrastructure. *Jefferies tubes,* as the standard access tunnels and utilities corridors on starships are known, network the entire ship. They're small—a full-grown adult has to crawl through them—but with enough time and perseverance a crewmember could crawl anywhere on the ship through them.

A turbolift transport system and network of Jefferies tubes costs 3 x Size in SUs. If the ship is small enough that its builders are willing to forego turbolifts in favor of just ordinary corridors and stairs and Jefferies tubes, that costs 1 x Size in SUs. The Power cost for personnel transportation is 0 if there are no turbolifts, or 2 Power per round with turbolifts.

FIRE SUPPRESSION SYSTEM

SU Cost: 1 x Size
Power Cost: 1 Power per round of use

Although many of the substances used to construct furnishings, systems, and other objects carried aboard or installed in starships meet the standards of inflammability set forth by SFRA 528.5 (b-f), fires can still break out due to damage caused by enemy attacks or similar occurrences. When that occurs, the fire suppression system activates to snuff the flames.

The environmental monitoring sensors located throughout a ship include fire detection sensors. When they detect a fire, Ops and Security are notified by computer. If the fire is a small one, the fire suppression system surrounds it with a force field. This snuffs it out by cutting its supply of oxygen; the force field is maintained until the affected objects cool below the point of combustibility. For large fires, the system may have to activate larger extinguishing fields or seal off areas of the ship with section isolation doors. In extreme situations, entire sections of a ship can be vented to space, which will snuff any fire almost instantly.

A fire suppression system occupies 1 x Size in SUs and costs 1 Power to operate in any size area. It has a strength rating of 10; this cannot be improved with extra Power. The Narrator rates fires with Strengths of their own to determine how effectively the suppression system extinguishes them (see page 138).

CARGO HOLDS

SU Cost: 1 SU per 33,000 cubic meters (minimum of 1)
Power Cost: None

Starships need to carry a lot of equipment and other objects in addition to consumables (see page 27). Large objects, or objects stored in bulk, are kept in a ship's cargo holds.

Each 33,000 cubic meters of cargo hold space (or fraction thereof) costs 1 SU (for 3 SUs, you can round up to 100,000 cubic meters). On the average, most ships need at least 33,000 cubic meters of cargo hold space per point of Size, but this varies—cargo carriers and transports have proportionately more; ships with dedicated mission profiles (like the *Defiant* class) or which are small (Size 3 or smaller) have much less than that. The designer of a ship may organize the cargo bays as he sees fit; some prefer a small number of large holds; others a large number of smaller holds scattered throughout a ship.

ESCAPE PODS

SU Cost: 1 SU per 20 pods; 1 SU to add 1-4 to the passenger load for all pods
Power Cost: None

In the event that a ship is about to be destroyed or must be abandoned, the crew and passengers make their way to the escape pods. Located along both sides of the hull of the saucer section (or other appropriate area), escape pods (or, more formally, Autonomous Survival and Recovery Vehicles) are ejected from the ship upon command. They proceed away from the ship at initial speeds of about 40 meters per second, and can use their impulse engines to maneuver with a total delta-*v* of 3,600 meters per second. They are considered Size 1 (with 20 SUs) for combat purposes, and have a Resistance of 4 (but no shields).

A standard ASRV comes equipped with the following: life support for a total of 86 person-days (this includes breathable gases and consumables), an impulse engine sufficient to propel the pod at .1*c* for up to 24 hours (thus allowing the pod to land on, and take off from, planetary surfaces), survival gear, acceleration seats, an inertial damping field, and a subspace radio beacon. They are atmosphere-capable. Additionally, pods may have docking ports, allowing them to join together to form large "clusters"; this is known as "gaggle mode" flight. Gaggles separate before entering an atmosphere. Escape pods on small ships may not have nearly as many supplies or equipment.

Escape pods cost 1 SU for up to 20 pods; a ship of Size 4 or larger normally needs a number of pods equal to its (Size +1) x 20 (smaller ships have much fewer or no escape

pods). Twenty percent of a ship's pods have special docking ports to help reinforce gaggles. Of course, just because a ship *has* pods doesn't mean everyone on board will make it into one and eject from the ship in time; the Narrator may require appropriate Athletics Tests or other Tests to find out if characters escape before the ship explodes.

The standard escape pod holds up to four persons comfortably (and more under significantly less comfortable conditions). To increase this total for all of a ship's pods by 1-4 costs 1 SU.

Propulsion Systems

Starships are, at their most basic level, vehicles. Their amazing propulsion systems, particularly the warp drive, are what make the Federation, and indeed every other interstellar civilization, possible.

WARP PROPULSION SYSTEM

SU Cost: Varies
Power Cost: 1 Power for every .2 warp speed

The heart of any starship is its matter/antimatter reaction (M/AMR) engine, more commonly known as its *warp propulsion system* or *warp drive*. Put simply, a warp propulsion system works by annihilating antimatter with matter in a dilithium-controlled reaction which is channeled for power. A warp propulsion system has three main parts: the matter/antimatter reaction assembly; the power transfer conduits; and the warp nacelles.

Matter/Antimatter Reaction Assembly

The matter/antimatter reaction assembly is where the matter/antimatter annihilation takes place. It has three parts: the reactant injectors; the magnetic constriction segments; and the matter/antimatter reaction chamber. These pieces are organized in a columnar fashion. At the bottom and top of the column are the reactant injectors—the matter reactant injector (MRI) sits on the top and uses deuterium; the antimatter reactant injector (ARI) sits at the bottom and uses antimatter. The two work in approximately the same way, but the ARI is adapted for magnetic suspension fuel tunnels, since the antimatter cannot be allowed to touch matter, lest a catastrophic explosion occur. The MRI and ARI inject their treated materials into the magnetic constriction segments (MCSs), which align the materials for combining within the matter/antimatter reaction chamber (M/ARC). The M/ARC consists of two bell-shaped cavities joined together to direct the flow of the materials. Where the two halves are joined, there is a dilithium crystal articulation frame (DCAF) which holds a dilithium crystal. An armored hatch allows access to the DCAF when it's time to replace or adjust the crystal.

For reasons not fully understood, dilithium is the only substance known not to react with antimatter when subjected to a high-frequency electromagnetic field. The matter and antimatter both pass through the crystal's structure without touching it, come into contact with each other, and are annihilated in a reaction which produces an enormous amount of energy. That energy, in the form of plasma, is directed by the dilithium crystal towards the power transfer conduits (PTCs).

Power Transfer Conduits and Warp Nacelles

The PTCs split the plasma into one stream for each nacelle a ship has and use magnetic constriction to force the stream(s) toward the warp nacelle(s). Along their length there are three electroplasma system (EPS) taps which siphon off power to run the ship's systems. The PTCs terminate at the warp nacelles. The nacelles have three parts: plasma injection system; warp field coils; and the emergency separation system. They also have maintenance docking ports.

At the nacelle end of each PTC, the plasma injector systems (PISs) injects the plasma into the warp field coils (WFCs) as a burst of energy. The WFCs, which are split toroids made of tungsten-cobalt-magnesium and verterium cortenide, use the energy to create an intense, multilayered warp field which allows the ship to travel through space at superluminal speeds. The coils shift the energy frequencies carried by the plasma deep into subspace, creating the warp field. The sequential firing of the coils presses the warp field layers upon each other, thus making the vehicle move.

Because two warp nacelles create a precisely balanced interacting warp field, most ships have that many nacelles; however, advances in warp field theory and mechanics have made ships with one, three, or four nacelles possible. Odd number nacelle designs require the designers

to precisely align the odd nacelle along the X-Y plane of the ship, and in the case of three nacelles to precisely align the third one between the other two nacelles, to prevent warp field misalignment.

The nacelles also include *Bussard ramscoops* at their forward end. A ship can use these to "sweep" interstellar space with a magnetic field to gather stray hydrogen atoms in the event of a fuel shortage. If necessary, other gases (such as metreon gas) can be collected. By making a Routine (3) Propulsion Engineering Test, the crew can "backflush" the ramscoops, ejecting the collected gases forward or aft.

The emergency separation system (ESS) allows the crew to eject a nacelle in the event of catastrophic failure of a PIS. The computer controls this function; no Test is required for characters to activate it. In the event of a computer failure, characters can make a Moderate (6) Systems Engineering or Shipboard Systems (any Specialization) Test to perform the ejection—assuming, of course, the ejection system hasn't malfunctioned...

Warp Speeds

The amount of power required to create a warp field rises as the warp factor (velocity) generated by the field rises. By the time Warp 10 is approached, the amounts have increased to near-infinite levels. If, theoretically, a ship could generate the infinite amount of energy needed to reach Warp 10, it would travel infinitely fast, and thus occupy all points in the universe simultaneously (therefore, a Warp 10-capable drive would also have to possess some means to sense the proper point to "stop" at, thus allowing the ship's occupant to "travel" there). As of 2375, the limit on warp travel is Warp 9.982, though subspace broadcasts reach Warp 9.9999. The maximum speed a starship can reach is a function of the type and efficiency of its warp drive.

In 2372, using an engine equipped with a special form of dilithium, Flight Control officer Lt. Tom Paris of the *U.S.S. Voyager* became the first Human to cross the transwarp barrier. However, it was discovered that doing so had a deleterious effect on Humans, causing Paris to mutate into a lizard-like creature. Any further Federation experiments with transwarp drives would have to overcome this considerable problem.

THE WARP FIELD EFFECT

In 2370, it was discovered that traveling at warp speeds can cause damage to the structure of the subspace continuum. Subspace ruptures and other dangerous phenomena could result. To prevent further damage, the Federation instituted a ban on speeds in excess of Warp 5 (except in emergencies) and immediately began researching the problem. By 2371, engine adaptations had been developed to allow Starfleet vessels to travel at any warp speed without causing subspace damage. Vessels without these adaptations, or created by other species, may still pose a danger to the subspace continuum, however.

Building A Warp Propulsion System

To build a warp drive in game terms, you do four things: choose a warp engine; choose the type of nacelles your ship has; choose your plasma injector system; and decide whether to uprate or downgrade your system.

Warp Engine

A ship's warp engine (sometimes also called a warp core) provides the Power needed to run not only its warp drive system, but everything else on the ship. See *Power Systems,* page 40, for the Warp Engine Table. The warp drive system can only use Power from the warp engine. Power from the impulse engine, auxiliary, and/or emergency power systems cannot run the warp drive.

Nacelles

SU Cost: Varies (see table)
Power Cost: 1 Power for every .2 of warp speed

Decide how many nacelles your ship has, from one to four. The typical number is two. For game purposes, the base number you choose doesn't matter or affect the SU cost—four nacelles cost as many as one or two, and the number chosen has no particular effect on the game. The Nacelle Table indicates the types available, their SU cost, and the Standard/Sustained/Maximum warp speed each can attain. *Standard* velocity is the speed at which a ship commonly cruises through space. *Sustainable* velocity is the highest speed it can maintain without stressing the ship or its engines. *Maximum* velocity is the highest speed it can attain (see also Plasma Injection System, below).

Warp travel costs 1 Power for every .2 of warp speed (or fraction thereof), or 5 Power for every full warp factor. For example, a ship

NACELLE TABLE

Type	SU	Stand/Sustain/Max Warp Speed
Type 1	5	1.25/1.25/1.25
Type 1A	8	1.2/2.0/3.0
Type 1B	10	1.5/3.0/5.0
Type 2	15	2.0/3.0/6.0
Type 3	20	3.0/6.0/7.0
Type 4	25	4.0/6.0/7.0
Type 4.4	27	4.0/6.0/7.4
Type 4.8	28	4.0/6.0/8.0
Type 4.86	29	4.0/6.0/8.6
Type 4.9	30	4.0/6.0/9.0
Type 4.92	31	4.0/6.0/9.2
Type 4A	35	4.0/7.0/7.8
Type 4A2	37	4.0/7.4/8.2
Type 4A6	39	4.0/7.4/8.6
Type 4B	40	4.0/7.4/9.0
Type 4B2	41	4.0/7.4/9.2
Type 4B6	43	4.0/7.4/9.6
Type 4C	45	4.0/8.0/9.0
Type 4C2	46	4.0/8.0/9.2
Type 4C6	48	4.0/8.0/9.6
Type 4D	49	4.2/6.5/8.0
Type 5	50	5.0/6.0/7.0
Type 5.4	52	5.0/6.0/7.4
Type 5.6	53	5.0/6.0/7.6
Type 5A	55	5.0/7.0/8.0
Type 5A2	56	5.0/7.0/8.2
Type 5A6	58	5.0/7.0/8.6
Type 5B	60	5.0/7.0/9.0
Type 5B2	61	5.0/7.0/9.2
Type 5B6	63	5.0/7.0/9.6
Type 5C	65	5.0/8.0/9.0
Type 5C2	66	5.0/8.0/9.2
Type 5C6	68	5.0/8.0/9.6
Type 5D	70	5.0/8.4/9.0
Type 5D6	73	5.0/8.4/9.6
Type 5E	75	5.0/9.0/9.2
Type 5E3	76	5.0/9.0/9.3
Type 5E6	78	5.0/9.0/9.6
Type 5F	79	5.6/8.4/9.0
Type 6	80	6.0/7.0/8.0
Type 6.4	82	6.0/7.0/8.4
Type 6.9	85	6.0/7.0/9.0
Type 6.92	86	6.0/7.0/9.2
Type 6.96	88	6.0/7.0/9.6
Type 6A	90	6.0/8.0/9.0
Type 6A2	91	6.0/8.0/9.2
Type 6A6	93	6.0/8.0/9.6
Type 6B	95	6.0/8.6/9.2
Type 6B6	98	6.0/8.6/9.6
Type 6C	100	6.0/9.0/9.2
Type 6C4	101	6.0/9.0/9.4
Type 6C5	102	6.0/9.0/9.5
Type 6C6	103	6.0/9.0/9.6
Type 6D	105	6.0/9.2/9.6
Type 6D7	106	6.0/9.2/9.7
Type 6D8	107	6.0/9.2/9.8
Type 6D9	108	6.0/9.2/9.90
Type 6D92	109	6.0/9.2/9.92
Type 6D94	110	6.0/9.2/9.94
Type 6D96	111	6.0/9.2/9.96
Type 6D97	112	6.0/9.6/9.975
Type 6D98	113	6.0/9.2/9.982
Type 6E	115	6.0/9.4/9.6
Type 6E8	116	6.0/9.4/9.8
Type 6E9	118	6.0/9.4/9.982
Type 7	120	7.0/8.0/9.0
Type 7.2	121	7.0/8.0/9.2
Type 7.6	123	7.0/8.0/9.6
Type 7.8	124	7.0/8.0/9.8
Type 7A	125	7.0/9.0/9.2
Type 7A6	126	7.0/9.0/9.6
Type 7A8	128	7.0/9.0/9.8
Type 7B	130	7.0/9.2/9.4
Type 7B8	132	7.0/9.2/9.8
Type 7C	135	7.0/9.6/9.8
Type 7C9	137	7.0/9.6/9.9
Type 8	138	8.0/9.6/9.95

moving at Warp 5 must spend 25 Power per round to do so; one moving at Warp 7.5 spends 38 Power. (Since combat rarely takes place at warp speed, this cost usually does not come into consideration during play.)

A few ships have nacelles which retract, either for protection or to give the ship a more aerodynamic or defensible profile. Retractability costs 3 SUs; it takes 5 Power and one round to deploy or retract a nacelle.

Some ships have variable-geometry warp nacelles—nacelles on pylons which raise and lower, allowing the ship to move the nacelles into the most optimal position for establishing a warp field or for other ship operations (such as entering an atmosphere). This reduces the Power cost for Sustainable and Maximum warp speed by 2. Variable-geometry nacelles cost +5 SUs; it takes 5 Power and one round to alter the nacelles' position.

On some ships, such as Cardassian *Galor*-class vessels, the warp nacelles are *embedded*—fully contained within a starship's hull. This makes the warp field slightly less efficient (reduce Standard, Sustainable, and Maximum speeds by .1 each), but makes the shields stronger because the shield radius becomes smaller (increase Threshold by 10 and Protection by 100 for no additional Power cost). This sort of system can only be installed on ships of Size

5 or larger, and costs 4 x Size in SUs. Starfleet has not yet adopted fully embedded nacelles because it dislikes the loss of speed entailed and is concerned about the health and safety implications they might have for a ship's crew, but has employed some of the principles to design ships such as the *Saber*-class and *Steamrunner*-class with partly embedded nacelles.

Plasma Injector System

SU Cost: Varies (see table)
Power Cost: None

In game terms, the quality and efficiency of a ship's PIS indicates how long it can maintain its Maximum warp speed. Operating at Maximum warp speed beyond the indicated amount of time risks damage to the engines. The Narrator should roll 2d6 for every 10 minutes of travel beyond the listed time; on a result of 2, 3 or 4, the warp drive system suffers damage. Reduce the ship's Standard, Sustained, and Maximum ratings by 25%, and reduce the Power per round which the warp engine can generate by 25% as well. Repairs take one hour to one day per SU of damage as if the PIS had lost 25% of its SUs.

PLASMA INJECTOR SYSTEM TABLE

PIS Type	SU	Duration of Max Warp
Type A	2	1-4 hours
Type B	4	5 hours
Type C	6	6 hours
Type D	8	7 hours
Type E	10	8 hours
Type F	12	9 hours
Type G	14	10 hours
Type H	16	11-12 hours
Type I	18	13-24 hours
Type J	20	25-48 hours

WARP DRIVE SYSTEM UPRATINGS/DOWNGRADES TABLE

Upratings	SU	Bonus To One Category
Package 1	2	+0.1 or +0.15
Package 2	4	+0.2
Package 3	6	+0.3
Package 4	8	+0.4

Downgradings	SU	Reduction To One Category
Package 1	-1	-0.1
Package 2	-2	-0.2

The bonus provided by the upratings packages adds to any one category of warp speed (Standard, Sustainable, Maximum), but Maximum cannot be increased beyond Warp 9.982 as of 2376. A ship may install as many uprating packages as it has space for and its designers desire. A downgrade reduces any one category of warp speed. A ship may downgrade its systems as much as its designers desire, though Starfleet is not likely to allow more than a .3 reduction to any category of warp speed for efficiency reasons.

Other Superluminal Drives

Advances in the propulsion sciences during the latter half of the 24th century have made it possible, at least in theory, to build other faster-than-light drives which exceed the capabilities of standard Starfleet warp drives. Players may not design ships using these systems without the Narrator's permission.

Coaxial Warp Drive

SU Cost: Varies (see table)
Power Cost: Varies (see table)

Coaxial warp drive systems operate on different principles than standard warp drives. Instead of creating a warp field and manipulating that to create propulsion, a coaxial warp drive creates a warp field and then "folds" space (perhaps in a manner similar to the folded-space transport posited by the Elway Theorem; see page 61). This allows a ship to travel immense distances instantly. Furthermore, due to the technique used, a ship runs no danger of accidentally colliding with space objects, since it's not actually traversing normal space.

In game terms, a coaxial warp drive can fold space each round. This translates into velocities far in excess of Warp Factor 9.9. (See accompanying table for exact speeds.)

To build a coaxial warp drive, buy a warp engine as normal to provide Power for your ship. Then buy a coaxial warp drive system from the accompanying table, which also indicates SU and Power costs. That cost includes the cost of nacelles and other components found in a normal warp propulsion system.

Because coaxial warp drive is still an experimental and unproven technology which is prone to overload due to particle instabilities, characters must make a Challenging (10) Propulsion Engineering (Coaxial Warp Drive) Test every round to use it successfully. Failure indicates the drive breaks down; the ship cannot use it again

COAXIAL WARP DRIVE SYSTEMS TABLE

Type	SU	Power per Round	LY Per Minute
Type 1	75	40	2
Type 2	100	80	3
Type 3	125	120	4
Type 4	175	160	5
Type 5	225	200	6

until engineers make repairs (this takes 1d6 hours and a successful Moderate (8) Propulsion Engineering (Coaxial Warp Drive) Test). Dramatic Failure indicates that the drive catastrophically breaks down. This destroys the ship, kills everyone aboard, and collapses space in an area with a billion-kilometer radius around the ship.

To stabilize the coaxial warp drive, a ship can establish a symmetric warp field. This requires a Moderate (8) Propulsion Engineering (Warp Drive) Test. If the Test succeeds, the field is established; it costs 10 Power per round and reduces the Difficulty for the Test to operate the coaxial warp drive correctly to Moderate (8). If the Test fails, the ship cannot establish the field at all (further Tests are not allowed) for one day. If it's Dramatically Failed, the effects are as per failure, plus subspace stresses result which cause 4d6 damage to the ship (only the structural integrity field protects against this).

Quantum Slipstream Drive

SU Cost: 80
Power Cost: 120 Power per round

Quantum slipstream drive (QSD), like a coaxial warp drive, allows a ship to move at velocities far exceeding standard warp drive — approaching the upper Warp 9.999 range. The system routes energy from the quantum drive to the main deflector, which creates a "slipstream" in subspace through which the ship travels. Due to the slipstream's size, a ship without a QSD can enter it and travel along behind the vessel generating the "tunnel." The instabilities created by a quantum slipstream pose significant dangers to a ship, in that it places enormous pressure on the ship's SIF and hull, and can rupture the latter. Furthermore, maintaining the slipstream is difficult, and if it collapses, it can damage or destroy the ship(s) inside it.

Using a quantum slipstream drive requires a Challenging (9) Shipboard Systems (Flight Control) Test every round. If the Test fails, the instabilities cause 120+8d6 damage to the ship (only Resistance and the SIF protect against this damage) and the ship drops out of the slipstream. If the Test results in a Dramatic Failure, increase the damage to 200 x 1d6. If the Test succeeds, a QSD allows a ship to travel at the rate of 300 light-years per hour (just under half a light-year per round).

A QSD requires 80 SUs and costs 120 Power per round to operate. This SU cost includes all parts needed to operate the system; the ship does not have to buy nacelles or the like. However, it may wish to buy a warp propulsion system to generate Power or to act as a backup for the QSD; if so, it must buy all necessary parts for such a system.

Soliton Wave Propulsion

SU Cost: None
Power Cost: None

This form of propulsion, first tested in 2368 by Dr. Ja'Dar of Bilana III, uses a soliton wave (a nondispersing wavefront of subspace distortion) to "push" a starship through space in much the same way a wave of water pushes a surfboard. To function, it requires soliton wave stations at either end of the space traveled (for example, the two planets forming the hubs of a trade route). When it works properly, ships are propelled quickly (and at no cost in Power to themselves) between the two points. However, the wavefront has so far proven difficult to control, and when out of control can damage the ship using the system.

Using a soliton wave propulsion system requires a Moderate (5) Shipboard Systems (Flight Control) Test from the pilot of the ship, and one or more Moderate (7) Propulsion Engineering (Soliton Wave Propulsion) Tests from the person operating the equipment. If either Test is failed, the ship takes 12d6 damage (only the SIF protects against this damage) and drops out of the wave. For Dramatic Failure, increase the damage to 20d6. If both Tests succeed, the ship travels at Warp 9.0 at no Power cost.

Soliton wave propulsion requires no SUs on a ship using it.

Transwarp Drive

SU Cost: 15 x Size
Power Cost: (15 x Size) Power per round

Used by, among others, the Borg, transwarp drives allow a ship to create a "corridor" in space-time from one place to another. A ship using the corridor travels at Warp 10, a velocity unattainable with standard warp drives. A tran-

swarp drive does this by emitting tachyons which breach the subspace barrier and allow the ship to create a transwarp corridor (similar in many ways to a wormhole) by "folding" subspace.

The Federation began experimenting with transwarp drives in the 2280s, with the *U.S.S. Excelsior* serving as a testbed for the prototype. Unfortunately, the trials were a failure, in that Starfleet could not determine how to exit the transwarp corridor at a predefined point (the desired destination). Theories also posit that transwarp travel could cause disfiguring mutations in humanoids. However, encounters with the Borg beginning in 2369 showed that they had solved these problems and developed a transwarp drive at least 20 times faster than conventional warp drives.

Assuming the difficulties were overcome, a transwarp drive would work as follows. It occupies 15 x Size in SUs, and costs 15 x Size in Power to operate. This SU cost includes all parts needed to operate the system; the ship does not have to buy nacelles or the like. However, it may wish to buy a warp propulsion system to generate Power or to act as a backup for the transwarp drive; if so, it must buy all necessary parts for such a system. If it has normal nacelles, it must establish a depolarization matrix around the ship's fuselage to prevent the transwarp velocity differential from tearing the fuselage away from the nacelles.

When activated, a transwarp drive creates a transwarp corridor which allows a ship to cross distances as if traveling at 20 times its normal Maximum warp speed (use the Travel Times At Warp table on page 215 of the *Star Trek: The Next Generation Roleplaying Game* or page 213 of the *Star Trek: Deep Space Nine Roleplaying Game* and multiply the distances traveled by 20, or divide the time required to travel a particular distance by 20 to determine how long the trip takes).

Operating a transwarp drive requires a Challenging (10) Propulsion Engineering (Transwarp Drive) Test. Success means the ship travels the desired distance. Failure means the drive breaks; it takes 1d6 hours and a successful Moderate (8) Propulsion Engineering (Transwarp Drive) Test to repair it. Dramatic Failure indicates that the drive malfunctions, taking the ship an enormous distance off-course (the Narrator determines exactly how much; 1d6 x 100 light-years is a good rule of thumb). It then breaks, requiring 1d6 days and a successful Challenging (9) Propulsion Engineering (Transwarp Drive) Test to repair.

After a transwarp drive is used, the transwarp corridor remains open for 1d6 rounds. Other ships can enter it with a Routine (4) Shipboard Systems (Flight Control) Test during that time and make use of its properties even though they lack transwarp drive—but when the corridor shuts, they're stuck on the other end.

IMPULSE DRIVE

SU Cost: Varies (see table)
Power Cost: 1 Power per .1 *c* used per round

Starships use impulse propulsion systems (IPSs) to move slower than the speed of light, which is required for travel within a star's gravity well, through solar systems, in starship combat, and similar situations. Impulse drives use fusion reactors to generate standard thrust via a standard Newtonian reaction—the thrust "pushes" the ship forward through space. Starships usually drop to impulse when they encounter another ship to facilitate contact (or combat).

IPSs have four components: the impulse reaction chamber (IRC), or fusion reactor, of which there are three per impulse engine; the accelerator/generator (A/G); the driver coil assembly (DCA); and the vectored exhaust director (VED). Energy released in the IRC by the fusion reaction is channelled to the A/G, which raises the velocity of the plasma and feeds it on to the DCA. Electroplasma system (EPS) taps run from the A/G to divert some energy to power other systems on the ship. The DCA creates a field effect which aids the impulse propulsion process, then passes the energy on to the VDA, which directs it to thrust the vehicle in the desired direction.

A main impulse engine (MIE) capable of propelling a starship consists of four linked impulse engines. These engines may be grouped together, or divided into two groups of two to provide balanced thrust for structures such as separated saucer sections.

An impulse engine is rated for the amount of velocity it can provide, expressed as a percentage of *c* (the speed of light). Thus, an impulse engine might be said to provide .5*c* thrust, meaning it can propel a vehicle at half the speed of light. Regardless of an engine's maximum sublight speed, Starfleet generally limits impulse travels to .25*c* (paradoxically referred to as "full impulse") to minimize the time-dilation problems which occur as a ship approaches speed of light travel. Only in starship combat situa-

tions do starships commonly move at impulse velocities in excess of .25c.

The accompanying table lists the classes of MIEs available.

Impulse travel costs 1 Power per 0.1c used per round (round fractions of .5 or lower *down*) (if the ship has multiple impulse engines, it only pays this cost once; additional engines only generate Power, they don't propel the ship). Thus, a ship traveling at .75c must spend 7 Power per round to use its impulse engine. The Narrator may allow a crewmember to make a Challenging (8) Propulsion Engineering (Impulse) Test to increase the output of the impulse engines slightly (+.10c if the Test succeeds exactly, +.20c if it succeeds by 2 points or more; a ship's impulse speed cannot exceed .95c). Any additional impulse speed obtained in this way costs 4 Power per 0.1c per round and lasts 1+1d6 rounds. For example, if a ship with a Class 3A impulse drive was made to move at .95c, it would cost 15 Power (7+4+4) per round to do so.

Impulse engines are also equipped with *impulse capacitance cells* which can provide a tiny burst of power to them. By releasing the cells' power directly into the driver coils, a ship can generate a one-second burst of impulse speed when the engines are otherwise not functioning due to lack of power.

IMPULSE ENGINE TABLE

Class of Engine	SU	Velocity	Power
Class 1	5	.25c/.5c	8
Class 2	10	.5c/.5c	16
Class 3	15	.5c/.7c	24
Class 3A	18	.5c/.75c	28
Class 4	20	.6c/.8c	32
Class 4A	22	.6c/.85c	35
Class 4B	23	.65c/.85c	38
Class 5	25	.7c/.9c	40
Class 5A	28	.72c/.9c	44
Class 6	30	.75c/.9c	48
Class 7	35	.75c/.92c	56
Class 8	40	.75c/.95c	64

SU: The SU cost for each main impulse engine (regardless of whether the MIE is one unit, or divided into two smaller units).

Velocity: The Sustainable and Maximum velocities the engine can attain. Sustainable velocity is the highest speed it can maintain without stressing the ship or its engines (all impulse engines' Standard speed is, by definition, .25c). Maximum velocity is the highest speed it can attain. Operating at Maximum impulse speed for longer than 24 hours risks damage to the engines. The Narrator should roll 2d6 for every 10 minutes of travel beyond 24 hours; on a result of 2, 3 or 4, the impulse drive system suffers damage. Reduce the ship's Standard, Sustained, and Maximum ratings by 25%, and reduce the Power per round which the impulse engine can generate by 25% as well. Repairs take one hour to one day per SU of damage as if the engine had lost 25% of their SUs.

Power: The amount of Power they provide per round (this is in addition to Power from the warp engine; see below). If a ship has bought multiple impulse engines, each one provides Power.

Acceleration Upratings

SU Cost: Varies (see table)
Power Cost: Varies (see table)

Standard impulse engines accelerate at half their maximum impulse speed per round (see page 96). Some vessels are equipped with uprated impulse systems which can accelerate more quickly than this. The accompanying table lists packages, SU costs, Power costs in any round when the ship accelerates at more than the standard rate, and effects.

The SU cost for the uprating includes modifications to the SIF and IDF so that the ship can handle the increased stress on the hull. If a ship has multiple impulse engines, it must buy an acceleration package for each one, and the packages must all be the same one.

ACCELERATION UPRATING PACKAGES TABLE

Package	SU	Power	Rate of Acceleration
Class Alpha	2	1	66% (two-thirds) of maximum impulse speed per round
Class Beta	4	2	75% (three-quarters) of maximum impulse speed per round
Class Gamma	8	4	100% of maximum impulse speed per round

REACTION CONTROL SYSTEM

SU Cost: 1 x Size
Power Cost: 2 Power per round

The Reaction Control System (RCS), colloquially known as "thrusters," is used to move the ship while entering or leaving spacedock, or in other situations where precise control of the ship's motion is necessary. RCS engines are located at appropriate points on the body of a ship. They consist of a gas-fusion reaction chamber, magnetohydrodynamic (MHD) energy field trap, and vectored-thrust exhaust nozzles. Some ships also have an auxiliary RCS system

which functions at half strength and costs 2 Power per round; this costs .5 x Size in SUs. An auxiliary RCS improves a ship's maneuverability, but not to a degree simulatable in Icon System terms.

When using the RCS system, which requires a Routine (3) Shipboard Systems (Flight Control) Test for most delicate operations, a ship moves at a top speed of .025c (one-quarter of a Movement Unit per round, in game terms). An RCS occupies 1 x Size in SUs and costs 2 Power per round of use. A ship can double its thruster speed to up to .05c for an additional 3 Power per round.

If a ship has no RCS, or its RCS is malfunctioning, it can try to use impulse engines as thrusters. The Difficulty for any such movement is Difficult (13). The Flight Control officer must make a Test every round he uses the impulse drive this way.

Impulse Thrusters

SU Cost: 2 x Size
Power Cost: 2 Power per round

Ships of Size 5 and smaller can also install *impulse thrusters,* a special type of thruster which improves a ship's speed and maneuverability. They add +.1 *c* to the ship's impulse speed (maximum of .95 *c*) and provide +1 die to roll when the pilot makes Shipboard Systems (Flight Control) Tests to maneuver the ship at speeds of .6 *c* and above.

Power Systems

Without power, nothing on a starship can function. The ship can't move, life support cuts off, and the lights dim. Therefore, Starfleet design engineers have taken pains to make sure that ships have multiple sources of power to draw on, the primary ones being the warp and impulse engines.

In Icon System terms, a system's power output and/or power usage per round is rated in terms of a characteristic called, logically enough, *Power*. For example, an impulse engine might generate 30 Power per round, long-range sensors cost 5 Power per round.

Warp Engines

SU Cost: Varies (see table and text)
Power Cost: See above

As discussed on page 33, the warp engine provides power to the ship. The accompanying table indicates the classes of warp engines available, as well as their base SU cost and the amount of Power they provide per round.

WARP DRIVE SYSTEMS TABLE

Warp Engine	SU	Power Generated Per Round
Class 1/A	20	10-99
Class 2/B	30	100-149
Class 3/E	40	150-199
Class 4/G	50	200-249
Class 5/H	60	250-299
Class 6/K	70	300-349
Class 7/M	80	350-399
Class 8/N	90	400-449
Class 9/O	100	450-499
Class 10/P	110	500-549
Class 11/Q	120	550-599
Class 12/R	130	600-649
Class 13/S	140	650-699

The base SU cost listed in the table indicates the SU cost for the lowest figure in the "Power Generated" column—for example, 350 Power for a Class 7/M engine. For each +10 Power (or fraction thereof) beyond that, the engine costs an additional +1 SU. Thus, a top-of-the-line Class 7/M engine, which generates 399 Power per round, costs 85 SUs. (For the Class 1/A engine, add +1 SU per +20 Power [or fraction thereof].)

Impulse Engines

As described on page 38, a ship's impulse engines also provide Power for other systems (the table on page 39 tells you how much Power each class of engine generates). This Power is cumulative with Power generated by the warp engine.

Auxiliary Power

SU Cost: 3 SUs per additional fusion reactor
Power Cost: None

In addition to the fusion reactors which form the impulse engines, most ships carry another set of reactors simply to generate power. Each additional fusion reactor occupies 3 SUs and generates 5 points of Power per round. The crew holds auxiliary power in reserve for use in emergency or crisis situations, rather than using it at all times. Most ships have at least one auxiliary power generator for every 4 points of Size.

A crew can use one of a ship's auxiliary power reactors to replace damaged or spent reactors in the impulse engines. This takes an hour and requires a Routine (4) Systems Engineering (Power Systems) or Propulsion Engineering (Impulse) Test.

EMERGENCY POWER

SU Cost: Varies (see table)
Power Cost: None

In addition to auxiliary power, starships have a small reserve of emergency power for use in crisis situations or when other power systems are nonfunctional. The emergency power system uses a set of fusion reactors which are independent from the standard and auxiliary power systems. The accompanying table lists the SU cost and Power generated by various types of emergency power systems.

A ship may only have one emergency power system.

EMERGENCY POWER SYSTEMS TABLE

System Type	SU	Power Generated Per Round
Type A	25	25
Type B	30	30
Type C	35	35
Type D	40	40
Type E	45	45
Type F	50	50

INDIVIDUAL SYSTEMS POWER GENERATORS

Some of the systems on a starship have their own small "reserve" of Power for use in emergencies or when all other power systems are not working. Emergency life support has its own power system, for example, and the ship's phasers have phaser array power cells good for a few shots when there's no other Power available. Whether this Power can be siphoned for other uses is addressed under the respective systems. Even when it can be drained this way, it only provides a one-time or temporary Power boost, not an ongoing supply.

DETERMINING A STARSHIP'S TOTAL POWER

To determine the total amount of Power a ship can generate per round under standard conditions, add the Power from the warp and impulse engines. Do not include auxiliary, emergency, or individual systems Power. The total tells you how much Power a ship can draw on in most situations.

To determine the ship's overall Power total, add the warp engine, impulse engine, auxiliary, and emergency Power totals together (do not include individual systems Power). The total lets you know just how far a ship can be pushed in a crisis.

ELECTROPLASMA SYSTEM

SU Cost: 5 x Size; transfer 10 extra Power per round per +1 SU
Power Cost: None

Power from the warp engine, impulse engines, and other sources is routed throughout the ship by the electroplasma system (EPS). The EPS is a network of microwave power transmission waveguides. A ship's EPS is assumed to be able to handle the Power flow to run all systems at up to maximum efficiency without difficulty. But when there's a need to transfer more Power—for example, to increase the damage a phaser does, boost the strength of the shields, or feed more Power to the sensors to punch through some interference—the EPS may not be able to handle the demands placed on it. The quality and efficiency of an EPS determine how much Power a starship can transfer each round.

The base SU cost of an EPS is 5 x Size. That allows the ship to use all systems at their maximum normal performance without problem. For each SU spent beyond that, the EPS can handle transferring 10 additional points of Power. Most Starfleet vessels build in enough capacity to handle substantial extra Power flow (and to compensate for any damage the EPS system may suffer during combat); +100 to +300 points (+10 to +30 SUs) is standard. The mandatory Starfleet minimum for most vessels is +50 Power (+5 SUs).

Example: *Chris's ship is in combat, operating at full normal capacity, including its full normal shield Protection of 1200. Chris realizes that he's got 120 extra points of Power to spare and decides to increase the forward shield's Protection by 400 points (costs 120 Power). Unfortunately, his ship's EPS system can only handle up to +100 Power, so the best he can do is to increase the shield by 330 Protection (costs 99 Power).*

Isomagnetic EPS Conduits

SU Cost: +2 SUs to EPS
Power Cost: None

By 2371, a new form of technology, isomagnetic conduits, is available to make EPS systems more efficient. When isomagnetic EPS conduits are in use, extra Power transfer capacity only costs +1 SU for every *20* extra Power per round. Isomagnetic EPS conduits are still relatively rare by 2376; the Narrator determines whether they're available for a particular ship.

Operations Systems

The largest category of systems on a starship fall under the heading of *operations systems*. They include flight control, sensors, computers, and many other systems related to the daily command and operation of the ship.

Bridge Systems

SU Cost: 5 x Size
Power Cost: None

If the warp engine is the heart of a starship, the bridge is the brains. Here the captain holds sway, directing the course and actions of the vessel. From the bridge, he and his senior officers can, if they need to, control every system on the ship. On most Starfleet ships, the bridge is located on the very top of the ship (of its saucer section, if it has one).

The basic bridge module occupies 5 x Size in SUs. In and of itself, it costs no Power.

Operating Modes

Based on the conditions and circumstances existing at any given moment, a starship will assume one of several operating modes which dictate which systems become (or remain) active, the preparations made by the ship's personnel, and so forth. The following brief descriptions indicate what each mode involves and the Power costs involved. For more complete details, see the *Starfleet Security Handbook* from Last Unicorn Games.

Cruise Mode: The standard operating mode during non-crisis situations. Level 4 diagnostics run on all primary and tactical systems at each shift change. One major power system operational; at least one maintained at standby. Long-range sensors and main deflector in use if ship is moving. A minimum of 40% of phaser bank elements and one torpedo launcher on cold standby status (available for full activation in two minutes). One shuttlebay maintained at five minutes launch readiness. No Power cost.

Yellow Alert: This mode indicates that the ship is prepared for a potential crisis situation. Level 4 diagnostics run on all primary and tactical systems. Power and propulsion systems brought to full operating condition. At least one auxiliary power source brought to hot standby. Phasers, torpedo launchers, and battle bridge (if any) brought to partial standby. For the first round of Yellow Alert status, the ship must expend 10 Power to activate all necessary systems; no Power cost in later rounds.

Red Alert: This mode indicates an actual state of emergency; it's established in, for example, any combat situation. Level 4 diagnostics run on all primary and tactical systems every five minutes. All sensors brought to fully operational status. Shields are brought to tactical configuration and weapons and battle bridge to full standby. All shuttlebays are brought to 30 seconds' launch readiness. Isolation doors and force fields are automatically activated as a proactive measure to contain any potential damage. For the first round of Red Alert status, the ship must expend 20 Power to activate all necessary systems (or only 10 if it's already at Yellow Alert); no Power cost in later rounds.

Blue Alert: Ships with planetfall capability must declare a Blue Alert before starting the descent. This alerts all crewmembers to assume their Blue condition stations and prepare for the landing. Level 4 diagnostics run on all primary and tactical systems. Power and propulsion systems brought to full operating condition. At least one auxiliary power source brought to hot standby. For the first round of Blue Alert status, the ship must expend 5 Power to activate all necessary systems; no Power cost in later rounds.

Reduced Power: This mode is designed for maximum power conservation in the event of fuel shortages, failure in the power generation systems, or tactical situations which require that most Power be diverted to tactical systems. The crew performs a cold shutdown of the warp engine unless the ship's traveling at warp speeds or it's the only remaining source of Power (or soon likely to be). Hourly energy budgets and consumption reports are made to the appropriate persons. Weapon systems are brought to cold shutdown unless deemed necessary. Some systems (IDF, SIF, main deflector, environmental systems) are operated at minimum levels; others (transporters, replicators) may not be used without special permission. No Power cost.

Silent Running: Invoked for "stealth" missions, Silent Running mode is designed to minimize a ship's profile to enemy sensors. All active sensor sweeps and communications outside the ship are forbidden. All non-essential systems, such as lighting, replicators, and holodecks, run at half power or may be used only with permission (as appropriate). Any shipboard activity which might alert an enemy to the ship's presence is curtailed. No Power cost; in fact, most systems run on less Power. Silent Running mode gives a ship a reduced power signature (see page 150).

Separated Flight: On ships which have saucer separation or multivector attack capability, this mode applies while the vessel is separated. For the most part it resembles Cruise Mode, unless Red Alert conditions apply. The IDF and SIF of the two "parts" of the vessel are usually set to high output. See "Saucer Separation," page 89, for more details.

External Support: This mode applies when a ship is docked at a starbase or similar support facility. It signifies a state of reduced activity, where many ship systems are completely powered down and many personnel are on shore leave. No Power cost.

On most ships it can be removed *in toto* at a spacedock or similar facility and replaced with a new one, thus facilitating upgrades and maintenance. Because of its importance to the ship, the bridge is always one of a ship's emergency environmental support shelters (see page 26), and even if both primary and emergency life support systems fail, the bridge's separate systems can maintain a Class M environment for 72 hours. Even if a total environmental systems failure occurs, two emergency modules provide lighting and atmosphere for 24 hours.

The major sections of most bridges include the captain's chair, viewscreen, duty stations, captain's ready room, and conference room (*a.k.a.* "Observation Lounge"). Not all ships may have all of these systems; the *Danube*-class vessel has no viewscreen, for example.

The Captain's Chair

Also known as the Command Station, this is where a Starfleet captain normally sits (among other species and governments, a captain's chair may or may not be used). It directly faces the viewscreen. The armrests (or panels within arm's reach) include the Command station—miniaturized, simplified Conn and Ops displays which allow the captain to override any ship system.

Duty Stations

Each ship's bridge is arranged a little differently (bridges often vary from ship to ship even within the same class). However, most of them include the following duty stations. Each one can be configured for various types of tasks (or to suit the user's preferences) and functions as a computer interface.

Engineering Station: A ship's Chief Engineer uses the Engineering station to oversee the Engineering department, and if necessary run or recalibrate its equipment, from the bridge. Sometimes it's necessary to have the Chief Engineer on the bridge, and this station allows him to keep doing his job while he's there. Characters use Shipboard Systems (Engineering Station) or any Engineering Skill to operate this station.

Environmental Station: In most cases, a ship's environmental systems function automatically and require no oversight from the crew. During emergencies or crisis situations, crewmembers can monitor and configure the ship's environmental systems from the Environmental station. Characters use Shipboard Systems (Environmental Systems) to operate this station.

Flight Control (Conn): A Flight Control Officer uses this station to pilot the ship, navigate his course among the stars, and so forth. It allows him not only to steer the ship, but to access the warp and impulse drives, review data from long-range and navigational sensors, launch probes, monitor the status of the warp field and other relevant ship systems, and so forth. Except for emergencies and other situations in which the Conn switches to manual steering, most steering is done by the ship's navigation computers. Characters use Shipboard Systems (Flight Control) to operate this station.

Operations Manager Station (Ops): The Ops station allows the Ops officer to manage the allocation of resources (including Power) to the various systems, departments, and personnel aboard ship. Since there are so many things going on aboard even a small starship, the conflicting needs for resources have to be resolved quickly to avoid disrupting the conduct of anyone's duties. At the Ops station, the Ops officer can quickly and easily handle complicated scheduling and resource allocation issues (routine matters are managed automatically by the computer). Characters use Shipboard Systems (Mission Ops) to operate this station.

Science Station: Starships constantly gather scientific data with sensors and probes, and the science station is where pertinent information is displayed. Personnel can use the station's controls to obtain information from the ship's laboratories and other facilities, reconfigure and calibrate sensors and related systems, and access the ship's LCARS (Library Computer Access and Retrieval System). In combat situations, the Science station acts as a backup for Conn, Ops, and Tactical. The station itself is easily configurable; it has room for specialized isolinear chips containing particular mission profiles and programs. Characters use Shipboard Systems (Science Station) to operate this station.

Tactical Station: A crewmember can control a ship's beam weapons, missile weapons, shields, tractor beams, and related systems from this station. He can also read the status of defensive systems, monitor internal security, obtain data from various tactical and targeting scanners, direct security teams, and access sensors and communications. Characters use Shipboard Systems (Tactical) to operate this station.

SECURITY SHOCK PULSES

If necessary for internal security purposes, a character can use any duty station or control panel to transmit an electromagnetic pulse to another control panel, thus shocking and, hopefully, disabling the person using that panel. This takes 1 round and 3 Power, and requires a Moderate (6) Shipboard Systems (any Specialization) or Systems Engineering (any Specialization) Test. If it succeeds, the target takes 3d6 Stun damage. If it fails, the character may try again, but the intended target is aware that someone is attempting to attack him through the ship's systems (though he may not know exactly what is being attempted, or how). If it Dramatically Fails, the character accidentally shocks himself, taking 2d6 Stun.

The Viewscreen

Occupying most of the wall in front of the captain's chair, the viewscreen allows visual images, sensor readings, and other graphic images to be displayed for everyone on the bridge to see. In many cases it functions as a "windshield," allowing the captain and bridge crew to see where the ship is going.

Ready Room

To ensure that the captain remains near the bridge as much as possible, and that he has a place to hold private conferences with his First Officer and other crewmembers, most ship's bridges include a *ready room*. The ready room is the captain's office, but also an area where the captain can relax for a moment or two. Most captains decorate their ready rooms with a few mementoes or favorite works of art.

Conference Room

Often known as the "observation lounge" or "conference lounge," the conference room is usually opposite the ready room. It's a large room where the captain can meet with his bridge crew to discuss matters affecting the entire ship, meet parties of VIPs who have come aboard, and so on.

AUXILIARY CONTROL ROOM/ BATTLE BRIDGE

SU Cost: 3 x Size
Power Cost: None

Ships which have saucer separation or multi-vector attack mode capabilities need one or more secondary bridges so that the captain (or other officer) can operate the engineering section of the ship effectively. These are known as *auxiliary control rooms* or *battle bridges*. Although smaller than a standard bridge, an auxiliary control room has standard Engineering, Flight Control, and Ops stations, and an enhanced Tactical station. In some cases, it also has several unique stations, including Defense Communications, Defense Systems Engineering, Technology Assessment, Computer Systems, and Engagement Damage Intelligence. An auxiliary control room serves as a secondary control center in the event the main bridge is damaged or incapacitated.

Each auxiliary control room costs 3 x Size in SUs. This cost includes a dedicated turbolift running from the main bridge to each auxiliary control room (it typically takes 2-4 rounds to reach the auxiliary control room via this turbolift). Crewmembers can also access auxiliary control rooms through the standard turbolift system. Like the main bridge, an auxiliary control room is a discrete unit which engineers can wholly replace at a starbase.

Of course, even if they haven't paid SUs for it, most ships have some sort of auxiliary control center. Such control centers are never very elaborate; their only purpose is to get the ship to safety in the event of an emergency which destroys the main bridge. An auxiliary control room paid for in SUs represents a second control center which can control all or nearly all of a ship's functions.

SEPARATION SYSTEMS

Several of Starfleet's most advanced ships have the capability to separate one or more parts of themselves from the main section of the ship. This offers numerous safety and tactical advantages.

If a ship has a separation system, it's important to note the location of every Power source, weapon, and other crucial system. That way you can determine the capabilities of the discrete sections after they separate.

Saucer Separation

SU Cost: 1 x Size (.5 x Size if no reattachment)
Power Cost: 10 Power when used

In emergency situations, some ships have the ability to separate into two discrete units, each with its own systems. This is typically known as *saucer separation,* since it most often involves separation of a saucer module (such as the one on the *Galaxy*-class ship) from an "engineering"

or "stardrive" or "battle" section. This allows civilians and other persons to leave a dangerous area while the engineering section of the ship remains behind to deal with the situation.

A separation system occupies 1 x Size in SUs; it costs 10 Power to use. Detached ship sections should usually be bought as atmosphere-capable (though not planetfall-capable) (see page 21).

A saucer section must have its own Computer, Impulse Engines, Navigational Deflector (if warp-capable), and Cloaking Device (if applicable). The same rules for ablative armor for ships with multivector assault mode apply (see below). Otherwise, most systems bought for a ship with saucer separation apply to both its "sub-vessels"; you don't have to buy them twice. In some cases—such as crew quarters, cargo holds, tactical systems, IDF, and auxiliary power generators— you should divide the system among the two sections (usually by percentages based on how the ship's Size divides), or assume that one section has the main system (or one of the main systems), and the others lesser "substitutes" (for example, only one section has a full sickbay; the other typically has a first aid station).

Typically, a saucer only has an impulse engine, auxiliary power, and emergency power systems. Therefore it cannot afford to activate shields or use many (if any) weapons. However, since its primary purpose is to get crewmembers and passengers to safety, not to fight, Starfleet regards this as acceptable. If it serves the dramatic purposes of the story, the Narrator can allow the saucer to activate shields anyway, disregarding the Power cost (but not allowing it to increase the shields' effectiveness with extra Power, either).

If a saucer cannot re-attach to the engineering hull on its own (it requires a spacedock or similar facility to do so), saucer separation only costs .5 x SUs.

For rules and guidelines regarding the use and effects of saucer separation in combat, see page 89.

Multivector Assault Mode

SU Cost: 2 x Size

Power Cost: 10 Power per round for 2 rounds

Beginning in 2375, Starfleet introduced a new form of ship separation technology known as *multivector assault mode* (MVAM). An MVAM system allows a ship to split into three separate sections, each with its own systems. An MVAM system occupies 2 x Size in SU and costs 10 Power to use (this cost applies for each of the 2 rounds it takes to separate the ship). A ship with MVAM may use the SU allotment for a ship 2 Size categories larger without increasing its own Size (this is necessary to install all of the redundant systems required for MVAM use).

Most systems bought for a ship with MVAM apply to all its "sub-vessels"; you don't have to buy them three times. In some cases—such as crew quarters, cargo holds, tactical systems, and auxiliary power generators— you should divide the system among the three sections (usually by percentages based on how the ship's Size divides), or assume that one section has the main system, and the others lesser "substitutes (for example, only one section has a full sickbay; the others typically have first aid stations). Computers, all warp propulsion system components, Impulse Engines, Navigational Deflectors, Cloaking Devices, and TA/T/TS are an exception to this general rule. Each sub-vessel needs its own warp drive or cloak, for example (in most cases, these systems should be the same type in each part of the ship—each with a Class 7/M warp drive instead of two or three different types of drives—but this is not required, only recommended). The MVAM system includes hardware and software which "links" these systems together to increase their effectiveness when the ship links together. The ship must buy them (including their subsystems, like acceleration upgrades) three times. When the ship links together, the best of the three systems applies to the whole ship; however, for purposes of Power generation, each impulse engine counts as a separate system (the warp engines typically link to form one unit, and so do not generate Power separately).

Special rules apply to shields. Buy shields one time for the entire vessel. When it separates into three parts, each part has the equivalent of a shield with maximum Protection for a shield two classes *less* than the entire ship's shield. The subspace field distortion amplifiers are reduced in effect by two classes as well, or to the class providing exactly one-third Threshold for the reduced Protection, whichever is less. The shield grid and recharging or regeneration system do not change. Calculate the Power costs for the reduced-effect systems as normal for that class of system, not for the overall, more powerful, system.

Example: *The* U.S.S. Epimetheus *has Class 6 shield generators (1200 Protection) and Class Theta subspace field distortion amplifiers (Threshold 400). When it separates, its shields are reduced to maximum Protection Class 4 shields (800 Protection). Reducing its distortion amplifiers by two classes would give them a Threshold of 300, but that's greater than one-third the reduced Protection (267). So, each sub-vessel has a Threshold of 267. The reduced-effect shields cost 80 Power per shield, not 120 Power per shield.*

If it has ablative armor, when the ship separates, each section has an amount of ablative armor equal to the overall ship's total (for example, if 430 of the ship's 1000 points of ablative armor have been blown away, each section has 570 points of armor). Once they separate, each section's armor can suffer separate damage. When the sections recombine, average their ablative armor totals to determine the overall ship's remaining armor.

A third exception is tactical systems—beam weapons, missile weapons, stored missiles, other weapons, and TA/T/TS. These must be bought individually and their location noted so that when the ship separates, the offensive capabilities of each section can be determined. This also applies to transporters and tractor beams.

If a ship with MVAM has a cloaking device, the section containing the device must be indicated on the Starship Template. That section and any sections attached to it are covered by the cloak when the crew activates the device. Sections not attached to that section are not covered by the cloak.

For rules and guidelines regarding the use and effects of MVAM in combat, see page 90.

Detachable Warhead

SU Cost: .5 x Size
Power Cost: None

One of the tactical systems developed by Starfleet in response to the Borg incursions of the late 2360s and early 2370s was a *detachable warhead* system. A detachable warhead is a small section of a ship which detaches from the main body of the ship and can move under its own power. It is laden with one to six torpedoes and is designed to explode upon impact with an enemy vessel. A character can remotely steer a warhead, but it also has room for a pilot in the event one is deemed necessary. A warhead is equipped with its own miniaturized impulse drive, equivalent to a Class 1 impulse engine.

Typically a detachable warhead is built into a pre-designed "notch" at the forward end of the ship (the *Defiant*-class Heavy Escort is the best-known example of this). After the warhead is used, engineering crews can install another one at a starbase. Use of the warhead does not change the "parent" vessel's Size or other characteristics.

A detachable warhead system costs one-half the vessel's Size in SUs; it costs no Power. It includes enough space for one person and two torpedoes. Up to four more torpedoes may be installed in the warhead at a cost of 1 SU.

For rules and guidelines regarding the use and effects of a detachable warhead in combat, see page 90.

Computers

SU Cost: 2 x Size per computer core
Power Cost: 5 Power per active core per round

Computers control virtually every function of a starship in some way. They regulate the power flow in the warp drive system, operate the sensors, and help the Tactical officer accurately fire the weapons. Without a working computer system, a starship virtually shuts down. While the Federation has never managed to build a reliable fully sentient computer, starship computers contain such sophisticated artificial intelligence subroutines that they sometimes *seem* sentient. They can understand, and respond to, ordinary speech, including contextual cues within that speech. Crewmembers interface with the computer system via the Library Computer Access and Retrieval System (LCARS), which lets them use voice commands and graphic interfaces to access data, modify ship systems, and write programs. The LCARS contains the equivalent of trillions upon trillion of pages of text, and more data is added every stardate.

A ship's computer monitors everything occurring on that ship, including the location of everyone aboard ship based on their communicator badge (the Tactical officer can track down anyone aboard, even persons not wearing communicators, but this takes some time). When emergencies or crises occur (such as a failure of life support or hull integrity), the computer evaluates the situation and notifies the appropriate personnel. However, that's about all the computer can do; it cannot operate the ship for extended periods, or in other than extremely routine circumstances, without crew control.

The computer lacks the judgment, intuition, and emotions which a sentient humanoid possesses and can apply to complex situations. It can only follow the instructions given it by its programming and the crew. For example, unless instructed to do so, the computer will not report that a crewmember has left the ship.

Starfleet computers use miniature subspace generators to process data at faster than light speeds. They store information and programs in modules of isolinear optical storage chips. Each module holds 144 isolinear chips. Approximately the size of a microscope slide, an isolinear chip holds up to 2.15 kiloquads of data. On large starships, a computer core is a cylindrical structure ranging from about 20 to about 100 meters tall and 10-15 meters in diameter which holds thousands of modules containing hundreds of thousands of isolinear chips. Rearranging the isolinear chips within a module, or installing new ones with specialized programming, can interfere with, alter, or in some cases enhance computer operation.

Each computer core capable of handling the primary computational load of the entire vessel costs 2 x Size in SUs. Starfleet regulations require any ship above Size 4 to have a minimum of two computer cores (and in fact even smaller vessels tend to have at least two). Vessels of Size 8 and higher must have at least three computer cores. If the ship has saucer separation or multivector attack mode capabilities, each "piece" of the ship must have its own core computer (for example, a *Galaxy*-class ship [Size 8] has to have at least three computer cores; it arranges them so that two are in the saucer section and one in the engineering section). A detachable warhead does not require a core computer.

In addition to the computer cores, ships have a network of subprocessors throughout the ship. These subprocessors help to improve the system's operation by handling some of the computational load. They can also provide some redundancy for the computer cores.

Computers cost 5 Power per round per computer core. If a ship has two or more computer cores, Starfleet protocols require that at least two operate at once—that way, if service to one is somehow interrupted, the other can instantly, and without loss of significant ship functions, pick up the computational load.

In addition to the main computer system, several systems aboard a ship have dedicated computer systems. Examples include the navigation computer and tactical computer. These are addressed elsewhere under the specific systems they work with.

Computer Uprating

SU Cost: Varies (see table)
Power Cost: Varies (see table)

Some ships, due to their mission profiles, need particularly efficient or powerful computers. Starfleet installs computer uprating packages with these ships' computers. The packages, which consist of both hardware and software, improve the performance of the standard computer system. In game terms, a computer uprating grants a bonus to the result of any Computer Test made using the ship's equipment. The accompanying table lists the SU and Power costs and benefits of upgrades.

Computer uprating packages are not cumulative; a ship can only have one in effect. A single uprating package covers all of a ship's computer cores.

COMPUTER UPRATING

Package	SU	Power	Computer Test Bonus
Class Alpha	2	1	+1
Class Beta	4	2	+2

Optical Data Network

SU Cost: 3 x Size
Power Cost: None

Data transmission throughout a ship is accomplished by means of an *optical data network* (ODN), a network of multiplexed optical monocrystal microfibers. Most ships have from three to six redundant ODN trunks linking their computer cores and the various subprocessors and control panels throughout the ship (this redundancy is built into the system's SU cost; players do not have to buy each ODN system separately, though they can buy extra ones if they want to). Damage to the ODN may hamper the ability of the ship's computers to operate the ship.

The ODN costs 3 x Size in SUs. It does not cost Power to operate; it works off of the Power fed to the computer cores themselves.

Bio-neural Computer System

SU Cost: 3 x Size per computer core
Power Cost: 7 Power per active core per round

On some of the latest, most advanced ships, the computer core has been augmented with a *bio-neural computer system*. This system, which includes bio-neural gel packs installed throughout the ship, uses organic substances which link with standard computers to create a very powerful information storage and processing device. The gel packs contain synthetic neural cells in a gelatinous organic medium. These neural cells replace the processors and isolinear chips of the standard Starfleet computer. In game terms, a bio-neural computer system provides a +1 bonus to the results of all Computer Tests made using the system (this is in addition to bonuses from any standard computer upgrades). For lengthy computing tasks, the bio-neural computer system reduces the time needed by 10% (round up; the minimum time for any task is one round).

Although faster and more powerful than standard computers, bio-neural computers are vulnerable to viral infections and other attacks to which organic substances are susceptible. Infections can slow the system down, or even destroy it entirely. Unlike standard computers, which require repairs from engineers when they don't work correctly, bio-neural systems also need a doctor's care when they malfunction. For example, to treat an infection, the gel packs might be heated to give them a "temperature" which kills off the virus.

Standard regulations regarding the number of computer cores per ship and how many must be operational apply to bio-neural computer systems.

NAVIGATIONAL DEFLECTOR

SU Cost: 4 x Size for main deflector, 1 x Size for auxiliary deflector

Power Cost: 5 Power per round of use

Although most people think of space as empty, in truth it's full of a lot of debris—stray atoms of hydrogen, micrometeoroid particulates, and the like. To a vessel traveling at warp or impulse speeds, a single, or repeated, collisions with such objects can cause wear and tear, or even significant damage. To avoid these objects, Starfleet vessels use a device called a *navigational deflector* or *main deflector* to "push" them out of a ship's flight path.

A navigational deflector uses three redundant high-powered graviton polarity source generators to generate two effects: a series of five nested parabolic shields projected two kilometers ahead of the ship, which sweep aside stray hydrogen atoms and submicron particulates; and a deflector beam projected thousands of kilometers ahead of the ship to move larger objects out of the way. These two effects are focused and manipulated with the main deflector dish, a prominent substructure easily visible on the front of most ships. (If the ship wants to collect hydrogen with its Bussard ramscoops, it manipulates the deflector shields to create "holes" which allow collection of the atoms.)

The navigational deflector works in conjunction with the long-range sensors, which locate and track objects in the ship's projected course. Since the deflector emits a great deal of electromagnetic and subspace radiation, which could interfere with long-range sensors, the long-range sensor array is located behind the deflector dish so that the axis of its scans matches that of the deflector projections.

In addition to the two deflecting effects, a ship can use its navigational deflector to emit a wide variety of electromagnetic and subspace radiation effects. For example, if the ship needs to emit old-style delta radiation to communicate with a strange vessel, or a polaron burst to disable masking circuitry, it uses its navigational deflector to do that. (If it's necessary to make a Shipboard Systems (Tactical) Test to hit a target with a deflector-emitted effect, the deflector has a range of 10/20,000/50,000/150,000 and an Accuracy of 5/6/8/11.) Running certain systems, such as some weapons, through the deflector can enhance their performance (see Chapter Two).

At impulse speeds or up to Warp 8, only one of the deflector's generators has to be operational. From Warp 8.1 to 9.1, at least two must function. At Warp 9.2 or higher, all three generators must operate to ensure the safety of the ship. If the deflector does not have enough functioning generators, or is not supplied with sufficient Power, the ship may suffer wear and tear (or worse damage); the Narrator determines the exact effects (if any).

A navigational deflector costs 4 x Size in SUs (this cost includes the small secondary deflector built into the saucer or other detachable sections of some ships). It costs 5 Power per round to use (whether standard uses, or unusual ones like emitting old-style delta waves). Characters operate it with Shipboard Systems (Flight Control) or, for more specialized uses, Shipboard Systems (Deflector).

Additionally, Starfleet now constructs some ships, such as the *Intrepid*-class Light Explorer, with a small auxiliary deflector. These cost 1

x Size in SUs. They require the same amount of Power as a main deflector, but since they are less efficient, they impose a -1 Test Result penalty on all Tests made using them.

SENSOR SYSTEMS

Sensors are a starship's "eyes." They allow it to detect not only phenomena visible to humanoid sight, but an enormous number of electromagnetic and physical phenomena which humanoid senses cannot perceive. Every starship has many different types of sensors (Explorers, Scouts, and Research/Laboratory vessels tend to have more or better sensors, for obvious reasons), divided into four types: long-range; lateral (or short-range); navigation; and specialized.

Sensors are rated for three characteristics: the range over which they work accurately; their "gain," or strength and efficiency relative to their power input (represented in game terms as a bonus to Shipboard Systems (Sensors) Test Results); and their Strength, or ability to overcome interference (see page 148 for rules on sensor interference).

Caveat: Standard Starfleet sensor technology, as extremely sensitive as it is, does not detect some 15,000 substances. The regular sensor settings do not include certain unusual, rare, and/or exotic materials. It excludes these from the standard analysis routines because they occur so infrequently that it's inefficient to search for them all the time. Crewmembers can recalibrate sensors to detect many of these substances, but this usually requires them to "blind" the sensors to something they normally register. Detecting the other types of exotic particles requires special sensor equipment and/or analysis programming.

Improving Sensor Performance

Using any type of sensor costs 5 Power per round. For every +5 Power devoted to a sensor, it provides a +1 Test Result bonus to Shipboard Systems (Sensors) Tests made with them (maximum equal to half of the sensor's Class [round down] or +4, whichever is less). For example, long-range sensors with a Class 7 Strength package could receive a bonus of up to +3 (half of 7) for 5 Power per point; lateral sensors with a Class 10 package could receive a bonus of up to +4 (10/2 = +5, but the maximum bonus is +4). For lateral sensors, Narrators may wish to reduce the maximum bonus to +2 when ships use them to obtain improved targeting locks in combat, to maintain game balance.

ACTIVE AND PASSIVE SENSING

An important distinction between different types of scans involves active versus passive sensor use. Active scans require the ship to project some form of energy, then read what happens to that energy (how it reflects back to the ship or dissipates) to locate and track objects and phenomena. Active scanning gives a ship a control over what it's detecting (or trying to), but reveals the ship's position to other ships. Passive scans, on the other hand, involve receiving and analyzing forms of energy or other phenomena which come to the ship on their own—the energy projected by a star, for example. Ships have less control over what a passive scan can detect (if the target of the scan is not emitting any radiation, the ship can't perceive it), but don't run the risk of detection just for sitting there with their "eyes and ears" open.

Active sensor scan pulses typically travel at Warp 9.9997. At this speed, it takes about 45 minutes to perform a long-range scan at 17 light-years. (Use the 9.9999 row on the "Travel Times at Warp" table, page 215 of the *Star Trek: The Next Generation Roleplaying Game* core rulebook or page 213 of the *Star Trek: Deep Space Nine Roleplaying Game* core rulebook, to determine the time an active scan takes.)

EXCEEDING A SENSOR'S RANGE

All sensors have a maximum effective range. For ease of game play, it is assumed that beyond that range, a sensor's effects or readings become so attenuated or vague or contradictory that they're useless. If they prefer, Narrators may instead impose substantial Test Result penalties for scans beyond a sensor's maximum range—+1 Difficulty for every .25 light-years beyond maximum for long-range sensors; +4 Difficulty or greater for other sensors. The further beyond the sensor's range an object is, the greater the penalty to Tests made to detect it, and the more vague the data recovered.

Long-Range Sensors

SU Cost: Varies (see table)
Power Cost: 5 Power per round of use

The long-range sensors, located behind the deflector dish, include narrow- and wide-angle active electromagnetic scanners, a parametric subspace field stress sensor, a gravimetric distortion scanner, an electromagnetic flux sensor, a lifeform analysis instrument cluster, a passive neutrino imaging scanner, a thermal imaging array, and a gamma-ray telescope.

Long-range sensors usually involve active scanning. They work better at high resolution (+1 to Shipboard Systems (Sensors) Test Results), but this limits their range to five light-years. Their maximum range (at medium-to-low resolution) is typically in the 14-17 light-year range. The arc of detection is usually about 45 degrees in front of the ship, though this narrows slightly

LONG-RANGE SENSORS TABLE

Package	SU	Range (Point Blank/Short/Medium/Long)
Type 1	4	High Resolution: 4 light-years (.5/.6-1.0/1.1-3.0/3.1-4.0)
		Low Resolution: 10 light-years (1/1.1-3.0/3.1-7.0/7.1-10)
Type 2	8	High Resolution: 5 light-years (.5/.6-1.0/1.1-3.5/3.6-5.0)
		Low Resolution: 12 light-years (1/1.1-3.0/3.1-8.0/8.1-12)
Type 3	12	High Resolution: 5 light-years (.5/.6-1.0/1.1-3.5/3.6-5.0)
		Low Resolution: 13 light-years (1/1.1-3.5/3.6-9.0/9.1-13)
Type 4	16	High Resolution: 5 light-years (.5/.6-1.0/1.1-3.5/3.6-5.0)
		Low Resolution: 14 light-years (1/1.1-3.5/3.6-10.0/10.1-14)
Type 5	20	High Resolution: 5 light-years (.5/.6-1.0/1.1-3.7/3.8-5.0)
		Low Resolution: 15 light-years (1/1.1-4.0/4.1-12.0/12.1-15)
Type 6	24	High Resolution: 5 light-years (.5/.6-1.0/1.1-3.7/3.8-5.0)
		Low Resolution: 16 light-years (1/1.1-5.0/5.1-12.0/12.1-16)
Type 7	28	High Resolution: 5 light-years (.5/.6-1.0/1.1-3.8/3.9-5.0)
		Low Resolution: 17 light-years (1/1.1-6.0/6.1-13.0/13.1-17)
Type 8	32	High Resolution: 6 light-years (.5/.6-1.0/1.1-4.5/4.6-6.0)
		Low Resolution: 18 light-years (1/1.1-6.5/6.6-13.5/13.6-18)

Strength Package	SU	Strength Rating
Class 1	2	1
Class 2	4	2
Class 3	6	3
Class 4	8	4
Class 5	10	5
Class 6	12	6
Class 7	14	7
Class 8	16	8
Class 9	18	9
Class 10	20	10

Gain Package	SU	Test Result Bonus
Standard	0	+0
Class Alpha	3	+1
Class Beta	6	+2
Class Gamma	12	+3

Coverage Packages: Standard ship sensors cannot detect about 15,000 substances and effects unless they're calibrated for them (see text). However, a ship can reduce this number by -1,000 substances for every 3 SUs (thus making its sensors better), or increase it +1,000 substances for every -2 SUs (thus making them worse).

at longer ranges.

The accompanying table indicates the range, gain, strength, and SU cost for long-range sensor packages. Range includes Point Blank, Short, Medium, and Long ranges for high and low resolution use of the sensors (high resolution provides a better "picture" and more information). The base Difficulties to detect an object at those ranges are 3, 4, 7, and 10, respectively, but many circumstances (interference, the size or quality of the target, and so forth) may modify this Difficulty. (If the rules give a standard Difficulty for performing a task with sensors, such as detecting a cloaked ship, use that Difficulty or the Difficulty for range, whichever is higher.) For every .25 light-year beyond Long range, increase the Difficulty to detect a target by +1.

Lateral Sensors

SU Cost: 2 x Class for basic sensors; gain adds to cost (see table)

Power Cost: 5 Power per round of use

Lateral sensors, so called because their sensor pallets are usually located along the edges or sides of various parts of a ship, are short-range systems which can detect a wide range of phenomena from any direction around the ship. The individual sensor pallets are located all over the ship's hull to maximize signal gain and system flexibility, and to provide redundancy in case some pallets are damaged. On most starships standard Starfleet sensor packages occupy the majority of a ship's lateral sensor pallets, but the remainder are open for mission-specific sensor packages. The standard Starfleet science sensor array consists of six pallets, each containing one to six specific sensory devices.

Lateral sensors are both active and passive. Among their many uses, they are employed extensively in combat situations to monitor enemy movement and activities. Their maximum active range is approximately one light-year; their gain depends on the gain package taken (see table). The SU cost for the gain package adds to the base cost of the lateral sensors, which is 2 x class.

Navigational Sensors

SU Cost: 2 x Class for basic sensors; gain adds to cost (see table)

Power Cost: 5 Power per round of use

Navigational sensors, which help the flight control officer steer the ship in the proper

LATERAL SENSORS TABLE

Strength Package	SU	Strength Rating
Class 1	2	1
Class 2	4	2
Class 3	6	3
Class 4	8	4
Class 5	10	5
Class 6	12	6
Class 7	14	7
Class 8	16	8
Class 9	18	9
Class 10	20	10

Gain Package	SU	Test Result Bonus
Standard	0	+0
Class Alpha	3	+1
Class Beta	6	+2
Class Gamma	9	+3

Coverage Packages: Standard ship sensors cannot detect about 15,000 substances and effects unless they're calibrated for them (see text). However, a ship can reduce this number by -1,000 substances for every 3 SUs (thus making its sensors better), or increase it +1,000 substances for every -2 SUs (thus making them worse).

NAVIGATIONAL SENSORS TABLE

Strength Package	SU	Strength Rating
Class 1	2	1
Class 2	4	2
Class 3	6	3
Class 4	8	4
Class 5	10	5
Class 6	12	6
Class 7	14	7
Class 8	16	8
Class 9	18	9
Class 10	20	10

Gain Package	SU	Test Result Bonus
Standard	0	+0
Class Alpha	2	+1
Class Beta	4	+2
Class Gamma	8	+3

direction and avoid space debris, include a quasar telescope, passive subspace multibeacon receivers, stellar graviton detectors, a Federation Timebase Beacon receiver, and various IR and UV imagers and trackers. The ship's guidance and navigation (G&N) relay handles the flow of sensor data and converts it into usable information with three- and four-dimensional flight motion software which feeds directly into the flight control system.

The accompanying table indicates the strength, gain and SU cost of navigational sensors. The gain bonus applies to Shipboard Systems (Sensors) or (Flight Control) Tests to detect an object in a vessel's flight path, determine where the starship is located, chart a course, or the like.

Probes

SU Cost: .5 SUs per 5 probes (minimum of 1)

Power Cost: 5 Power to launch

Sometimes ships need to extend the range and/or sensitivity of their sensors. They do this with *probes,* automated sensor platforms launched from missile launchers; they use microfusion propulsion systems and/or warp field sustainers to travel beyond the ship itself. All probes can withstand atmospheric entry; some are even capable of gently descending through an atmosphere to the surface of a planet to run scans. Most allow for some degree of remote operation, so that the ship's crewmembers (typically the Flight Control or Tactical officer) can direct the probe where they want it to go. Probes, which are about two meters long, are encased in a photon torpedo casing or a gamma-welded duranium-tritanium and pressure-bonded lufium boronate hull.

The Federation uses nine classes of probes. The designations indicate particular mission types the probe is suited for, or its capabilities; a higher numerical classification does not indicate that a probe is "better" than other probes. However, a higher-designation probe usually flies more quickly and has a greater range. Other species use similar probes.

Probes generate sufficient internal Power to operate their systems until they reach their maximum range or otherwise cease to function. It costs the ship 5 Power to launch one, however.

In an emergency situation, a probe can be outfitted with a warhead to create a crude torpedo. This requires 10 minutes and a successful

COMMON PROBE CHARACTERISTICS

All probes have the following characteristics in common:

Size: 1

Resistance: 0

Crew/Passengers/Evac: None

Computers: 1

PROBE TYPES TABLE

Type	Speed	Range	Long	Lat	Nav
Class I	.5 c	200,000 km	--	+2	--
Class II	.65 c	400,000 km	--	+2	--
Class III	.65 c	1,200,000 km	--	+2	--
Class IV	.6 c	3,500,000 km	--	+2	--
Class V	Warp 2, .5c	430 billion km	--	+3	--
Class VI	.8 c	430 billion km	--	+1	+3
Class VII	Warp 1.5, .5c	450 million km	--	+3	--
Class VIII	Warp 8/9	See Notes	+3	+3	--
Class IX	Warp 8/9	See Notes	+3	+3	--

Range: The distance the probe is expected to travel before it stops functioning. The crewmember directing the probe can usually extend this range by restricting the probe's velocity or thrust time.

Long, Lat, Nav: The probe's long-range, lateral, and navigational sensor capacity, listed as a bonus to the operator's Shipboard Systems (Sensors) Skill (the probe returns its telemetry to the ship constantly). Use the probe's bonus, or the bonus from the sensors' Gain Package, whichever is better; do not combine them.

Notes

1. Class I and II Probes: Short-range astronomical probes which analyze EM radiation, interstellar chemistry, and subspace fields.

2. Class III and V Probes: These probes land on planets and return samples, thus providing a detailed on-site analysis of the planet. Crews can also use Class III probes to analyze the capabilities of enemy starships. They have "stealth" capabilities (see below).

3. Class IV Probes: These probes perform close observation of stars and other high-energy phenomena.

4. Class VI Probes: Communicator relays and emergency beacons. They cannot attain warp speed (to make it harder to detect them with subspace sensors), but have high sublight velocities. When a Class VI probe exhausts its fuel supply, it coasts and broadcasts a recovery signal toward Federation space. The probe's navigational module facilitates recovery and trajectory tracking.

5. Class VII Probes: These probes orbit an inhabited planet for up to three months to collect information about its inhabitants and relay it to the ship. They have "stealth" capabilities (see below).

6. Class VIII and IX Probes: Long-range sensor probes. In crisis situations, they can be used to send a lone passenger on an emergency mission. The range of a Class VIII probe depends upon its speed. At Warp 8, it can travel about 12 light-years; at warp 9, it travels for a maximum of 6.5 hours. Its long-range sensors have a range of 6 light-years. Similarly, a Class IX probe can travel for about 14 days (76 light-years) at Warp 8; at Warp 9, it travels for a maximum of 12 hours. Its long-range sensors have a range of 12 light-years.

Stealth capabilities: Some probes have "stealth" technology which makes it more difficult to detect them with sensors. This is the equivalent of a Cloak 2 (or a Cloak 6 for the Class III), but costs no Power.

Systems Engineering (Weapon Systems) Test (failure allows the character to try again; Dramatic Failure means he *thinks* he's succeeded, but the torpedo is a dud). A "probepedo" has range of 15/300,000/1,000,000/3,500,000 and an Accuracy of 5/6/8/11; it does as much damage as a normal torpedo with the same warhead.

Probes cost .5 SU per 5 to store, just like torpedoes, with which they are usually kept (mixed batches are possible; see page 70).

Sensors Skill

SU Cost: None
Power Cost: None

For ships run by NPC crews, or when describing a class of ships generally, Narrators can establish a Sensors Skill rating. This indicates how competent the average crewmember is when he uses the ship's sensors, and the general sophistication of those sensors. Consider it the equivalent of a Shipboard Systems (Sensors) Skill (assume an Intellect of 2). When using the Sensors Skill characteristic, you should not normally apply bonuses for the gain of a sensor.

Sensors Skill costs no SUs or Power (though use of the sensors themselves does cost Power, as described above).

FLIGHT CONTROL SYSTEMS

Ultimately, starships are vehicles—a way physically to get from one part of the galaxy to another. That means they have many systems for steering or maneuvering them, or to assist with related tasks such as navigation.

Autopilot

SU Cost: 3 SUs per level of skill (maximum of 4), plus 1 SU per point of Coordination (maximum of 3)
Power Cost: 1 Power per round of use

In situations when a ship's pilot or pilots are disabled or cannot fly the ship, the *autopilot* can be activated. Using sophisticated computer subroutines, the autopilot flies the ship. The

most advanced autopilot systems are as good as, or better than, the average humanoid pilot.

In game terms, an autopilot system is simulated with a Shipboard Systems (Flight Control) skill and Coordination level. The SU cost is 3 SUs per level of skill (minimum of 1, maximum of 4) *plus* 1 SU per point of Coordination (minimum of 1, maximum of 3). An autopilot's Flight Control skill may only be used to pilot the ship; it does not count as a Specialization or allow the autopilot to operate other ship systems.

Example: *A scout ship has an autopilot with Shipboard Systems (Flight Control) 3 and Coordination 2. When the autopilot must make a Test to fly the ship, it rolls two dice and adds 3 to the roll.*

Navigational Computers

SU Cost: Varies (see table)
Power Cost: Varies (see table); 1 Power per round of use for backup navigational computer

Because flight control is such an important aspect of ship operations, it has its own dedicated computer system, the *navigation computer,* to assist the Flight Control officer. The standard nav computer does not cost SUs or Power; it's part of the bridge and related systems. But some ships, due to their engines or main computers or assigned missions, need better navigational computers to improve the Flight Control officer's ability to fly the ship. This means uprating the nav computer. The accompanying table lists the SU and Power cost and benefits of uprating packages (the bonus provided improves the Flight Control officer's Shipboard Systems (Flight Control) Test Results). Navigational computers are not cumulative; a ship can only have one in effect, and cannot have both an uprating and a downgrade.

Most ships have at least one backup navigational computer as well, to take over for the main nav computer if it's damaged or malfunctions. A backup nav computer occupies 1 SU (or 0 SU if the basic computer is a Class 1), costs no Power, and provides no Test bonuses.

NAVIGATIONAL COMPUTER TABLE

Type	SU	Power	Modifier
Class 1	0	0	+0 (standard model)
Class 2	2	1	+1
Class 3	4	2	+2
Downgrade	-1	0	-1

Inertial Damping Field

SU Cost: 2 x Size for main generator; .5 x Size for backup generator
Power Cost: 3 Power per round

The tremendous acceleration and deceleration involved with space travel and starship combat would be enough to cause fatal injury to everyone aboard ship if not for the *inertial damping field* (IDF). The IDF is a series of variable-symmetry force fields which absorbs and counteracts the forces generated by starship travel. Although normally maintained at a low level throughout the ship, it can respond to data from Flight Control to "redistribute" itself along vectors directly opposing the force generated (there is a millisecond delay while this occurs, so a drastic maneuver may cause some crewmembers to stumble or fall out of their chairs). Thus, the crew on a ship usually feels little, if anything, when the ship accelerates, decelerates, or maneuvers. (See page 124 for information on the consequences of IDF failure.)

A main IDF generator costs 2 x Size in SUs. The IDF automatically has a rating equal to the whole number of a ship's Maximum warp speed (for example, a ship with a Maximum of Warp 9.975 has an IDF with a rating of 9; if a ship can only travel at impulse speeds, its IDF has a rating equal to its maximum impulse speed expressed as a whole number). The IDF costs 3 Power per round. It can improve its rating to a maximum of 150% of standard for an additional 3 Power per rating point above its base rating. For example, an IDF 9 costs 3 Power to maintain that rating; it can be improved to as much as 14 (9 x 1.5) for 3 Power per point (or a total of 18 Power to maintain a full rating of 14). The stronger an IDF's rating, the more inertial force it can protect the crew from. (For information on how the IDF works in combat, see page 124.)

Starfleet protocols require a ship to have at least one main IDF generator for every two points of Size; many vessels have more. It should also have at least one backup IDF generator for every two main generators (again, many ships have more). Backup IDF generators cost .5 x Size in SUs (minimum of 1 SU), cost 2 Power when in use, and provide two-thirds of the rating of a main IDF generator (thus, on a ship with an

IDF 9, the backup IDFs have a rating of 6). The strength of a backup IDF may be improved with extra Power, per the rules above.

Attitude Control

SU Cost: .25 x Size
Power Cost: (.25 x Size) Power per round

Attitude control, which is tied in to the navigational computer and flight control systems, helps to maintain the ship in an "upright" position, with its axes properly oriented along its projected flight path. Without it, a ship will wobble, shake, yaw, and become difficult to steer properly. Even a strong IDF cannot compensate for the loss of attitude control, which makes the ride uncomfortable for everyone aboard. (See page 91 for rules regarding loss of attitude control.)

Attitude control costs (.25 x Size) Power per round. Increasing the Power to it has no effect.

Specialized Flight Control Systems

Manual Steering Column

SU Cost: 1
Power Cost: 1 Power per round of use

Some ships come equipped with a Manual Steering Column (MSC) for use in situations where precise flying is absolutely necessary (typically, this means some starship combat situations). The MSC, which takes one round to deploy, provides +1 die to roll when making Shipboard Systems (Flight Control) Tests.

An MSC costs 1 SU. It requires 1 Power per round to operate; increasing the Power to the system has no effect.

Neurogenic Interface

SU Cost: 1 x Size
Power Cost: 4 Power per round of use

A neurogenic interface works by interfacing directly with a pilot's brain. This allows him to operate flight control, sensors, ops, and other systems by thought alone, which greatly improves reaction time and ship responsiveness. In game terms, it provides a +2 Test Result bonus to Shipboard Systems (Flight Control) Tests.

Neurogenic interfaces are not perfect, however. In many cases they cause the user to experience hallucinations that the ship is a "real person" which talks to him, become addicted to using the system, or suffer neurological damage. This is particularly likely when the pilot using the interface is not of the same species as the interface's builders. The Narrator should determine the exact effects of using an interface.

Communications Systems

SU Cost: Varies (see table)
Power Cost: 2 Power per round of use

If sensors are a starship's eyes, its communications systems are its ears and its voice. Through personal communicators, planetary broadcast stations, and the Federation's subspace relay network, a starship can use its subspace radio and other communications devices to contact just about anyone in the quadrant.

Subspace radio waves propagate at Warp 9.9997, far faster than the fastest starship, but not always fast enough to allow instantaneous communication with distant locations. Sometimes communications lags of hours or days result, but in most situations any lags are minimal. However, subspace radio waves cannot travel more than 22.65 light-years without degrading to unacceptable levels. Thus, networks of manned and unmanned subspace relay stations are required for communication across the quadrant. No existing or projected Federation technology can overcome this "97/22" limit (though the Borg, at least, seem to be able to use interplexing beacons to project messages farther than 22.65 light-years).

Most ships have medium-powered subspace transceivers for ship-to-ground communications, and ultra-high-powered transceivers for ship-to-ship and long-range communications needs. The transceivers are located at various points within the ship to provide maximum coverage. Medium-powered transceivers have a maximum range of about 60,000 kilometers; ultra-high-powered transceivers a maximum range of 22.65 light-years as described above.

Many Starfleet communications contain confidential, classified, or secret information which Threat species must not be allowed to overhear. To prevent such breaches of security, a *secured channel* may be used for communicating. A secured channel uses Starfleet's advanced encryption algorithms to prevent outsiders from understanding the transmission. Every communication system has a security rating, represented as the penalty to Espionage (Cryptography) Tests made to defeat Starfleet's encryption or to Shipboard Systems (Communications) or Computer (Data Alteration/Hacking) Tests made to penetrate a ship's computer systems remote-

ly.

The accompanying table lists the SU cost, strength, and security rating for various types of communication systems. It includes some basic uprating packages which provide bonuses to Shipboard Systems (Communications) Tests, and security uprating packages which improve the security rating of the communications system. Uprating packages are not cumulative; a ship can only have one basic package and one security package in effect. A ship has two medium-powered transceivers and one ultra-high-powered transceiver per strength rating.

Communications costs 2 Power per round to operate at its standard strength. A system's Strength and Security may be improved to those of a class up to 150% of its class by increasing the power flow to it; this costs 3 points of Power for every class beyond the normal. For example, a Class 4 communications system could be improved to Class 6-level performance, but the total cost would be 8 Power per round (2+3+3).

Universal Translator

SU Cost: None
Power Cost: None

Every ship's computer is equipped with a *universal translator*. This subroutine analyzes spoken or written language, compares it to its database (which holds thousands of languages), and in almost all cases makes an instant two-way translation—each participant in the conversation hears or reads the other person's speech in his native tongue. However, the use of the UT is obvious; the speech comes from it, not the persons speaking. If a language is not in the UT's database, it can analyze the language and usually delivers a reasonable translation after no more than a half hour of exposure (the more speech or writing it has to analyze, the less time translation usually takes, though the exotic nature or complexity of some languages requires more processing time).

COMMUNICATIONS TABLE

Strength	SU	Strength Rating	Security
Class 1	2	1	-0
Class 2	4	2	-1
Class 3	6	3	-1
Class 4	8	4	-2
Class 5	10	5	-2
Class 6	12	6	-2
Class 7	14	7	-3
Class 8	16	8	-3
Class 9	18	9	-4
Class 10	20	10	-5

Basic Uprating	SU	Test Result Bonus
Class Alpha	3	+1
Class Beta	6	+2

Security Uprating	SU	Security Increase
Class Gamma	2	-1
Class Delta	4	-2
Class Epsilon	6	-3

Emergency Communications

SU Cost: 1
Power Cost: 2 Power per round of use

In crisis situations, such as when main communications is damaged or invaders have locked out the normal communications system, some ships have an emergency communications system which the crew can access. An emergency communications system is half the strength of the main communications system; it uses many of the same resources, so it only costs 1 SU. It costs 2 Power per round to operate; its performance can be improved by spending extra Power, as described above.

Holocommunications System

SU Cost: +1 to Communications
Power Cost: None

Some of the latest Starfleet vessels incorporate a system which links communications with a small holoemitter array. When used to communicate with another, similarly equipped, vessel, a holocommunications system allows the persons communicating to "see" each other.

A holocommunications system adds 1 SU to the cost of a communications system. It does not cost any extra Power to operate.

TRACTOR BEAMS

SU Cost: Varies (see table)
Power Cost: 3 Power per point of Strength used per round

Starships sometimes have to manipulate large objects (such as other ships or asteroids) at a distance from the ship. Examples include towing a derelict or damaged vessel, stopping an enemy ship from fleeing, and clearing a path through an asteroid belt. To do this, they use

tractor beams.

Tractor beams use emitters to project superimposed subspace/graviton force beams onto a target object. This places spatial stress on the target, and manipulation of these stress patterns allows the ship to push the target away, pull it closer, or hold it in place. Main tractor emitters must be mounted directly to a ship's primary structural framework to resist the stress and inertial potential imbalance created by tractor beam use.

Range and Mass

The accompanying tables detail the amount of mass a particular class of tractor beam can move at various ranges, as well as the SU cost for the various models and their accuracy at range. A tractor beam costs 3 Power per round per point of Strength. For example, if a ship with a Class Delta tractor beam needed to move a mass of 100,000 metric tonnes at a range of 100 kilometers, it would have to set its tractor beam at 9, so it would cost 27 Power per round to move that object. If a particular mass or distance is not listed on the tables, round up to the next highest category.

However, a tractor beam's effective range depends upon the mass of the object being moved, and how quickly the user wants to move it. The parameters listed on the accompanying tables assume a delta-*v* (change in velocity) of approximately five meters per second squared. To double that speed, halve the effective movable mass or distance; at half that speed, a tractor can move either twice as much mass or move the listed mass at twice the listed distance.

Additionally, characters can improve the performance of a tractor beam by using the beam more effectively. In addition to assuming a delta-*v* of five meters per second squared, the accompanying tables also assume a Routine (3) Difficulty for any Shipboard Systems (Tractor Beam) Tests involved in moving the object (this is a separate roll from the roll to latch onto the object, which depends on the range to the object and the model used). For every increase in Difficulty *category* (Moderate (6), Challenging (9), and so on), a character can double the delta-*v* at which a given mass is moved at a given range, double the amount of mass moved at standard delta-*v* at a given range, or double the range at which a given mass can be moved at standard delta-*v*.

Example: *The* U.S.S. Redmond *has a Class Delta tractor beam. It wants to move 100,000 metric tonnes (a large asteroid) at a range of 100 km. It can move the asteroid at a speed of five meters per second squared. At a speed of 2.5 meters per second squared, it could move 200,000 metric tonnes at 100 km, or 100,000 metric tonnes at 200 km. If a Test is required, it would be a Routine (3) Difficulty.*

The Ops officer on the Redmond *decides that the ship can't afford to reduce the mass or move closer, but that he needs to move that mass quickly, at 10 meters per second squared. Since he's not willing to reduce the mass or the distance, he can do this by making a Shipboard Systems (Tractor Beam) Test at a Difficulty one category higher—Moderate (6). Alternately, by making that Test he could maintain the standard delta-v (5 m/sec²), but move 200,000 metric tons at 100 km, or 100,000 metric tonnes at 200 km.*

Main and Secondary Tractor Beams

The larger tractor beams on a ship are referred to as its "main" tractor beams. These usually include one aft ventral (for towing ships and so forth) and at least one forward for moving objects in front of the ship. In addition, ships have "secondary" tractor beams in its shuttlebays to help maneuver incoming craft. Typically secondary tractors are, at best, Class Alpha or Beta; main tractors are usually Gamma- or Delta-class, but this depends on the size of the ship. Many ships have Class Alpha tractors in their shuttlebays to help shuttles make smooth landings.

Tractor beams cost 3 Power per point of Strength used. They cannot be enhanced with extra Power. For information on using tractors in combat, see page 155.

Specialized Tractor Beams

Multiphase Tractor Beam

SU Cost: +1 SU to normal tractor beam cost

Power Cost: Special (see text)

Multiphase tractor beams allow warp engine Power to be channelled to the tractor beam more effectively. When using Power to run a multiphase tractor, the Power cost is only 2 Power per point of Strength provided that the

CLASS DELTA TRACTOR BEAM (12 SUS)

Accuracy: 4/5/7/10

					Range					
Str	1 km	10 km	50 km	100 km	1,000 km	2,000 km	4,000 km	8,000 km	14,000 km	20,000 km
10	7,500,000 mt	5,000,000 mt	1,000,000 mt	500,000 mt	100,000 mt	50,000 mt	1,000 mt	100 mt	10 mt	1 mt
9	5,000,000 mt	1,000,000 mt	500,000 mt	100,000 mt	50,000 mt	1,000 mt	100 mt	10 mt	1 mt	500 kg
8	1,000,000 mt	500,000 mt	100,000 mt	50,000 mt	1,000 mt	100 mt	10 mt	1 mt	500 kg	250 kg
7	500,000 mt	100,000 mt	50,000 mt	1,000 mt	100 mt	10 mt	1 mt	500 kg	250 kg	100 kg
6	100,000 mt	50,000 mt	1,000 mt	100 mt	10 mt	1 mt	500 kg	250 kg	100 kg	50 kg
5	50,000 mt	1,000 mt	100 mt	10 mt	1 mt	500 kg	250 kg	100 kg	50 kg	25 kg
4	1,000 mt	100 mt	10 mt	1 mt	500 kg	250 kg	100 kg	50 kg	25 kg	10 kg
3	100 mt	10 mt	1 mt	500 kg	250 kg	100 kg	50 kg	25 kg	10 kg	5 kg
2	10 mt	1 mt	500 kg	250 kg	100 kg	50 kg	25 kg	10 kg	5 kg	2.5 kg
1	1 mt	500 kg	250 kg	100 kg	50 kg	25 kg	10 kg	5 kg	2.5 kg	1 kg

CLASS GAMMA TRACTOR BEAM (9 SUS)

Accuracy: 4/5/7/10

					Range					
Str	1 km	10 km	50 km	100 km	1,000 km	2,000 km	4,000 km	8,000 km	14,000 km	20,000 km
10	5,000,000 mt	1,000,000 mt	500,000 mt	100,000 mt	50,000 mt	1,000 mt	100 mt	10 mt	1 mt	500 kg
9	1,000,000 mt	500,000 mt	100,000 mt	50,000 mt	1,000 mt	100 mt	10 mt	1 mt	500 kg	250 kg
8	500,000 mt	100,000 mt	50,000 mt	1,000 mt	100 mt	10 mt	1 mt	500 kg	250 kg	100 kg
7	100,000 mt	50,000 mt	1,000 mt	100 mt	10 mt	1 mt	500 kg	250 kg	100 kg	50 kg
6	50,000 mt	1,000 mt	100 mt	10 mt	1 mt	500 kg	250 kg	100 kg	50 kg	25 kg
5	1,000 mt	100 mt	10 mt	1 mt	500 kg	250 kg	100 kg	50 kg	25 kg	10 kg
4	100 mt	10 mt	1 mt	500 kg	250 kg	100 kg	50 kg	25 kg	10 kg	5 kg
3	10 mt	1 mt	500 kg	250 kg	100 kg	50 kg	25 kg	10 kg	5 kg	2.5 kg
2	1 mt	500 kg	250 kg	100 kg	50 kg	25 kg	10 kg	5 kg	2.5 kg	1 kg
1	500 kg	250 kg	100 kg	50 kg	25 kg	10 kg	5 kg	2.5 kg	1 kg	.5 kg

CLASS BETA TRACTOR BEAM (6 SUS)

Accuracy: 5/6/8/11

					Range					
Str	1 km	10 km	50 km	100 km	1,000 km	2,000 km	4,000 km	8,000 km	14,000 km	20,000 km
10	1,000,000 mt	500,000 mt	100,000 mt	50,000 mt	1,000 mt	100 mt	10 mt	1 mt	500 kg	250 kg
9	500,000 mt	100,000 mt	50,000 mt	1,000 mt	100 mt	10 mt	1 mt	500 kg	250 kg	100 kg
8	100,000 mt	50,000 mt	1,000 mt	100 mt	10 mt	1 mt	500 kg	250 kg	100 kg	50 kg
7	50,000 mt	1,000 mt	100 mt	10 mt	1 mt	500 kg	250 kg	100 kg	50 kg	25 kg
6	1,000 mt	100 mt	10 mt	1 mt	500 kg	250 kg	100 kg	50 kg	25 kg	10 kg
5	100 mt	10 mt	1 mt	500 kg	250 kg	100 kg	50 kg	25 kg	10 kg	5 kg
4	10 mt	1 mt	500 kg	250 kg	100 kg	50 kg	25 kg	10 kg	5 kg	2.5 kg
3	1 mt	500 kg	250 kg	100 kg	50 kg	25 kg	10 kg	5 kg	2.5 kg	1 kg
2	500 kg	250 kg	100 kg	50 kg	25 kg	10 kg	5 kg	2.5 kg	1 kg	.5 kg
1	250 kg	100 kg	50 kg	25 kg	10 kg	5 kg	2.5 kg	1 kg	.5 kg	.25 kg

kg: kilogram (2.2 pounds)

mt: metric tonnes (1 mt = 1,000 kg)

CLASS ALPHA TRACTOR BEAM (3 SUS)

Accuracy: 5/6/8/11

					Range					
Str	1 km	10 km	50 km	100 km	1,000 km	2,000 km	4,000 km	8,000 km	14,000 km	20,000 km
10	500,000 mt	100,000 mt	50,000 mt	1,000 mt	100 mt	10 mt	1 mt	500 kg	250 kg	100 kg
9	100,000 mt	50,000 mt	1,000 mt	100 mt	10 mt	1 mt	500 kg	250 kg	100 kg	50 kg
8	50,000 mt	1,000 mt	100 mt	10 mt	1 mt	500 kg	250 kg	100 kg	50 kg	25 kg
7	1,000 mt	100 mt	10 mt	1 mt	500 kg	250 kg	100 kg	50 kg	25 kg	10 kg
6	100 mt	10 mt	1 mt	500 kg	250 kg	100 kg	50 kg	25 kg	10 kg	5 kg
5	10 mt	1 mt	500 kg	250 kg	100 kg	50 kg	25 kg	10 kg	5 kg	2.5 kg
4	1 mt	500 kg	250 kg	100 kg	50 kg	25 kg	10 kg	5 kg	2.5 kg	1 kg
3	500 kg	250 kg	100 kg	50 kg	25 kg	10 kg	5 kg	2.5 kg	1 kg	.5 kg
2	250 kg	100 kg	50 kg	25 kg	10 kg	5 kg	2.5 kg	1 kg	.5 kg	.25 kg
1	100 kg	50 kg	25 kg	10 kg	5 kg	2.5 kg	1 kg	.5 kg	.25 kg	.1 kg

kg: kilogram (2.2 pounds)

mt: metric tonnes (1 mt = 1,000 kg)

Power comes from the warp engine. The Power cost remains 3 Power per point of Strength for Power from all other sources. A multiphase tractor costs +1 SU more than a normal tractor beam.

One drawback to multiphase tractors is that they have a tendency to short out other systems on the ship. When one is used, roll 2d6. On a 2, roll on the Hit Location Table (page 112) and determine which system malfunctions. The system may be repaired in the usual manner; treat it as if at only 10% of its SUs for repair purposes.

TRANSPORTER SYSTEMS

SU Cost: Varies (see table)

Power Cost: Varies (see table)

Instead of using shuttles and other small craft to travel to and from their ships, Starfleet personnel can take advantage of one of the most miraculous of the Federation's technological achievements: the *transporter*. Transporters dematerialize a subject or object, transforming it from matter into energy, use a narrow-focus subspace carrier wave to transport the energy to a designated location, then transform the energy back into the matter which was dematerialized. Thus, a person can transport carrying his equipment without worrying about having a phaser's atoms mixed in with his, or his hair coming out blonde instead of black, or his tricorder failing to work.

Whenever any person or object is transported, the carrier wave includes a transporter ID trace—a computer record of the entire transport process. In the event of an accident, personnel can review the trace to try to find out what happened and, if possible, correct the situation.

The transport process takes about five seconds (1 full round) when using Federation equipment; other species' transporters may work a little slower or faster. Problems such as interference or equipment malfunction may slow the process considerably, or pose a risk to the subject. Operating a transporter is often a delicate and complex task, and even the lightest interference (see page 158) can render transport dangerous. Problems can easily result in "losing" a person's pattern forever or an improper materialization (almost always fatal), or sometimes in even more bizarre fates—individuals duplicated or divided into two separate beings, two persons melded into one, or temporal or dimensional rifts (which cause the subject to end up in a different time or dimension than he transported from), just to name a few horrific examples. Fortunately, such accidents are extraordinarily rare—multiple redundancies and safety procedures ensure that the vast majority of transports are absolutely safe, routine, and uneventful.

A transporter will not work through a shield or through a cloak. However, there are sometimes ways to avoid these restrictions; see page 161.

Types and Components

There are three types of transporters. The first, the personnel transporter, is primarily designed to transport humanoids and has a range of up to 40,000 kilometers. The second, the emergency transporter, is used to beam personnel away from the ship in evacuation situations; it cannot beam people into the ship, and only has a 15,000 kilometer range. Both of these transporters can also be used to transport objects, provided they fit on the transporter pads.

The third is the cargo transporter, which is mainly used for cargo and other bulky objects; it also has a range of up to 40,000 kilometers. Cargo transporters only work at the molecular level, and so cannot safely transport living beings (they would die). A character can make a Moderate (6) Systems Engineering (Transporter/Replication Systems) Test to reconfigure a cargo transporter for quantum-level operation (sufficient to safely transport living beings); a converted cargo transporter can transport one humanoid person per 400 kg of cargo capacity.

Transporters have six primary components:

Ship's personnel use the *control station* to monitor and control the operation of the transporter. Ordinary uses require no Tests and are very routine, but in case of problems only one of Starfleet's highly-trained transporter officers can ensure the safety of the transported person.

The transporter pad's *molecular imaging scanners* analyze the subject down to a quantum (subatomic) level. Other scanners on the ship's hull locate the destination for off-ship transports, or persons who are beaming up to the ship (for the latter, they can, by themselves or in conjunction with other sensors, lock on to a combadge signal, life signs, communication signal, or the like).

The *energizing and transition coils* dematerialize the subject, then materialize him at the destination. The energizing coils generate an Annular Confinement Beam (ACB), which creates a spatial matrix within which dematerialization takes place. An additional field holds the subject within the ACB, since disruption of the ACB field during dematerialization can create a massive energy discharge (which can kill the subject and sometimes bystanders). A transporter operator can boost or reconfigure the ACB in an attempt to overcome interference or other problems.

The subject's energy pattern is held by the *pattern buffer,* a magnetic holding tank, before transport begins (all transporters have multiple buffers for safety reasons). This allows the Doppler compensators to adjust for the relative motion between the ship and the destination. A pattern buffer can safely store a pattern for as long as seven minutes; beyond that, or if all pattern buffers experience a minor failure, the subject may begin to suffer from transporter psychosis, a treatable mental disorder which causes hallucinations and delusions (it usually takes several hours to manifest). A highly skilled engineer can preserve a matter stream for a long time by shuttling it from one pattern buffer to another (Chief Engineer Montgomery Scott of the original *U.S.S. Enterprise* kept himself alive for an astonishing 75 years with this trick until the crew of the *U.S.S. Enterprise*-D rescued him). (This requires a Nearly Impossible (15) Systems Engineering (Transporter/Replication Systems) Test; failure indicates pattern degradation, which kills the character.)

The *transporter biofilters* scan every transported matter stream for the presence of known harmful bacterial and viral agents (and some contraband items). If it finds any, the transporter automatically edits them out of the subject's matter stream. Similarly, most transporters automatically prevent the transport of dangerous items, such as bombs. (Personnel can use various protocols, described on page 159, to transport persons onto a ship without their weapons or other accouterments if desired.)

The *emitter and receiver arrays* on the ship's hull transmit and receive matter streams to and from the ship to the destination. (The presence or absence of a transporter pad at the destination or beam-up point does not affect the range of any type of transporter. However, it does make transporting safer and easier; when a person or object is transported from one pad to another, any Shipboard Systems (Transporter) Tests receive a +1 bonus to the Test Result.)

Buying Transporters

The accompanying table lists the SU costs of transporter components. You must buy three different components to create a transporter.

First, buy the transporter pads. The SU cost listed represents one pad (so, to build a six-pad personnel transporter, you'd have to buy six personnel pads at a total cost of 3 SUs).

Second, buy the emitter/receiver array. It determines the range of the transporter.

Third, buy the energizing/transition coils. They determine the transporter's "strength" and efficiency (its ability to overcome interference

TRANSPORTERS TABLE

Pad Type	SU	Power
Personnel	.5 per person	.5 per person transported
Emergency	.25 per person	.25 per person transported
Cargo	.5 per 100 kg	.5 per 100 kg transported

Emitter/Receiver	SU	Power	Range
Personnel Type 1	1	1	10,000 km
Personnel Type 2	2	1	15,000 km
Personnel Type 3	3	1	25,000 km
Personnel Type 4	4	2	30,000 km
Personnel Type 5	5	2	35,000 km
Personnel Type 6	6	2	40,000 km
Personnel Type 7[1]	7	3	50,000 km
Personnel Type 8[1]	8	3	100,000 km
Personnel Type 9[1]	9	3	500,000 km
Personnel Type 10[1]	10	4	1,000,000 km
Personnel Type 11[1]	11	4	2,000,000 km
Personnel Type 12[1]	12	4	5,000,000 km
Personnel Type 13[1]	13	5	1 light-year
Personnel Type 14[1]	14	6	2 light-years
Personnel Type 15[1]	15	7	3 light-years
Emergency Type 1	1	1	5,000 km
Emergency Type 2	2	1	10,000 km
Emergency Type 3	3	1	15,000 km
Emergency Type 4[1]	4	2	20,000 km
Emergency Type 5[1]	5	2	25,000 km
Cargo Type 1	1	1	10,000 km
Cargo Type 2	2	1	20,000 km
Cargo Type 3	3	2	40,000 km
Cargo Type 4[1]	4	3	80,000 km
Cargo Type 5[1]	5	4	160,000 km
Cargo Type 6[1]	6	4	500,000 km
Cargo Type 7[1]	7	5	1,000,000 km
Cargo Type 8[1]	8	5	5,000,000 km
Cargo Type 9[1]	9	6	1 light-year
Cargo Type 10[1]	10	6	2 light-years
Cargo Type 11[1]	11	7	3 light-years

[1]: This equipment is beyond the technological capabilities of the Federation or most of the species it interacts with as of 2375, with some exceptions (*e.g.*, the Dominion).

Energizing/Transition Coils	SU	Strength
Class A	1	1
Class B	2	2
Class C	3	3
Class D	4	4
Class E	5	5
Class F	6	6
Class G	7	7
Class H	8	8
Class I	9	9
Class J	10	10

and the like; see page 158).

Thus, to buy an eight-person personnel transporter with a range of 40,000 kilometers and Class H energizing/transition coils costs 18 SUs.

You can determine the Power cost of operating a transporter by adding up the numbers in the "Power" columns in the accompanying table. For example, using an 8-person, 40,000 km transporter with Class H coils costs 6 Power. However, the Power cost for the transporter pads depends on how many people are actually transported; if that eight-person transporter is used to transport only four people, it only uses 4 Power. A transporter's Strength may be improved by up to 150% by increasing the power flow to it; this costs 3 points of Power for every point of strength beyond the normal. For example, a Class H coil (Strength 8) can be improved to Strength 12, but this adds 12 Power (4 points x 3 Power each) to the base cost of using the transporter.

Extra Power can also be used to improve the range of a transporter, at the rate of 10 Power per +5% increase in distance (maximum of +20%). This also requires a Challenging (9) Shipboard Systems (Transporters) Test to boost the gain of the ACB properly.

See page 157 for rules on overcoming interference and other combat aspects of transporter use.

Example: *Jeffrey's designing a ship for his campaign. He wants it to have six personnel, six emergency, and four cargo transporters.*

For the personnel transporters, he wants six pads per transporter, with a Type 6 emitter/receiver array for each transporter and Class H energizing/transition coils (Strength 8) for each transporter. Creating one transporter like this costs 17 SU (3 SU for the pads, 6 SU for the array, and 8 SUs for the coils). Therefore, six such transporters costs him 102 SUs total.

For the emergency transporters, he wants 16 pads per transporter, with Type 3 arrays and Class H coils. One such transporter costs 15 SUs (4 SUs for the pads, 3 SUs for the array, and 8 SUs for the coils), so all six cost 90 SUs.

Lastly, he wants cargo transporters able to handle 400 kg at a time, with Type 3 emitters and Class H coils. The four transporters cost him 52 SUs ((2+3+8) x 4).

Advanced/Alternate Transporter Systems

Ships may have the following non-standard types of transporters with the Narrator's permission.

Borg and Dominion Transporters

SU Cost: 5 SUs per transporter
Power Cost: None

Borg transporter technology can effortlessly penetrate the shields of Starfleet vessels and other ships of a similar level of technological development (so could Dominion transporters until late 2373). This technology, which is not available to the Federation or similar governments, costs 5 SUs per transporter; there is no additional Power cost.

Folded Space Transport

Based upon the so-called Elway Theorem, this type of transporter folds space to transport persons or objects across great distances. However, each use of a folded space transporter causes irreversible damage to the subject. Each time a person uses a folded space transporter, he loses 0.1 point of Fitness. When he reaches Fitness 0, he dies. He cannot heal this damage, and all Fitness losses from folded space transport are permanent (he could, however, spend Experience Points to increase his Fitness in the usual fashion, thus "healing" the damage). Whenever a point of Fitness drops to .4 or below, round down to the next whole number for purposes of making Tests. (For objects, assign them a "Fitness" score for purposes of determining their resistance to the effects of folded space transport.)

Characters buy folded space transporters as normal, but may use the classes of transporters normally denied Starfleet (the ones marked with an asterisk in the table).

Multidimensional Transporters

A transporter accident in 2267 involving some of the crew of the original *U.S.S. Enterprise* revealed the existence of a "mirror universe" where the same people exist as in the regular universe, but with different morals and a different history. Since then it has become possible to configure a transporter to travel to the Mirror Universe automatically. A transporter built expressly for cross-dimensional travel uses a 5 SU, 3 Power emitter/receiver array, but is otherwise built the same as an ordinary transporter. However, most instances of multidimensional travel simply involve modified normal transporters. Only transporters with Class F energizing/transition coils (or better) and a Personnel Type 4 emitter/receiver array (or better) can be configured for multidimensional travel. Reconfiguring one requires the proper schematics, about one hour, and a Moderate (8) Systems Engineering (Transporter/Replication Systems) Test, or occurs automatically when a Mirror Universe device known as a cross-dimensional transporter modulator is applied to the transporter.

Subspace Transporters

This form of transporter operates by putting the matter stream into a state of quantum flux and transporting it through subspace instead of normal space. The benefit to this is that it allows a much greater range of transport: up to three light-years. The downside is that the quantum flux state is unstable, which can cause problems for the person or object transported. When a character uses a subspace transporter, the Narrator rolls 1d6. On a 6, the quantum flux matter stream breaks up, killing or destroying the subject.

Characters can build a subspace transporter from the ground up, taking a Personnel Type 15 emitter/receiver array for the range. A character can reconfigure a normal transporter for subspace transport with a Moderate (8) Systems Engineering (Transporter/Replication Systems) Test; this takes about one hour. If a character fails, he can try again; if he Dramatically Fails, there's an explosion which causes him 1+2d6 damage and does a similar amount of damage to the transporter (no defense applies; it takes 10 minutes per SU of damage to make repairs).

Temporal Transporters

Temporal transporters, a highly advanced form of technology, transport persons or objects backwards or forwards through time, rather than across distances. All societies heavily restrict their use and keep their existence secret.

Characters can reconfigure a normal transporter for temporal transport by spending 1d6 hours and making a Nearly Impossible (16) Systems Engineering (Transporter Systems) Test. The character operating the transporter must make a Challenging (10) Shipboard Systems

(Transporter) Test to beam the target to the correct time, or to beam a character to the present from the past or future.

To transport a subject temporally, a temporal beacon—a small, triangular badge—must be used. Any given person can only be safely temporally transported a number of times equal to his Fitness within a 24-hour period. If temporally transported more than that, he will suffer the effects of temporal narcosis (see *All Our Yesterdays,* page 13).

If a subject is sent to one of his foreseeable futures, a responsible temporal transporter operator will resequence the subject's memory engrams to prevent him from returning to his normal time-frame with knowledge of the future; if not, he is simply given a stern warning about the Temporal Prime Directive (or like regulation) before being returned to his proper time-frame.

To build a temporal transporter, use a Personnel emitter/receiver array. The transporter can send a subject backwards or forwards in time a number of years equal to 20 times the transporter's SUs.

CLOAKING DEVICES

SU Cost: (3 x Class) + Size
Power Cost: 40 Power per class per round of use

Cloaking devices, a type of "stealth" technology, emit an energy field which bends light and other energy phenomena around a cloaked ship, rendering it invisible to both the naked eye and most sensors. However, while they're powerful weapons, cloaks are not without their drawbacks. They require enormous amounts of power—so much that a ship cannot use many other systems, including shields, transporters, active sensors, and weapons systems, while a cloak is on. The ship can, however, use its communication devices or passive sensor systems, and doing so will not reveal its location to other ships. Cloaking devices work in atmospheres, but may be effectively useless due to the presence of atmospheric particulates and the like.

Starfleet dislikes cloaks, which it considers contrary to its mission as an exploratory organization, and does not use them. In fact, under the terms of the Treaty of Algeron, Federation ships are forbidden to use them. However, exceptions are occasionally made (most notably the *U.S.S. Defiant*).

In game terms, cloaks work by imposing a substantial negative modifier on all Tests made to perceive the cloaked ship or object (including Intellect Tests and Shipboard Systems (Sensors) Tests). See below for base Difficulties using sensors. Sometimes, despite the modifiers imposed by a cloak, a ship manages to succeed with a Test anyway; this indicates it detected some anomaly or "sensor blip" which may provide a clue that there's a cloaked ship nearby. The accompanying table indicates the SU cost and effect of various types of cloak. Typically a ship's cloak should have a rating equal to or greater than its Size.

A cloaking device costs 40 Power per class per round it's in use. For example, using a Class 8 cloak costs (40 x 8) 320 Power per round.

A cloaking device has a small internal battery with enough Power to operate it to cloak itself (and itself alone) for about five rounds. This Power cannot be drained to use with other systems.

Related Systems

Creative inventors have developed many other forms of technology to hide starships from those who would detect them. Examples include the energy sheath (page 21) and the systems described below.

Hull Holoemitters

SU Cost: Varies
Power Cost: 20 Power per round of use

While the Federation cannot use true cloaks, it can equip ships with holoemitters in the hull which can surround the entire hull with a holographic projection. A Class Alpha hull holoemitter system can make a ship appear to be any other ship of equal or lesser Size; it occupies 2 x Size in SUs and requires 10 Power per round to operate. A Class Beta hull

CLOAKING DEVICES TABLE

Class	SU	Effect
Class 1	3+Size	+1 Difficulty to detect ship
Class 2	6+Size	+2 Difficulty to detect ship
Class 3	9+Size	+3 Difficulty to detect ship
Class 4	12+Size	+4 Difficulty to detect ship
Class 5	15+Size	+5 Difficulty to detect ship
Class 6	18+Size	+6 Difficulty to detect ship
Class 7	21+Size	+7 Difficulty to detect ship
Class 8	24+Size	+8 Difficulty to detect ship
Class 9	27+Size	+9 Difficulty to detect ship
Class 10	30+Size	+10 Difficulty to detect ship

holoemitter system can make a ship appear to be any other ship of equal or lesser Size, empty space, a floating asteroid, or the like. It occupies 3 x Size in SUs and requires 20 Power per round to operate.

Either type of hull holoemitter system is designed to fool not only the visual senses, but standard sensors as well—a ship disguised like an asteroid registers as an asteroid on another ship's sensors. However, a disguised ship cannot use weapons, shields, transporters, a cloaking device, communications systems, active sensors, or warp or impulse engines without instantly dispelling the illusion.

Interferometric Dispersion

SU Cost: None
Power Cost: 2 Power per round of use

Interferometric dispersion is a technique which renders a ship undetectable by radar systems and other primitive sensors (but not modern 24th century sensors). Establishing an interferometric dispersion around a ship requires a Moderate (6) Systems Engineering (Deflector) Test and the expenditure of 2 Power per round to maintain it. If the ship uses any weapons, shields, or transporters, the effects of the dispersion are cancelled (it may, however, use sensors and communications).

Interphase Generator/Phasing Cloak

SU Cost: As normal cloak, + (3 x Size)
Power Cost: 50 Power per rating per round of use

This technology, which remains more or less experimental, combines a normal cloaking device with a molecular phase inverter or similar device. The resulting system not only prevents sensors from detecting the ship, it allows the vessel to pass through normal matter! The tactical and strategic advantages of such a system are obvious (as is its potential to unbalance a game series; *caveat Narrator*).

As of 2375, neither the Federation, the Romulans, or the Klingons appear to have perfected this device. When using it, a ship must make a Challenging (9) Shipboard Systems (Cloaking Device) Test each round. Success allows the ship to use the phasing cloak as normal. Failure mean the cloak shuts off and cannot be reactivated for 1-3 rounds; Dramatic Failure is the same as failure, but the cloak also takes 4d6 damage (no defense).

Masking Circuitry

SU Cost: 18 + Size
Power Cost: 240 Power per round of use

Masking circuitry is a type of device which renders a ship difficult to detect with sensors or the naked eye. It is the equivalent of a Cloak 6 in terms of effect, SU cost, and Power cost. However, unlike a cloak, it can be cancelled for one round by a polaron burst.

SECURITY SYSTEMS

SU Cost: 4 x rating (see table)
Power Cost: See table

Security systems and procedures help a starship protect itself from external and internal threats. To simulate the level of security on board Starfleet vessels, each ship has a Security rating. The accompanying table describes what each rating indicates and its SU cost. Security generally costs no Power, though certain aspects of Security, as described below, do.

Anti-Intruder System

SU Cost: 1 x Size
Power Cost: 1 Power per round of use

Almost all Starfleet vessels come equipped with an anti-intruder system designed to disable hostile forces which invade the ship. This system allows the commanding officer (or other officers of appropriate rank) to order some or all parts of the ship flooded with anesthezine or neurozine gas, which render all known humanoids unconscious in seconds (see sidebar). Activating an anti-intruder system costs 1 Power.

Internal Force Fields

SU Cost: 1 x Size
Power Cost: 1 Power per round per 3 Strength per force field

Starfleet vessels have the ability to generate force fields, also known as containment fields or security fields, anywhere in the ship for protective or defensive purposes. For example, force fields are used to seal off Engineering in the event that the warp engine accidentally starts venting dangerous gases, to keep prisoners in the brig, to seal off sickbay to prevent a contagious disease from spreading to the rest of the crew, or to block off a corridor to prevent an invader from reaching the bridge.

A ship can generate a force field anywhere

SECURITY TABLE

Rating	SU	Effect
1	4	Chief Security Officer: Security 2 (3) Security Personnel: Security 1 (2) Base Difficulty for Illegal Activities: Routine (4) Brigs: 1-3
2	8	Chief Security Officer: Security 3 (4) Security Personnel: Security 2 (3) Base Difficulty for Illegal Activities: Moderate (6) Brigs: 2-4
3	12	Chief Security Officer: Security 4 (5) Security Personnel: Security 2 (3) Base Difficulty for Illegal Activities: Challenging (9) Brigs: 3-6
4	16	Chief Security Officer: Security 4 (5) Security Personnel: Security 3 (4) Base Difficulty for Illegal Activities: Difficult (12) Brigs: 3-8
5	20	Chief Security Officer: Security 5 (6) Security Personnel: Security 3 (4) Base Difficulty for Illegal Activities: Near Impossible (15) Brigs: 3-10

Chief Security Officer: The typical level of Security skill (including a chosen Specialization) possessed by the Chief Security Officer on the ship (individuals may, of course, vary from this average).

Security Personnel: The typical level of Security skill (including a chosen Specialization) possessed by the average Security Officer on the ship (individuals may, of course, have different skill levels).

Base Difficulty for Illegal Activities: When determining how easy it is for someone (say, a Romulan spy) to perform illegal activities on the ship, use this base Difficulty for all Tests related to committing the crime(s). It represents, in an abstract way, the ongoing level of security scrutiny on the ship.

Brigs: The number of brigs the ship has. Each brig is sealed off by a Level 10 force field and a pattern scrambler to prevent transporters from beaming the prisoner away. Operating a brig costs 4 Power per round.

ANESTHEZINE/NEUROZINE

Type: Gaseous

Onset Time: Instantaneous

Effect: Victim takes 8 + 5d6 Stun damage the first round of exposure, then 3d6 per round of breathing the gas until he falls unconscious. Until removed from the affected area, he cannot wake up.

Compatability: Affects all known humanoid species

Anesthezine is a sedative gas which renders anyone who breathes it unconscious. Most starships can flood all or selective parts of the ship with anesthezine in the event of a boarding action by an enemy. Some ships use an equivalent gas, neurozine, which is also used by the Cardassians and the Dominion.

within its hull; although normally kept as small as possible to help maintain field integrity, they can be large enough to, for example, seal off the entire bridge. Any internal force field generator can create fields rated in Strength from 1 to 10.

A force field functions much like a shield. It has a Protection rating equal to twice its Strength, and a Threshold equal to its Strength, but unlike ship's shields the Protection is only decreased by damage which exceeds the Threshold. When sufficient force (from attacks, an individual's strength, or the like) is applied to a field, it resists until the force is enough to break it down and/or overload the local field emitters.

The internal force field emitters occupy 1 x Size in SUs. It costs 1 Power per round for every three points of Strength a force field has; thus, to erect a level 10 force field across a corridor costs 3 Power, while using the same force field generator to erect a level 3 force field would only cost 1 Power. At the Narrator's option, erecting a force field around a large area (say, the entire bridge) may cost +1 Power per round.

SCIENCE SYSTEMS

SU Cost: Varies (see table)
Power Cost: Varies (see table)

Starfleet is, first and foremost, an exploratory and research organization. Most of its ships come equipped with an impressive array of sophisticated laboratories, scientific instruments, and related technology. In many cases this equipment not only allows scientists and researchers to do their jobs, it actually makes their jobs easier.

To represent its scientific equipment and resources, every ship has a Science rating. Some Science ratings represent technology and systems so advanced that they grant Test Result bonuses to any Science skill Test made with them (this would include analyzing sensor data, but not operating the sensors themselves). The accompanying table indicates the SU cost, Power cost per round of use, and effects of the various Science ratings. It provides a separate listing for the number of laboratories a ship has, which cost SUs but not Power. The designer of the ship can specify what's in each lab (perhaps leaving some unspecified for special missions) if he wants to.

The Power cost of Science systems can be reduced in emergencies by up to half. Any reduction immediately cancels any Test Result bonus provided by the Science rating, and will prevent many types of scientific equipment from functioning altogether (the Narrator determines which devices remain operational).

SCIENCE SYSTEMS TABLE

Rating	SU	Power	Effect	Notes
1	5 + Size	1	+0	Most scouts, escorts, runabouts, shuttlecraft
2	10 + Size	2	+1	Most frigates, cruisers
3	15 + Size	3	+2	Most explorers, science, and medical vessels
4	20 + Size	5	+3	The most advanced science and medical vessels

Number of Laboratories	SU
0	0
1-10	2
11-20	4
21-30	6
31-40	8
41-50	10
51-60	12
61-70	14

Specialized Science Systems

SU Cost: 5 SUs per +1 with a specific Science Skill, or 3 SUs per +1 with specific Science Skill Specialization.

Power Cost: None

To reflect its advanced facilities for one particular Science Skill (such as Space Sciences, Planetary Sciences, or Life Sciences (Botany)), a starship may buy improvements to its Science systems for that one skill. This simulates the specialized laboratory, equipment, and sensor capacity devoted to studying that topic. A +1 bonus costs 5 SUs for all Tests with a particular Science Skill, or 3 SUs for Tests with just one Specialization of one Science Skill. This costs no additional Power beyond the normal science systems cost. A ship may not buy more than a +1 bonus for any particular skill (it could buy a bonus with an overall skill and with one of its Specializations, but only one of the bonuses applies to any given Test). Nor may a ship have a number of specialized science systems greater than one-half its Size (for example, four for a Size 8 ship).

HOW MANY LABS DOES A STARSHIP HAVE?

The Science systems rules don't specify any hard-and-fast number for how many laboratories and related scientific facilities a ship can have. It all depends on the nature of the ship and the missions it's designed for—in short, the preferences of the person designing the ship, tempered with a little common sense and Narrator wisdom.

As a benchmark, here are some guidelines you can follow, based on ship type and Size. Light, Fast, and Heavy versions within each class tend to have fewer laboratories.

Ship Type	Average Number of Labs per Size
Courier	0-1
Cruiser	1-4
Escort	1-3
Explorer	2-6
Frigate	1-3
Medical	3-6
Research/Laboratory	3-7
Scout	0-1
Surveyor	2-6
Transport	0-1

Thus, for example, following these guidelines, a *Galaxy*-class Explorer (Size 8) would, on the average, have anywhere from 16-48 laboratories. This figure represents the number of major laboratory facilities. A ship could also have some smaller, minor laboratories.

Tactical Systems

Even though Starfleet is not a military organization, there come times when it has to fight back against aggressors, tyrants, and other threats to the security of the Federation and other peoples. When push comes to shove, or environmental dangers threaten, Starfleet vessels are equipped with powerful tactical systems to protect themselves and strike back at the enemy.

Beam Weapons

To construct a beam weapon, a ship must buy four things: the type of weapon itself (which entails various design and tactical choices); the weapon's targeting system; the weapon's arc of fire; and the firing modes the weapon can use.

Beam Weapon Range

All beam weapons have a range of 10/30,000/100,000/300,000. For every 100 kilometers beyond Long range, increase the Difficulty to hit the target by +1. A ship may negate this penalty, thus effectively extending the range of its beam weapons, at a cost of 3 SUs per +1 penalty negated (maximum of +3 negated, for 9 SUs).

HOW MANY WEAPONS CAN A SHIP HAVE?

There are no specific rules regarding the number of weapons a ship can mount. Some, like the *Akira*-class, carry many weapons; others have relatively few. The amount and type of weapons installed depend upon the current level of technology and the ship's perceived need for various tactical systems based on its standard missions profile. Thus, in most cases, ship builders should not be restricted if they want to mount a lot of weapons on a combat-oriented ship. However, Narrators needing a good rule of thumb can apply the following guidelines:

— for ships designed with combat as one of their primary missions (the *Akira*-class or *Defiant*-class, for example), up to 2 x Size in beam weapons and 2 x Size in missile weapons

— for ships not designed with combat as one of their primary missions (the *Galaxy*-class or *Miranda*-class), up to 1.5 x Size in beam weapons and .5 x Size in missile weapons

PHASERS

SU Cost: Varies (see table)
Power Cost: 2 Power per type of emitter (see table)

The primary weapons on most Starfleet vessels are *phasers*. Phasers (short for PHASed Energy Rectification) use a rapid nadion effect (RNE) to release and transfer energy generated within superconducting crystals known as *fushigi-no-umi*. Ships can use these beams of energy as tools (say, to remove obstacles, excavate large holes, or reshape planetary terrain) or as weapons.

Ship-mounted phasers are organized into *types,* rated from I (one) to X (ten). Generally, Type X is the most powerful type of phaser which Starfleet can mount on a ship. Advances in tactical technology as of 2372 have allowed it to mount Type XI and XII phasers on large ships, but to date only the *Sovereign*-class Heavy Explorer has benefitted from this breakthrough.

Phasers consist of multiple *emitters* organized into series called *arrays*. An emitter has three main parts: an EPS submaster flow regulator (which controls phaser power levels); a plasma distribution manifold (PDM), which channels the power to the prefiring chambers; and the actual phaser emitter crystal. A large array, such as the ones found on the dorsal or ventral surfaces of many starships' saucers, may have as many as 200 emitters (the minimum number is 40). The type of emitter dictates how powerful a beam an array can emit; the size of the array indicates how many beams that array can emit at one time (singly or as a multifire burst). The EPS subsystem which provides Power to a phaser array is called the *phaser generator*.

Phaser arrays (sometimes called "banks") also include an *auto-phaser interlock* which links with the TA/T/TS computer to assure accurate firing. It precisely times the firing of the array for maximum chance of a successful shot.

The accompanying tables lists four things:

1. The SU cost for every five emitters (by type);
2. The amount of damage done (by type of emitter);
3. The SU cost for the auto-phaser interlock, which indicates the base Accuracy for the weapon (a ship must purchase one interlock per array); and
4. How many shots per round a given array can fire based on its size (either as single shots or as part of a multifire burst; the Power cost must be paid separately for each shot).

A phaser shot costs 2 Power per type of emitter; thus, a shot with a Type VIII emitter costs 16 Power. The auto-phaser interlock does

PHASERS TABLE

Type	Per 5 Emitters	Per 40 Emitters	Per 200 Emitters	Damage	Power
Type I	.1	.8	4	20	2
Type II	.2	1.6	8	40	4
Type III	.3	2.4	12	60	6
Type IV	.4	3.2	16	80	8
Type V	.5	4.0	20	100	10
Type VI	.6	4.8	24	120	12
Type VII	.7	5.6	28	140	14
Type VIII	.8	6.4	32	160	16
Type IX	.9	7.2	36	180	18
Type X	1	8.0	40	200	20
Type XI	1.1	8.8	44	220	22
Type XII	1.2	9.6	48	240	24

Auto-Phaser Interlock	SU	Accuracy
Class Alpha	0	5/6/8/11
Class Beta	2	4/5/7/10
Class Gamma	3	3/4/6/9

Emitters per Array	Maximum Shots per Round
40-79	1
80-119	2
120-159	3
160-199	4
200-239	5
...and so forth	

not cost Power to use. Every phaser array comes equipped with a *phaser array power cell* which includes enough Power for two shots from the array (at normal full strength). Crewmembers can drain this power, also known as the "phaser reserves" or "defense reserves," for use by other ship's systems if necessary.

Phasers do more damage the more Power they can draw on, up to a point. A character can increase any phaser's base damage up to 125% of normal (for example, a Type X phaser normally does 200 damage; it could increase to 250 with enough Power). This costs 3 Power per 10 points of damage above base normal, and requires a Moderate (6) Shipboard Systems (Tactical *or* Mission Ops) Test. Failure on this Test means the Power is wasted (it does not improve the weapon's performance); Dramatic Failure means the Power overloaded the weapon, disabling it for 1d6 minutes or until a crewmember makes a Challenging (11) Systems Engineering (Weapons Systems) Test to effect repairs.

For full rules on using phasers in starship combat, see page 138.

Example: *David wants to install a 160-emitter Type X phaser array on the ship he's building. Since Type X phasers cost 1 SU per 5 emitters, the basic array costs him (160/5 = 32) 32 SUs. He chooses a Class Beta auto-phaser interlock (2 SUs), all four firing modes, and a firing arc of 360 degrees, so his total cost for this array is 39 SUs. This array can fire a maximum of 4 shots per round, at a cost of 20 Power per shot.*

ACB Jacketing

SU Cost: +5 SUs to cost of phaser array
Power Cost: +5 Power to cost of phaser array

Phaser beams are ordinarily useless at warp speeds; they dissipate too quickly in the presence of moving warp fields to be effective weapons (see page 98 for notes on warp speed combat). To provide a potential tactical advantage in warp speed combat situations, Starfleet recently invented technology which jackets a phaser beam inside an annular confinement beam (ACB), similar to the one involved in the materialization/dematerialization process which is a part of transporter use. The benefit to this is that a ship can fire an ACB-jacketed phaser beam at any target while the firing ship travels at warp speeds, regardless of relative speeds or angle of fire. This technology, which adds 5 SUs to the cost of a phaser array and 5 Power to the cost of every phaser shot, is still very new as of 2375 though it began development some years prior to that date; few ships have been equipped with it.

Pulse Phaser Cannons

SU Cost: +3 SUs to cost of phaser array
Power Cost: +5 Power to cost of phaser array

Pulse phasers are a relatively new Starfleet development. They combine large, nearly flawless emitter crystals with rapid-discharge EPS capacitance banks and high-speed beam focussing coils. This technology allows the coils to store the phaser charge for a few nanoseconds, then release it as a layered pulse. Shields and materials have a harder time dispersing the layered energy pulse than the standard phaser beam, resulting in more damage to the target.

Pulse phaser cannons are usually built into ships in linked pairs (you don't have to buy two cannons to represent this—it's an aesthetic touch already reflected in the weapon's game statistics—but you can if you want, and always use them in multiple-weapon multifire mode). They have the same range as standard phasers, but are slightly more accurate and do more damage. On the other hand, they have a smaller arc of fire (usually just straight forward) and cannot fire in continuous mode, or in wide-beam mode without extensive modification (which limits their usefulness as tools—they're really meant only for combat). They can perform single-weapon multifire, or multiple-weapon multifire with other phasers of any type.

A pulse phaser cannon costs the same as any other phaser of its type, plus 3 SUs for the new technology. It does +50 damage compared to a normal phaser of the same type, and costs +5 Power. A pulse phaser must include a Class Gamma auto-phaser interlock. It can only fire in a 360 arc in one direction. Pulse phasers cannot be ACB-jacketed.

Disruptors

SU Cost: Varies (see table)
Power Cost: 1 Power per 10 points of damage

The primary beam weapons of the Klingons and Romulans is the *disruptor*; the Cardassians use a variant, the spiral-wave disruptor, which moves energy through the system differently. Disruptors create highly-charged, powerful

beams of plasma using microscopic amounts of antimatter. This makes a comparative model more powerful than a phaser, but much less versatile.

Romulan disruptors leave an anti-proton residue. The anti-proton decay allows the time of use to be estimated (this requires a Routine (5) Shipboard Systems (Sensors) Test).

The accompanying table includes SU costs, damage done by various types of disruptors, and the maximum number of shots per disruptor per round as indicated in the table. The ship must pay the Power cost separately for each shot.

A disruptor uses 1 Power per 10 points of damage the weapon does (the targeting system costs no Power). Disruptors' strength may be increased with extra Power, using the same rules as for phasers.

Polaron Beams

The polaron beam is the standard weapon of the Dominion. Powerful, and possessing several useful tactical applications, they're the perfect weapon for such a belligerent, militaristic species as the Jem'Hadar. From 2370 to 2373, Starfleet vessels were utterly vulnerable to polaron beams; their deflector shields offered no protection against them whatsoever, regardless of shield nutation or harmonics. In 2373, Starfleet developed a way to overcome this limitation; since that time Starfleet shields have affected polaron beams normally.

A polaron beam can also disrupt a tractor beam. See page 156 for details.

Narrators may buy polaron beam weapons for Dominion ships using the Disruptor Table; the SU and Power costs and effects are the same.

DISRUPTORS TABLE

Disruptor	SU	Damage	Shots per Round
Type 1	4	40	2
Type 2	8	60	2
Type 3	12	80	2
Type 4	16	100	2
Type 5	20	120	2
Type 6	24	140	3
Type 7	28	160	3
Type 8	32	180	3
Type 9	36	200	3
Type 10	40	220	3
Type 11	44	240	5
Type 12	48	260	5
Type 13	52	280	5

Disruptor Targeting System	SU	Accuracy
Class Alpha	0	5/6/8/11
Class Beta	3	4/5/7/10
Class Gamma	4	3/4/6/9

Borg Beam Weapons

Borg Energy Beam

SU Cost: 50
Power Cost: 25

The Borg use a powerful energy beam which does 250 points of damage per shot. They can fire it up to twice a round, in all firing modes, with an Accuracy of 3/4/6/9 (bought as for disruptors) and a Range of 10/35,000/150,000/400,000.

Borg Cutting Beam

SU Cost: 25
Power Cost: 20

The Borg use a weapon called a *cutting beam* to take samples of other ships' technology. Able to bypass shields without any loss of effect, the cutting beam slices through a ship's hull and systems in a circular pattern, then uses a linked tractor beam to pull the "cylinder" of ship's hull and systems out like removing a cork from a wine bottle.

A Borg cutting beam does 20 points of damage a round (the target's Resistance affects this, but not its shields). Before using the weapon, the Borg define the size of the piece of ship they want to obtain: Size 1, Size 2, or Size 3 (2 is the most common). (The piece Size cannot exceed the ship's Size, of course.) The cutting beam must do 50 points of damage to the ship for every Size category (thus, a Size 3 piece requires 150 points of damage); assume this damage is general, or roll a random location on the Hit Location Table. After the Borg withdraw their "sample" (which takes 1 round), the ship has a hull breach equal in Size to the Size of the piece taken.

Borg Feedback Pulse

SU Cost: 15
Power Cost: 30

Borg defensive technology includes a beam

weapon-like device which allows a Borg ship to send a "feedback pulse" back down a beam which hits it, causing the attacker to take the weapon's damage as well! A feedback pulse requires a delayed action (to act when the other ship fires) and a successful Moderate (8) Shipboard Systems (Feedback Pulse Generator) Test to use properly. Failure indicates the attack strikes the Borg ship but the feedback system does not take effect; Dramatic Failure results in the beam doing double damage to the Borg ship and not feeding back.

Borg Shield Draining Weapon

SU Cost: 20
Power Cost: 20

This weapon only works in conjunction with a Borg tractor beam. When the Borg catch a ship with one of their tractor beams, they can activate the shield draining weapon the next round. Each round it drains 25% of the shields' normal maximum Protection until the shields collapse. Once shields collapse, they cannot recharge or regenerate until the Borg turn off the shield draining weapon.

Other Beam Weapons

Some of the other beam weapons used on ships throughout the galaxy include:

Isolytic Weapons

SU Cost: Varies (see table)
Power Cost: Varies (see table)

Used by the Son'a and some other peoples who favor power over following the laws of war, these widely outlawed weapons have unpredictable effects and can open tears in the subspace fabric. A tear opens near the targeted ship and moves towards its warp engine at Warp 1 (if the ship attempts to go to higher warp speeds to escape the tear, it will simply "pull" the tear along with it, causing it to move at the same speed and wreaking untold havoc). If the tear contacts the ship, it rips it apart, but the detonation of the warp drive system as it does so seals the tear. Subspace in the area remains dangerously unstable forever after, and can cause problems for ships passing through.

A ship hoping to escape being destroyed by a tear can try to eject its warp core, move away, and then detonate the core when the tear gets close to it. This requires a Moderate (6) Shipboard Systems (Tactical) Test to get the timing right; if it succeeds, it destroys the tear and returns the local subspace environment to normal. Failure (of any degree) means the tear ignores the detonation and keeps pursuing the ship.

ISOLYTIC WEAPONS TABLE

Type	SU	Power	Damage	Tear
Small	30	60	600	2 on 2d6
Large	50	90	900	1 on 1d6

LASERS TABLE

Type	SU	Power	Damage	Shots per Round
Type A	2	2	20	1
Type B	4	4	40	1
Type C	6	6	60	1
Type D	8	8	80	2
Type E	10	10	100	2

The accompanying table gives the SU cost, Power cost, and damage for isolytic weapons; "Tear" represents the chance that any use of the weapon causes a subspace tear. An isolytic weapon may only be fired once per round.

Lasers

SU Cost: Varies (see table)
Power Cost: Varies (see table)

Lasers, ranging from basic models to high-energy X-ray lasers, are primitive weapons used by societies which have not yet developed phasers or other advanced weaponry. As indicated by the accompanying table, they pose little threat to an advanced starship.

Firing Arcs For Beam Weapons

SU Cost: Varies (see table)
Power Cost: None

All beam weapons have a *firing arc,* which defines the shape and size of the area they "cover" (*i.e.,* can fire into). The larger the firing arc, the more SUs it costs, as defined by the accompanying table.

Some firing arcs possess substantial "arc shadows" which interfere with their ability to fire into an area they normally could. For example, a beam weapon mounted on the aft of a saucer section might not be able to fire at a target "behind" one of the ship's nacelle pylons. At the Narrator's option, a weapon which suffers from a substantial arc shadow may reduce the SU cost of its firing arc by 1. See page 136 for

more on arc shadows.

Firing Modes For Beam Weapons

SU Cost: 1 per mode in addition to Standard, per weapon
Power Cost: None

Beam weapons have *firing modes* which describe different ways of using them. The various modes—Standard, Pulse, Continuous, and Wide Beam—are defined and discussed on page 139.

All beam weapons can fire in Standard mode for free. Each additional mode costs 1 SU per weapon. Typically, a phaser can fire in all four modes (except for pulse phasers, which cannot fire in Continuous or Pulse mode); disruptors and polaron beams fire in Standard and Pulse only; isolytic weapons and lasers fire in only Standard mode.

BEAM WEAPON FIRING ARCS

Firing Arc	SU
Up to 180 degrees	0
181-360 degrees	2
361-405 degrees	3
406-540 degrees	4
541+ degrees	5

MISSILE WEAPONS

SU Cost: 5 + (Spread/2, rounded down) for basic launchers; 10 + Spread for advanced launchers
Power Cost: 20 + (5 Power per torpedo fired)

In addition to beam weapons, most ships carry at least one missile weapon—the torpedo launcher. Though many different types of torpedoes, such as photon, plasma, quantum, and gravimetric, are used, the launchers themselves are basically the same from one ship or species to another. They typically consist of tubes about 30 meters long made of tritanium, sarium farnide, and similar materials. Sequential field induction coils and launch assist gas generators provide the power to fire the torpedo.

One important difference between different types of torpedo launchers is the *spread* they can fire, meaning the number of torpedoes a launcher can fire in one round (either one at a time, or via one or more Multifire bursts). Most launchers are limited to one to five torpedoes in a spread; advanced models can fire spreads of up to 10 or more torpedoes or more. (As of 2376, the maximum Spread is 12.)

The standard Starfleet torpedo launcher—the type used to launch Type II photon torpedoes or Mark I quantum torpedoes—costs a base of 5 SUs, plus its Spread divided by 2 (round down). Thus, a launcher with a Spread of 10 costs 10 SUs; one with a Spread of 1 costs 5 SUs; one with a Spread of 7 costs 8 SUs. Each use of a launcher costs a number of Power equal to 20 + (5 per torpedo fired).

For high-yield torpedoes, such as the Type VI photon torpedo, a special type of launcher is required (the normal launcher cannot fire them at the high-yield level; see page 144). It costs a base of 10 SUs, plus its Spread. Thus, a launcher to fire ten Type VI torpedoes costs 20 SUs. The Power cost is the same as for the basic launcher. An advanced launcher can fire torpedoes with normal yields, such as Type II photon torpedoes, and probes without difficulty.

The standard ranges for most torpedoes are 15/300,000/1,000,000/3,500,000. However, recent advances by Starfleet (and perhaps other powers) have increased the fuel tank size of the individual torpedo, extending the range of the missile to 15/350,000/1,500,000/4,050,000. (See individual ship descriptions for which type of torpedo is carried; switching from one to the other, or from one type of torpedo to another, does not change the SU cost of torpedoes or launchers). For every 1,000 kilometers beyond Long range, increase the Difficulty to hit the target by +1.

To determine the Accuracy of a torpedo launcher, buy a Torpedo Targeting System. This is the same as a Auto-Phaser Interlock or Disruptor Targeting System (depending upon what type of beam weapons the ship uses) in terms of SU cost and effect, and applies to a single torpedo launcher. Torpedo launchers must also buy a 541+ degree firing arc (5 SUs), to reflect the self-guided nature of torpedoes.

Torpedo Storage

SU Cost: .5 SU per 5 torpedoes
Power Cost: None

Ships have to carry a sufficient load of torpedo casings and parts so that they have enough "ammunition" to meet any challenge they might face. Every 5 torpedoes occupy .5 SU of storage space. Probes, which are also launched from torpedo launchers, are usually stored with torpedoes; any one probe is equivalent to any one torpedo in terms of the

SUs required to store it (thus, a batch of 15 torpedoes and five different probes takes 2 SU of storage space).

Microtorpedo Launcher

SU Cost: .5 SU (+5 SUs for Firing Arc); 100 microtorpedoes per 1 SU
Power Cost: 1 Power

A microtorpedo launcher is a device for firing microtorpedoes, small missiles loaded with chemical explosives. They have ranges of 1/100/500/2000, have a Firing Arc identical to that of a photon torpedo, and do 50 points of damage. The launcher costs .5 SU; 100 microtorpedoes occupy 1 SU. A microtorpedo launcher costs 1 Power to use, regardless of how many torpedoes it fires. It has a Spread of 5.

Tricobalt Devices

SU Cost: 2 SUs per device
Power Cost: 5 Power to fire

These powerful photon torpedo-like weapons are carried by a few Starfleet vessels. Not generally considered a weapon of war, the tricobalt device is used to destroy derelict space stations, crack open small asteroids so miners can get at their interiors, and so forth.

A tricobalt device can only be launched from a high-yield torpedo launcher. It has a range of 5/350,000/1,500,000/4,050,000 and uses the launcher's targeting systems to determine its Accuracy.

Tricobalt devices must be prepared before firing. Preparing one takes one minute and a Routine (5) Shipboard Systems (Tactical) Test; for every 2 points by which the Test Result exceeds 5, reduce the preparation time by 10 seconds (to a minimum preparation time of 20 seconds). Failure indicates the officer must spend another minute and try again; Dramatic Failure causes the device to explode prior to launch and do its full damage to the ship. Tricobalt devices are not stored while prepared due to their volatile nature; typically a ship fires them as soon as they're prepared. For every minute (or fraction thereof) beyond one round which a ship keeps a prepared tricobalt device without firing it, the Narrator should roll 2d6. On a 2, the device explodes, doing its full damage to the ship.

A tricobalt device does 750 points of damage. Tricobalt devices cannot be Multifired.

Chemical Rockets

SU Cost: 5 SUs for a launching tube; 10 rockets per 1 SU
Power Cost: 3 Power per rocket fired

Some less advanced races use rockets armed with chemical explosives, such as the Merculite rockets fired by the Talarians. While this type of rocket can vary tremendously, most have a range of 1/100/500/2000, an Accuracy of 5/6/8/11, and do anywhere from 50-100 points of damage depending on size. They can be Multifired.

MINES

SU Cost: .5 SU per 10 mines (round up)

Similar to torpedoes are various types of mines which starships can lay down to, for example, deny an enemy access to an area or interfere with shipping lanes. The types of mines available, and rules for them, are discussed on page 146. Regardless of type, stored mines occupy .5 SU per 10 mines.

THREAT ASSESSMENT/TRACKING/ TARGETTING SYSTEM

SU Cost: Varies (see table)
Power Cost: Varies (see table)

Known colloquially as the "targeting scanners," the Threat Assessment/Tracking/Targeting System (TA/T/TS) is a ship's tactical sensors and computer package. The Tactical Officer relies on the TA/T/TS in combat in much the same way as the Flight Control officer uses the navigational computer—it helps him do his job better. Different classes of TA/T/TS are available; the better ones make the Tactical Officer's job easier, but take up more space and require more power to operate. The accompanying table lists types, costs, strength, and benefits of different TA/T/TS systems. The listed bonus applies to the Test Results of Shipboard Systems (Tactical) Tests made to hit a target with weapons, or to cancel out negative modifiers such as those due

THREAT ASSESSMENT/TRACKING/TARGETING SYSTEM (TA/T/TS) TABLE

Class	SU	Power/Round	Strength	Bonus
Alpha	6	0	7	+0 (std)
Beta	9	1	8	+1
Gamma	12	2	9	+2
Delta	15	4	10	+3
Epsilon	18	6	11	+3

to size, (Tactical) Tests made to scan a ship for a particular target, and the like. TA/T/TS systems are not cumulative; a ship can only have one in effect.

Ships may have a backup TA/T/TS system if they wish, to take over for the main system if it's damaged or malfunctions. A backup TA/T/TS occupies 1 SU, costs no Power, and provides no Test bonuses.

In addition to using it to target weapons and assess tactical data, a character may use targeting scanners to obtain a transporter lock on a person or object.

WEAPONS SKILL

SU Cost: None
Power Cost: None

For ships run by NPC crews, or when describing a class of ships generally, Narrators can establish a Weapons Skill rating. This indicates how competent the average Tactical officer is when he uses the ship's weapons and shields. Consider it the equivalent of a Shipboard Systems (Tactical) Skill (assume an Intellect of 2). When using the Weapons Skill characteristic, you should not normally apply bonuses for the TA/T/TS or a specific weapon's targeting system.

Weapons Skill costs no SUs or Power (though use of the weapons and shields themselves does cost Power).

DEFLECTOR SHIELDS

SU Cost: Varies (see table)
Power Cost: 1 Power per 10 Protection per active shield per round of use

Deflector shields (so called because they deflect energy and physical objects from the shield to save it from harm, not because they have anything to do with the navigational deflector) are a ship's primary form of defense. They (and related types of technology, such as multiphasic force fields) are fields of highly focused spatial distortion created by shield generators and focused by subspace field distortion amplifiers, within which the generators maintain an energetic graviton field. Shield grids on the exterior of the hull shape the shield to conform to the ship (collectively, the shield grids are referred to as the shield matrix). When energy or physical objects impact the shield, its field energy is concentrated at the point of impact to resist the intrusion. Impacts are accompanied by a quick flash of Cerenkov radiation which humanoids perceive as a flash of colored light (blue for Starfleet shields, sometimes different colors for other species's shields).

Shields are activated, or "raised," whenever threats to the ship become apparent. This could be an enemy attack, potentially dangerous emissions from a nearby star, or the presence of some enormous spacefaring creature. Shield modulation frequencies shift at random to prevent an enemy from adjusting the frequency of its weapons to penetrate the shield without resistance (on the other hand, adjusting the shields to match the frequency of a weapon can strengthen them against it). Raised shields interfere with sensors, so shield frequency rotation creates electromagnetic "windows" to which sensors automatically recalibrate to minimize this effect. (In game terms, shields without such windows impose a -1 die penalty on all Shipboard Systems (Sensors) Tests (minimum of 1 die is still rolled); Tests made when windows exist are rolled normally.) Often, however, Silent Running mode (see page 42) comes into effect when shields are raised, so only passive sensor use is allowed anyway. Shields completely block transporters; no one can transport onto or off of a ship whose shields are raised (but see page 161).

Shields also interfere with warp travel. Software which controls warp drive and shield operation compensates for this effect. Without such measures, use of shields reduces a ship's Standard, Sustainable, and Maximum warp speeds by one-third.

Shields would interfere with outgoing attacks, except that Starfleet has anticipated and corrected for these problems. Torpedoes are equipped with shield transponders which allow them to pass through the shields unimpeded. (It might be possible to interfere with the transponder's signal, causing a torpedo to strike the inside of a shield and explode, but no workable means has yet been developed to take advantage of this idea.) Beam weapons' frequencies are set by the tactical computers to match that of the shields, so they pass through unhindered. (Theoretically, a ship could gauge another ship's shield frequency by sensing the frequency of outgoing beam weapon attacks, but rapid shield frequency changes during combat generally eliminates any chance of making practical use of this theory.)

Buying and Using Shields

Every ship has four shields: Forward, Aft, Port, and Starboard. Each one is paid for sepa-

rately in terms of SUs and Power; each shield must have the same characteristics (the Aft shield cannot be weaker than the Forward shield, for example). Each shield provides a certain amount of Protection, rated in terms of a number of points. Each attack reduces the amount of defense provided; when Protection reaches 0, the shield collapses and the ship is vulnerable to attack on that one side. Each shield has a Recharge rating which indicates how long it takes for it to return to full strength after collapsing or being turned off.

However, even while shields remain intact, some damage manages to "leak" through them from some attacks. This reflects concussion damage to the ship from extremely strong attacks, sudden changes of inertia, and other factors. Each shield generator incorporates a subspace field distortion amplifier which provides the shield with a *Threshold* rating. Threshold indicates the point at which damage leaks through the shield. For example, if a shield has a Threshold of 200, an attack which does 230 points of damage will leak 30 points through to affect the ship. Hull Resistance offers defense against "leaked" damage. A ship's Threshold cannot exceed one-third of its full normal Protection except in certain circumstances (for example, if a shield offers Protection 600, its Threshold cannot be higher than 200).

The accompanying table describes the various types of shield equipment, their SU costs, and their effects. Each type of equipment—shield generator, shield grid, subspace field distortion amplifiers, and shield recharging system—must be purchased once per shield (*i.e.*, four times). For rules about using and affecting shields in combat, see page 125.

Each shield costs 1 Power per 10 points of Protection to operate. For example, a Class 4 shield generator bought to provide Protection 700 costs 70 Power to operate. This cost does not decrease just because damage reduces the shield's Protection (see page 125). The Shield Grid indicates how much a shield's Protection and Threshold may be increased by providing it with extra Power (3 Power per additional 10 points of Protection, per round; or +5 Threshold per +25 Power per round). Recharge cannot be improved with extra Power. See page 125 for details.

Backup Shield Generators

SU Cost: .25 x Size per generator (minimum of 1 SU)

Power Cost: 1 Power per 10 Protection per active shield per round of use

Most ships have multiple backups for their shield generators, to ensure that they can maintain some form of defense if the main generators are damaged or malfunction. Each backup

SHIELDS TABLE

Shield Generator	SU	Protection
Class 1	1 x Size	10-200
Class 2	2 x Size	210-400
Class 3	3 x Size	410-600
Class 4	4 x Size	610-800
Class 5	5 x Size	810-1000
Class 6	6 x Size	1010-1200
Class 7	7 x Size	1210-1400

The base SU cost listed in the table indicates the SU cost for the lowest figure in the "Protection" column—for example, 810 Protection for a Class 5 generator. For each +50 Protection (or fraction thereof) beyond that, the engine costs an additional +1 SU. Thus, a top-of-the-line Class 5 generator, which provides 1000 Protection, costs (5 x Size) + 4 SUs.

Shield Grid	SU	Increase
Type 0	0	0%
Type A	.5 x Size	25%
Type B	1 x Size	33%
Type C	2 x Size	50%

Distortion Amplifiers	SU	Threshold
Class Alpha	1 x Size	10-50
Class Beta	1.5 x Size	60-100
Class Gamma	2 x Size	110-150
Class Delta	2.5 x Size	160-200
Class Epsilon	3 x Size	210-250
Class Zeta	3.5 x Size	260-300
Class Eta	4 x Size	310-350
Class Theta	4.5 x Size	360-400
Class Iota	5 x Size	410-450

Recharging System	SU	Recharge Speed
Class 1	.5 x Size	45 seconds (9 rounds)
Class 2	1 x Size	40 seconds (8 rounds)
Class 3	1.5 x Size	35 seconds (7 rounds)
Class 4	2 x Size	30 seconds (6 rounds)

generator costs .25 x Size (minimum of 1 SU per backup generator); a ship must have at least 1 backup generator for each of its four shields. Backup generators use 1 Power per 10 points of Protection.

A backup shield generator functions only when its main shield generator cannot work for some reason (typically, because of damage suffered in combat). When that occurs, the backup generator activates immediately to maintain the shields at their current Protection and Threshold, or a maximum of two-thirds of the shields' normal Protection and Threshold, whichever is *lower*. If the shield has already been reduced to 0 Protection, activating the backup generator has no effect—the shield systems' capacity for creating and maintaining the shield is too stressed and/or damaged to generate another shield until the normal Recharge period has passed (or the crew effects repairs).

Example: *The* U.S.S. Chickamauga *has shields with Protection 900, Threshold 300. During a battle, the Protection suffers 150 points of damage; it's now at 750. The attack which damages the shields manages to leak enough force past the Threshold to destroy the main forward shield generator. The backup generator immediately comes online to maintain the shield. It provides Protection 600, Threshold 200 effect—two-thirds of the shield's normal rating. If the Protection had been damaged to 500, the backup generator would provide Protection 500, Threshold 200, since 500 is lower than 600.*

Advanced Shield Variants

Since shields are so important to the integrity of a ship and the safety of its crew, much research has gone into improving them or developing new, more powerful types of shields. Players may buy the following types of advanced shields for their ships with the Narrator's permission. (See also page 130 for ways to enhance normal shields.)

Covariant Shields

SU Cost: 3 x Size (in addition to normal shield cost)
Power Cost: Normal shield Power cost

Covariant shields use an advanced, tetryon-based technology. They work like normal shields, but with one additional benefit: they interfere with sensors. They have the same effect as a sensor-reflective hull (page 22) when active. They cost 3 x Size in SUs in addition to the normal SU cost of the shields, but cost no additional Power.

Metaphasic Shields

Developed in 2369 by a Ferengi scientist, Dr. Reyga, the metaphasic shield generates overlapping low-level subspace fields. This causes anything within those fields to partially enter subspace, which provides a high level of protection against phenomena in normal space.

Metaphasic shields have the same SU cost as normal shields (or see page 131 for rules on converting normal shields to metaphasic). However, their Protection and Threshold are *triple* that of a normal deflector shield, though their Power cost remains the same as for a normal, non-tripled, shield (for example, a Class Three metaphasic shield generator with a Class Delta subspace field distortion amplifier would have 1800 points of Protection and a Threshold of 600, and cost 60 Power per shield per round). Among other things, this allows a ship with a metaphasic shield to safely enter and spend time in the coronae of stars. (For obvious reasons, metaphasic shields can significantly unbalance a *Star Trek* roleplaying game series; Narrators should be very, very cautious about allowing players to have metaphasic shields for their ship.)

Multi-spectral Shields

This type of shield, available from 2370 on, uses multiple spectrums of energy, thus enabling the shields to recharge more quickly. To simulate them, buy a Class 2 or higher Shield Recharging System.

Regenerative Force Fields

SU Cost: Varies (see table)
Power Cost: Normal shield Power cost, plus 1 Power per 1 Protection regenerated when regenerating

Starfleet's latest advance in the field of defense technology is the *regenerative force field,* also known as regenerative shielding. Its name derives from the fact that it has the ability to "repair" itself when damaged. A regenerative force field siphons off some of the incoming energy of an attack into a field storage chamber, then

uses that energy to recharge and strengthen itself, making it very difficult to ever completely collapse it.

When a regenerative force field loses any Protection to an attack (or other cause), beginning in the next round each shield can "regenerates" points of the lost Protection until its Protection is once again at full strength (it cannot regenerate additional Protection beyond its full normal Protection). The number of points it regenerates each round depends upon the type of shield regenerator purchased (see accompanying table), but cannot exceed the number of points of Protection lost to previous attacks. For example, if a Class 4 shield regenerator suffers 30 points of damage from an attack, it can only regenerate 30 points, not 50. However, if previous attacks during that combat had caused it 278 points of damage, it could keep regenerating at the rate of 50 Protection per round until it was back at full strength, even if the prior round's attack only did 30 points of damage. Regeneration, and the associated Power cost, occurs *per shield,* not for all shields at once.

Regeneration ceases to occur if the shield collapses; however, all regenerative force fields automatically have Recharge rates of only 20 seconds (so there's no need to buy a separate recharge system). Shield generators, grids, and subspace field distortion amplifiers are bought as normal. Normal shield rules otherwise apply. A regenerative force field can only regenerate up to its full normal Protection; if Power or enhancements (see page 126) are used to increase a shield's strength to the limits allowed by its shield grid, those extra points do not regenerate.

To buy regenerative shielding for a ship, you must buy it for each of the ship's four main shield generators (you cannot build a ship which has, say, one regenerative shield and three normal shields). The backup shield generators automatically tie into the regeneration system; players do not have to purchase separate regenerators for them.

Regeneration costs 1 Power per point of Protection regenerated; this is in addition to the normal Power cost for maintaining the shield.

At present, regenerative force fields are found on only the most advanced vessels, such as the *U.S.S. Prometheus*. Due to technical and economic reasons, it will likely take some time before substantial numbers of Starfleet vessels are equipped with them.

REGENERATIVE FORCE FIELDS TABLE

Regenerator	SU	Protection per Round
Class 1	3 x Size	20 points
Class 2	4 x Size	30 points
Class 3	5 x Size	40 points
Class 4	6 x Size	50 points

AUTO-DESTRUCT SYSTEM

SU Cost: 1 x Size
Power Cost: None

Starfleet vessels contain a lot of advanced technology and sensitive data. To prevent any of it from falling into enemy hands, all Starfleet vessels are equipped with auto-destruct systems. The auto-destruct system is designed to function even if the main computer and most other systems are disabled or destroyed.

The primary auto-destruct system involves releasing all safety interlocks on the warp engine system and expelling the matter and anti-matter simultaneously. The resulting explosion is roughly equivalent to 1,000 Type II photon torpedoes. The secondary system (the primary system for a separated saucer module) is used when command links to the engine systems have been severed. It involves ordnance packages (placed in strategic locations throughout the ship) and an overload of the fusion reactors. It causes an explosion roughly the same as 500 Type II photon torpedoes. Either explosion is sufficient to destroy the ship and all of its key systems completely, kill everyone aboard, and deny an enemy any useful technology or data. Ships near the exploding vessel take 2d6 x 2,000 points of damage if they're within 1 Movement Unit; 2d6 x 1,000 points of damage within 2 MUs; and 1d6 x 1,000 points of damage within 3 MUs.

Activating the auto-destruct system requires verbal commands from both the captain and executive officer (unless the computer acknowledges one of them as dead). After the computer confirms the executive officer's order and the captain informs it of the desired interval until destruction, the computer begins a verbal and visual countdown. The captain or executive officer can abort the destruct sequence at any time with a voice command.

Auxiliary Spacecraft Systems

In many cases, a starship, particularly one which lacks atmospheric capability, needs a host of auxiliary craft such as shuttlecraft, runabouts, Work Bees, and the like to accomplish its missions.

SHUTTLEBAYS

SU Cost: 2 x combined Size of ships which can be stored
Power Cost: None

Generally, auxiliary craft are kept in *shuttlebays,* large, open areas equipped for launching, repairing, and storing small ships. Ships access shuttlebays through enormous doors (exterior made of triple-layered duranium, interior of lightweight neofoam sheeting in an expanded tritanium framework). When the doors are open, atmospheric integrity is maintained with an annular force field. Small, short-range tractor beams assist with ship landings. A Flight Deck Officer operates a shuttlebay from its control booth.

A shuttlebay costs no Power, but occupies a lot of space. To buy one, decide how many ships you wish to store in it, then add up all those ships' Sizes. Multiply the total by 2 to determine how many SUs the shuttlebay occupies. A starship may only keep ships of Sizes 1-2 (and, rarely, Size 3) in a shuttlebay.

SUGGESTED SHUTTLE COMPLEMENTS

The following guidelines indicate the average number of Size 1 ships (shuttlepods) and Size 2 ships (shuttlecraft) starships tend to carry. A ship may substitute other small vessels, with the Narrator's permission. Generally speaking, ships should carry only shuttlecraft and shuttlepods (and in some instances, fighters); ships which belong to their own class and have names and registry numbers normally are not carried by other ships.

Courier: 0-1
Cruiser: 25-40
Escort: 0-3
Explorer: 35-45
Frigate: 20-30
Medical: 5-12
Research/Laboratory: 5-18
Scout: 0-2
Surveyor: 5-18
Transport: 0-2

Players and Narrators should use common sense when creating shuttlebays. Size 3 ships should not carry other Size 3 ships in their shuttlebays; that simply doesn't make sense. Most scouts should not carry a large complement of shuttles. The accompanying table provides some guideliens for shuttle complements for various types of ships.

CAPTAIN'S YACHT

SU Cost: 10
Power Cost: None

Many large ships, such as Explorers and Cruisers, have a special auxiliary ship known as the *captain's yacht.* Typically stored in a "notch" on the underside of the saucer structure, the captain's yacht serves primarily to escort diplomatic personnel and the like, though it can be used for any mission a runabout or shuttle could perform.

Ship Technology Compatability

Sometimes characters find themselves in the position where they need, or want, to install alien technology into their ship. Perhaps they have to cannibalize a defeated enemy ship for the parts needed to repair the damage their ship suffered so they can make it back to base for repairs, or maybe they want to incorporate a newly-discovered weapon into their tactical systems in time for a major battle.

While this sounds easy in theory, in practice it often proves difficult. One species's technology isn't necessarily compatible with another species's. Incorporating alien technology into a ship's systems can create all sorts of problems, from malfunctions to damage to the ship itself. Just installing an alien system usually takes a long time, and the ship's engineers have to devote a lot of effort to maintaining it after it's installed.

The basic Difficulty for Engineering Tests to install alien technology in a ship depends upon the degree of compatability between the two technologies. The Narrator determines this, and also establishes how long installation takes. The base installation time is 1d6 hours, minus one hour for every two points by which the character succeeds at the Engineering Test (once the time drops to one hour, reduce it by ten minutes for each two points of success). The accompanying

tables provide suggested guidelines for system compatability; Narrators are free to alter these guidelines, or create their own.

Failure on an installation Test usually just means that the alien technology won't work with the ship's systems; characters can try again by spending another 1d6 hours. Dramatic Failure may mean that engineers *cannot* integrate the alien system into the ship's technology at all, or it may cause damage to the ship in the form of an explosion, systems overload, or the like.

A ship's engineers often have to spend a considerable amount of time checking on alien systems, maintaining them, and keeping them functioning as well as possible with the ship's normal systems. The frequency of maintenance checks depends upon how well the system was installed (which in turn reflects how compatible a given alien system is with a ship's technology). The accompanying table provides guidelines for intervals between maintenance checks (Narrators may alter these guidelines as they see fit); the Technology Compatibility Levels table lists the Difficulties for maintenance Tests.

ALIEN SYSTEMS MAINTENANCE

Success On Test	Maintenance Test Interval
Exactly or by 1	Every 1d6 hours
By 2-3	Every day
By 4-5	Every 1d6+1 days
By 6-9	Every 10-15 days (1d6+9)
By 10 or more	Every 16-26 days (2d6+14)

Unused Structure Units

Once you finish building a starship, you may find that you have Structure Units "left over." In other words, you haven't used up every possible SU for a vessel of that Size. However, this isn't a problem. It simply means one of two things.

First, it may mean that you don't need as many SUs as you could possibly have. That's fine. Instead of deciding that your Size 6 ship has a full 2,500 SUs, you simply note that it has 1,683. Not every ship has to have the full SUs for its Size category—in fact, few do. Don't feel the need to cram the hull full.

Second, you can decide that the unused SUs represent room for expansion. As the series progresses, you can gradually upgrade old systems or add new ones to occupy some of that space.

TECHNOLOGY COMPATABILITY LEVELS

Degree of Compatability	Engineering Test Difficulty	Maintenance Test Difficulty
Very Compatible	6	3
Compatible	8	5
Slightly Compatible	9	6
Barely Compatible	11	8
Incompatible	13	10
Utterly Incompatible	15	11

SUGGESTED COMPATABILITIES FOR KNOWN SPECIES

Species	Borg	Cardassians	Federation	Ferengi	Klingons	Romulans
Borg	Very	Bar	Bar	Bar	Bar	Bar
Cardassians	Bar	Very	Sli	Sli	Sli	Sli
Federation	Bar	Sli	Very	Inc	Sli	Bar
Ferengi	Bar	Sli	Inc	Very	Inc	Inc
Klingons	Bar	Sli	Sli	Inc	Very	Bar
Romulans	Bar	Sli	Bar	Inc	Bar	Very

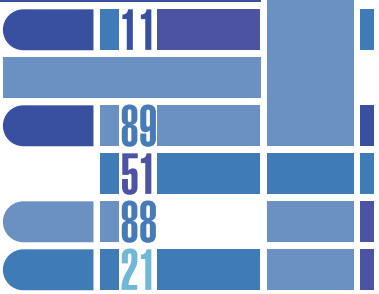
Bar = Barely Compatible; Comp = Compatible; Inc = Incompatible; Sli = Slightly Compatible; Utt = Utterly Incompatible; Very = Very Compatible

Note: Much older, or more advanced, versions of a species's own technology usually qualify as Very Compatible, Compatible, or Slightly Compatible, depending upon the situation. Examples including trying to install a 23rd century warp core or a 29th century sensor system on a *Galaxy*-class Explorer.

For example, during the Dominion War many ships were rushed into production without their normal full complement of equipment, so that they could fight. After the War ends, Starfleet can, slowly but surely, get around to filling all of those half-empty hulls.

In either case, the unused SUs have no effect on combat. When all of a ship's used SUs are removed by damage, it's been destroyed, regardless of whether it had any unused SUs available.

Chapter Three
Starship Combat



BEGIN TRANSMISSION
DATA RECEIVED

Now that you've built your ship, here's how you can use it to perform missions and fight off threats to the safety, security, and very existence of the Federation.

The Prime Directive of Starship Combat

Like any other type of combat, starship combat often poses game balance issues. Characters with a too-powerful ship, or ship operation skills which are too high, can easily run roughshod over a series, making it difficult or impossible to provide them with enjoyable challenges. A game without obstacles to overcome isn't nearly as much fun as one where the players have to struggle to overcome internal and external challenges in order to triumph.

Therefore, players and Narrators should keep in mind the *Prime Directive of starship combat:*

Just because you *can* do something doesn't mean you *should*.

In other words, the fact that this book contains a rule for something, such as increasing a shield's strength by setting up a frequency harmonic, doesn't mean you should take advantage of that rule in every starship combat. Many of these rules are meant for crisis situations and emergencies, not routine use.

Setting Simulation versus Game Balance

Last Unicorn Games's *Star Trek* game lines provide a way to simulate the *Star Trek* setting with roleplaying rules. The emphasis is on *simulating the setting*. That means a player should be able to use the rules to create characters or situations just like those seen in the *Star Trek* setting (unless there's some setting-related reason which prohibits that). Thus, rules exist for playing joined Trill characters or enhancing a starship's shields with a frequency harmonic, even though introducing those elements into a game can potentially unbalance that game (either in the short term, or permanently). Every effort is taken to make the rules for these "problem areas" tight enough to prevent abuse or loss of game balance, but in the end, the most important thing is simulating the setting, not creating a game which is as balanced as possible. This has important implications for game play, including starship combat.

On the weekly *Star Trek* television shows, the characters often take special actions in desperate situations, such as starship combat. Examples include pushing the warp engine for some extra power at the risk of causing a malfunction (or explosion), enhancing the shields by altering their polarity or other qualities, or targeting a specific system on an enemy ship. However, they don't do these things every time they go into combat, or every episode—they're not standard combat tactics, but special ones. (Some, of course, are used more commonly than others.)

Characters on the TV shows are allowed to use these "special tactics," or other unique abilities they possess, because the directors and writers of the shows have absolute control over those characters. The directors can ensure that the characters

don't abuse some procedure, like enhancing the shields, simply by not including it in the script unless it's both necessary and suitable for the scene at hand. If the dramatic needs of the story demand that tactic, the characters can use it. Otherwise it's not even mentioned—despite the fact that they did it last week and there's no "logical" or "realistic" reason why they couldn't do it this week, too. Logic and "realism" are *not* in control in starship combat—the rules of *Star Trek* drama are.

The *Spacedock* rules are designed to allow you to simulate *Star Trek* starship combat as closely as possible. But roleplaying games are completely different from television shows in many ways. The "director"—the Narrator—has relatively little control over the "main characters"—the Crew. Therefore it's possible for the characters to use game rules do something seen or mentioned one time on the show, such as the Picard Maneuver, again and again and again, as often as they please. The problem with this is that they're following *game rules* to the exclusion of the *rules of* Star Trek *drama*.

The Spacedock *rules are written, first and foremost, to comport with the rules of* Star Trek *drama; the rules of balanced gaming are secondary. Spacedock* does not contain a set of tightly balanced wargame rules. Players who approach the *Spacedock* rules as if they were wargaming rules, or who apply "logic" and "realism" to discern the most effective tactics, will find plenty of ways to take advantage of "loopholes" in the system to score cheap victories. But those aren't loopholes, they're features designed to simulate the setting and the nature of starship combat within that setting. Players who use those "loopholes" are violating the most fundamental rules—the rules of *Star Trek* drama.

To use the Spacedock *rules properly, you've got to follow the rules of* Star Trek *drama above all others,* even if that means doing "illogical" things or not taking advantage of every opportunity to improve your ship's performance. Starfleet vessels *do not* stand back outside of beam weapon range and blast their opponents to atoms with torpedoes just because they can and it's a much more "realistic" tactic; most combats take place at very short ranges and involve primarily beam weapons. Nor do they routinely set up frequency harmonics to enhance their shields, target enemy life support systems, assign multiple tactical officers to a single station, or the like. Those actions don't agree with the rules of *Star Trek* drama (nor with Starfleet regulations, which are part of that drama).

The *Spacedock* rules simulate starship combat in the *Star Trek* setting, and apply balancing factors whenever necessary, so long as those balancing factors don't interfere with the simulation. For example, the rules make it relatively easy to cancel the penalty for targeting a specific system on a ship. The characters do that many times on the shows, and it seems relatively easy—they don't even have to spend a lot of time or effort concentrating on the task. Partly this is because they're highly-trained, extremely competent Starfleet officers. But partly it's because the rules of *Star Trek* drama demand that it be relatively easy to accomplish such tasks. Starfleet officers prefer not to fight to kill, and one way to give them the means not to do that is to let them disable enemy ships relatively easily so that they can talk to their "enemies" and defuse the situation (*not* so that they can then kill helpless opponents).

Therefore, the *Spacedock* rules make it relatively easy to cancel out Hit Location targeting penalties. It's easy on the show, so it should be easy in the game, too—*as long as the game characters continue to abide by the overarching rules of* Star Trek *drama*. It would be easy to establish much higher Difficulty Numbers for this task, thus providing game balance for what can be an unbalancingly effective maneuver. But that would not match the setting as shown on the screen, so *Spacedock* doesn't do that. Instead, it sets forth rules to simulate the setting which are as balanced as possible, counting on the good faith and understanding of the players, or if that's absent the common sense of the Narrators, to prevent rules abuse from occurring.

Of course, the rules for effective tactics do not make them any easier than they have to be. Many of them require high Test Results, the expenditure of Courage Points, and/or the risk of catastrophes if the character fails, as a way of providing game balance which does not contradict the setting reality as presented in the television shows. Thus, it becomes prohibitive to perform some manuevers too frequently.

If you're the sort of strong-willed Narrator who can consistently tell his players "No" and enforce the feeling of the setting in combat situations, feel free to review the Difficulty Numbers, Power costs, or consequences for various actions and reduce them if it seems appropriate. Provided the players don't abuse the rules as described above, there's no reason

not to make it easy to perform those actions when they do get the chance to use them—that's following the rules of *Star Trek* drama. Just make sure success isn't foreordained, and that they're aware of the consequences of failure—sure-fire success is just about the most undramatic thing around.

Similarly, if your players refuse to abide by the rules of *Star Trek* drama and keep trying to abuse the *Spacedock* rules, review those rules and tighten them up to correct the problem. Increase the Difficulty Numbers, and the penalties for failure, until the players learn how to play *Star Trek* starship combat more appropriately.

SIMPLIFYING THINGS

The rules in this section tend to be detailed and complex (starship combat is, after all, not a simple activity). Keeping track of all of them, and resolving what happens in play, can take a little time. Some gaming groups may prefer to make starship combat faster-paced, even if this means sacrificing some "realism." Narrators can pick and choose which rules they want to use, combining them with the basic rules from the *Star Trek* roleplaying game core rulebooks.

ROLEPLAYING STARSHIP COMBAT

One thing which prevents abuse of the *Spacedock* combat rules is that they're intended to be used as part of a roleplaying game campaign. Thus, roleplaying elements factor into a character's decision to take particular actions. Both Narrators and players should remember that *Star Trek* isn't just some science fiction setting—it's a setting developed over the course of 30-plus years of television and movies. It has its own elaborate "feel" and code of conduct. In starship combat as in so many other areas, it's important for both players and Narrators to remember this in order to make the stories they tell not only as fun as possible, but appropriate to the setting.

Players of Starfleet characters need to keep in mind that *Starfleet is not a military organization*. Despite the firepower available to it, it's primarily an exploratory group which also provides defense for the Federation. With a few exceptions, such as the *Defiant* and *Akira* classes, Starfleet vessels are *not* designed primarily for military purposes. Compared to other species's ships of like size and sophistication, they tend to be "undergunned."

Similarly, the use of force is the *last* option for any responsible Starfleet officer, and when they do use it, they use the minimum amount needed to get the job done. Starfleet prefers to negotiate or come to some other reasonable solution if it can; its officers exhaust all other options before powering up the phasers. In many cases this goes as far as trying to talk to an enemy even after he's taken a shot or two at the ship. Characters who take a forceful, military approach to problems before trying other options are *not* acting in the spirit of Starfleet, and their careers will eventually suffer for it. The Narrator should have superior officers punish them, grant them Renown in non-Starfleet-favored aspects such as Aggression, and give them few or no Experience Points. Their non-Starfleet actions should have consequences for them within the context of the campaign.

For their part, Narrators should remember to preserve the feel of the setting as much as possible by providing non-military options for resolving situations. If the only solution to an encounter is to shoot their way out, the Crew members are completely justified in doing so. If no one ever listens to them when they try to resolve crises diplomatically, they'll quickly learn not to even try anything other than blasting their adversaries into atoms. Of course, not every non-military solution should work; sometimes people are unreasonable or unable to compromise for some reason. But *Star Trek* consistently shows us that non-military solutions *can* work in the most unusual situations (such as negotiating with Species 8472) if Starfleet officers just give it the old Academy try. Narrators should keep this in mind when designing scenarios.

Naturally, sometimes talking is pointless—the Dominion War is a good example. If you, as Narrator, want events like that in your series, you can easily introduce them, thus allowing your players free rein with their military toys. Similarly, if you don't like the "Starfleet is not a military organization" axiom, you can change it for your game if you want, allowing the players to take on the roles of military commanders and soldiers. But if you want to keep your players from resorting to violence every time, you have to present them with potential non-military solutions.

Of course, the goal of a *Star Trek* roleplaying game series is for *everyone*—both players *and* Narrator—to *have fun*. If you're a Narrator and your players enjoy mowing down the opposition effortlessly, try to let them do it most of the time; don't frustrate them constantly by making every encounter a battle they barely survive. Tailor your use of these rules to your players'

personalities and desires. If you're a player and your Narrator wants to keep the starship combat balanced and tense, do your best to accomodate him. Don't exploit the rules just because you can; stick to their spirit, and the feel of *Star Trek,* rather than blowing up every obstacle, and you'll have a lot more fun.

Starship Combat Basics

Time

Starship combat takes place in *rounds* of five seconds each (just like personal combat). In a round, a starship can perform one or more actions (such as moving and firing three different weapons); starships do not suffer a penalty for performing multiple actions in a round. Whether Multiple Action Penalties accrue to the ship, or the characters on the ship, depends on the initiative system used.

Initiative

There are several ways to determine initiative in starship combat. Narrators should choose the option which they're most comfortable with and which best helps them simulate starship combat within the context of their series.

Basic Starship Initiative

The easiest way to determine initiative in starship combat is to use each ship's commander's Starship Tactics skill. If a commanding officer doesn't know Starship Tactics, he may make an Intellect Test instead.

When you use this method, each starship is considered a single "person" involved in the combat, much like a single character involved in a brawl. The actions each ship takes, even though they're performed by separate crewmembers using their individual skills and attributes for the Tests, count as the ship's actions for purposes of Multiple Action Penalties and the like. Starships can delay their actions, react to changing circumstances, and the like. The actions the ship takes occur in logical order, or the order indicated by the commanding officer.

As with initiative for characters, each ship which wishes to act performs one action. Then the Narrator allows ships which want to take multiple actions to each take another action, again in order of initiative, until all ships have taken all the actions they want to. Narrators may wish to limit each ship to five actions (one per second during the five-second round) to speed up combat.

Example: *The Captain of the* U.S.S. S'jonross *wins initiative against two other ships. He orders an evasive maneuver, an attack maneuver, and the firing of one beam weapon and one spread of torpedoes. He wants the two maneuvers to occur before the attacks (otherwise, the attacks wouldn't receive the bonus of the attack maneuver). Since this counts as four actions for the ship, every Test suffers a +3 Difficulty Multiple Action Penalty.*

When the S'jonross*'s turn during the round comes up, it performs one action (the evasive maneuver, with the Flight Control officer making the Test). Each of the other ships then takes its first action, in order of their initiative rolls. Then the* S'jonross *takes its second action, and so on, until all ships have finished their actions and want to move on to the next round.*

Starships using this method need to budget their actions carefully because of the Multiple Action Penalty. While it's possible to declare many different actions in a single round, the penalty for doing so quickly becomes prohibitive. In most cases, it's better for a ship to limit itself to no more than three or four actions per round, then move on to the next round.

Enhanced Starship Initiative

This method builds upon the basic method, providing greater detail and "realism" at the expense of more complexity. The commander's Starship Tactics (or Intellect) Test determines initiative for each ship. But instead of counting all actions as the generic actions of "the starship," each character on the ship who wants to act declares his number of actions and suffers his own Multiple Action Penalty. Thus, the Flight Control officer might only perform one or two maneuvers and suffer a minor Multiple Action Penalty. The Tactical Officer, on the other hand, might have to do many different things and quickly accumulate a substantial Multiple Action Penalty.

When using this system, each character on the ship that won initiative who wants to act in a round takes his first action. Then the characters on the next ship each take one action, and so

forth. Then characters who declared a second action get to take them in the same order.

Narrator should limit each character to a maximum of five actions, one per second in the round. This not only helps keep the combat moving smoothly, it requires characters to prioritize their actions—should the Tactical Officer first enhance the shields, or fire phasers? It may depend on what the *other* characters want to do (or are ordered to do). If the Flight Control officer decided to perform an attack maneuver as his first action, the Tactical Officer will want to wait to fire the phaser until he's made that maneuver so he can gain the benefit of it.

When using this system, the characters on the ship act in order of their Coordinations (roll dice to break ties, if necessary, modifying the roll with Reaction). They can delay an action until the end of a given second, but cannot delay actions until subsequent seconds and then perform two actions at once—a character who voluntarily refrains from taking an action during a second simply loses it. This does not change the Multiple Action Penalty.

Example: *Aboard the* U.S.S. S'jonross, *the Captain, Tactical Officer, and Flight Control officer all want to act. The Captain (Coordination 3) declares one action—he wants to make an Opposed Test pitting his Starship Tactics against one of the enemy commanders, to give the Tactical Officer a bonus to Tests. The Tactical Officer (Coordination 4) declares two actions—firing phasers, and firing a spread of torpedoes. The Flight Control officer (Coordination 3) declares two actions, an attack maneuver and an evasive maneuver. Both the Tactical and Flight Control Officers will suffer a +1 Difficulty Multiple Action Penalty because they're each performing two actions. The Captain and Flight Control officer each roll one die to determine who acts first, since they have the same Coordinations; the Captain wins.*

In the first second of the first round, the Narrator calls for the S'jonross's *actions. The Tactical Officer goes first. He decides to delay until after the Flight Control officer moves and the Captain determines the best tactic. The Captain then acts, succeeding in his Test, thus granting the Tactical Officer a +1 die bonus. The Flight Control officer then acts, succeeding with his Test for the attack maneuver despite the +1 Difficulty Multiple Action Penalty, so the Tactical Officer gets another bonus. Having delayed his action as long as he can, the Tactical Officer fires phasers, but misses due to the +1 Difficulty Multiple Action Penalty.*

Next, in the first second of the first round, the Narrator has the two enemy ships take their actions.

In the second second of the first round, the S'jonross *gets to act again. The Tactical Officer goes first, firing torpedoes. Then the Flight Control officer acts, attempting his declared evasive maneuver. Both succeed despite their +1 Difficulty Multiple Action Penalties. Then the other ships act in the appropriate order.*

If the Tactical Officer decided not to fire in the first second, he could forego the action altogether. However, he could not delay until the second second and fire twice. His Multiple Action Penalty would not change even though he decided not to take one of his declared actions.

When using this system, the Narrator may wish to divide each weapon's rate of fire among the five seconds of the round. For example, a weapon which can fire five shots per round could fire once per second; one which fires three shots could fire in seconds one, three, and five. If making a Multifire attack, a ship could fire all of a weapon's shots more quickly (all five in one second, for example), but then that weapon could not fire again until the next round. Don't forget that weapons have limited rates of fire per *round,* not per second.

Individualized Starship Initiative

This method is even more advanced than the enhanced initiative system. It works the same, except for one detail—each character who wants to act rolls his own initiative, using the skill the Narrator thinks is most applicable. If he wants to use two or more skills during the round, the Narrator should pick the one he'll use the most,

STATIONS IN STARSHIP COMBAT

If starship combat involves a space station (such as Deep Space 9), you can generally think of a station as a large, immobile starship. Except where the text notes an exception, suggestion, or special rule, when you read these rules, include "space station" whenever ships are discussed. For example, space station commanders use the Starship Tactics skill, or an Intellect Test, to determine initiative in starship combat, just like starship commanders. Similarly, reference to such positions as "Operations Officer" include equivalent personnel on space stations.

or the one he'll use for his first action.

Individualized initiative tends to slow the game down a little more, but provides even greater realism. Characters on a given ship will have to balance their actions carefully, and may even have to engage in Opposed Tests against crewmembers on opposing ships to use delayed actions to act first.

CHARACTER ROLES IN STARSHIP COMBAT

Starships are equipped with sophisticated technology, but they can't fight battles by themselves—it's the crew which puts the ship through its paces. During a combat or crisis situation, every member of the crew has a duty to perform to help ensure victory with minimal casualties.

Narrators should tailor battles to suit the types of characters the players are playing. For example, if the Flight Control Officer is a player character, battles should provide plenty of opportunities for maneuvering and fancy flying. If none of the player characters is a medical officer, don't worry as much about tracking crew casualties or the role of the ship's doctors in combat.

In game terms, the rules are arranged to give all the player characters something to do. It's no fun for a player to have to sit out exciting scenes just because his character doesn't have a relevant title. If there's no way to get a particular player character involved in a starship combat scene, let the player temporarily take the role of a junior tactical officer, or some other position which will let him participate.

The character roles described below are not exclusive. If the Ops officer isn't busy tracking Power allocations one round, perhaps he can help out with tactical or sensors. Ships with multiple weapons systems or extensive sensor arrays may have extra officers tasked to those duties in starship combat to improve the ship's efficiency and chances for victory. If a player feels as if his character is "left out of the action," maybe it's time for that character to take bridge certification courses or return to the Academy for some advanced training which allows him to get into the thick of things.

If there aren't enough players in the campaign to fill all of the major character roles in combat, the Narrator should consider allowing players to "double up" and also take on the role of various NPC officers in starship combat situations. That will save the Narrator the trouble of keeping track of the characters' ship, and give the players more involvement in the combat.

Actions in Starship Combat

Throughout this chapter, you'll find many references to specific actions or tactics and the time it takes to perform them, such as "1 round" or "1d6 rounds." Usually this means that the task requires the undivided attention of the character performing it for that length of time—he can't perform other actions. However, depending upon the circumstances and the needs of the story, the Narrator can allow a character performing them to perform other actions as well, with the standard Multiple Action Penalty.

Multiple Actions In Starship Combat

If a character performs multiple actions in a single round in starship combat (for example, establishing three sensor locks, firing two weapons, or establishing a sensor lock and then firing a weapon), he suffers a standard Multiple Action Penalty (see pages 125-29 of the *Star Trek: The Next Generation Roleplaying Game* core rulebook, page 109 of the *Star Trek: The Roleplaying Game* core rulebook, or page 113 of the *Star Trek: Deep Space Nine Roleplaying Game* core rulebook). Thus, it's usually more efficient to assign specific combat duties to specific officers.

Example: *Ensign Malloy is serving at Tactical. He wants to fire twice in one round (one phaser attack, one torpedo launch). Since he's performing two actions this round, he suffers a +1 Difficulty on both of his Shipboard Systems (Tactical) rolls to hit the targets.*

Instead of applying the Multiple Action Penalty to increase the Difficulty of an action, Narrators may find it easier to convert it to a negative Test Result modifier for the tasks attempted. That makes it simpler to include it with the other modifiers described in *Spacedock*.

As an alternative to the standard Multiple Action Penalty rule, Narrators may wish to allow characters to suffer the penalty incrementally. Thus, the first action in a round would be at +0 Difficulty (or -0 Test Restul modifier), the second at +1, the third at +2, and so forth. This makes it unnecessary for players to have to try to think of all the actions they want to perform at the very beginning of the round, and makes it easier for

STARSHIP COMBAT SUMMARY

1. ***Roll Initiative:*** The way you roll initiative depends upon whether you choose the basic, enhanced, or individualized initiative systems. See pages 82-83.
2. ***Actions:*** When its/their turn comes during the round, a ship/crewmembers take its/their actions.
   A. *Multiple Action Penalty:* Characters who attempt more than one action in a round suffer progressive penalties—+1 Difficulty (or -1 Test Result) penalty per action after the first—so all characters must plan their actions carefully. See page 84.
   B. *Power Allocation:* Based on the commander's desires and the actions the other crewmembers want to take, the Mission Ops officer allocates Power. This usually does not require a Test, but does count as a Timed Action. See page 94. A ship can improve the performance of many of its systems with extra Power. These include sensors, transporters, communications, and beam weapons.
   C. *Movement:* Ships move 5 MUs per .1*c* of impulse movement (divide impulse speed as a whole number by 2 to get MUs moved). Each MU = 30,000 km. See page 96.
      1. *Maneuvering:* Ships can maneuver for offensive or defensive bonuses. This requires an action and Test from the Flight Control officer. Maneuvering may interfere with targeting locks. See pages 97, 101.
   D. *Command:* Commander may make an Opposed Test against another commander to obtain tactical bonuses against his ship; for every 2 points by which his Test beats the other commander's Test, his Tactical Officer rolls +1 die to hit the other ship; for every 2 points by which he loses the roll, the Tactical Officer rolls -1 die. See page 86.
   E. *Sensors:* The character operating the sensors can roll a Moderate (6) Shipboard Systems (Sensors) Test; for every 2 points by which the Test succeeds, the Tactical Officer receives a +1 Test Result bonus (other ships can engage in electronic warfare to prevent this, and the Narrator may impose some restrictions). See page 149.
   F. *Tactical:* The Tactical Officer has a *lot* to do in combat, and must budget his actions carefully.
      1. *Targeting Locks:* Establishing these is normally automatic—it requires neither a Test nor an action—but a lock can be lost due to maneuvering. If this occurs, Tactical must make a Test, modified by the bonus obtained from the maneuver, to maintain the lock. See page 109.
      2. *Fire Beam Weapons:* Requires a Test, with Difficulty based on range.
         a. *Alter Firing Mode:* An Immediate Action requiring no Test. Modes available include Standard, Continuous, Pulse, and Wide-Beam, depending on weapon. See page 139.
         b. *Improve Beam Weapons:* Tactical can improve the effectiveness of beam weapons in many ways—extra Power, isolating emitters, phaser-jacketing them, pulse compression waves, and so forth. Most of these tactics are Actions requiring a Test. See pages 139-140.
      3. *Fire Missile Weapons:* Requires a Test, with Difficulty based on range.
         a. *Firing Pattern:* With an Action and a Test, Tactical may use special firing patterns to increase torpedoes' accuracy. See page 143.
      4. *Shields:* The Tactical Officer may improve the shields by altering the modulation frequency, harmonic, polarity, and so forth. Most of these tactics are Actions requiring a Test; some require expenditure of a Courage Point as well. See pages 127-133.
      5. *Miscellaneous:* Most of these require Actions and Tests. See also the Combat Modifiers Checklist, below.
         a. Aiming. See page 110.
         b. Eliminating Hit Location modifiers. See page 111.
         c. Eliminating Size modifiers. See page 111.
3. ***Repairs; Healing Injured Crewmembers***
   A. *Repairs:* Use the number of SUs of damage it has sustained as the Difficulty for an Extended Test; the character(s) making repairs may roll once per round; there is no predefined Turn length (unless imposed by circumstances or the commanding officer). Achieving the Difficulty means the character(s) have made a quick, jury-rigged repair of the system. Characters can also try to "patch around" damaged systems in some instances. See pages 164-165.
   B. *Healing:* Consult table for time it takes to heal a given number of casualties. See page 87.
4. ***Combat Modifiers Checklist***
   A. *Basic Difficulty To Hit a Target:* Depends on range to target and weapon used.
   B. *Modifiers*
      1. Multiple action penalty (if applicable) (see page 84)
      2. Bonus from TA/T/TS (targeting scanners) (see page 109)
      3. Bonuses from weapon's targeting system (see page 110)
      4. Modifier from commander's Starship Tactics Test (if any) (see page 86)
      5. Bonus from sensors (if any) (see page 149-150)
      6. Modifier from Size differential (if any) (see page 121)
      7. Modifier from called shot (if any) (see page 110)
      8. Modifier from Cover (if any) (see page 118)
      9. Modifier from warp speed/impulse speed differential (if applicable) (see page 121)
      10. Modifiers for attack or evasive maneuvers (if applicable) (see page 103-107)
      11. Penalty for manual targeting (typically +3 Difficulty) (see page 91)
      12. Bonus for immobile target (-2 Difficulty) (see page 118)
      13. Bonus for Wide Beam fire with beam weapons (see page 139)

them to react to changing circumstances.

Command

The commander of a ship is responsible for the overall conduct of the ship during the battle. He (with the assistance of his First Officer and other members of the Command branch) coordinates the ship's actions, makes tactical decisions, and provides the leadership necessary to see the battle through to its (hopefully triumphant) conclusion.

As described above, use the commander's Starship Tactics skill to determine his ship's initiative in combat.

In appropriate situations, a Narrator may grant a bonus for attacks a ship makes based on the skill of its commanding officer. The commander makes an Opposed Test using Starship Tactics against the commander of the ship he wants to attack (alternately, he may make a normal Test against a Difficulty established by the Narrator). For every 2 points by which his Starship Tactics Test Result exceeds his opponent's Test Result (or the established Difficulty), the Tactical Officer may roll +1 die for all Shipboard Systems (Tactical) Tests made that round against a single target (chosen by the commander, or, if he defers, by the Tactical Officer). However, for every 2 points the Test Result is below his opponent's (or the Difficulty Number), the Tactical Officer suffers a -1 die penalty for all attacks against a single target that round. Commanders may make multiple Tests to help the Tactical Officer attack several targets, but this incurs a Multiple Action Penalty. Only one character on a ship (its Captain or other commander) may take advantage of this rule; junior officers may not use it, even if commanding discrete groups of characters outside of the commander's presence.

Example: *Captain Jernak (Intellect 3, Starship Tactics (Starfleet) 3 (4)) decides to assist Ensign Malloy. Jernak's player rolls three dice; his best result is a 5. Added to his skill level of 4, that makes 9. The opposing commander makes his own Test, scoring a total of 7. That means Malloy receives a +1 die bonus. Had Jernak's player rolled a 3 or 4, Malloy would have received no bonus. If he'd rolled a 6 on his Drama Die and a 3 on his next highest die, Malloy would receive a +3 die bonus.*

Engineering

Although they're usually nowhere near the bridge when combat occurs, engineers remain busy throughout any battle. They have two primary responsibilities. First, they manage the operation of the warp engine and other Power sources. Sometimes they can coax a little extra Power out of the engines for a short time (see page 91). Second, and more importantly, they repair the damage done by combat. When a ship is attacked, systems explode, hulls are breached, EPS relays short out, and many other parts of the ship are damaged. Engineers work to repair this damage, often in mid-battle. Sometimes they have no choice, such as when they race the clock to repair the damage done to the antimatter containment system before the entire ship is annihilated in an antimatter explosion. See page 164 for rules on repairing damage.

Flight Control

As the title indicates, the Flight Control Officer's primary responsibility in starship combat (or any other situation) is to fly the ship. In combat, he has to engage in maneuvers to avoid damage, bring the ship's weapons to bear on an enemy for greatest effect, and dodge attacks. The Conn uses Shipboard Systems (Flight Control) to direct the ship's movement. Movement and maneuvering are discussed beginning on page 96. Basic maneuvering usually does not require a Test (or, at most, one with a Routine (3) Difficulty). Only when the Conn wants to try something tricky, or to derive some benefit (like avoiding an attack), should he have to make a Test.

Additionally, the Conn also sometimes operates the ship's sensors, so he's very busy when a fight breaks out—and a crucial component of the victory equation. See page 148 for rules on sensor use.

Medical

When combat occurs, crewmembers get hurt. That's when medical officers enter the fray, healing the injured and making sure they can return to their duties or don't experience pain any longer than they have to. In game terms, Medical Officers "heal" damage to the ship's crew complement in much the same way as Engineers repair damage to the ship itself (see below). On rare occasions Medical Officers will use their science training to help out with sensor

duties.

Operations

The Ops Officer has one of the most important combat duties—he oversees the ship's use and allocation of Power. Players running Ops officers keep track of a starship's use of Power during battle, informing the other players when Power is running low and responding to requests for extra Power to improve the performance of some system.

Complete rules for Power generation and allocation are on page 94. Basically, most systems aboard a ship require a certain amount of Power to function properly. A ship's warp and impulse engines generate Power. Many systems can function at better than normal levels if they are provided with extra Power; conversely, a ship can conserve Power by operating a system at less than full capacity or effect. A ship's ability to supply greater than normal amounts of Power to its systems depends upon the quality and efficiency of its EPS system (see page 41).

Science

Science Officers usually participate in combat by operating the sensors, thus freeing the Flight Control Officer to concentrate solely on piloting the ship. They also provide advice to the commander and Tactical Officer regarding possible scientific solutions to problems confronting the ship (such as how to locate a cloaked vessel).

Security

On most ships, Security officers serve at Tactical, and fulfill the duties of a Tactical Officer (see below). Security personnel also repel invaders, command personnel operating torpedo tubes and other tactical equipment, help coordinate fire suppression efforts, and if necessary assist with evacuation of the ship.

Tactical

The Tactical Officer operates the Tactical Station, raises and alters shields, and configures and fires weapons. He is the focus of much of the combat activity on the ship, and the person with whom the commander most often interacts in threat situations.

Starfleet vessels only have one officer manning the Tactical Station, even in combat situations. Multiple tactical officers represent a level of belligerence and willingness to use military solutions to problems which Starfleet does not possess.

The Crew In General

When Red Alert is called, every crewmember has a duty station to reach and a job to do. Some make sure that the shuttlecraft are ready to depart at a moment's notice; some prepare to assist with emergency medical or repair efforts; some help run diagnostics on crucial ship's systems. Whatever has to be done, the crew does it.

Crew Casualties

Unfortunately, while operating the ship's systems, crewmembers expose themselves to injury when the ship is damaged. Exploding panels, breached hulls, and the devastating force of a beam weapon cutting right through a ship all take their toll among the crew. In game terms, the Starship Hit Locations Table (page 112) includes Crew damage figures for most locations. Typically these are expressed in terms of percentages—damage to the tractor beams causes casualties (injuries or deaths) among 1-4% of the crew, for example. This translates into a number: 1% of a *Galaxy*-class ship's crew is roughly 10 persons, for example.

The Narrator determines whether a casualty is a death, or merely a serious injury. The greater the damage, the more likely deaths will result, but the Narrator should adjust the numbers to enhance the drama of the situation. In many cases, a 25%/75% death/injury split will work fairly well.

Once the Narrator determines an exact number of casualties (and how many of them can be saved with medical treatment), the Medical Officers can go to work. With their autosutures, dermal regenerators, and hyposprays, they attempt to heal what mankind's most powerful weapons have torn asunder. In game terms, the Medical Officer makes a First Aid (any relevant Specialization) or Medical Sciences (any relevant Specialization) Test, using the Difficulty and required time from the accompanying table. (If there are no player character Medical Officers, the Narrator rolls for the highest-ranking Medical Officer.) If two or more player characters are medical officers, they may divide groups of casualties into smaller sub-groups to make it easier to treat them

CREW CASUALTIES TABLE

Casualties	Difficulty	Time Required to Heal
01-10	Routine (4)	1 round
11-20	Moderate (7)	2 rounds
21-40	Challenging (10)	3 rounds
41-80	Difficult (13)	4 rounds
81+	Nearly Impossible (15)	5 rounds

(for example, splitting 80 casualties into two 40-person groups).

If the Test succeeds exactly, the Medical officer heals 1d6 worth of casualties; for every point by which he makes the Test, he rolls another 1d6. The total on the dice represent how many crewmembers the Medical Department has healed; the rest are stabilized but too badly hurt to do anything, or have died. The Narrator may adjust the doctors' chances by adding or subtracting dice. A relatively minor attack might result mostly in non-fatal injuries, so the doctor gets to roll more dice; a powerful attack might be more likely to cause deaths, so the doctor rolls fewer dice. Healed crewmembers can return to duty; stabilized or deceased ones cannot.

Crew healing rules apply only to NPCs. Every player character has to be treated individually (that's the price of being the center of attention so much of the time).

Alternately, Narrators who are sticklers for detail can create an entire medical staff for a ship, then use the standard Extended Test and Combined Test rules to determine how many people they heal. The rules presented above are a highly simplified and abstract way to achieve the same result quickly.

The Difficulty Numbers in the Crew Casualties Table assume that the ship's full medical staff is available to work on the problem. If the Medical Department is functioning at less than full strength (perhaps doctors were injured in an attack, or have been laid low by a virus), the Narrator should increase the Difficulty Numbers as appropriate. On the other hand, if a ship has an unusually large percentage of Medical personnel among its crew (as, for example, on an *Olympic*-class Medical vessel), the Narrator should decrease the Difficulty Numbers because there are a lot more personnel available to see to the injured.

Skeleton Crews

Starships are so technologically sophisticated that it's possible to operate one from a single control panel, or even a PADD—in a non-crisis situation. During combat, too many things take place for any one person to run the ship properly. When the crew falls below full strength due to injuries or other factors, it affects everyone's ability to perform their duties because stations go unmanned and crewmembers try to do too much at once.

The Skeleton Crew Table indicates a penalty to the number of dice rolled for any Test involving the ship based on diminished crew strength. The Narrator is free to waive this penalty for actions or Tests which only seem to require a single person, such as firing weapons or piloting the ship. However, the penalty should always apply to actions requiring large numbers of persons, like making extensive repairs or anything involving a Combined Test.

SKELETON CREW TABLE

Percentage of Full Strength	Penalty to all Tests
100-76%	No penalty
75-51%	-1 die
50-26%	-2 dice
25-11%	-3 dice
10% or lower	-4 dice

COURAGE POINTS IN STARSHIP COMBAT

Characters participating in starship combat may spend Courage Points in the usual manner to improve their Test Results. However, unlike personal combat, they may spend Courage Points to increase the damage done when they fire a starship weapon—every Courage Point spent adds +20 damage to the attack. This reflects the character's skill at aiming the attack, the way luck seems to favor the heroic and noble, and similar factors.

At the Narrator's option, a ship's commander can spend Courage Points to decrease the damage his ship takes from an attack. For every Courage Point spent, reduce the damage done by the attack by 25%. This reflects the captain's last-second heroics to get the ship out of danger or reduce the effects of an attack.

Example: *The* U.S.S. Keraptis *(Protection 650 reduced to 250 by attacks, Threshold 100) is hit by a torpedo from a Dominion ship, taking 200 points of damage. This reduces its shields' Protection to 50, and leaks 100 points of damage through to the ship, which unfortunately happens to do significant damage to its bridge. With the Narrator's permission, Captain Sung decides to spend 1 Courage Point to reduce the damage by 25%. He defines this as a last-second order which caused the Conn to jerk the ship slightly to one side, reducing the effects of the torpedo. Thus, the attack only does 150 damage instead of 200 (25% of 200 is 50, 200-50 = 150), reducing the shields' Protection to 100 and leaking only 50 points of damage through to the ship.*

Additionally, some of the special tactics described later in this chapter require a character to spend 1 Courage Point to attempt them. In this case, the Courage Point offers no bonus to the Test Result; it simply makes it possible for the character to attempt the tactic at all. Typically the character making the necessary Test (the Tactical Officer, usually) has to spend the point, but in some cases the Narrator may allow another character (such as the commander) to sacrifice one of his points instead.

CONTROLLING THE SHIP

The Bridge

Except in unusual circumstances, the crew exercises control of a ship from the bridge. All primary control stations, such as Flight Control, Ops, and the captain's Command station, are located there (though with the proper commands, a control panel elsewhere on the ship could be used for such functions in an emergency).

The *command function* of a ship—the computer-recognized authority to command the ship and access restricted data—rests in the Captain, and, to a lesser extent, his First Officer and other junior Command staff (the lower a Command crewmember's rank, the fewer functions he has access to). This includes such things as access to information regarding the Omega Directive and the ability to activate the auto-destruct system. Only the Captain and First Officer can use all command functions.

If necessary, the Captain or the First Officer can lock out any or all command functions, thus making it impossible for anyone to run the ship. Typically this is a security measure employed when enemies invade the ship. Breaking through the security protocols which lock out command functions is extraordinarily difficult; at best it would require many hours of time and a Nearly Impossible (18) Computer (Data Alteration/Hacking) Test. However, on occasion this security feature has been turned against the crew of a ship when a stealthy invader gets onto the ship without being detected and redirects all command functions to himself, effectively locking out the Captain and other crewmembers (this would require several hours and a Difficult (14) Computer (Data Alteration/Hacking) Test, unless the character attempting this has ship-specific decryption subroutines or other tools which make the job easier).

The Battle Bridge

When a ship separates into two or more parts, or other circumstances require it, the Captain or First Officer can transfer the command functions of a ship to its battle bridge or some other auxiliary control room or panel (thus effectively locking out bridge control if the ship has not separated). The commander can reroute command functions to the battle bridge automatically; anyone else who tries to do it has to succeed with Tests as described above.

The battle bridge functions like a normal bridge in all respects. If upgrades are installed for systems like Flight Control and Tactical, those upgrades apply to the battle bridge systems as well.

Separation Systems

Saucer Separation

Saucer separation requires two rounds and is a Timed Action for the Flight Control officer. At rest or impulse speeds, it requires a Routine (5) Shipboard Systems (Flight Control) Test to accomplish without problem. A failed roll may mean that the equipment has locked up and separation cannot be achieved, or that there's been a collision or other problem causing 3d6 damage to both parts of the ship (only the hull's Resistance, including any ablative armor, protects against this damage; shields cannot be active while the vessel separates). A Dramatic Failure may mean that both mishaps occur, and in any event the damage increases to 6d6.

At warp speeds, separation is more difficult:

it requires a Moderate (7) Shipboard Systems (Flight Control) Test. Damage as a result of failure increases to 5d6 (or 10d6 for Dramatic Failure). Once the saucer section has completely separated from the engineering section, the warp field energy around it decays over the course of about two minutes, at which point it drops to impulse speeds.

When a saucer separates, it and the Engineering section of the vessel effectively become two separate ships. This has the following effects:

Size: The Narrator determines the respective Sizes of the two "sub-vessels." In many cases the complete ship's Size simply divides in two, with the saucer and Engineering sections each half the size of the total vessel. However, a 60/40 split or some other division may be more accurate. The division of Size does not affect a ship's systems in any way (including SU cost), but does affect attack modifiers based on Size.

Power: The saucer only has Power from its impulse engines and any auxiliary/emergency Power systems it possesses; the Engineering section has Power from the warp engine, its own impulse engines, and any auxiliary/emergency Power systems it possesses.

Weapons: Each section of the ship has its own weapons (check the weapon descriptions in the ship's template to determine their locations). In some cases separation may affect some weapons' firing arcs; for example, a phaser array located on a saucer would not experience an "arc shadow" (an area it cannot fire into because some other part of the ship obstructs its line of fire) from the Engineering section.

Hit Locations: If a randomly determined hit location does not exist in the part of the vessel hit (for example, there's no warp engine in the saucer), then re-roll the hit location roll.

Multivector Assault Mode

MVAM separation requires two rounds and is a Timed Action for the Flight Control officer. At rest or impulse speeds, it requires a Routine (3) Shipboard Systems (Flight Control) Test to accomplish without problem. A failed roll typically indicates that an equipment failure has occurred (meaning separation cannot be achieved), but may mean that two or three of the ship's "sections" have collided, causing 2d6 damage to each section involved (only the hull's Resistance, including ablative armor, protects against this damage; shields cannot be active during MVAM separation). A Dramatic Failure may mean that both mishaps occur, and in any event the damage increases to 4d6.

At warp speeds, separation is slightly harder: it requires a Routine (5) Shipboard Systems (Flight Control) Test. Damage as a result of failure increases to 3d6 (or 6d6 for Dramatic Failure). Since each section of an MVAM-capable ship has its own warp and impulse engines, they can maintain or change speed after separation as their crews desire.

MVAM separation has the following effects:

Size: The Narrator determines the respective Sizes of the three "sub-vessels." Typically the overall vessel's Size simply divides in three, but other splits (such as 40/40/20 or 35/35/30 are possible). The division of Size does not affect a ship's systems in any way (including SU cost), but does affect attack modifiers based on Size.

Power: Each sub-vessel has its own warp engines, impulse engines, and emergency/auxiliary systems to provide Power (and its own warp nacelle(s)). While only the most powerful warp or impulse engine is used for purposes of determining speed when the ship is joined into a single unit, they all generate Power when the ship is separated. Consider the joined engine unit as a single warp engine for purposes of hit location rolls and the like.

Weapons: Each section of the ship has its own weapons (check the weapon descriptions in the ship's template to determine their locations). In some cases separation may affect some weapons' firing arcs (see above under "Saucer Separation" for details).

Hit Locations: If a randomly determined hit location does not exist in the sub-vessel hit, then re-roll the hit location roll.

As its name indicates, MVAM is particularly suited for attacks on a single target. When all parts of a MVAM-capable ship concentrate their attacks on one target (referred to as Attack Pattern Beta in several variations), each receives a +1 Test Result bonus to their attack Tests. They may also perform attack maneuvers involving multiple ships (such as Wolfpacking; see page 105); at the Narrator's option, the Difficulty of such maneuvers may be reduced by 1 for them.

Detachable Warhead

Detachable warheads are effectively separate Size 1 vehicles with Class 1 impulse engines (velocity of .25*c*/.5*c*) and can be piloted remotely or by a living pilot. If remotely piloted, the person steering it uses Shipboard Systems

(Flight Control) to do so, but the Difficulty of any maneuver increases by +1. If its "autopilot" is engaged, consider a warhead to have an autopilot equivalent to its mother ship's, as well as its mother ship's Sensors Skill and Weapons Skill. If an actual pilot goes onboard to steer the warhead, all maneuvers are performed as normal.

A warhead has the same Resistance (including ablative armor) as its mother ship. It has no shields and no weapons other than its torpedoes, which it cannot launch. (Warheads are almost always loaded with photon torpedoes, though other types are possible.) It does not receive the benefit of any system upgrades made to the mother ship.

To use a detachable warhead, it must be rammed into a target (see page 108). This does normal ramming damage (200 points, assuming a maximum .5c velocity) *plus* the damage of the exploding torpedoes (which detonate automatically upon impact). The damage of the torpedoes is added together and applied to the target as a whole along with the ramming damage. Thus, warhead loaded with six Type II torpedoes would do 1,400 points of damage (200 + (6 x 200)).

A detachable warhead is intended as a last-ditch effort to destroy an enemy, not a standard tactic. The warhead's low impulse speed, which requires its mother ship to get fairly close to its target before detaching it, reinforces this policy.

Manual Control

Many systems, such as Flight Control, attitude control, and establishing targeting locks, can be performed manually in the event a "personal touch" is desired or the computer controls are not working due to damage or malfunction. The following general rules apply; specific rules for given systems are included with descriptions of those systems.

If manual control is activated not because of computer failure, but because a character desires to apply his humanoid intuition and skills to a procedure instead of relying solely on the computer, the Difficulty of any Tests remains the same. If the character succeeds, he is likely to succeed to a greater degree than normal (such are the rules of dramatic storytelling) and perhaps earn a point or two of Skill Renown. If he fails, he'll probably earn a negative point or two of Skill Renown, and probably puts himself and his ship in grave danger.

If manual control is activated because no computer control of the procedure is available (due to computer failure or damage), the Difficulty of any Tests increases by *three* (effectively increasing it by one category). Failure is not likely to earn the character any negative Skill Renown; operating systems manually in such circumstances is difficult at best. Success, however, will probably earn him some positive Skill Renown.

Power Systems

Everything a starship does, from moving to firing weapons, requires Power. Therefore proper allocation and transfer of a ship's limited Power resources is a very important function, one which can mean the difference between victory and defeat in a combat situation. All ships have five sources of Power: the warp engine; the impulse engines; auxiliary power; emergency power; and power sources for individual systems.

POWER COSTS IN STARSHIP COMBAT

Many of the maneuvers and tactics described in this chapter have a specific Power cost. Unless noted otherwise, that cost is *in addition to* the normal Power cost for operating the relevant systems.

POWER SOURCES

Warp Engine Power

A ship's primary Power source is its warp engine (see page 40 for engine types and amount of Power generated). A substantial portion of that Power goes to operate the warp drive, but plenty remains for shields, life support, weapons, and other vital systems.

Improving Warp Engine Performance

Sometimes a good engineer can make the warp engine operate more efficiently for a little while, causing it to temporarily generate extra Power. He must have the Narrator's permission to attempt this; it's primarily a means to give the ship a little extra "punch" during emergencies, not a routine procedure. It requires a minimum of one round and a Moderate (6) Systems Engineering (Power Systems) or Propulsion Engineering (Warp Drive) Test. If the Test succeeds, the warp engine produces an extra 2d6 of points of Power, +2d6 for every 2

additional points by which the Test was made, each round for the next 1d6 rounds; the crew may use this Power for any system or action. If the roll fails, the engineer wasted his time and gets no extra Power; if it Dramatically Fails, the following results are all possible:

—the engineer damaged the warp engine (reducing its Power output by 3d6 for 1d6 rounds)

—the engineer unbalanced the dilithium chamber (requiring 50 seconds [10 rounds] to cool down the engine and restart it, during which time it generates no Power at all)

—he caused a potential catastrophe, such as an imminent failure of antimatter containment (time for some more Tests!).

Regardless of success or failure, the Narrator should only allow this action to be attempted once per warp engine per combat; any further tampering will almost certainly damage the warp engines.

An even more substantial—and riskier—improvement in warp engine performance involves altering the matter and antimatter paths so that multiple injection streams from the matter and antimatter injectors impact multiple facets of the dilithium crystal, resulting in multiple tuned plasma streams. This increases Power both to the warp drive and to the rest of the ship. It requires a Challenging (11) Systems Engineering (Power Systems) or Propulsion Engineering (Warp Drive) Test. Success means that the warp engine generates an extra 4d6 points of Power just for the warp engines, plus an additional 6d6 Power for any ship's system other than the engines, for 2d6 rounds (if the ship is already traveling at or near its maximum warp speed, the extra warp drive Power simply allows the crew to reroute Power normally used for the warp drive to other systems). Failure means an unbalanced dilithium chamber or injector malfunction which requires an immediate warp engine shutdown (it takes 50 seconds [10 rounds] to restart the engine; until restarted it generates no Power at all). Dramatic Failure means an improper mix of the matter and antimatter streams which damages the warp engine (possibly in a catastrophic explosion). The necessary repairs will take 1d6 days to perform; until repaired, the engines generate no Power, and the ship cannot go to warp speeds.

Disrupting Warp Power

Disrupting another ship's warp engine Power (and thus warp travel capability) is often a valid combat tactic. Not only does it deprive the other ship of much of its Power, it allows ships which still have working warp engines to flee from it at top speed.

The best way to disrupt a target's warp engine Power is to generate an inverse graviton burst through the ship's navigational deflector by shunting warp power through it. This requires a Moderate (7) Shipboard Systems (Deflector) Test and 10 Power from the warp engine. Success means the pulse was properly generated. Failure means the ship cannot generate the pulse this round (the crew may try again in later rounds). Dramatic Failure means that due to a malfunction or other problem, the ship cannot generate the pulse at all during this scene (it may be able to do so later after the crew makes repairs).

If the inverse graviton pulse was generated, the Tactical Officer must spend 1 Courage Point and make a Test to hit the target using the standard range and Accuracy for the deflector (see page 48). If he succeeds, the target's warp engine goes offline for 1d6 x 10 minutes While offline, it generates no Power, and its ship cannot attain warp speeds. (A successful Challenging (9) Systems Engineering (Power Systems) or Propulsion Engineering (Warp Drive) Test can reduce the offline time by half; Dramatic Failure doubles the time.) If the Test fails, the burst misses the target; if it Dramatically Fails, it feeds back into the ship which generated it, taking its warp engine offline for 1d6 rounds.

Another way to disrupt a ship's Power (regardless of how generated) is to damage or short out the EPS relays—it doesn't matter how much Power the engines produce if none of it can reach the ship's systems. However, this typically requires the assistance of someone aboard the target vessel. For example, crossing a replicator's power converter with a ship's plasma manifold can short out a ship's EPS system (it also causes an explosion at the crossover point which does 3d6 damage in a 1-meter radius with a 6 points per meter Dropoff). Repairing this damage requires a Routine (5) Systems Engineering (Power Systems) Test and one half hour. Damage to the EPS from outside attacks may have a similar effect (see page 114).

Another possible tactic, if crewmembers can somehow gain access to an enemy ship's warp core, is to inject veridium isotopes into the core. This will cause a warp core breach within 1d6 hours if the ship operates its warp drive during that time, or 1+2d6 hours if the warp drive remains idle.

Emergency Warp Core Shutdown

In the event of an overload or instability in the warp core, collapse of the warp containment field, dangerously high pressure or thermal levels, or damage from combat or other external phenomena, the engineers may have to stabilize the warp engine to prevent a breach. This involves cutting the power relays to the warp core, decoupling the dilithium matrix, and similar procedures, and requires a Moderate (7) Systems Engineering (Power Systems) or Propulsion Engineering (Warp Drive) Test. Success means the engineer has managed to stabilize the engine and can shut it down normally in order to repair or restart it.

If the Test to shut the warp engine down normally fails (to any degree), the engineer has to perform an emergency shutdown to avoid a warp core breach (resulting in an explosion, the uncontrolled venting of plasma, or other disasters). Emergency shutdown, whether initiated by computer or crew, involves valving off plasma (or venting it overboard) and closing off the injectors. It takes about 10 minutes to reduce the core to a cold condition, but the engine stops generating Power the round in which emergency shutdown begins (and thus usually cools down well into the "safety zone" before becoming completely cold). Initiating and safely carrying out emergency shutdown requires a Moderate (8) Systems Engineering (Power Systems) or Propulsion Engineering (Warp Drive) Test. If the Test fails, the engine continues operating (and overloading), necessitating another attempt (or, possibly, warp core ejection). Dramatic Failure requires the Narrator to roll on the accompanying table for catastrophic warp core failure.

To safeguard Engineering and its personnel, the warp engine can be sealed off by a *safety overfield*. This field is the equivalent of a Protection 200, Threshold 50 shield. With sufficient warning, the Engineering crew can also drop the safety bulkheads, which provide 30 points of Resistance.

CATASTROPHIC WARP CORE FAILURE TABLE

Roll	Effect
1-2	*Minor Failure:* An explosion or venting of gases causes 1d6 of dice of damage (1d6-6d6) to any crewmembers in Engineering and 5d6 to all systems in Engineering. Until Engineering and related systems are repaired (requiring Moderate (6) Tests with various Engineering Skills and time as indicated by the repair rules on page 164), the warp engine generates no Power and the ship cannot attain warp speed.
3-5	*Major Failure:* An explosion or venting of gases causes 2d6 of dice of damage (2d6-12d6) to any crewmembers in Engineering and 15d6 to all systems in Engineering. Until Engineering and related systems are repaired (requiring Challenging (9) Tests with various Engineering Skills and time as indicated by the repair rules on page 164), the warp engine generates no Power and the ship cannot attain warp speed.
6	*Total Catastrophic Failure:* The warp core breaches and explodes, causing a minimum of 2d6 x 1,000 points of damage to the ship (at the Narrator's option, it may simply obliterate the ship and kill everyone aboard; this is more realistic and dramatic, but unfortunately tends to kill Crew members without their having the chance to save themselves, which isn't very heroic). Any other ship within two Movement Units takes one-third damage.

Warp Core Ejection

When the warp core is too badly damaged to prevent an explosion or other catastrophe, or it's attracting a subspace tear or other dangerous phenomenon, the crew can eject it from the ship entirely. This is a last-ditch procedure, since it deprives the ship of warp engine Power and warp travel capability until the core is replaced. It only takes place if the potential damage an explosion or other effect would cause would breach the safety overfield.

Ejecting the warp core requires command code authorization from the Captain, First Officer, Chief Engineer, or other authorized officer. It can be performed by the computer, or if computer systems are nonfunctional, manually. Manual ejection of the core requires a Routine (4) Systems Engineering (Power Systems) or Propulsion Engineering (Warp Drive) Test (though damage to the Engineering section may increase the Difficulty of this Test). (Narrator's note: For dramatic purposes, you may wish to disable the manual ejection system frequently to force the Crew to devise some innovative solution to prevent a warp core failure.) The ejection systems can also eject the ship's stored antimatter, which itself could vaporize the entire ship if its containment systems fail.

When the crew triggers an ejection, explosive bolts blow out a ventral hatch beneath the core while other controlled explosions propel it outward so that it "falls" from below the ship. If successfully ejected, the warp core may cool down on its own, allowing the ship to recover it (if circumstances allow). If this does not occur, the warp core (and any ejected antimatter pods) explodes (the ship can also automatically trigger

a self-destruct of the core). The explosion does 400+20d6 damage to all ships within three Movement Units of the core.

Without its warp core, a ship cannot generate any Power from the warp engine or attain warp speeds. If the core remains intact and the ship recovers it, reinstalling and reinitializing it requires 1-3 days and a Moderate (7) Propulsion Engineering (Warp Drive) Test.

Impulse Engine Power

The ship's secondary source of Power is its impulse engines. A single impulse engine provides much less Power than a single warp engine, but it does contribute significantly to overall ship's Power (particularly when the ship has multiple impulse engine systems).

Engineers can try to boost the Power output of an impulse engine temporarily, just like they can with the warp engine. This requires a minimum of one round and a Moderate (7) Systems Engineering (Power Systems) or Propulsion Engineering (Impulse) Test. If the Test succeeds, the impulse engine produces an additional 2d6 points of Power each round for the next 1-3 rounds (with a maximum equal to the engine's normal Power output). The crew may use this Power for any system or action except running the warp propulsion system. If the roll fails, the engineer wasted his time and gets no extra Power; if it Dramatically Fails, the following results are all possible:

—the engineer damaged the impulse engine (reducing its Power output by 2d6 for 1d6 rounds)

—the engineer caused a situation which will result in an explosion causing a number of dice of damage to the ship equal to the impulse engine's class (for example, 7d6 for a Class 7 engine or 4d6 for a Class 4A engine) unless he immediately makes another Test (minimum Difficulty of Moderate (8)) to correct the problem.

Engineers cannot boost both the warp engine and impulse engine Power, or two impulse engines' Power, at the same time; this strains the EPS, and if attempted will cause explosions and EPS failures.

Auxiliary Power, Emergency Power

Most ships carry enough auxiliary power generators to provide enough Power to maintain crucial systems in the event of warp engine and impulse engine failure—about as much as is required to fire the ship's phasers a time or two (though auxiliary power is most often used to reinforce shields or keep life support functioning, not for offensive purposes).

Sometimes confused with auxiliary power, emergency power is generated by an independent set of fusion reactors. Like auxiliary power, it's intended to keep vital ship's systems functioning in emergency situations, though commanders sometimes bleed it off to improve weapons or shields in combat situations.

Individual Systems Power Sources

These are the "batteries" which provide small amounts of Power for emergency life support, phasers, and some other systems when no other Power is available. These individual Power sources may usually be drained for one-time boosts of Power to other systems. See invididual system descriptions in Chapter Two for information.

POWER ALLOCATION

Almost every major system aboard a starship costs points of Power to operate. Every starship should be built with enough Power sources to run its systems (including shields and weapons, which are often the most Power-intensive systems on the ship) at normal full power without having to worry about Power too much. It's only when some system needs extra Power to function better or overcome interference that Power usage becomes a balancing game. That's when the Operations Officer and Engineering Officer earn their Skill Renown by efficiently allocating Power among competing systems for best effect.

The EPS system controls a ship's ability to transfer auxiliary and emergency Power (see page 41). Based on the efficiency of its EPS, a ship may not be able to transfer enough extra Power to accomplish everything it wants to in a round.

At the beginning of every round during starship combat or other crisis situations, the player who runs the Operations Officer character (or some other player, if no one satisfies this criteria) must calculate the ship's Power after consulting with the ship's commanding officer, the Tactical Officer, and other officers who play crucial roles in combat and have a say in what systems need Power. After receiving this input, the Operations Officer may do one of three things: maintain all systems at their current Power level; improve

the performance of some systems with extra Power; or reduce the Power to some systems to conserve it for use elsewhere.

Except in unusual circumstances, such as when the EPS system has suffered damage (see page 114), allocating and transferring Power does not require any Shipboard Systems (Mission Ops) Tests by the Operations Officer (getting a particular system to perform at better-than-normal levels of operation may require Tests, as described under individual systems, but the Ops Officer does not make these). However, it does require a Timed Action.

Improving Performance

If there's a demand for extra Power to, say, increase the effect of a phaser beam or strengthen damaged shields, the Operations Officer has to determine if it's available, and if so, where it's coming from. He can, if necessary, access auxiliary or emergency Power, but that usually requires an order from the commanding officer or other appropriate officer. If necessary, he can shut down some systems, or run them with less than normal Power (thus decreasing their effectiveness), to obtain the extra Power he needs.

For rules on the effect of providing increased Power to various systems, refer to the individual system descriptions.

Conserving Power

Most systems can run at less than full strength or capacity simply by using less Power. For example, if a Class 5 SIF (which normally costs 10 Power per round) only receives 6 Power in a round, that round it functions as if it were a Class 3 SIF.

Power Transfer

Besides allocating Power between the various systems in a single ship, characters can also transfer Power from one ship to another. This allows a ship with depleted Power sources to "recharge" (temporarily or permanently) or store enough Power to make it to an appropriate destination. Power transfer can only occur if both ships are stationary and do not have their shields raised.

To transfer Power, the ship performing the transfer must establish a power transfer beam between itself and the recipient ship. This requires a Moderate (6) Shipboard Systems (Mission Ops) Test. Success means the ship can transfer Power at a rate of up to 50 Power per minute. Failure means the power transfer beam does not function properly, resulting in a loss of 1d6 x 10 points of Power from the ship making the transfer. Dramatic Failure, or sabotage of some sort, results in muon feedback through the power transfer beam. Muons accumulate in the ship's power systems and, when the ship stops the transfer and goes to warp, causes its engines to explode (with effects as per a "Total Catastrophic Failure" result on the Catastrophic Warp Core Failure Table).

Starship Movement

Starships move in a three-dimensional environment which is generally "free" of gravity (the closer the ship comes to large objects such as planets or stars, the more it has to worry about gravity, of course). This means that a ship's ability to move and maneuver depends primarily on the skills of its Flight Control Officer and the hull stresses it can tolerate.

FREEFORM POWER SYSTEM

While the Power allocation system does increase the "realism" of starship combat, it can slow down encounters, since it requires record-keeping and calculations. If you'd prefer not to use the Power system to determine how well your ship's systems work, just ignore it. Instead, let the Narrator keep track of which functions are currently active on a ship, and from that determine whether extra Power is available to improve a system's performance (and if so, how much) based on the Crew's request for it. When the ship suffers damage, the Narrator can make a ruling regarding whether particular systems are now unavailable or functioning at less than maximum capacity.

FULL IMPULSE

The standard Starfleet designation for "Full Impulse speed" is .25*c*. Ships may travel at faster impulse speeds, but that is both inefficient and causes time-dilation problems. Starship combat is one of the few situations when ships routinely use high impulse speeds.

When a commander wants the ship to move at full impulse (.25*c*) or below, he orders "full impulse" or some fraction thereof ("one-half impulse," or .125*c*, for example). When he wants speeds in excess of "full" impulse, he states the fraction of *c* numerically ("Ensign, move us at heading 127 mark 35 at .7*c*"), or refers to "maximum impulse" when he wants the ship to move at its highest possible impulse speed.

BASIC MOVEMENT RULES

In most cases, starship combat occurs at impulse speeds (see page 98 for rules regarding warp speed combat). For combat purposes, starship movement occurs in *Movement Units* (MUs). Each MU equals approximately 30,000 kilometers. A ship may move 5 MUs for each full .1*c* at which it travels using its impulse speeds (or, 1 MU per .02*c*). Thus, a ship traveling at .5*c* moves 25 MUs; one at .72*c* could move 36. Vessels moving slower than .1*c* move 1 MU per round (unless the Narrator is willing to calculate fractions of MUs).

ACCELERATION

A starship can accelerate at half its maximum impulse speed per round (or more, if it's bought an acceleration uprating package; see page 39). Thus, it normally takes a starship two rounds to reach its maximum impulse speed from a dead stop. Ships can decelerate all of their impulse movement (*i.e.,* come to a dead stop) in one action. Neither accelerating nor decelerating require a Test, and while changing velocity a ship can perform other maneuvers.

Example: *The* U.S.S. Indomitable *can move at .75c/.9c with its Class 6 impulse engines. Its maximum acceleration per round is .5c (half of .9, or .45, rounded up). If it's moving at .25c when a round begins and wants to move to the other side of the battlefield quickly, it can use its full acceleration to increase its speed to .75c and cross 38 MUs. While accelerating and crossing the battlefield, the ship can perform an evasive or attack maneuver if it wants to.*

After decelerating, a ship can accelerate as a later action in the same round, provided it has not previously accelerated that round.

MOVEMENT PER ROUND

Regardless of the initiative system used, a starship's declared impulse speed for the round indicates the maximum number of MUs it can move *for the entire round,* not for each action the ship or Flight Control officer can take. It may divide this movement among multiple actions if it wants, or take it all at once. For example, if the *Indomitable* declares that it will move at .8 *c* this round (40 MUs), it can move 40 MUs all at once, or split it up into one move of 10, one of 20, and one of 10, or whatever other combination it desires. As indicated below, the Narrator may require a Shipboard Systems (Flight Control) Test if the ship performs several turns or standard maneuvers in quick succession this way.

Once a ship uses up its MUs for the round, it cannot move any more (unless it uses an action

DERIVING MOVEMENT UNITS

The length of an MU—30,000 km—comes from the speed of light, which is approximately 300,000 kilometers per second. Since combat rounds are five seconds long, a ship with a powerful enough impulse engine could move about 1,500,000 kilometers in a round at full speed. That translates to 150,000 km, or 5 MUs, for each .1*c*.

Weapon ranges don't break down quite so neatly, unfortunately, and making the scale any smaller (say, 1 MU = 10,000 km) strains the ability to represent starship combat using miniatures and maps (see below). So, use the accompanying table to determine how close a ship has to be to fall within various range categories.

WEAPON RANGES IN MOVEMENT UNITS

Range	MUs
10 km (Point Blank for beam weapons)	Must be in same MU
15 km (Point Blank for torpedoes)	Must be in same MU
30,000 km (Short for beam weapons)	1 (must be in same or adjacent MU)
100,000 km (Medium for beam weapons)	3
300,000 km (Long for beam weapons)	10
300,000 km (Short for standard torpedoes)	10
350,000 km (Short for upgraded torpedoes)	12
1,000,000 km (Medium for standard torpedoes)	33
1,500,000 km (Medium for upgraded torpedoes)	50
3,500,000 km (Long for standard torpedoes)	117
4,050,000 km (Long for upgraded torpedoes)	135

to accelerate, thereby adding to its declared maximum movement), or perform any additional maneuvers. However, it does *not* count as an "immobile target" for purposes of attacking it.

FLYING BLIND

Piloting a starship requires the use of navigational sensors, navigational computer, and many related systems. In the event a starship's flight control systems are not functioning at all (perhaps because of damage suffered in combat, or external interference), all Shipboard Systems (Flight Control) Tests for moving or maneuvering the ship are at +4 Difficulty unless the Conn can find some other way to compensate for their loss. The Narrator may impose a reduced penalty if only some systems are nonfunctional.

BASIC MANEUVERING

The maneuvers listed here are basic ones which offer little or no combat benefit other than a change of position. For more advanced tactical maneuvers, see page 102.

Standard Starship Maneuvers

Starships may perform the maneuvers listed in the accompanying table during any movement. Ordinarily they do not require a Test to perform, but the Narrator may require a Shipboard Systems (Flight Control) Test if the pilot wants to perform several maneuvers in quick succession, tries to maneuver in an area filled with space debris, or the like.

When you move and maneuver ships, remember that starship combat takes place in *three dimensions*. A ship can come at a target from directly above or below, ventral and dorsal angles, and so forth. This isn't always easy for us planetbound 20th century Humans to grasp, much less represent with miniatures or other tokens, but it presents a wide variety of maneuvering options and attack patterns.

STANDARD STARSHIP MANEUVERS

- Turn to port/starboard (1-90 degrees)
- Climb/dive (1-45 degrees upward or downward)
- Climb/dive and turn (1-90 degrees turn, 1-45 degrees climb)
- Hard to port/starboard (91-120 degrees)
- Steep climb/dive (46-90 degrees; 90 degrees is straight up or down)
- Steep climb/dive and turn (1-90 degrees turn, 46-90 degrees climb)
- Steep climb/dive and hard turn (91-120 degrees turn, 46-90 degrees climb)

Full Turns

A "full turn" is a turn of 121 degrees or greater (up to and including a full 180-degree reversal of direction) (it may also include some climbing). To make a full turn, the Conn has two options. First, he can bring the ship to a complete stop, use the thrusters to turn around, and then head in the direction he wants to go. This takes an entire round (and all of the Conn's actions during that round), and the ship is considered "immobile" that entire round.

Second, a ship can turn in a broad arc. This takes an action, and while it does not require a Test, the ship may perform no other flight maneuvers (except for climbing, if desired) while turning. The ship must use at least 10 MUs of movement to make the turn. At the end of the round the ship faces the opposite direction from its original heading; it's also a number of MUs away from its original position, in the direction of the turn, equal to its Size.

Example: *The* Galaxy*-class* U.S.S. Wyvern *moves at .9c and needs to turn around quickly. Her captain orders a broad arc to port. It takes 10 Movement Units and an entire round to make this arc. At the end of the arc the Indomitable faces the desired direction, but is 8 MUs to port of its starting position.*

For broad arc turns of less than a full 180 degrees, the ship must decelerate so that it uses half of its current MUs. It moves forward at least one MU, sacrifices one MU to turn in the direction it wishes to go, and then heads in the direction it wants to go with its remaining MUs.

Example: *The* Indomitable *needs to make a 135-degree port turn. It's currently moving at .8c,(40 MUs), so it decelerates to .4c (20 MUs). It moves forward one MU and turns 135 degrees to port (this uses another one of its 20 MUs for the round). It then moves its remaining 18 MUs in the direction it wants to go.*

Turns "upward" or "downward" from the ship's X-Y plane require the pilot to "twist" the ship in mid-turn so that it completes the turn

right-side-up. This is called an Immelman turn (or, if performed by a group of ships in tandem, a Yeager loop).

Attitude Control

Attitude control refers to keeping the ship in the proper position with all of its axes pointed in the directions the Conn wants them. Typically the navigational computer uses the stabilizing gyros to maintain attitude control. If the nav computer is damaged, the Flight Control officer can try to maintain attitude control manually, using the thrusters (the base Difficulty is Moderate (8), and the general rules on manual control, page 91, apply). All other Shipboard Systems (Flight Control) Tests suffer a -1 Test Result penalty due to the problems inherent in trying to steer a ship which won't stay on an even keel. Many other Tests may also suffer penalties due to the ship's unexpected motions.

WARP MOVEMENT

Warp Speeds and Movement Units

To determine how many MUs a ship moves while traveling at warp speed, consult the *Travel Times At Warp* table on page 215 of the *Star Trek: The Next Generation Roleplaying Game* or page 213 of the *Star Trek: Deep Space Nine Roleplaying Game* core rulebooks. The "Number of Times the Speed of Light" column tells you how fast the ship is moving in comparison to impulse speeds—multiply the number in that column by 50 MUs. Thus, Warp 1 equals the highest level of impulse power (50 MUs), Warp 2 is 500 MUs, Warp 3 is 1,950 MUs, and so forth.

Combat at Warp Speeds

Ordinarily, starship combat occurs only at impulse speeds, but some forms of fighting are possible while traveling at warp. To do this, the target has to be within range, of course; warp velocities quickly outstrip the range of any weapon. Usually this means that the attacker has to match or nearly match warp speeds with the other ship.

Ships cannot ordinarily use beam weapons, such as phasers, in warp speed combat. Energy beams dissipate so quickly in the presence of moving warp fields, especially when deflector shields are also active, that they're effectively useless. However, there are two options. The first is to attempt to *precisely* match warp speeds with the target and align the beam weapon shot along the target's velocity vector. This requires a Challenging (9) Shipboard Systems (Flight Control) Test. Success means velocities have been matched and the vector determined, allowing the ship to use beam weapons on the target. Failure means velocities have not been matched, so the ship cannot use beam weapons; Dramatic Failure means the ship somehow got caught in the target's warp eddy (or some other subspace phenomena) and either drops far behind it or suffers 6+6d6 damage (only Resistance and the SIF protect against this).

Second, the ship can use Starfleet's new ACB-jacketed phasers (see page 67). This technology jackets a phaser beam in an annular confinement beam, effectively "propelling" it at a superluminal speed equal to that of the ship which fired it. ACB-jacketed phasers work in warp or impulse combat; in warp combat they function just as they do at impulse speeds (the range, damage, and Accuracy remain the same).

Missile weapons—torpedoes—are the primary weapons of warp combat. Every torpedo contains a *warp sustainer engine* which allows it to move at a speed equal to that of the vessel which fired it (even though it can't initiate warp speed movement on its own). The range, damage, Accuracy, and other characteristics of a torpedo remain the same regardless of the velocity of the ship which fired it.

If a ship moving at warp attacks an immobile target or one at impulse, or vice-versa, increase the Difficulty of the attack roll by Warp Factor/2. This reflects the problems inherent in hitting a ship moving at a vastly different velocity. To discourage warp speed attacks on space stations and the like, the Narrator may wish to decrease the penalty for stationary targets to hit targets moving at warp.

A starship cannot launch vehicles from shuttlebays while traveling at warp speeds. It must slow to impulse to do so. However, it can launch a captain's yacht or other vessel attached to the ship's hull, which will coast at warp for a short period until it loses enough velocity to drop to impulse speeds.

Aspects of Warp Speed Travel

Maneuvering

Generally, ships at warp speed move only in a straight line—as they say at Starfleet Academy,

"Faster than light, no left to right." Normally ships drop to impulse before turning (using the autonavigation system to minimize time at impulse if necessary). Turning a ship at warp speed is difficult and dangerous, requiring a Challenging (9) Shipboard Systems (Flight Control) Test. Failure means the character failed to turn the ship, but can try again; Dramatic Failure places undue strain upon the ship, causing 4d6 SUs of damage (no defense applies).

Warp Coasting

In situations where Power is at a minimum, ships can briefly attain warp speeds with relatively little Power expenditure through a process known as "warp coasting." This involves field saturating the warp nacelles, then instituting a high-intensity warp pulse which the ship "rides."

Field saturating the warp nacelles is not an easy procedure. It requires at least a minute (sometimes more), a Moderate (8) Propulsion Engineering (Warp Drive) Test, and the expenditure of 3 Power. Success means proper saturation has occurred. Failure indicates that the nacelles have not become saturated. Dramatic Failure causes a "flooding" of the nacelles which will take 1d6 x 10 minutes to "clean" (cleaning requires no Test, just time).

Once the nacelles are properly saturated, the ship instantly goes to its Standard warp speed (no Test required). This costs the normal amount of Power, but the pulse only lasts for one round. The ship may then "coast" at that speed for a number of minutes equal to (Standard warp speed/3). Coasting costs no Power.

Ships may try to emit the warp pulse at their Sustained or Maximum level if they prefer (thus leading to further, faster coasting), but this requires a Propulsion Engineering (Warp Drive) Test at Moderate (8) and Challenging (10), respectively. Failure results in damage to the warp engine and nacelles which takes 1d6 x 4 hours to repair (the warp engines generate no Power during this time, and the ship cannot achieve warp). Dramatic Failure damages the warp drive system; roll on the Catastrophic Warp Core Failure Table (page 93).

Warp Speed In Solar Systems and Near Stars

Starships almost always drop to impulse speed while traveling through a solar system or when near a star which has no planets. Due to the gravitational fields and energy emitted by a star, and the space debris commonly found in solar systems, traveling through them at warp speeds is not only extremely dangerous to the ship, but to anyone and anything in that system.

If a ship feels the need to travel at warp speeds in a solar system or near a star, its Conn or other appropriate officer must spend 1 Courage Point and make a Challenging (9) Shipboard Systems (Flight Control) or Science (Astronomy) Test. Success indicates the ship has managed to negotiate the area without doing any harm to itself, the region, or the region's inhabitants (if any). Failure means the ship, and possibly other objects or persons in the system, suffers 50+15d6 damage (only Resistance and the SIF protect the ship against this damage). Dramatic Failure means the ship has torn itself apart in some gravitational eddy, been sucked into the star, or otherwise been destroyed, killing everyone aboard (and possibly wreaking similarly extensive havoc in the system).

Warp Speed In Atmospheres

A starship cannot use warp speed in an atmosphere (even if it is atmosphere-capable). If an object the size of even the smallest starship moved through an atmosphere at light speed or above, it would inflict grievous harm on that atmosphere and its planet, and probably tear itself apart. If necessary, the Conn can spend 1 Courage Point and make a Nearly Impossible (15) Shipboard Systems (Flight Control) Test; success indicates the ship makes it out of the atmosphere after taking only 100+10d6 damage (only Resistance and the SIF can reduce this damage); failure or Dramatic Failure indicate the ship is destroyed.

Warp Speed and Tractor Beams

If a ship is caught in a tractor beam, it cannot go to warp speed. If it tries to do so, it will be ripped apart, destroying it and killing everyone aboard (the ship using the tractor beam suffers no damage from this, though it might experience residual effects such as explosions or hull shrapnel). If a ship which has captured another ship in a tractor beam goes to warp, the tractor beam is disrupted without causing damage to either ship.

Warp Speed and Radiogenic Particles

A ship can feed radiogenic particles (typically skimmed from an appropriate atmosphere) into the warp manifold or matter/antimatter reaction chamber to boost warp power. This requires a Moderate (8) Propulsion Engineering (Warp Drive) Test. Success increases Standard, Sustainable, and Maximum warp speed by +0.1 or +0.2; Dramatic Success by +0.3 or +0.4 (in either case, a ship's highest Maximum warp speed cannot exceed Warp 9.9875). The effect lasts for 1d6 hours. Failure causes 3d6 damage to the warp drive, navigational deflector, and ODN system; Dramatic Failure causes 6d6 damage to each (no defense applies).

Warp Eddies, Signatures, and Profiles

When starships travel at warp speeds, they leave warp eddies, signatures, and profiles which other ships can use to track or identify them.

A *warp eddy* is sort of a "ripple" in subspace. Warp eddies are relatively difficult to track, requiring a Moderate (7) Shipboard Systems (Sensors) Test to do so (failure indicates the trail has been lost; Dramatic Failure that the tracker goes off in the wrong direction). For every three hours which have passed since the eddy was made, increase the Difficulty of the Test by 1. Warp eddies identify the origin of a ship (Starfleet, Romulan, Cardassian, and so forth)—each species's eddy is a little different. For example, Starfleet ships' eddies contain mesons, so if another ship detects mesons in a warp eddy, it knows it was made by a Starfleet vessel.

A *warp signature* is similar to a warp eddy, but is distinctive to an individual ship. A ship can be tracked all across the galaxy, even along well-traveled spacelanes, by its warp signature. Tracking one requires a Routine (5) Shipboard Systems (Sensors) Test (failure indicates the trail has been lost; Dramatic Failure that the tracker goes off in the wrong direction). For every four hours which have passed since the signature was made, increase the Difficulty of the Test by 1.

Ships can "mask" their warp signatures, making it much harder, if not impossible, to trace them. Masking makes the attempt to follow a warp signature an Opposed Test using the respective Flight Control Officers' Shipboard Systems (Sensors) skills; the character attempting the masking receives a +3 Test Result bonus (in addition to any other bonuses he's entitled to from uprating and the like).

Similarly, a ship's engineer can remodulate its plasma injector system to suppress its warp signature entirely, making it impossible for another ship to track. This is tricky work, though, requiring at least an hour and a Challenging (9) Propulsion Engineering (Warp Drive) Test. Failure indicates the remodulation cannot be done or is not working properly (the character may try again); Dramatic Failure means that the character *thinks* he's gotten everything right, when in reality he's made it easier for other ships to track his ship (+2 to their Shipboard Systems (Sensors) Tests to track warp signatures).

A *warp profile* is the distinctive energy pattern given off by various types of warp drive systems. By analyzing a ship's warp profile, another ship can get a good idea of its type (Explorer, Frigate, Transport, Cargo Carrier, or the like). The analysis requires a Routine (4) Shipboard Systems (Sensors) Test in most cases. However, ships on covert missions often disguise their warp profiles so that they appear to be some other type of ship—say, an Escort which alters its profile to look like a merchant cruiser. In this case, the analysis roll becomes an Opposed Test pitting the two Conns' Shipboard Systems (Sensors) skills against each other. Among the many clever tactics which use this trick is altering a probe's warp profile so that it looks like a full-blown ship on sensors.

Microwarp Bursts

Sometimes a ship needs to travel from one point to another nearby point which is too far for it to reach with a single round of impulse travel, or needs to get to that point *very* quickly. In this case, it can use a *microwarp burst,* which involves activating its warp drive for just a fraction of a second. While useful, this is also dangerous, since it can damage the warp propulsion system.

To make a microwarp burst requires a Shipboard Systems (Flight Control) Test with a Difficulty equal to 7 + the whole number of the warp factor the ship wishes to attain. For example, if a ship wanted to make a Warp 8.5 microwarp burst, the Difficulty is 15 (7 + 8). If the Test succeeds, the ship may instantly travel up to half of the MUs it could travel at that warp speed (see page 96 to calculate this). If it fails, the ship goes nowhere, and some part of the warp propulsion system takes 2d6 damage for every point by which the Test failed (roll randomly on the appropriate part of the Hit

Location table, page 112). If it Dramatically Fails, the results are the same as for failure, but the damage increases to 3d6 per point of failure.

A ship cannot perform any maneuvers while making a microwarp burst. It may make more than one burst per round, but the Difficulty of each one increases by +2 after the last (9 + warp, 11 + warp, and so on).

Other Forms of Superluminal Travel

Most other forms of superluminal travel are not suited to combat. Ships cannot engage in combat while a coaxial warp drive is in use. Even if the folded-space method of travel allowed it, no such ship would dare for fear of destabilizing the coaxial drive and destroying itself.

Quantum slipstream drive allows for missile combat only.

Transwarp drive allows a ship to use torpedoes or a tractor beam on another ship traveling through the transwarp corridor. Or, at least, it allows the Borg to do this; the Federation cannot yet even create a working transwarp drive, much less weapons to go with it. (At the Narrator's option, a Starfleet vessel using a transwarp corridor generated by another ship can use its torpedoes and tractor beam.) A residual transwarp signature can be tracked like a warp signature, but the Difficulty for the Test increases for every four *days* that pass, not four hours.

Soliton wave propulsion allows for warp combat according to the rules outlined above. However, the starship cannot maneuver at all; while it's riding the soliton wave any maneuvering would cause it to drop out of the wavefront (possibly stranding it). Ships attacking a vessel using soliton wave propulsion receive +1 die to roll when attempting to hit it due to this lack of maneuverability.

IMPULSE MOVEMENT

Almost all starship combat takes place at impulse speeds. The basic movement rules described above are all based upon impulse-speed movement.

While slower than warp speed, impulse has the advantage of being easier to control in a combat situation, both in terms of maneuvering and technically. While it is possible to overload or strain an impulse engine to the point where it breaks, for the most part they're easier to manage than warp drive systems. Sufficient damage (or similar problems) can cause them to explode, though (see page 114).

In some cases, an engineer can temporarily improve the performance of a ship's impulse engines. With a successful Challenging (9) Propulsion Engineering (Impulse) Test, he may increase their speed by up to +.20*c* (maximum of .90*c*) for 1+1d6 rounds. If the character fails, he can try again; if he Dramatically Fails, the impulse engine suffers 3d6 damage (no defense applies) and cannot try this tactic again this scene. For every additional time after the first which he attempts this in a given scene, increase the Difficulty by 1.

The ion trails left by impulse drives can be traced, similar to tracing a warp signature (though ion trails are not usually distinctive to a given ship, just to a given engine type). Tracking one requires a Routine (5) Shipboard Systems (Sensors) Test (failure indicates the trail has been lost; Dramatic Failure that the tracker goes off in the wrong direction).

Ion trails do not decay at all for about 45 minutes. For every four hours thereafter which pass since the trail was made, apply a -1 Test Result modifier to the Test. If the tracking ship is able to generate a polaron field to "highlight" the trail (this requires a Moderate (6) Shipboard Systems (Deflector) Test), apply a +1 Test Result modifier.

A ship can try to hide its ion trail by generating a magneton pulse or a polaron field to hide, confuse, or disrupt it. This requires a Moderate (8) Shipboard Systems (Deflector) Test. If it succeeds, apply a -4 Test Result penalty to Tests to follow the trail.

TACTICAL MANEUVERING

In addition to the basic flight maneuvers described on page 97, starships can engage in an enormous variety of more detailed tactical maneuvers. Starfleet has catalogued over 3,500 Spacecraft Combat Maneuvers (SCMs), and it devises or learns about more every staryear.

To perform any tactical maneuver listed below, noncombat or combat, a ship must move at least 1 MU. These maneuvers only work at impulse speeds; ships at warp speed cannot use them.

Advanced Noncombat Maneuvers

The following maneuvers are not intended primarily for combat, but for various other

ADVANCED NONCOMBAT MANEUVERS TABLE

Maneuver	Difficulty	Effect
Atmospheric Ricochet	7	Used when a small, warp-capable craft loses engine power near a planet and is in danger of being pulled into the atmosphere and destroyed. It requires the pilot or crew to get the warp engines working again (even if not in time to avoid the planet's pull). The pilot aims his craft directly at the planet, engages warp engines at the last moment, and pulls up hard. If performed properly, it will "bounce" the craft off the atmosphere, saving it from destruction. If not done correctly, or if engines cannot be engaged, the ship will break up in the atmosphere, killing all aboard.
Diamond Slot Formation	6	Aerobatic maneuver involving five small ships; four form a diamond pattern, while the fifth inserts itself into the middle. Failure may result in collisions.
Kolvoord Starburst	9	Aerobatic maneuver in which five single-pilot ships cross within 10 meters of each other and ignite their plasma trails as they part. If any of the pilots fails his Test, the usual result is collisions, loss of ships, and casualties and fatalities among the pilots. Banned by Starfleet Academy in the 2260s due to its danger, it cost the life of one cadet in 2368 when Nova Squadron attempted it.
Titan's Turn	7	Named for its first known use, on the Jovian run which passes near the moon Titan in Earth's solar system, this maneuver exploits a moon's or small planet's gravity field to "slingshot" around it, picking up a little extra speed. If performed correctly, it grants the ship +.2*c* (maximum of .92*c*) to its impulse speed for 1+1d6 rounds. If the Test fails, the ship may have lost velocity, or simply failed to gain any. Dramatic Failure results in a crash likely to claim the life of the pilot.
Warp Tractor Maneuver	8	This difficult and dangerous maneuver is used to slow down a ship which is out of control at warp speeds. The ship performing the maneuver must match speed with the runaway vessel (this requires a Routine (4) Shipboard Systems (Flight Control) Test, then lock a tractor beam onto the runaway and slow to impulse, dragging the other ship down to impulse speeds as well. It requires a Moderate (8) Shipboard Systems (Flight Control) Test to execute properly. Failure causes 5+5d6 damage to both ships (only Resistance and SIF protect against this); Dramatic Failure results in the destruction of both ships as they tear each other apart.

situations. The accompanying table lists them and their effects. "Difficulty" represents the base Difficulty for Shipboard Systems (Flight Control) Tests to perform the maneuver; "Effect" describes the maneuver itself.

Advanced Combat Maneuvers

The following maneuvers, organized into attack maneuvers and defensive/evasive maneuvers, represent some of Starfleet's most effective starship combat tactics. A few of them are more in the nature of attack strategies or feints, but most involve Flight Control in some fashion.

In the accompanying tables, *Maneuver* is the maneuver's common name.

Difficulty represents the Difficulty for the Shipboard Systems (Flight Control) Test necessary to accomplish the maneuver. Success means the maneuver's Benefit (see below) applies to the ship for the rest of that round. Failure means the ship does not get the benefit of the maneuver, and can perform no more maneuvers this round. It's still moved in the indicated direction; that doesn't require any Test—the Test is only necessary to get the Benefit. Dramatic Failure means no more maneuvers this round and a *reversal* of the Benefit—apply an attack maneuver's bonus to Shipboard Systems (Tactical) Test Results as a penalty, or a defense maneuver's penalty to an attacker's Shipboard Systems (Tactical) Test Results as a bonus to those rolls.

To reflect the greater maneuverability of smaller ships, any ship of Size 5 or lower attempts these maneuvers at -1 Difficulty. Thus, for a *Danube*-class runabout, a Beta-2 attack maneuver is Difficulty 8, not 9. Smaller ships can also make greater use of multiple maneuvers (see below).

Benefit describes the effect of the maneuver. For attack maneuvers, the number listed represents a positive modifier to Shipboard Systems (Tactical) Test Results made by the maneuvering ship that round. Some bonuses apply to attacks against any ship, some to attacks against just one or two ships. For defense maneuvers, the number listed represents a negative modifier to an attacker's Shipboard Systems (Tactical) Test Results to hit the ship that round. Some penalties apply to all attackers; some to just one or two attackers.

Benefits which have no mark apply to any and all targets or attackers that round, otherwise refer to the table notation for specific maneuver restrictions and their targets.

Unless noted otherwise, a starship may perform one attack maneuver and one defensive/evasive maneuver per round. If a ship performs more than one maneuver, the Multiple Action Penalty applies to the Tests. Starships of Size

5 or lower cannot obtain benefits with a total value exceeding 6 in a single round. Thus, a ship could perform a +4 attack maneuver and -1 evasive maneuver, or +3/-3, or +4/-2, but not +3/-4, or +4/-3. Starships of Size 6 and above cannot obtain benefits whose value exceeds 4 in a single round (+2/-2 or +4/-0, for example). The number of ships the benefit applies to does not matter for purposes of this calculation.

A maneuver's benefits apply for the remainder of the round once performed. Maneuver benefits do not apply against cloaked ships, or any other opponent of whom a ship is unaware.

Notes describes the maneuver. The ship must, of course, try to follow the description of the maneuver as closely as possible, given the MUs it has to work with.

ATTACK MANEUVERS TABLE

Maneuver	Difficulty	Benefit	Notes
Alpha	8	+1	Starfleet's most basic offensive maneuver, attack pattern Alpha involves a mostly straight-on approach to the target, with some slight vectoring to the side based on the ship's weapons complement and the target's movement.
Beta-series maneuvers			
Beta	7	+1[2]	The ship dives down between two enemy ships, firing at least once at each of them (and hoping they will miss it and hit each other, if aligned properly).
Beta-2	9	+4[1]	Approaching the target closely (within 3 MUs), the ship jinks to starboard of the target, then dives beneath it to emerge on its port ventral side, firing as it goes.
Beta-3	9	+2	The ship makes a broad arc turn (see page 97) around one or more ships, attacking them as it goes (no other maneuvers may be used this round).
Beta-4	8	+2[2]	The ship climbs steeply, veering to port or starboard, then quickly dives back down, firing at targets as it goes.
Delta-series maneuvers			
Delta	8	+3[1]	The ship swoops up from underneath a target to attack its vulnerable ventral side.
Delta-2	10	+3	The ship swoops over the target from starboard to port, then back again from port to starboard (sometimes diving underneath in the process), firing as it goes.
Delta-3	6	+1[1]	The ship dives straight down at, or climbs straight up at, the target, firing forward weapons.
Delta-4	9	+4[1]	An all-out, straightforward frontal attack (the ship may not use any defensive maneuvers this round).
Delta-5	7	+2[1]	A long, relatively shallow dive to one side of the target (usually whichever way allows the ship to bring the most weapons to bear on the target, or which uses the target ship to provide cover from other ships' attacks).
Kappa-series maneuvers			
Kappa 0-1-0	8	+2[2]	From a superior position, the ship arcs down and around its target to port, firing as it goes.
Kappa 0-2-0	9	+2	The ship flies on a carefully-calculated arc through a battlefield, firing at multiple targets.
Omega-series maneuvers			
Omega	10	+4[2]	As the ship approaches the target head-on, it jinks to one side and dives steeply from one end of it to another.
Omega-2	9	+2	The ship rolls from one side to the other, giving its weapons maximum exposure so the Tactical officer can attack several targets.
Omega-3	7	+1[2]	The ship veers back and forth across the battlefield like a darting swallow, attacking vulnerable targets.
Omega-4	9	Special	This maneuver may only be used by ships which have four or more weapons (of any type) which they can bring to bear on a single target. The ship swoops over or past the target at reasonably close range (within no more than Medium range for all weapons), firing all available weapons in a multiple weapon attack. It receives a base +1 to its Shipboard Systems (Tactical) Test to hit with each of them if it makes the maneuver Test exactly; for each point by which the roll is made, it receives an additional +2 bonus for each (Tactical) Test.

[1]: Maneuver applies to only one target or attacker that round; the ship must choose which enemy vessel it receives the benefit against.

[2]: Maneuver applies to only two targets or attackers that round; the ship must choose which two enemy vessels it receives the benefit against.

ATTACK MANEUVERS TABLE CONT.

Maneuver	Difficulty	Benefit	Notes
Sierra-series maneuvers			
Sierra	6	+1[1]	The ship swoops in from an aft dorsal angle to attack the target from behind.
Sierra-2	7	+2[1]	While seeming as if it will pass by a particular target, the ship turns to face it head-on and attacks.
Sierra-3	8	+2[2]	The ship flies through the heart of a battle, jinking back and forth to avoid enemy attacks as it fires at choice targets.
Sierra-4	9	+2	The ship comes up from beneath the target(s) and loops up and over it/them.
Theta tactical pattern	10	+3	A longstanding favorite of many of Starfleet's more daring officers, the Theta attack pattern works best when the ship is outnumbered by at least three to one. The ship flies amidst its enemies, jinking (and even rolling) so that it can use as many of its weapons on as many targets as possible. It works best for Fighters, Escorts, and other small ships.
Other maneuvers			
Approach maximum aspect	9	+4[1]	The ship approaches its target from an angle which gives it the most possible surface space to fire at (with Starfleet ships, that usually means from directly above or below, but it varies from ship to ship).
Circumvential attitude attack posture	Special	Special	This maneuver requires two or more ships. To use it, the ships surround a single target on as many sides as possible, attacking it from every angle and cutting off any attempts to escape. The Difficulty equals 12-(number of ships participating); the Benefit is +1 to each ship's attack for each ship which makes the Test (subtract 2 from the total for each ship which Dramatically Fails).
Cochrane Deceleration	8	+3[1]	This maneuver only works when the ship is being pursued by an enemy within 10 MUs of it. It decelerates suddenly, allowing the enemy to pass it so that it can fire forward weapons (this requires a success in a Chase; see page 107).
Passive lure strategy	Special	Special	The ship "plays dead," pretending to be a derelict or too badly damaged to function. The Conn makes an Opposed Test using Shipboard Systems (Sensors) against any enemy vessel who scans it trying to find out how badly hurt it is. If the Conn wins the contest, his ship receives a +1 bonus to hit the other ship for every point by which he won the Opposed Test.
Picard Maneuver	Special	Special	Developed by Captain Jean-Luc Picard in 2355 when he commanded the *U.S.S. Stargazer*, the Picard Maneuver only works against a single target using only lateral sensors, since it relies on a starship's ability to move at faster than light velocities without the other ship realizing where it's gone. The ship must start out sufficiently far enough from its target that it takes more than five seconds for light to reach the target (since light moves at 1,500,000 km, or 50 MUs, per round, the ship should start out 100-300 MUs from its target). The ship makes a microwarp burst (see page 100), thus moving from its current position to one much closer to the target before the target realizes that the ship has moved (since the ship travels faster than the light from its previous position). The ship drops out of warp and fires on the target, hopefully inflicting grievous damage before it realizes what's happened. Although difficult to pull off correctly (it requires a Challenging (10) Shipboard Systems (Flight Control) Test), when performed properly it provides a +5 bonus to (Tactical) Tests and counts as a Surprise maneuver.
Repulsing	9	Special	A ship uses this maneuver to slip past one or more ships blocking its path (for example, during a race on a narrow course). First the ship must succeed with a Moderate (6) Shipboard Systems (Deflector) Test to reverse its deflector's polarity. Then it makes a (Flight Control) Test to gently sideswipe the target ship(s). If it succeeds, the deflector pushes the target(s) a kilometer or two to the side, allowing the ship to pass. If it fails, it loses .2 *c* speed for one round and drops back behind the target; if it Dramatically Fails, both ships take damage as for a minor collision (see page 108).
Riker Maneuver	6	Special	Developed by Commander William Riker in battle against the Son'a in 2375, the Riker Maneuver may only be performed in regions of space filled with dangerous, combustible substances such as metreon gas. The ship passes through the gas for at least 3 MUs, collecting it with its Bussard ramscoops. It then flushes the ramscoops, projecting the gas back towards pursuers or forward toward an approaching enemy ship. Properly collecting and placing the gas requires a Challenging (9) Propulsion Engineering (Warp Drive) Test; failure indicates the explosion does not occur where planned, Dramatic Failure that the gas explodes while being collected. The enemy's attacks, or a quick phaser blast from the ship, ignite the gas, causing an explosion which damages the enemy ship. The explosion does at least 800+20d6 damage and fills at least one cubic MU for every MU worth of gas which was collected (the Narrator should adjust these figures to suit the situation).

[1]: Maneuver applies to only one target or attacker that round; the ship must choose which enemy vessel it receives the benefit against.

[2]: Maneuver applies to only two targets or attackers that round; the ship must choose which two enemy vessels it receives the benefit against.

ATTACK MANEUVERS TABLE CONT.

Maneuver	Difficulty	Benefit	Notes
Scraping	10	Special	This maneuver allows a ship to temporarily knock another ship's thrusters offline. To perform it, a ship must have active shields and brush up against the target ship, which must also have active shields. If the pilot succeeds with his Test, the opponent suffers -.1 c speed and a -1 Test Result penalty to his own piloting Tests for 1+1d6 rounds. If he fails, the maneuver has no effect; if he Dramatically Fails, his ship suffers 2d6 damage for every .1 c of speed he had when he tried the maneuver (only Resistance applies against this damage). At the Narrator's option, the target ship may also suffer this damage.
Shield ricochet	7	N/A	Only small ships (Sizes 1-2) can use this maneuver against ships of Size 5 or larger. The ship can only use thrusters, but must pay extra Power to increase their effect (see page 39). The ship heads straight for the larger vessel, then turns in just the right way to "bounce" off of its shields. While it offers no Test Result modifiers, it can be a good way to trick or distract the crew of the larger ship.
Staggered approach vectors	Special	Special	Requires a minimum of two ships; all ships must use Multifire. The ships approach in a staggered formation, attacking the target with multiple shots. The Difficulty is 9; each ship which makes it gets a +1 bonus both to Shipboard Systems (Tactical) Tests against the defined target, and to the Conn's Shipboard Systems (Flight Control) Tests to dodge attacks that round. Any ship which Dramatically Fails suffers reverse penalties (-1 to hit, -1 on dodge attempts).
Talluvian maneuver	9	+2	This maneuver is a flexible one designed to maneuver a ship so that its most powerful phasers are brought to bear on the target for as long as possible. It works best with ships which have large phaser arrays, like the Galaxy-class Explorer. The ship flies above or below its target (depending on whether the phaser array is ventral or dorsal) in a diagonal pattern which allows it to fire its phaser and keep it locked on the target in continuous fire mode.
Triangular envelopment	Special	Special	This maneuver is similar to circumvential attitude attack posture, but is more limited. It requires three ships, which surround the target on the same plane at bearings 0, 120, and 240. The Difficulty is 7; every ship which makes its Test gains a +2 bonus to (Tactical) Tests (eliminate the bonus for one ship if one other ship Dramatically Fails).
Wolfpacking	7	Special	This maneuver requires three or more ships (typically ones which are significantly smaller than their target). The ships surround the target and make Moderate (6) Shipboard Systems (Tactical) Tests. The ships which succeed can join together, coordinate their attacks (each takes just one shot), and have them count as Multifire (see page 118) against the target. They must satisfy all restrictions on Multifiring, such as using the same types of weapons. If any ship in the pack has a negative modifier to hit the target (for example, due to Size or an evasive maneuver the target performed), all of the ships suffer that modifier. Each ship rolls its attack Test separately; all the shots which hit are combined to calculate Multifire damage.

DEFENSIVE/EVASIVE MANEUVERS TABLE

Maneuver	Difficulty	Benefit	Notes
Alpha-series maneuvers			
Alpha	8	-1	The ship jinks to one side and dives.
Alpha-2	8	-2[2]	The ship climbs steeply out of harm's way.
Beta-series maneuvers			
Beta	7	-2[1]	The ship climbs slightly, then dives down.
Beta 1-4-0 (single)	8	-3[1]	A quick, complex maneuver involving several rapid turns.
Beta 1-4-0 (dual)	9	-3[2]	Like Beta 1-4-0 (single), but optimized for use against two opponents.
Beta-2	8	-1	The ship climbs slightly, then jinks hard to port or starboard
Beta-3	10	-3	The ship dives slightly, then jinks slightly to port or starboard and lunges forward.
Beta-4	9	-3[2]	The ship dives steeply, then jinks to port or starboard and climbs slightly.
Beta 9-3	11	-4	A short, rapid dive followed by a quick series of jinks and turns designed to throw off the aim of any opponent.

[1]: Maneuver applies to only one target or attacker that round; the ship must choose which enemy vessel it receives the benefit against.

[2]: Maneuver applies to only two targets or attackers that round; the ship must choose which two enemy vessels it receives the benefit against.

DEFENSIVE/EVASIVE MANEUVERS TABLE CONT.

Maneuver	Difficulty	Benefit	Notes
Delta-series maneuvers			
Delta	9	-2	As it flies along a relatively straight vector, the ship jinks slightly from one side to the other (known as "rocking" the ship).
Delta-2	7	-2[1]	The ship does a "barrel roll"to go from being in front of a ship to above and behind it.
Delta-3	10	-3	The ship jinks hard to port or starboard and then drops back.
Delta-4	8	-2[2]	The ship jinks hard to port or starboard and then "slides" downward in a shallow dive.
Delta-5	6	-1[1]	The ship jinks hard to port or starboard and then climbs in a shallow, curving arc.
Gamma-series maneuvers			
Gamma	7	-1[2]	The ship veers to port or starboard in a broad arc, then suddenly jinks in the opposite direction.
Gamma-2	7	-2[1]	The ship jinks downward in a slight dive to port or starboard, then climbs steeply.
Gamma-3	9	-2	The ship jinks upward in a slight climb to port or starboard, then dives steeply.
Gamma-4	10	-3	The ship turns on its side, then falls away in a steep drop to port or starboard.
Gamma-5	9	-4[1]	The ship dives steeply, turning on its side towards the bottom of the dive and then climbing steeply and levelling out at the end of the climb.
Lambda-series maneuvers			
Lambda-1	9	-2	A full starboard roll.
Lambda-2	9	-3[2]	The ship makes a half-roll to port and drops down.
Omega-series maneuvers			
Omega	11	-4	The ship engages in a complex, stomach-turning series of rapid turns which make it difficult to track or follow.
Omega-1	9	-4[1]	The ship jinks to the right, upward, and then to the right again.
Omega-2	9	-3[2]	The ship dives or climbs to port or starboard, executing a long S-turn as it does so.
Omega-3	8	-2[2]	The ship climbs in an arc, but before reaching the expected top of the arc darts quickly forward.
Omega-4	8	-1	The ship peels off to port or starboard, then executes a sort of turn designed to bring him up underneath an enemy ship (perhaps one which was pursuing him).
Omega-6	9	-2	The ship arcs upward to port, then peels swiftly down to the side from the apex of the arc.
Theta-series maneuvers			
Theta	9	-2	The ship jinks to the side and dives slightly, back to the other side and dives steeply, then climbs about one ship length.
Theta-1	6	-1[1]	The ship arcs to port around its opponent, then peels downward and starboard.
Theta-2	9	-3[2]	The ship peels off to the side, climbing as it does so, then dives straight down.
Theta-3	9	-4[1]	The ship jinks to starboard, then jinks to port and dives slightly, then jinks back to starboard in a steep dive.
Other Maneuvers			
Basic Dodging	Special	Special	The Conn makes his ship more difficult to hit through clever maneuvering. The base Difficulty to avoid attacks this way is Moderate (6) with Shipboard Systems (Flight Control). If the Test succeeds exactly, opponents have +1 Difficulty to hit the ship with any attacks that round; for every two points by which the Test Result exceeds 6, increase the Difficulty by +1 (maximum of +4). For example, if the Shipboard Systems (Flight Control) Test Result was a 10, the ship increases the Difficulty of any attempt to hit it that round by +3.
Close maneuvering	Special	Special	Large ships are usually much less maneuverable than small ones. To take advantage of this fact, smaller ships often close in on a larger ship, running rings around it while it tries to bring its weapons to bear on the "gadfly" tormenting it. In game terms, when there are five or more points of difference between two ships' Size, the smaller ship obtains two benefits when it moves to right next to the ship to attack (Point Blank range), provided it makes a Challenging (10) Shipboard Systems (Flight Control) Test. First, all of the larger ship's attempts to hit it are at -3; second, it receives a +2 bonus on its attempts to hit the larger ship (in addition to Size modifiers). The pilot must make his (Flight Control) Test every round to maintain the bonuses, and may perform no other manuevers while close maneuvering.

[1]: Maneuver applies to only one target or attacker that round; the ship must choose which enemy vessel it receives the benefit against.

[2]: Maneuver applies to only two targets or attackers that round; the ship must choose which two enemy vessels it receives the benefit against.

DEFENSIVE/EVASIVE MANEUVERS TABLE CONT.

Maneuver	Difficulty	Benefit	Notes
Kavis Teke Elusive	10	-3	Developed thousands of years ago by the Menthars during their war with the Promellians, the Kavis Teke Elusive Maneuver involves a quick, slightly climbing jink to starboard. Then, equally as quickly, the pilot executes an arcing climb to port and slightly back, which not only helps him avoid enemy fire, but in a pursuit situation can put him above and behind his pursuer (see the Chase rules below).
Kumeh Maneuver	9	Special	The ship maneuvers behind a planet or other form of physical cover (see page 118) in a manner designed to maximize the available protection. If the Shipboard Systems (Flight Control) Test succeeds, all modifiers for cover are doubled.
Presenting minimal aspect	9	-4[1]	Starfleet vessels are designed so that from some angles (primarily forward ones), they have a relatively small profile, or "aspect." Presenting this aspect to a foe makes it much harder for him to target the ship successfully, because he has less surface to aim at.

[1]: Maneuver applies to only one target or attacker that round; the ship must choose which enemy vessel it receives the benefit against.

ADDITIONAL ADVANCED MANEUVERS

If the descriptions of the maneuvers listed in the Attack and Defensive/Evasive Maneuvers Tables don't match what you want your ship to do, you can make up your own maneuvers. The table below indicates the Difficulty Numbers and bonuses used to build maneuvers.

	Difficulty Versus		
Modifer	One Ship	Two Ships	All Ships
+1/-1	6	7	8
+2/-2	7	8	9
+3/-3	8	9	10
+4/-4	9	10	11

Individualized Maneuvers

For 1 Development Point (or 2 Experience Points) each, a character may "individualize" one of the maneuvers listed on the accompanying table. This represents the fact that he's practiced that maneuver extensively, adding his own refinements and improvements, effectively making his own unique "sub-maneuver."

In game terms, a character with an individualized maneuver adds +1/-1 to the Benefit derived from the maneuver when he succeeds with the Shipboard Systems (Flight Control) Test to move the ship. He may only buy individualization for a given maneuver once, but he may individualize as many different maneuvers as he likes (and the Narrator allows)

Examples: *Commander William Riker of the* U.S.S. Enterprise-E *likes to use defensive pattern Alpha. He's developed a few of his own special touches for it to make it even better. He pays 2 Experience Points to buy it as an Individualized Maneuver, and calls it Riker-Alpha. When he makes a Shipboard Systems (Flight Control) Test to use it, his ship gets a -2 benefit from the maneuver, instead of the standard -1, because he's so skilled with it.*

Riker also favors the Omega-2 maneuver and has developed some special moves to go with it as well—the "Riker-Omega" maneuver, as he calls it. He individualizes this maneuver as well. When he uses it, the Enterprise-E *gets a +3 bonus to hit enemy ships, not just the usual +2.*

The extra bonus from an individualized maneuver does not count against the total +6/-6 or +4/-4 bonus a ship can obtain from maneuvering. Instead, it increases that limit. For example, when using an individualized maneuver which increases defense pattern Alpha from -1 to -2, a Size 4 ship could obtain bonuses equal to +7/-7.

Chases

Ships will sometimes find another ship on their tails, or become involved in pursuing an enemy vessel. Since having an enemy aft (where most ships have relatively poor armament) is not a good situation, the ship in the lead will usually try to lose his pursuer. Here's how to determine the outcome of chases in starship combat.

Ships involved in a chase don't roll initiative normally; the lead ship always acts first for

purposes of moving only (if the ships wish to attack each other, they must roll initiative normally for that purpose). The two ships involved make Shipboard Systems (Flight Control) Tests as Opposed Tests; the pursuer may add +1 to his Test Result because of his advantageous position. The lead ship may try a defensive/evasive maneuver if he wishes; that counts as a Multiple action, but if he succeeds, he may add the maneuver's Benefit as a *positive* modifier to his Test Result in the Opposed Test. If he fails he gains no benefit; if he Dramatically Fails, he automatically loses the Opposed Test by a minimum of 4 (roll normally; if the pursuer doesn't win by at least 4, the result changes).

Compare the results of the two Tests. If the pursuer won, he may, if he wishes, close with the lead ship by a number of MUs equal to the difference between the Test Results (this applies even if both ships are moving at their top speeds; it's an abstract representation of the pursuer's superior piloting and maneuvering this round). He also manages to stay on the lead ship's tail, regardless of any maneuvers the lead ship performed.

If the lead pilot won the Opposed Test by 1 to 3, he may, if he wishes, pull away from his pursuer by a number of MUs equal to the difference between the Test Results (again, even if they're moving at top speed). If he won the Test by 4 or more, he's managed to shake the pursuit (at least temporarily). The Narrator determines the exact effect, based on the circumstances, but typically this means the lead ship maneuvered or jinked in some way which the pursuer was not able to follow. The next round, the two ships roll initiative normally (using their Shipboard Systems (Flight Control) skills if they want to keep chasing each other); maybe the lead ship will get to turn the tables on his pursuer....

THE PLAYING SURFACE

A physical representation of the battlefield isn't necessary to run starship combat, but it's often helpful, since it allows everyone to visualize the scene better and more accurately calculate the distances moved, ranges for weapons, and so forth.

All you need to represent a battle physically are a playing surface and objects to represent the ships and various obstacles. For the former, you need a large, flat area, such as a tabletop or clear floor. For the latter, you can use lead miniatures, coins, game counters, or many different types of objects. To represent a ship's position above or below other ships, use colored pieces of paper (one color for above the playing surface, one color for below). Write on the paper the number of MUs the ship is above or below the playing surface. For example, +2 represents a ship two MUs above the playing surface; -3 represents three MUs below it.

You'll need to establish some unit of measurement, such as 1 inch or 1 cm, as equalling 1 Movement Unit (keep in mind that ships can easily move 35-50 MUs a round when you decide how to measure movement). If you use a surface marked with squares or hexes (such as the gaming mats available in many hobby stores), each unit marked on the surface equals 1 MU. If you don't have such a surface, simply use a ruler to measure distances.

For a more extensive discussion of using miniatures and hex surfaces in starship combat, see page 125 of the *Star Trek: The Next Generation Roleplaying Game Players' Guide.*

Collisions and Ramming

Sometimes ships run into each other—either accidentally or deliberately. Although usually not a tactic of first resort, ramming can be a highly effective combat maneuver in some situations. For example, in 2370 a Jem'Hadar Attack Ship on a suicide run smashed into the *U.S.S. Odyssey,* destroying both ships.

Collisions are divided into major and minor collisions. Major collisions include deliberate ramming, head-on collisions, T-bone collisions, and other substantial impacts between ships. For ramming, the ship attempting the ram must use Shipboard Systems (Flight Control) to roll to hit with a Difficulty of Moderate (6). Size modifiers apply to this roll (it's easy for a maneuverable little Scout ship to hit a big Explorer, but not so easy for the Explorer to hit the Scout). Accidental major collisions require no Tests; they simply occur. In either case, the damage depends on the Size and speed of the ship which initiated the collision (if it was an accident, the Narrator picks one). Calculate the damage this way: (MUs moved this round x Size) x 8. Both ships take this damage. For example, a *Galaxy*-class ship moving at .7*c* (35 MUs) would do 2,240 points of damage ((35 x 8) x 8) when it rams a Romulan warbird. Thus, while it's easy to cause tremendous damage with a ramming attack, it usually destroys the ship which made the attack as well as its target.

For minor collisions, such as sideswiping another ship, accidentally bumping together when a flying formation breaks up, or clipping another ship on a fly-by, the roll to hit the other ship is the same as for a major collision, if it's a deliberate attack (if not, the Narrator can determine whether the ships collide by accident). The damage to both ships equals (MUs moved this round + Size). If the *Galaxy*-class ship described above sideswipes the warbird, it does 43 points of damage (35 + 8), and takes that much damage itself.

TACTICAL

During starship combat, perhaps the most important person on the bridge is the Tactical Officer. He's responsible for maintaining the ship's defenses and accurately firing its weapons; he also often operates sensors, since he uses the ship's Threat Assessment/Tracking/Targetting System (TA/T/TS) to establish targeting locks. If he doesn't do his job well, the ship will lose the battle, regardless of how skilled the Command, Conn, and Engineering officers are.

DESIGNER'S NOTES: COMBAT BONUSES

There are many ways for a ship to get bonuses to Shipboard Systems (Tactical) Tests—the TA/T/TS, attack maneuvers, Shipboard Systems (Sensors) Tests, Starship Tactics Tests by the commander, aiming, and so forth. To prevent ships from obtaining an overwhelming advantage in combat, Narrators may wish to restrict such bonuses. Options include:

—A flat limit (such as no more than +5 worth of bonuses)

—A flat limit after the target's defensive modifiers are negated (for example, a ship can obtain as many bonuses as it wants to cancel out the target's evasive maneuvers, Size modifier, and so forth, and then no more than an additional +3)

TARGETING LOCKS

Before the Tactical Officer can fire a weapon at a target, he needs to obtain a *targeting lock* on that target with the TA/T/TS. In most cases, the rules simply assume that he does this; he does not have to take a separate action or make any Tests. However, there are some aspects of establishing a lock which players and Narrators should remain aware of; Narrators may, in some instances, want the Tactical Officer to use an action and make a Shipboard Systems (Tactical) Test to ensure that he's established a lock.

Targeting scanners are not always active; the Tactical Officer must activate them before he can use them. If the Tactical Officer expects trouble, he can put the targeting sequence on "hot standby," meaning he can activate it instantly. But when the ship is taken by surprise or suddenly encounters some previously undetected threat, the TA/T/TS may not be ready to go. In this situation, the Narrator may rule that it takes a round for the targeting scanners to become active. If so, during the round while the scanners power up the Tactical Officer must make any attacks manually.

A targeted ship can detect a targeting lock automatically (no action or Test required)—its crew knows it's been "locked up." If a ship's targeting systems are merely active, but have not yet been focused on a specific target, any ship in the vicinity can detect that fact with a Routine (3) Shipboard Systems (Sensors) Test.

Once it establishes a targeting lock, a ship can lose the lock if it (the ship establishing the lock) moves around too much before using it. Normally, a ship is assumed to use a lock as soon as it establishes one, but on some occasions a ship will want to establish a targeting lock and hold it for a while without firing (say, to gain aiming bonuses [page 110], or in the hopes that it can defuse the situation without violence). In this situation, if the ship establishing the lock makes any maneuvers which require a Shipboard Systems (Flight Control) Test, the Tactical Officer must make a Routine (5) Shipboard Systems (Tactical) Test to maintain the targeting lock; this counts as an Immediate Action and should *not* be considered for purposes of calculating Multiple Action Penalties. Any Benefits gained from the maneuver apply as a *negative* modifier to the (Tactical) Test (the more extreme the ship's movement, the harder it is to maintain the lock). For example, if the ship uses a Theta tactical pattern (+3 to hit targets) or an Omega-2 maneuver (-3 to opponents' attack Tests), the Tactical Officer must make his (Tactical) Test to maintain the targeting lock at -3. Furthermore, any evasive/defensive maneuvers performed by the targeted ship impose their penalty on the Test to establish the lock as well. If the (Tactical) Test fails (normally or Dramatically), the targeting lock is lost and the Tactical Officer must re-establish it (this may, at the Narrator's option, take a Test and an action). An experienced Tactical Officer can avoid this entire problem by letting the locking relay "float" until he receives the actual order to fire; establishing it immediately before firing does not require a Test or an action (it's part of the firing process).

To prevent detection of a targeting lock, or when the TA/T/TS is not functioning, a Tactical Officer can target and fire weapons manually. On some ships, such as the *Defiant*-class Heavy Escort, the crew can only target weapons manually from the auxiliary control room, battle bridge, or other non-bridge locations. Standard rules for manual operation of systems (page 91) apply to manual targeting and firing of weapons.

The TA/T/TS is not the only way to establish a targeting lock. If the ship has a communications link with the target, it can automatically use that link to establish a lock (no Test required). The

officer operating the communications system can make a Routine (5) Shipboard Systems (Communications) Test to scramble the communications frequency and prevent this. Other "links" between the two ships (such as an active power transfer beam) also allow an automatic targeting lock.

Similarly, a ship can, in circumstances when it cannot establish a targeting lock, use an allied ship's targeting data to fire its weapons. For example, if a ship is partially "blinded" for some reason (perhaps due to sensor damage or unusual energy phenomena) and cannot establish a targeting lock on an enemy for that reason, a friendly ship which can establish a lock on the enemy could feed the first ship the targeting data, thus allowing it to attack (the Narrator might, however, impose a small negative modifier on the attack Test Result to reflect the conditions).

Anything which interferes with normal sensors (such as an ion storm or unusual radiation pattern) may also interfere with the targeting scanners. The basic TA/T/TS has a strength of 7 (uprated systems are stronger); this strength can be improved by paying extra Power, as with other sensors (see page 149).

Powering Weapons

Weapons have to be "powered up" before they're ready for use; not even the most warlike ships fly around with their weapons constantly active. Generally the rules simply assume that the Tactical Officer can power the weapons up in time to meet any threat; this doesn't require a separate action or any Tests. However, in some instances, such as when the ship is surprised, the Narrator may require the Tactical Officer to use an action and make a Routine (3) Shipboard Systems (Tactical) Test to power up the weapons in one round (he can activate the targeting scanners in this same round). Once activated, a weapon is said to be "hot" or on "hot standby status."

TARGETING MODIFIERS

The following modifiers apply to a ship's Shipboard Systems (Tactical) Tests to hit another ship with an attack.

Aiming

A Tactical Officer may spend time aiming at a target. He must spend an entire round aiming; during this round the starship cannot make attacks with any weapon, nor any maneuvers which require a Shipboard Systems (Flight Control) Test. For each round spent aiming, the Difficulty to hit a target is reduced by 1. This bonus remains in effect for the rest of the combat. The Narrator may, in his discretion, restrict the number of rounds a character can spend aiming.

Called Shots

Characters may attempt to target specific locations on a starship. This tactic is commonly employed when the characters want to disable the target without damaging it significantly, or to destroy its weapons so that they can talk to their opponents and defuse the situation without bloodshed. It also offers many tactical advantages, of course; an opponent whose shields, weapons, or engines no longer work due to a well-placed shot is often little more than a sitting duck.

Of course, aiming an attack at a specific location on a starship is more difficult than making a generalized attack against that ship, so there are Shipboard Systems (Tactical) Test modifiers for various locations. These modifiers are based on two factors: the general size of, and specific protection possessed by, the targeted system; and game balance. The latter consideration is of particular importance; if it's too easy to disable a ship's defenses or life support or weapons, many characters will "go for the jugular" and attack those systems first in every combat situation—and that's not only no fun for anyone (longer, tension-filled battles are usually more enjoyable than "instant death" combats), it doesn't reflect the *Star Trek* setting very well. Starfleet officers target specific systems when they have good reason to do so, not in every single encounter just because of the tactical benefits. The Narrator may forbid a character to attack a particular ship system if he feels it's not in the spirit of the setting to make that attack, or if it would diminish everyone's enjoyment of the game.

Thanks to 24th century tactical technology, it's not hard for a ship to negate the penalty for targeting a particular system if it wants to. To do this, a character must take an action and make a Moderate (7) Shipboard Systems (Tactical) Test (modifiers from uprated TA/T/TS systems apply; targeting penalties for the location in question do *not* apply). If the Test succeeds, the penalty for targeting that system is negated for that

round; to negate it in future rounds requires another Test each round.

Beam weapons are much better at targeting a specific system than missile weapons, because they are much more precise. Impose a -3 Test Result penalty on attempts to target a specific system using missile weapons.

If a called shot misses, it misses the target completely. There is no chance that it will hit some other part of the target.

The accompanying table lists the effects of targeting various ship's systems. The table is for an "average" ship, one with a fairly normal mix of typical systems. For specialized ships (such as cargo carriers), Narrators may wish to create more specialized hit location tables.

Roll indicates the random roll for hitting a location. If he wishes, the Narrator may roll randomly to determine where a general attack (one not aimed at a specific location) hits. First, roll 1d6 to determine which category of systems is affected. Then, within each category, roll one or more dice to determine which location or system is damaged. It may be necessary to make further rolls (these numbers are in plain type). To speed game play, roll all the dice at once, using your Drama Die as the first die and ordinary dice for the second roll; make the third roll (if one is required) separately.

Example: *Charles rolls a hit location for an attack. His first die roll is a 4, indicating Operations Systems. As indicated, he rolls 2d6, and gets 11—Flight Control Systems. He rolls another 2d6 (per instructions in the table) and rolls a 9. This means the attack hit one of the target's shuttlebays.*

Location is the location or system targeted (or hit randomly). Many locations/systems have sub-parts which are damaged individually, as described under *Effect*. The Narrator should interpret the Location roll in light of common sense. For example, if the Location indicates the captain's yacht, but the attack comes from an angle which indicates the yacht couldn't be hit, reroll or substitute a more likely location or system. If the Location indicates a system or feature the target ship lacks, reroll or substitute a reasonable equivalent. For example, since a space station has no nacelles, a "Warp Nacelles" result should be rerolled, or perhaps a hit on the station's fusion reactors substituted.

Modifier is the penalty to Shipboard Systems (Tactical) Test Results for Tests made to target that particular location or system. "N/A" indicates that the system cannot be deliberately targeted (usually because it's too small or located too deep within the hull); such systems can only be damaged by random chance.

Crew indicates the percentage of the crew, or number of persons, who suffer injury or death when an attack on that location or system succeeds in damaging it. The number given represents the upper end of a range (*i.e.*, "4%" means 1-4%); Narrators should adjust the number of dead and wounded based on the situation and dramatic needs of the story. The more damage the location or system takes, the greater the extent of the injuries and the more crewmembers are likely to die from them. If a location takes just a point or two of damage, the casualties should be minimal; if it's destroyed in a single attack, all those crewmembers are probably dead or badly injured. Shipwide systems (EPS, ODN) may cause only minor casualties each time they're damaged, but the overall effect adds up to a significant percentage. After the crew of a particular area has been injured once, further damage to the crew there only makes it more likely that some of them will be killed (alternately, if replacement crewmembers

DESIGNER'S NOTES: ELIMINATING CALLED SHOT AND SIZE PENALTIES

As noted elsewhere, it's relatively easy to negate the penalties for called shots or Size differentials because on the *Star Trek* television shows, such tasks are not portrayed as being especially difficult. The rules are written primarily to reflect the setting, not with game balance as the paramount consideration. However, if players don't follow the rules of *Star Trek* drama and negate these penalties so much that they create game balance problems, the Narrator should take steps to correct the situation. Possible solutions include:

—applying called shot and Size penalties to the Test to negate those penalties;

—applying some percentage of the penalty (say, half) to the Test to negate the penalty;

—requiring characters to spend one full round to negate those penalties for the next round;

—increasing the Difficulty Numbers for the Tests;

—instead of an all-or-nothing Test, reduce the penalty by 1 for every point by which the character makes the Test to eliminate the penalty; or

—series- or setting-related penalties, such as the acquisition of positive Aggression Renown (which Starfleet frowns upon), denials of promotion, or black marks on the character's record.

Narrators should also keep in mind that the Crew, as the focus of the story, should often receive some benefits which NPCs do not. In some situations, for example, he should let the Crew maintain the benefit it receives from being in a smaller ship (*i.e.*, he shouldn't have the NPCs in the bigger ship eliminate the Size penalty), since that makes the story more dramatic.

have taken the original crewmembers' place, they will suffer injuries themselves). For further information on damage to the crew and how Medical officers can counteract it, see page 87.

Lastly, *Effect* describes what happens when that location or system is damaged. Damaged systems are harder to use and/or work less efficiently (this is often expressed as a penalty to Tests made while using the system). Other effects may occur, such as explosions which cause further damage to the ship, loss of Power, reduced speed, or the like. Damage to systems is usually described in terms of a percent of its SUs lost; for example, if a ship has a

STARSHIP HIT LOCATIONS TABLE (1D6)

Roll	Chart
1	Personnel Systems (Table 3.1)
2-3	Propulsion and Power Systems (Table 3.2)
4-5	Operations Systems (Table 3.3)
6	Tactical Systems (Table 3.4)

TABLE 3.1 - PERSONNEL SYSTEMS (2D6)

Roll	Subsystem
2-3	Environmental Systems (1d6)
	1 Basic Life Support
	2 Reserve Life Support
	3 Emergency Life Support
	4 Gravity
	5 Consumables
	6 Replicators
4-5	Cargo Holds
6-7	Crew Quarters
8	Personnel Transportation
9	Recreation Facilities
10	Medical Facilities (1d6)
	1-5 Sickbay
	6 EMH System
11	Escape Pods
12	Fire Supression System

TABLE 3.2 - PROPULSION AND POWER SYSTEMS (2D6)

Roll	Subsystem
2	Reaction Control System
3-6	Power Systems (1d6)
	1-2 Auxiliary Power
	3 Emergency Power
	4-6 EPS
7-10	Engineering/Warp Drive System (1d6)
	1 Plasma Injector System
	2 Power Transfer Conduit
	3-4 Warp Engine
	5-6 Warp Nacelles
11-12	Impulse Engines

TABLE 3.3 - OPERATIONS SYSTEMS (3D6)

Roll	Subsystem
3-4	Science Systems
5	Security Systems
6	Separation System
7	Battle Bridge
8	Main Bridge
9-10	Computer Systems (1d6)
	1-2 Computer Core
	3-6 ODN System
11-12	Flight Control Systems (2d6)
	2 Captain's Yacht
	3 Autopilot
	4-5 Attitude Control
	6 Inertial Damping Field
	7-8 Navigational Computer
	9 Shuttlebay
	10-11 SIF Generators
	12 Specialized Steering
13	Sensor Systems (1d6)
	1-2 Long-Range Sensors
	3-4 Lateral Sensors
	5 Navigational Sensors
	6 Probes
14	Navigational Deflector
15	Communications Systems
16	Tractor Beams
17	Transporters (1d6)
	1-2 Personnel Transporters
	3-4 Emergency Transporters
	5-6 Cargo Transporters
18	Cloaking Device

TABLE 3.4 - TACTICAL SYSTEMS (2D6)

Roll	Subsystem
2	Auto-Destruct System
3-6	Beam Weapon
7-8	Shields (1d6)
	1 Shield Generators
	2-3 Shield Grid
	4 Distortion Amplifiers
	5-6 Recharging System
9-10	Torpedo Launcher
11	TA/T/TS
12	Torpedo Storage

PERSONNEL SYSTEMS DAMAGE RESULTS

System	Mod	Crew	Effect
Basic Life Support	-8	2%	The percentage of the Basic Life Support system damaged indicates what percentage of the ship no longer contains a breathable atmosphere (or one which will shortly be used up), requiring the activation of Reserve or Emergency Life Support. Generally the crew can cut off damaged areas to maintain life support integrity in the rest of the ship. At 75% damage or greater, the network shared with Reserve Life Support is so damaged that Reserve cannot function.
Reserve Life Support	-8	2%	At the Narrator's option, the percentage of damage suffered by Reserve Life Support may work just like Basic Life Support (certain parts of the ship are no longer served), or for each 25% damage taken, reduce Reserve's functioning time by 6 hours.
Emergency Life Support	-8	2%	Every 10% damage to Emergency Life Support destroys 10% of the emergency shelter areas. Additionally, when Emergency Life Support is reduced to 50% effectiveness or less, and every time it takes damage thereafter, roll 1d6. On a 1-2, the damage has caused some of the power modules to detonate, doing 3+3d6 (or more) damage to the ship (no defense applies). Once an explosion occurs, increase the chance for further explosions to 1-3. Determine the location or system damaged by the explosion randomly, rerolling if you get an "Environmental Systems" result.
Gravity	-8	2%	For every 20% damage to gravity, gravity control fails in 10% of the ship (Narrator determines which areas based on angle of attack and other factors). When 80% damage is reached, half the ship loses gravity; at 100% gravity fails completely (see page 27).
Consumables	-2	4%	The percentage of damage to Consumables represents the amount of them destroyed in the attack. This generally has no consequence during combat, since even if stored fuel is destroyed, the ship usually has enough already in the system to keep operating for some time. (Note: extensive safety measures prevent antimatter from contacting matter, even when Consumables are damaged; loss of antimatter in this case does not cause an explosion.)
Replicators	-2	8%	Roll 1d6; 1-3 means food replicators are damaged, 4-6 means industrial replicators. The greater the percentage damage to each type, the fewer of them remain working.
Cargo Holds	-2	2%	Damage to this location primarily destroys cargo (the holds themselves are just big, open rooms). Based on how many holds the ship has, the Narrator determines how much it takes to destroy each one (and all the cargo in it). Sometimes cargos pose dangers themselves; whenever a cargo hold takes damage, roll 1d6. On a 1 there's an explosion causing 1-6 dice of damage. Roll another die; on a 1-3, it's the cargo itself which takes the damage, on a 4-5 it's whatever is next to the hold, on a 6 it's both.
Crew Quarters	-0	Special	The percentage of crew affected depends upon how the attack occurs. If there's been a red alert and everyone's at his duty station, Crew equals 1%. If the attack is a surprise and/or one which takes place while the ship's personnel are going about their everyday lives, Crew can rise as high as 33%.
Personnel Transportation	-4	8%	When personnel transportation systems are damaged, crewmen traveling long distances on the ship (one-fifth of the ship's length or more) have to make a Routine (4) Search (or Intellect) Test (modified by Perception) to find ways around corridors and turbolift tubes blocked by debris. For every 20% of damage to personnel transportation systems, there's a -1 penalty to the Test Result. Travel times increase correspondingly.
Recreation Facilities	-4	Special	The percentage of crew affected depends upon how the attack occurs. If there's been a red alert and everyone's at his duty station, Crew equals 0%. If the attack is a surprise and/or one which takes place while the ship's personnel are going about their everyday lives, Crew can rise as high as 20%.
Sickbay	-6	4%	For every 20% damage to Medical Facilities, reduce the Test Bonus provided by the Medical Rating by -1 (this may quickly result in penalties to Medical Sciences and related Tests due to lack of properly functioning equipment). At 75% damage and above, the EMH no longer functions.
EMH System	N/A	0	50% damage to the EMH reduces all his attributes and skills by half; at 75% damage and above, the EMH can no longer function effectively. If the ship has no EMH, substitute Sickbay damage for this result.
Escape Pods	-2	Special	Every SU of damage to Escape Pods completely destroys 3d6 pods, and may damage others (up to 20). If the crew has already entered the pods to prepare for an escape, the Crew percentage can rise as high as 50%; otherwise, it's usually 0%.
Fire Suppression System	N/A	2%	Every 10% damage reduces the system's strength by 1 and/or reduces the area it covers by 10%.

PROPULSION AND POWER SYSTEMS DAMAGE RESULTS

System	Mod	Crew	Effect
Reaction Control System	-5	2%	50% or greater damage to the RCS makes it impossible for a ship to use thrusters.
Auxiliary Power	-7	4%	Every 2 SUs of damage to a fusion reactor renders it incapable of producing Power. Every 3 SUs of damage to auxiliary power destroy one fusion reactor. Roll 1d6; a 1-2 indicates that it explodes, causing 5+5d6 damage (no defense applies against this damage).
Emergency Power	-7	4%	Using the Emergency Power Systems Table (page 41), compare Emergency Power's current remaining SUs and find the system type on the table which most closely matches it (round up if necessary). That indicates the system's current Power generation capabilities. (If a ship has more than one Emergency Power system, the Narrator should determine, randomly or based on the direction and nature of the attack, which one was damaged.) When Emergency Power reaches 50% damage, roll 1d6. A 1-2 indicates that it explodes, causing its normal full SUs to the ship in damage (only Resistance protects against this).
EPS	-9	8%	For every 10% damage, do one of the following: 1-3 reduce the system's ability to handle Power transfers beyond the ship's normal maximum by 10%; 4-6, require a Routine (5) Shipboard Systems (Mission Ops) Test for any Power transfer (for the second and subsequent rolls of this result, impose a -1 per roll on that Test and all other Tests related to transferring Power to a system or using extra Power to boost a system's performance). At 30%, 50%, and every 10% thereafter, roll 1d6. A 1 at 30% or a 1-2 on any roll after that indicates that the EPS has exploded somewhere on the ship, wreaking havoc among hardware and Crew alike. The explosion does 10+15d6 damage in a Blast Radius of 2 meters with a Dropoff of 20 points per meter (the ship cannot apply any defense against this damage); roll randomly to determine what part of the ship it damages.
Plasma Injector System	-9	2%	Reduce the time the ship can stay at Maximum warp by a percentage equal to the percentage of damage suffered by this system. Additionally, whenever it takes 50% or more damage, roll 1d6. On a 1-2, it explodes, destroying itself completely and doing 5d6 damage to the Power Transfer Conduit, Warp Engine, or Warp Nacelles (determine which one randomly; no defense applies). At 50% or more damage, reduce the effect of any warp drive system upgrades by one category.
Power Transfer Conduit	N/A	4%	The PTC can usually withstand about 20 points of damage. 5-15 points reduces the ability to channel Power to the nacelles proportionately (and thus prevents the ship from reaching its top warp speeds). When fully damaged, it explodes, doing 3d6 damage to everything and every person in Engineering. When it's destroyed, the ship cannot attain warp speeds.
Warp Engine	-6	15%	Every 10% damage to the warp engine reduces its ability to generate Power by 10%, and automatically reduces the Power which can be transferred to the nacelles by the same amount. For every 30% of damage, reduce the effect of any warp drive system upratings by one category. When it suffers 50% damage, roll once on the Catastrophic Failure Table (page 93); for every 10% damage thereafter, roll again. Engineering personnel should usually have some chance to eject the core before it explodes.
Warp Nacelles	-5	0	Using the Nacelle Table (page 35), compare the nacelles' current remaining SUs and find the nacelle type on the table which most closely matches it (round up if necessary). That indicates the nacelles' current warp capability. The Narrator rolls 1d6 at 25%, 50%, and 75% damage; a 1-2 indicates one nacelle's Bussard ramscoop has been destroyed (at 75%, increase the chance to 1-5). When the nacelles have been damaged to 50%, roll 1d6. A 1-2 indicates that at least one nacelle explodes, causing its normal full SUs to the ship in damage (only Resistance protects against this) unless an astute crewmember makes a Routine (5) Shipboard Systems (any) Test to eject the nacelles just before they explode. Roll again every 10% damage thereafter. The Crew figure for nacelles are usually 0, since few if any people work in them, but of course any secondary explosion could kill hundreds of crewmembers. If a nacelle is destroyed, a ship can no longer maintain a stable warp field, and thus cannot attain warp speed.
Impulse Engines	-6	10%	Using the Impulse Engine Table (page 39), compare the impulse engine's current remaining SUs and find the engine type on the table which most closely matches it (round up if necessary). That indicates the engine's current movement and Power generation capabilities. (If a ship has more than one impulse engine, the Narrator should determine, randomly or based on the direction and nature of the attack, which one was damaged.) When an impulse engine reaches 50% damage, roll 1d6. A 1-2 indicates that it explodes, causing its normal full SUs to the ship in damage (only Resistance protects against this). If the engine has an uprating package, at 25%, 50%, and 75% damage, reduce its effects by one category.

OPERATIONS SYSTEMS DAMAGE RESULTS

System	Mod	Crew	Effect
Science Systems	N/A	4%	For every 20% damage taken, reduce the Effect provided by the Science Systems (see table on page 65) by -1 (this may quickly result in penalties to Science Skills and related Tests due to lack of properly functioning equipment) *or* eliminate the effect of one specialized science system *or* destroy one laboratory.
Security Systems	N/A	4%	For every 10% damage, roll 1d6. 1-2 means the damage was suffered by the brig area, possibly freeing (and/or injuring) prisoners. 3-4 means it was suffered by the anti-intruder system; the Narrator determines what areas of the ship are no longer protected by the system. 5-6 means that the internal force field system was damaged; reduce the maximum highest strength of the force fields by 1-2.
Separation System	-6	4%	For every 20% damage to any separation system (saucer separation, multivector attack mode, or detachable warhead), increase the Difficulty of Tests to separate the ship by +1. Failure means the system has locked up due to damage; separation is impossible. Dramatic Failure means the same thing plus the ship suffers 10d6 damage (only Resistance and the SIF protect against this).
Battle Bridge	Special	Special	If the battle bridge is unmanned and the ship has not separated, it cannot be deliberately targeted, and damage to it causes no Crew casualties. When the battle bridge is manned, treat it like the regular bridge for Crew casualties (and for targeting as well if the ship has separated).
The Bridge	-7	.2%	For every 15% damage the bridge suffers, a panel or conduit explodes, showering the area with sparks and causing anyone using or standing within one meter of the panel to suffer 3+3d6 damage. The panel can still be used, but at a minimum -3 penalty to all Test Results. For every 30% damage, one panel goes dead and can no longer be used. For either effect, roll 1d6 to determine affected panel: 1 = Flight Control, 2 = Ops, 3 = Tactical, 4 = Command or Environmental, 5 = Science, 6 = Engineering. At 50% and 75% damage, the viewscreen, ready room, or conference room become useless.
Core Computer	-6	4%	For every 25% damage to a computer core, impose a -1 Test Result penalty on all Computer Tests made using it (uprating packages may counteract some of this penalty). If the ship has multiple computer cores, a character can avoid this penalty by using another, undamaged or less damaged, one—unless the ODN system is damaged (see below). If all computer cores are damaged, characters may use the lesser penalty, but any Test with any skill which involves the computer system (including any Shipboard System skill) suffers that same penalty (take the greater of this penalty or the penalty from the damaged ODN; do not add them).
ODN System	N/A	8%	At 50% damage, any Test with any skill which involves the computer system (including any Shipboard System skill) suffers a -1 Test Result; at 75%, this becomes -2. At 100%, the computer cannot transfer data from one station to another, making it impossible to link systems together or exchange data between them.
Captain's Yacht	-4	0	Apply damage to the captain's yacht by rolling randomly on this table and assessing the effects accordingly. Sufficiently large internal explosions aboard the yacht may also damage the ship itself.
Autopilot	N/A	1%	For every SU of damage, reduce the system's Coordination by 1. Once Coordination reaches 0, reduce skill level by 1 for every 2 SUs damage; once skill level reaches 0, the autopilot is nonfunctional.
Attitude Control	-7	1%	When attitude control is 100% damaged, the ship suffers the effects described on page 91.
Inertial Damping Field	N/A	4%	Every 10% damage to an IDF generator reduces its strength by 1 point (which in turn reduces the maximum it can reach with extra Power). When it hits 0 strength, the generator burns out, even if it has SUs left; the same thing happens if it loses all SUs but still has strength left. On ships with multiple IDF generators (including backups), the Narrator must determine which one is damaged by a given attack; the redundant and backup generators maintain the IDF at full strength until they're all damaged (and then, the highest strength among them applies).
Navigational Computer	-7	1%	Roll 1d6. 1-5 means the primary nav computer is damaged, 6 means the backup computer is damaged. For every 25% damage to either the primary or backup navigational computer, reduce the Shipboard Systems (Flight Control) Test Result modifier that specific computer provides by -1. At 100% damage, a navigational computer goes offline and its backup (if any) comes online. Damage to the backup system does not cause Crew injury.
Cloaking Device	-7	8%	For every 20% damage to a cloaking device, reduce its Difficulty modifier for Shipboard Systems (Sensors) Tests by 1; at 100% damage, the cloak fails entirely.

OPERATIONS SYSTEMS DAMAGE RESULTS CONT.

System	Mod	Crew	Effect
Shuttlebay	-3	0	When an attack hits the shuttlebay, roll 1d6. On a 1-4, one of the stored ships (if any are present) is hit; apply the damage to a random location using this table. On a 5-6, the bay itself suffers damage. At 50% damage, the Flight Deck Officer has to make Moderate (6) Shipboard Systems (Shuttlebay) Tests to do anything, including opening the bay's doors; at 100% damage, the entire bay is vented into space. If a ship has multiple shuttlebays, the Narrator determines which one an attack hits; he may also reduce the chances a stored ship is hit if the bay is not full.
SIF Generators	-9	.2%	Using the Structural Integrity Field Generators Table (page 21), compare the SIF's current remaining SUs and find the generator type on the table which most closely matches it (round up if necessary). That indicates the SIF's current strength (and thus the extent to which it can be improved with extra Power). On ships with multiple SIF generators (including backups), the Narrator must determine which one is damaged by a given attack; the redundant and backup generators maintain the SIF at full strength until they're all damaged (and then, the highest strength among them applies).
Specialized Steering	N/A	4%	If a ship has a manual steering column, any damage to it destroys it. If it has a neurogenic interface, even a single SU of damage is enough to at least knock it out of alignment, if not destroy it; it's useless until repaired.
Long-Range Sensors	-5	8%	Roll 1d6; 1-3 means apply the damage to the range package, 4-6 means apply it to strength package. Using the Long-Range Sensors Table (page 50), compare the sensors' current remaining SUs under the relevant category and find the sensor type on the table which most closely matches it (round up if necessary). That indicates the sensor's current range at high and low resolution or current strength. All uprating package bonuses are lost as soon as the sensors suffer any loss of strength.
Lateral Sensors	-5	8%	Using the Lateral Sensors Table (page 51), compare the sensors' current remaining SUs and find the sensor type on the table which most closely matches it (round up if necessary). That indicates the sensor's current strength. For every 20% damage, reduce the ship's Sensors Skill (if applicable) by 1. For every 30% damage, reduce its bonus from an upratings package by one category.
Navigational Sensors	-5	2%	Using the Navigational Sensors Table (page 51), compare the sensors' current remaining SUs and find the sensor type on the table which most closely matches it (round up if necessary). That indicates the sensor's current strength. For every 30% damage, reduce its bonus from an upratings package by one category.
Probes	-6	2%	Every SU of damage destroys 2d6 probes, and may damage others.
Navigational Deflector	-4	4%	For every 20% damage to the deflector, impose a -1 Test Result penalty on all Shipboard Systems (Flight Control, Tactical, or Deflector) Tests which involve it. At 50% damage, halve the ranges when it's used to project forms of energy. At 30%, 60%, and 90% damage, one of its graviton generators is destroyed; when all are destroyed, the ship cannot go to warp without risking wear and tear on the ship (see page 48).
Communications Systems	-6	4%	Using the Communications Table (page 55), compare communications's current remaining SUs and find the communication package on the table which most closely matches it (round up if necessary). That indicates communications's current strength and security. For every 20% damage, reduce the bonus from one of its upratings packages by one category (to a minimum of 0 for each). If the ship has a holocommunications system, it's lost when 20% damage is suffered. Emergency communications is not lost until Communications has suffered more than 80% damage. When Communications has been damaged to 65%, roll 1d6. A 1-2 indicates that it explodes, causing its normal full SUs to the ship in damage (no defense applies).
Tractor Beams	-6	4%	For every 10% damage a tractor beam emitter suffers, reduce its maximum strength by 1. When a tractor beam has been damaged to 50%, roll 1d6. A 1-2 indicates that it explodes, causing 6+6d6 damage to the ship (only Resistance protects against this). If a ship has multiple tractor beams, the Narrator must determine which one is hit randomly, or based on the angle of attack and other factors.
Personnel Transporters	-7	4%	For every 25% damage, reduce the transporter's range and strength by 25%. When a transporter has been damaged to 65%, roll 1d6. A 1-2 indicates that it explodes, causing 6+6d6 damage to the ship (only Resistance protects against this). If a ship has multiple transporters, the Narrator must determine which one is hit randomly, or based on the angle of attack and other factors.
Emergency Transporters			
Cargo Transporters			

TACTICAL SYSTEMS DAMAGE RESULTS

System	Mod	Crew	Effect
Auto-Destruct System	-9	2%	Damage to the auto-destruct system, even its complete destruction, is highly unlikely to trigger it accidentally. Whenever the auto-destruct system takes damage, roll 4d6. If all dice come up 1s, the auto-destruct detonates. When it loses all of its SUs, the auto-destruct system becomes nonfunctional.
Beam Weapon	-7	8%	Use the appropriate table (page 66) to determine how many emitters each SU of damage to a phaser array does; when all emitters are destroyed, a phaser array no longer functions (partial damage may restrict its firing arc). When an array takes 50% damage, roll 1d6. A roll of 1 indicates that an explosion occurs, causing 1 SU damage to the ship for every 2 remaining emitters (only Resistance protects against this). (If there's no explosion, roll every time after that when the array takes damage again, until it explodes, is destroyed, or the ship routes all Power away from it.) A roll of 2 indicates damage to the phaser generator; the array can only fire at half strength maximum (for later rolls of this result, reduce phaser strength to one-quarter, one-eighth, and so forth). If a ship has multiple phaser arrays, the Narrator must determine which one is hit randomly, or based on the angle of attack and other factors.
Shield Generators	-6	8%	Using the Shields Table (page 73), compare the generator's current remaining SUs and find the package on the table which most closely matches it (round up if necessary). The highest Protection number in that class indicates the level to which the shields have been reduced (though they may already have been damaged below that level during the battle). When a generator takes 50% damage, roll 1d6. A 1-2 indicates that an explosion occurs, causing 1d6 damage per Class of generator (only Resistance protects against this). If there's no explosion, roll every time after that the generator takes damage, until it explodes or is destroyed. Since ships have multiple shield generators, plus backup generators, the Narrator must determine which one is hit randomly, or based on the angle of attack and other factors.
Shield Grid	-5	8%	Every 30% damage reduces the effectiveness of the shield grid to the next lowest grid type (see the Shields Table, page 73).
Distortion Amplifiers	-6	8%	Using the Shields Table (page 73), compare the subspace field distortion amplifier's current remaining SUs to the table and find the package which most closely matches it (round up if necessary). The highest number in that class indicates the level to which the shields' Threshold has been reduced. When an amplifier takes 50% damage, roll 1d6. A 1-2 indicates that an explosion occurs, causing 1d6 damage per Class of amplifier (Class Alpha counts as 1, Class Beta as 2, and so forth) (only Resistance protects against this). If there's no explosion, roll every time after that the amplifier takes damage again, until it explodes or is destroyed.
Recharging System	-7	8%	For every 20% damage, reduce the effectiveness of the recharging system to the next worst type on the Shields Table (page 73). When 80% damage is exceeded, the Recharge Speed drops to 50 seconds; at 100%, the shields can no longer recharge (once collapsed, they stay collapsed until the system is repaired).
Torpedo Launcher	-7	2%	When a torpedo launcher suffers 50% damage, reduce its Spread and/or the ranges over which it can fire torpedoes by half. Also, roll 1d6. A 1 indicates that an explosion occurs, causing 2 SUs damage to the ship per point of Spread (only Resistance protects against this). If there's a torpedo in the launcher when an attack hits, roll for explosion regardless of the percent of damage taken, and the chance for explosion rises to 1-3. If there's no explosion, roll every time after that the launcher takes damage again, until it explodes, is destroyed, or the ship routes all Power away from it. If a ship has multiple launchers, the Narrator must determine which one is hit randomly, or based on the angle of attack and other factors.
TA/T/TS	-7	1%	Using the TA/T/TS Table (page 71), compare the TA/T/TS's current remaining SUs and find the package on the table which most closely matches it (round up if necessary). That indicates TA/T/TS's current strength and Test bonus. For every 20% damage, reduce the ship's Weapons Skill (if applicable) by 1.
Torpedo Storage	-6	2%	Every 1 SU of damage destroys 2d6 torpedoes, and may damage others.

SIF Generator worth 20 SUs, 20% means 2 points of damage to that system. Loss of all SUs destroys a system. In some cases, Effect includes an internal explosion; usually only the ship's Resistance (representing, in this case, the general strength of its materials and the nature of the system involved) and/or SIF protect against this damage, if anything does. If damage to a system is expressed in terms of reducing its effectiveness to a lesser type of the same

system, the system's capabilities are the best possible for its "new" type (for example, a Class 6 shield reduced to Class 4 effectiveness provides the maximum Protection a Class 4 shield can)—unless the system's already functioning below the level or capacity of the "new" type, in which case it stays as it is, and the new type becomes the level to which it can be restored or repaired in combat.

See page 125 for rules on applying damage to starships.

Cloaks

Cloaks can have a significant effect on combat, in that they allow a ship to strike from surprise. However, they can also be a drawback for the ship using them if the enemy ship is quick enough to attack while the ship decloaks, or lucky enough to hit it while it's cloaked—since in neither instance will the ship have its shields active. For complete rules on cloaking devices, see page 161.

Cover

Usually there's nothing to hide behind or dodge around in space. However, there are enough objects out there—asteroids, nebulae, and the like—that sometimes starships engaged in combat can use visual or physical cover ("visual" cover modifiers can also apply to situations when a starship is partially "blind" due to sensor malfunction or the like). Cover increases the Difficulty of attempts to hit the ship by +1 to +3, depending upon the nature and extent of the cover (three-quarters cover would be +3, half cover +2, quarter cover +1).

With the Narrator's permission, a sufficiently skillful use of sensors can partly or completely neutralize a target's cover modifiers. The character who wants to eliminate the cover modifier makes a Moderate (8) Shipboard Systems (Sensors) Test. If he succeeds exactly, he reduces the cover bonus by 1; if he rolls a 10, he reduces it by 2; if he rolls a 12 or greater, he reduces it by 3.

Immobility

It's almost always easier to hit an unmoving target than one which actively tries to avoid the attack. If a target is immobile, reduce the Difficulty to hit it by 2. This rule applies to space stations (which by definition cannot move).

Interference

Interference from space phenomena (such as gravimetric distortions or subspace inversions) can affect combat in many ways. They can weaken shields, dissipate a weapon's energy, interfere with sensors or other systems, and so forth. Many types of interference, and their effects, are detailed in Chapter Four.

Multifire

Multifire is a way for one ship to fire multiple times at single or multiple targets as a single action (thus avoiding or reducing Multiple Action Penalties). It provides a useful tactical option for situations where one or more single shots can't affect the target.

Single or Multiple Weapons

A ship typically performs Multifire with a single weapon (such as one phaser array or one torpedo launcher) by firing multiple times with it as one action. However, a ship may instead fire multiple weapons one time each, thereby achieving the same effect. The rules are pretty much the same no matter which method the ship uses; it's all a visual "special effect" which represents a particular combat tactic/game mechanic.

However, if a ship uses multiple weapon systems to Multifire, those systems must be the same type of weapon. A ship cannot Multifire with phasers and torpedo launchers at once, for example, or with phasers and another type of beam weapon, but it can do so with two or more phaser arrays or two or more torpedo launchers. A ship can always fire phasers and torpedoes in the same round if it wants; it just requires two different actions.

A multiple-weapon Multifire attack can use different classes of weapon of the same type—for example, Type X and Type VIII phasers, or a mixed spread of photon and quantum torpedoes. However, for purposes of determining the base Multifire damage against a single target, use the lowest of the damage figures. For example, when using Type X and Type VIII phasers to Multifire, the base damage is 160 (from the weaker Type VIII phaser). The lowest-damage attack is always presumed to hit the target first.

If the Multifire involves a single weapon, it must have the capacity to fire the desired number of shots. For beam weapons, the array

used must have enough emitters (see the Phaser Table on page 66 for information on how many shots an array can fire per round). For a torpedo launcher, its Spread rating must be high enough.

If the Multifire involves firing multiple weapons, each of the weapons must be capable of firing at least half of the desired number of shots itself (round fractions of .5 and lower down). For example, if a ship wants to use three phaser arrays to fire a four-shot Multifire burst, all three arrays must individually be able to fire at least two phaser shots. If three torpedo launchers are used to fire a spread of five photon torpedoes, each launcher must have a Spread rating of at least 2.

Shots from multiple ships, even if directed at the same target in the same round, do *not* count as Multifire, unless those ships use the "Wolfpacking" maneuver (page 105).

One Multifire Attack Per Ship Per Round

To keep games balanced, ships *cannot* fire multiple Multifire attacks in a round—each ship can fire one Multifire attack per round, whether it uses a single weapon or multiple weapons to do so. Ships can, however, Multifire once and then fire other weapons singly, incurring the standard Multiple Action Penalty.

Single Targets

If Multifire is used against a single target, the attacker makes a Shipboard Systems (Tactical) Test to hit the target, as usual. If the Test succeeds exactly, one beam/torpedo hits the target. After that, the result depends on whether beams or missile weapons were fired.

Beam Weapons: For every 1 point by which the character makes the roll beyond the Difficulty Number, another beam hits. For example, if the Difficulty Number to hit is 5, a Test Result of 9 means five beams hit the target (one at 5, 6, 7, 8, and 9).

Missiles: At Point Blank range, for every 1 point by which the character makes the roll beyond the Difficulty Number, another torpedo hits. At Short or Medium range, for every 2 points by which the character makes the roll beyond the Difficulty Number, another missile hits. At Long range, for every 3 points by which the character makes the roll beyond the Difficulty Number, another missile hits. For example, at Medium range, if the Difficulty Number to hit is 5, a Test Result of 9 means three torpedoes hit the target (one at 5, a second at 7, and the third at 9). It's harder to hit a target at such extreme ranges with multiple missiles because the target has time to see them coming and evade them.

Regardless of the type of weapon used, if an attack which involves a mix of different weapons (such as a torpedo spread including both photon and quantum torpedoes) misses with some of its shots, the Narrator can randomly determine which shots hit and which missed the target (though the first hit is always with the lowest-damage attack).

Multiple Targets

To use Multifire against multiple targets, the attacker must satisfy three conditions. First, all targets must lie within the firing arc(s) of the weapon(s) he wishes to use (see page 70 regarding firing arcs). Second, if the targets are in different range categories, he must use the *worst* Difficulty when he makes his attack Test. For example, if two targets are at Point Blank range and one is at Medium range, the Difficulty Number for a Medium range attack applies.

Third, if one target imposes a negative modifier on the attack Test due to Size, an evasive maneuver, or the like, that modifier applies to the Test as if it affected all the targets, even if none of the other ships impose that modifier on the attacker. If the attacker suffers negative modifiers of the same type which apply to all the targets, but to differing degrees (such as a -3 and -5 Size modifiers), he uses the *worst* of the modifiers (in this case, the -5). If the attacker has positive modifiers of the same type which apply to all the targets, but to differing degrees (such as a +2 and +4 Size modifier), he uses the *lesser* of the modifiers for all targets (here, the +2). If the targets impose some negative and some positive modifiers of the same type (such +2, -3, and -4 Size modifiers), apply the worst of the negative modifiers to the attack Test (in this case, the -4).

The attacker makes a Shipboard Systems (Tactical) Test to hit the targets, as usual. He suffers a negative Test Result modifier equal to the number of ships he's firing at (for example, -3 for firing at three ships). If the Test succeeds exactly, one beam/torpedo hits; for results beyond that, apply the rules for single targets to determine how many beams/torpedoes hit. Then the attacker allocates the hits as he chooses among the respective targets (usually he allocates at least one hit per target, but the choice is his). For

example, if the Difficulty Number to hit the three ships described above is 7 for an attack at Medium range, a Test Result of 11 (base of 14, with the -3 penalty applied) means five beams or three torpedoes hit. The attacker then allocates the hits. If he preferred, he could hit the first target with two torpedoes, and the second target with one, ignoring the third.

Multifire Damage

The damage done by a Multifire attack depends on how many of the shots hit the target, and how many targets were fired at.

If a ship Multifires at multiple targets and hits each target one time, each target takes the normal damage from the weapon. For example, if a spread of three Type II photon torpedoes were fired at three targets, and each target was hit by one torpedo, each takes 200 points of damage from the torpedo which hit it.

When Multifire is used on a single target (or a target in a multiple-target Multifire gets hit by two or more shots), damage applies a little differently. If the target does not have its shields raised, each shot does its full normal damage to the target. If the target is protected by shields, do the following:

1. First, use one of the attacks as the "base" damage (if the attacks are from weapons which do different damage, use the *lowest* damage number; if all the shots do the same damage, it doesn't matter which one you pick).
2. Next, to the base damage, add one-fourth (25%) of the damage done by the other shots.
3. Then compare that total to the target's shields as if it were a single attack.
4. If the total damage does not exceed the shield's Threshold, the total damage simply reduces the shield's Protection as normal.
5. If the total damage exceeds the shield's Threshold and affects the target, multiply the damage which gets through by half of the number of Multifire attacks which hit the target (round *down* fractions of .5 or lower). The shields lose points of Protection equal to the damage of the combined single attack (Step 1 + Step 2).

Power Cost

The Power cost for Multifire is the full Power cost for all shots fired. Thus, a Multifire of four Type X phaser beams costs 80 Power.

Example: *The* U.S.S. S'jonross, *a Galaxy-class Explorer, is attacked by three strange ships (each Size 6 with shields of Protection 800, Threshold 200). The captain decides to fly over the three ships, peppering them with a three-shot Multifire from his ship's ventral Type X phaser arrays. The ship is at Short range to each of its targets (Difficulty 5), has an advanced TA/T/TS system (+1), has a Conn who makes a (Sensors) Test to help the Tactical Officer (+2), is firing at three targets (-3), and is slightly larger than the targets (-2). The Tactical Officer gets a Test Result of 9, +3 for bonuses, -5 for penalties, so the final Test Result is 7 and all three shots hit. Each target receives one hit, so each takes the basic damage for a Type X phaser (200 points).*

Since that doesn't appear to have affected the targets too much, the captain decides to concentrate some torpedo fire at just one of them. The ship swings around, heads back towards the enemy, and unleashes a volley of torpedoes (two photon, two quantum) against one of the ships from Medium range (base Difficulty of 7). The ship has bonuses from its targeting system (+1), a good (Sensors) roll from the Conn (+1), and +3 from successfully using attack pattern Delta. The target succeeds with a -2 evasive maneuver and has a -2 Size modifier. The Tactical Officer makes his (Tactical) Test and gets a Test Result of 13 (+5, -4, final Test Result of 14). One torpedo hits at 7, one at 9, one at 11, and one at 13, so all four torpedoes hit the target. Using the lowest damage, from one of the photon torpedoes (200), the ship adds 25% of the damage from the other torps (50+100+100) for a damage total of 450. Applied to the ship's shields, it reduces the shields' Protection by 450, and after subtracting the Threshold, 250 damage gets through to affect the ship. This is multiplied by two (half the number of shots) for a final total of 500 damage to the ship.

When determining what locations on a ship were hit by a Multifire burst, the Narrator may choose to roll one location for the whole attack, or one location per attack that hit and divide the damage appropriately.

Multiple Weapons

Unless the multiple-weapon Multifire option is used (see above), firing each separate torpedo launcher or beam weapon array on a starship counts as an action. Thus, if the Tactical Officer fires from two phaser arrays and a torpedo, he incurs a -2 Multiple Action Penalty to all shots.

Size

The relative sizes of attacker and target can affect the chances of hitting the target—larger targets are easier to hit (like shooting at the broad side of a barn), while smaller ones are harder to hit (like trying to swat a fly out of the air). If the target is larger than the attacker, for every point of difference between two starships on the Starship Size Table (page 17), impose a +1 Test Result modifier on the Shipboard Systems (Tactical) Test to hit the target. If the target is smaller, impose a -1 Test Result modifier. For example, a *Saber*-class ship (Size 6) has a +2 Test Result to hit a Jem'Hadar Battle Cruiser (Size 8), but -3 Test Result to hit a Romulan Scout (Size 3). For purposes of ships targeting space stations, add 8 to the station's Size rating to determine its relative size compared to a starship. Space stations do not suffer any modifiers (negative or positive) for targeting starships regardless of relative size.

Ships can counteract negative Size modifiers with help from the targeting scanners. To do this, a character need only make a Moderate (7) Shipboard Systems (Tactical) Test (modifiers from uprated TA/T/TS systems apply; Size modifiers do *not* apply). If the Test succeeds, the negative Size modifier is negated for that ship for that round; to negate it in future rounds, additional Tests must be made.

DESIGNER'S NOTES: MULTIPLE ATTACKS

Perhaps the single most effective tactic for defeating another ship is the use of multiple attacks (either Multifire or, less commonly, multiple weapon attacks). By firing volleys of attacks (particularly torpedoes), players can end battles swiftly—often too swiftly. Multiple attacks are lethal, and *should* be lethal, but sometimes lethality is not what a game needs.

Players and Narrators should remember that Multifire is *not* a standard Starfleet combat tactic. It's perfectly acceptable for situations such as fighting multiple enemy ships or a Borg cube, but in most cases the rules of *Star Trek* drama dictate that Multifire is not necessary. Even when it is used, most multiple attacks are limited to two to three shots; five or more shots are very uncommon.

There are some built-in technological restrictions, reflected by the rules, which affect multiple attacks. Beam weapons are limited by the number of times they can fire per round. Once the weapon has been fired that many times in a round, it can't be fired any more until the next round, even if the Tactical Officer has plenty of remaining actions—he'll just have to switch to another beam weapon while the first one "recharges." Similarly, a ship has to reload a missile launcher after firing a complete Spread, and that takes one full round. Rather than firing all of a torpedo launcher's missiles at once, ships may find it better to spread the shots out over the course of one or more rounds to avoid having to reload.

If multiple attacks cause your starship combats to become too quick and too bloody, the Narrator can correct the problem by eliminating or restricting Multifire and/or multiple weapons attacks. Possible solutions include limiting Multifire to two to three attacks at most, limiting Multifire only to the most crucial, desperate situations (*i.e.*, a ship can use Multifire only when the Narrator allows it to), or requiring characters to spend a Courage Point to initiate Multifire (multiple weapon attacks are already limited by the Multiple Action Penalty, and so may not need further limitations).

Surprise

Usually starships can see other ships coming from millions of kilometers away, so modifiers from surprise don't factor into most starship combat situations. However, sometimes one starship can surprise another. Examples include a Romulan warship decloaking right in front of its target and attacking, or a pirate vessel which swoops out of a nebula (where it could not be detected by sensors) to launch a volley of torpedoes at a target. Surprise works the same for starships as for characters: the ship can take no defensive or evasive actions, and neither it nor any of its crew can take any actions (even Immediate actions) during the initial attack. An attacker may have to win an Opposed Contest pitting his Shipboard Systems (Flight Control *or* Sensors) against the target's Shipboard Systems (Sensors) to obtain surprise.

Warp Versus Impulse Speeds

If a ship moving at warp attacks one at impulse, or vice-versa, increase the Difficulty of the attack Test by Warp Factor/2. This reflects the problems inherent in hitting a ship moving at a vastly different velocity.

Starship Hulls

As discussed on pages 19-20, starships have two hulls, an "outer" hull and an "inner" hull. Each one provides up to 10 points of Resistance, a form of defense which subtracts from any

damage which makes it through a ship's shields (such as the effects of attacks which exceed the shields' Threshold). Unlike the Protection provided by the shields, Resistance does not decrease when it's hit by attacks; it reduces the damage of every attack which hits it. (One exception is ablative armor; see page 20.) An experienced officer can tell the difference between an attack which hits the hull and one which impacts only the shields. The former is a deeper, more "solid" sensation; it rocks the ship and sometimes strains the IDF.

USING THE HULL IN COMBAT

In most cases, the hull's only role in combat is to protect the integrity of the ship. However, there are a few tactical aspects to the hull.

Hull Breaches

The outer and inner hull each cost 4 x Size in SUs. Ordinarily damage is not applied directly to the hull; it passes through the hull to affect the interior of the ship. The hull's effect on such damage is simulated by its Resistance rating.

However, there are a few types of damage which apply directly to the hull. Primarily these are large-scale environmental effects, such as gravimetric shear, entering an atmosphere, and similar forms of stress (see page 172 for further information). Another ship can target an attack at a ship's hull (at a -5 Test Result penalty) to damage only it. A few weapons, such as the Borg cutting beam, also affect the hull.

Damage to the hull which exceeds the hull's Resistance can cause a *hull breach*—a hole in the hull. If the hull takes a quarter or more of its entire SUs in damage in one location, a breach has opened. The greater the damage caused, the larger the breach. Note that, unlike normal systems, a hull is not completely destroyed when it loses all of its SUs; it's only destroyed in a limited area—there are just lots of breaches. The Narrator decides which area of the hull has been breached and how large the breach is.

When a breach occurs, the Structural Integrity Field helps to keep the ship in one piece and prevents the venting of the ship's atmosphere into space. If the SIF is not operational for some reason, a ship can lose large amounts of its atmosphere to a hull breach. Interior bulkheads and blast doors are automatically sealed to restrict atmosphere loss as much as possible.

If a hull is specialized—for example, it allows its ship to enter atmospheres, or interferes with sensors in some way—those effects apply until the ship has suffered a significant hull breach or breaches. The Narrator determines what amounts to "significant"; typically it means that at least a quarter of the ship's hull has been torn open or extensively damaged. At that point, the hull is too damaged to provide any such benefits.

Sometimes an enemy will target a hull breach so that it can bypass a ship's Resistance entirely to damage the interior directly. To target a breach, compare it to the Size table, and apply the appropriate modifier. Most breaches will be Sizes 1-3, at most. Obviously, a breach in a ship's hull cannot exceed the ship's own Size; breaches in a Size 1 ship are considered "Size 0" for targeting purposes.

(Narrator's note: For dramatic purposes, it's often best to draw out situations where the integrity of the hull is in danger. Instead of rigidly applying damage and having a breach occur when both hulls are out of SUs, you may wish to heighten the tension by applying the damage slowly, only a point or two a round, thus giving the characters time to devise a way out of the situation—and time to worry.)

Hull Polarity

Hulls have a polarity. Repolarizing a hull can create several useful effects.

First, a ship can repolarize its hull (possibly in conjunction with realigning its warp field) to escape subspace "sandbars" and other subspace effects which trap a ship in place. This requires a minimum Moderate (6) Shipboard Systems (Hull) Test and costs 5 Power per round. The Narrator may increase the Difficulty to reflect the strength of the subspace effect.

Second, a ship can repolarize its hull to hide from another ship's sensors (obviously this does no good if the two ships are able to perceive each other visually). The ship attempting to hide makes an Opposed Test pitting its Shipboard Systems (Hull) skill against the Shipboard Systems (Sensors) skill of the ship trying to find it. If it wins the Test, the other ship cannot locate it with sensors. The other ship may make another (Sensors) Test every round to find the hidden ship. It costs 5 Power per round to maintain the repolarization effect.

Third, repolarizing a ship's hull can break the ship free from a tractor beam. This requires a Shipboard Systems (Hull) Test with a Difficulty of 2 + the strength of the tractor beam. For example, if a ship is caught in a strength 8

tractor beam, the Difficulty to break out by repolarizing the hull is 10.

THE STRUCTURAL INTEGRITY FIELD

Since the hull alone cannot protect a ship from the stresses of superluminal acceleration, every ship has a Structural Integrity Field (SIF) which holds it together. (See page 20 for details.)

Every SIF is rated in terms of the Protection it provides (at the rate of 1 Power per 10 Protection). A SIF's type also defines how much a ship can strengthen its SIF with extra Power (at the rate of 3 Power per +10 Protection). For example, a Class 6 SIF has a base Protection of 90 (which costs 9 Power), and can increase it to 130 at 3 Power per +10 points (thus, it costs 21 Power to run the SIF at its maximum strength). SIFs range in base Protection from 40-100. A SIF's Protection is similar to Resistance, in that attacks do not reduce it—it applies at the same level to damage every round. (At the Narrator's option, particularly strong or intense stresses on it may reduce its Protection like that of a shield.)

A SIF only applies to damage involving gross structural compression (GSC), better known to most officers as "hull stress." Typically only Resistance and/or the SIF protect a ship against hull stress, but the shields may have some effect as well, at the Narrator's option. Hull stress includes things like gravimetric shear and other gravity effects, the buffeting of ion and plasma storms, damage from gravimetric torpedoes and gravitic mines, and the like. It does not protect against standard beam weapon or missile weapons (but see "SIF As Shield," below). Most forms of hull stress are rated in terms of magnitude from 1 to 100, with severe stress (or damage from gravitic weapons) ranging higher than that (see page 69).

SIF Failure

If the SIF fails for any reason, the backup SIFs automatically activate. If, for some reason, the main SIF and all of its backups fail, a starship is in real trouble. It has no defense against gravimetric shear or similar phenomena. Its hull breaches will not be sealed (or remain sealed), thus allowing atmosphere to vent into space and ship personnel to be sucked out with it.

Most importantly, the ship cannot move without damaging itself. The Flight Control officer may use the RCS system to move slight distances, but must make a Moderate (7) Shipboard Systems (Flight Control) Test each round. Failure means the ship suffers 10d6 damage; Dramatic Failure that it suffers 20d6 damage (no defense applies in either case). If the ship tries to move at impulse speeds, it automatically suffers Size x 50 points of damage per round; double this number if the Conn fails a Challenging (10) Shipboard Systems (Flight Control) Test (triple it for Dramatic Failure). Again, no defense applies. Attempting to go to warp automatically destroys the ship.

At the Narrator's option, a ship with a significantly damaged or malfunctioning SIF may also experience problems if it tries to travel too quickly. Divide the SIF's current level of Protection by 10. The ship's impulse speed cannot exceed that number of tenths of the speed of light (*c*) without taking damage—1d6 points of damage per tenth of the speed of light (or fraction thereof) above that level, times 10 (no defense applies). For example, suppose the *U.S.S. Ul'vaash* experiences problems with its EPS system which prevent it from supplying sufficient power to its SIF. Instead of its usual 90 points of Protection, the SIF can only provide 30. The Narrator divides that by 10, getting a result of 3. So, if the *Ul'vaash* flies faster than .3*c*, it will start to tear itself apart. If it were to fly at .31-.4*c*, it would take 1d6 x 10 points of damage; at .41-.5*c*, 2d6 x 10 points; and so forth.

SIF As Shield

In situations where a ship cannot use its deflector shields, it can jury-rig low-powered shields with its SIF and IDF. This effect can only apply to a maximum of one-quarter of the ship, so it usually works best to protect a particular system or area from a specific attack. A ship's SIF and IDF continue to perform their normal functions even while they're being adapted to service as a crude shield.

Creating a SIF/IDF shield requires 1 Courage Point, one round, and a Moderate (7) Shipboard Systems (SIF *or* IDF *or* Shields) Test. Failure means the ship can try again after 1d6 rounds pass; Dramatic Failure shorts out the SIF, reducing it to half Protection for 1d6+1 rounds.

To convert the SIF and IDF into small temporary shields, the ship must run both of them at their maximum strength, and the Power costs for doing so (both the normal Power cost, and the extra Power for the increased strength) are

triple normal. For example, to convert a Class 6 SIF (21 Power per round at maximum strength, as described above) and an IDF of strength 8 (costs 15 Power per round at maximum strength of 12) to a temporary shield costs ((21+15) x 3) 108 Power.

A SIF/IDF shield has a Protection and Threshold both equal to the SIF's Protection (so, a SIF/IDF shield based on a Class 6 SIF creates a shield with 130 Protection and a 130 Threshold). As the Protection diminishes, so does the Threshold. The shield cannot have be improved with extra Power, nor can a ship use it to perform any of the shield-based special tactics described on pages 130-133—all it does is offer a small amount of defense. Once its Protection is exhausted, it cannot recharge, nor can this tactic be attempted again by the ship for 1d6 x 10 minutes.

Extending the SIF

If a ship has lost its SIF capacity, another ship may extend its own SIF to protect it. A ship may extend its SIF to form a sphere with a radius equal to up to its Size in kilometers. This is difficult to do; it requires a Challenging (9) Shipboard Systems (SIF) Test.

An extended SIF is attenuated, so that it only provides half its normal Protection. A ship can increase that Protection with extra Power to a maximum of 150% of this number. It costs *four times* normal Power to extend a SIF. A ship extending its SIF can use extra Power to increase the size of the area covered, at the rate of an additional 1/2 kilometer radius per 5 Power (do not multiply this cost by 4).

For example, if a Size 5 ship wants to extend a Class 6 SIF (Protection 90/130), it can expand it to cover a region of space with a five-kilometer radius. When extended (to any size), it only provides 45 Protection, which can only be increased to 68 with extra Power. The normal Power cost is 36 (the regular 9, times 4); every 10 extra points of Protection cost 12 points each (the normal 3 points each, times 4). If the ship needed to protect an area with a six-kilometer radius, it could spend 10 extra Power to do so.

Inertial Damping Field

The Inertial Damping Field (IDF) prevents the stresses of acceleration and deceleration from injuring the crew. Basically, it neutralizes such forces by generating force fields which counter them.

As described on page 53, IDFs are rated for strength; their base strength equals the whole number of the ship's maximum warp speed (for example, strength 8 for a ship with a Maximum warp speed of 8.75). It costs 3 Power per round, and can be improved to 150% of its normal strength at a cost of 3 Power per extra point. For example, an IDF 8 costs 3 Power per round to operate, and can be increased to strength 12 for 3 Power per additional point per round (thus, the total Power cost for this IDF at maximum strength is 15 Power per round).

An IDF's normal strength is sufficient to protect its ship's occupants against just about any movement-related stress it can create by itself. In the highly unlikely event that a ship suffered some unusual form of movement-related stress (such as when a powerful being like Q hurls it several light-years in the blink of an eye), the enhanced IDF protects the occupants against damage caused by such stress the same way that the SIF protects the ship itself against hull stress.

IDF Failure

If a ship's IDF fails, the backups automatically come online. If, for whatever reason, the main IDF and all backups fail to work, the ship cannot use impulse or warp drives, only the reaction control system ("thrusters"). If it attains impulse or warp speeds, everyone on the ship is killed when the inertial force of the acceleration crushes them.

Extending the IDF

A ship can extend its IDF outside of its hull to protect another ship which has lost IDF capacity. The rules, in terms of Difficulty, area covered, and Power cost, are the same as for extending the SIF (see above).

Deflector Shields

A ship's main type of defense, shields are fields of energy which deflect attacks away from a ship (see page 72 for a discussion of their nature and technology). Each ship has four shields (Forward, Aft, Port, Starboard; sometimes referred to as numbers 1 through 4).

HOW SHIELDS WORK

In game terms, shields have three main attributes: Protection (the amount of points of defense they provide); Threshold (the level above which damage "leaks through" the shields to affect the ship even though the shields have not collapsed); and Recharge (how quickly the shields come online again after collapsing or being turned off). Protection depends on the type of shield generator and shield grid a ship has; Threshold on the quality of its subspace field distortion amplifiers; and Recharge on its shield recharging system.

Protection

Protection is the total amount of defense a shield can provide, rated in terms of a number of points. With a few exceptions, every point of damage done to a shield by attacks reduces its Protection by 1. For example, if the *U.S.S. Redmond*'s forward shield provides Protection 800 and takes 42 points of damage from an attack, it now offers Protection 758. However, this reduction in effectiveness does not reduce the Power needed to run the shield (1 Power per full normal Protection provided) or the ability to boost the strength of the shields with extra Power and the like. Each shield's Protection is separate; the aft shield can remain at full strength while the forward shield is at only half strength due to damage suffered.

Threshold

Threshold reflects a shield's (and, to a lesser extent, a ship's) ability to withstand powerful attacks. Even when shields remain intact (albeit weakened) after an attack, the force of powerful attacks can "leak" some damage through to affect the ship (all of the damage goes to reduce the shield's Protection). This occurs due to concussion damage from extremely strong attacks, sudden changes of inertia, explosions caused by overloading systems, and other factors. The amount of damage "leaked" through depends on the Threshold. For example, if the *Redmond*'s forward shield has Protection 800 and a Threshold of 150, an attack which does 220 points of damage reduces the Protection to 580 and leaks 70 points of damage through to affect the ship (Resistance and ablative armor still apply to the "leaked" damage, of course). In short, Threshold represents the amount of damage from one attack against which the shields offer complete defense. A ship's Threshold cannot normally exceed one-third of its full normal Protection (for example, if a shield offers Protection 800, its normal Threshold cannot be higher than 270). This rule does not apply when the strength of the shields is increased with the main deflector or other means (see below).

If a shield's Protection drops below its Threshold, the Threshold drops to match the Protection. At no time can Threshold exceed Protection.

Attacks whose damage is equal to or less than one-quarter of a shield's Threshold do not damage the ship at all (they don't even reduce the shield's Protection). This is known as the *automatic defense rule*. For example, the *Redmond*'s forward shield has Threshold 150, so any attack which does 38 points of damage or less does no damage to the *Redmond* at all; it doesn't even reduce the Protection of the shield it hits.

HAND-HELD WEAPONS DAMAGE VERSUS SHIP WEAPONS DAMAGE

In most cases, any time characters use hand-held energy weapons (such as Type III phaser rifles) against a ship's shields, the automatic defense rule applies. That's the quickest and simplest way to deal with that issue. However, for Narrators who want a more precise correlation between hand-held weapon damage and ship weapon damage, or for situations where the automatic defense rule doesn't seem to fit quite right, apply this simple formula: every full 50 points of damage done by a hand-held weapon does 1 point of damage to a ship's shields (or to the ship itself, if the shields are inactive).

Recharge

Recharge represents how quickly a ship's shields return to full strength after the crew turns all of them off and re-activates them, or they collapse (provided, of course, that the shield generators or other equipment are not damaged in the interim). On most ships the Recharge is 45 seconds (9 rounds)—a long time in a combat situation. Some ships have faster Recharge rates. Thus, if the *Redmond*'s forward shield is currently at Protection 330, it can simply turn all its shields off, wait 45 seconds, and reactivate them (including the forward shield) at the full Protection 800. If a ship turns its shields back on before the Recharge time fully passes, they activate at whatever Protection they were at when they were turned off or collapsed (in other words, Recharging for less than the full time accomplishes nothing). There is no way to decrease a ship's Recharge time other than to

uprate the shield recharging system.

Analyzing and Deactivating Shields

A Routine (5) Shipboard Systems (Sensors) Test allows a ship to determine another ship's shield strength. A successful Test tells the ship what the other ship's Protection, Threat, and Recharge ratings are, +/-10% (the better the Test Result, the more accurate the information; a Dramatic Success yields the precise figures). Failure indicates the estimation of shield strength is 20-30% too high; Dramatic Failure that it overestimates shield strength by 50-75%.

When a ship turns off its shields, it must turn them all off. It cannot deactivate just one (to, say, open up a window to transport someone onto the ship); that renders all the shields unstable and causes them to collapse.

SHIELDS AND POWER

Basic Shield Power Cost

Each shield costs 1 Power per 10 points of Protection to operate. For example, a Class 3 shield generator bought to provide Protection 500 costs 50 Power to operate. This full cost applies even if the shield has been damaged. A Protection 500 shield which has been reduced to Protection 28 still costs 50 Power to maintain.

Reducing Power To Damaged Shields

If an attack damages a shield and the Crew wishes to reduce that shield's strength (perhaps to conserve Power), the shield's remaining Protection is reduced by the same percentage as the Power. For example, a Protection 500 shield is reduced to Protection 280. Instead of paying the full 50 Power to maintain it, the Crew decides to cut Power to the shield by half (to 25 Power). That in turn reduces the shield's remaining Protection (280) by half, to 140.

Increasing Protection With Extra Power

A ship can strengthen one or more of its shields by pumping extra Power into them. The type of Shield Grid used indicates the percentage increase possible (for example, a Type B Shield Grid can increase a shield's Protection by 33%). This increased Protection costs 3 Power per 10 points per round. For example, a Class 3 Shield Generator bought to provide Protection 500 with a Type B Shield Grid can increase its Protection to 670 at a cost of 3 Power per 10 points of Protection above 500 (thus, it costs 101 Power for the maximum Protection 670).

The percentage increase in Protection is based on the shield's normal full Protection, not its current level of Protection after suffering damage. If a Protection 500 shield with a Type B Shield Grid (33% increase to 670, or +170 points) is reduced to Protection 340 by attacks, extra Power can still increase it by up to 170 points (33% of 500). (See the general rules on enhanced shields, page 130.)

Increasing Threshold and Recharge With Extra Power

A ship can temporarily boost the Threshold rating of one or more of its shields, but only at the cost of an enormous expenditure of Power. Increasing the Threshold by 5 costs 25 Power per round. The Narrator may limit a ship's ability to increase its Threshold if he wishes.

A ship cannot improve its Recharge time with extra Power.

DAMAGE TO SHIELD COMPONENTS

When shield system components are damaged in combat, their ability to create their standard shield is compromised (see the Hit Location Table on page 112 for details). This also affects how they perform when extra Power is supplied to them or they are enhanced.

Damage to the shields is simulated by reducing one type's performance characteristics to those of a lesser type. For example, if a Class 6 shield generator which can create Protection 1100 shields takes enough damage, it will be reduced to the effectiveness of a Class 4 shield (Protection 800).

A shield component's ability to be improved or enhanced depends on its normal level of functionality, not its current level. So, a Class 6 shield (Protection 1100) reduced to Class 4 effectiveness (Protection 800) is improved like a Class 6 shield. For example, assuming it had a Type A shield grid (25% increased Protection capacity), it could only be increased from Protection 800 to Protection 1075 (800 + the 275 points gained from boosting the shield at its normal full capacity) with extra Power.

SHIELD PROPERTIES

Shields have six properties: intensity, appearance, geometry, modulation frequency, harmonics, and polarity. Each of these can be manipulated or altered to provide tactical benefits in combat.

Intensity

Intensity refers to a shield's strength—its ability to deflect damaging phenomena away from the ship. This is represented by their Protection and Threshold.

Appearance

Appearance, of course, represents how a shield appears to visual senses. An engineer can configure a ship's shields to alter its visual profile—in other words, to make it look like some other kind of vessel or craft. This requires 1d6 minutes, success with a Moderate (6) Systems Engineering (Shields) Test, and 3 Power per round in addition to normal shield Power costs. The Test Result of the Systems Engineering (Shields) Test establishes the Difficulty for attempts to see through the deception. Only persons within five kilometers of the ship can use Search (or an Intellect Test), modified by Perception, to determine that the ship is "in disguise" and what it really looks like. Anyone more than five kilometers from the ship automatically cannot see through the disguise (if it can see the ship at all).

Geometry

The geometry (or, less technically, rough "shape") of a shield represents how the shield generators and shield matrix form and "mold" the shield to conform to the ship properly.

A ship which is not atmosphere-capable can reconfigure its shield geometry to allow it to enter a planet's atmosphere. This requires 1d6 rounds, a Moderate (6) Systems Engineering (Shields) Test, and 5 Power per round in addition to normal shield Power costs. If the Test succeeds exactly, the ship's SIF's Protection increases by 20%; add an additional 20% for each point by which the Test Result exceeds the Difficulty. Failure means the geometry has not been configured correctly (the character may try again). Dramatic Failure means the character *thinks* he's configured the shields properly, when in fact he hasn't. (See page 172 for the effects of atmospheric entry.)

If an opponent has modulated a beam weapon's frequencies to more easily penetrate a ship's shields, that ship can triaxilate its shield geometry to negate the effect of the modulated frequency. This requires 1 round, a Moderate (7) Systems Engineering (Shields) Test, and 3 Power per round in addition to normal shield Power costs. If the Test succeeds, the effect of modulating the beam weapon is negated (the beam still damages the shields and ship normally). Failure means triaxilation has not occurred (the character can try again next round); Dramatic Failure causes a small explosion which does 1+1d6 damage to the character.

Harmonics

Harmonics are the interaction of the different force field energy frequencies in a shield. A ship's harmonics are unique to it, much like a fingerprint to a Human. Another ship can scan the harmonics with sensors and compare the readings to a database of known harmonics to identify a ship.

However, a ship can use its shield modulators to disguise itself by altering its shield harmonics. To make a ship appear to sensors like a generic ship of another type (such as a Khoberian freighter, Bajoran transport, or Starfleet cruiser) requires 1d6 rounds, a Moderate (6) Systems Engineering (Shields) Test, and 2 Power per round in addition to normal shield Power costs. Making it look like a specific other ship (such as the *U.S.S. Defiant,* or the blue-grey Khoberian freighter owned by Trela Farl) is a little harder. First, the ship has to have a sensor reading of that ship's shield harmonics in its computers. Then an engineer has to spend 1d6 minutes and make a Challenging (9) Systems Engineering (Shields) Test. If he succeeds, it costs 4 Power per round in addition to normal shield Power costs to maintain the new harmonic. If he fails, he can try again; if he Dramatically Fails, he *thinks* he's succeeded, but has not.

A ship can alter its shield harmonics to break a tractor beam's hold or prevent it from locking onto the ship. This requires 1 round and 4 Power. The character attempting to escape or avoid the tractor beam uses his Systems Engineering (Shields) skill in an Opposed Test against the attacker's Shipboard Systems (Tactical) skill; if he wins the contest, his ship avoids or escapes from the tractor beam.

Lastly, if a ship uses its navigational deflector to hit a target ship with a tachyon burst, the target's shield harmonics will be scrambled. Until they are reset, it's possible to transport onto or off of the target ship even though it has active shields. See page 161.

Modulation Frequency

The most commonly manipulated shield property is *modulation frequency,* sometimes simply known as "modulation" or "frequency." Altering a shield's frequency is known as "modulating" it (or "remodulating" the shield). Rapid changes or rotations in frequency are referred to as *shield nutation*. Nutation and other forms of modulation are accomplished by the shield modulators, a piece of technology which is part of the shield generators. In many cases, starships continually remodulate and recalibrate their shields to allow communications and sensors to function without any interference from the shields. Furthermore, ships remodulate their shields at random to prevent an enemy from matching the shields' frequency with their weapons to penetrate the shield without resistance (see below).

Modulation and Tractor Beams

Remodulating a shield can create many different combat effects. First, a ship caught in a tractor beam can break the beam's hold by remodulating its shields. This requires 1 round, 5 Power, and a successful Moderate (8) Systems Engineering (Shields) Test. (The Narrator may increase this Difficulty if the tractor is especially powerful, or to represent other factors.) Failure leaves the ship caught; Dramatic Failure accidentally shuts off the shields (they can be reactivated next round).

Modulation and Sensors

A ship can modulate its shield frequency to avoid detection by sensors. This requires 1d6 rounds, 5 Power per round, and a Routine (5) Systems Engineering (Shields) Test. If the Test succeeds exactly, the ship has the equivalent of a Class 1 cloaking device for purposes of avoiding detection by sensors. For each point beyond that by which the Test succeeds, increase the class of the cloak by 1 (thus, a Test Result of 10 means the ship is protected from detection as if it had a Class 6 cloaking device). Of course, this benefit only applies to sensors; people can still see the ship with the naked eye.

Modulation and Spatial Distortions

If a ship encounters a spatial phenomenon which sends out waves of distortion in space or subspace, the ship can match its shield frequency (referred to as "phase" in this instance) to the electromagnetic variation of the "distortion wave" given off by the phenomenon and "surf" the wave away from the distortion. This requires 1d6 rounds, 5 Power, and a successful Moderate (7) Systems Engineering (Shields) Test. Success allows the ship to ride the wave far enough away from the distortion to travel safely under its own power. Failure indicates that the modulation didn't match the EM variation properly; the ship takes 8d6 damage (only Resistance and the SIF protect against this). Dramatic Failure means 15d6 damage and the ship moving at least 1 MU closer to the distortion.

Modulation and Torpedoes

A ship can modulate its shields to confuse an incoming torpedo's guidance systems, thus making it harder for the torpedo to hit it. This tactic only works on torpedoes fired at Short, Medium, and Long ranges, since the target ship has to have the chance to see the torpedo coming and do something about it. It requires an action, 1 Courage Point, and a successful Moderate (6) Shipboard Systems (Shields) Test. Success imposes a -2 Test Result penalty on the Test Result to hit the ship, plus another -1 for every 2 points by which the Test Result exceeded the Difficulty (for example, a Test Result of 10 results in a -4 Test Resul penalty for the torpedo to hit). If the attacker has already made his attack Test and this tactic indicates that a miss occurs, the attack misses even if it would otherwise have hit.

Because this tactic means the ship performing it has to be ready to react to an incoming torpedo, it usually requires the Tactical Officer (or other character making the Test) to have a delayed action ready to use, or to react to changing circumstances by adding another action to his declared actions. If the Narrator uses the enhanced or individualized initiative systems, the Narrator may in his discretion allow the character to add another action to perform this tactic, even if he's already performed his action for the second.

Modulation and Weapons

Perhaps the most dramatic exploitation of shield modulation frequency is when one ship manages to learn the modulation of a target's shields. When a beam weapon's or torpedo's frequency is matched to that of a target's shields, those shields offer *no defense* against those attacks—they pass through the shields effortlessly to strike the target itself (doing no damage to the shields in the process). However, finding out a ship's shield modulation frequency is very difficult; it cannot be done with a sensor scan (even a very good one from close range). It typically requires a spy or other source of information aboard the target ship. Even then, the information only remains useful until the ship changes the modulation (either automatically at random intervals, as described above, or on orders from an officer).

However, matching a shield's modulation frequency to that of an incoming attack improves the shield's ability to defeat it ("matching" in this case actually means establishing the *exact opposite* frequency). If a character can somehow find out the frequency to which a beam weapon or torpedo has been set (again, a very difficult task, at best), he can alter his shields' modulation frequency to compensate. This requires 1 Courage Point, 1 round, 5 Power per round, and a successful Moderate (6) Systems Engineering (Shields) Test. Success doubles the shields' Threshold against attacks from that weapon (until it alters its own frequency). Failure indicates he hasn't precisely matched the modulation (he can try again next round); Dramatic Failure that he's made a major mistake which reduces his shields' Threshold against that weapon by half until he succeeds with a Moderate (6) Systems Engineering (Shields) Test to correct the problem.

Preventing Remodulation

Since the shield modulators control the modulation of a shield's frequency, destroying them cancels out any effects of modulation. Targeting the modulators involves a -8 Test Result modifier (the attacker's targeting systems can counteract this penalty in the usual manner; see page 109). If even a single point of damage gets through, the modulators are damaged, the effects of modulation are negated, and the ship cannot remodulate its shields until it repairs the modulator (which requires, at a minimum, 1d6 rounds and a successful Systems Engineering (Shields) Test). Destroying the modulators this way does not do any additional damage to the ship; it just accomplishes this one effect.

Polarity

Polarity refers to the attracting and contrasting properties of the force fields within a shield, and is similar to the shield's harmonics. Altering the shields' polarity ("repolarizing" them) has some tactical benefits similar to altering harmonics, but can also be used against the ship.

Altering a ship's shields' polarity can break a tractor beam's hold on the ship. This requires 1 round and 6 Power. The character attempting to escape or avoid the tractor beam makes a Systems Engineering (Shields) Test with a Difficulty equal to the tractor strength used to hold his ship (he receives a +2 Test Result bonus). If he succeeds, his ship breaks free; if he fails, it remains held; if he Dramatically Fails, the tractor is considered to be at +4 strength for any further attempts to break free this way.

Similarly, reversing a ship's shields' polarity can counteract, and thus free the ship from, gravimetric shear and similar gravimetric distortions. Use the effect's magnitude (which typically ranges from about 1-100) divided by 10 in place of tractor beam strength, then proceed as with a tractor beam (see preceding paragraph). The only difference is, Dramatic Failure results in damage to the ship; the effect's magnitude is doubled that round.

While voluntarily repolarizing a ship's shields offers many benefits, it's possible for attackers to repolarize a target's shields as an attack. This causes the ship to emit an energy signature which is easily tracked or "homed in on," making it very difficult for the ship to escape pursuers. To do this, the attacker must use its navigational deflector to emit a certain type of energy pulse. It must make a Shipboard Systems (Tactical) Test to hit the target in the usual fashion. If it hits, the energy pulse repolarizes the ship's shields. Thereafter, any ship with its sensors tuned to detect the repolarization receives a +4 Test Result bonus on Shipboard Systems (Sensors) Tests to locate the ship. The repolarization reverses itself in 1d6 days; to reverse it before then, the ship must make a Nearly Impossible (15) Systems Engineering (Shields) Test. (Involuntarily repolarization can also collapse a ship's shields; see page 134.)

Properties of Different Species's Shields

Although shield technology differs somewhat from species to species and government to government, for the most part all shields have the same properties, follow the same physical laws, and use the same game rules. There are some exceptions, however. For example, the shields on Jem'Hadar ships automatically prevent other ships from obtaining a tractor beam hold. Other species may have variations of their own, some costing extra SUs or Power, as the Narrator decides.

ENHANCING AND STRENGTHENING SHIELDS

The most basic ways to enhance and strengthen a ship's shields are to provide them with more Power (page 126) or allow them to Recharge (pages 125-126). However, there are plenty of other ways for a clever engineer or tactical officer to improve the performance of a ship's shields.

Narrators should, of course, be cautious about allowing players to improve the effectiveness of their shields on a frequent basis. That can easily unbalance the game. If necessary, forbid players to use these tactics more than once per episode, restrict them to true emergencies, or increase Difficulty Numbers or the penalties for failure.

The Power cost for any of the tactics described below is *in addition to* the normal Power cost to maintain shields.

General Rules For Enhanced Shields

Several of the actions described below increase the strength of the shields by 150% or more. When a ship wants to do this, if its shields' Protection is lower than its Threshold, raise the shields' Protection to equal the Threshold and then multiply Protection by the number indicated.

If enhanced shields are damaged, the damage first comes from the extra points gained from the enhancement. For example, if Protection 500 shields are doubled to Protection 1000, and take 500 points of damage, when the enhancement ends the shields will still have Protection 500—the 500 points lost to damage come from the "phantom" Protection points added by the enhancement, leaving the base shields intact. (Of course, once the "phantom" Protection points are destroyed by an attack, the ship can stop paying Power for them; this does not reduce the shields' normal Protection.)

However, if a ship increases a shield's Protection, then stops paying Power to improve that shield, and later again uses extra Power to increase that shield's Protection, the ship must use the same amount of Power to improve the shield that it used the first time, and the shield's enhanced Protection starts at the level where it was when the ship stopped paying the extra Power. For example, suppose a ship with shields of Protection 500 pays 150 extra Power to increase the forward shield to Protection 1000. After the shield suffers 250 damage, the ship stops paying the extra Power, so the shield returns to Protection 500. A couple of rounds later, the ship needs to increase its forward shield's Protection again. It must pay 150 Power again, and the shield only has Protection 750 (or shields' current level + 250)—the level it was at when the ship last stopped paying extra Power.

The ship must maintain the effect which enhances the shields by paying Power every round (the amount is indicated under each tactic); the "phantom" Protection and Threshold points gained do not cost any Power themselves. The enhancement lasts until one of two things happens: all the extra Protection points are gone; or the ship stops paying Power. When either of these things occur, the enhancement no longer applies (not even to Threshold). Protection and Threshold return to their pre-enhancement levels (unless Protection was damaged below that level, in which case it stays as it is).

Example: *The* U.S.S. Redmond *successfully uses a direct warp power feed to double the strength of its Protection 800, Threshold 150 shields. They are now Protection 1600, Threshold 300. This costs the ship 30 Power per round, as specified under that maneuver (plus the normal cost of 80 Power per shield). During the ensuing battle, the forward shield takes 1000 points of damage, and the other three shields are undamaged. When the ship turns off the direct feed, the Threshold returns to 150. The aft, port, and starboard shields return to Protection 800 (their pre-enhancement level). Since the forward shield's Protection has dipped below 800, it remains where it is—at Protection 600.*

During a battle some months later, the Redmond*'s starboard shield is damaged down to Protection 100. The Engineer again estab-*

lishes a direct warp power feed. Since the starboard shield's current Protection is less than the shields' current Threshold, it automatically increases to the Threshold level (150). That number then doubles. The Redmond*'s starboard shield is now Protection 300, Threshold 300. The other, undamaged, shields are Protection 1600, Threshold 300.*

"Phantom" points of Protection gained from a shield enhancement may not be transferred to another shield. If a shield enhancement is active, the shields may also be increased with extra Power, but the increase is based on their normal full Protection. For example, if the *Redmond*'s Protection 800 shields are increased to Protection 1600, and the ship has a Type A shield grid (25% Protection increase possible), it may spend 60 Power to add 200 Protection (25% of 800) to them, making them Protection 1800.

If a shield component is damaged while being supplied with extra Power or enhanced, apply the damage done minus the extra points of Protection to the shields' new Protection total.

Example: *A ship provides extra Power to its Class 6 shield generator (1100 Protection) and Type A shield grid (+25% = 275) to create a Protection 1375, Threshold 300 forward shield. Then the shield is hit with a 320-point damage attack, which would normally reduce its Protection to 1055. However, the 20 points of damage which leaks through past the Threshold causes damage to the shield generator, reducing it to Class 4 effectiveness (Protection 800). Therefore you subtract the extra Protection from the enhanced shield (320 - 275 = 45), then reduce the new Protection by that amount, so the shield has Protection 755 (800 - 45 = 755). If the ship had used a tactic to increase the shield's Protection to 1500, its new shields, after suffering damage, would provide Protection 880 (320 - 400 = -80; 800 - -80 = 880).*

If a regenerative force field's shield generators are damaged, it can only regenerate to the full normal strength of the generators' capabilities when damaged. For example, if a regenerating force field's Class 6 shield (Protection 1100) is reduced to Class 4 (Protection 800), the shield regenerators can only regenerate it back up to Protection 800 when it takes damage.

Increasing Protection

Sometimes ships operate their shields at less than full effect (to conserve Power or for other reasons). In this situation, the ship can instantly improve the strength of its shields simply by paying the Power for the remaining points of Protection. This requires an action by the Tactical Officer, but no Test.

Matching an Attack's Modulation

See page 129 for the effects of matching a shield's frequency modulation to that of an incoming attack.

Immersion Shields

Immersion shields are a special shield modification which allow an atmosphere-capable craft to travel underwater without harm to itself. A ship can install immersion shields as its regular shields; the SU and Power cost is the same as for normal shields. Alternately, it can temporarily convert normal shields to immersion shields. This requires a Challenging (9) Systems Engineering (Shields) Test and 2d6 hours to make normal shields immersive (failure means the change cannot be implemented, though the character may try again; Dramatic Failure results in an explosion which causes 3d6 damage to the character and makes it impossible for the ship to try to implement immersion shielding until full repairs are made). This does not affect the shields' normal functioning, but costs +5 Power per shield.

Immersion shields have one additional effect—they strengthen the SIF, so the ship can resist greater pressure (allowing it to, for example, briefly enter an atmosphere). While active, immersion shields add +15 to the SIF's Protection (or +8 to backup SIFs).

Metaphasic Shields

In extreme situations, a ship can temporarily convert normal shields into metaphasic shields (all shields must be converted). This requires 1 Courage Point and a Challenging (9) Systems Engineering (Shields) Test, and increases the shields' normal Power cost by 125%. Failure reduces the shields' Protection by 25% that round (the character may try again next round); Dramatic Failure causes the shields to collapse and recharge. After establishing metaphasic shields, the ship must make a Routine (5)

Shipboard Systems (Shields) Test each round to maintain them; failure (of any degree) causes them to collapse and recharge as normal shields.

Multiadaptive Shielding; Refractive Shielding

These two adjustments to shields make it harder for other ships to detect the shielded vessel. It requires a Systems Engineering (Shields) Test and 1d6 hours to make normal shields multiadaptive or refractive; the Difficulty is Moderate (8) for refractive shields and Challenging (10) for multiadaptive shields. If the Test succeeds, the ship's shields act as the equivalent of Class 6 cloaking device; failure means the change cannot be implemented (the character may try again); Dramatic Failure results in an explosion which causes 5d6 damage to the character and makes it impossible for the ship to try to implement either type of shielding until full repairs are made.

Refractive shielding is slightly worse than multiadaptive shielding in one respect: if another ship suspects that refractive shielding is in use, a Moderate (6) Shipboard Systems (Sensors) Test will adjust the sensors to detect the refraction, and thus the "cloaked" ship.

Shield-To-Shield Power Transfers

A ship can transfer Protection from one shield to another, weakening the first to strengthen the second. This requires 1 round and a Moderate (7) Systems Engineering (Shields) Test. Success allows the character to transfer as many points of Protection as he wants at the rate of 2 for 1—he has to reduce the donor shield by 2 points of Protection to increase the recipient shield by 1 point of Protection. However, no shield may be reduced below its Threshold this way.

Example: *The* U.S.S. Redmond *has shields with Protection 800, Threshold 150. The forward shield has been damaged down to Protection 300, but the aft shield is at full strength. The Tactical Officer decides to transfer 400 Protection from aft to forward. He succeeds with his Test, so he boosts the forward shield to Protection 500 (300 + (400/2)). He cannot reduce the aft shield's Protection below 150 (the Threshold).*

Once a Protection transfer is done, it cannot be undone. The recipient shield could transfer Protection back to the donor, but this requires another Test and the same 2-for-1 cost.

If the character fails his Test to transfer Protection, nothing happens other than the loss of a round; he may try again next round. Dramatic Failure results in the loss of Protection by the donor, but no increase in the intended recipient—the transferred points are simply lost.

Enhancing Another Ship's Shields

A ship can transfer some of its shields' Protection to another ship. The process and rules are the same as for intraship transfer. The donor ship and recipient ship must be within 5 kilometers of each other and spend a minimum of 1 round per 100 Protection transferred performing the transfer. The donor ship makes a Moderate (8) Systems Engineering (Shields) Test to accomplish the transfer. Rate of transfer and consequences of failure are the same as for intraship transfer.

Using the Navigational Deflector

A ship can use its navigational deflector to strengthen all of its shields by reinforcing them or sending a deflector pulse through them. This takes 1 Courage Point, 1 round, and a Moderate (8) Systems Engineering (Shields *or* Deflector) Test (reduce the Difficulty to Moderate (6) if the ship only wants to strengthen one of its shields this way). If the Test succeeds, the current Protection and Threshold of the shields increase by 150% (for example, a Protection 450, Threshold 200 shield would become Protection 675, Threshold 300). Maintaining the reinforcement or pulse costs 10 Power per round.

If the Test to establish the reinforcement or pulse fails, the character cannot try this tactic again for 1d6 rounds. If it Dramatically Fails, the results are the same as for failure, plus the main deflector and/or the shield generators take 2d6 damage (Narrator's choice).

Direct Warp Power

An even more powerful method of strengthening the shields is to run the shield grids *directly* off of the warp engine, using the warp transfer pathways to make the shields extremely strong. This takes 1 Courage Point, 1d6 rounds, and a Challenging (11) Systems Engineering (Shields) Test. If the Test succeeds, double the shields' current Protection and Threshold. Maintaining the direct feed costs 30 Power per

round.

Every round while the direct feed is active, the ship must make a Moderate (7) Systems Engineering (Shields) Test to maintain the feed. If the Test ever fails, the direct feed system shorts out one of the currently operating shield generators (the Narrator determines which one randomly). Engineering has to take the whole direct feed system offline, and the generator that shorted out only works at half strength until repaired. (It only generates half of the Protection it did before shorting out, and cannot, even after Recharging, generate more than half its full normal Protection until repaired. Characters cannot increase its Protection with extra Power, but can transfer Protection to it from other shields.)

If the initial Test to establish the direct feed fails, nothing happens; the character may try again next round. If it Dramatically Fails, the results are the same as if the character failed the Test to maintain the feed (see preceding paragraph).

Frequency Harmonic

The most powerful means of enhancing a deflector shield yet developed by the Federation (or any other people known to it) is to establish a frequency harmonic between the main deflector and the shield grid by using the warp field generator as a power flow anti-attenuator. This amplifies the shields' inherent energy output, increasing their current levels of Protection and Threshold by an astounding three hundred percent.

Establishing a frequency harmonic takes 2 Courage Points, 2d6 rounds, and a Difficult (14) Systems Engineering (Shields) Test. If the Test succeeds, triple the shields' current Protection and Threshold. Maintaining the frequency harmonic costs 50 Power per round.

Every round while the frequency harmonic is active, the ship must make a Moderate (8) Systems Engineering (Shields) Test to maintain it. If the Test ever fails, the frequency harmonic shorts out the navigational deflector or one of the shield generators. Roll 1d6. 1-3 means deflector, 4-6 means shield generators; the system chosen loses half its SUs to damage (see Hit Location Table for possible effects). Engineering has to immediately take the main deflector, warp engine, and all shield generators offline, leaving the ship stranded and vulnerable. Correcting the harmonic imbalance and damage in all systems will take an Engineering Test and 1d6 hours (perhaps less through clever use of Extended and Combined Tests).

If the initial Test to establish the frequency harmonic fails, nothing happens, but the character may not try again until he's improved his Systems Engineering skill or *Shields* Specialization by at least one level. If it Dramatically Fails, the results are the same as if the character failed the Test to maintain the feed (see preceding paragraph).

Beta-Tachyon Pulse and Antiprotons

Although this method is not generally known to the Federation or other species, a shield can be strengthened by remodulating it to emit a beta-tachyon pulse, then projecting antiproton beams into the shield. This increases the shields' Protection and Threshold by a factor of *ten* and only costs 30 Power per round. It requires 3 Courage Points and a successful Challenging (11) Shipboard Systems (Shields) Test. Failure indicates that the shields collapse and must recharge as normal; Dramatic Failure that the generators have been damaged, requiring 2d6 hours' worth of repairs (perhaps a little less with Extended and Combined Tests).

Sirillium

Sirillium is a type of gas found in some nebulae. A ship can use it to enhance shield efficiency. If a supply of sirillium is available, a ship can collect it and inject it into its shield generators. This provides +50 Power for 1d6 rounds, but this Power can only be used for the shields (either to enhance them, or to "reduce" their ordinary Power cost).

Extending the Shields

A ship can extend its shields, thereby offering protection to nearby helpless ships, returning shuttlecraft, and the like. This can only be done for ships which do not have active shields. If at any time a ship protected by extended shields activates its own shields, both shields collapse and must recharge before they can be activated again.

A ship may extend its shields to form a sphere with a radius of up to the ship's Size in kilometers. This is difficult to do; it requires a Challenging (9) Systems Engineering (Shields) Test. For every kilometer of radius (or fraction thereof), the shields lose 10% of their Protection and Threshold (the lost points return as the

shields return to their normal size, unless they're damaged below that level of Protection). Regardless of the area covered, the Power cost for the shields increases by 150% (this applies to the cost for increasing the shields' strength with extra Power). A ship extending its shields can use extra Power to increase the size of the area covered, at the rate of an additional 1/2 kilometer radius per 10 Power (do not multiply this cost by 150%). This still decreases the shields' Protection and Threshold, however.

Example: *The* U.S.S. Hurçat *(Size 8, shields with Protection 1200, Threshold 300) can extend its shields up to eight kilometers. It wants to extend its shields five kilometers to protect a damaged freighter. The Engineer makes his Test, so the shields now cover the freighter. However, they're at 50% strength (Protection 600, Threshold 150) (10% x 5 km) and cost 150% normal Power.*

If the Test to extend the shields fails, nothing happens; the character may try again next round. If it Dramatically Fails, the ship's shield generators have overloaded, reducing them to 25% capacity until they're repaired.

ATTACKING, COLLAPSING, OR BYPASSING SHIELDS

Just as quickly as one ship works to improve its shields, its attackers try to find ways to tear them down or bypass them. Some ways to do this include:

Matching Shield Modulation

See page 129 for information on matching the shields' frequency with an attack's frequency, thus allowing the attack to ignore shields completely.

Phase Inverters

If crewmembers can find a way to plant a device known as a *phase inverter* in an enemy ship's shield generator, they can then trigger the inverter to cause the system to overload, thus collapsing the shields.

Prefix Codes

All Starfleet vessels have a *prefix code* designed to prevent their unauthorized use (whether by enemies who capture them or officers gone renegade). By transmitting the prefix code (which requires an open communications link or the like), another Starfleet officer can disable a ship's shields (or other key systems), leaving the captured/renegade ship vulnerable. This requires no Test, just that the character know (or have access to) the target ship's prefix code (extremely unlikely, unless he holds the rank of Commander or higher in Starfleet).

Radiation; Anti-Proton Beam; Interferometric Pulse

A ship can bombard a target with a special form of radiation with rapid magnetic field flux variations. This reverses the polarity of the target ship's shields, causing them to collapse (they must recharge before they can activate again). This requires 1 Courage Point, a Difficult (12) Shipboard Systems (Deflector) Test to generate the pulse, and the usual (Tactical) Test to hit the target. If the Test fails, the character may try again next round; if it Dramatically Fails, the main deflector shorts out, taking 2+2d6 damage, and the character cannot attempt the radiation pulse until this damage is repaired.

Similarly, an anti-proton beam which hits a ship from *very* close range (no more than 2 kilometers) will disable a ship's shields. This works just like the radiation bombardment in all respects, except that it has a Difficulty of Challenging (11).

A ship can also project an interferometric pulse at a target. This pulse, if modulated exactly opposite the shield, disrupts the shield completely, requiring it to recharge. This works just like the radiation pulse in all respects, except that the Difficulty is Challenging (9), but the attacker must somehow learn the target's shield modulation.

Shield Dimpling

This clever, albeit difficult, technique uses a beam weapon attack to allow a torpedo to pass unhindered through a shield to strike the ship beneath it. To use it, the attacking ship's Tactical Officer has to perform two actions, one right after the other (with the usual Multiple Action Penalty, of course). He must delay one of his

actions, then take two actions at once during the second series of actions in the round (normally characters cannot combine actions like this, but it's allowed in this one situation). The first action is to fire a single torpedo at the target. This requires a standard attack Test.

The second is to fire a beam weapon at the precise point on the target's shields where the torpedo will strike, microseconds before the torpedo hits. This requires a standard attack Test at +5 Difficulty. If the Test succeeds, the torpedo passes through the "dimple" in the shield and strikes the ship directly (the shield's Protection and Threshold have no effect on it; only Resistance applies to the damage). Failure on this roll indicates that the beam fails to create a dimple and does not damage the shield in any way, but the torpedo strikes the shield normally (and may still end up damaging the ship). Dramatic Failure indicates the beam weapon went off just microseconds too late and harmlessly destroys the torpedo before it hits the target's shields.

Shield Junctions and Weak Points

Where a ship's shields meet, there's a "shield junction," a line of potential weakness which an attacker may be able to exploit. It requires a Challenging (9) Shipboard Systems (Sensors) Test to locate the junction (bonuses from uprated sensors and/or the TA/T/TS apply to this Test). The Tactical Officer may then target the junction at a -6 Test Result penalty to his Shipboard Systems (Tactical) Test. If he succeeds in hitting the junction, the shields' Protection and Threshold at that point is only half that of the weakest Protection and weakest Threshold of the two shields which meet at that point. For example, if the attack strikes at a junction between a Protection 300, Threshold 200 shield and a Protection 600, Threshold 100 shield, the junction has Protection 150, Threshold 50 (half of the weaker Protection and weaker Threshold).

An attack on a junction does no damage to the two shields which form it. Junctions never lose any Protection or Threshold from attacks; they only lose strength as the two shields which form them do.

Sometimes ships develop weaknesses in certain areas of their shields under certain conditions. For example, *Galaxy*-class Explorers, and a number of other ships, have a weak spot in their aft shields near their warp nacelles when using their impulse drives. Such weak spots function like shield junctions, though it's harder to detect them in combat situations (Challenging (11) Difficulty for the Shipboard Systems (Sensors) Test). In non-combat conditions, they're often weak enough for a small ship (like a shuttle, runabout, or fighter) to slip through them by moving slowly and carefully (this requires a Moderate (8) Shipboard Systems (Flight Control) Test; failure or Dramatic Failure results in a collision with the shield).

If an attack targeted at a shield junction or weak point misses, it is considered to have missed the ship entirely. Visually it may appear to have hit one of the shields, but the game effect is that the target takes no damage.

Shield Windows

Sometimes, precisely aimed attacks can open small, temporary holes in a shield; these are known as "windows." They're typically only 1-3 meters in diameter. To create one, a ship must use a beam weapon and target the shields with a Difficult (12) Shipboard Systems (Tactical) Test (only bonuses from the TA/T/TS apply). Success indicates that the attack creates the window (the damage does not reduce the shield's Protection or affect the ship in any way).

The window remains open for 1d6 rounds, or until the ship generating the shield supplies extra Power to that shield, transfers Protection to it, succeeds with a Moderate (7) Shipboard Systems (Shields) Test to rotate the harmonic properly and close the window (this requires an action), or enhances its shields in some way. While it remains open, attackers can target it as if it were Size 0, or transport onto or off of the shielded ship. Hits on the window pass through it to hit the ship directly; they are not affected by the shield's Protection or Threshold.

Transporters

There are several ways to transport through a shield (see page 161). A character could use any of these methods to transport a torpedo or similar weapon onto a ship, bypassing both its shields and its Resistance. However, extensive modifications are needed to transport antimatter (unless it's in certain containers, often used by engineers, but *not* a part of torpedoes). Typically this should require at least one minute and a Challenging (10) Systems Engineering (Transporter/Replicator Systems) Test to make the modifications (failure means the character can try again; Dramatic Failure causes 2d6 damage to the transporters). Then the ship

needs to make a Challenging (10) Shipboard Systems (Transporter) Test to perform this "offensive transport" properly. Failure means a miss; Dramatic Failure causes the weapon to rematerialize and explode on the pad it left from.

Starship Weapons

When an enemy attacks Starfleet officers, or all options for a peaceful resolution of a tense encounter have been exhausted, sometimes the only solution left to them is to defend themselves with force of arms. Starfleet makes every reasonable, and some unreasonable, efforts to avoid violence, but in the final analysis it can put up a mighty tough fight when it has to.

FIRING ARCS

Every weapon on a starship has a *firing arc*. This represents the area of space that weapon "covers"—in which it can shoot at targets. For example, the ventral phaser array on the Engineering section of a *Galaxy*-class starship can fire at anything "below" the starship—a 360-degree arc on that side of the ship. It cannot target anything "above" the ship.

Firing arcs are expressed in "degrees." Imagine that a starship is surrounded by a sphere. Degrees represent what portion of that sphere a weapon covers. A weapon which could cover the entire sphere would have a 720-degree arc; one which covers half of it has a 360-degree arc.

The following arcs are commonly used for starship weapons:

Straight: A weapon with this arc can only fire straight in one direction (typically straight forward). This means it lacks the ability to swivel to target ships to the left or right, or above or below the center line of the ship. Unless the firer points the weapon straight at the target, it will always miss.

180 Degrees: This weapon's carriage allows it a limited range of movement. It can cover half of the area in front of it, giving it a roughly cone-shaped field of fire. Targets high "above" or "below" the center line of the ship are out of this weapon's firing arc. Alternately, this arc can represent a weapon which covers roughly one-quarter of the sphere around the ship—for example, the partial ventral phaser arrays on the saucer of the *Akira*-class ship.

360 Degrees: This weapon can fire at any target on one side of the ship. Its firing arc covers half of the sphere around the ship.

405 Degrees: This arc is typically only available for phaser strips which run around the circumference of a ship's saucer section (such as the dorsal and ventral saucer arrays on the *Galaxy*-class Explorer). It's a slight extension of the 360 Degree arc, since the curvature of the saucer allows the phasers to aim at targets slightly below the center line of the saucer.

540 Degrees: This weapon can cover roughly three-quarters of the area around the ship.

720 Degrees: This weapon covers the entire area around the ship. Very few weapons have such a comprehensive arc of fire; it's usually more advantageous to have multiple weapons to cover smaller arcs (thus providing coverage to the entire ship) than one weapon to do the entire job.

Arc Shadows

Some weapons are subject to *arc shadows*—portions of their full arc which they cannot cover due to some obstruction, such as the ship's warp nacelles. Usually the "arc shadow" is represented by the weapon's main firing arc; in a sense, a 360 Degree arc is simply a 720 Degree arc with an arc shadow which covers half of the sphere around the ship. Although most ships are designed so that there is no part of the sphere around them which isn't covered by at least one weapon, it may be tactically advantageous to approach a ship from the arc shadow of a particularly powerful weapons system. Narrators should determine the arc shadows for given weapons based on the ship in question.

CAUSING AND APPLYING DAMAGE

Damage to starships is simulated in terms of a number of Structure Units (SUs). Each starship has a total number of SUs representing its size, mass, and equipment. For example, a *Galaxy*-class Explorer has about 3,000 SUs. Every point of damage to a starship represents the destruction of 1 SU. When all of a ship's SUs are gone, it has been destroyed. (For non-starship targets, such as asteroids or buildings, the Narrator should assign them a number of SUs to represent the damage they can withstand.)

The various systems aboard a ship occupy a certain number of SUs, as detailed in Chapter One. When a particular system is hit, the damage to it may be enough to destroy it (even

though the ship itself remains mostly intact) or hamper its efficiency (see *Called Shots,* page 110, and the accompanying Hit Location Table).

Most ships (and some other targets, such as orbital weapons platforms) use shields to protect themselves from damage. Damage applied to a shield reduces its Protection; damage which exceeds a shield's Threshold "leaks" through the shields to affect the ship itself (the ship's Resistance—the defense provided by the hull—still applies to such damage, of course). See pages 121, 125 for information on shields and Resistance.

If damage to a shield reduces its Protection below its Threshold, Threshold automatically decreases to match the Protection (Threshold can never exceed Protection). If damage from an attack causes a shield to collapse due to loss of all Protection, all remaining points of damage affect the ship directly (again, Resistance applies).

Example: *The* U.S.S. Redmond *has suffered so much damage to its forward shield that it's down to Protection 100, Threshold 100. A disruptor blast causes 240 points of damage to that shield. The first 100 points of damage reduce the Protection to 0, collapsing the shield. The remaining 140 points affect the ship directly.*

Applying the Damage

When a ship takes damage which exceeds the Threshold and/or Protection of its shields, the Narrator can apply that damage in one of two ways. First, he can apply it as "general" damage to the ship as a whole, without worrying about the effect on individual systems. This is the quickest, easiest way to handle damage.

If the Narrator uses the Hit Location table (page 112) to determine where a ship gets hit, he should apply damage a little differently. *Ten percent* (10%) of the damage caused applies to the system targeted or randomly rolled.

The remaining 90% applies to the ship as a whole as general "superstructure" damage, without affecting any particular system significantly. (The Narrator may, if he chooses, apply a separate 10% to several systems [perhaps 1d6 systems], with the remainder of the damage as "general superstructure" damage.) If the result on the Hit Location table causes additional damage because of an explosion or some other event, that damage is *in addition to* the damage from the attack.

Example: *The* S'jonross *suffers 400 points of damage from an attack beyond its shield Threshold. The Narrator rolls on the Hit Location table and determines that the nacelles were hit by the attack. 10% of the damage—40 points—applies to the nacelles. The remaining 360 points are "general superstructure" damage, which reduce the ship's SUs but don't damage any other specific systems enough to impair their operating efficiency.*

Had the Narrator wished to spread the damage around a little more, he might have rolled 1d6 and applied 10% damage to that many systems. He rolls a 3, so three systems take 10% damage. Rolls on the Hit Location table determine that the three systems are the nacelles, the computer systems, and one of the ship's phaser arrays. Each of those systems takes 40 points of damage; the remaining 280 points becomes general superstructure damage.

The above rules only apply when the ship's shields are still up. If the shields are down, apply the full 100% effect of damage caused to any systems rolled on the Hit Location table.

If you're using a ship, such as one of the ones in Chapter Five, which has some "unused" SUs in its hull (typically saved for future expansion of ship systems), don't consider those unused SUs when applying damage. All damage done applies to the used SUs; when all of a ship's listed used SUs are gone, it is destroyed.

Increasing a Weapon's Damage

Just like a ship can make its shields and many other ship systems work better by providing them with extra Power, they can increase many weapons' damage by boosting their Power. Most beam weapons, for example, can do up to 125% of their listed damage at a cost of 3 Power per 10 points of damage above their normal maximum. This requires a Moderate (6) Shipboard Systems (Tactical *or* Mission Ops) Test. Failure on this Test means the Power is wasted (the ship spends it, but the weapon's performance does not improve); Dramatic Failure means the Power overloaded the weapon, disabling it for 1d6 minutes or until a crewmember makes a Challenging (11) Systems Engineering (Weapons Systems) Test to effect repairs.

Generally, missile weapons and mines cannot do extra damage with extra Power.

Chain Reactions

A quick examination of the Hit Location Table (page 112) shows that damage to many systems may cause them to explode due to EPS overload, violently shorting out, loss of internal pressure, or many other factors (consult the Technobabble Table in the core rulebooks for the precise cause). In most cases, the logical place to apply the extra damage from the explosion is the same system that caused it—but that isn't necessarily the most fun or dramatic way to do things. To better simulate the overall effects of starship combat, the Narrator may prefer to apply the explosion damage to a nearby system, or simply to roll again on the Hit Location Table to determine where the damage applies. Due to the networks of EPS and ODN conduits which traverse the entire ship, it's not impossible for damage in one area to cause an overload which damages a system in a completely different part of the ship. Thus, one small explosion could quickly lead to a chain reaction of similar explosions all over the ship. As always, the Narrator should evaluate the results in light of both common sense and the dramatic needs of the scene and/or episode.

Fires

Similarly, damage to some systems may cause fires. There are no hard and fast rules for when a fire should break out; after all, the fire suppression system will put out most small fires so quickly that they don't really matter for game purposes. However, the Narrator can substitute "fire breaks out" for "explosion" results on the Hit Location Table, simulating fires so large or hot that the Fire Suppression rules (page 32) or other extreme measures are needed to extinguish them. If it makes the scene more dramatic or exciting, the Narrator can simply rule that "a fire breaks out" when part of the ship is damaged, regardless of what the dice or rules say; this is a good way to, for example, force the crew to abandon Engineering, thus making it harder for them to transfer Power or perform some other tasks (which in turn makes it harder for them to win the battle).

In game terms, you can rate fires with a Strength from 1 to 10, sometimes higher. The fire does a number of points of damage equal to its Strength in the area it covers every minute.

THE DRAMATIC DAMAGE RULE

Narrators should never remain a slave to numbers, dice rolls, Hit Location Tables, or other such game impedimentia if it suits them better to determine the results of combat in a more freeform fashion. It's often quicker, more dramatic, and more enjoyable to say, "OK, that last hit damaged the shield generators pretty badly; they're operating at half effect now," rather than depending on the dice to achieve that result. The dice, after all, are impartial, whereas the Narrator has a good feel for what needs to be done to make his game exciting and keep his players interested and happy. He can increase or decrease the damage to achieve the effect he wants.

In short, sometimes you should ignore the numbers and just let ships blow up. After all, what's more fun than a good explosion?

One good example is when a ship takes half or more of its SUs in damage from a single attack. That should take the ship out of the fight completely, if not utterly destroy it. For some ships, even one-third or one-quarter damage from a single attack may cause the ship to obliterate itself in a tremendous explosion.

A fire suppression system can automatically extinguish any fire of equal or lesser Strength to its own rating; other fires it can merely diminish.

Beam Weapons

The most commonly used starship weapons are beam weapons, which project bolts of energy at targets. Starfleet's standard beam weapon is the phaser; other species use disruptors, polaron beams, or many other types.

The standard ranges for beam weapons, whether normal or uprated versions, is 10/30,000/100,000/300,000; beyond 300,000 kilometers, the beams tend to attenuate to the point of ineffectiveness. In atmospheres, beams attenuate even more quickly; halve the Short, Medium, and Long ranges. For every 100 kilometers beyond Long range, increase the Difficulty to hit the target by +1 (some ships have tactical systems which allow them to negate this penalty; see page 71).

Beam weapons ordinarily function effectively only at impulse speeds. See page 98 for information on warp speed combat.

Note that most of the tactics and abilities described below apply primarily to phasers. Disruptors, phased polaron beams, and other weapons are much less versatile. The Narrator has the final say on what tactics can be used with a given beam weapon.

Firing Modes

Beam weapons can fire in up to four modes: Standard, Pulse, Continuous, and Wide Beam. Phasers use all four modes. A disruptor or polaron beam fires in Standard and Pulse modes only; isolytic weapons and lasers fire only in Standard mode. Changing from one firing mode to another constitutes a Timed Action.

Standard mode is the one typically used. It does the weapon's basic damage for the basic Power cost.

Pulse mode involves increasing the damage the weapon does by firing a series of rapid pulses of energy. You can simulate this by increasing the weapon's damage with extra Power, or as a form of single-weapon Multifire. Pulse phaser cannons cannot use this rule; they are already optimized for this type of fire only (which is why they do much more damage than normal phasers of the same type).

Continuous fire mode involves maintaining a beam for longer than normal, making it easier to hit the target. This costs an extra 3 Power, and provides +1 die to roll when making a Shipboard Systems (Tactical) Test to hit the target. Pulse phaser cannons cannot fire in Continuous mode.

Wide Beam mode allows a beam to affect a much broader area. Instead of a narrow beam, the beam widens by 1 meter for every point of damage sacrificed. In combat, for every 30 points of damage sacrificed to widen the beam, the ship receives a +1 Test Result bonus to Shipboard Systems (Tactical) Tests to hit the target. Out of combat, a sufficiently wide beam on low power settings has many uses as a tool. Pulse phaser cannons can fire in Wide Beam mode, but it requires three hours' time and a Moderate (7) Systems Engineering (Weapons Systems) Test to modify them for it (if the roll fails, the character may try again after another three hours; if it Dramatically Fails, he's damaged the phasers and must spend 2+1d6 hours bringing them back online).

SUSTAINED FIRE

Weapons which can fire in Continuous mode can engage in *sustained fire* against a target. This means placing the beam on the target and keeping it on the target, thus increasing the damage it does. Do not apply the normal Continuous fire bonus to attack Tests when using sustained fire.

In game terms, sustained fire is a form of Multifire. The ship decides how many "beams" it wishes to fire; this determines the damage the sustained fire can do. Then the Tactical Officer spends 1 Courage Point and rolls to hit with the Multifire attack and applies Multifire damage normally (if some of the attacks "miss," it just means that the beam wasn't as accurately placed on the target as the ship wanted).

For each round thereafter, the ship may maintain the beam on the target. This requires an action and another Shipboard Systems (Tactical) Test from the Tactical Officer. If he intends to take multiple actions in that round, maintaining the beam must be his first action. In addition to any other penalties (including Multiple Action Penalties), he suffers a -1 Test Result penalty in the first additional round of sustained fire, and another cumulative -1 penalty for each round thereafter. Any penalties from evasive/defensive maneuvers which the target made in the last round (or in this round before the Tactical Officer can act) also apply to this Test. If he succeeds, the beam is maintained. The target ship takes the same amount of damage it did last round; the ship pays only 50% of the Power paid to make the Multifire attack.

A ship may maintain a beam on a target until it misses one of the Tests to maintain it or the target does something to break the contact (like going to warp or flying behind an intervening object). Once a Test is missed or the attack thwarted, the ship may not establish a sustained beam on that target for the rest of that round, though it may try another sustained fire attack the next round.

Generally, a ship should only be allowed to maintain one sustained fire attack at any time. The Narrator may make an exception for special cases or certain types of ships (such as Borg cubes, which can maintain multiple sustained fire attacks against their opponents).

Frequency Modulation

Like shields, beam weapons have frequency modulations. If a beam weapon's frequency can be modulated to match that of the shield it's fired at, it will bypass the shield to strike the target with no loss of energy (see page 129 for details). Conversely, shields can be modulated to provide greater defense against beams. When confronting enemies who adapt quickly to a beam weapon's frequency, such as the Borg, ships sometimes adopt a *frequency-shifting firing pattern* which alters the beam's frequency with every shot, making it harder to track and analyze the frequency. Establishing a frequency-shifting firing pattern requires a Routine (4) Shipboard Systems (Tactical) Test, and may require a specially-programmed isolinear chip in the TA/T/TS.

PHASERS

Starfleet chose the phaser as its beam weapon over a century ago because of its flexibility and wide range of uses. Unlike disruptors and many other beam weapons, a crew can adapt a phaser to many different situations. It has multiple fire modes, and can easily be reconfigured for

drilling or other non-combat-oriented tasks.

Broad-Spectrum Phaser Fire

A ship can fire its phasers with a broader than normal energy spectrum. This does not affect the damage, but does interfere with the target's sensors. If the attack Test to hit the ship is made exactly, impose a -1 Test Result penalty on the target's Shipboard Systems (Sensors) Tests for 1+1d6 rounds. For every additional point by which the attack Test is made, increase the penalty by -1, to a maximum of -4.

Configuring the phasers for broad-spectrum fire requires a Moderate (6) Shipboard Systems (Tactical) Test. If the Test fails, the phaser array is knocked offline for 1d6 rounds; if it Dramatically Fails, it's burned out for 1d6 hours or until a character spends 1 round and makes a Challenging (10) Systems Engineering (Weapons Systems) Test to repair it.

Carrier Phasers

A ship can configure a phaser beam to carry physical agents, such as chemical weapons, biogenic weapons, or Borg nanoprobes. This requires a minimum of 1d6 rounds (often longer) and a Moderate (8) Shipboard Systems (Tactical) Test. If a phaser acting as a carrier impacts a planet, it spreads the carried agent into the planet's atmosphere. If it hits a ship and penetrates its hull, it releases the agent into the ship. The better the attack Test Result, the more of the agent makes it through to spread. The effects depend on the agent carried.

Isolated Emitters

A ship can improve the effectiveness of one of its phaser arrays by isolating it, isolating certain of its emitters, then shunting all of the phaser power to those emitters. This increases the weapon's damage as high as it can go.

In game terms, isolating the emitters requires 1 round and a Moderate (8) Shipboard Systems (Tactical) Test. During that round, and the following round when the isolated phaser actually fires, no other phaser arrays on the ship can be fired. The isolated phaser array's damage increases to 125% of normal (just like can normally be done with extra Power), but this only costs +10 Power. The phaser can only fire a single shot on Standard mode.

A failed Test burns out the isolated array for 1+1d6 rounds or until a character makes a Moderate (8) Systems Engineering (Weapons Systems) Test to repair it (which takes 1 round). Dramatic Failure burns out the isolated array for the rest of the scene (and possibly longer, at the Narrator's option) unless a character spends 1+1d6 rounds and makes a Difficult (12) Systems Engineering (Weapons Systems) Test to repair it.

Main Deflector Phaser

If the emitters in a phaser array have been damaged, but the phaser generator (the EPS subsystem powering it) remains substantially intact, the ship can adapt the main deflector to act as a crude phaser emitter. This requires 1 round and a Moderate (8) Systems Engineering (Weapon Systems *or* Power Systems *or* Deflector) Test. If the Test succeeds, the main deflector can project a single shot at 75% of the array's normal full strength (but at full normal Power cost). Use the deflector's normal Accuracy and range (see page 48). This one shot overloads elements of the main deflector, preventing the crew from using this trick again until it's repaired (for any other purpose, it functions normally but imposes a -2 Test Result penalty on all Tests involving its use).

Failure on the Systems Engineering Test has no adverse effects, but the character must spend 1+1d6 rounds to try it again. Dramatic Failure burns out the main deflector as described above, but without generating the phaser blast.

Phaser-Jacketed Phaser Beams

To strengthen a phaser beam, thus making it do more damage and extending its range, a ship can jacket it inside a *second* phaser beam. This requires 1 Courage Point and a Moderate (7) Shipboard Systems (Tactical) Test. If the Test succeeds, the phaser beam costs +50% Power, does +50 damage, and has its Short, Medium, and Long ranges extended by 25% (to 37,500/125,000/375,000).

Pulse Compression Wave

A ship can run a pulse compression wave through a phaser array, thus increasing the strength of the beam it projects. This requires 1 Courage Point and a Moderate (6) Shipboard Systems (Tactical) Test. If the Test succeeds, increase the phaser's damage by 100 points or 20%, whichever is less; this costs +5 Power. Failure on the Test damages the phaser array,

reducing its damage to half until a character spends 1+1d6 rounds and makes a Moderate (8) Systems Engineering (Weapon Systems) Test to repair it. Dramatic Failure fuses the array entirely, requiring hours or days to repair.

Phasers As Tools

A ship can use its phasers in various capacities as tools. These include:

—Drilling: It takes approximately two hours to refit a ship's phasers to drill into a planet's crust through an atmosphere (one hour if the planet has no atmosphere). This requires a Routine (4) Systems Engineering (Weapons Systems) Test.

—Light: On Wide Beam settings and their lowest level of damage, phasers can function as sources of light to illuminate darkened areas.

DESIGNER'S NOTES: BEAM WEAPONS VERSUS MISSILE WEAPONS

Because of their much greater range and higher rate of fire, gamers tend to prefer using torpedoes to beam weapons. After all, the maximum range of a beam weapon fits into the Short range of a torpedo! However, beam weapons are by far the preferred method of attack on the *Star Trek* television shows; missiles are used relatively infrequently. Therefore, Narrators and players who want to abide by the rules of *Star Trek* drama need to de-emphasize missile use and emphasize beam weapon use. (Remember, in a proper *Star Trek* scene, all the action in a scene has to fit "on the TV screen." Long-range torpedo battles don't meet that requirement, so they're violating—or at least bending—the rules of *Star Trek* drama.)

Perhaps the easiest way to do this is for the Narrator to arrange the events of episodes so that combats begin well within beam weapon range. This is how fights usually start on the shows, after all. Ships end up confronting one another at close range in some tense situation ("Why have you crossed into the Neutral Zone, Commander T'vek?" "Why have you, Captain Wellington?"). When fighting breaks out, they start firing phasers and disruptors, not torpedoes. Even the major battles of the Dominion War were largely close-up fleet engagements where beam weapons saw more use than torpedoes. In short, give the players fewer chances to use torpedoes, and more chances to use beam weapons.

The other method is trickier, since it requires restraint on the part of the players. Instead of firing torpedoes from long ranges, they simply have to follow the rules of *Star Trek* drama and close with their opponents to use beam weapons. Torpedoes, as much more powerful weapons, are more provocative and dangerous; Starfleet doesn't *like* to use them most of the time. Obviously there are still occasions when ships need missile weapons, but in general, players who can restrict themselves to beam weapons most of the time are fighting *Star Trek* ship combats they way they *should* be fought.

To encourage the use of beam weapons, Narrators might want to consider altering the rules slightly. Some possibilities include: reducing the Difficulty Numbers for Medium and Long range shots with beam weapons to the Short range number; emphasizing the fact that it's easier to target a specific system on a ship with beam weapons (see page 111); increasing the Power cost for missile weapons; or increasing the Difficulty Numbers for hitting a target with torpedoes.

Missile Weapons

In addition to energy beams, starships also use missile weapons known as *torpedoes*. There are many different varieties of torpedoes used throughout the galaxy, all fired by the same types of launchers (see page 70). The Power cost for launching a torpedo is the same for all types of torpedoes.

Basic Torpedo Rules

Launching and Launch Protocols; Reloading

Torpedoes are typically loaded automatically by a ship's Tactical Situation Coordinator (TSC) and fired by commands issued at the Tactical station on the bridge or battle bridge. In the event of an invasion of the ship or disabling of the primary torpedo launch protocols, any Command, Security, Operations, or Flight Control officer on the ship can lock out the standard launch protocols by activating the auxiliary protocols.

In the event all launch protocols fail or the automatic firing equipment is damaged, torpedoes can be launched manually using the standard rules. If the normal manual controls are disabled for any reason, a crewmember can manually launch the torpedoes from the tube itself, but will suffer 4+4d6 damage from plasma burns.

Once a torpedo launcher has fired its complete Spread of torpedoes, it requires one round for the TSC to reload it with another full Spread (this does not require an action or Test by any character). Reloading a partial load also requires one round, during which the launcher may not fire. Until an empty launcher has been reloaded, it cannot fire.

Example: *The* U.S.S. S'jonross *has a launcher with Spread 10. If it fires all 10 torpedoes in one round, it cannot use that launcher again until it's been reloaded. Reloading it with a full 10 torpedoes takes one round. If it fired five torpedoes in one round, it could fire the other five (singly or at once, as it chose) in later rounds. If the Tactical Officer decided to reload the launcher to bring it up*

to full capacity, it would take one round to load the five new torpedoes, and during that round the ship could not fire the launcher.

If a ship wishes to switch a launcher's load from one type of torpedo to another, it must either fire all torpedoes currently loaded in that launcher and then reload it with another type, or spend one round unloading the launcher and reloading it with the new torpedoes.

Range

Most torpedoes have ranges of 15/300,000/1,000,000/3,500,000. Starfleet's latest model torpedoes have improved fuel tanks, thus increasing their ranges to 15/350,000/1,500,000/4,050,000 (other societies and peoples have made similar advancements). Of course, even in a society which has improved torpedoes, not all ships may come equipped with them, for various reasons. Torpedoes are programmed to self-destruct as harmlessly as possible if they reach their maximum range without impacting a target.

If necessary, a torpedo can extend its range by having its engines draw on the reactants which create the explosive effect for additional fuel. For every 20 points of damage sacrificed, extend the torpedo's maximum range by 50,000 kilometers.

If a torpedo is used on a target within five kilometers of the ship firing it, the blast from the explosion when the torpedo hits its target will do one-quarter of the torpedo's damage to the firing ship.

Because they're easy to see coming over such distances, and thus easier to avoid, grant a ship a +1 Test Result bonus when it tries to dodge torpedoes at Medium and Long ranges. Ships can also avoid torpedoes by remodulating shields to confuse their guidance systems; see page 128.

Torpedoes leave ion trails behind them as they travel through space.

Velocity

While torpedoes do not have independent warp speed capability, if fired by a ship moving at warp speeds they use a warp sustainer engine to maintain the velocity imparted by the ship at the time of launch. If launched at impulse speed or by a stationary target such as a starbase, they travel at .95c. Thus, it is sometimes possible for ships to outrun them. The range, damage, Accuracy, and other characteristics of a torpedo remain the same regardless of the velocity of the ship which fired it.

If a torpedo is fired at warp velocity at a target also traveling at warp speeds, and the target then drops to impulse speeds, the torpedo does not drop to impulse. It continues toward its target at its current warp speed and attempts to impact it as normal.

As they travel, torpedoes leave ion trails behind them. A ship can trace a torpedo's ion trail just as it traces one from a ship's impulse engines (see page 101).

Self-Guidance System

A torpedo has a self-guidance system. Once informed of its target by the Tactical Officer, it will continue to follow that target, regardless of how the target turns or moves, until it hits the target, misses it, or reaches the extent of its range. It's possible to fire a torpedo in one direction (for example, aft) and have it arc completely around to the opposite direction (in this case, forward) to strike at a target, provided the entire journey does not exceed its maximum range. Similarly, torpedoes fired in a spread from a single launcher at the same time do not have to impact the same target; following their targeting data, each one can pursue a separate target if so desired (see "Multifire," page 118).

Damage and Related Configurations

Torpedoes can be reconfigured to do less than their full damage. This can be done without making a Test, but does require an action. A torpedo's damage cannot be increased with extra Power.

With somewhat more difficulty, most types of torpedoes can be configured for other effects, such as:

—*Warp Flare:* The torpedo emits a flare of light bright enough to illuminate an area 3 MUs in radius. This configuration requires a Routine (4) Shipboard Systems (Tactical) Test.

—*Radiation Bursts:* If fitted with a radiogenic warhead, a torpedo can emit a burst of various types of radiation (for example, delta radiation). However, the radiogenic warhead takes up so much room that the torpedo must be targeted manually, and only has a maximum range of 300 meters (thus, all attacks with such warheads are at Point Blank range). Fitting the warhead properly requires a Moderate (6) Shipboard Systems (Tactical) or Systems Engineering (Weapons Systems) Test.

Firing Patterns

Starfleet has developed a number of torpedo firing patterns which enhance a ship's ability to hit a target or targets with one or more torpedoes. Other species and powers have similar firing patterns. The accompanying table describes several of the Starfleet patterns. *Difficulty* indicates the Difficulty for a Shipboard Systems (Tactical) Test to use the pattern properly (the Tactical Officer must fire at just the right time in the right way). Success means the Test to hit the target gains the bonus listed under *Benefit*. Failure on this roll means no Benefit is possible; Dramatic Failure that the torpedoes all automatically miss the target.

Using a torpedo firing pattern counts as an action; the benefit applies to the firing of torpedoes on the character's next action. If the character does not fire torpedoes as his very next action, he loses the benefit.

STARFLEET TORPEDO FIRING PATTERNS TABLE

Pattern	Difficulty	Benefit
Delta-nine-one	8	+2
Delta-nine-two	9	+3
Delta-nine-three	10	+4
Delta-nine-five	11	+5
Omega	Special[1]	Special[1]
Sierra[2]	9	+3

[1]: Spread pattern Omega requires at least four torpedoes. It is used not to damage the target, but to blind his sensors. The Difficulty is 5; if the Tactical Officer sets the pattern up correctly and then hits the target exactly, impose a -1 Test Result penalty on the target's Shipboard Systems (Sensors) Tests for 1+1d6 rounds. For every additional point by which the attack Test is made, increase the penalty by -1, to a maximum of -4.

[2]: Can only be used with multiple torpedoes fired as a single-weapon Multifire.

Advanced Torpedo Combat

Usually, it's easiest to simply think of a torpedo as a variant on beam weapons—it travels directly from the ship which fired it to its target; if it misses, nothing else happens. But the nature of the torpedo allows for more complex combat simulations if the Narrator and players are willing to go into a little bit more detail.

Consider the torpedo as a discrete starship of Size 1. Its speed is equal to the warp speed of the ship which launched it, or .95c (48 MUs per round) if it's launched at sublight speeds. It moves every round, automatically achieving initiative over all combatants. It may choose whether to act first or delay its action; if it delays, it may later interrupt any ship's action automatically, without making a Coordination Test. If two or more torpedoes are in motion, they have simultaneous initiative.

As the torpedo moves toward its target, it turns to follow it if necessary. A torpedo's guidance assembly is considered to have Intellect 3, Shipboard Systems (Flight Control) 4 (5) for purposes of making any Tests necessary to follow a target.

When the Tactical Officer fires a torpedo, he makes his Shipboard Systems (Tactical) Test to hit the target. His Test Result becomes the "target lock" established by the torpedo's target acquisition assembly. If the torpedo loses its lock for some reason (for example, an attack or spatial phenomenon momentarily "blinds" the target acquisition assembly's sensors), the torpedo is considered to have Intellect 3 and Shipboard Systems (Tactical) 3 (4) for purposes of re-acquiring the target. It makes a Test to reacquire, and uses its new Test Result as its target lock.

Since the torpedo moves like any other vehicle, the target or other ships can try to shoot it down, avoid it, or outrun it. Going to warp is the best way to outrun a torpedo, assuming the target goes to warp soon enough (see below). Shooting it down is difficult, given its Size and speed, but possible; any damage to a torpedo destroys it harmlessly.

When a torpedo comes within 30,000 kilometers (1 MU) of its target, it can no longer be outrun (there isn't even enough time to go to warp if the ship has not already done so). Compare the target lock number to the Difficulty needed to hit the target (based on the range to the target at the time the torpedo was fired and other modifiers). If the target wants to try to evade the torpedo, it should make an evasive maneuver in the round before it thinks the torpedo will hit it; for purposes of dodging the torpedo only, the evasive modifier carries over into the next round. (If you're using the advanced torpedo rules, the normal bonus for trying to dodge a torpedo fired at Medium or Long range does not apply.)

If the torpedo hits, apply damage as normal. If it misses, it goes sailing off into space and is never heard from again. (Theoretically a torpedo with sufficient remaining range could turn around and try to hit the target again, but don't worry about that. Not only is it

RANDOMIZING TORPEDO DAMAGE

Since explosions can be relatively imprecise things, some Narrators may prefer to determine torpedo damage randomly, instead of using the flat numbers provided for the various types of torpedoes. To do so, reduce each torpedo's damage by 90 points. When a torpedo hits, roll 2d6 and multiply the result by 10 to determine how much damage to add to the missile's base damage.

For example, a Type II photon torpedo normally does 200 points of damage. Using the random damage system, it does 110 + (2d6 x 10) damage. If the Narrator rolled a 7, it would do 190 points of damage; if he rolled 11, it would do 220 points of damage.

TORPEDO DAMAGE AS PLOT DEVICE

On the *Star Trek* television shows, torpedo damage tends to vary from episode to episode. In one episode, a single torpedo is enough to blow up a large ship. On the next episode, a spread of four torpedoes barely scratches the target's shields. This happens because torpedoes make excellent plot devices. They can be as effective or ineffective as the writer—or the Narrator—wishes.

In short, torpedoes are a perfect way to implement the Dramatic Damage Rule. If the Narrator wants a particular enemy ship to blow up in Scene 4 of his episode, either to drive other parts of the plot or just because it will be fun, a well-placed torpedo or two will take care of it, even if the target ship still has plenty of SUs left.

complicated, but you never see it happen on the *Star Trek* shows.)

Example: *The* U.S.S. S'jonross *fires a photon torpedo at a target 3,250,000 km away (108 MUs; Long range; base Difficulty 10). The Tactical Officer makes his Shipboard Systems (Tactical) Test, incorporating various bonuses and penalties, and ends up with a Test Result of 13. This becomes the torpedo's target lock. The torpedo travels 48 MUs the round it's fired. The next round it automatically has initiative and moves another 48 MUs towards the target—it's getting close! The target tries to shoot it down. Since it's still 12 MUs, or about 360,000 kilometers away, it's outside of Long range for the target's disruptors, so the target moves 3 MUs (90,000 km) closer, succeeding with a -2 evasive maneuver as it does so. The target needs a Test Result of 10 to hit the torpedo. It rolls a 13, but because of the -5 penalty due to Size difference, it misses! Next round the torpedo moves forward to impact the target. The target desperately tries to go to warp speed and evade it, but it's too late—the torpedo has made it to within 1 MU. The torpedo's target lock of 13 is compared to the Difficulty Number needed to hit—10, based on the original distance between the firing ship and the target. Even with the -2 penalty for the evasive maneuver, the torpedo hits! The target goes up in a ball of flame.*

PHOTON TORPEDOES

Starfleet's primary missile weapon as of 2376 is the *photon torpedo* (though the quantum torpedo [see below] will likely supplant it within a few staryears). Made of a casing 2.1x0.76x0.45 meters in diameter and weighing 187.6-247.5 kilograms, it contains masses of matter and antimatter in thousands of minute packets which meet and explosively annihilate at the moment of impact. For the standard version, the Type II, the yield is approximately 18.5 isotons. The almost equally as common Type IX has a yield of about 25 isotons. Some advanced models, such as the Type VI, have yields of up to 200 isotons. The accompanying table lists the types of torpedoes available and the damage they do.

PHOTON TORPEDO TABLE

Type	Damage	High-Yield?	Atmosphere?
Type II	200	No	No
Type III	230	No	No
Type VI	500	Yes[1]	Yes[2]
Type VII	350	Yes[1]	No
Type VIII	300	Yes[1]	No
Type IX	250	No	No
Type X	400	Yes[1]	Yes[2]

[1]: Indicates a high-yield torpedo which requires a high-yield launcher if a ship wants to use it at full effect.

[2]: Indicates a torpedo which can be fired through an atmosphere at surface targets without difficulty.

High-Yield Torpedoes

Generally, because all photon and quantum torpedoes use the same casing, one system or payload can easily be swapped out for another if necessary (see page 142).

Some types of high-yield torpedoes suffer from certain firing restrictions even though they use the same casing as basic torpedoes. They may be fired at an effect equal to a Type II photon or Mark I quantum torpedo, as appropriate, from a basic torpedo launcher (see page 70). To fire them at their full effect, a ship must meet the following requirements:

—It must fire them from a high-yield torpedo launcher (see page 70)

—It must have a crewmember spend one hour and make a Challenging (9) Systems Engineering (Weapons Systems) Test to convert the torpedo to high-yield status. Combined Tests may reduce this time, but the

minimum time required is 10 minutes. For game balance reasons, ships are not allowed to prepare high-yield torpedoes substantially in advance of a potential combat situation (*i.e.*, to carry them around, ready to fire at full yield, for days or weeks) without the Narrator's permission.

—It can only fire one high-yield torpedo per launcher per round, regardless of the launcher's Spread rating.

Explosive Yield

If necessary, a torpedo can be set to explode and do its normal damage over a Blast Radius of 2 MUs, with a Dropoff of 25 points per .5 MU beyond that. Properly configuring the torpedo to work this way requires a Challenging (9) Shipboard Systems (Tactical) or Systems Engineering (Weapons Systems) Test. Failure indicates the torpedo is a dud and does not explode at all; Dramatic Failure that the torpedo explodes in the launching tube, damaging the ship which launched it (only Resistance applies to reduce this damage).

QUANTUM TORPEDOES

Developed to improve upon and, eventually, replace the photon torpedo, the quantum torpedo uses an energetic release of a zero-point energy field to obtain basic yields of up to 52.3 isotons—twice as powerful as the most common photon torpedoes. More advanced versions similarly surpass the higher-grade photon torpedoes.

Because they are still relatively new and hard to fabricate, quantum torpedoes' use is limited. During the Dominion War, 50% of the Federation's production of quantum torpedoes was allotted to the *U.S.S. Defiant* and space station Deep Space 9. The *Sovereign*-class vessel also carries them. Other vessels receive them on an as-needed basis, and their use remains restricted today to emergency situations.

QUANTUM TORPEDO TABLE

Type	Damage	High-Yield?	Available?
Mark I	400	No	Yes
Mark II	450	Yes[1]	Yes
Mark III	500	Yes[1]	Yes
Mark IV	600	Yes[1]	No[2]
Mark V	800	Yes[1]	No[2]

[1]: Indicates a high-yield torpedo which requires a high-yield launcher if a ship wants to use it at full effect.

[2]: Theoretical advances not yet in production.

PLASMA TORPEDOES

Plasma torpedoes are the primary missile weapon of the Romulan Star Navy. They use a trilithium isotope to produce extremely powerful explosions. However, their effectiveness is limited by the distance to the target—the further they travel, the more power they lose.

Within a range of 90,000 km (3 MUs), a plasma torpedo does 900 points of damage—considerably more than comparative photon torpedoes. For every 30,000 km (1 MU) beyond that, subtract 6 points of damage. (Thus, if a ship can run far and fast enough, it can reach the point where a plasma torpedo impacts the shields harmlessly.) Plasma torpedoes cannot be Multifired; only one may be fired per launcher per round, and each firing constitutes a separate action. Plasma torpedoes require high-yield launchers.

Plasma torpedoes count as high-yield torpedoes, and thus require a special launcher (see page 70). Ships which carry plasma torpedoes often also carry photon or quantum torpedoes for use in situations where firing a plasma torpedo would not be tactically advantageous.

PULSE WAVE TORPEDOES

This form of torpedo is similar to a Type II photon torpedo, but emits an energetic pulse wave when it explodes. The blast does 180 points of damage, and on a roll of 1-2 on 1d6, the subspace interference caused by the blast imposes a -2 Test Result modifier on any Shipboard Systems Tests involving subspace-based technology (including sensors, transporters, shields, and communications) the target makes for the next 2d6 rounds.

Pulse wave torpedoes do not count as high-yield torpedoes; they can be launched from regular launchers.

STRATOSPHERIC TORPEDOES

Ordinary photon torpedoes and other missiles cannot be used for planetary bombardment, because they break apart without properly exploding as they attempt to enter an atmosphere. (Once a ship is inside an atmosphere, it can use torpedoes at targets within Short range without suffering this problem.) A stratospheric torpedo, on the other hand, is designed

to explode inside a planet's atmosphere. This allows chemical, biogenic, or similar weapons to be used against the planet or its population, or torpedoes to be fired at Medium or Long ranges within an atmosphere.

Stratospheric torpedoes do not count as high-yield torpedoes; they can be launched from regular launchers.

GRAVIMETRIC TORPEDOES

Gravimetric torpedoes are advanced Starfleet missile weapons whose explosions create intense gravimetric fields, tearing targets apart through the strain as much as the detonation. They do the same damage as Type II photon torpedoes, but deflector shields provide only half Protection when used against them. On the other hand, the ship's SIF applies to reduce the damage.

Gravimetric torpedoes count as high-yield torpedoes, and thus require a special launcher and are subject to other restrictions (see above).

CHRONITON TORPEDOES

Developed by some races with highly advanced chronal technology, such as the Krenim of the Delta Quadrant, chroniton torpedoes are in a state of chronal flux. As a result, a normal shield has no effect on them (and they do not decrease its Protection); they bypass it to strike the target directly. They do the same damage as Mark I quantum torpedoes.

Chroniton torpedoes count as high-yield torpedoes, and thus require a special launcher and are subject to other restrictions (see above).

MICROTORPEDOES

Microtorpedoes are 13.3 cm-long missiles loaded with chemical explosives (chemical or biogenic warfare agent payloads are also possible). They do 50 points of damage and have a very limited range (see page 71), making them ineffective in starship combat but useful for some forms of atmospheric combat or against unshielded structures.

MULTIKINETIC NEUTRONIC MINE

This fearsome Borg weapon has a yield of *five million* isotons and can affect entire solar systems or scatter Borg nanoprobes over a sphere with a radius of five light-years. Consider it a "plot device" able to destroy any ship within a given solar system and wreak havoc on planets and other bodies within that system.

MISCELLANEOUS ATTACKS

ANTIMATTER CONTAINER EXPLOSIVE

A ship in desperate straits can try ejecting a container filled with antimatter, then detonating it with a photon torpedo. This costs 1 Courage Point. The container is a Size 1 object. If hit, the explosion does 2d6 x 100 SUs of damage to all ships within a 2 MU radius, and one-third of that to ships from two to four MUs away from the center of the explosion.

MINES

Mines are, in essence, stationary torpedoes. Left floating in space to guard some area or interfere with passage through a particular region, they explode only when a ship comes close enough to them to trip their proximity or contact triggers (they can also be detonated by remote control by the person who placed them). They have no ability to move, other than small thrusters to help keep them in place. Versions include:

Antimatter Mines: Antimatter mines are the mine version of the standard Type II photon torpedo (more powerful versions are available). They use magnetic targeting capabilities to detect the approach of an enemy ship and detonate when they'll cause the most damage.

Cloaked Mines: A Klingon weapon, the cloaked mine hides itself with a cloaking field equivalent to a Class 10 cloaking device. They remain in place, inactive but invisible, until armed with a coded subspace signal. When they explode, they do 1000 points of damage.

Gravitic Mines: A mine version of the gravimetric torpedo.

Self-Replicating: Invented by Diagnostic and Repair Technician Rom of Deep Space 9 in 2373 as a last-ditch measure to prevent Dominion forces from coming through the Bajoran wormhole, the self-replicating mine consists of a 1.76x1.76x1.85 meter duranium cargo container filled with off-the-shelf photon torpedo parts and replication technology. The replication technology contains enough raw matter to produce 1/65 of a mine; the mines use subspace emitters to draw on each others' replication capacity to produce entire mines. Thus, before it

explodes, a self-replicating mine creates a mine to replace it, making it very dangerous for any ship to venture anywhere near a self-replicating minefield. They do 200 points of damage when they explode.

Spatial and Subspace Charges: Similar to mines but less powerful, spatial and subspace charges are usually placed by a ship as it passes through an area to deter pursuit or flush another ship out of hiding. Spatial charges work like antimatter mines; subspace charges like gravitic mines. Both do 120 points of damage. A ship can store 30 charges in 1 SU.

A ship may detonate a mine by causing 10 points of damage to it with a beam weapon.

ELECTROMAGNETIC PULSES INTO STARS

A ship can generate a tremendous solar flare by projecting an electromagnetic pulse or highly energetic particle beam into just the right point on a star. This requires the ship to get very close to the star. The Conn must make a Moderate (6) Shipboard Systems (Flight Control) Test. If he succeeds, the ship has gotten close enough without anyone aboard suffering more than discomfort from the heat. If he fails, he flies a little too close; everyone aboard takes 1-3 points of damage from the heat (ship's systems may also suffer some damage, at the Narrator's option). If he Dramatically Fails, he gets far too close; everyone aboard takes 2d6 heat damage (and so do systems aboard the ship). If the ship has metaphasic shielding, no heat damage is suffered unless the ship flies right into the sun.

As the ship flies by the star, it generates the pulse and projects it into the star. This requires 1 Courage Point and a Challenging (10) Shipboard Systems (Tactical) Test—placing the beam at just the right point isn't easy. If the Test succeeds, the star generates a massive solar flare. Anything within 200 million miles of the sun in the direction of the flare is destroyed—ships, space stations, asteroids, everything. Planets' atmospheres are boiled away, killing virtually every inhabitant of the world. (For Narrators who prefer more precision, the flare is Class C or D and magnitude 15-20; see page 174.)

If the Test fails, the beam wasn't properly placed; the ship can swing around and try again. If it Dramatically Fails, only a small flare is generated—and it strikes the ship generating it! The ship takes 200+20d6 damage.

PLASMA FIELD

A ship can generate a plasma field and use it as a weapon to drain another ship's Power. This requires a Challenging (9) Shipboard Systems (Deflector) Test to generate the plasma field. Then the Tactical Officer spends 1 Courage Point and makes regular Shipboard Systems (Tactical) Test to hit the other ship. If both Tests succeed, the plasma field envelopes the target, reducing the Power generated by its warp engine(s), impulse engine(s), auxiliary power, and emergency Power by half for 2+1d6 rounds. If the (Deflector) Test fails, the ship may not try to create the field for another 1+1d6 rounds; if it Dramatically Fails, the ship, not its target, suffers the effects of the plasma field.

VERTERON PULSE

A ship can generate a massive verteron pulse as a way of disabling all of the subspace-based systems on a ship, such as sensors, transporters, shields, and communications. To generate the pulse, the ship must make a Challenging (11) Shipboard Systems (Deflector) Test; hitting the target with it requires 1 Courage Point and a Shipboard Systems (Tactical) Test. If both Tests succeed, the target ship's subspace-based systems shut down completely for 1+1d6 rounds. If the (Deflector) Test fails, the ship may not try to create the field for another 1+1d6 rounds;

PLANETARY BOMBARDMENT

On very rare occasions, Starfleet vessels find it necessary to attack a planet, or something on a planet's surface. This is referred to as *planetary bombardment*, and is governed by very strict rules (such as the now-repealed General Order 24).

Ships perform planetary bombardment with phasers; torpedoes break up harmlessly upon trying to enter an atmosphere (except for stratospheric torpedoes). Starship phasers can be set for Stun damage (to knock out huge segments of the planetary population) or for normal, lethal damage (phasers are sufficient to obliterate any unshielded structure or object within the zone of bombardment, if necessary). When used for planetary bombardment, phasers can affect an area equal to 10 square meters for every point of damage they can generate at their normal full strength. This costs the normal Power for a full strength shot; the ship can expand the area affected by +5 square meters for every extra 3 Power spent, or by reducing the phaser's damage by 10 points.

If set to Stun, the phasers do a number of points of Stun damage equal to their type times three. For example, Type VIII phasers do 24 (8 x 3) points of Stun damage. If set for lethal damage, they do their type times twenty. For example, lethal bombardment with Type IX phasers does 180 points of damage. The Narrator should assign Resistance and SU values to buildings and similar objects to determine the effects of the bombardment.

if it Dramatically Fails, the ship, not its target, suffers the effects of the verteron pulse.

Other Ship Systems In Combat

The uses of the shields, weapons, and movement systems in combat are relatively obvious and straightforward. Other ship systems, such as sensors or transporters, also have important uses in combat and crisis situations.

SENSORS

The different types of sensors found on starships and how they work is explained beginning on page 49. This section addresses how those systems are used.

Size and Intensity Modifiers

The smaller or more dispersed the subject of a scan is, the harder it is to detect. The Narrator determines how large a negative modifier to the Shipboard Systems (Sensors) Test Result is, based on the target's size or intensity. As a good rule of thumb, an object the size of a Size 2 or 3 starship would be -1, a Size 1 starship -2, a probe -4. A very intense phenomena would be +2, an intense one +1, a mild one -1, a very mild or highly dispersed one -2.

Sensor Strength

Long-range, lateral, and navigational sensors all have a *Strength* rating ranging from 1 to 10. This indicates the general sophistication, quality, and power of the system. In game terms, it allows you to determine sensors' ability to overcome interference. Phenomena which can interfere with sensors are likewise rated on a scale from 1 to 10, and sometimes higher (see accompanying table). If a sensor's Strength is greater than or equal to the Strength of the interference, it functions normally. But if the interference's Strength exceeds the sensors' Strength, the user suffers a -1 Test Result penalty for every point of difference. For example, trying to use Class 7 lateral sensors (Strength 7) through a dampening field (Strength 10) results in a -3 Test Result penalty to Shipboard Systems (Sensors) Tests. Substances and phenomena categorized as "Impossible" to scan through may simply prevent the use of sensors altogether, regardless of the sensors' Strength.

Additionally, some sensors have "blind spots" which an enemy can exploit—if he can learn about them. Some of the forms of interference listed in the accompanying table, such as planetary polar magnetic fields, may represent large blind spots common to most types of sensors.

Transient Subspace Signals

A transient subspace signal is an especially deceptive form of sensor interference. It not only hides the existence of a ship from sensors, it makes it appear as if that ship suffered a warp core breach and was destroyed. It's a good tactic for, among other things, stealing ships or fleeing from an enemy.

To generate a transient subspace signal, a ship must make a Challenging (10) Shipboard Systems (Deflector) Test. If the Test succeeds, the ship is protected by the equivalent of a Class 10 cloaking device for purposes of the target

SENSOR INTERFERENCE

Strength	Examples
Any	Stellar radiation; a tachyon field; other types of interference which vary wildly in strength (see also page 150 regarding shield modulation to hide ships from sensors)
Mild (Strength 1-2)	A very low-strength dampening field, very weak ion or plasma storms
Light (Strength 3-4)	A low-strength dampening field, weak ion or plasma storms
Moderate (Strength 5-6)	The presence of meklonite; delta radiation from a star (or other source); magnetoscopic interference (produced by protostars); a tachyon field
Heavy (Strength 7-8)	Particle scattering fields; particle sustaining beams; the presence of actinides; kelbonite (a mineral)
Extreme (Strength 9-10)	Dampening field
Impossible (Strength 11+)	Anything which cannot, or can almost never, be scanned through, including high-energy subspace fields, subspace barriers, being inside a star's chromosphere or the polar magnetic field of a planet, system disruption from a massive verteron pulse, high-energy thoron fields, broad-band inversion fields, duonetic fields, and some types of dark matter nebulae.

ship trying to detect it (all other ships scan the ship normally, and the deception soon becomes obvious if the ship doesn't find some other way to avoid detection). If the Test fails (to any degree), the nature of the attempted deception becomes apparent to the target.

Boosting and Reconfiguring Sensors To Overcome Interference

Ships may try to boost their sensors with extra Power to cut through interference, at the rate of 4 Power per +1 Strength, up to a maximum of 150% of their normal Strength.

In some situations, characters can also try to reconfigure their sensors to overcome various types of interference. Sometimes this involves a simple recalibration (as with trying to scan a planet's polar magnetic field); sometimes it's more complicated. One possible method is a *multiphasic scan,* which uses energy pulses with signals of overlapping frequencies and nutation to penetrate interference. Reconfiguring for the multiphasic bandwidth requires a Moderate (8) Shipboard Systems (Sensors) Test. If the Test succeeds, it grants a +2 bonus to the sensors' Strength; maintaining this bonus costs 3 Power per round. (If the Test fails, the character may try again next round; if it Dramatically Fails, he's caused damage to the system, such that for 1+1d6 rounds all Shipboard Systems (Sensors) Tests suffer a -1 Test Result penalty).

A ship can sometimes overcome dampening fields, and some other fields deliberately created to interfere with sensors, by re-initializing the sensors to match the relative phase of the field. The Narrator determines whether this is possible. If it is, it requires a Moderate (7) Shipboard Systems (Sensors) Test. If the Test succeeds, it grants a +3 bonus to the sensors' Strength for purposes of overcoming that one type of interference. Maintaining this bonus costs 2 Power per round. (If the Test fails, the character may try again next round; if it Dramatically Fails, increase the Strength of the interference by 2 with regard to the character's ship's sensors.)

A ship can improve the Strength of its sensors by channelling them through the main deflector. This requires a Moderate (7) Shipboard Systems (Sensors) Test; it takes a minimum of 1d6 rounds (and often longer). If the Test succeeds, increase the sensors' Strength by 25%. This costs 5 Power per round to maintain. If the Test fails, the character may try again next round; if it Dramatically Fails, it in fact works, but the sensors penetrate too deeply into subspace and attract the attention of hostile solangen-based lifeforms living there (or other unfriendly subspace beings).

By emitting an inverse tachyon pulse with the ship's main deflector, a character can scan beyond subspace barriers, which ordinarily render sensors useless. It takes 3d6 hours and a Moderate (8) Systems Engineering (Deflector *or* Sensors) Test to modify the ship to generate the pulse. If the Test succeeds, the ship's sensors work through subspace barriers (it costs 5 Power per round to maintain the inverse tachyon pulse). If the Test fails, the character may try again after another 1d6 hours work; if it Dramatically Fails, he has done 2d6 damage to the main deflector (no defenses apply).

If all else fails, a character can configure his sensors for a *magneton scan,* one of the most precise and accurate sensor protocols known to Starfleet. It takes 1d6 rounds and a Moderate (6) Shipboard Systems (Sensors) Test to configure the sensors (if he fails, he can try again after another 1d6 rounds; if he Dramatically Fails, the results are as for failure, plus he damages the sensors, imposing a -1 Test Result penalty on all (Sensors) Tests for the next 1d6 hours). If the Test succeeds, it temporarily increases the sensors' gain by +3, but the Power cost for sensor use (including boosting the sensors' strength with extra Power) doubles.

A ship with inoperable or ineffective sensors can try emitting a modified tetryon pulse. It requires one minute and a Routine (4) Shipboard Systems (Sensors) Test to reconfigure the ship's systems to do this. (Failure means the character can try again; Dramatic Failure burns out the equipment for emitting the pulse, requiring repairs which take about an hour.) The pulse has two drawbacks. First, it can only detect other ships and objects within 10,000 kilometers, and even then can't usually differentiate between them well (it can tell the difference between a ship and an asteroid, or two ships of different sizes, but not always between two ships of the same size). Second, other vessels with working sensors can automatically detect the tetryon pulse, so the ship has to change course and speed after emitting each pulse to prevent the other ships from intercepting it.

Aiding Tactical With Sensors

The Conn or Ops officers can use the sensors to improve a ship's ability to hit targets in combat by augmenting and enhancing the targeting

scanners. The character makes a Shipboard Systems (Sensors) Test against a Difficulty established by the Narrator (typically Moderate (6), but this may increase or decrease based on the situation). For every two points by which the character succeeds with the Test, the Tactical Officer receives a +1 Test Result bonus to his Shipboard Systems (Tactical) Tests to hit targets that round (maximum of +4). This effect only lasts during the round in which the character makes the (Sensors) Test; next round he has to try it again if he wants to maintain the bonus.

If the (Sensors) Test fails, the character may try again next round. If it Dramatically Fails, a short develops in the sensors systems; he may not try this again for 1+1d6 rounds, and during that time all other Shipboard Systems (Sensors) Tests suffer a -1 Test Result penalty.

ELECTRONIC WARFARE WITH SENSORS

Sensors are a vital element in *electronic warfare* (EW)—attempts by one ship to interfere with another ship's ability to sense or communicate, or to deceive the victim's sensors. The combat advantages of this are obvious; a blind enemy is weakened, and often completely helpless.

For the most part, Narrators can resolve electronic warfare situations with Opposed Tests pitting the respective warriors' Shipboard Systems (Sensors) skills against each other. This simulates all sorts of jamming, counterjamming, and counter-counterjamming of sensors. Alternately, the Narrator can have each combatant make an Extended Test with his Shipboard Systems (Sensors) skill. The first character to reach the Test total accomplishes his goal (whatever that may be).

Shipboard Systems (Communications) and Computer (Data Hacking/Alteration) also factor prominently into EW. Whereas (Sensors) has to do with tricking or blocking the opponent's sensors (or preventing him from doing the same to you), (Communications) and Computer relate to actually getting into the opponent's computer system and interfering with the operations of his ship more directly. See page 153 for more information.

Some specific aspects of sensor EW include:

False Damage

By broadcasting certain false signals, a ship can make it appear that it's in distress, more badly damaged than it actually is, or suffering from some other problem. Typically a ship would do this to lure another ship closer (a favorite trick of pirates and raiders) or to persuade another ship to leave it alone. You can determine whether the target believes the false signals intelligence with an Opposed Test.

Sometimes a deception such as this involves manipulating other systems on the ship as well. For example, by boosting the SIF and IDF, a ship can take a relatively minor hit but make it seem as if the damage is much more severe.

Reducing Power Signature

A ship which wants to reduce its chances of being detected with sensors can, if circumstances permit, shut down some or all of a ship's systems to make it harder to pick up the ship with a scan. If a ship shuts down all of its non-essential systems (everything but life support, tactical systems, flight control, and the like), other ships suffer a -2 Test Result penalty to Shipboard Systems (Sensors) Tests to detect it. If it shuts down *all* systems, including life support, the penalty increases to -5.

Countering Tactical Bonuses

When one ship tries to use Shipboard Systems (Sensors) to obtain bonuses to Shipboard Systems (Tactical) Tests for attacks on another ship, the target ship can try to defeat that attempt with an Opposed Test. By issuing jamming signals and interfering with the attacker's sensors, the target ship prevents the establishment of a strong enough sensor lock to aid the Tactical Officer.

A ship could also try to break, or prevent the establishment of, a targeting lock by the TA/T/TS. Since the Tactical Officer doesn't normally make a Test to establish a targeting lock, if the Narrator wishes to allow this, he can simply set a Difficulty for the countering Test. At a minimum, the Difficulty should be Challenging (9); establishing a targeting lock is relatively easy, so breaking or preventing one should be difficult. Additionally, impose a -1 Test Result penalty for every +1 bonus provided by the TA/T/TS.

Countering Sensor Deceptions

If a character has reason to suspect that some other ship is modulating its shields or using other tricks to fool his sensors, he can try to overcome this interference. Since the other ship has already made the necessary Tests to

deceive the character's sensors, have him make a Shipboard Systems (Sensors) Test using the other ship's Test Result as his Difficulty. If he equals or exceeds the Test Result used to establish the deception, he discovers what happened and counteracts it.

Echo Displacement, Warp Shadows, and Other False Sensor Readings

Echo displacement is a tactic in which a ship uses its main deflector to project false sensor images to another ship, making that ship think that several other ships are present. To create an echo displacement, a ship must make a Challenging (9) Shipboard Systems (Deflector) Test to generate the proper sensor readings, then another (Deflector) Test in the usual manner to "hit" the target with the false readings (this all takes 1 round). The target can make a Shipboard Systems (Sensors) Test with a Difficulty equal to the Test Result of the Test used to generate the echo displacement to determine that the readings are false. If that Test does not succeed, it believes the readings to be true. Related tricks, using the same rules, include: linking a ship's holoemitters to the navigational deflector, thus creating an illusory duplicate of the ship; and "deflecting" a ship's sensor image up to 100,000 kilometers away from its actual position.

Warp shadows, on the other hand, are not quite so much under a ship's control. They're "sensor ghosts" created by warp-capable ships under certain conditions. Not every ship's sensor system picks up warp shadows, but if it does, it requires a Moderate (7) Shipboard Systems (Sensors) Test to determine that the "ships" detected don't really exist.

If a character happens to know a target ship's security codes (or can manage to penetrate its computer system using Computer (Data Alteration/Hacking)), he can use them to override its sensor codes and generate whatever false sensor images he wishes. This requires a Routine (5) Shipboard Systems (Sensors *or* Communications) Test to enter the target's systems and plant the right sensor data. Done correctly, the deception is virtually flawless, even causing the fake images to appear on the target's viewscreen (if applicable).

Coherent Neutrino Beam

In situations, when two ships are within a million kilometers of each other, one can use a *coherent neutrino beam* to spy on the other. To create a coherent neutrino beam, a ship must make a Challenging (9) Shipboard Systems (Deflector) Test to generate the beam, then another (Deflector) Test in the usual manner to "hit" the target (this all takes 1 round). The target can make a Shipboard Systems (Sensors) Test with a Difficulty equal to the Test Result of the Test used to generate the beam to determine that it's in use. If that Test does not succeed, the target ship has failed to perceive the beam, allowing the ship generating it to observe activity on it undetected. A coherent neutrino beam will not penetrate a sensor-reflective hull or various types of shields which block sensors.

Photonic Pulse

A ship can generate a *photonic pulse* to knock another ship's sensor systems offline. To create a photonic pulse, a ship must make a Challenging (9) Shipboard Systems (Deflector) Test to generate it, then another (Deflector) Test in the usual manner to "hit" the target (this all takes 1 round). If the pulse hits the target, its sensors all go offline for 1+1d6 rounds, or until ship's personnel make a Challenging (9) Shipboard Systems (Sensors) Test to reinitialize the entire sensor array (the effect lasts for a minimum of 1 round even if this Test succeeds).

TURNING A FEDERATION RUNABOUT INTO A CARDASSIAN FREIGHTER

In 2370, Deep Space 9's first officer, Maj. Kira Nerys, and Chief of Operations, Miles O'Brien, needed to enter Cardassian space in a *Danube*-class runabout to search for long-lost Bajoran war hero Li Nalas. To make sure they had the best chance possible of sneaking past Cardassian patrols, Chief O'Brien used electronic warfare-like tricks to make the ship appear to be a Cardassian freighter when scanned with sensors. He modulated the engine's power emissions, reconfigured the deflector shield grid, and installed field buffers around the subspace emitter coil. With just a few hours' work, he was able to deceive the Cardassians easily. In game terms, the Narrator would award him a Test Result bonus to his Opposed Shipboard Systems (Sensors) Test to trick the Cardassians to reflect all these preparations.

Another way to disguise a ship to sensors is to shut off or alter its identity code. Ships constantly broadcast an identity code so that other ships know who they are. If the code broadcast is turned off, the ship can be identified with sensors by its warp signature (see page 100) or similar means. If the code is altered, it becomes an Opposed Test using the Shipboard Systems (Communications) skills of the two ships. If a ship's code has been turned off, a character who knows that ship's transponder frequency can broadcast it at that ship, causing it to resume sending its code.

COMMUNICATIONS

Information on the different types of Communications systems available, and the benefits they provide, is on page 55. Here's how crewmembers use the Communications system in combat.

COMMUNICATIONS STRENGTH

Like sensors, Communications systems are rated with a *Strength* from 1 to 10 which indicates their quality and power. Various forms of interference are rated from 1 to 10 as well (sometimes higher). If Communications' Strength is greater than or equal to the Strength of the interference, it functions normally. But if the interference's Strength exceeds Communications' Strength, the user suffers a -1 Test Result penalty for every point of difference. For example, trying to use Class 5 Communications system (Strength 5) through a very weak antilepton field (Strength 7) results in a -2 Test Result penalty to Shipboard Systems (Communications) Tests. Substances and phenomena categorized as "Impossible" to communicate through may simply prevent the use of Communications altogether, regardless of Communications's Strength. The accompanying table includes some common examples of Communications interference; see also page 173.

Communications also has a *Security* rating. This represents its encryption algorithms, security protocols, and other measures taken to preserve the integrity and privacy of the Communications system (and the computer system, when outsiders try to "hack" into it from remote locations). It acts as a Test Result penalty to uses of Computer (Data Alteration/Hacking), Espionage (Cryptography), and similar skills versus the ship.

SECRET COMMUNICATIONS

One of the most important uses of Communications in a combat environment is to allow comrades and allies to talk to each other without the enemy overhearing them or figuring out what they're saying. Any time an enemy tries to overhear or decrypt a communication, apply the Communications system's Security rating as a penalty to his Test Result.

Experienced Communications officers know many tricks to disguise messages, or improve their security. For example, a subspace transmission can be camouflaged with quantum interference, making it seem like background radiation unless you know what to look for (which the message's recipient almost certainly will). This requires 1 round, 5 Power, and a successful Moderate (6) Shipboard Systems (Communications) Test. If the Test fails, the character can try again; if it Dramatically Fails, he's just broadcast his message "in the clear" for everyone to hear and understand.

Another way to send and receive transmissions without using a ship's antennae or otherwise alerting the crew is to send the transmissions through the ship's power grid, then encode it into the waste energy from the propulsion system, which is almost indistinguishable from normal galactic background noise. This requires 1d6 rounds and a successful Moderate (6) Shipboard Systems (Communications) Test. Failure means the message gets garbled in the waste energy and cannot be received; Dramatic Failure alerts the ship that the message is being sent.

Another clever way to send messages is to use the main deflector to emit old-style delta waves. This allows one ship to communicate with another via the other ship's *sensors*—a perfect solution for times when communications

COMMUNICATIONS INTERFERENCE

Strength	Examples
Any	Excessive stellar radiation; other types of interference which vary wildly in strength
Mild (Strength 1-2)	Very weak ion or plasma storms, very weak atmospheric electromagnetic disturbances; weak magnetascopic interference
Light (Strength 3-4)	Weak ion or plasma storms; weak atmospheric electromagnetic disturbances; magnetascopic interference
Moderate (Strength 5-6)	Atmospheric electromagnetic disturbances; strong magnetascopic interference
Heavy (Strength 7-8)	Particle sustaining beams (certain frequencies may be left open to allow some communication), very weak antilepton interference; strong atmospheric electromagnetic disturbances
Extreme (Strength 9-10)	Weak antilepton interference
Impossible (Strength 11+)	Anything which cannot, or can almost never, be communicated through, including antilepton interference, a broad-band inversion field, or a rotating EM pulse

are offline or monitored. This requires 1d6 rounds, 5 Power, a successful Moderate (6) Shipboard Systems (Deflector) Test to set up the deflector, and a Routine (4) Shipboard Systems (Communications) Test to send the message properly. The consequences of failure on either Test are as for quantum interference.

Of course, when subtler methods of protecting or hiding messages fails, a ship can always try the old trick of scrambling communications frequencies. This requires a successful Routine (5) Shipboard Systems (Communications) Test and 3 Power per round. If the character makes the Test exactly, increase the Communications system's Security rating by -1; for every 2 points beyond 5 by which the roll is made, add another -1 (maximum of -4 bonus). As a side benefit, scrambling the communications frequencies prevents an enemy from using a ship's communications frequencies to establish a targeting lock. If the Test fails, the character can try again next round; if it Dramatically Fails, reduce the system's normal Security modifier in half (thus, -5 becomes -2).

If the Crewmembers learn that someone is sending secret messages from their ship, but not who, they can use a *signal correlation trace* determine where a communication was sent from—which terminal the malfeasor used. That often provides further clues towards identifying the culprit. Using a signal correlation trace requires a Routine (4) Shipboard Systems (Communications) Test.

SECURED CHANNELS

Starfleet Communications systems use a large number of secured channels for private or secret communications. The higher an officer's rank, the more such channels he has access to. Opening a secured channel typically requires an authorization code, such as *alpha four seven*. Each secured channel costs 1 Power per round and imposes a -1 to -4 Test Result penalty on attempts to intercept, overhear, or decrypt it (the more secure the channel, the greater the penalty).

ELECTRONIC WARFARE WITH COMMUNICATIONS

Jamming, counterjamming, and counter-counterjamming of communications is an important factor in many starship battles. While the Tactical Officers slug it out with phasers and photon torpedoes, the officers assigned to Communications fight a silent, but no less important, battle to control the ability to communicate.

Typically, you should resolve Communications EW with Opposed Tests using the two characters' Shipboard Systems (Communications) skills (don't forget to apply the defender's Security modifier to the attacker's Test Result). In some situations, an Extended Test with Shipboard Systems (Communications) works better; the first character to achieve the Test total wins the fight for control (in this case, subtract the target system's Security rating from each roll). Both of these methods simulate the back-and-forth oneupsmanship inherent in contests to control the electronic battlefield very well.

Generating and Countering Interference

To generate energy fields or other effects which interfere with Communications (such as a rotating EM pulse, antilepton interference, or broad-band inversion field), a ship must make a Moderate (7) (or higher) Shipboard Systems (Deflector) Test and expend 4 Power per round. If the other ship tries to prevent this or overcome the interference, make it an Opposed Test pitting (Deflector) against (Communications). If a ship flies into an area where such interference has already been established, it has to rely on the Strength of its Communications system to overcome it.

Remote Computer "Hacking"

Communications EW can also be used to penetrate an enemy's computer systems remotely. Once inside an enemy's computer, a character can wreak havoc with his ship, creating false sensor readings, disabling crucial systems, and even bringing the entire ship to a standstill. Thus, starships take elaborate precautions to protect their computers. These can include user code clearance procedures, security access codes (which require both the right code and voiceprint), physical scans (fingerprints, retinal prints, DNA), encryption lockouts, and special encryption algorithms, and other procedures.

Opening a "pathway" into an enemy's computer system requires an Opposed Test against the Shipboard Systems (Communications) skill of the other ship. Assuming that succeeds, a Computer (Data Alteration/Hacking) Test is required to actually take control of all or part of the computer (and, in the process, to lock the other ship out of its own system).

To take control of a single system on the ship requires a Moderate (8) Computer (Data Alteration/Hacking) Test; if the system is particularly crucial or well-protected (such as Tactical systems or the warp engine controls), increase the Difficulty to at least Challenging (11) (the Narrator should, of course, adjust Difficulties up or down as he sees fit, based on the situation). To take control of a ship's entire computer system (for example, to transmit a "shutdown sequence" which turns off all ship systems except life support) requires a Difficult (12) Computer (Data Alteration/Hacking) Test. (Due to its elaborate protections, any attempt to turn off or take control of a ship's life control systems must be made separately, and requires a Nearly Impossible (15) Computer (Data Alteration/Hacking) Test.) Failure on any of these Tests usually results in the character getting ejected from the system (he has to start his "hacking" all over again). Dramatic Failure not only results in ejection, but gives the target a +3 Test Result bonus for 1d6 rounds for his own attempts to hack the character's ship's computer.

If a ship is particularly worried about having a system or set of systems (such as the navigational computer or Tactical systems) taken over, it can isolate those systems to prevent an enemy from overriding them. This requires 1 round and a Routine (5) Computer (Data Alteration/Hacking) Test. The drawback is that, since those systems are partially isolated from the ship's computers, any Tests performed with them suffer a -1 Test Result penalty.

Fortunately for electronic warriors, even a lockout of the Communications system for purposes of communicating doesn't lock out the ability to hack. Thus, a character could use his own Communications system to try to override a remote lockout of the Communications system! To *completely* override Communications, such that even hacking is impossible, requires a Difficult (13) Computer (Data Alteration/Hacking) Test.

To prevent remote computer takeover, or the use of a ship's computer by invaders, a ship's crew may try to encrypt the system. Some of Starfleet's encryption techniques, such as fractal encryption, are virtually unbreakable. To establish encryption, a character spends a minimum of 1d6 minutes (and often much longer) and makes a Computer (Data Alteration/Hacking), Security (Computer), or Espionage (Cryptography) Test (whichever he prefers). Divide his Test Result by 2 and apply the result to any attempts to penetrate the ship's computer system as a negative Test Result modifier. However, since this keeps most crewmembers from accessing the computer as well, it has the effect of shutting off many ship systems.

Prefix Codes

As mentioned on page 134, every Starfleet vessel has a *prefix code*. If someone knows a ship's prefix code and can transmit it to that ship, he can take control of all of that ship's key systems remotely. For example, he could shut off the ship's shields, shut off its engines, activate the auto-destruct system, prevent the use of weapons, and so forth. This requires no Test, but the character must know (or have access to) the target ship's prefix code (extremely unlikely, unless he holds the rank of Commander or higher in Starfleet).

COMMUNICATIONS FILTERS

Sometimes it's possible to "filter" a starship's visual communications transmissions through software which alters the appearance of the persons in the transmission (and the place they're transmitting from). For example, a group of Cardassians attempting to infiltrate Klingon space in a captured *B'rel*-class vessel might use a communications filter so that when they hail another Klingon ship, they *look* like Klingons to the other vessel. If they didn't have a Klingon ship, they could use the filter to make their ship's bridge look like a Klingon bridge.

Creating a communications filter takes an hour and requires a Moderate (7) Computer (Programming) Test. Failure indicates the filter doesn't work (or cannot be installed); Dramatic Failure means it doesn't work, but the character *thinks* it works.

Using a filter correctly requires a Routine (5) Shipboard Systems (Communications) Test. Success means the other ship's crew is fooled (though they may catch on if the characters say something inappropriate, don't know the proper passcodes, or the like). Failure means the other ship gets a Search (or Intellect) Test (modified by Perception) against a Difficulty set by the Narrator (the worse the failure, the easier the Test; a Dramatic Failure means it's only a Routine (4) Test).

Tractor Beams

Basic rules for using tractor beams—how much mass they move, at what range, and how difficult it is to use them—are on page 56. This section addresses some specific combat-oriented and specialized use of the tractor beam.

Basic Combat Effects of Tractor Beams

To determine whether a tractor beam can move a particular ship, compare that ship's mass to the amount the tractor beam can move, given the range between them. If the tractor beam's Strength is sufficient to move the ship's mass at that range, it can move or immobilize the ship. If it is not, the tractor beam is ineffective; the target can break the beam effortlessly.

When a ship manages to immobilize a target with a tractor beam, the Difficulty for it to hit that target with any other attacks is reduced to Routine (3). Other ships receive the standard -2 Difficulty bonus for attacking an immobile target.

Ships caught in tractor beams usually cannot use beam or missile weapons. However, there are some exceptions to this general rule. For example, some types of tractor beams, such as Borg versions, allow the captive to fire weapons normally. The Narrator may allow a ship to fire weapons when caught in a tractor beam (particularly at the beam generator) with a successful Challenging (11) Shipboard Systems (Tactical) Test.

If a ship is caught in a tractor beam, generally no one can transport onto or off of it. (Again, Borg tractor beams are an exception.) However, the Narrator may allow transport with a successful Challenging (10) Shipboard Systems (Transporters) Test. The ship maintaining the tractor beam can also open up a "window" to allow transport without releasing its captive.

On the other hand, using a tractor beam to stabilize a single *object* makes it easier to transport that object aboard the ship. Add a +1 bonus to Shipboard Systems (Transporters) Test Results when a ship uses this trick.

If two tractors are used in opposition to each other in a "tug of war," subtract the amount the weaker tractor can move from the amount the stronger one can move; the result is how much the stronger one can now move. (Compare that to the tractor beam model's table to see what Strength it now has.) If one tractor tries to reinforce or aid another, add the amounts they can move together and compare that to the first tractor beam's model table to see what Strength it now has.

Preventing Tractor Beam Lock-On

The easiest way to avoid the effects of tractor beams is to prevent them from locking onto your ship in the first place. Aside from the various methods involving the harmonics, modulation frequency, and polarity of shields and hulls (see pages 127-129, 122), the best way to do this is to remain in an area of space which somehow interferes with the tractor beam. This includes the atmospheres of most planets, magnetic fields, very close to stars, near the gravitational effects of a wormhole or similar phenomenon, and the like. The Narrator determines the effect of the interference, which may make it impossible to use the tractor beam, just make it harder to use (*i.e.*, increase the Difficulty of the attack Test), decrease the tractor's Strength, or perhaps even require the attacker to use its main deflector to enhance its tractor beam. In some cases, interference can be overcome by establishing a "relay system" with shuttlecraft, probes, or other means.

Breaking a Tractor Beam Lock-On

Impulse Speed

The most common way to try to break a tractor beam is to use impulse power to break free. If the ship's speed in terms of a percent of the speed of light (*c*) (represented as a whole number) exceeds the Strength rating of the tractor beam, the caught ship breaks free without suffering any damage.

Example: *The* U.S.S. Plutarch *(a Size 5 ship massing 500,000 metric tonnes) has Class 3A impulse engines, which allow it to travel at a maximum impulse speed of .75c. An enemy vessel with a Class Delta tractor beam catches it at a range of 10 km with a tractor beam set at Strength 8. At that range, the tractor beam can move 500,000 metric tonnes, so it can catch and immobilize the* Plutarch. *Since the ship's highest impulse speed (.75c, or 7.5 as a whole number) is less than the tractor beam's Strength (8), it cannot use impulse speed to break free.*

However, suppose the two ships were only 1 km apart, but the beam was set on Strength 7 (still sufficient to immobilize the ship). Since the Plutarch*'s maximum impulse exceeds 7, it can break free simply by attaining that speed.*

Theoretically, it's possible for a small ship to hold a much larger one completely immobile by using a tractor beam at close range. However, in practice this almost never occurs; the larger ship can use its own tractors to counteract the smaller ship's tractors or find other ways to break free.

Ships *cannot* use warp speed to break free from tractor beams. Any attempt to do so, regardless of the Strength of the beam or the relative Sizes of the two ships, will cause the captive ship to tear itself apart, destroying it and killing everyone on board. On the other hand, if the ship generating the tractor beam goes to warp, the beam breaks with no damage to the captured ship.

Antimatter Surge

A trapped ship can break a tractor beam by sending an antimatter surge through its shield matrix (all of its shield grids). This trick, which requires a successful Moderate (7) Shipboard Systems (Shields) Test and 3 Power, also disrupts the attacker's tractor emitters, preventing them from working for the next 1-3 rounds. If the Test fails, no further attempts may be made; if it Dramatically Fails, the ship burns out its shields for 1+1d6 rounds (or until a Challenging (9) Systems Engineering (Shields) Test to repair them succeeds).

Feedback Loops and Plasma Surges

A ship caught by a tractor beam can send a *feedback loop* (or feedback pulse) through active shields, or if shields are not active a *plasma surge,* to neutralize the tractor beam and temporarily disable the tractor emitters. The ship makes a Moderate (8) Shipboard Systems (Deflector) Test and spends 4 Power. If the Test succeeds, the tractor beam is broken and the tractor emitters which projected it will not work for 1+1d6 rounds. If the Test fails, the character may try again; if it Dramatically Fails, he may not try either of these methods to escape this tractor beam anymore.

Optronic Pulse

An optronic pulse weakens a tractor beam, allowing a captured ship to break free with impulse power. It requires a Moderate (6) Shipboard Systems (Deflector) Test. If the Test succeeds exactly, reduce the tractor beam's Strength by 1; for every additional point by which the Test succeeds, decrease Strength by another point (thus, a Test Result of 10 reduces the tractor beam's Strength by 5). This effect lasts one round. (If the Test fails, the character may try again; if it Dramatically Fails, he shorts out his main deflector, incurring a -3 Test Result penalty for all Tests involving its use for 1-3 rounds). The ship generating the tractor beam can counteract the optronic pulse by spending 5 Power per point of Strength to restore the tractor beam. For example, a Strength 10 beam reduced to Strength 5 could be "healed" to Strength 10 with 25 Power.

Particle Beams and Polaron Beams

Generating a particle beam or polaron beam can disrupt a tractor beam, allowing a captured ship to go free. This requires a Moderate (7) Shipboard Systems (Deflector) Test and 3 Power. If the Test succeeds, the particle or polaron beam disrupts the tractor beam (and the emitters which projected it, which don't work for the next 2 rounds). If the Test fails, the character may try again; if it Dramatically Fails, he may not try either of these methods to escape this tractor beam anymore.

A ship whose tractor beam is disrupted by a particle beam may try to send pulse feedback into the other ship down the particle beam, which can disrupt the target's SIF. This requires a Moderate (7) Shipboard Systems (Deflector) Test and 3 Power. If it succeeds, the pulse reduces the target's SIF's Protection by 33% for 2d6 rounds. If it fails, the SIF remains stable; if it Dramatically Fails, the ship generating the pulse suffers 3d6 damage to its navigational deflector (no defense applies).

ADVANCED TRACTOR BEAM APPLICATIONS

Deflecting Weapons Fire

By locking a modulated tractor beam onto a specific beam weapon, a ship can deflect part of that weapon's fire. The ship must first hit the weapon with its tractor beam (this

requires a normal attack Test, with appropriate Hit Location modifiers from the table on page 85). The tractor beam must be used at Strength 10 (if the ship is not within range to do so, it may not use this tactic). If the attack Test succeeds, as long as the beam remains locked onto the target's weapon, that weapon's effect is reduced by a percentage equal to (1+1d6) x 10%. For example, on a roll of 4 (+1=5), the weapon does only 50% (5 x 10%) of its normal damage.

Using a tractor beam on a torpedo launcher in this fashion prevents the launcher from firing any torpedoes.

Misdirecting Transporter Beams

Intersecting a transporter beam with a tractor beam allows the ship generating the tractor beam to alter the course of the transporter beam, causing it to materialize in a location other than the one it was originally intended for. This requires a successful Challenging (10) Shipboard Systems (Tractor Beam) Test. Failure means the transporter beam was not misdirected at all; Dramatic Failure that there was feedback to the tractor emitters, causing 4d6 damage to them (no defense applies).

Power Disruption

If the resonance frequency of a tractor beam is incompatible with a target ship's Power systems, it can short out main and auxiliary power by overloading the warp and impulse relays. To use this as a combat tactic, first a ship must succeed with a Moderate (8) Shipboard Systems (Sensors) Test to determine the proper resonance frequency for the tractor beam. Then it must succeed with a Challenging (10) Shipboard Systems (Tractors) Test to set the tractor's resonance frequency properly. Lastly, it has to spend 1 Courage Point and hit the target with an attack Test. If all these Tests succeed, the target ship loses 33% of its Power generation ability per round until it reaches 0; this effect lasts as long as the tractor beam holds the target. If either of the first two Tests fail, it disrupts the entire process; Dramatic Failure usually results in damage to equipment.

Subspace Tractor Beam

An ordinary tractor beam may be reconfigured to be a *subspace tractor beam* so that it can rescue ships trapped in the event horizon of a singularity, a subspace rift, or similar phenomena. This requires 1d6 minutes and a Moderate (6) Shipboard Systems (Tractor Beam) or Systems Engineering (Tractor Beam) Test. Subspace tractor beams use 4 Power per point of Strength.

Transporters

Basic information on transporters, including their components, how they work, and how to buy them in game terms, is on pages 58-60. This section details some combat or specialized uses of them.

Transporter Strength

Every transporter is rated for *Strength*. Strength ranges from 1 to 10 and indicates the power, efficiency, and quality of the transporter. Phenomena which can interfere with transporters are likewise rated from 1 to 10 (sometimes higher). If a transporter's Strength is greater than or equal to the Strength of the interference, it functions normally.

However, if the interference's Strength exceeds the transporter's Strength, transport becomes more difficult, or even impossible. If the difference is only 1 or 2 points, transport is possible, but at -2 or -4 to the Shipboard Systems (Transporters) Test Result. If the Test fails, disaster may occur (see below). If the difference is 3 points or more, transport is either impossible, or at best imposes a -6 Test Result penalty to the (Transporters) Test. Substances and phenomena categorized as "Impossible" to transport through typically prevent the use of transporters altogether, regardless of the transporters' Strength. The accompanying table includes some common examples of transporter interference; see also page 173.

Improving Transporter Performance

A ship can try to cut through interference by improving the performance of a transporter. The most common way to do this is to supply the transporter with extra Power, thus tightening the ACB, enhancing the emitter and receiver arrays, reconfiguring the pattern buffer and so forth. A transporter's Strength may be improved by up to 150% at a cost of 3 Power per +1 Strength.

Pattern enhancers (*The Price of Freedom: The United Federation of Planets Sourcebook,* page 98) enhance and stabilize transporter signals in

TRANSPORTER INTERFERENCE

Strength	Examples
Any	Electromagnetic disturbances from an atmosphere or other sources; other types of interference which vary wildly in strength
Mild (Strength 1-2)	Very minor amounts of rock
Light (Strength 3-4)	Minor amounts of rock, a low-strength scattering field
Moderate (Strength 5-6)	Severe nucleonic interference (from, *e.g.*, a subspace rupture or a tetryon field), significant amounts of rock, a moderate-strength scattering field
Heavy (Strength 7-8)	Particle scattering field; particle sustaining beam, large amounts of rock, a high-strength scattering field
Extreme (Strength 9-10)	Extensive amounts of rock; kelbonite (a mineral)
Impossible (Strength 11+)	Anything which cannot, or can almost never, be transported through, including a deflector shield, transport inhibitor field, being within 500 km of a star, a tetryon field, most tractor beams, magnesite (an ore), a graviton beam or pulse, a dispersal (or dispersion) field, a subspace rupture, a distortion field, an ionic disruption field created by reconfiguring the M/AM engine, a high-energy graviton pulse, thoron emissions, nucleonic radiation, or a duonetic field

their field of effect (a triangular area usually no more than a few meters on a side). When transporting to or from an area covered by pattern enhancers, increase the transporter's Strength by 150% (this does not cost extra Power). Pattern enhancers do not work in a polarized ionization field.

Isolinear tags are small transponders which function just like pattern enhancers. However, they only work for one person.

To counteract dampening fields and similar forms of interference, a transporter operator can match the transporter's pattern buffer's frequency to that of the field. This requires 1 round, a successful Moderate (6) Shipboard Systems (Transporter) Test, and 5 Power. If the character fails, he can try again; if he Dramatically Fails, he cannot try again for the rest of the scene.

Establishing a Transporter Lock

Before a person can be transported, the transporter must establish a *transporter lock* on him using the transporter targeting components and ship's sensors. Thus, anything which interferes with the ship's sensors will probably prevent the establishment of a transporter lock. If necessary the Narrator may have the character operating the transporter make a Shipboard Systems (Transporters) Test against a Difficulty based on the nature and amount of interference to establish a lock.

A transporter operator who's having difficulty establishing a lock on a subject due to interference can try to establish a *skeletal lock* by homing in on the minerals in the subject's bones. This requires 1 round, a Moderate (6) Shipboard Systems (Transporter) Test, and 5 Power. If the Test succeeds, boost the transporter's Strength by 3 for purposes of cutting through the interference. Failure (of any degree) means the lock cannot be established.

Similarly, if a ship suspects it will have trouble beaming someone back to the ship, it can have him injected with radioneuclides, then use those to help lock onto him. The effects are the same as for a skeletal lock.

Transporter Limits

The weight of a transported object generally has no impact on the transport process. There are recorded instances of multiple hundreds of tons of living and unliving matter being transported without difficulty. The limiting factor on transport (besides range) is the size of the emitter pad(s) used (if applicable), and the size of the area into which the subject will be transported.

CONSEQUENCES OF FAILURE

Ordinary transporter use does not require a Test. But whenever circumstances might affect or hinder the transport process, the character operating the transporter must make a Shipboard Systems (Transporters) Test. The standard Difficulty is Routine (4), but the Narrator should adjust this to reflect the circumstances. Just because a transporter has enough Strength to cut through interference doesn't mean the transport process is easy or goes smoothly, for example. And failure to complete the transport procedure properly can have disastrous consequences.

If the character has to make a Test to establish a transporter lock, failure means that transport cannot take place until circumstances change

or a way is found to increase the transporter's Strength (Dramatic Failure means the same thing, but usually results in some damage to equipment which takes time to repair or makes the transport process more difficult).

If a lock is established (either automatically or with a successful Test), but the Test to conduct the transport itself fails, there are several possible consequences. The simplest (and easiest on the characters) is that the lock was lost and the transportee remains where he is. But in circumstances of heavy interference, or if a Dramatic Failure occurs, far worse results are likely. They include:

—*Death/destruction:* The subject fails to rematerialize properly or is lost in mid-transport. Improper rematerialization is an agonizing, if quick, death.

—*Dimension/temporal shifts:* The subject finds himself in another dimension (such as the Mirror Universe) or another time. Good luck finding a way home....

—*Strange life forms:* Life forms have been discovered which can live in the matter-energy state of a transporter beam (quasi-energy microbes are the best known example). Such beings can easily harm the subject by interfering with the matter stream or damaging the transporter equipment (knowingly or unknowingly). Similarly, two or more persons being transported could merge into one being, creating an odd new "hybrid" life form.

—*Transporter psychosis:* A rare medical problem resulting from the breakdown of neurochemical molecules during transport. Although technological improvements have virtually eliminated this problem since 2319, the rare case crops up. Effects include dementia, hallucinations, psychogenic hysteria, sleeplessness, myopia, muscular spasms, and dehydration. (In game terms, the character acquires a 1-point Medical Problem and mental problems equivalent to a 2-point Phobia; Narrators should determine the exact effects.)

—*Transporter shock:* Temporary headaches, dizziness, and disorientation following transport. (In game terms, impose a -1 Test Result penalty on all Tests the subject makes for the next 1d6 rounds.)

TRANSPORTER USE CODES

Starfleet has many codes, protocols, and procedures which govern the use of the transporters. Generally using these codes does not require a Test. Some of the more noteworthy ones include:

Transporter Code 14: Dematerialize the object and then "rematerialize" it in a dissociated condition, thus destroying it. This procedure may not be used on living beings.

Transporter Protocol 5: Transport a person to the designated location, but do not send/bring his weapons with him. (A clever transporter operator could, similarly, program the transporters not to rematerialize a subject's clothes, or personal possessions, or the like.) To ensure the safety of persons at the transport designation, transporters can stop any weapon discharge which occurs just as transport begins.

Transporter Protocol 7: Rematerialize a designated person or persons first, leaving the other subjects in the pattern buffer momentarily.

Transporter Protocol 8: Rematerialize a designated person or persons in the brig, or in some other specified location.

ADVANCED TRANSPORTER PROCEDURES

Blind Beam-Out

Used only in emergency situations, a blind beam-out involves transporting all life-forms in a designated area as a group, rather than isolating their individual patterns. This requires a successful Moderate (8) Shipboard Systems (Transporter) Test. Failure means the lock was lost and the subjects remain where they were. Dramatic Failure results in the melding of the various patterns, usually resulting in a horrible death for all subjects. The best which can be hoped for is maiming, or a merging of two patterns at the molecular level, resulting in a new, "hybrid" person.

Concealing Transporter Use

Normally use of the transporter is easily detected by a ship's sensors and computers. A character can hide the fact that he has used or will use a transporter by rerouting the transport grid. This requires a Moderate (6) Shipboard Systems (Transporter) Test. If the character fails, he can try again; if he Dramatically Fails, he cannot try again, and his efforts have triggered a security alert.

On a related note, it's sometimes possible to disguise a transporter's carrier wave to make it look like one emitted by another species's technology. Most species's transporter technology is distinctive, but with a sufficient Shipboard Systems (Transporters) Test (Difficulty ranging from 6-12, determined by the Narrator based on the basic similarities between the two), carrier waves can be altered to resemble those of

another species. For example, Romulan transporters operate on a similar subspace frequency to those of the UFP; with only a minor adjustment, they can simulate a UFP carrier wave.

Disabling Safety Protocols

Transporters are programmed with safety protocols and biofilters which prevent them from rematerializing known harmful biological agents or dangerous items (such as explosives). A character can shut off these protocols with a proper command code or a Challenging (11) Shipboard Systems (Transporter) Test.

Extending a Transporter's Range

There are two ways to extend a transporter's maximum range. The first is to use extra Power—every 10 Power spent increases the range by +5% (maximum of +20%). This requires a Challenging (9) Shipboard Systems (Transporters) Test. Failure means the ACB was not boosted properly; the transporter operator will have to try again. Dramatic Failure means the subject rematerializes at the transporter's normal maximum range (usually in outer space or very high in the atmosphere—in short, he probably dies).

The second way only works to extend a transporter's "reach" to transport someone onto the ship, not to send them away, and involves running the transporter beam through the main deflector. This requires a Moderate (8) Shipboard Systems (Transporters) Test and 5 Power per +5% range (maximum of 20%). Failure means it doesn't work; the transporter operator will have to try again. Dramatic Failure means the matter stream is lost in mid-transport, killing the subject.

Replicators and Transporters

Replicator technology derives from transporter technology. An individual with the right technical skills can turn a replicator into a transporter by re-aligning the energy-conversion matrix (of course, most "replicator-transporters" are usable only for small objects—such as bombs). This requires a successful Challenging (10) Shipboard Systems (Transporter) Test. Failure results in the subject not being transported at all; Dramatic Failure causes an improper transport which usually kills or destroys the subject.

Site-To-Site Transport

Also referred to as "direct transport," site-to-site transport is transport from one location to another without stopping at a transporter emitter pad in between. The most common example is beaming an injured person from the place where he was injured directly into sickbay or an infirmary. This requires a successful Routine (4) Shipboard Systems (Transporters) Test and costs double the normal Power cost. A failed Test leaves the subject on the transporter's emitter pad instead of his intended location; a Dramatic Failure can result in loss of the matter stream or some sort of injury to the subject.

Transport and Warp Speed

Numerous complications arise when attempting to transport at warp speed.

If the transporting ship and subject are both moving at warp speeds, they must match warp speeds as closely as possible. This requires a Moderate (6) Shipboard Systems (Flight Control) Test (failure means the characters have to try again; Dramatic Failure imposes a -3 Test Result penalty on the (Transporter) Test). Once that's done, a successful Challenging (10) Shipboard Systems (Transporter) Test is required (Power costs are normal). Failure on this Test causes the warp field to "bounce" the matter stream back to the emitter pad for rematerialization, causing the subject 4d6 Stun damage. Dramatic Failure results in a dispersal of the matter stream which kills the subject.

Transporting someone who is not moving while the transporting ship is at warp speed is also possible but difficult. The annular confinement beam must be synchronized with the warp core's frequency, and the timing must be precise, to accomplish this. The procedure requires a successful Moderate (8) Shipboard Systems (Transporter) Test. Failure indicates the transport does not work due to improper synchronization; Dramatic Failure kills or harms the subject.

Even using the transporters at close to warp speeds is dangerous. In a process known as *near-warp transport* or *touch-and-go downwarping,* a starship drops out of warp just long enough to transport someone or something off of or onto the ship, then returns to warp speed. This requires Moderate (6) Shipboard Systems (Flight Control) and (Transporter) Tests. Failure on either Test results in a failure to obtain a proper transporter lock; Dramatic Failure usually kills the subject by leaving him imbedded in a

wall or other solid object.

Transporting Through Shields and Cloaks

Normally, an active shield or cloaking device prevents transport onto or off of the affected ship (it is, however, possible to transport through an internal force field). However, there are several ways around these restrictions, including:

Matched Shield Frequencies

If one ship can match its shield frequency to another ship's, it can maintain a transporter lock on someone on that other ship and transport them off of it even though the shields are raised. This requires a successful Challenging (10) Shipboard Systems (Shields) Test and then a similarly difficult (Transporter) Test (it does not cost extra Power). Failure means no transport and loss of the lock; Dramatic Failure that the subject is killed in a mis-rematerialization. Note: the matching of frequencies in this case does not allow either ship to bypass the other's shields with attacks; the correspondence is not that precise.

Radion Beams

A character can cause the main deflector to emit a radion beam, which will carry the transport beam through a shield. This requires a successful Moderate (6) Shipboard Systems (Transporter) Test and costs 5 Power. Failure means the subject remains on the pad, untransported; Dramatic Failure that he is injured or killed in a mis-rematerialization.

Shield Windows

Some ships have their shields cycle along with their sensors to minimize the effect of the shields on sensors. This usually results in a microsecond "window" every five to six minutes in which a person could transport through the shields. This requires a successful Challenging (9) Shipboard Systems (Transporter) Test (it does not cost extra Power). Failure means the subject's matter stream returns to the pad (he mistimed the transport); Dramatic Failure that he is injured or killed in a mis-rematerialization.

Similarly, it's possible to transport through a shield by projecting the transport beam right between two of the target ship's shield generators. In game terms, this is identical to transporting through a shield window.

If a ship can manage to open up a hole or "window" in one of another ship's shields with an attack, that ship can transport personnel or object onto or off of the target ship (see page 135).

Tachyon Burst

Firing a tachyon burst at a ship requires that ship to reset its shield harmonics. Generating the tachyon burst requires a Moderate (6) Shipboard Systems (Deflector) Test. Failure means the beam was not generated, Dramatic Failure that the ship cannot generate one this combat due to a malfunction in the deflector. Resetting the harmonics requires 1 round and a Routine (3) Systems Engineering (Shields) Test; while they're scrambled, it's possible to transport someone onto that ship. This requires a successful Moderate (7) Shipboard Systems (Transporter) Test and costs 4 Power. Failure means the transport was mis-timed and the character's pattern "bounces back" to the pad he dematerialized on; Dramatic Failure does the same and causes an energy feedback which does 1+1d6 damage to the character.

Transporter Modulation

With a successful Moderate (6) Shipboard Systems (Transporter) Test, a character can modulate a transporter to allow transport through a shield or cloak (this costs 5 Power and requires him to know the shield's frequency). Failure means he does not get through; Dramatic Failure that he somehow mistransports or is injured in the process.

Cloaking Devices

Basic information on how cloaking devices function, and their effect in game terms, can be found on page 62. This section discusses ways to detect a cloaked ship and similar tactics for fighting and using cloaked vessels.

Cloaking and Decloaking in Combat

Since a ship cannot use shields or weapons with an active cloak, it has to decloak if it wants to attack. When it does so, there's typically a brief delay (a second or two at most) between when it decloaks and when its shields

activate. This delay provides the cloaked ship's opponent with a chance to attack it while it's vulnerable—if the opponent's quick enough on the trigger.

To take advantage of the opportunity to attack a decloaking ship in its moment of vulnerability, a ship must detect what's happening in time. This requires a successful Challenging (11) Shipboard Systems (Sensors) Test (failure or Dramatic Failure mean the crew didn't react in time and the opportunity is lost; the cloaked ship gets its shields up before the other ship can attack). If the Test succeeds, the ship may attack the cloaked ship as it decloaks, but with a -3 Test Result penalty due to the split-second timing involved. The ship may not apply bonuses from improved tactical systems, Shipboard Systems (Sensors) Tests (the sensors are necessary just to make an attack at all; they can't also provide a bonus), the commander's Starship Tactics skill (there's no time for such bonuses to apply), or from maneuvering (the ship has to fire immediately; it doesn't have time to maneuver for a better shot). If the attack hits the decloaking ship, it cannot apply its shields to reduce the damage, only its Resistance.

When a ship decides to engage its cloak and escape a battle, another ship can hit the cloaking ship just as it drops its shields and cloaks with a Challenging (11) Shipboard Systems (Sensors) Test. The same rules apply as for attacking decloaking ships.

Alternately, if the series uses the individualized initiative rules, the order of battle may determine whether another ship can attack a cloaking or decloaking ship. A canny cloaking device operator will wait until he achieves initiative to cloak (perhaps delaying his action so that he acts at the same time as the Conn, thus allowing the ship to immediately change position after it cloaks), or delay his action until everyone else has acted. Unless combat has already begun, the cloaking device operator on a decloaking ship cannot take advantage of this tactic; standard rules for targeting his ship as it decloaks apply.

RANDOM FIRE

If a ship suspects that there's a cloaked ship in the vicinity, it can always try taking shots in random directions, hoping to get lucky and hit the cloaked (and thus virtually defenseless) vessel. The Tactical Officer makes a Shipboard Systems (Tactical) Test to hit the target for every round of random fire, but he only has a chance to hit if the ship fires in the right general direction. If it does so, he must succeed with a Difficult (13) Test Result to hit. The cloaked ship's modifiers for evasive maneuvers apply, but the attacking ship does not receive bonuses for Shipboard Systems (Sensors) Tests, improved tactical systems, or maneuvering.

CLOAKS AND TRANSPORTERS

A cloaked ship cannot use transporters; the cloaking device uses too much power, and in any event the transporter matter stream would instantly pinpoint the ship's location to any other ship looking for it. However, a few Klingon vessels have the ability to use transporters while cloaked if the ship does nothing else that round—it cannot move, use communications, or do anything else but sit there in space, cloaked and transporting someone to or from the ship. Using the transporter automatically indicates to any other vessel within sensor range where the ship is.

DETECTING CLOAKED SHIPS

Cloaks are, essentially, just a form of electronic warfare. The cloaked ship tries to hide itself and maneuver to gain a tactical advantage, while the ships seeking it strain desperately with all their sensors and other resources to locate the cloaked vessel in time to prevent it from accomplishing its mission. It's a dangerous game of cat and mouse in space, one that's constantly evolving as both cloaks and sensors improve. Through the years, clever Starfleet personnel have learned many different ways to detect a cloaked vessel. These include:

Antiproton Beam; Tachyon Scanner

A ship can generate an antiproton beam to detect a cloaked vessel. This requires a successful Moderate (7) Shipboard Systems (Deflector) Test and 5 Power. Success means the beam penetrates the target's cloak to detect the vessel; failure means the pulse is not generated; Dramatic Failure means the pulse was improperly generated, so that it does not penetrate the cloak. To counteract this, the cloaked vessel may make a Moderate (6) Shipboard Systems (Cloaking Device) Test to adjust the cloak's resonance frequency. If the character fails, he can try again; if he Dramatically Fails, the cloak deactivates and cannot be reactivated for 1+1d6 rounds.

A long-range tachyon scanner can penetrate a cloak in the same way. Properly configuring the tachyon scanner to detect the cloaked ship requires 1d6 rounds and a successful Moderate (6) Shipboard Systems (Sensors) Test (failure means the cloaked vessel is not detected; Dramatic Failure that the sensors detect a "cloaked ship" where there really isn't one). If a cloaked vessel is hiding in a nebula, a tachyon scan of that nebula will locate the cloaked ship with a Routine (4) Shipboard Systems (Sensors) Test (same consequences for failure).

Warp Speed; Powerful Engines

Cloaks function best at impulse speeds. When a cloaked ship travels at warp speeds, it radiates a slight subspace variance and creates a residual subspace distortion. Another ship may detect this by defeating the cloaked ship in an Opposed Test pitting Shipboard Systems (Sensors) against Shipboard Systems (Cloaking Device)—the cloaked vessel tries to cover its trail as the other ship tries to detect it.

A cloaked ship cannot exceed Warp 6.0 without leaving a warp signature (at speeds of Warp 6.0 and below, the cloak eliminates the warp signature). Another ship may detect and trace the warp signature in the usual manner (see page 100).

Similarly, if a cloaked vessel moves at warp speed through certain radiation fields, such as those left by destroyed starships, it can be detected with a successful Moderate (6) Shipboard Systems (Sensors) Test.

Even if it does not move at warp speeds, the mere fact that it has a warp engine can make a cloaked ship detectable. The ship must precisely balance the radiative emissions from the warp engine with the cloak. This requires a successful Moderate (7) Shipboard Systems (Cloaking Device) Test once an hour. Failure or Dramatic Failure indicates that there's a slight misalignment in the nullifier core. This creates a small, intermittent magnetic disruption in space as the cloaked ship moves. Another ship can detect this disruption with a standard Shipboard Systems (Sensors) Test (though what the disruption means may or may not be apparent to a ship which detects it).

Ships with engines which have unusually high power signatures—such as the *Defiant*-class Heavy Escort—may have trouble making even the best cloak completely effective. If the Narrator judges this to be the case, he should reduce the effectiveness of the ship's cloak by -1 or -2 Difficulty from its normal effect. Furthermore, if ships with unusually powerful engines pass through nebulae or areas like the Badlands, they can ionize the nebular gases and leave a plasma wake which other ships can detect with a standard Shipboard Systems (Sensors) Test.

Emission Nebulae

A cloaking device usually cannot function in an emission nebula, which is a source of electromagnetic radiation. Only a Difficult (12) Shipboard Systems (Cloaking Device) Test allows one to function in that environment, and the ship must succeed with a new Test every hour to maintain the cloak.

Ionization Disturbances

Cloaked ships sometimes cause ionization disturbances in the space around them. If this occurs, another ship can detect it with a Moderate (7) Shipboard Systems (Sensors) Test.

Older Cloaks

Cloaking devices are rare, so people who have them use them as long as they can. As a result, more than a few early cloaking devices, now about 100 years old, remain in use. These early cloaks are not good at screening a ship's gamma ray output. If a ship's crewmembers are aware of this flaw, they can detect the cloaked ship with a Moderate (6) Shipboard Systems (Sensors) Test.

Physical Substances

When a cloaked ship passes through clouds of some physical substances, its presence will be revealed. One example is a cloud of magnesite ore dust.

Tachyon Detection Grid

Given a sufficient number of ships (usually at least 15) and/or orbital platforms or similar fixed facilities, a tachyon detection grid—a network of tachyon beams linking all the ships or platforms—can easily detect any cloaked vessel which passes through it. If the grid sweeps over a cloaked ship, or the cloaked ship tries to pass through it, the ships or facilities in the grid can detect it with a Routine (4) Shipboard Systems (Sensors) Test.

Tetryon Emissions

The Romulans are the species best known for using cloaking devices. Their ships are powered by artificial quantum singularity drives which emit tetryons. In some cases, the cloak does not cover the tetryon emissions sufficiently to hide the ship completely. Another ship can detect them with a Routine (4) Shipboard Systems (Sensors) Test.

Repairs

Ships tend to take a pounding in combat. When the battle's over, or sometimes while it's still in progress, engineers work to repair the damage and keep the ship running efficiently and effectively. The following rules apply generally to starship repair. Any rules provided elsewhere in this book for damage to specific systems (whether from combat or Dramatic Failures) take precedence over these rules.

Repairs in Combat

Repairing damaged systems in combat is a difficult task, but sometimes a vital one; victory or defeat can hinge on whether the Engineering crew manages to get the shields or phasers back online in time.

To make repairs to a damaged system, use the number of SUs of damage it has sustained as the Difficulty for an Extended Test with an appropriate skill (usually Systems Engineering, Propulsion Engineering, Materials Engineering, or Computer, but sometimes another skill may be more applicable to some systems). This Test may become an Extended Combined Test, if multiple persons participate in the repairs, though the Narrator may limit the number of characters who can participate (after all, only so many people can fit in a given Jefferies tube).

The character(s) making repairs may roll once per round. There is no predefined Turn length, unless the circumstances or a commanding officer impose one ("Get the shields back online in fifteen seconds or the Jem'Hadar will vaporize us!"). When the character(s) achieve the Difficulty, they have made a quick, jury-rigged repair of the system.

Depending on the nature of the damage and the systems involved, the Narrator may increase or decrease the Difficulty of the repair Test(s), or establish a minimum time which they will require. This can reflect particularly delicate, hard to reach, or badly damaged systems, lack of proper tools, and many other situations.

A repaired system is back up to its "full" SUs. However, the repairs are fairly fragile—the characters have made a quick patch-up, not a full-fledged fix. If a repaired system suffers more damage, the first point of damage destroys the entire repair (regardless of how many SUs it was); the rest of the damage then affects the remaining SUs of the system normally. At the Narrator's option, a repaired system also may be unable to withstand its normal full Power feed or function at normal effectiveness.

Unless the Narrator rules otherwise, characters cannot repair a destroyed system (one damaged to 0 SUs); they must totally replace it. Even assuming the ship has all the necessary parts at hand, this usually takes longer than a quick repair—one round per SU of damage, or longer (sometimes days or weeks, if the damage is extensive enough). On the other hand, sometimes it only takes a round to replace a small piece of equipment for which Engineering has readily available spare.

Alternate Repair Rule

If the Extended Test system for repairs described in the text is too complicated for your game, you can use a much simpler, but less "realistic," way of making repairs: the Narrator establishes a Difficulty for the repair, and the character(s) make Tests until they succeed (Combined Tests may be possible). Using this rule, the base Difficulty to make any general repair is Moderate (6), though the Narrator may increase this as outlined in the text.

The Narrator should also determine a minimum time to make the repairs. Most repairs should take a defined amount of time, such as one round per 2 SUs of damage or one minute per 10 SUs of damage. A character can perform the repairs more quickly by making the Test with a higher Difficulty. For every +1 to the base Difficulty, reduce the time needed to make repairs by 1 round (or other time unit, such as "minute" for repair times rated in minutes rather than rounds). Thus, an engineer who needs to make repairs quickly can do so—but it's tough! Furthermore, there's a heavy price to pay for failure: if the Test fails, the engineer's efforts make things worse, causing another 1-3 SUs damage; if it Dramatically Fails, he causes 1+1d6 SUs in damage. In either case he can start his repairs over the next round.

Patching Around Damaged Systems

Thanks to the multiple levels of redundancy built into many ship systems, sometimes it's possible to find a way to "patch around" a damaged system to get another system to work. For example, if the EPS relays to a bridge console have been destroyed or overloaded, a character may be able to patch around the damage to a working backup EPS system or some other

source of power to keep the console operating.

Patching around isn't always appropriate or possible; the Narrator determines when it's an option. If it is possible, the character has to make a Systems Engineering Test with the appropriate Specialization. The Narrator establishes a Difficulty for the Test, based on the system, circumstances, and damage suffered; the typical Difficulty is Moderate (7). If the character succeeds, the system is back up and running. If he fails, he can try again; if he Dramatically Fails, he's damaged the system further, preventing any hope of patching around the damage.

The Dramatic Repair Rule

The "can he repair it in time?" question is fraught with drama and excitement. It adds a lot of enjoyable tension to a starship combat (and sometimes a touch of bitter frustration as well). The Narrator should judge the scene carefully and gauge how his players are responding. Sometimes forcing the Crew to make every single repair Test or calculate exactly how much time a particular repair will take detracts from the story. Just like there comes a time to forget about numbers and blow a ship up, there are also occasions when it's better to simply declare that a system is repaired and let the engineer characters move on to some other task.

REPAIRS OUT OF COMBAT

Repairs out of combat are far more thorough, and thus take more time. The easiest way to calculate the time required is to assume a base time of 10 minutes to one hour per 1-3 SUs for repairs (the Narrator determines the time required based on the situation and the dramatic needs of the story). This sounds like a long time, but remember, there are lots of engineers on most ships and at most starbases. When you divide all those SUs up among a dozen or more engineers and other crewmembers, the work goes a lot more quickly. The Narrator may, of course, adjust this base number up or down depending upon the situation, the repair facilities available, and other factors.

After determining the base time for repairs, have the Chief Engineer or highest-ranking engineer Crew member make a Moderate (7) Systems Engineering Test. If he makes it exactly, the base time remains unchanged. For every point he succeeds by, reduce the base time by 10% (maximum reduction of 60%). For every point he fails by, increase the base time by 10% (maximum increase of 40%).

As an alternate method of making permanent repairs, the Narrator can divide the damage suffered by the ship up into two or more distinct groups. The number of SUs in each group becomes the cumulative Test Result required for a Combined Extended Test performed by a certain number of engineers (let the players decide how to divide the Engineering department up for repair duties).

Fleet Combat

Some of the most exciting and dramatic scenes on *Star Trek* have depicted large fleets of ships pitted against each other, with some important goal, such as the ownership of Deep Space 9, hanging in the balance. While you could use the normal starship combat rules to play out such a battle, it would take an extremely long time and require the Narrator to have detailed information about dozens or hundreds of ships. As a quicker, easier alternative, you can use the fleet combat rules presented here. These rules determine the outcome of a fleet encounter in a more abstract fashion, but allow the Narrator and players to find out what happened in just a few minutes, so they can move on to the rest of the episode.

The fleet rules are deliberately simplified. They don't contain options for a lot of things covered in the main combat rules, like cloaking devices, special tactics, and called shots, because those things would slow down and complicate what's supposed to be a very simplified, abstract rules system. Narrators who want those details can easily figure out ways to work them in by providing wings with temporary combat bonuses and the like.

FLEET COMBAT BASICS

Wings

Fleet combat involves two or more ships per side (typically dozens or more). The commander of a fleet divides it into one or more *wings*. Each wing consists of two or more ships and acts as a single unit for purposes of fleet combat (see *The Wing Template,* below). For example, a fleet of 100 starships could be divided into two wings of 50 ships each; four of 25 ships; or five wings of 30, 40, 20, five, and five ships respectively.

Wings can consist of ships of multiple types or a single type—how a fleet divides into wings depends entirely on the preferences and tactics of its commander (*i.e.*, the Narrator, unless the commander happens to be a player character). For example, fighters are often organized into all-fighter wings; larger wings often consist of a large "flagship" (such as an Explorer or Cruiser) and multiple smaller ships. In game terms, the composition of a wing does not matter.

For ease of game play, Narrators may want to use as small a number of wings as possible (perhaps even just one containing all ships in the fleet), or to make all wings identical.

Rounds and Initiative

Fleet combat uses five-second rounds, just like normal starship combat. A wing's initiative is determined with the Starship Tactics skill of its commander (or, if he lacks that skill, he can make an Intellect Test).

OPTIONAL FLEET COMBAT RULE: COMMAND SHIP

As an optional rule, the Narrator can add another dimension to fleet combat by designating one ship in each wing as the *command ship*. The command ship leads the wing and issues orders to its component ships. If the command ship is destroyed (the Narrator determines whether this occurs whenever the wing takes damage), another ship can take over its functions, but thereafter the wing suffers a -1 Test Result penalty on initiative Tests and attack Tests. This reflects the loss of guidance and morale resulting from destruction of the wing's leader.

THE WING TEMPLATE

To conduct fleet combat, you need to know a little bit of information about each wing involved. Wings have five characteristics: Size, Movement, Maneuverability, Offense, Defense.

To determine many of a wing's characteristics, you need to determine the average of their component ships' capabilities (for example, their average Maximum impulse speed). In this case, you can use standard methods to calculate the exact average, or you can simply "eyeball" it, making an educated guess as to the ships' average abilities. The latter method, while not as precise, is much quicker. Of course, if all the ships in a wing are identical, determining their standard performance is easy.

Size: To determine the Size of a wing, add the Sizes of all of its ships together. Thus, a wing of five *Galaxy*-class ships (Size 8 each) has a Size of 40.

Movement: The average Maximum impulse speed of the ships in the wing. For example, if the five ships in a wing have Maximum impulse speeds of .95*c*, .72*c*, .72*c*, .75*c*, and .75*c*, the wing's Movement is .78*c*.

Additionally, as part of Movement, determine the average Shipboard Systems (Flight Control) skill possessed by the Conn on the various ships. For wings which include ships crewed by player characters, use the Intellect and Shipboard Systems (Flight Control) skill for the character acting as Conn (or the highest among the characters, whichever you prefer).

Maneuverability: The average Size of the ships in the wing. For example, if a wing has ships of Size 2, 2, 5, 6, and 8, its Maneuverability is 5. Maneuverability affects a wing's ability to dodge and maneuver, much like Size does for individual ships.

Offense: The amount of damage a wing does with its attacks. To determine it, do two things. First, calculate the average damage done by the most powerful single weapon on each ship in the wing, divided by 20 (minimum of 1; round up fractions of .5 or higher). (Do not include Multifire damage as part of the Offense calculation.) Alternately, the Narrator may choose to calculate Offense from the most *commonly used* weapon a wing carries. The most powerful weapon on a *D'Deridex*-class warbird is the plasma torpedo, but the Romulans don't use it in fleet combat; they more often rely on their disruptors, so the disruptor should form the basis of Offense for most Romulan wings. (Narrators can even come up with two or more Offense numbers, representing reliance on different weapons at different times, if they wish.) For example, if a wing's average damage is 250, its base Offense equals 13.

Second, in combat, the Narrator must factor a wing's relative size into its base Offense. That way, larger wings do more damage than smaller ones. Compare the total number of ships in the attacking wing to the number in the defending wing. If the attacker has more ships, divide the difference by 20 (round up fractions of .5 or higher) and add it to the wing's base Offense from weaponry. This allows a significantly larger wing to demolish a smaller one in short order with its superior firepower. if the attacking wing is smaller than the defending wing, just use the Offense calculated from its weapons.

Since beam weapons are much more common than missile weapons, assume Offense has the same range as a ship's primary beam weapon.

Additionally, as part of Offense, determine the average Shipboard Systems (Tactical) skill possessed by the Tactical Officers on the various ships. For wings which include ships crewed by player characters, use the Intellect and Shipboard Systems (Tactical) skill for the character acting as Tactical Officer (or the highest among the characters, whichever you prefer).

Defense: The average Threshold possessed by the shields of the wing's ships, divided by 50 (minimum of 1; round up fractions of .5 or higher). For example, four ships with Thresholds of 200, 300, 350, and 500 would have a defense of 7 ((200+300+350+500)/4 = 338, 338/50 = 6.76, which rounds up to 7).

MOVEMENT AND MANEUVERING

Using their Movement attribute, wings move using the standard movement rules—up to 5 MUs per .1c of impulse. They may also use attack or defensive/evasive maneuvers, as described on pages 103-107, but these are referred to as *fleet attack patterns* or *fleet evasive patterns*. However, they may only use maneuvers which apply against all ships; maneuvers which only work against one or two ships are inapplicable to fleet combat.

In a round, the amount of benefits a wing may obtain depends on its Maneuverability. Substitute Maneuverability for Size; thus, wings of Maneuverability 5 or lower cannot obtain benefits with a total value exceeding 6 in a single round, and starships of Size 6 and above cannot obtain benefits whose value exceeds 4 in a single round (see pages 102-103 for further details).

ATTACKS AND DAMAGE

To attack, a wing makes a standard attack Test with its Shipboard Systems (Tactical) skill, using the Difficulty for range and any fleet evasive patterns which the target wing succeeded with. If the target wing's Maneuverability is different from that of the attacking wing, apply a modifier as you would for Size (see page 121)—it's easier for a fast, agile wing of fighters to attack a wing of capital ships than it is for those capital ships to hit the fighters (though the fighters get damaged a lot more easily when they're hit). Maneuverability modifiers cannot be negated like Size modifiers can.

If the attack succeeds, the target wing takes damage. Subtract the target's Defense from the attacker's Offense, and apply the remainder (if any) to the target's Size as damage.

The Narrator applies the damage as he sees fit to determine which ships are damaged or destroyed. For example, if a wing of 10 *Miranda*-class ships (Size 5 each) takes 8 points of damage, then perhaps one ship has been totally destroyed, and the other more than half destroyed (it's lost 3 of 5 Size), or maybe four ships each suffer 2 Size of damage. Narrators who prefer a more random determination can use the accompanying table.

When a wing reaches Size 0, it has been completely destroyed. Prior to that, it decreases in Size as individual ships are destroyed or so badly damaged that they have to be removed from the battle. The Narrator may wish to describe the Size damage graphically to help enliven the battle. He may also want to periodically recalculate a wing's Movement, Maneuverability, Offense, and Defense to reflect its diminishing ability to maneuver and fight. Even if, by strict application of the averaging method, a wing's attributes should improve as it gets damaged, do not increase them; either

OPTIONAL FLEET COMBAT RULE: ENGAGEMENT

In many cases, such as Starfleet's effort to retake Deep Space 9, the goal of a fleet or wing is to get from Point A to Point B. The goal of its opponents is to prevent it from doing that, either by destroying it or by blocking its path. It can be difficult to simulate this sort of conflict in game terms.

The *engagement* rules allow a Narrator to introduce this element into the fleet combat mix. The engagement rules force a wing to fight another wing instead of just trying to get past it, or put itself at a severe disadvantage.

If a wing attempts to pass by an enemy wing without engaging that wing in combat and destroying it, the enemy wing's Offense increases by *150%* for attacks against that wing only for all rounds during which the wing passes it (minimum of 2). The Narrator has to determine when a wing is trying to "pass by" an enemy wing, and when it's just legitimately maneuvering for tactical advantage. Flying by an enemy wing and firing a single attack at it does not count as "engaging" it—the engagement rules require the wing to fight against the enemy wing until it's "destroyed" or suffer the consequences. On the other hand, circling around in an attempt to flank an enemy wing probably shouldn't count as "passing it by." The Narrator also needs to determine when a wing has "destroyed" its enemy. This doesn't necessarily have to mean obliterating every ship in the enemy wing; damaging or disabling a substantial proportion of the enemy wing's ships may be sufficient to allow the wing to continue on toward its goal.

Narrators may wish to incorporate engagement rules into regular starship combat as well. If so, the ship which is passed by receives a +4 Test Result bonus on its attempts to attack the ship passing it (again, for a minimum of 2 rounds).

See Chapter Two of *The Dominion War Sourcebook* for more information and rules regarding engagement and fleet combat.

WING DAMAGE APPLICATION TABLE

Roll	Application of Damage
1	Apply all of the damage done to one ship until it is destroyed, then the remainder to a second ship until it's destroyed, and so on until the damage done is exhausted
2	Divide the damage done between two ships, applying any overage to further ships as with (1)
3	Divide the damage done between three ships, applying any overage to further ships as with (1)
4	Divide the damage done between four ships, applying any overage to further ships as with (1)
5	Divide the damage done between five ships, applying any overage to further ships as with (1)
6	Divide the damage done between six or more ships, applying any overage to further ships as with (1)

OPTIONAL FLEET COMBAT RULE: RANDOM DAMAGE

If you want an element of chance in your fleet combats, you can introduce a randomization factor into the damage calculation. Reduce the base Offense by 3-5 points and substitute a 1d6 roll for the "lost" points (continue to add extra Offense for the difference in numbers of ships between wings).

keep the attributes the same or decrease them, never raise them (unless the rules of dramatic storytelling require it).

Example: *A Starfleet wing and a wing of Cardassian ships meet in fleet combat. The Starfleet wing is Size 55, the Cardassian wing Size 32. During the course of the battle, the Cardassians inflict 8 points of damage on the Starfleet wing. The Narrator describes this as several Cardassian vessels ganging up on a Galaxy-class ship to overwhelm its defenses and destroy it. However, despite such tactics and a valiant defense, the Cardassian wing is outnumbered, and is brought to Size 0 while the Starfleet wing has Size 23 remaining. The Narrator rules that all Cardassian ships are destroyed or incapacitated, while only a little more than half of the Starfleet vessels are destroyed or too badly damaged to fight.*

THE FATE OF INDIVIDUAL SHIPS

Fleet combat rules are useful for determining what happened to an entire group of ships, but often players are most interested in knowing what happened to *their* specific ship, or a specific ship flown by favored NPCs. Narrators are free to embroider upon the results of the fleet combat on their own, but if they prefer, they may use the accompanying table to determine what happens to any given ship which participates in a battle. Note that before you can determine an individual ship's fate, you must know whether its wing won or lost the encounter (if the Narrator deems the encounter a "draw," roll using the "Victory" column).

OPTIONAL FLEET COMBAT RULE: KEY SHIPS

Instead of using the "Fate of Individual Ship" rules, the Narrator may wish to give the Crew's ship, and possibly some other ships, a more important role in fleet combat by considering them *key ships.* A key ship has a greater effect on the combat than a typical ship, thus providing the player characters with a chance to shine even if their side loses the battle.

The presence of a key ship in a wing affects the wing's Offense (and, at the Narrator's option, its Maneuverability as well). The Narrator should add 1-3 points to the wing's Offense (and Maneuverability, if desired) to reflect the greater effect the key ship has on the battle and the inspiration it provides to the other ships. If the key ship is not also the command ship, loss of the command ship results in no penalties unless the key ship is also destroyed.

A wing can only have one key ship during a battle. If that ship is destroyed, another ship cannot take its place in that battle.

OPTIONAL FLEET COMBAT RULE: LENGTH OF THE BATTLE

Narrators who want to determine randomly how long a fleet engagement lasts can use the following method:

1. Determine which side has the largest number of ships in the battle.
2. Multiply that number by .66.
3. Divide the result of Step 2 by 100.
4. If the result of Step 3 is 1 or more, multiply it by 1 hour to determine the length of the battle in hours. If the result is less than one, multiply it by 60 minutes to determine the length of the battle (in minutes).
5. If either side outnumbers the other by two to one, subtract 1d3 hours (or 1d6 minutes for battles lasting less than one hour). However, the minimum time for any battle is one hour (or five minutes).
6. For every additional tactical advantage roughly equivalent to a two to one numerical superiority (such as the element of surprise, or each additional factor of numerical superiority [3:1, 4:1, and so forth]), subtract another 1d3 hours.
7. The Narrator should adjust the final time if, in his judgment, it seems unreasonable or illogical.

Example: *1,250 Dominion and Cardassian ships go into battle against 612 Federation alliance ships. 1250 x .66 = 825. 825/100 = 8.25 (which rounds down to eight). Since the Dominion outnumbers the Federation alliance by about two to one, the Narrator rolls 1d3, gets a 2, and subtracts 2 from the final total. Thus, the battle lasts about six hours.*

INDIVIDUAL SHIPS IN FLEET COMBAT

Defeat Roll	Victory Roll	Result
2-4	2	*Disaster:* The ship fared badly in the battle. It was either completely destroyed or lost 75-90% of its SUs in damage.
5-6	3	*Grievous Defeat:* While still intact, the ship suffered the brunt of some powerful attacks and did not acquit itself as well as it might have. It lost 50-75% of its SUs in damage.
7-8	4-5	*Defeat:* The ship managed to survive the battle reasonably intact, but scored few if any kills or significant attacks. It lost 25-50% of its SUs in damage.
9-10	6-7	*Marginal Success:* Although its contribution to its wing's overall conduct was minimal, the ship did its part and came through with only a little damage. It lost 10-30% of its SUs in damage.
11	8-10	*Success:* The ship played a significant role in its wing's conduct during the battle, destroying or crippling several enemy vessels. It lost 5-20% of its SUs in damage. Prominent crewmembers may earn 1-2 Renown for their part in the battle, and the ship itself earns 1-3 Starship Renown.
12	11-12	*Astounding Success:* The ship played a pivotal role in its wing's conduct of the battle. It destroyed the enemy flagship, crippled a dozen or more enemy vessels, or otherwise contributed far more than its share. It lost, at most, 10% of its SUs in damage. Prominent crewmembers may earn 1-4 Renown for their part in the battle, and the ship itself earns 2-5 Starship Renown.

USING FLEET COMBAT FOR SMALLER ENGAGEMENTS

While the fleet combat rules are primarily intended for large groups of ships, you can use them for smaller encounters—even one-on-one ship battles—if you want to speed up game play. A smaller number of ships makes it easier to determine a wing's attributes, and may even allow a little variety in terms of attacks. For example, in a one-on-one battle, instead of each ship having an "Offense," it could use any of its individual weapons, and maybe even import some of the basic starship combat rules to improve their performance or pull a few tactical tricks on the enemy.

To make it easier to run the game, a Narrator can even use the fleet combat rules to run one or more ships while the players use the advanced rules to run their one ship. All the Narrator has to do is "translate" the rules back and forth. Thus, if the Crew shoots the Narrator's ship and does 200 points of damage, he can simply divide that by 20 to get a fleet combat damage figure to apply to the ship or ships he's running. When the Narrator's ship attacks, he multiplies its Offense by 20 to determine the damage the attack does to the Crew's ship. With a little practice, the Narrator can go back and forth with the rules this way quickly, making it much easier for him to manage combat during the game.

Chapter Four
Miscellaneous Rules

This chapter of *Spacedock* addresses some subjects related to starship construction and combat.

Interference

Space isn't as empty as it sometimes appears at first glance. Besides stray atoms of hydrogen, it's full of asteroids, meteors, ion storms, comets, gravimetric anomalies, subspace anomalies, plasma storms, regions of chaotic space, and of course stars. When starship crews encounter these phenomena, they sometimes find that they interfere with the ship's ability to use systems such as sensors or communications, to pilot the vessel, or to transport personnel onto or off of the ship. The worst or strongest of such phenomena may pose an actual danger to the ship itself; a sufficiently powerful ion or plasma storm, for example, can rip a starship to pieces.

Interference often makes a good "plot device" for the Narrator. By placing an appropriate type of nebula or subspace anomaly at the right place, or having the Crew's ship nearly impact a cosmic string, the Narrator can set a story in motion, or complicate an existing plot. The rules provided below for simulating various types of interference are, as always, guidelines; Narrators should use interference in whatever way they like to serve the needs of the episode or series.

Asteroids

Asteroids are irregularly-shaped rocky objects. The largest ones are sometimes referred to as planetoids, but most are nowhere near as large as even the smallest moon, much less an actual planet. Often grouped into belts or fields, they are usually spatial debris left from the destruction of a planet, moon, or similar object. The Sol System's asteroid belt, between the orbits of Mars and Jupiter, is a classic example of the phenomenon; it contains thousands of asteroids ranging from pebble-size to planetoid-size.

Usually asteroids pose little threat to a starship, since sensors can detect them from a long way away. In a space combat situation, they may actually prove helpful, since large enough ones often make excellent cover for fast-moving starships. However, a starship can have a difficult time negotiating an asteroid field, due to how tightly packed together the asteroids are. Traveling through one can only be attempted at impulse speeds, of course; trying to pass through one at warp speed would almost certainly lead to a collision which would destroy the ship. The accompanying table lists the Difficulties for Shipboard Systems (Flight Control) Tests to pass through or fight in an asteroid belt safely; the Narrator should have the Conn make a Test every round, every minute, or at whatever other time interval seems appropriate. Failure on one of these rolls may mean the ship narrowly missed hitting one (the Conn must make another Test next round at a -2 Test Result penalty to get back on course and avoid a collision); Dramatic Failure means the ship collided with an asteroid (see page 108).

ASTEROID BELT TABLE

Density	Difficulty
Very Light	3
Light	6
Moderate	9
High	12
Extreme	15

ATMOSPHERES

Atmospheres can have many effects on ships which are not built to withstand them. First, they can act as interference of just about any Strength (depending on their composition and nature). The Narrator can set the interference level wherever he needs it for the purposes of the story—a little stormy weather or atmospheric ionization or radiation can make using sensors, transporters, and communications as difficult as he wants.

Second, their pressure can cause damage to the hull. Using the rules for "Gravimetric Anomalies," below, determine a "gravimetric shear" damage level for being in a particular atmosphere. The damage caused depends on the type of atmosphere. A Class G or H planet's atmosphere might have a magnitude of 1-20; a Class J or Y planet, 20-90; a Class L or M planet, 1-35. The upper layers of an atmosphere are weak, but the further a ship descends, the more pressure and stress it will subject itself to. For example, the upper layers of a Class J atmosphere might only be magnitude 1-30 stress; descending just a few hundred kilometers quickly raises that to 60-90.

Third, atmospheres they can weaken or disrupt shields. The Narrator should determine the exact effects based on the needs of his story.

CHAOTIC SPACE

This rarely-encountered and poorly-understood phenomenon is a region of space in which the normal laws of physics do not apply. As a result, a ship's equipment rarely functions well when operating within, or attempting to penetrate, chaotic space; furthermore, the gravimetric shear and other results of the warping of normal physical laws which accompany chaotic space can easily damage a ship. Narrators can use chaotic space to provide whatever type or degree of interference they desire.

DEPARTMENT HEAD

The following table replaces the Department Heads table on page 102 of the *Star Trek: The Next Generation Roleplaying Game* core rulebook, page 85 of the *Star Trek: The Roleplaying Game* core rulebook, and page 85 of the *Star Trek: Deep Space Nine Roleplaying Game* core rulebook.

STARFLEET DEPARTMENT HEADS

Cost	Type of Ship
1	Specialized (if appropriate), Support/Auxiliary (if appropriate)
2	Escorts, Scouts (if appropriate)
3	Cruisers, Frigates
4	Explorers

Department Head costs may not be appropriate for every ship. For example, a character who serves on a Scout by himself, or with only one or two other people, shouldn't have to pay Development Points to be a "Department Head." This advantage primarily applies when being a department head offers certain advantages, status, or prestige—for example, on a large ship where department heads have large groups of crewmembers to command.

COSMIC STRINGS

A cosmic string is a body of almost infinitely dense matter stretched into an almost infinitely thin filament no wider than a proton. Despite its size, it can have the gravitational pull of dozens or hundreds of stars. The decay of atomic particles along the string's event horizon causes the emission of a characteristic set of subspace frequencies—but a ship may not be able to detect those emissions in time to avoid getting caught in the string's gravitational pull.

The effects of cosmic strings vary. A ship which gets too close to them may suffer the effects of level 85-100 gravimetric shear (see below), or may end up trapped in the string's pull and slowly, but surely, get dragged to its destruction. A ship which runs into a cosmic string will almost certainly suffer tremendous damage. The Narrator should roll 4+1d6 and multiply the result by 10 to determine the percentage of the ship destroyed by the impact.

GRAVIMETRIC ANOMALIES AND OTHER FORMS OF HULL STRESS

Numerous gravitic phenomena can have an effect on a ship's ability to function properly. Perhaps the most common, and most dangerous, of these are the waves of gravitic force usually referred to as gravimetric shear (or gravimetric distortions). As its name indicates, gravimetric

shear creates stress in starships and other physical objects in space, often tearing them apart. Gravimetric shear is rated in magnitude from level 1 to level 100. Each level does 10 SU of damage to a ship per round, against which usually only a ship's SIF provides protection. In some cases a ship's shields will act to reinforce the SIF against such damage, allowing a ship to survive strong gravimetric shear with little or no damage.

In some regions, such as globular clusters, gravimetric interference also causes navigation problems. Unless the Conn succeeds with a Routine (5) Shipboard Systems (Flight Control) Test, the interference prevents the ship from locking to coordinates and traveling in the desired direction (the Narrator may increase the Difficulty of the Test to reflect the strength of the interference). Failure on the Test prevents coordinate lock (the Conn may try again next round); Dramatic Failure sends the ship off on the wrong course (and possibly causes some gravimetric shear damage).

Narrators can also use these rules to simulate the strength and effect of any other form of hull stress not otherwise covered by the Spacedock rules.

ION STORMS

Ion storms are a spatial phenomena in which regions of space suffer intense bombardment by charged particles. Ion storms are rated in levels from 1 to 10, and sometimes higher. A storm's rating indicates its strength as a form of interference for sensors, communications, flight control, transporters, and similar systems. At the Narrator's option, ion storms of levels 6 and higher can cause damage to ships as well (usually 10-60 points per level of the storm per round; shields may or may not protect against the damage, depending on the nature of the storm, but Resistance and the SIF always will).

NEBULAE

Nebulae are clouds of interstellar gas and dust. They range in size from relatively small (about 50 cubic MUs) to immense (hundreds of cubic MUs). Starfleet organizes nebulae into classes which are numerically designated (Class 1, Class 7, and so on), though some officers prefer the older letter designation system (Class K, Class T). The accompanying table describes the different classes of nebulae and their effects as interference to sensors, communications and other such systems (sometimes even flight control). In addition to the listed effects, nebulae often affect the functioning of cloaking devices (see page 163).

Combat within a nebula is often a nail-biting exercise in deadly tension. Since it will have difficulty detecting, or be unable to detect, its opponent with sensors, a ship will have to rely on the naked eye to see a ship close up, or find some other way to locate the foe (and hide from him at the same time). Sometimes weapons don't work properly either, forcing a ship to jury-rig a replacement or find some other unusual way to damage the enemy. It's a dangerous cat-and-mouse game which only the clever, daring, and perceptive survive.

NEBULA TABLE

Class	Effects
Class 1/Class A	Strength 1-2 interference
Class 2/Class B	Strength 3-5 interference
Class 3/Class C	Also known as a Mutara-class nebula; acts as Strength 9 interference
Class 4/Class D	Emission nebula
Class 5/Class F	Strength 4-5 interference
Class 6/Class G	Strength 6-8 interference
Class 7/Class J	A dark-matter nebula, one which emits little or no detectable energy (including light). Act as Strength 10 interference (minimum), and make good hiding places.
Class 8/Class K	Strength 9-12 interference
Class 9/Class L	Strength 1-5 interference
Class 10/Class N	Strength 2-4 interference
Class 11/Class O	Strength 6-9 interference
Class 12/Class P	Strength 5-8 interference
Class 13/Class R	Strength 3-5 interference
Class 14/Class S	Strength 9-12 interference
Class 15/Class T	Strength 1-3 interference
Class 16/Class X	Strength 8-10 interference
Class 17/Class Y	Strength 3-7 interference

NUCLEONIC WAVEFRONTS

Nucleonic wavefronts are massive energy surges through space which can carry ships and many other objects along in their wake. They're rated in levels from 1 to 12. For each level of magnitude, a wavefront travels about 18,000-25,000 kilometers per second and is about .3-.5 light-years long, broad, and deep. A ship can use an "inverse warp field" to "anchor" itself and prevent the wavefront from moving

it; this requires 1d6 hours of work in the warp core and a successful Moderate (6) Propulsion Engineering (Warp Drive) Test (failure means the character can try again, Dramatic Failure that he thinks he's succeeded when he really hasn't).

A ship anchored against a wavefront generally suffers no ill effects. A ship moved by one, however, gets tossed around like a leaf in a breeze. It takes 2d6 x 10 points of damage per minute (only the SIF protects against this), and crewmembers may suffer injuries from being tossed around inside.

PLASMA STORMS

Also known as plasma disruptions, plasma storms are violent energy phenomena or discharges in space. They not only interfere with ships' systems, but can pose substantial danger to the integrity of the ships themselves. Some regions of space, such as the "Badlands" in the Bajor Sector, experience frequent (or constant) plasma storms, but in most areas they are, fortunately, rare.

Plasma storms are rated in levels from 1 to 10, and sometimes higher. Their game effects are the same as for ion storms, though shields almost always provide protection against the damage they cause.

PULSARS

A pulsar is a rapidly-spinning neutron star which emits powerful pulses of energy as it spins. The energy can be of any wavelength—visible light, radio, X-rays, or anything in between. Starfleet rates them in classes from 1 to 10 (and sometimes higher). A pulsar's class indicates the Strength of its interference with sensors and communications if a ship gets too close. Provided a ship keeps its distance, there's no interference effect; in fact, pulsars serve as natural navigation beacons.

QUANTUM SINGULARITIES

Better known as "black holes," quantum singularities are stars which have collapsed past neutron star stage. Their gravity is so immense (comparable to a hundred billion Earth gravities) that not even light can escape them. As dust, gas, and energy spiral down into them, it creates an accretion disk which sometimes marks the singularity's presence.

The gravimetric distortions and X-ray emissions created by a quantum singularity can easily interfere with a ship's systems, damage it, or pull it into the black hole to be destroyed. If a ship touches or crosses the "event horizon" where the singularity's gravitic pull becomes strong enough to move the ship, it's in danger of damage or destruction. Apply the rules for gravimetric anomalies to determine interference and damage to the ship, and consider the singularity's "pull" like an extremely powerful tractor beam (one so strong that the usual methods of breaking free are generally ineffective). Escaping the pull of a black hole requires creativity and skill, and can be an adventure in and of itself!

Quantum singularities also strain the space-time fabric. They can activate chronitons or pull ships through time. In short, they make excellent plot devices for Narrators.

SHOCKWAVES

Some spatial phenomena emit waves of force and energy which are referred to as shockwaves. The collapse of a star or other massively powerful explosions are most likely to create shockwaves. Shockwaves are rated in levels ranging from 1 to 20. When a wave impacts a ship or other object, it does damage equal to the shockwave's level multiplied by 100 (sometimes more). Shields may or may not offer protection against shockwaves, depending on the types of energy they include. A level 12 shockwave is usually enough to destroy everything in an average-sized solar system and/or render all planets in that system uninhabitable.

SOLAR FLARES

Sometimes a star emits flares of radiation and plasma. These powerful solar discharges are rated in terms of their class (A through D) and magnitude (1 through 20). The accompanying table indicates the size of a flare, by class, and the typical magnitude of various classes of flares. Multiply a flare's magnitude by 300 to determine the minimum amount of damage it does. As indicated on page 147, it's usually best simply to assume that the flare destroys everything in its path, rather than worrying about precise amounts of damage.

SOLAR FLARES TABLE

Class	Size	Typical Magnitude
Class A	1-3d6 x 10 million kilometers	1-8
Class B	4-6d6 x 10 million kilometers	5-12
Class C	7-9d6 x 10 million kilometers	8-17
Class D	10 or more d6 x 10 million kilometers	10-20

SUBSPACE ANOMALIES

The phenomenon known as subspace, which makes so many of the Federation's technological marvels possible, can also hamper them on occasion. Subspace has displayed a wide variety of recorded anomalies and other problems which can interfere with a ship's systems, damage it, allow hostile subspace life-forms access to normal space, and the like. Given the wide variety of possible effects, subspace is the ultimate plot device for the Narrator; virtually any problem can be attributed to some form of subspace interference, which can be as strong or as weak as needed.

Some of the recorded types of subspace anomalies include: subspace compression (affects a ship similar to powerful gravimetric shear); subspace corridors (suck in ships with warp fields and propel them at tremendous velocities, such as 40 light-years per minute; a resonance pulse will alter a ship's shield harmonics and push it out of the corridor); subspace field distortions (the effect of a warp drive on subspace; can sometimes be tracked); subspace interphase pockets (where subspace intrudes into normal space, often allowing subspace life-forms or other phenomena into normal space); subspace rifts or ruptures ("rips" in subspace which pull other objects into them to be torn apart, similar to a very low-strength quantum singularity or some forms of gravimetric shear); subspace shockwaves (which can easily damage or disrupt the functioning of ships' systems, but have much less of an effect on physical objects such as planets or ships themselves); subspace turbulence (prevents establishment of stable warp fields, thus making warp travel impossible), and subspace vacuoles (similar in some ways to wormholes).

Converting Back To the Basic System

The advanced starship construction rules contained in this book may be more than some readers want or need. If you prefer the more streamlined basic rules found in the various *Star Trek* core roleplaying rulebooks published by Last Unicorn Games, here's how you can convert a starship built with *Spacedock*'s advanced system into a basic Starship Template.

Note that if you use this system to convert the *Spacedock* version of a ship for which a basic system Template has already been published, such as the *Galaxy*-class or *Defiant*-class, you won't get an exact match with the published Template. No conversion system is perfect, after all, and in preparing *Spacedock*, a lot of new data about starships was obtained which invalidates or changes previously published information. So, after you do your conversion, just compare it to the published version and decide which one you like better, then use that one.

Note that the organization of *Spacedock* and basic system Starship Templates varies slightly. In the basic system, Crew/Passengers/Evac falls under "Operations Characteristics"; in *Spacedock*, it's under "Personnel Systems." The notes below are organized according to *Spacedock* designations, but often use basic system terms (like "Structural Points"); the reader can easily figure out what goes where on the basic template.

STRUCTURAL UNITS

Basic system ships don't use SUs; you just build what you want and get the Narrator's approval for it if necessary. If you want more precision, you can use the SU system from *Spacedock* pretty much as-is for the basic starship rules, but that will require you to go to so much detail building your basic ships that you might as well just go ahead and use Spacedock.

HULL SYSTEMS

Size: Size ratings are basically the same between systems, but where the two differ, use the *Spacedock* Size, since it's based on more precise calculations of what fits into each Size category.

Resistance: Divide *Spacedock* Resistance by 5 to derive basic system Resistance. Divide

Spacedock ablative armor by 10 to derive basic system armor.

Structural Points: To derive a basic system Structural Point total for a *Spacedock* starship, either use the basic system method of 20 Structural Points per point of Size, or take five percent (5%) of its "SUs Used" (in other words, divide "SUs Used" by 20), whichever gives you a higher total.

Structural Integrity Field: If you want to use the SIF rules in the basic system, divide the Protection provided by 10.

Specialized Hulls: These systems can generally be adapted as-is into the basic system.

PERSONNEL SYSTEMS

Crew/Passengers/Evac: The same for both systems. You can use the more detailed information about crew breakdowns and such for *Spacedock* in the basic system without change. Use the Power cost for Basic Life Support.

Environmental Systems: These systems have no basic system equivalent, but you can adopt them and the rules pertaining to them into the basic system as-is (but don't charge any more Power for Basic Life Support, which already factors into Crew/Passengers/Evac).

Replicators: These systems have no basic system equivalent, but you can adopt them and the rules pertaining to them into the basic system as-is.

Medical Facilities: These systems have no basic system equivalent, but you can adopt them and the rules pertaining to them into the basic system as-is. Reduce the Power costs for the EMH and EMH Mark II to 1 per round and 2 per round, respectively.

Recreation Facilities: These systems have no basic system equivalent, but you can adopt them and the rules pertaining to them into the basic system as-is. Reduce the Power cost to 1 per rating per round.

Personnel Transportation Systems: These systems have no basic system equivalent, but you can adopt them and the rules pertaining to them into the basic system as-is. Reduce Power cost for turbolifts to 1 per round.

Fire Suppression System: This system has no basic system equivalent, but you can adopt it and the rules pertaining to it into the basic system as-is.

Cargo Holds: This system has no basic system equivalent, but you can adopt it and the rules pertaining to it into the basic system as-is.

Escape Pods: This system has no basic system equivalent, but you can adopt it and the rules pertaining to it into the basic system as-is.

PROPULSION AND POWER SYSTEMS

Warp System: To derive the basic system warp speed for a ship, simply use the Standard, Sustainable, and Maximum speeds from its *Spacedock* system. Use the basic system Power cost of 2 per warp factor maintained.

Impulse System: Similarly, *Spacedock* impulse speeds correspond directly to basic system impulse speeds. Use the basic system Power cost of 1 per .10c.

The rules for acceleration upratings convert over to the basic system without any changes.

Power: To determine how much Power a *Spacedock* ship has in the basic system, add up the Power cost for all systems the ship will use in combat: all shields, all weapons, lateral sensors, maximum impulse speed, computers, and life support. Add another 5-10 Power to account for occasional combat use of tractor beams and transporters. Then add another 10-15% of that total to represent Power reserves and to allow for pumping extra Power into various systems. The Narrator must approve all Power totals, and can adjust them up or down as he sees fit.

The basic system does not account for where a ship's Power comes from, but you can if you want to. Figure out how much of a ship's Power in *Spacedock* comes from the warp drive, impulse engines, auxiliary power, and emergency power, then divide its basic system Power up by the same percentages.

Alternate Superluminal Drives: The rules for alternate superluminal drives, such as transwarp, convert over to the basic system without any changes. However, divide the Power costs by 10.

Reaction Control System: The rules for the RCS convert over to the basic system without any changes.

Electroplasma System: There's no need to use these rules in the basic system unless you want to. If so, divide the amount of Power the EPS can transfer per round by 10 to determine an appropriate basic system number.

OPERATIONS SYSTEMS

Bridge Systems, Auxiliary Control Centers: The basic system doesn't need any rules for these systems (except on the hit location table) — you can simply note their presence on your basic system ship if you want to.

Separation Systems: While the basic system doesn't need detailed rules about ship separation, you can use the *Spacedock* rules for such systems as-is if you want to.

Computers: For every computer core a ship has in *Spacedock*, it has 2 points of Computers in the basic system. The *Spacedock* rules for computer upgrades can apply directly to basic system ships if you want. The basic system does not account for a separate ODN system; that's all part of the Computers rating. You may make a ship's computers bio-neural by paying +2 Power per round for Computers.

Navigational Deflector: The basic system doesn't need rules for the navigational deflector. Ignore the basic system's rule regarding the effect which damage to the navigational deflector has on a ship's shields; the two systems are not related.

Sensor Systems: To derive basic system equivalents of the *Spacedock* sensors, all you have to do is use the *Spacedock* gain bonus and maximum range for the sensors. You can adapt the high-resolution and low-resolution ranges and rules for long-range sensors into the basic system if you want to. Use the Power costs indicated in the basic rules for all sensors and sensor improvements. If you want to, you can adopt the rules for sensor Strength and interference into the basic system without any changes.

Sensors Skill: The *Spacedock* Sensors Skill rating corresponds exactly to the Sensors Skill in the basic system.

Flight Control Systems: The basic system contains no rules for any of these systems, but you can adapt them into the basic rules as-is if you want to. Keep the Power costs the same, except for the IDF and Attitude Control, which should both cost 1 Power per round.

Communications Systems: The basic system's only has rules for communications in the hit location table, so you can adapt these rules directly if you want to. Reduce the Power cost for Communications to 1 per round.

Tractor Beams: Using the information from a *Spacedock Starship Template*, simply write down the location of each of the tractor beams under "Tractor Beams" on your basic system Starship Template. If you want to, you can also note the class of tractor beam emitter and use the *Spacedock* rules for each class in the basic system without any changes.

Transporters: Using the information from a *Spacedock Starship Template*, simply write down the number of each type of transporter which your basic system ship has under "Transporters" on your basic system Starship Template. You can adapt the rules for number of pads and transporter Strength directly into the basic system if you want to.

Cloaking Device: Use the Class of a cloaking device in *Spacedock* as the Cloak rating in the basic system. The related systems adapt into the basic rules directly, but reduce their Power costs to the lower of the basic system Cloak cost or the cost listed in *Spacedock*.

Security Systems: The basic system has no rules for security, so you can adapt these rules directly if you want to.

Science Systems: The basic system has no rules for scientific technology and laboratories aboard starships, so you can adapt these rules directly if you want to.

TACTICAL SYSTEMS

Beam Weapons: To adapt *Spacedock* weapons into the basic system, the primary thing you have to do is divide the damage they cause by 10. The range, Accuracy, Power cost, and the like remain the same (exception: the Power cost for isolytic weapons is the *Spacedock* cost divided by 5). However, you may wish to adopt the basic system convention of listing all weapons of the same type and class in one listing with an Arc of "All," instead of describing each one individually.

Missile Weapons: As with beams, these adapt into the basic system directly after you divide the damage they cause by 10 (though you may wish to reduce quantum torpedo damage to 30 instead of 40 to preserve game balance). Use the basic system Power cost unless you've found that doing so unbalances your game, in which case you can try the *Spacedock* cost or something in between.

TA/T/TS: You can adapt the rules for the targeting system directly into the basic system if you want to.

Weapons Skill: The *Spacedock* Weapons Skill rating corresponds exactly to the Weapons Skill in the basic system.

Shields: To convert *Spacedock* shields into basic system shields, divide the Protection they

provide by 10. The effect of the shield grid remains the same in the basic system.

If you want to adopt *Spacedock*'s Threshold rules into the basic system, divide the Threshold by 50 to determine the basic system Threshold rating. Otherwise the rules are the same.

In the basic system, all shields recharge at the 45 second rate (though the Narrator can allow ships with quicker recharge rates if he wishes). For regenerative force fields, divide the number of points of Protection regenerated per round by 10.

Auto-Destruct System: This system adapts directly to the basic system, but divide the damage caused by the explosion by 10.

AUXILIARY SPACECRAFT SYSTEMS

Shuttlebays and Captain's Yacht: You can adopt this rule directly into the basic system if you want.

STARSHIP COMBAT

For the most part, you can use the special tactics, maneuvers, and actions described in the starship combat chapter in the basic system without any changes (though you may want to divide some damage figures by 10). Similarly, the rules for interference convert directly into the basic system.

Starship Construction and Combat Forms

Included at the back of this book are several forms to make it easier for you to build starships and use them in combat situations. For the most part, these forms are self-explanatory—all you have to do is fill them out with the appropriate information, perhaps after consulting other parts of *Spacedock* for necessary information. The following notes should explain the forms whose use isn't immediately apparent.

Master Systems Display

This form is an overall record of all the systems on your ship, with summaries of appropriate combat rules so that you don't have to flip through *Spacedock* all the time. The Power column to the far right allows you to calculate the amount of Power your ship uses (though the Power Allocation Form makes this job even easier). Power numbers in (parentheses) are reserve or backup Power figures; they apply only when a main system is offline, and in place of that system's Power cost. For example, if a ship's Basic Life Support (11 Power) goes offline, its Reserve Life Support (6 Power) activates; the ship's now spending 6 Power per round for life support, not 11 or 17. Power numbers in [brackets] usually apply only in non-combat situations; during most battles those systems will be shut off or restricted.

To save space when filling out the forms, you can use F, A, P, S, V, and D for forward, aft, port, starboard, ventral, and dorsal, respectively.

Medical Evaluation Display

This form lets you calculate the percentage of crew lost to death, injury, or illness, and the effect this has on starship operations. Under "Crew Losses" are 100 small boxes. For each 1% of crew damage suffered, mark through one box, beginning at the top. The lefthand column shows the percentage of full crew strength; the righthand column shows the penalty imposed when operating a ship with a skeleton crew.

Power Allocation Form

Since Power is so important in combat, and since tracking it can become a chore if you don't manage it properly, this form is one of the most important. To use it, note the Power cost for various systems used in or out of combat (as on the Master Systems Display, Power costs for backup systems are in (parentheses)). For systems with variable power use, such as impulse engines or tractor beams, note the range.

On the last page, there's a space for "Total Power Used Per Combat Round." To calculate this number, add up all the Power costs in the "Combat" column, with these provisos:

—use the highest number listed for the impulse drive

—do not include any Power for use of tractor beams, transporters, the anti-intruder system, or internal force fields

—although you should list a Power cost for every weapon (for reference purposes), when calculating combat Power only include Power for three beam weapons and one missile launcher firing three missiles. That should sufficiently cover enough weapons for most ships in a given round; other weapons' Power cost can come out of any remain-

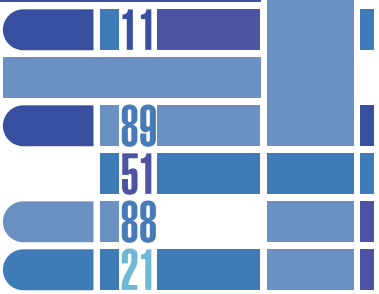
ing Power

After you've determined your ship's combat Power usage, you can find out how much extra Power it has to work with every round. You can put this towards firing more weapons, increasing the strength of the shields, or many other uses. To make your combats go quickly and smoothly, use the space for notes to calculate "Power packages" for various combat situations ("If we want to fire five torpedo launchers, this is how much spare Power we'll have left"; "When we need to increase shields to maximum, we use up all but 25 points of our remaining Power"). That way you can easily determine how much Power you'll have left in many different circumstances.

GLOSSARY OF STARSHIP CONSTRUCTION AND COMBAT TERMS

ACB: Annular confinement beam
A/G: Accelerator/generator
ARI: Antimatter reactant injector
ASRV: Autonomous Survival and Recovery Vehicle (*i.e.*, an escape pod)
ASDB: Advanced Starship Design Bureau
DCA: Driver coil assembly
DCAF: Dilithium crystal articulation frame
EMH: Emergency Medical Hologram
EPG: Emergency Pressure Garment
EPS: Electroplasma system
ESS: Emergency separation system
IDF: Inertial damping field
IRC: Impulse reaction chamber
GSC: Gross structural compression ("hull stress")
M/ARC: Matter/antimatter reaction chamber
MCS: Magnetic constriction segment
MIE: Main impulse engine
MRI: Matter reactant injector
MU: Movement Unit
MVAM: Multivector assault mode
ODN: Optical data network
PDD: Perimeter Defense Directive
PIS: Plasma injection system
PTC: Power transfer conduit
RNE: Rapid nadion effect
QSD: Quantum slipstream drive
SCM: Spacecraft combat maneuver
SIF: Structural integrity field
SSF: Surgical support frame
SU: Structure Unit
TA/T/TS: Threat assessment/tracking/targeting system
TSC: Tactical situation coordinator
VED: Vectored exhaust director
WFC: Warp field coil

Chapter Five
The Ship Registry



BEGIN TRANSMISSION
DATA RECEIVED

Throughout the Alpha and Beta Quadrants, tens of thousands of types of ships are used for everything from warfare, to commerce, to simple transportation. Of those ships, some of the most recognizable are the vessels of Starfleet. Incorporating distinctive design elements, and used for a wide variety of missions, one of the ships of Starfleet might appear almost anywhere on an errand of mercy, exploration, diplomacy, or defense.

Because of the many different duties the Federation has charged it with, Starfleet fields an enormous number of classes of starships—far more than the Klingon Empire or Romulan Star Empire, for example. Three vessels, two Federation and one Klingon, are described below. Players can use these as-is, make minor changes to them to create a new class of ship, or simply use them for parts ("I'm building an escort, but it's got *Galaxy*-class shields").

The three vessels presented below represent "typical" ones of their type. However, many other configurations are possible to make a ship particularly suited for different missions, and of course many ships evolve over time, becoming "better," more heavily armed, or the like. For example, the versions of the *Miranda*- and *Excelsior*-class vessels as of 2376 are often very different from the way those ships were built when they were first introduced in the 23rd century. Therefore, readers are free to rearrange or change Starship Templates to suit their own personal views regarding various ship types or Starfleet construction procedures.

THE STARSHIP TEMPLATE

Starships are described with a *Starship Template* which contains all the information needed to use the vessel in a game or starship combat situation. The terms in the Starship Template are explained in Chapter Two. As noted above, these Templates represent "average" members of their respective classes; many individual vessels will vary from the baseline Template in various ways. Narrators should feel free to change the Templates to suit their games, as should players with the Narrator's permission.

Readers interested in Starship Templates for more ships should refer to the *Ship Recognition Manual, Volume 1: Starfleet,* from Last Unicorn Games. It contains Templates for over 50 Starfleet, allied, and Threat species vessels.

DEFIANT CLASS

Class and Type: *Defiant*-class Heavy Escort

Commissioning Date: See text

HULL SYSTEMS

Size: 5
- Length: 170.68 meters
- Beam: 134.11 meters
- Height: 30.1 meters
- Decks: 4
- Mass: 355,000 metric tonnes
- SUs Available: 1,900
- SUs Used: 1,783

Hull

Outer	20
Inner	20

Resistance

Outer Hull: 10	12
Inner Hull: 10	12
Ablative Armor: 1400	280

Structural Integrity Field

Main: Class 7 (Protection 100/150) [1 Power/10 Protection/round]	35
Backup: Class 7 (Protection 50) [1 Power/10 Protection/round]	18
Backup: Class 7 (Protection 50) [1 Power/10 Protection/round]	18

Specialized Hull: Landing pads (see text)

PERSONNEL SYSTEMS

Crew/Passengers/Evac: 40/10/192

Crew Quarters

Spartan: 30	2
Basic: None	
Expanded: None	
Luxury: None	
Unusual: None	

Environmental Systems

Basic Life Support [6 Power/round]	20
Reserve Life Support [3 Power/round]	10
Emergency Life Support (30 emergency shelters)	10
Gravity [3 Power/round]	5
Consumables: 1 year's worth	5

Replicator Systems

Food Replicators [5 Power/round]	5
Industrial Replicators Type: Network of small replicators [2 Power/round]	5
Medical Facilities: 2 (+0) [2 Power/round]	10
Recreation Facilities: 1 [2 Power/round]	8
Personnel Transport: Turbolifts, Jefferies tubes [2 Power/round]	15
Fire Suppression System [1 Power/round when active]	5
Cargo Holds: 12,000 cubic meters Locations: 4 bays forward on Deck 3	1
Escape Pods Number: 26 Capacity: 6 persons per pod	3

PROPULSION SYSTEMS

Warp Drive

Nacelles: Type 6D98 Speed: 6.0/9.2/9.982 [1 Power/.2 warp speed]	113
PIS: Type H (12 hours of Maximum warp)	16

Impulse Engine

Type: Class 7 (.75c/.92c) [7/9 Power/round]	35
Acceleration Uprating: Class Beta (75% acceleration) [2 Power/round when active]	4
Location: Aft	
Reaction Control System (.025c) [2 Power/round when in use]	5

POWER SYSTEMS

Warp Engine

Type: Class 7/M (generates 399 Power/round) Location: Aft	85
Impulse Engine[s]: 1 Class 7 (generates 56 Power/engine/round)	
Auxiliary Power: 2 reactors (generate 5 Power/reactor/round)	6
Emergency Power: Type D (generates 40 Power/round)	40
EPS: Standard Power flow, +350 Power transfer/round	60

Standard Usable Power: 446

OPERATIONS SYSTEMS

Bridge: Dorsal amidships **25**

Separation System: Detachable warhead (6 torpedoes) **4**

Computers

Core 1: Amidships, Decks 2 and 3 [5 Power/round]	10
Core 2: Amidships, Decks 2 and 3 [5 Power/round]	10
Uprating: Class Beta (+2) [2 Power/computer/round]	4
ODN	15

Navigational Deflector [5 Power/round] **20**
- Range: 10/20,000/50,000/150,000
- Accuracy: 5/6/8/11
- Location: Forward, in warhead

Sensor Systems

Long-range Sensors [5 Power/round] Range Package: Type 5 (Accuracy 3/4/7/10) High Resolution: 5 light-years (.5/.6-1.0/1.1-3.7/3.8-5.0) Low Resolution: 15 light-years (1/1.1-4.0/4.1-12.0/12.1-15) Strength Package: Class 8 (Strength 8) Gain Package: Class Beta (+2) Coverage: Standard	42
Lateral Sensors [5 Power/round] Strength Package: Class 8 (Strength 8) Gain Package: Class Beta (+2) Coverage: Standard	22
Navigational Sensors: [5 Power/round] Strength Package: Class 8 (Strength 8) Gain Package: Class Beta (+2)	20
Probes: 10 (typical mixture includes Types I, III, V, VIII, and IX)	1

Sensors Skill: 4

Flight Control Systems
- Autopilot: Shipboard Systems (Flight Control) 3, Coordination 3 [1 Power/round in use] — 12

Navigational Computer
- Main: Class 3 (+2) [2 Power/round] — 4
- Backups: 2 — 2

Inertial Damping Field
- Main — 30
  - Strength: 9 [3 Power/round]
  - Number: 3
- Backup — 9
  - Strength: 6 [2 Power/round]
  - Number: 3
- Attitude Control [1 Power/round] — 1

Communications Systems
- Type: Class 9 [2 Power/round] — 24
  - Strength: 9
  - Security: -4
  - Basic Uprating: Class Beta (+2)
- Emergency Communications: Yes [2 Power/round] — 1
- Holocommunications: Yes — 1

Tractor Beams
- Emitter: Class Delta [3 Power/Strength used/round] — 12
  - Accuracy: 4/5/7/10
  - Location: Forward ventral
- Emitter: Class Delta [3 Power/Strength used/round] — 12
  - Accuracy: 4/5/7/10
  - Location: Aft dorsal

Transporters
- Type: Personnel [4 Power/use] — 34
  - Pads: 3
  - Emitter/Receiver Array: Personnel Type 6 (40,000 km range)
  - Energizing/Transition Coils: Class I (Strength 9)
  - Number and Location: Deck 1 amidships
- Type: Emergency [4 Power/use] — 27
  - Pads: 12
  - Emitter/Receiver Array: Emergency Type 3 (15,000 km range)
  - Energizing/Transition Coils: Class I (Strength 9)
  - Number and Location: Deck 1
- Type: Cargo [4 Power/use] — 28
  - Pads: 400 kg
  - Emitter/Receiver Array: Cargo Type 3 (40,000 km range)
  - Energizing/Transition Coils: Class I (Strength 9)
  - Number and Location: Deck 3 amidships

Cloaking Device: Class 8 [40 Power/class/round] — **29**

Security Systems
- Rating: 4 — 16
- Anti-Intruder System: Yes [1 Power/round] — 5
- Internal Force Fields [1 Power/3 Strength] — 5

Science Systems
- Rating 1 (+0) [1 Power/round] — 10
- Specialized Systems: None
- Laboratories: 2 — 2

TACTICAL SYSTEMS

Port Pulse Phaser Array — **47**
- Type: X Pulse
  - Damage: 250 [25 Power]
  - Number of Emitters: 200 (up to 5 shots per round)
  - Auto-Phaser Interlock: Accuracy 3/4/6/9
  - Range: 10/30,000/100,000/300,000
  - Location: Port sponson
  - Firing Arc: Forward
  - Firing Modes: Standard, Wide Beam

Starboard Pulse Phaser Array — **47**
- Type: X Pulse
  - Damage: 250 [20 Power]
  - Number of Emitters: 200 (up to 5 shots per round)
  - Auto-Phaser Interlock: Accuracy 3/4/6/9
  - Range: 10/30,000/100,000/300,000
  - Location: Starboard sponson
  - Firing Arc: Forward
  - Firing Modes: Standard, Wide Beam

Dorsal Phaser Array — **32**
- Type: X
  - Damage: 200 [20 Power]
  - Number of Emitters: 120 (up to 3 shots per round)
  - Auto-Phaser Interlock: Accuracy 3/4/6/9
  - Range: 10/30,000/100,000/300,000
  - Location: Dorsal amidships
  - Firing Arc: 360 degrees dorsal
  - Firing Modes: Standard, Continuous, Pulse, Wide-Beam

Forward Phaser Array — **16**
- Type: X
  - Damage: 200 [20 Power]
  - Number of Emitters: 40 (up to 1 shot per round)
  - Auto-Phaser Interlock: Accuracy 3/4/6/9
  - Range: 10/30,000/100,000/300,000
  - Location: Forward
  - Firing Arc: 360 degrees forward
  - Firing Modes: Standard, Continuous, Pulse, Wide-Beam

Forward Torpedo Launcher — **16**
- Standard Load: Mark I quantum torpedo (400 Damage)
  - Spread: 6
  - Range: 15/350,000/1,500,000/4,050,000
  - Targeting System: Accuracy 3/4/6/9
  - Power: [20 + 5 per torpedo fired]
  - Location: Forward in warhead
  - Firing Arc: Forward, but are self-guided

Forward Dorsal Port Torpedo Launcher — **16**
- Standard Load: Mark I quantum torpedo (400 Damage)
  - Spread: 6
  - Range: 15/350,000/1,500,000/4,050,000
  - Targeting System: Accuracy 3/4/6/9
  - Power: [20 + 5 per torpedo fired]
  - Location: Dorsal, just forward of the port sponson
  - Firing Arc: Forward, but are self-guided

Forward Dorsal Starboard Torpedo Launcher **16**
Standard Load: Mark I quantum torpedo (400 Damage)
Spread: 6
Range: 15/350,000/1,500,000/4,050,000
Targeting System: Accuracy 3/4/6/9
Power: [20 + 5 per torpedo fired]
Location: Dorsal, just forward of the starboard sponson
Firing Arc: Forward, but are self-guided

Aft Port Torpedo Launcher **16**
Standard Load: Mark I quantum torpedo (400 Damage)
Spread: 6
Range: 15/350,000/1,500,000/4,050,000
Targeting System: Accuracy 3/4/6/9
Power: [20 + 5 per torpedo fired]
Location: Aft port
Firing Arc: Aft, but are self-guided

Aft Starboard Torpedo Launcher **16**
Standard Load: Mark I quantum torpedo (400 Damage)
Spread: 6
Range: 15/350,000/1,500,000/4,050,000
Targeting System: Accuracy 3/4/6/9
Power: [20 + 5 per torpedo fired]
Location: Aft starboard
Firing Arc: Aft, but are self-guided

Torpedoes Carried: 200 **20**

TA/T/TS: Class Gamma [2 Power/round] **12**
Strength: 9
Bonus: +2

Weapons Skill: 5

Shields (Forward, Aft, Port, Starboard) **47 (x4)**
Shield Generator: Class 3 (Protection 600)
[60 Power/shield/round]
Shield Grid: Type C (50% increase to 900 Protection)
Subspace Field Distortion Amplifiers: Class Delta (Threshold 200)
Recharging System: Class 2 (40 seconds)
Backup Shield Generators: 4 (1 per shield) 4

Auto-Destruct System **5**

AUXILIARY SPACECRAFT SYSTEMS

Shuttlebay(s): Capacity for 6 Size worth of ships **12**
Standard Complement: One Type 10 shuttlecraft, four shuttlepods
Location(s): 3 shuttlebays on Deck 3 (aft port, aft starboard, amidships)

Captain's Yacht: No

DESCRIPTION AND NOTES

Fleet data: The Defiant Development Project began in 2366 as a counter to the Borg threat. Although its stated goal was to create a new Heavy Escort, privately Starfleet officials acknowledged that the vessel was, in fact, intended to be the first warship ever designed by the Federation.

The original testbed ship experienced numerous intractable problems. In light of reduced concern regarding the Borg, the Defiant Development Project was placed on indefinite hold. Only the rise of the threat of the Dominion caused it to be revived. In 2371, the the prototype *Defiant* was provided to Deep Space 9 as a mobile defense platform. The crew of DS9 (including Captain Benjamin Sisko, who participated in its original design efforts) devoted considerable time and energy to overcome its deficiencies, and through hard work and experience managed to overcome most of its flaws. This included strengthening the structural integrity field to keep the overpowered engines from tearing the ship apart at high warp speeds (see below). With the data from their uses of the ship in hand, Starfleet was able to build more *Defiant*-class vessels. They proved to be a potent weapon against the Dominion, and a decisive factor in the Federation's victory in the Dominion War.

The *Defiant* incorporates a wide range of innovative and experimental starship systems. Examples include pulse phaser cannons, quantum torpedoes, ablative hull armor, landing pads allowing for possible recovery of the vessel if it has to be abandoned near a planet or moon, and the like. The plasma conduit is run through the primary phaser couplings, which almost doubles phaser power and provides a 30% more efficient warp drive. The *Defiant* can also carry and deploy additional ordnance or explosives, such as self-replicating mines.

The *Defiant* has two computer cores, but they are located together in a dual configuration amidships on Decks 2 and 3. While this makes the computers work more efficiently, it also makes them more vulnerable to attack, in that damage to a single location may affect both cores.

The *Defiant*'s navigational deflector is located in its forward section, which is a detachable warhead. Since use of the warhead is considered a last-ditch measure, depriving the ship of its deflector at that point should not cause problems. In the event the ship survives an encounter in which it has to use its warhead, it cannot safely go to warp speeds until the warhead is replaced.

The original *U.S.S. Defiant* possessed a cloaking device on loan from the Romulan Star Empire. Under the initial terms of the agreement with the Romulans, the cloak was to be used only in the Gamma Quadrant, but in light of the War those terms were altered to allow the cloak to be used on this side of the wormhole. Negotiations with the Romulans have lead to cloaks being installed in some other *Defiant*-class ships under specified conditions. Because

the *Defiant*-class ship has such powerful engines for its size, a cloak is not as effective as it might otherwise be. It also emits chroniton particles which can accumulate on the ship's ablative armor and, possibly, cause temporal accidents. Additional ships of the class may or may not be equipped with cloaking devices (ships without cloaks subtract 29 SUs from their total used).

The power of the *Defiant*'s engines (primarily her Class 7/M warp drive) causes other problems. Although the ship can attain speeds in excess of Warp 9, it will literally shake itself to pieces at that velocity. For every tenth of a point of warp speed over 9, up to 9.6, the ship takes 20 points of structural damage every round, and for every tenth of a point of warp speed at 9.7 and above takes 50 points of structural damage (only the SIF protects against this damage).

The *Defiant* normally has a crew of 40. However, sufficient space exists to triple its bunks, allowing it to carry up to 192 persons.

Although not intended to perform scientific survey missions (most of its sensors are optimized for military uses), the *Defiant* class's sensors and other equipment are sufficient to perform 82% of of the standard scientific sensor sweeps. The ship typically carries Class I, III, V, VIII, and/or IX probes.

Noteworthy vessels/service records/ encounters: *U.S.S. Defiant*, NX-74205, assigned to Deep Space 9 (2371), destroyed in battle by the Breen in the Chin'toka system (2375); *U.S.S. Sao Paulo*, NCC-75633, replaced *U.S.S. Defiant* and was rechristened with its name (2375); *U.S.S. Valiant*, NCC-74210, destroyed by Jem'Hadar battleship while commanded by Red Squadron of Starfleet Academy following the death of Captain Ramirez (2374).

GALAXY CLASS

Class and Type: *Galaxy*-class Explorer

Commissioning Date: 2356

HULL SYSTEMS

Size: 8
- Length: 642.51 meters
- Beam: 463.73 meters
- Height: 195.26 meters
- Decks: 42
- Mass: 4,500,000 metric tonnes
- SUs Available: 3,130
- SUs Used: 3,026

Hull

Outer	32
Inner	32

Resistance

Outer Hull: 8	9
Inner Hull: 8	9

Structural Integrity Field

Main: Class 5 (Protection 80/120)	
[1 Power/10 Protection/round]	32
Backup1: Class 5 (Protection 40)	
[1 Power/10 Protection/round]	16
Backup 2: Class 5 (Protection 40)	
[1 Power/10 Protection/round]	16

PERSONNEL SYSTEMS

Crew/Passengers/Evac: 1,012/200/15,000

Crew Quarters

Spartan: None	
Basic: 950	95
Expanded: 385	77
Luxury: 110	110
Unusual: 55	55

Environmental Systems

Basic Life Support [13 Power/round]	32
Reserve Life Support [7 Power/round]	16
Emergency Life Support (48 emergency shelters)	16
Gravity [4 Power/round]	8
Consumables: 3 years' worth	24

Replicator Systems

Food Replicators [8 Power/round]	8
Industrial Replicators	17
Type: Network of small replicators [2 Power/round]	
Type: 3 large units [2 Power/replicator/round]	
Medical Facilities: 10 (+2) [10 Power/round]	50
Recreation Facilities: 8 [16 Power/round]	64
Personnel Transport: Turbolifts, Jefferies tubes [2 Power/round]	24
Fire Suppression System [1 Power/round when active]	8
Cargo Holds: 333,000 cubic meters	10
Locations: 18 main cargo holds and other minor holds throughout the ship	
Escape Pods	10
Number: 180	
Capacity: 6 persons per pod	

PROPULSION SYSTEMS

Warp Drive

Nacelles: Type 6D9	108
Speed: 6.0/9.2/9.90 [1 Power/.2 warp speed]	
PIS: Type H (12 hours of Maximum warp)	16

Impulse Engine

Type: Class 7 (.75c/.92c) [7/9 Power/round]	35
Location: Engineering section	

Impulse Engine

Type: Class 7 (.75c/.92c) [7/9 Power/round]	35
Location: Saucer section	
Reaction Control System (.025c) [2 Power/round when in use]	8

POWER SYSTEMS

Warp Engine

Type: Class 12/R (generates 630 Power/round)	133
Location: Engineering section	
Impulse Engine[s]: 2 Class 7 (generate 56 Power/engine/round)	
Auxiliary Power: 4 reactors (generate 5 Power/reactor/round)	12
Emergency Power: Type F (generates 50 Power/round)	50
EPS: Standard Power flow, +330 Power transfer/round	73

Standard Usable Power: 742

OPERATIONS SYSTEMS

Bridge: Saucer section dorsal	**40**
Auxiliary Control Room: Engineering section	**24**
Separation System: Saucer separation [10 Power]	**10**

Computers

Core 1: Saucer section, port [5 Power/round]	16
Core 2: Saucer section, starboard [5 Power/round]	16
Core 3: Engineering section [5 Power/round]	16
Uprating: Class Beta (+2) [2 Power/computer/round]	12
ODN	24
Navigational Deflector [5 Power/round]	**32**

- Range: 10/20,000/50,000/150,000
- Accuracy: 5/6/8/11
- Location: Forward ventral

Sensor Systems

Long-range Sensors [5 Power/round]	54

- Range Package: Type 7 (Accuracy 3/4/7/10)
- High Resolution: 5 light-years (.5/.6-1.0/1.1-3.8/3.9-5.0)
- Low Resolution: 17 light-years (1/1.1-6.0/6.1-13.0/13.1-17)
- Strength Package: Class 10 (Strength 10)
- Gain Package: Class Beta (+2)
- Coverage: Standard

Lateral Sensors [5 Power/round] 26
Strength Package: Class 10 (Strength 10)
Gain Package: Class Beta (+2)
Coverage: Standard
Navigational Sensors: [5 Power/round] 24
Strength Package: Class 10 (Strength 10)
Gain Package: Class Beta (+2)
Probes: 60 probes of varying types 6

Sensors Skill: 5

Flight Control Systems
Autopilot: Shipboard Systems (Flight Control) 4, Coordination 2 [1 Power/round in use] 14

Navigational Computer
Main: Class 3 (+2) [2 Power/round] 4
Backups: 2 2

Inertial Damping Field
Main 96
Strength: 9 [3 Power/round]
Number: 6
Backup 24
Strength: 6 [2 Power/round]
Number: 6
Attitude Control (2 Power/round) 2

Communications Systems
Type: Class 9 [2 Power/round] 26
Strength: 9
Security: -5 (Class Gamma uprating)
Basic Uprating: Class Beta (+2)
Emergency Communications: Yes [2 Power/round] 1

Tractor Beams
Emitter: Class Delta [3 Power/Strength used/round] 12
Accuracy: 4/5/7/10
Location: Aft ventral
Emitter: Class Delta [3 Power/Strength used/round] 12
Accuracy: 4/5/7/10
Location: Forward ventral (above main deflector)
Emitter: Class Alpha [3 Power/Strength used/round] 9
Accuracy: 5/6/8/11
Location: Shuttlebays 1, 2, and 3

Transporters
Type: Personnel [5 Power/use] 102
Pads: 6
Emitter/Receiver Array: Personnel Type 6 (40,000 km range)
Energizing/Transition Coils: Class H (Strength 8)
Number and Location: Four in saucer section, two in Engineering section
Type: Emergency [7 Power/use] 102
Pads: 22
Emitter/Receiver Array: Emergency Type 3 (15,000 km range)
Energizing/Transition Coils: Class H (Strength 8)
Number and Location: Four in saucer section, two in Engineering section
Type: Cargo [4 Power/use] 88
Pads: 400 kg
Emitter/Receiver Array: Cargo Type 3 (40,000 km range)
Energizing/Transition Coils: Class F (Strength 6)
Number and Location: Four on Deck 4, four on Decks 38/39

Cloaking Device: None

Security Systems
Rating: 4 16
Anti-Intruder System: Yes [1 Power/round] 8
Internal Force Fields [1 Power/3 Strength] 8

Science Systems
Rating 3 (+2) [3 Power/round] 23
Specialized Systems: 3 15
Laboratories: 32 8

TACTICAL SYSTEMS

Saucer Dorsal Phaser Array **48**
Type: X
Damage: 200 [20 Power]
Number of Emitters: 200 (up to 5 shots per round)
Auto-Phaser Interlock: Accuracy 4/5/7/10
Range: 10/30,000/100,000/300,000
Location: Saucer dorsal
Firing Arc: 405 degrees dorsal
Firing Modes: Standard, Continuous, Pulse, Wide-Beam

Saucer Ventral Phaser Array **48**
Type: X
Damage: 200 [20 Power]
Number of Emitters: 200 (up to 5 shots per round)
Auto-Phaser Interlock: Accuracy 4/5/7/10
Range: 10/30,000/100,000/300,000
Location: Saucer ventral
Firing Arc: 405 degrees ventral
Firing Modes: Standard, Continuous, Pulse, Wide-Beam

Battle Section Upper Phaser Array (Port) **17**
Type: X
Damage: 200 [20 Power]
Number of Emitters: 50 (up to 1 shot per round)
Auto-Phaser Interlock: Accuracy 4/5/7/10
Range: 10/30,000/100,000/300,000
Location: Engineering section dorsal
Firing Arc: 360 degrees dorsal
Firing Modes: Standard, Continuous, Pulse, Wide-Beam

Battle Section Upper Phaser Array (Starboard) **17**
Type: X
Damage: 200 [20 Power]
Number of Emitters: 50 (up to 1 shot per round)
Auto-Phaser Interlock: Accuracy 4/5/7/10
Range: 10/30,000/100,000/300,000
Location: Engineering section dorsal
Firing Arc: 360 degrees dorsal
Firing Modes: Standard, Continuous, Pulse, Wide-Beam

Battle Section Forward Dorsal Phaser Array **24**
Type: X
Damage: 200 [20 Power]
Number of Emitters: 80 (up to 2 shots per round)
Auto-Phaser Interlock: Accuracy 4/5/7/10
Range: 10/30,000/100,000/300,000
Location: Engineering section forward (concealed when ship not separated)
Firing Arc: 405 degrees dorsal
Firing Modes: Standard, Continuous, Pulse, Wide-Beam

Battle Section Ventral Phaser Array **23**
Type: X
Damage: 200 [20 Power]
Number of Emitters: 80 (up to 2 shots per round)
Auto-Phaser Interlock: Accuracy 4/5/7/10
Range: 10/30,000/100,000/300,000
Location: Engineering section ventral
Firing Arc: 360 degrees ventral
Firing Modes: Standard, Continuous, Pulse, Wide-Beam

Battle Section Aft Dorsal Phaser Array (Port) **17**
Type: X
Damage: 200 [20 Power]
Number of Emitters: 50 (up to 1 shot per round)
Auto-Phaser Interlock: Accuracy 4/5/7/10
Range: 10/30,000/100,000/300,000
Location: Engineering section dorsal
Firing Arc: 360 degrees aft dorsal
Firing Modes: Standard, Continuous, Pulse, Wide-Beam

Battle Section Aft Dorsal Phaser Array (Starboard) **17**
Type: X
Damage: 200 [20 Power]
Number of Emitters: 50 (up to 1 shot per round)
Auto-Phaser Interlock: Accuracy 4/5/7/10
Range: 10/30,000/100,000/300,000
Location: Engineering section aft dorsal
Firing Arc: 360 degrees dorsal
Firing Modes: Standard, Continuous, Pulse, Wide-Beam

Battle Section Aft Ventral Phaser Array (Port) **17**
Type: X
Damage: 200 [20 Power]
Number of Emitters: 50 (up to 1 shot per round)
Auto-Phaser Interlock: Accuracy 4/5/7/10
Range: 10/30,000/100,000/300,000
Location: Engineering section aft ventral
Firing Arc: 360 degrees ventral
Firing Modes: Standard, Continuous, Pulse, Wide-Beam

Battle Section Aft Ventral Phaser Array (Starboard) **17**
Type: X
Damage: 200 [20 Power]
Number of Emitters: 50 (up to 1 shot per round)
Auto-Phaser Interlock: Accuracy 4/5/7/10
Range: 10/30,000/100,000/300,000
Location: Engineering section aft ventral
Firing Arc: 360 degrees ventral
Firing Modes: Standard, Continuous, Pulse, Wide-Beam

Nacelle Ventral Phaser Array (Port) **19**
Type: X
Damage: 200 [20 Power]
Number of Emitters: 60 (up to 1 shot per round)
Auto-Phaser Interlock: Accuracy 4/5/7/10
Range: 10/30,000/100,000/300,000
Location: Nacelle pylon aft ventral
Firing Arc: 360 degrees ventral
Firing Modes: Standard, Continuous, Pulse, Wide-Beam

Nacelle Ventral Phaser Array (Starboard) **19**
Type: X
Damage: 200 [20 Power]
Number of Emitters: 60 (up to 1 shot per round)
Auto-Phaser Interlock: Accuracy 4/5/7/10
Range: 10/30,000/100,000/300,000
Location: Nacelle pylon aft ventral
Firing Arc: 360 degrees ventral
Firing Modes: Standard, Continuous, Pulse, Wide-Beam

Aft Torpedo Launcher **17**
Standard Load: Type II photon torpedo (200 Damage)
Spread: 10
Range: 15/350,000/1,500,000/4,050,000
Targeting System: Accuracy 4/5/7/10
Power: [20 + 5 per torpedo fired]
Location: Engineering section aft
Firing Arc: Aft, but are self-guided

Forward Ventral Torpedo Launcher **17**
Standard Load: Type II photon torpedo (200 Damage)
Spread: 10
Range: 15/350,000/1,500,000/4,050,000
Targeting System: Accuracy 4/5/7/10
Power: [20 + 5 per torpedo fired]
Location: Engineering section forward
Firing Arc: Forward, but are self-guided

Saucer Aft Torpedo Launcher **17**
Standard Load: Type II photon torpedo (200 Damage)
Spread: 10
Range: 15/350,000/1,500,000/4,050,000
Targeting System: Accuracy 4/5/7/10
Power: [20 + 5 per torpedo fired]
Location: Saucer section aft (concealed when ship not separated)
Firing Arc: Aft, but are self-guided

Torpedoes Carried: 275 **28**

TA/T/TS: Class Gamma [2 Power/round] **12**
Strength: 9
Bonus: +2

Weapons Skill: 5

Shields (Forward, Aft, Port, Starboard) **100 (x4)**
Shield Generator: Class 6 (Protection 1200)
[120 Power/shield/round]
Shield Grid: Type C (50% increase to 1800 Protection)
Subspace Field Distortion Amplifiers: Class Theta (Threshold 400)
Recharging System: Class 1 (45 seconds)
Backup Shield Generators: 4 (1 per shield) 8

Auto-Destruct System **8**

AUXILIARY SPACECRAFT SYSTEMS

Shuttlebay(s): Capacity for 62 Size worth of ships **124**
Standard Complement: 25 shuttles, 12 shuttlepods
Location(s): Main shuttlebay (saucer section), two smaller bays (engineering section, forward dorsal, port and starboard)

Captain's Yacht: Yes **10**

DESCRIPTION AND NOTES

Fleet Data: The *Galaxy*-class of starships is one of the most powerful and innovative in Federation history. Design on the class began in 2343, and the first vessel, the *U.S.S. Galaxy*, was launched in 2356. It incorporates many important technological advances which allow it to perform a wide variety of missions, but its primary missions are long term exploration, scientific investigation and defense of the Federation.

Built for a lengthy service life, the *Galaxy*-class contains numerous systems which can be replaced in toto at a spacedock facility. With a crew exceeding 1,000, it's a virtual city in space, and carries many civilians in the form of crewmembers' families. Its saucer section can separate from its Engineering hull to take the civilians away from dangerous situations if necessary.

(Note: This template represents the uprated version of the *Galaxy*-class vessel in use as of 2375. Earlier versions were more or less identical, but had slightly less powerful warp drives and fewer upgraded systems. For the standard version, reduce its warp nacelles to Type 6D, and substitute the lower range figures for its photon torpedoes.)

Noteworthy vessels/service records/ encounters: *U.S.S. Galaxy*, prototype; *U.S.S. Enterprise*-D, see extensive documentation, destroyed in combat with the Duras sisters (2371); *U.S.S. Yamato*, NCC-71807, destroyed by computer failure after contact with Iconian software weapon (2365); *U.S.S. Odyssey*, NCC-71832,destroyed in confrontation with the Jem'Hadar in the Gamma Quadrant (2370); *U.S.S. Venture*, NCC-71854, led relief force to Deep Space 9 in response to Klingon invasion of Cardassian Union (2372); *U.S.S. Vel'dna*, NCC-72406, led one of the Galaxy wings participating in Operation Return (2374); *U.S.S. Kludy*, NCC-71095, destroyed five Dominion ships during the Third Battle of Vulcanis (2375); *U.S.S. Courageous*, NCC-72579, participated in attacks on Chin'toka system (2375), *U.S.S. Indomitable*, NCC-73462, established Federation presence at Bridgetown space station and began exploration of Kellinan Reach (2376).

VOR'CHA CLASS

Class and Type: Klingon ***Vor'cha***-Class Heavy Warship
Commissioning Date: Mid-24th century

HULL SYSTEMS

Size: 7
Length: 481.32 meters
Beam: 341.76 meters
Height: 106.87 meters
Decks: 22
Mass: 2,238,000 metric tonnes
SUs Available: 2,750
SUs Used: 2,705

Hull

Outer	28
Inner	28

Resistance

Outer Hull: 10	12
Inner Hull: 10	12

Structural Integrity Field

Main: Class 5 (Protection 80/120) [1 Power/10 Protection/round]	31
Backup: Class 5 (Protection 40) [1 Power/10 Protection/round]	16
Backup: Class 5 (Protection 40) [1 Power/10 Protection/round]	16

PERSONNEL SYSTEMS

Crew/Passengers/Evac: 1,900/250/7,350

Crew Quarters

Spartan: 1,200	60
Basic: 800	80
Expanded: 200	40
Luxury: None	
Unusual: None	

Environmental Systems

Basic Life Support [12 Power/round]	28
Reserve Life Support [6 Power/round]	14
Emergency Life Support (42 emergency shelters)	14
Gravity [4 Power/round]	7
Consumables: 2 years' worth	14

Replicator Systems

Food Replicators [7 Power/round]	7
Industrial Replicators Type: Network of small replicators [2 Power/round] Type: 2 large units [2 Power/replicator/round]	13
Medical Facilities: 4 (+1) [4 Power/round]	20
Recreation Facilities: 4 [8 Power/round]	32
Personnel Transport: Turbolifts, Jefferies tubes [2 Power/round]	21
Fire Suppression System [1 Power/round when active]	7
Cargo Holds: 166,000 cubic meters Locations: Aft, ventral amidships, 12 other locations	5
Escape Pods Number: 160 Capacity: 8 persons per pod	9

PROPULSION SYSTEMS

Warp Drive

Nacelles: Type 6A6	**93**
Speed: 6.0/8.0/9.6 [1 Power/.2 warp speed]	
PIS: Type H (12 hours of Maximum warp)	16

Impulse Engine

Type: Class 3A (.5c/.75c) [5/7 Power/round] Location: Aft	18

Impulse Engine

Type: Class 3A (.5c/.75c) [5/7 Power/round] Location: Engineering hull	18
Reaction Control System (.025c) [2 Power/round when in use]	7

POWER SYSTEMS

Warp Engine

Type: Class 10/P (generates 549 Power/round) Location: Engineering hull	115
Impulse Engine[s]: 2 Class 3A (generate 28 Power/engine/round)	
Auxiliary Power: 4 reactors (generate 5 Power/reactor/round)	12
Emergency Power: Type E (generates 45 Power/round)	45
EPS: Standard Power flow, +300 Power transfer/round	65

Standard Usable Power: 605

OPERATIONS SYSTEMS

Bridge: Forward dorsal	**35**

Computers

Core 1: Forward [5 Power/round]	14
Core 2: Engineering [5 Power/round]	14
ODN	21
Navigational Deflector [5 Power/round]	**28**

Range: 10/20,000/50,000/150,000
Accuracy: 5/6/8/11
Location: Ventral

Sensor Systems

Long-range Sensors [5 Power/round] Range Package: Type 5 (Accuracy 3/4/7/10) High Resolution: 5 light-years (.5/.6-1.0/1.1-3.7/3.8-5.0) Low Resolution: 15 light-years (1/1.1-4.0/4.1-12.0/12.1-15) Strength Package: Class 8 (Strength 8) Gain Package: Class Alpha (+1) Coverage: Standard	39
Lateral Sensors [5 Power/round] Strength Package: Class 8 (Strength 8) Gain Package: Class Alpha (+1) Coverage: Standard	19
Navigational Sensors: [5 Power/round] Strength Package: Class 8 (Strength 8) Gain Package: Class Alpha (+1)	18
Probes: 40	4

Sensors Skill: 4

Flight Control Systems
- Autopilot: Shipboard Systems (Flight Control) 3, Coordination 2 [1 Power/round in use] — 11

Navigational Computer
- Main: Class 3 (+2) [2 Power/round] — 4
- Backups: 2 — 2

Inertial Damping Field
- Main — 56
  - Strength: 9 [3 Power/round]
  - Number: 4
- Backup — 16
  - Strength: 6 [2 Power/round]
  - Number: 4
- Attitude Control [2 Power/round] — 2

Communications Systems
- Type: Class 8 [2 Power/round] — 21
  - Strength: 8
  - Security: -4 (Class Gamma uprating)
  - Basic Uprating: Class Alpha (+1)
  - Emergency Communications: Yes [2 Power/round] — 1

Tractor Beams
- Emitter: Class Delta [3 Power/Strength used/round] — 12
  - Accuracy: 4/5/7/10
  - Location: Aft ventral
- Emitter: Class Alpha [3 Power/Strength used/round] — 3
  - Accuracy: 5/6/8/11
  - Location: Shuttlebay

Transporters
- Type: Personnel [5 Power/use] — 64
  - Pads: 6
  - Emitter/Receiver Array: Personnel Type 6 (40,000 km range)
  - Energizing/Transition Coils: Class G (Strength 7)
  - Number and Location: Two forward, two in Engineering hull
- Type: Cargo [4 Power/use] — 48
  - Pads: 400 kg
  - Emitter/Receiver Array: Cargo Type 3 (40,000 km range)
  - Energizing/Transition Coils: Class G (Strength 7)
  - Number and Location: Two forward, two in Engineering hull

Cloaking Device: Class 8 [40 Power/class/round] — 31

Security Systems
- Rating: 4 — 16
- Anti-Intruder System: Yes [1 Power/round] — 7
- Internal Force Fields [1 Power/3 Strength] — 7

Science Systems
- Rating 2 (+1) [2 Power/round] — 17
- Specialized Systems: 1 — 5
- Laboratories: 8 — 2

TACTICAL SYSTEMS

Forward Disruptor Cannon — 58
- Type: 13
  - Damage: 280 [28 Power]
  - Number of Emitters: Up to 5 shots per round
  - Targeting System: Accuracy 4/5/7/10
  - Range: 10/30,000/100,000/300,000
  - Location: Forward weapons pod
  - Firing Arc: 360 degrees forward
  - Firing Modes: Standard, Pulse

Aft Disruptor Array — 46
- Type: 10
  - Damage: 220 [22 Power]
  - Number of Emitters: Up to 3 shots per round
  - Targeting System: Accuracy 4/5/7/10
  - Range: 10/30,000/100,000/300,000
  - Location: Aft
  - Firing Arc: 360 degrees aft
  - Firing Modes: Standard, Pulse

Dorsal Disruptor Arrays (5) — 230
- Type: 10
  - Damage: 220 [22 Power]
  - Number of Emitters: Up to 3 shots per disruptor per round
  - Targeting System: Accuracy 4/5/7/10
  - Range: 10/30,000/100,000/300,000
  - Location: Five locations on dorsal side of ship
  - Firing Arc: 360 degrees dorsal
  - Firing Modes: Standard, Pulse

Ventral Disruptor Arrays (5) — 230
- Type: 10
  - Damage: 220 [22 Power]
  - Number of Emitters: Up to 3 shots per disruptor per round
  - Targeting System: Accuracy 4/5/7/10
  - Range: 10/30,000/100,000/300,000
  - Location: Five locations on ventral side of ship
  - Firing Arc: 360 degrees ventral
  - Firing Modes: Standard, Pulse

Starboard Disruptor Arrays (3) — 138
- Type: 10
  - Damage: 220 [22 Power]
  - Number of Emitters: Up to 3 shots per disruptor per round
  - Targeting System: Accuracy 4/5/7/10
  - Range: 10/30,000/100,000/300,000
  - Location: Three locations on ship's starboard side and pylon
  - Firing Arc: 360 degrees starboard
  - Firing Modes: Standard, Pulse

Port Disruptor Arrays (3) — 138
- Type: 10
  - Damage: 220 [22 Power]
  - Number of Emitters: Up to 3 shots per disruptor per round
  - Targeting System: Accuracy 4/5/7/10
  - Range: 10/30,000/100,000/300,000
  - Location: Three locations on ship's port side and pylon
  - Firing Arc: 360 degrees port
  - Firing Modes: Standard, Pulse

Forward Dorsal Torpedo Launcher — 18
- Standard Load: Type II photon torpedo (200 Damage)
  - Spread: 10
  - Range: 15/350,000/1,500,000/4,050,000
  - Targeting System: Accuracy 4/5/7/10
  - Power: [20 + 5 per torpedo fired]
  - Location: Forward dorsal
  - Firing Arc: Forward, but are self-guided

Forward Ventral Torpedo Launcher **18**
Standard Load: Type II photon torpedo (200 Damage)
Spread: 10
Range: 15/350,000/1,500,000/4,050,000
Targeting System: Accuracy 4/5/7/10
Power: [20 + 5 per torpedo fired]
Location: Forward ventral
Firing Arc: Forward, but are self-guided

Aft Torpedo Launcher **18**
Standard Load: Type II photon torpedo (200 Damage)
Spread: 10
Range: 15/350,000/1,500,000/4,050,000
Targeting System: Accuracy 4/5/7/10
Power: [20 + 5 per torpedo fired]
Location: Aft
Firing Arc: Aft, but are self-guided

Torpedoes Carried: 200 **20**

TA/T/TS: Class Gamma [2 Power/round] **12**
Strength: 9
Bonus: +2

Weapons Skill: 5

Shields (Forward, Aft, Port, Starboard) **76 (x4)**
Shield Generator: Class 5 (Protection 900)
[90 Power/shield/round]
Shield Grid: Type B (33% increase to 1200 Protection)
Subspace Field Distortion Amplifiers: Class Eta (Threshold 300)
Recharging System: Class 1 (45 seconds)
Backup Shield Generators: 4 (1 per shield) 8

Auto-Destruct System **7**

AUXILIARY SPACECRAFT SYSTEMS

Shuttlebay(s): Capacity for 20 Size worth of ships **40**
Standard Complement: 8 shuttlecraft, 4 shuttlepods
Location(s): Aft

Captain's Yacht: No

DESCRIPTION AND NOTES

Fleet data: As of 2375, the main fighting ship of the Imperial Klingon Defense Force and the most powerful Klingon Great Houses is the *Vor'cha*-class Heavy Warship. Like most Klingon ships, it features a design with a broad body and nacelle pylons and a bridge at the end of a "neck" region. It also includes a large sensor module and aft weapons array in its aft dorsal region.

Like most Klingon ships, the *Vor'cha* ignores the amenities of comfortable living—warriors, after all, do not need comfort, which only make them soft!—in favor of more and better systems. Like any proper Klingon vessel, it's heavily armed, with 18 disruptor arrays, a forward disruptor cannon, and three torpedo launchers. The forward cannon is contained in a detachable module. When the ship needs to attain higher impulse speeds, it can eject this pod; this adds +1c to both Sustained and Maximum impulse speeds.

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