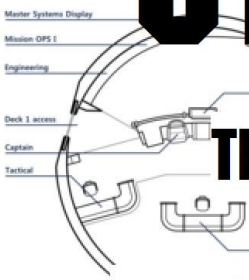
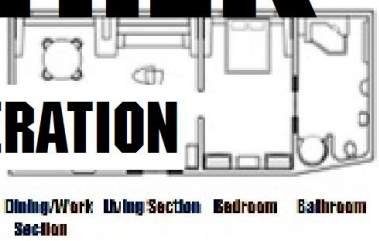
STAR TREK

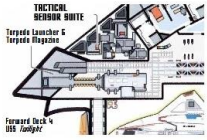
THE NEXT GENERATION

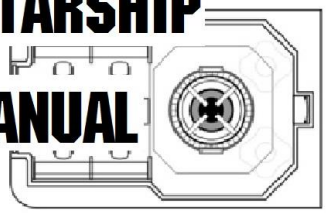
NOVA CLASS STARSHIP

TECHNICAL MANUAL

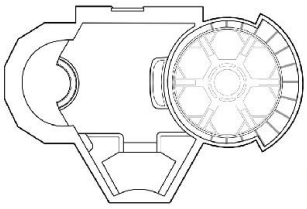




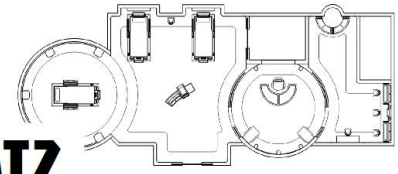




TRANSPORTER ROOM
DECK 2



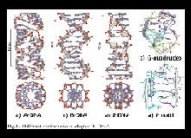
SICKBAY
DECK 2



BY

L.J. KATZ

CAPTAIN. YOUR UNIQUE MEDICAL SKILLS AND THAT OF YOUR VESSEL ARE ONCE AGAIN REQUIRED. ATTACHED IS THE DNA AND RNA CODE FOR A RETRO-VIRUS BIOGENIC WEAPON THAT DESTROYED NEW NORTHSHIRE COLONY ON STARDATE 53420.75. A ROMULAN WARBIRD APPEARS TO BE CARRYING THE DISEASE. A LIVE SAMPLE HAS BEEN BEAMED ABOARD AND IS WAITING YOUR MEDICAL STAFF IN CARGO BAY TWO. FIND A CURE. JARYD. WE'RE RUNNING OUT OF TIME.
--ADMIRAL NYOTA UHURA

M-559

14

23

25

STARFLEET COMMAND

UNITED FEDERATION OF PLANETS • SAN FRANCISCO • EARTH

ENCRYPTED COMMUNICATION

HARKER, JARYD CAPTAIN U.S.S. TWILIGHT NCC 74413 COMMAND CYPHERS ACCEPTED IDENTITY CONFIRMED....

73374

89654

Refit Officer's Conference Lounge A, Deck One, USS Twilight NCC - 74413

Accommodation: 80
(15 Officers, 65 Enlisted Crew)

Classification: Scout Frigate [Surveyor]

Funding for Nova Class Development Project Provided by:
Advanced Starship Design Bureau, United Federation of Planets Defense Council

Development Project Started: 2363

Production Start Date: 2367

Production End Date: Still in Production

Current Status: In Service

Locations of Nova-Class Construction:
Avondale Production Facility, Rigel II
San Francisco Fleet Yards, Earth

Current Starship Identification and Registration Numbers:

- U.S.S. *Twilight* – NCC-74413 *
- U.S.S. *Aurora* – NCC-91270*
- U.S.S. *Starfalcon* – NCC-74613*
- U.S.S. *Unicorn* – NCC-74106*
- U.S.S. *Tolkien* – NCC-74625*
- U.S.S. *Llamrei* – NCC-74109*

* Starships refitted by Starfleet Intelligence

Awaiting Refit:

- USS *Aldrin* (NCC-74407)
- USS *Anticipation* (NCC-74410)
- USS *Binary* (NCC-72454)
- USS *Charribey* (NCC-72399)
- USS *Eclipse* (NCC 95098)*
- USS *Equinox* (NCC-72381) [Destroyed]
- USS *Everett* (NCC-72392)
- USS *Farrier* (NCC-72415)
- USS *Dyson* (NCC-72411)
- USS *Kepler* (NCC 74412)
- U.S.S. *Hubble* (NCC-73708) *
- USS *Lionheart* (NCC-73808)
- USS *Lovell* (NCC 73671)
- USS *Mullen* (NCC-72417)
- USS *Nova* (NCC-73515)
- USS *Pulsar* (NCC-72358) *
- USS *Quasar* (NCC-72369)
- USS *Rhode Island* (NCC-72701)
- USS *Sagan* (NCC 79831)
- U.S.S. *Sally Ride* (NCC-73871)*
- USS *Solstice* (NCC-72409)

CONTENTS

1.0 NOVA-CLASS INTRODUCTION 

Author's Introduction:

This book has three purposes: first and foremost, as a technical aid for Star Trek writers who wish to include this very popular starship in their stories. Second, as a supplementary rulebook for players and game masters of Star Trek roleplaying and tactical games. Third and finally, for the fun and general enjoyment of all Star Trek fans!

I think the publishers at Pocket Books in the offices of Simon and Schuster have completely underestimated the popularity and demand of these books for hard-core Trekies. I've been a Star Trek fan since I was 8 years old and saw the Saturday morning cartoons, then discovered the live-action reruns on WPIX TV. We kids played LARP Star Trek long before the term was invented. My eyes popped when my friend Evan Seidman was given the Enterprise 1701 blueprints for his birthday! What a stroke of genius somebody had! We quickly found every compartment of the ship, from the bridge to engineering to the arboretum (I had no idea until I was ten years old that there was a park on the Enterprise.) Naturally, we used those blueprints to recreate a cardboard version of the bridge. Then, I was given the first Star Trek Technical manual. I remember asking my dad, an electrical engineer, to build me a working communicator and tricorder. "But Dad! The schematics are right here in the book!" He had to patiently explain to me that those schematics were science fiction, and it wouldn't actually work in the real world—not for another thirty years, anyway, when mobile phones became prevalent.

It wasn't until 1991 that a second Star Trek Technical Manual was finally published—ironically, at the behest of actress Gates McFadden who played Dr. Crusher. She wanted a general rulebook for her props, as an aid to her acting. This way she could spout techno-babble with a basic understanding of what she was trying to say. It made a crazy kind of sense, and the book was so popular, that a second technical manual for Deep Space Nine soon followed.

Then, suddenly, the company simply wasn't interested in publishing these books any longer. Why? Didn't Simon and Schuster like making money anymore? The fans were eagerly awaiting a technical manual for Voyager that was never officially published. So, we fans were left to our own devices, to self-publish our own deck plans and technical manuals on the Internet to fill the need, a gaping void that was inexplicably left behind. I therefore intend to mail a copy of this completed Nova Class Technical Manual to the publishers at Pocket Books, in the hope they will see the value in publishing at least a limited printing of it. Every Star Trek fan in the world can honestly tell the editors that it will certainly sell—and I'm asking everyone who reads this rough draft to call, write, and email Pocket Books, asking them to officially publish it. Heck, a fan letter-writing campaign saved the original Star Trek for a third season, and eventually brought about another four series and twelve motion pictures.

A final note: when I rewrote and put this technical manual together, I deliberately included an appendix featuring the deck plans for the *Nova* Class, drawings that I personally

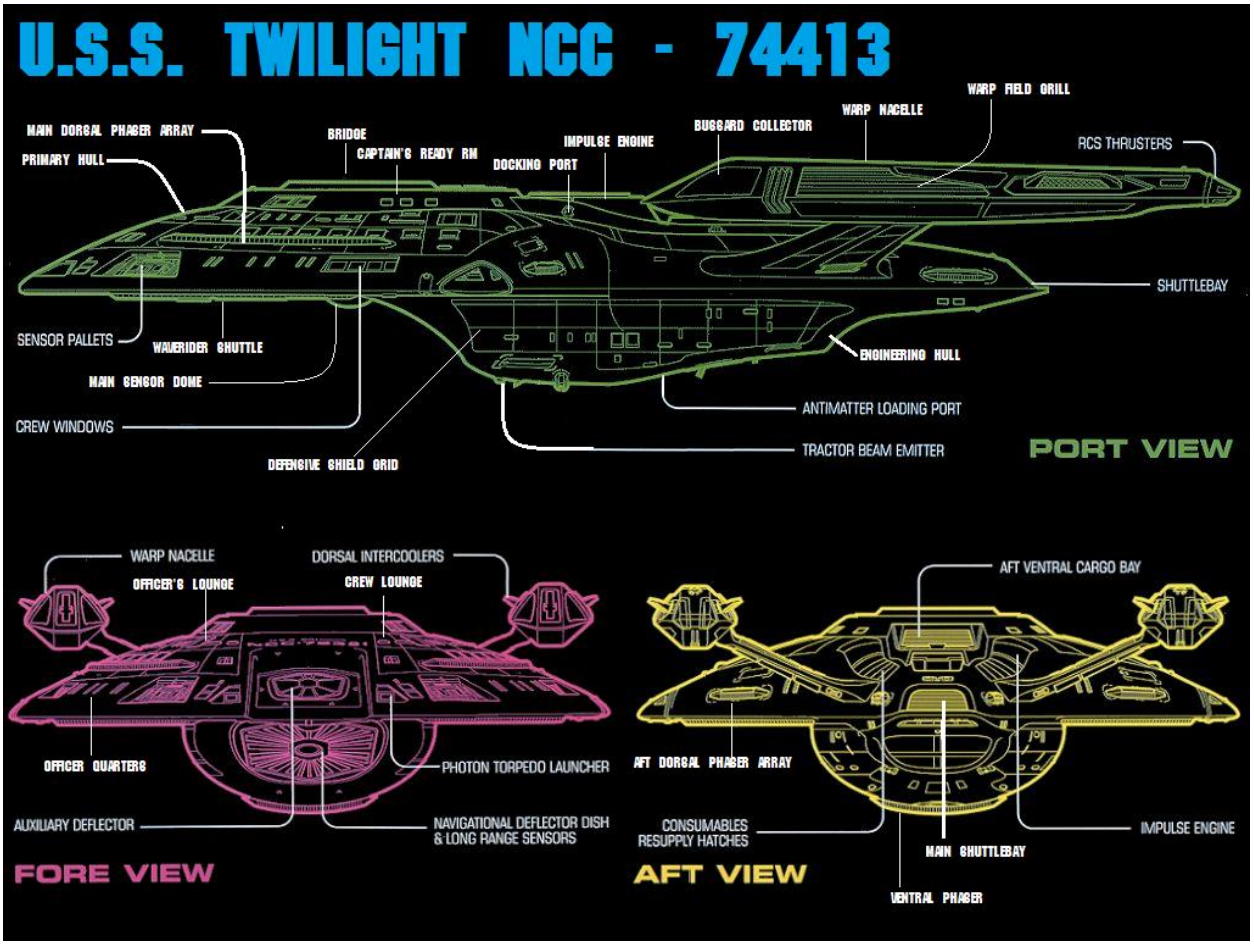
reworked until I had made them my own. This was a personal touch I always felt should've been included in every technical manual before it. Granted, you need a magnifying glass to make out much detail, which is why you need to purchase—or download and print up—full size deck plans; but at least, they are conveniently available at the back of the book as a reference.

1.1 MISSION OBJECTIVES

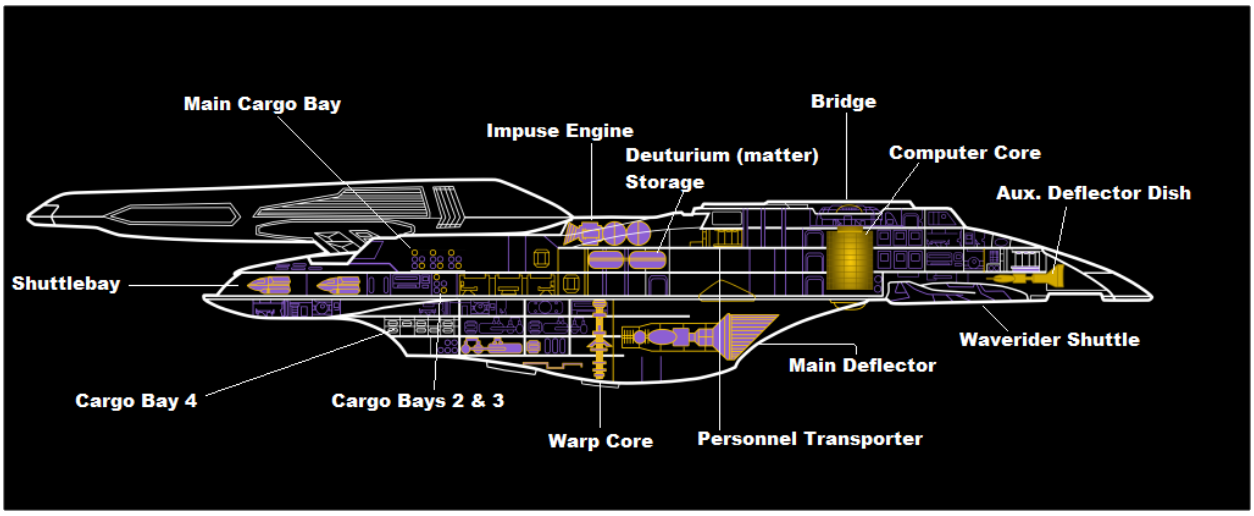
Starfleet is the United Federation of Planets' exploration and peacekeeping force, and as such the organization's responsibilities are many and varied. In addition to the famous large exploration ships, Starfleet supports a number of small ships for specific mission types, including science vessels; however, a Starfleet vessel, no matter what its primary intended purpose, must be equipped to meet each of these missions, to one degree or another. Pursuant to Federation Security Council General Policy and Starfleet Exploration Directive 902.3, the following objectives have been established for a *Nova Class* Starship:

1. Provide a mobile platform for extended scientific survey and scouting missions.
2. Replace the *Oberth* for system and planetary survey missions.
3. Provide autonomous capability for full execution of Federation defensive, cultural, scientific, and explorative policy in deep space or border territory.
4. Serve as a frontline support vehicle during emergencies, and a mobile platform for the extension of Federation diplomacy and policy.
5. Provide non-critical functions such as transport of personnel and cargo when necessary, extended aid, and short-range patrol.
6. CLASSIFIED – Specific vessels are under the authority of Starfleet Intelligence, and occasionally undertake secret espionage missions into enemy territory. A science vessel was deemed to be the perfect cover for sending a lightly-armed starship alone into foreign space. She is equipped with sensor-jammers to protect classified equipment, while other areas reveal that she is on a routine scientific survey mission.

Adm. Nyota Uhura, director Starfleet Intelligence



U.S.S. *Twilight* NCC – 74413, exterior views, with key locations annotated.



1.2 DESIGN STATISTICS

Length: 221.74 meters
Width: 119.94 meters
Height: 47.62 meters
Weight: 147,000 metric tonnes
Cargo capacity: 14,110 metric tonnes (refit, 4 cargo holds)

Hull: Duranium-Tritanium composite
Number of Decks: 8 Total

Accommodation: 80 (15 Officers, 65 Crew & Passengers)
Quarters: 18 Private Cabins, 9 Semi-Private (2-Person), 5 Dorms
Holosuites: 2
Gymnasiums: 1
Mess Halls: 2
Recreation Rooms: 1

Transporters: 4 (2 Personnel, 1 Cargo, 1 Emergency)
Shuttlebays: 2 (1 Main, 1 Auxiliary)
Auxiliary Craft: 15 Maximum (1 Waverider Shuttle, 7 Shuttlecraft, 3 Shuttlepods, 4 Workbees)
ASRVs (Escape Pod Lifeboats): 20, 4-6 Person

Weapons Systems: 11 Type-Xb Phaser Arrays, 2 Forward Torpedo Tubes (55 Torpedo Casings)

Propulsion: 1 Warp Core feeding 2 Nacelles, 1 Impulse Engine, 6 RCS Thruster Quads

Navigational Deflectors: 2

Computer Cores: 2
Sensor Suites: 18
Science Laboratories: 14
Sickbays: 2

Editor's Note: History outlined by Kurt Goring, edited and rewrite by Lawrence J. Cohen – based on information found in Star Trek: First Contact, Star Trek: Voyager, Star Trek Technical Manual, Star Trek: The Next Generation Technical Manual, Star Trek: Deep Space 9 Technical Manual, Star Trek: The Magazine, Star Trek: Invasion, Star Trek The Official Starships Collection No. 15 (Eaglemoss), Star Trek Intelligence Manual, Star Trek The First Line, and Star Trek: The Role Playing Game (Last Unicorn Games.) The style of the history is based on histories presented in the Star Trek Spaceflight Chronology by Stan Goldstein, Fred Goldstein, and Rick Sternbach. Please keep in mind that this is a history developed based on canon information presented in various sources and filled in with logical conjecture.

1.3 GENERAL OVERVIEW 

Deceptively described as a "small ship" with only 8 decks, the *Nova Class* Surveyor/Scout/Frigate is one of a new generation of starships designed by Starfleet Command's Advanced Starship Design Bureau, and the Starfleet Corps of Engineers. This compact science vessel is intended to replace the aging *Oberth* vessels. While the *Oberth Class* was more than capable of performing in-depth research over a period of months, she had severe limitations in speed and armament, which the quite naïve admirals of the 23rd Century did not believe a pure science vessel needed. The *Oberth* could only achieve a maximum cruise speed of Warp 5, and outside of a single phaser array (Type VI) to clear micrometeoroids out of the vessel's flight path, she had no offensive weaponry whatsoever.

By contrast, the *Nova Class* was aggressively designed from her keel up. From a sunken bridge surrounded by a "ring" of armor, to her more-than-adequate weaponry (eleven Type-Xb phaser arrays and two forward torpedo tubes) that enabled the ship to defend herself quite handily, should the need arise. Known for its durability, the *Nova Class* has swiftly lost its status as a 'little ship' and is gaining acclaim for its usefulness in making more accurate missions to new areas of space, bringing back teraquads of data on individual systems that is then disseminated amongst the worlds of the Federation.

Besides being equipped with impressive weaponry for its size, the *Nova*'s scientific capabilities more than make up for its limitations in speed when compared to its larger 'cousins'. Duo deflector dishes—which enhance her long-range sensors—also provide additional security when far from a starbase or suitable repair facility, in that a single malfunctioning or damaged navigational deflector will not prevent the ship from going to warp.

Four torpedo launchers were ripped out of the original Defiant-Pathfinder design blueprints, and replaced with the most advanced scientific sensors known to the worlds of the Federation, including Vulcan, Earth, and Tellar. These highly accurate sensors and computer systems make the *Nova* the perfect tool to send into scarcely-known territory, and many discoveries have been made by *Nova Class* starships, finding minute details that larger Explorer-type ships such as the *Galaxy Class* left behind.

Amenities are few and far between on a *Nova*, but its work is important and the crews that serve on these ships know their worth and protect their reputations fiercely. Much like the favored *Oberth*, the *Nova* is sure to hold a place in Starfleet lore for a long time to come.

A note on the scale and final size of the *Nova Class:* I take my scale from the notes of her designer, Rick Sternbach: "Rick Sternbach has revealed his intended size: "I drew the blueprints at 1"=30', and the ship is 24.25" long, so the real thing would be 727.5 feet or 221.74 meters." This is the scale quoted from the Official Star Trek Starships Collection, No. 15, by Eaglemoss, and should put an end to the endless arguments by the webmasters running "Memory-Alpha.wikia.com" and others.

1.4 CONSTRUCTION HISTORY

Dramatic expansion of Federation territory and in the number of member cultures has led to increasing demands on Starfleet operations. As required research and patrol ranges increase annually, the number of spacecraft required increases dramatically. Accordingly, Starfleet vessel construction policies are increasingly based on the theory that it is more efficient to have a larger number of small, mission-specific starships than to have a larger percentage of large, multimission vehicles like the *Galaxy* Class. To meet these goals, the Starfleet Corps of Engineers with the help of the Advanced Starship Design Bureau, can do some miraculous things when it comes to the construction of Starships. Many of their designs have outlived their expectations by many years. In that time, the *Oberth* has proven itself, but the SCE and ASDB were sanctioned to replace it after over a century of service in Starfleet. Five *Oberth Class* ships were lost in combat or sneak attacks; the first at the classified Genesis Planet in 2285. The last, the U.S.S. *Alexander Graham Bell*, was destroyed with Admiral Robert Jefferies aboard, in a dastardly attack by Orion pirates.

Starfleet Command originally proposed Project Nova in April 2361 when it became clear that a replacement space vehicle would be needed to serve as a planetary survey vessel to perform long-term studies of previously-discovered worlds and deep space phenomena, some of which in hostile territory. It was decided that the *Nova* Class would gradually phase out the *Oberth* Class as the primary Ship of the Line for survey and extended study missions. This vessel would have to be larger, and not display the same limitations in speed and defense that the *Oberth* was infamous for. The engineers at the ASDB facility sat down to design this new Surveyor, and rejected several designs that paid homage to the *Oberth*. Nostalgia was overwhelming when faced with the concept of replacing a ship that had served for well over a century. Finally, someone stumbled upon a cybernetic graveyard of other, rejected designs. The original *Defiant-Pathfinder* spaceframe was downloaded from the archives of the Starfleet Tactical Development Division.

The initial *Defiant-Pathfinder* proposal had essentially been designed as a weapon with nacelles, a torpedo gunship, but it had been rejected in favor of a more groundbreaking approach to tactical design—what became known as the *Defiant* Class. The ASDB team assigned to design a new science vessel from the resurrected files and preliminary stress sketches, and set to work modifying this *Defiant-Pathfinder,* by shrinking it toward a more usable size. Several torpedo launchers and accompanying tactical sensors were deleted from the original blueprints and replaced with a far more appropriate scientific sensor package. She lost over fifty meters in length and her proportions were reduced by the same percentage. Unfortunately, the designers kept the original life-support and other equipment from an oversized vessel; this resulted in far too much valuable habitable volume of the *Nova* Class being taken up by humongous hardware in the initial test ships: the *Nova*, the *Quasar*, and the *Equinox*.

Quickly, the ship came to shape and final approval was given to begin assembly on a test frame. This new hull was small and smooth, easily assembled, and came together fairly swiftly—within seven months, in fact. She was assigned NX-72359 and began her internal construction.

One of the engineers salvaged more than just the blueprints; Ens. Kaplan took the name "Nova" from a historic Starfleet vessel that had been lost in the Earth-Romulan War centuries ago. Thus, the new *Nova* Class Survey Frigate came to creation. Its initial tests

came off without a hitch, but it was discovered that the redesigned ship could only carry a small warp core, and in conjunction with its smaller nacelles would only be able to achieve a maximum velocity of around Warp 8. The administration approved the ship anyway and field tests began. During test phases, the *Nova* proved to be a reliable vessel with very few design errors. The limitations in speed were hardly noticed when it carried out test survey missions inside the Sol System, but the engineering crew was mindful of its lack of independent facilities for long missions. At best, the ship could operate totally independently for 12 months without visiting a starbase for a major resupply. At worst, excessive use would force it to return to base much sooner. It was decided that at its first refit, the *Nova* Class would have an additional two cargo bays, for a total of four, as well as a number of additional storage compartments. One storage compartment was installed adjacent to the Crew Mess on Deck 2, to hold emergency rations, damage control cases, and other supplies.

Sleek in design, *Nova's* hull shape was all but completely retained from its original *Defiant-Pathfinder* incarnation. The tactically sound sunken bridge was left in, losing the ability to be changed out with ease, but gaining added protection that was useful when the ship was faced by just about anything that outgunned it. This became evident during "war games" against a vastly superior foe: a *Galaxy* Class Starship.

The *Nova Class* came very well armed due to design considerations that were evident in its original form. No fewer than eleven phaser arrays were installed in the starship's hull, and her long, low profile added to her security. Her shields were neither the strongest nor her engines the most powerful nor maneuverable, but the ship passed in every criterion that mattered and soon she was approved for mass production.

Due to their size, many *Nova Class* starships could easily be built, however the production of the *Novas* are kept at reasonable rate of approximately 20 new ships a year. Construction was temporarily halted during the Dominion War, as while lightly armed, the *Nova Class* was clearly unsuitable for warfare. However, manufacturing of the ships has resumed since the cessation of hostilities and more new *Novas* are being constructed. Admiral Nyota Uhura, Director of Starfleet Intelligence, was impressed with the design schematics and the "low-profile" of a lightly-armed science vessel, which made it ideal for espionage missions. A total of ten *Nova* Class vessels were commissioned by the admiral's staff, with specific modifications and classified equipment; only six starships have been completed for this order, as per this Stardate. These six refit Novas were capable of handling wartime combat, and saw action, usually as support vessels.

Though their missions are frequently routine, one *Nova* Class has already gained some infamous notoriety. The USS *Equinox*, NCC-72381 was lost some time ago in the Badlands. According to Captain Janeway's logs, transmitted to Starfleet Command via the Midas Array, *Equinox's* crew violated the Prime Directive on more than one occasion. She was listed as destroyed, lost in the Delta Quadrant; what remains of her crew was transferred to *Voyager*.

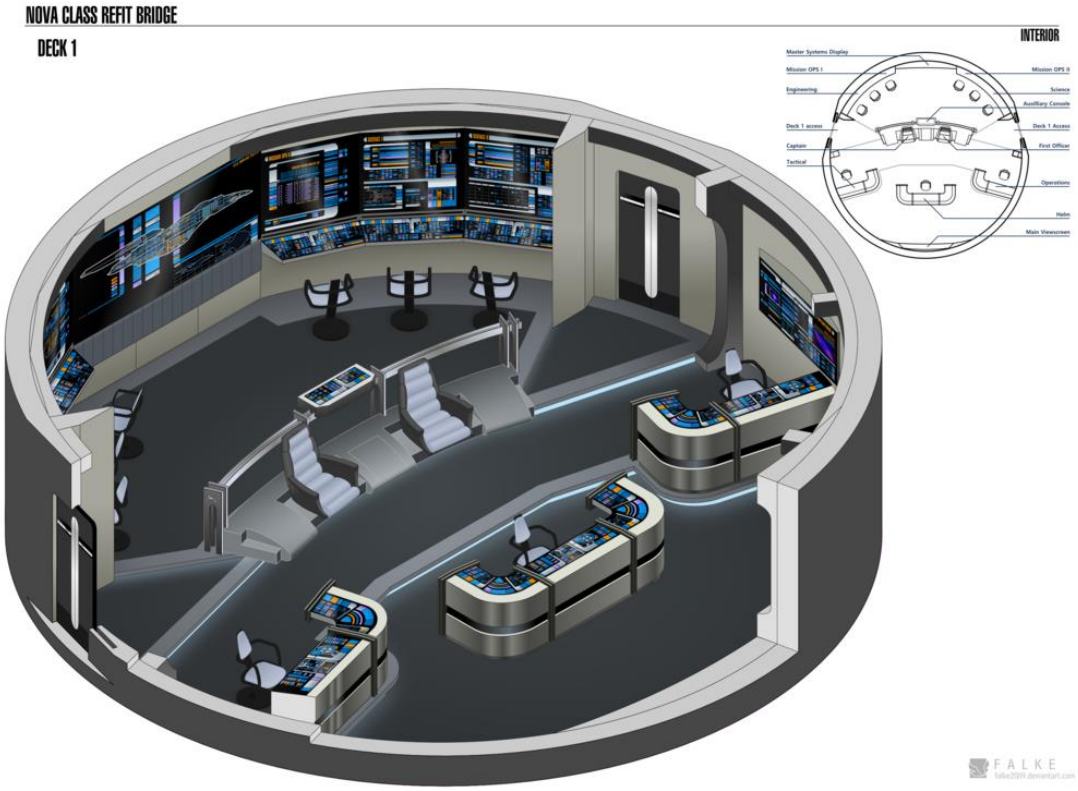
The *Nova* Class *Starship Twilight*, NCC – 74413, has enjoyed a surprising number of unusual missions for a science vessel since being refit by Starfleet Intelligence. Her first mission was to follow the hijacked *Defiant*-class *Adamant* back through time 101 years, to 2268, to save the Cardassian Union from a diabolical plot of genocide orchestrated by Section 31. While the ship's Vulcan captain and command crew—with the sole exception of

Chief Medical Officer Harker—all died in an attack by the M-5 multitronics computer system in control of the *Adamant*, Harker took command and completed the *Twilight's* mission with the aid of Captain James T. Kirk and the *Enterprise* NCC- 1701. Upon returning to the 24th Century, Harker was promoted to full commander and given command of the *Twilight* by Admiral Uhura. The ship has completed a number of successful missions for Starfleet Command and espionage missions for Starfleet Intelligence since then. Recently, Harker was promoted to captain, for his daring rescue of the *USS Defiant* during the heated battle of Operation Return, helping to retake Starbase Deep Space Nine during the Dominion War.

Classified Time-Travel Mission Gone Wrong: M-5, in control of Adamant, destroyed Twilight's Bridge, leaving CMO Harker in command of both the mission and the ship. With help from Kirk's Enterprise, Harker completed the mission and destroyed Adamant before it could commit genocide on Cardassia.

USS Twilight's original Bridge, destroyed by M-5 in control of USS Adamant

2.0 COMMAND SYSTEMS



Twilight's refit Bridge module

2.1 BRIDGE

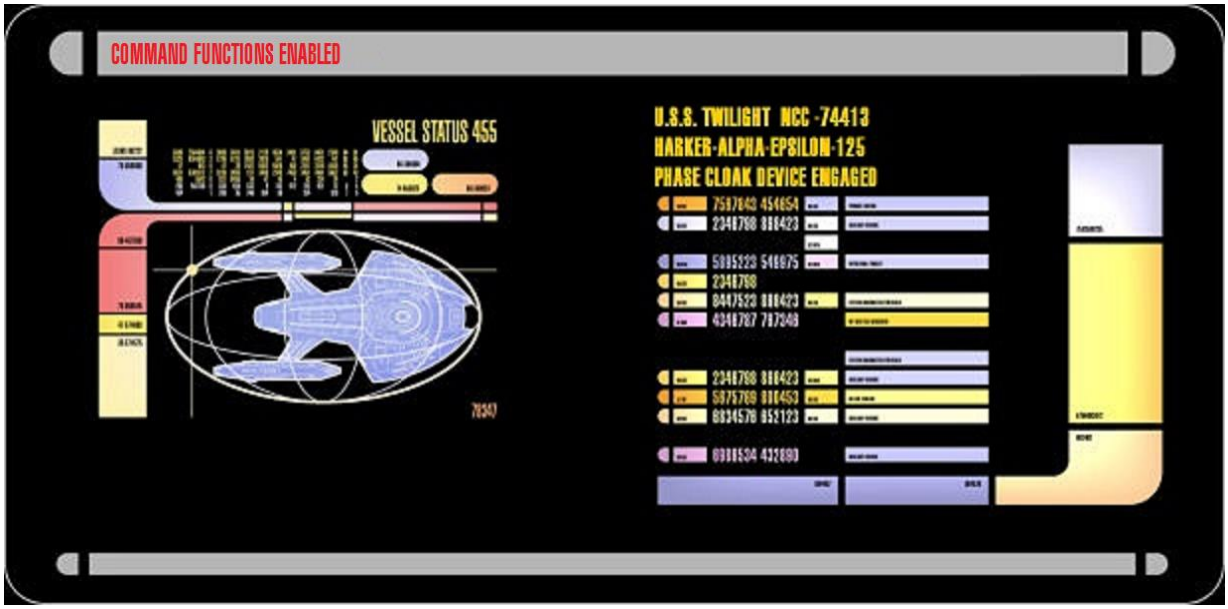
General Overview: Primary operational control of the *Nova Class* starship is provided by the Bridge, located in a recessed section just under the center area of the saucer-primary hull, on Deck One. The Bridge directly supervises all primary mission operations and coordinates all departmental activities. It is usually staffed by the captain, the XO, a duty Flight Control Officer, a duty Operations Manager, a duty Tactical Officer, a duty Engineering Officer, and a number of Starfleet and civilian scientists and medical doctors. During Alert Modes, this surplus science staff is changed to include replacement officers for Flight Control, Ops, Engineering, and Tactical. *The Bridge is not an ejectable module, as on most Starfleet vessels.*

Layout: This command center was redesigned by Admirals Uhura and Scott, to be much similar to an *Intrepid* Class bridge. Most command systems are located in the forward half of the circular bridge, while most scientific functions are located aft. This design, while well-suited for scientific study, can in a moment be reconfigured for combat situations.
The ship's commanding and executive officers have simulated leather upholstered chairs at the very center of the sunken, circular bridge. Traditionally, command staff of science research vessels are pulled from departments heavy in a scientific background. On the *Starship Twilight*, Captain Harker was Chief Medical Officer of a *Galaxy* Class starship, while Lt. Cmdr. T'Lura was an astrophysics specialist. Captain Rudolph Ransom of the *Equinox*

was a noted exobiologist who made first contact with the Yridians, a species long thought to be extinct.

The captain's chair is starboard side, and the executive officer's is on the portside. Between them is a console built into the structure that provides a foldaway station for information dissemination, as well as operational command of the starship. On either side of the command and executive officer's chairs are smooth benches, an architectural element that can be used when necessary by extra officers on the bridge, as well as visitors and other personnel by the permission of the command staff. On occasion, comfortable cushions are placed on these benches for important visitors.

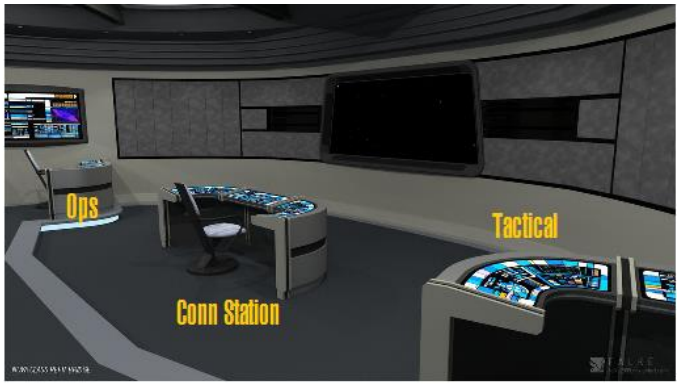
The foldaway command station grants instant and priority access to key systems, including helm, weapons, sensors, and the ship's autodestruct. It is only one of two bridge stations that can remotely activate the ship's cloaking device, the other being Tactical. Usually, however, it displays data from the ship's sensors and information on primary and secondary ship systems. This is the primary link to the ship's MMC, or computer core, two decks below. The command station takes constant readings on the vital life-signs of the ship's commanding officers while they are on duty, and will alert sickbay should anything be amiss in their health; this is especially important during Red Alert status. "Vessel Status 455," displayed, is a code indicating that the ship is functioning at peak efficiency, there is no reported damage, and the ship is at Red Alert. The right-hand side of the command console indicates that the captain has entered his command cyphers and engaged the cloaking device, probably because the tactical officer was busy with other duties.



The Command Station allows access to most command functions

Twilight's Bridge, Deck One

Twilight's Commission Plaque, mounted on the bridge bulkhead next to the turbolift doors (gold letters and Starfleet symbol on pressed latinum)



The Bridge is filled with multi-use command stations that are software driven.

Directly behind and between the command stations is an auxiliary console that is usually assigned to the mission specialist, usually the visiting civilian scientist on board.

Directly ahead of the command stations is the Conn, or Flight Control station. This split console is just forward of the viewscreen and houses enough space to be used by two officers if necessary, although under most conditions, the entire console is used for actual piloting and navigation of the vessel by a single officer. The flight control console continually updates long range sensor displays, and makes automatic course corrections to adjust for minor variations in the density of the interstellar medium. In an extreme emergency, all functions can be transferred to this central station, so that a single officer can fly the vessel and fire weapons, as needed. The duty Flight Control Officer is responsible for the vessel's course and speed, and usually serves as liaison to the Engineering section when there is no engineer on the bridge. The conn officer has the option to manually control the warp and impulse drives and RCS system at any time. Navigation is automatically controlled by the *Twilight's* main computer. Using navigational sensors and data from automated Federation relay stations, the MMCs calculate the precise position of the starship to a precision of within 10 km at impulse speeds, to within 100 km at warp, and when docking, a precision of within 2.75 cm can be maintained. Finally, the conn officer is responsible for all shuttlebay operations.

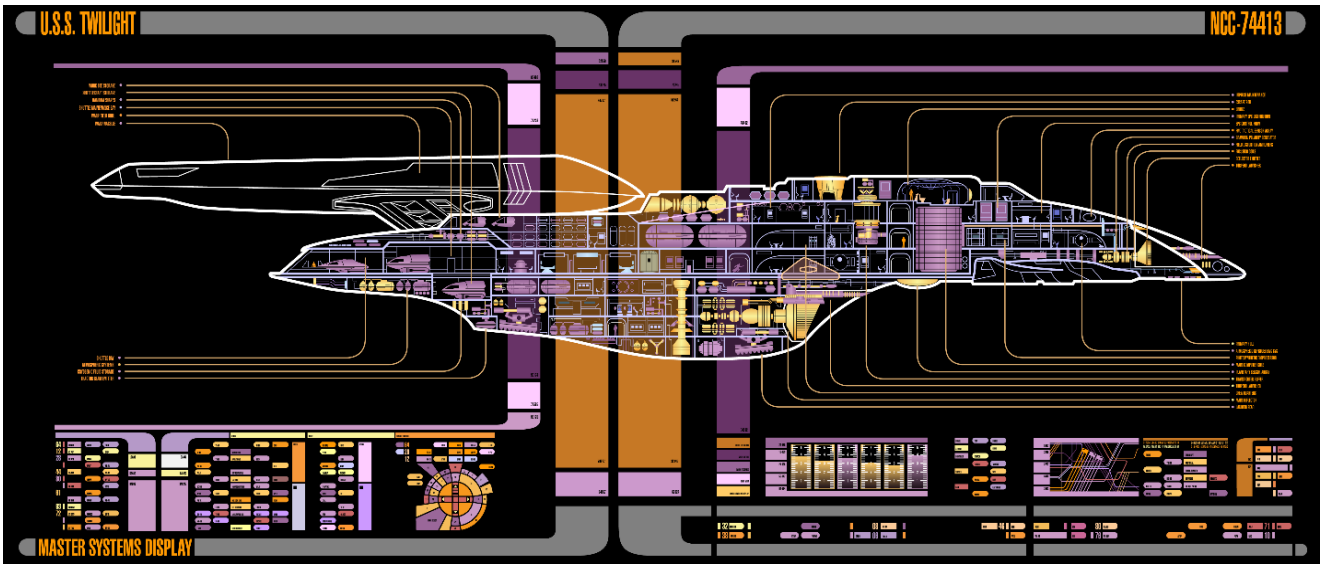
To the port and starboard sides of the command area are the doors on the upper level. The portside doors lead to other compartments on Deck One, such as the Captain's Ready Room, senior officers' quarters, and the posh VIP Quarters, as well as an observation lounge to be used to entertain VIP's from other worlds, as per the diplomatic directive of Starfleet. Also on this deck is a small general scientific laboratory, a small astrometrics lab, and access to the crew head. Directly fore of the bridge on this deck is the primary conference room, where the command crew can discuss mission details. The starboard-side doors make way to the turbolift.

Behind the command chairs is a large array of multi-use consoles that can be configured to run practically any operation on the starship. All consoles on a 24th Century Starfleet vessel are software driven, meaning that any station can be programmed to operate as any station it's commanded to, and even the position of the input keys and icons can be altered to suit personal preference. Depending on mission condition, the majority of these consoles will be set to a scientific function. However, other mission types require a different approach. During combat, for instance, one station may be reconfigured to command the

ship's Conn, especially if that usual station has been damaged. A second console—usually the auxiliary console behind the captain—may be configured to operate as a secondary Security/Tactical board, so a second officer can assist the Chief Tactical Officer.

When necessary, Tactical is usually assigned to the forward, starboard-side console just to the right and in front of the command section. Though it is not necessary for a tactical officer to have a visual image of his target, tactical officers have traditionally been provided with stations where they can assess the situation both by instrumentation and their own eyes via the main viewscreen. Tactical authorization is extremely limited; only command and Tactical clearance personnel can use it, and the user must input special codes to even gain access to the massive amounts of computer links that give tactical nearly limitless information at the *Nova Class'* disposal. For full access to fire control, the console's security subsystem will run a battery of scans on the user, including thermal, biological, retinal, and vocal tests. If all of these are passed, full access to the ship's offensive and defensive systems are made available. Certain specific classified modules and equipment— such as the ship's cloaking device—can only be accessed remotely from Tactical, or the Command station between the captain and the first officer. Under normal scientific missions, the duty tactical officer merely has to watch the security of visiting civilian scientists and the ship in general, and might assist research with scanners. The computer would automatically bring any anomalous activity within one light-year of the ship to the officer's attention.

On the opposite side of the bridge from tactical is the console where Operations is most often handled. Portside, the operations console is under the command of the duty Operations Manager, who oversees such important elements of the ship as supply and outfitting, fuel consumption, communications and power distribution. Sensors can also be accessed from this station. In full enable mode, this station can even raise the *Twilight's* combat shields or remotely control the engines, if necessary. Ops supervises coordination of all departments of the ship and allocates resources, which are especially important during an Alert situation. The Ops Manager allocates where power units are distributed during combat, and can even remotely make adjustments to various systems, just as the chief engineer can.



Twilight's Master Systems Display

Twilight's Master Systems Display

Directly behind the captain and first officer's chairs is the Master Systems Display, or MSD. This dedicated station allows any officer to get an abstract picture of the ship and any problems that may arise. Its attached console allows certain situations to be dealt with right in front of the MSD without further intervention. This console is usually where a duty engineering officer is stationed, adjacent to the bridge engineering console, during Alert.

On the right side of the Master Systems Display lie the Primary Science and Intelligence consoles. Typically, the Chief Science Officer mans the starboard-side console, and an assistant science officer the adjacent console. From the science consoles, these officers have priority access to all sensor input coming into the ship. The science consoles can be used by any personnel and have access to all science, navigational, sensor, and communications systems. The *Nova* Class has no fewer than 18 sensor cluster suites, all state-of-the-art, highly sensitive equipment, ranging from short-range to medium-range (or targeting scanners) to long range; this makes a *Nova* Class vessel more sensor-heavy than any other craft currently in use by Starfleet Command, which is a prime reason it was chosen by SI for secret work. (An *Intrepid* Class starship by comparison only has 6 sensor clusters, a *Galaxy* Class starship has 11.) Indeed, a *Nova* Class vessel is capable of detecting a lone Vulcan's genetic code on the surface of Romulus from a full parsec distance; this was how Ambassador Spock's location was determined in 2368 from an Intelligence scan of Romulus. ("STTNG: Unification Parts I & II")

At the rear, starboard console nearest the turbolift doors and adjacent to the MSD, lies the engineering bridge console. Usually only manned during Alert mode, this console provides an engineer or technician access to all data coming from the ship's internal monitoring systems as well as access (where necessary) to remotely repair and adjust various systems throughout the ship. During Cruise Mode, the console is set to a display function, providing senior officers with vital information about the status of the ship's engines.

Interior Nova Class Jefferies tubes. Many critical systems can be accessed and repaired from these critical areas by technicians and engineers. One must crawl through these tubes; height is 1m.

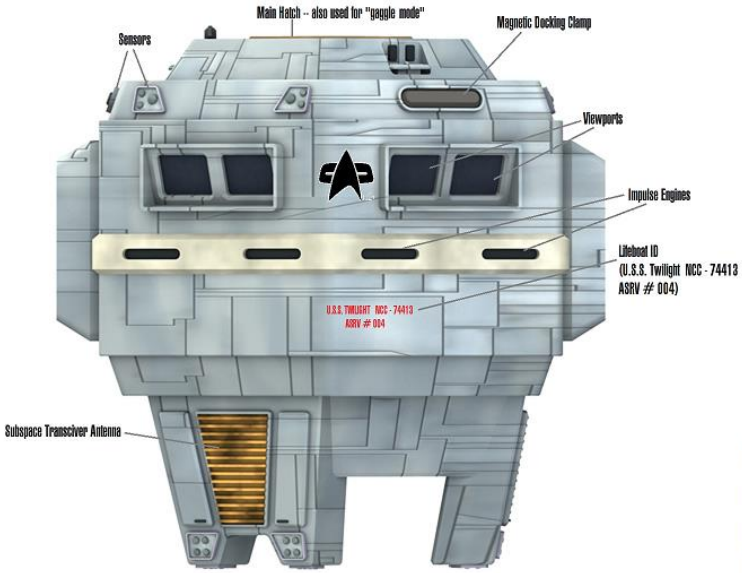
Directly adjacent to the science 1 & 2 stations on the rear port side lie the controls for the ship's biological systems, including life support and environmental control. Everything from ship's gravity to atmospheric temperature and humidity in individual cabins can be adjusted here. Additional controls can include monitoring organic samples brought aboard, and

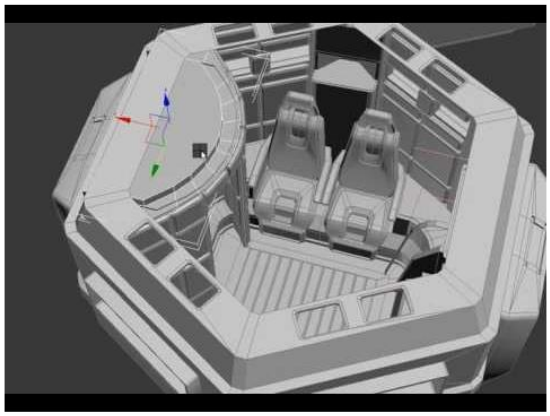
managing biological tests being performed in the science labs. If the ship's medical doctor is on the bridge, this is the station she would sit at.

Other Systems on Deck One:

Aft of the Bridge on Deck 1 is an access point to the ship's Jefferies tubes network. The Jefferies tubes allow access to critical systems located on the interior of the vessel for repair, maintenance, and sometimes recalibration. Most of these tubes are 1 meter in height, requiring one to crawl through them; junction modules are 3.5 meters in height, and connect 2 to 4 Jefferies tubes, and laterally between decks via ladders. It is possible to transverse the Jefferies tubes throughout the starship without using any of the corridors or turbolifts. A number of Starfleet personnel have escaped detection by threat personnel in the event of a boarding in this manner.

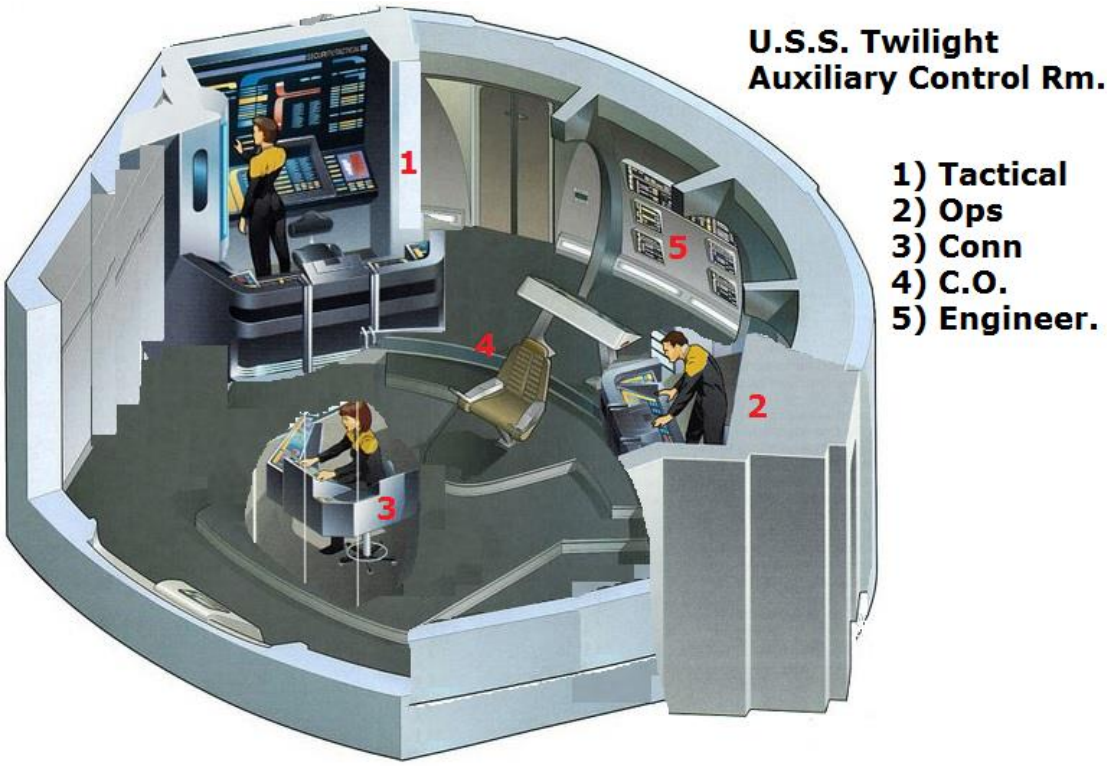
There are four escape pods connected to the bridge on Deck One, as indicated in the *Nova* Class scale models. All other pods are located on Decks 2 and 3. Each uprated pod can support four people for 25 days in space, and has a maximum speed of half impulse; the older pods can only support two people for 21 days, by comparison. One pod is reserved for the top four officers in the chain of command on the ship because they are the last four to leave the ship. These pods are located on Deck 1, aft of the bridge. If the ship is abandoned, the top four officers in the chain of command will wait until everyone else is off the ship, opt to arm the autodestruct (required when dealing with a SI attached vessel), and then leave in the last escape pod. Normal lifeboat capacity is four persons, with provisions for six if necessary. It is assumed that in a normal ship evacuation scenario, that crew can be transferred between the lifeboats and shuttlecraft via the emergency medium-range transporters in each auxiliary craft. This allows for sick and injured personnel to be transferred to and from the sickbay facilities aboard the Waverider shuttle.





U.S.S. Twilight is equipped with the same ASRV's as Voyager. Each escape pod is designed to support 2 - 4 persons, with an absolute - maximum of 6 adults. Each is equipped with life-support, small impulse engines, subspace radio, docking, and reentry equipment.

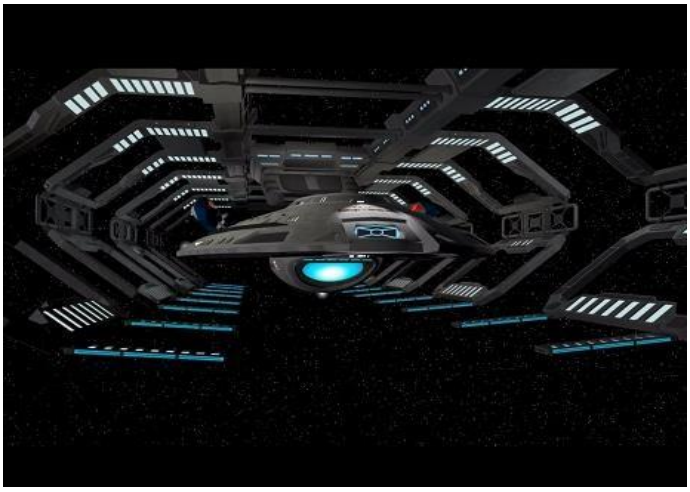
Interior of an escape pod has twice the space of the old Apollo capsule command modules, and can make powered descent into a planetary atmosphere. Each pod can support 2 – 6 persons, usually 4. Seats can be stowed or set up in 2 different positions, allowing for maximum space for the occupants.



The Nova refit Auxiliary Control Rm is a compact compartment capable of running the whole starship

2.1.1 Auxiliary Control Compartment

Located on Deck 3, immediately on the right upon entering the security corridor, the Security Chief's Office has been completely reworked as an emergency bridge for a combat situation, in the unlikely but very real possibility that the main bridge was taken out by a direct hit. This compartment is well-protected, located in a secure corridor behind the auxiliary deflector dish, but is rather small—roughly half the size of the *Twilight's* Bridge. It is equipped with its own command computer subprocessor unit, identical to the unit on Deck One. There are five positions and controls panels: one each for flight control, Ops management, tactical, engineering, and ship's commander. This was done so that main engineering won't be even more chaotic that it normally would be in a combat situation, where the bridge has been taken out, and the rest of the ship has presumably taken heavy damage. When the ship is not at alert status and not in a combat situation, this compartment is normally kept locked. (The security office was moved across the hall to the Main Armory.) During cruise mode, this control compartment is capable of backing up the Bridge, if it were to be damaged for any reason. Alternatively, Auxiliary Control has a "simulator mode" for training midshipmen and ensigns for Bridge duty. The precaution of installing an auxiliary control compartment was made by Admiral Uhura herself, from her personal experience on the *Constitution* Class *Enterprise*. Having to get past two locked doors to access this control center was due to her experiences with the criminal named Khan Noonien Singh, and the madman named Dr. Sevrin.



USS Twilight NCC - 74413 in a space dock for refit

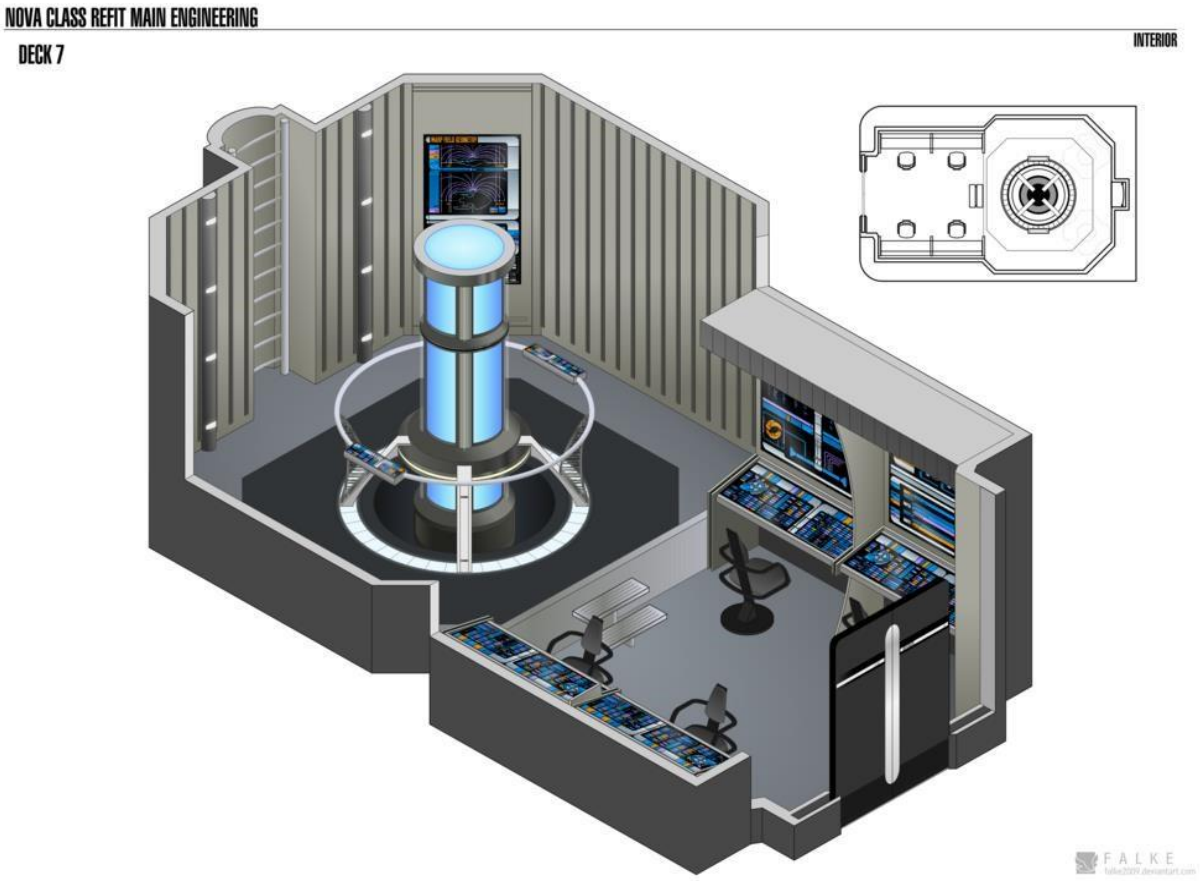
*Nova Class refit dilithium **swirl** chamber Warp Core, Main Engineering*

2.1.2 Commissioning and Launch Ceremony

At her last refit at the San Francisco Fleet Yards, USS *Twilight* NCC – 74413 was given a major overhaul after a classified mission into the past. Among her refit compartments and new equipment were a redesigned Bridge (which had been completely destroyed) an auxiliary control room, holosuites, sickbays, and her additional cargo holds. She was launched on Stardate 46715.7, corresponding to July 20, 2369 at 20:18 UTC Hours, with Captain Jaryd Harker M.D. in command. This was carefully timed to coincide with the Four-Hundredth Anniversary of Neil Armstrong's historic landing at Tranquility Base in the *Eagle*.

The Admiralty at Starfleet Command felt that a special ceremony at that auspicious time was highly appropriate, and launched five new or refit starships at that same moment, simulcast throughout all the worlds of the Federation. The vessels launched were the *Apollo* and the *Eagle* (both *Apollo II*-Class), the *Twilight* (*Nova*-Class), the *Challenger* (*Galaxy*-Class), and the *Sentinel* (*Nebula*-Class) all from Earth or Mars orbit, from the San Francisco Fleet Yards, Spacedock, and Utopia Planitia Fleet Yards. United Federation of Planets First Lady T'pleth smashed the symbolic bottle of champagne against *Twilight's* primary hull. Alpha-Shift personnel were on-duty even though it was Beta-shift, and all off-duty personnel watched her departure from the Mess Hall or Rec Room windows.

2.2 MAIN ENGINEERING



Main Engineering on Deck 7 of a *Nova Class* starship is the "heart" of the vessel, which generates all power and maintains every system aboard. Staffed by highly-trained engineers and technicians, Main Engineering is the second most essential area of a *Nova* Class Starship. These compartments are centralized, and extend across three decks, to provide easy access to most of the ship's critical systems. Nearly a hundred control consoles and access panels for vital equipment is located in this one large compartment. Blast doors can come down into position from three points to seal off the warp core and primary control room from each other and the rest of the vessel.

Its main entrance, on Deck 7, opens into a small master control room with vital control consoles on either side for technicians to keep tabs on anything from environmental controls to replicator repairs. This control room opens into a much larger, rectangular compartment filled with more consoles, ladders, and two small lifts to reach sensitive equipment on Decks 6 and 5, above. Directly below on Deck 8 is the antimatter injector system, plasma relay control, and emergency jettison hatch for the warp core. Directly above on Deck 4 is the cold fusion battery compartment, whose units are constantly charged by the warp core.

In the center of this cavernous rectangular compartment is the ship's main reactor. The massive Warp Core, technically an APD-01 dilithium swirl chamber Matter/Antimatter Reactor Assembly (M/ARA) extends for three decks in height with emergency ejection systems located at the top to loosen the unit, which is then ejected from the ventral engineering section of the ship on Deck 8, in case of a warp core breach. Like all modern engineering rooms, the *Nova's* is equipped with breathing masks, fire suppression equipment, and medikits in case of accidents. Additional measures include a 24-centimeter-thick blast door that can be extended from the ceiling to the floor in case of a coolant leak inside Main Engineering. Due to the caustic nature of plasma coolant upon living tissue, this compartment must be fully vented before the computer will allow the doors to be opened.

Access to the top of the M/ARA is provided by a set of catwalks and doors that open onto Deck 6 where additional engineering systems are housed, including Deflector Control. Other entrances include access ladders and Jeffries tubes spread around Main Engineering, and additional corridors that extend further into the ship. On Deck 6 are also located the Chief Engineer's Cabin and Office, so he is just steps away from his command center.

In an emergency, these main engineering consoles can be reconfigured to serve as an auxiliary bridge; however, on the *Twilight*, there is an auxiliary control room on Deck Three that serves this function. (2.1.1)

Aboard a *Nova Class* starship, Main Engineering is under the supervision of the vessel's Chief Engineer, who has an office on Deck 6; this office has command override consoles that duplicate most functions in Main Engineering, as well as access to the Jefferies Tubes. The Engineering Office is conveniently located directly above the Damage Control Compartment on Deck 5; a hatch and ladder connect the two compartments. As this office is located starboard, through more engineering compartments such as the defense field generator bay, additional override consoles are located on the desk in the chief engineer's more accessible cabin on Deck 6.

During a normal duty shift, the typical crew compliment in Main Engineering is two engineers and seven technicians of various grades, manning all primary consoles in Main Engineering, the impulse engine control room, and on the Bridge. During Red or Yellow Alert, the number of engineering personnel is increased. Fully one-third of the crew is cross-trained to some degree in engineering science, and can generally make simple repairs to most systems; these individuals are assigned to damage repair crews in a combat situation or other dire emergency.

Last Unicorn Games Stats: The warp core and impulse reactors deliver 120 Power Points every other Round. Emergency Power is available from the auxiliary fusion reactors: 20 more points every 4 rounds—usually this power is kept in reserve for shields. (There is also 120 more power points available in the Batteries—use this power wisely; battery power is a one-shot deal. The batteries are an absolute last resort in case all reactors are damaged and off-line, for powering life support for 12 hours till repairs can be made.) The Ops manager (PC player) has to play a balancing game with the power, ensuring sufficient power is available for phasers, torpedo tubes, shields, impulse engines, and life support. The Ops manager therefore has to stretch 120 power units out for the two rounds.

Damage Control: The Damage Control Compartment is located on Deck 5, forward of the starboard anti-gravity landing generator. Stocked with damage control repair containers and toolkits, this station is usually manned by an engineering technician, and during a Red Alert, staffed by any off-duty crew who are cross-trained in engineering repairs. More damage control storage containers are located in key positions throughout the ship, in the impulse engine control compartment on Deck 2, adjacent to the Mess Hall, and in all four cargo bays. Common modules contain isolinear chips (both pre-programmed and

programmable), sensors, sealant packs, EPS tap hardware, spools of ODN cable, self-sealing stem bolts, and tool kits for installing them.

2.3 TACTICAL DEPARTMENT 

This multi-room department is located in a restricted area on Deck 3 (or Deck 4 on some variants of the *Nova*.) Within it are the entrances to the phaser range, brig, the Auxiliary Control Compartment (2.1.1) and to the Ship's Armory/office of the Chief of Security.
Security Office: The Chief of Security's office is decorated to the officer's preference. It contains a work area, a personal viewscreen, a computer display, and a replicator. On *Twilight*, this office is also the ship's main armory. What was originally the security office was completely reworked as an auxiliary control room for the entire starship (2.1.1.)

Brig: Located on Deck 3, the Brig is a restricted access area whose only entrance is from within the Security department. The refit *Nova Class* vessel has two double occupancy cells, which contain beds, a retractable table and chairs, a water dispenser, and sanitary facilities. The cell is secured with a level-10 force field emitter built into each doorway.

Internal Force fields: Controlled from the bridge or from the Security office on Deck 3—which is also the armory or the auxiliary control room on *Twilight*—force fields can be activated throughout the ship, effectively sealing off sections of the corridors from the remainder of the vessel.

Internal Sensors: Used to monitor the internal security of the ship. They can identify the location of specific crewmembers whom are wearing their commbadge. They can be used to determine the general location of any person on board the ship, based on the entry of specific variables by the Tactical officer.

Ship's Armory: This room is located in a restricted area on Deck 3 and is under constant guard. The room is sealed with a level 10 force field and can only be accessed by personnel with Level-4 or above security clearance granted by the Command staff or Chief of Security. Inside the armory is a work area for maintenance and repair of phasers as well as multiple sealed weapon lockers. The *Nova Class* carries enough type-I and type-II phasers to arm the entire crew. Type-III phaser rifles and the new compression phaser rifles are available as well, but only in enough numbers to arm approximately 1/3 of the crew. Heavy ordinance is available in limited numbers.

Main Armory Inventory includes:
30 Type-I hand Phasers
60 Type-II Phaser pistols
25 Type-III Phaser rifles
10 Type-IIIc Compression Phaser rifles
25 Spatial Charges with detonators

Small Armory Inventory (in the Captain's Ready Room) Includes:
10 Type-II Phaser pistols
3 Type-IIIc Compression Phaser rifles
1 Mark-II SI Battlesuit
2 SI Emergency Personal Transporter Units
6 SI Stun Grenades
4 SI Tricorders

Personnel Phasers range in power settings from 1 (Light Stun) to 10 (destroy, disruption effects: 125,000 mj for 1.3 seconds; 0.55 second delay before material vaporizes.) Phaser rifles can be set all the way up to level 16 (Atomize, explosive disruption effects: $1.55x10^3$ mj for 0.28 seconds. Heavy geologic displacement). NOTE: A phaser rifle's power-pack can only fire ten level 16 blasts before depletion. The Type IIIc compression phaser rifles have an automatic setting to constantly change nadion frequency; this was programmed in response to the Borg threat.

Role Playing Damage: "Hit Point" damage for each setting is as follows:

Settings 1-2 (Stun): Damage Index Zero
Setting 3: (Heavy Stun): Damage Index 1
Setting 4: (Thermal Effects): Damage Index 3.5
Setting 5: (Thermal Effects): Damage Index is 7
Setting 6: (Disruption Effects): Damage Index is 15
Setting 7: (Disruption Effects): Damage Index is 50
Setting 8: (Disruption Effects): Damage Index is 120
Setting 9: (Disruption Effects): Damage Index is 300
Setting 10: (Disruption Effects): Damage Index is 450
Setting 11: (Explosive/Disruption Effects): Damage Index is 670
Setting 12: (Explosive/Disruption Effects): Damage Index is 940
Setting 13: (Explosive/Disruption Effects): Damage Index is 1,100*
Setting 14: (Explosive/Disruption Effects): Damage Index is 1,430*
Setting 15: (Explosive/Disruption Effects): Damage Index is 1,850*
Setting 16: (Explosive/Disruption Effects): Damage Index is 2,450*

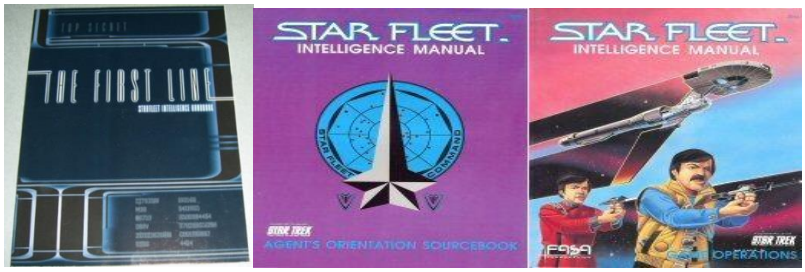
*Mulitply Damage Index by 2 for Type IIIc Compression Phaser Rifles.
(This information taken from the *Star Trek The Next Generation Technical Manual*.)

Torpedo/Probe Magazines: These restricted areas in the fore of Deck 3 are for storing unarmed photon torpedoes and warheads, and science probes I – VI (VII – IX if mission dictates). SI vessels also have 20 of the new quantum torpedoes as part of its complement, upon onset of the Dominion War. Also stored here are the components for manufacturing new photon torpedoes as well as the equipment to assemble them. These rooms are also accessed by the loading mechanism for the torpedo launchers. At times, special espionage probes are provided of specific missions by Starfleet Intelligence. These spy probes are commonly equipped with high-level sensors, stealth devices to avoid detection, and high-yield self-destruct devices in the event of tampering. During the mission to cure the Romulan empress (Code Named "Red Sector") an espionage probe was launched into the Romulan atmosphere as a distraction, during which time the Away Team beamed down.

2.4 Starfleet Intelligence Field Equipment

As a Starfleet vessel attached to Starfleet Intelligence, all agents on board have access to most standard equipment, which is stored in the Small Armory in the Captain's Ready Room, the equipment lockers in the Security Corridor, and the sealed SI laboratory. All drugs and medications are available through sickbay. The following is a comprehensive list of most intelligence equipment available on the U.S.S. *Twilight*:

SI Tricorders, Cybernrtic implants (including memory implants), Anti-Detection Suit, Anti-Sensor Belt, Decoy Unit, Biopattern Disk, Computer Jammer, energy knife, Mnemonic Clothing, Sonic Lock Deactivator, Mechanical Lockpicking set, Precision Microwelder, Orientine Acid, Grapnel Projector, Monofilament Solvent, Phaser Cutting Torch, Personal Amplifier, Earpiece Receiver, Frequency Spectrum Generator, Long-Range directional microphone, Oral Transceiver, Sensciever Implant, Neural Recorder, Stun Gloves, Surveillance Devices, Tracking Drone, Voiceprint Implant, Subcutaneous transponder, Electronics Warfare Tricorder, Universal Translator (built into every commbadge), holographic camera, portable cart viewer, pocket computer, holocube, Data recorder, telemetry probe, anti-laser aerosol, combat simulator, disguise kits, ID forgery unit, secure communications module, voice synthesizer, air pack, gill pack, magnesium heat capsule, life support belt, breather mask, filter mask, life-support mask, thruster suit, thermal oversuit, various specialized kits, subspace patch, SI Battlesuit Mark I (spacesuit similar to "Iron Man" armor with phasers, tractor beam, etc.), personal shield unit (good for up to 5 minutes, depending upon amount of damage taken), and medikits (most of this equipment is listed in the *Starfleet Intelligence Manual*, by FASA.)



First Unicorn Games Starfleet Intelligence Manual contains a number of classified equipment for Federation agents. FASA also published 2 Intelligence manuals for the 23rd Century.


The SI Tricorder has some additional features. The Tricorder functions have all the facilities of a standard tricorder with expanded technology for extended range and more detailed scanning. The intelligence functions have detailed coding programs for designs of encryption and over-riding security codes. The countermeasure is a very low level dampening field that can mask life signs from scans. The SI Medical Tricorder can analyze and record the DNA and RNA sequences of suspect diseases at the touch of a button.


An SI Blood Analyzer assists Intelligence Medical Agents with diagnosing genetically engineered bio-weapons. It is also used to identify enemy changelings, because their "blood" reverts to inert protean-matter within seconds of separation from the alien body.


Captain Harker's computer in his ready room has higher security access than most Starfleet Captains. When in range of Earth, it is also capable of accessing the memory cores at Starfleet Intelligence and Starfleet Medical.


Starfleet Intelligence Field Kit; includes an SI Tricorder, and other espionage equipment required of each mission.

3.0 TACTICAL SYSTEMS

Nova Class Starship firing one of her primary ventral phaser arrays.

3.1 PHASERS

Besides the obvious application as a weapons system, the necessity of directed energy beam devices are necessary for clearing gas, dust, and micrometeoroids from the space vehicle's flight path. The eleven type Xb phaser arrays still present from her original *Defiant/Pathfinder* design schematics are more than capable of vaporizing or ionizing material in the ship's path, as well as defending against hostile threats to the vessel.

Phaser Array Arrangement: Dorsal saucer section is covered by four phaser emitter strips; two of which extend from the aft curvature, along the length of the saucer and stop short of the auxiliary deflector incision. The aft firing arc is covered by two smaller arrays angled on the rear of the saucer section. The ventral section of the ship is protected by two similar arrays as on the dorsal, extending to the rear of the saucer and following the curve to the auxiliary deflector incision. Two additional, smaller arrays are located on the aft ventral section of the primary hull. Additional protection is provided by a single array that extends laterally across the ventral engineering hull just fore of the warp core ejection port. Far aft strips placed laterally on either side of the main shuttlebay on the dorsal engineering hull cover the rearmost firing arc for a total of eleven phaser strip arrays.

Phaser Array Type: Even though the *Nova Class* is a small vessel, its refit with the new Type-Xb array system. The eleven arrays are all Type-Xb, the standard emitter for starships of this size. Each array fires a steady beam of phaser energy, and the forced-focus emitters discharge phaser beams at speeds approaching .986c (which works out to about 182,520 miles per second – nearly warp one.) The phaser array targeting computer automatically rotates beam frequency and attempts to lock onto the phase of a threat vehicle's shields for optimum shield penetration. Because a low-power pulse is constantly

running through the EPS conduits, this type of phaser array is always in "hot stand-by" mode, even when the vessel is not at alert condition Yellow or Red. In game terms, this means that the first shot for each of the 11 Phaser Arrays is free for a 20 pt. shot, and no power has to be diverted from anywhere during the first round of combat.

Phaser Array Output: Each phaser array takes its energy directly from the impulse drive and auxiliary fusion generators, but additional power can be diverted from the warp core. Individually, each Type-Xb emitter segment can only discharge approximately 6.0 MW (megawatts). However, several emitters (usually two) fire at once in the array during standard firing procedures, resulting in a discharge approximately 12.0 MW.

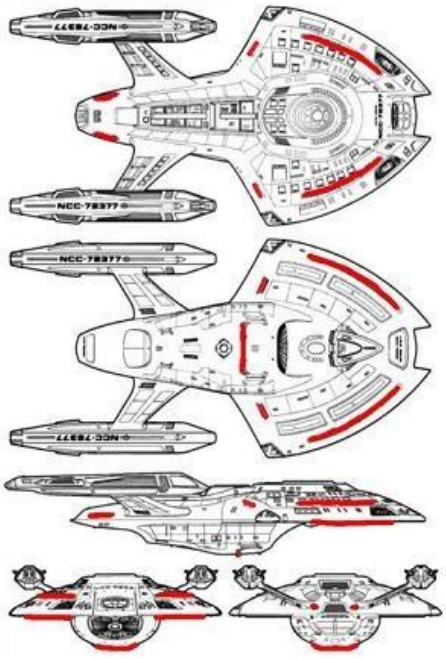
LUG Game Stats: Damage for a Type Xb phaser array is **20**. The phaser arrays can be overpowered, to a maximum of **30**, at a cost of just 45 power points instead of 50. (A *Galaxy*-Class' Type X phaser arrays can be overpowered at cost of 3 power points for each point overpowered.)

Effectiveness: Because of the maximum speed of light, phasers are only effective when both ships are traveling at sublight velocities. If one or both vessels involved in space combat are at warp, then a warp-speed weapon, such as a photon torpedo, must be utilized instead.

Phaser Array Range: Maximum effective range is 300,000 kilometers (30 hexes on the game board.)

Primary purpose: Defense/Anti-Spacecraft

Secondary purpose: Assault

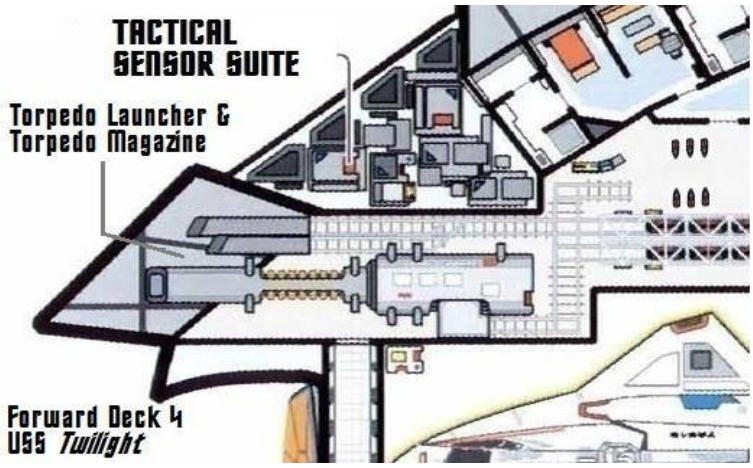


A Nova Class Starship has 11 Phaser Array Strips, as indicated in red

USS Twilight firing her forward ventral phaser arrays during the Dominion War.

A Nova Class' Type Xb phasers are a match for just about any threat

3.2 TORPEDO LAUNCHERS



Arrangement: Two standard torpedo launchers, which are the more common pulse fire tubes. Torpedoes are launched at warp velocities. Torpedo tubes One and Two (fore), are located on either side of the auxiliary deflector dish just forward of the incision. These tubes are recessed into the 'prongs' and can fire as many as two torpedoes per forward salvo, each, making a total forward salvo of four torpedoes per firing. The tubes can fire standard photon torpedoes, probes, or the new quantum torpedoes.

Photon Type: Type-6, Mark-XXV photon torpedo, capable of pattern firing (sierra, etc.) as well as independent launch. Each has independent targeting once launched from the ship, with detonation on contact unless otherwise directed by the *Twilight*. The warhead is a controlled matter/antimatter explosion yielding 18.5 Isotons and a maximum rated yield of 25 Isotons. (LUG Game Stats: Type VI Photon Torpedo Damage is **21**, not 20.)

Quantum Type: Quantum Torpedo Mark-QII. The quantum torpedo utilizes a zero-point energy reaction to create a 50+ isoton explosion. The technology is based upon an artificial quantum singularity engine core and similar weapons developed by the Romulan Star Empire, and the schematics were obtained by SI agents. The basic mechanism was originally experimented with in 2236. The first warhead application came 135 years later, in 2371. It was created as one of the weapons systems designed to fight the Borg. Indeed, quantum torpedoes were widely used by the Federation fleet when the Borg launched a second assault against Earth in early 2373. One ship that used these weapons was the USS *Enterprise*-E. There are two types of torpedo tubes created for launching this weapon: the pulse fire tube (1 torpedo/second) and the rapid fire tube (which can fire at a rate of 4/second)

Last Unicorn Games Quantum Torpedo specs:
Range: 10/200,000/750,000/2,000,000
Accuracy: 4/5/7/10
Damage: 24 (*Defiant* and *Enterprise's* quantums damage is slightly higher, 25-30)
Power: [5]

(Type VI Photon Torpedoes specs are the same, except damage is 21-23. A standard 1.25 kg A/M charge yields damage of 21. A type V's damage is a maximum of 20.)

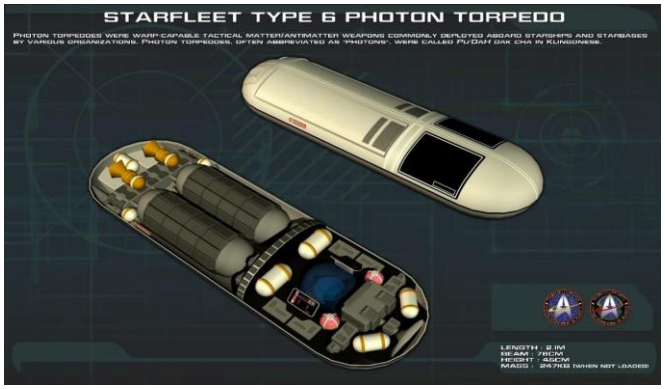
Payload: The *Nova Class* can carry a maximum of 55 torpedo casings with at least 15 of them geared as science probe casings at any one time. The *Twilight* carries 20 quantum torpedoes, 10 photon torpedoes, 20 science probes (Types 1-9) including 2 Starfleet Intelligence espionage probes equipped with cloaking devices, and 5 torpedo casings that can be assembled into any torpedo weapon or probe, as needed. Of course, extra torpedoes can be stored in a cargo hold, if the mission calls for it.

Range: Maximum effective range is 3,500,000 kilometers.

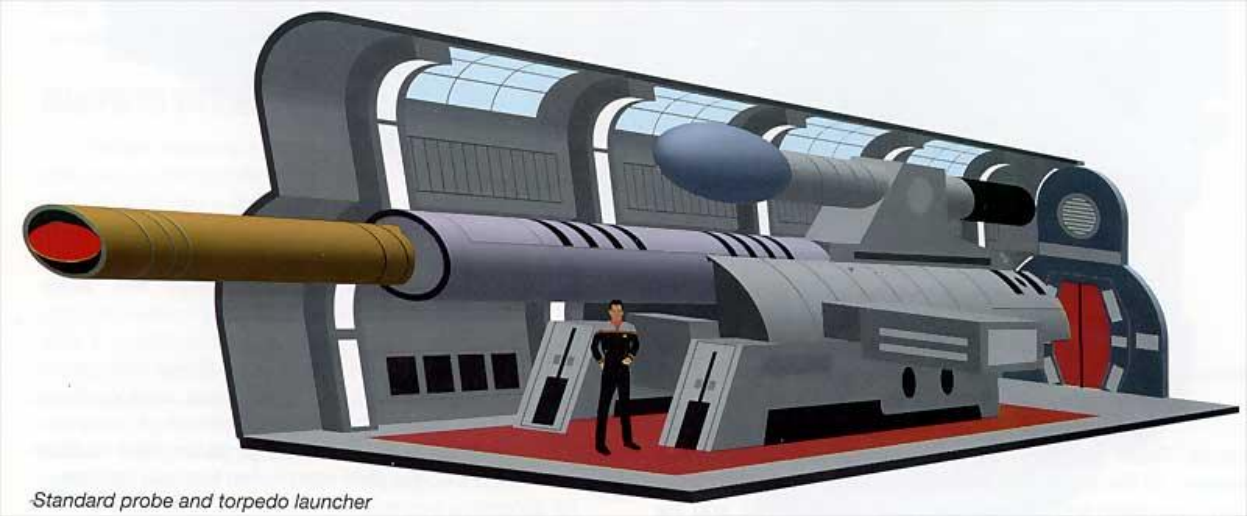
Primary purpose: Assault

Secondary purpose: Anti-Spacecraft

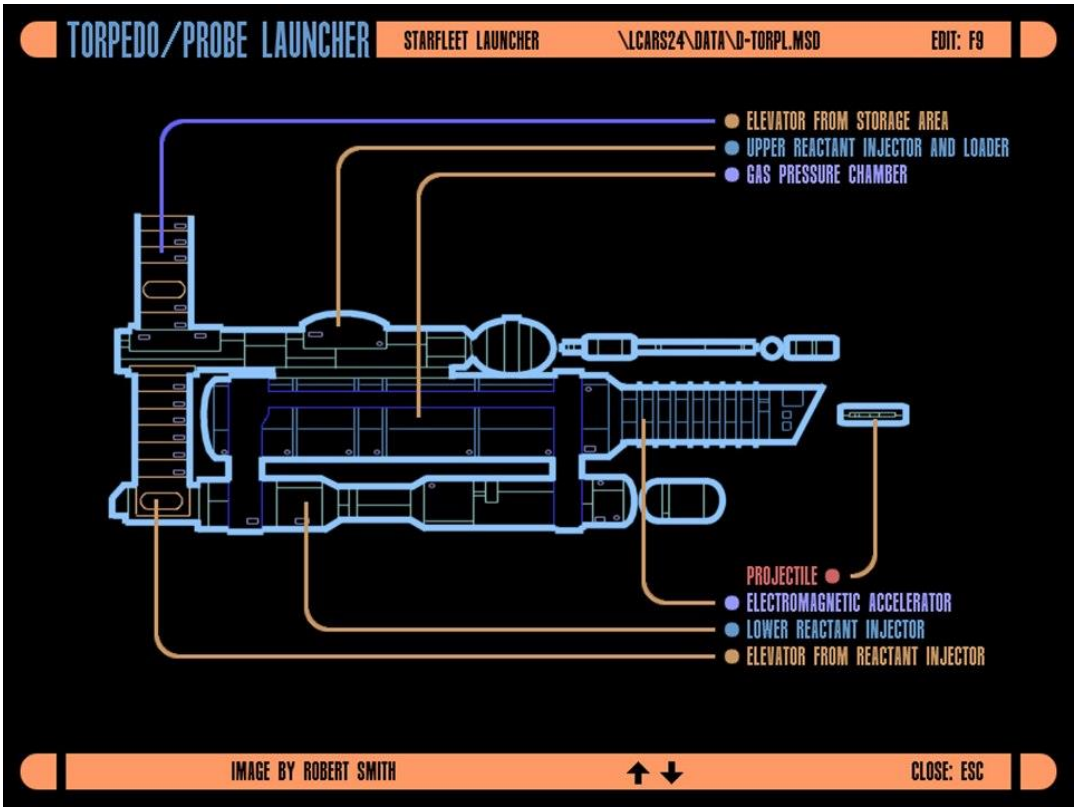
Starfleet Quantum Torpedo



A 6th Generation Photon Torpedo still uses a matter/antimatter warhead and is launched at warp speed. Its internal guidance computer then directs the weapon to its intended target.



Standard probe and torpedo launcher



3.3 Deflector Shields

Type: Asymmetrical peristaltic subspace distortion graviton field. This type of shield is similar to those installed in most other starships since 2362, but rated higher than most vessels of equivalent size as a defensive measure due to the *Nova's* role in hosting conferences and ferrying VIPs. Other than incorporating the now mandatory nutational shift in frequency, the shields alter their graviton polarity to better deal with more powerful weapons and sophisticated weaponry (including Dominion, Breen, and Borg systems.)

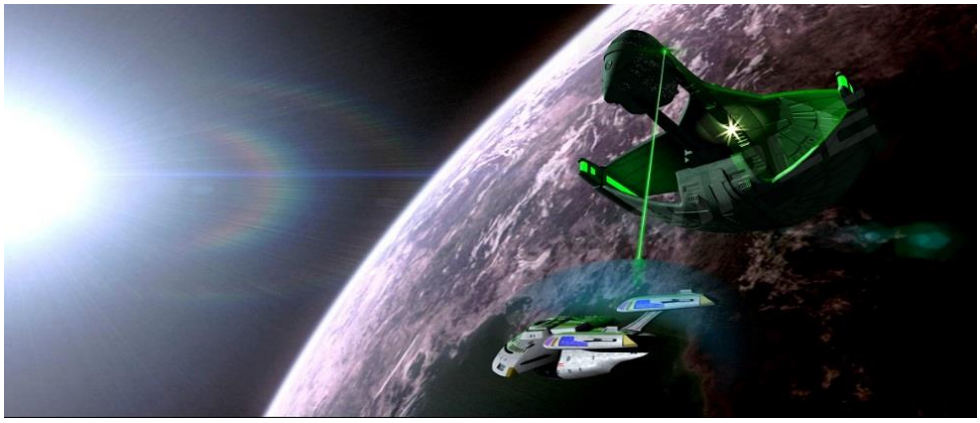
During combat, the tactical shield sends data on what type of weapon is being used upon it, and what frequency and phase the weapon uses; this data is then displayed on the Tactical board on the Bridge. Once the tactical officer analyzes this, the shield can be reconfigured to have the same frequency as the incoming weapon – but using a different nutation. This tactic dramatically increases shield efficiency.

Output: There are 11 tactical shield grids on the *Nova Class* and each one generates 145.5 MW, resulting in total shield strength of 1,595 MW. The power for the tactical shields is taken directly from the warp engines and impulse fusion generators. If desired, the shields can be augmented with power from the auxiliary fusion power plants. The shields can protect against approximately 42% of the total EM spectrum (whereas a Galaxy Class Starship's shields can only protect against about 23%), made possible by the multi-phase graviton polarity flux technology incorporated into the shields. Recharge cycle for the tactical shield generators and emitters is 45 seconds, if the entire system is shut down and restarted.

Range: The deflector shields, when raised, maintain an average range of 30 meters away from the hull.

Primary purpose: Defense from hazardous radiation and space-borne particulates.

Secondary purpose: Defense from enemy threat forces.



A Nova Class Starship's combat shields are rated higher than a ship of its size normally would be, to protect VIP's. U.S.S. Twilight orbiting Romulus, on a mission to save the Empress.

3.4 Starfleet Intelligence Installed Equipment

Phasing Cloak Device: U.S.S. *Twilight* is equipped with a Federation Interphase Cloaking Device, also called a Phasing Cloak. This device does more than simply turn the ship invisible to EM Spectrum sensors; it actually phases the physical matter of the vessel into a pocket reality, so that the ship can literally pass through another physical mass, such as an asteroid, another ship, or even a planet. The advantages of this device are obvious: any enemy fire simply passes through the ship without harming it. Alternatively, any weapons fired by *Twilight* will pass right through any targeted vessel. The transporter, however, can be adjusted to lock on to any object and beam it onto the ship. If this procedure is perfectly timed so that *Twilight* has phased past the enemy vessel's shields, anyone or anything can be beamed off the enemy vessel—even the threat ship's warp containment system, which will immediately result in the threat-vessel losing antimatter containment. Like all cloaking devices, the unit is power-hungry, and only navigation, life-support, and a limited selection of other secondary systems can powered while the cloak is in operation. Warp speed is limited to best speed, Warp 4. There is insufficient power left for phasers or shields.

Last Unicorn Games' statistics: of the 120 units of energy generated by the ship's warp core and fusion reactors, the Cloak uses 75 units while in operation. Life Support uses another 15, especially for the SIF and IDF generators. That leaves 30 units for all other functions, including the Warp and Impulse drives.

External Holographic Projection System: This classified system is an offshoot of holographic technology. Simply, it can disguise *Twilight* to appear to be anything else, from an asteroid to an enemy vessel, or—more commonly—a hill on an alien planet while the ship's crew conducts a planetary survey of a pre-warp culture. However, a detailed scan by another vessel will reveal the illusion for what it is.

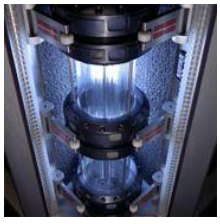
Sensor Jammers: Quite simply, the sensor jammers aboard *Twilight* and her Valkyrie fighter craft use a specially adapted sensor suite to transmit kiloquads of false data on every frequency, beamed at a specific vessel, thereby overloading the enemy vessel's sensors with data, and "jamming" it. This prevents a targeting lock.

Twilight has a highly-classified Federation phasing cloak device, use of which was authorized by the Romulan Empress herself, for aid against a coup led by her cousin, Sela.

"Skipper—Jaryd, this thing destroyed the Pegasus! We could blow out every system we have. Worse, we could disperse our component molecules like a cloud!"
–Chief Engineer Ryk Orn "Ricky" Raekaar

"Ricky, we've got three Warbirds locking disruptors on us. Push the damn button!"
–Captain Jaryd Harker, MD

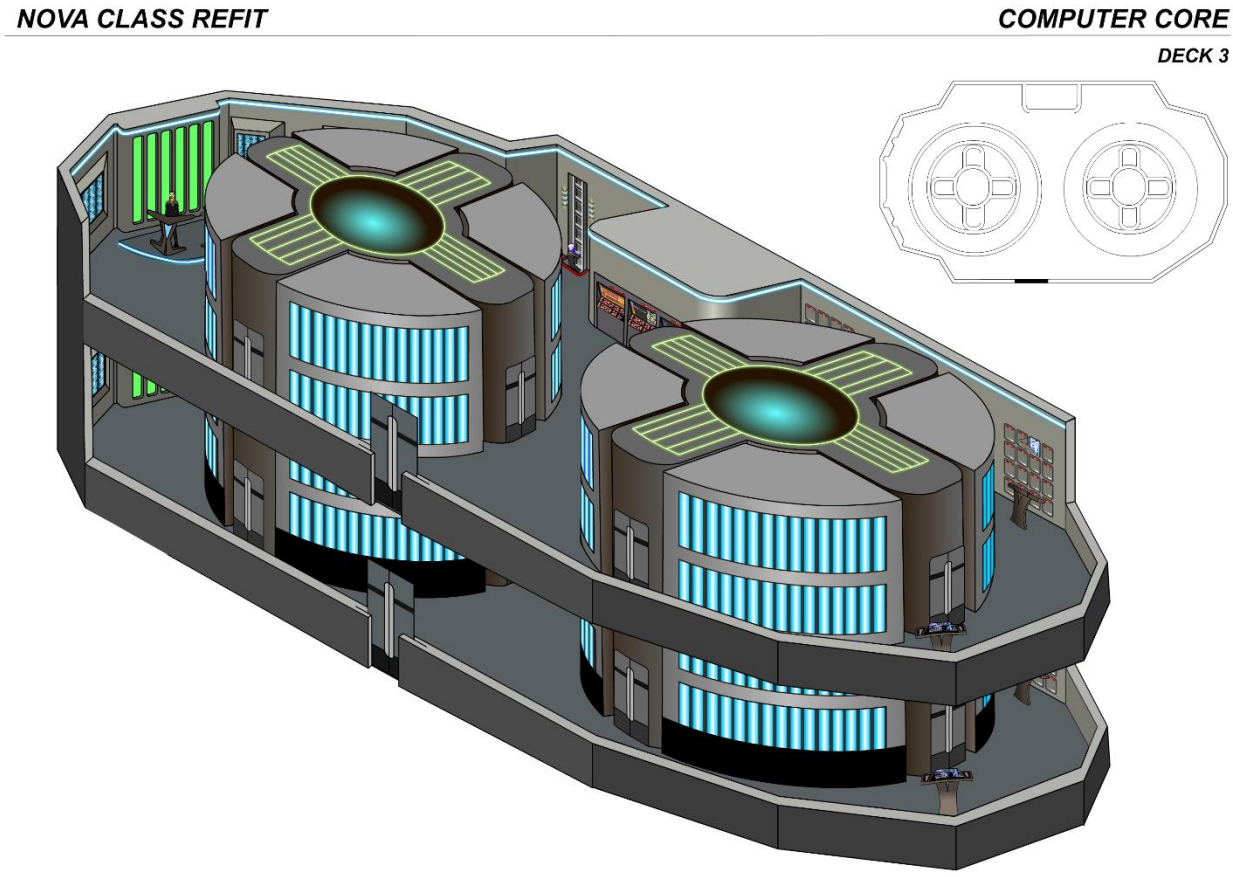
Classified Captain's Log, Stardate 49412.4 (March, 2371): *Twilight* was sent on perhaps her most dangerous mission ever, into the heart of the Romulan Star Empire. Sela had infected the empress and her daughter with a deadly retro-virus, which would have left Sela with the Throne. The Empress, Ael-Shiarah, requested the aide of Starfleet Intelligence through her lover, Ambassador Spock of Vulcan (she was the former Romulan Commander, from whom Kirk and Spock stole a cloaking device in 2268.) Dr. McCoy found a cure for the retro-virus, which had to be delivered in time. *Twilight* was fitted with the same interphasing cloak once installed in the USS *Pegasus* for this mission, and thus was able to make it past every Romulan patrol into orbit of Romulus, and administer the cure to the surviving 14 year old girl. An away team had to beam into the Romulan Capitol, make it past security, and inject her with the cure. Fortunately, Spock was on-hand to assist Captain Harker and his team. The current Empress is the daughter of Ael-Shiarah and Spock, who has permanently authorized 15 Federation starships, all attached to Starfleet Intelligence, to operate cloaking devices anywhere in known space—especially the *Twilight*, a known medical research vessel whose operations include counterintelligence against biogenic weapons. (From the beginning, the GM (Tony) planned on installing a cloaking device on our ship, which is why he named her *Twilight*.)



A Nova Class Starship's shields are rated higher than normal for a vessel of its size normally would be, to protect VIP's who might be aboard. This is fortunate indeed, for it helped U.S.S. Twilight withstand an overwhelming attack by Romulan disruptors.

Nova Class exterior views: Dorsal, Stern, Ventral, Starboard

4.0 COMPUTER SYSTEMS



4.1 COMPUTER CORE

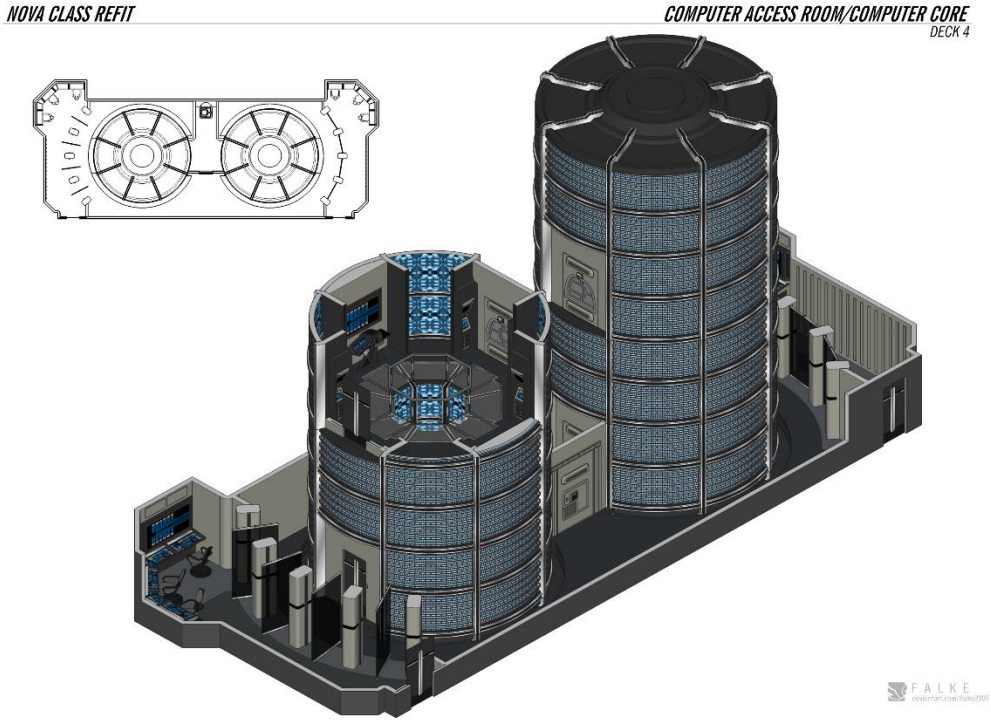
The *Nova* Class Starship's massive, twin cylindrical Main Memory Computer Cores (MMCs) are located on Decks 3 through 4 in the Primary Hull, directly underneath the Bridge. The MMCs consist of 276 dedicated modules of 144 isolinear optical storage chips each, which under LCARS control, provide dynamic access at a rate of 4,000 kiloquads/second. The total storage capacity for each individual module is 64,000 to 128,000 kiloquads, depending upon software configuration and data compression rates. The MMC is joined to the Optical Data Network (ODN) by triply-redundant micron junction units (MJU) on each individual module. The final layer to the computer system is a dedicated short-range subspace radio frequency (SRF) system that all cores use to communicate with the ship's control panels, access points, Commbadges, tricorders, PADDs, and other devices. Within the core itself, a micro-warp field is established, enabling the core itself to exchange data between isolinear chips and perform calculations at several times the speed of light. This enables the navigational software to detect obstructions in the vessel's flight path, and either use the navigational deflector to push the obstruction out of the way, or make minute course-corrections far faster than a human pilot ever could. The ship's computer is responsible for maintaining every system aboard the ship, from the vital systems such as the Warp Core,

primary generators, and life-support, to fire-suppression systems, to music played in individual crew cabins.

Number of computer cores: Two, paired; one serves as an auxiliary to the other. The primary computer cores are accessed in the computer control room on Deck 4. Both cores fill a large compartment two decks tall that extend from Deck 3 to Deck 4. Each core is fed by two sets of redundant EPS conduits as well as primary power. There is also a dedicated bank of cold-fusion batteries as an emergency back-up power supply for the MMCs. (A number of small computer subprocessor cores are located aboard, behind bulkheads and between decks, one each for each science lab, the Bridge subprocessor, Main Engineering, and other key locations—none of these are capable of equaling the computing power of the MMCs, however, even linked together.)

LUG Game Stats: A *Nova* Class has 4 Computer points, 2 per MMC, and cost 2 power points per computer per round (4 power points every 5 seconds.)

Type: The Epsilon-613 primary computer assembly is built specifically for the *Nova Class* starship by Epsilon Computing on Archer IV. The structure of the computer is similar to that of most other supercomputing systems in use by Federation vessels with stack segments extending through the ship forming trillions of connections through the processing and storage abilities of modern isolinear chips. Cooling of the isolinear loop is accomplished by a regenerative flow of liquid helium, which has been refit to allow a delayed-venting heat storage unit for "Silent Running." For missions, requirements on the computer core rarely exceed 45-50% of total core processing and storage capacity. The rest of the core is utilized for various scientific, tactical, or intelligence gathering missions – or to backup data in the event of a damaged core to its twin. When *Voyager* discovered *Equinox*, Janeway and Ransom retrieved vital information from the *Nova Class'* "auxiliary data core," which presumably was the second MMC. (Every starship larger than a runabout has at least one back-up computer core.) If one MMC is taken off-line, the back-up takes over all shipboard functions, but extraneous computer use (i.e. holodeck use) is prohibited. Food replicators in individual cabins are taken off-line, with the exception of the two in the mess hall.

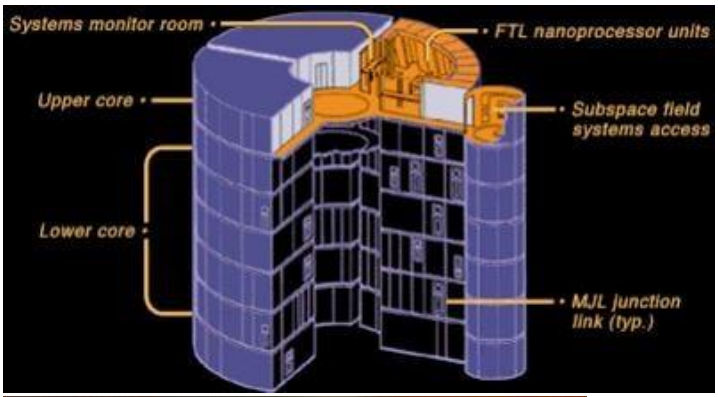


4.2 LCARS

Acronym for **L**ibrary **C**omputer **A**ccess and **R**etrieval **S**ystem, the common user interface of 24th century computer systems, based on verbal and graphically enhanced keyboard/display input and output. The graphical interface adapts to the task, which is supposed to be performed, allowing for maximum ease-of use. The *Nova Class* operates on LCARS build version 5 to account for increases in processor speed and power, limitations discovered in the field in earlier versions, and increased security.

Inside the Twilight's Main Memory Computer Core

A *Nova* Class Starship has a duel Main Memory Core (MMC) centrally located on Decks 3 and 4. Each core is redundant, with its twin constantly updated. Each individual MMC is capable of handling the entire computing load of the entire vessel, holodecks included. A *Nova* Class like *Twilight* still operates with banks of Isolinear chips, same as the *U.S.S. Enterprise* NCC – 1701-D. Only the Intrepid-Class Starships like *Voyager* NCC – 74646 are equipped with the brand-new bio-neural gelpacks. When offered a new central processor with the bio-neural gelpacks in 2373, Captain Harker turned it down, because his ship normally is sent on medical research missions—"*That's all we need, Admiral, for our computer to catch the same disease we're trying to cure!"*



Cross-section of a starship's MMC, and Isolinear Chips

4.3 SECURITY LEVELS

Access to all Starfleet data is highly regulated. A standard set of access levels have been programmed into the computer cores of all ships in order to stop any undesired access to confidential data.

Security levels are also variable, and task-specific. Certain areas of the ship are restricted to unauthorized personnel, regardless of security level. Security levels can also be raised, lowered, or revoked by Command personnel.

Security levels in use aboard the *Nova Class* are:

Level 10 – Captain and Above
Level 9 – First Officer
Level 8 – Commander
Level 7 – Lt. Commander
Level 6 – Lieutenant

Level 5 – Lt. Junior Grade
Level 4 – Ensign
Level 3 – Non-Commissioned Crew
Level 2 – Civilian Personnel
Level 1 – Open Access (Read Only)

Note: *Security Levels beyond current rank can and are bestowed where, when and to whom they are necessary.*

The main computer grants access based on a battery of checks to the individual user, including face and voice recognition in conjunction with a vocal code as an added level of security. Additional Security Levels are routinely granted to active Starfleet Intelligence Agents (a not generally known fact.) An ensign who is an agent begins with Level 7; the captain of an SI attached ship typically has a security level of at least 18. Admiral Uhura has a security rating of 99, one level below the President of the UFP. (All security clearance levels are taken from FASA's old Star Trek Roleplaying Game.)

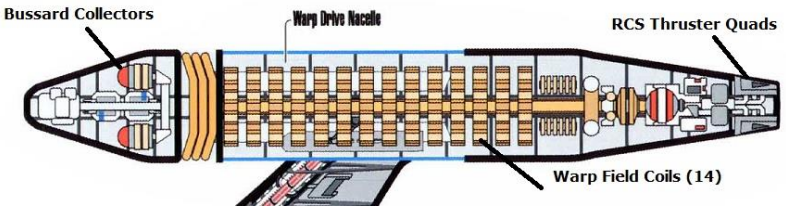
Spending a year at a time away, the *Nova Class*' computer core is one of the few that uses a significant part of its processing and storage capacity. The detailed scientific data collected is usually offloaded at a starbase where it can be audited and distributed among the fleets.

4.4 UNIVERSAL TRANSLATOR

All Starfleet vessels make use of a computer program called a Universal Translator that is employed for communication among persons who speak different languages. It performs a pattern analysis of an unknown language based on a variety of criteria to create a translation matrix. The translator is built into the Starfleet commbadge and small receivers that are implanted in the ear canal. The Universal Translator matrix aboard *Nova Class* starships consists of well over 100,000 languages and increases with every new encounter.

5.0 PROPULSION SYSTEMS

5.1 WARP PROPULSION SYSTEM



A Nova Class' Warp Nacelles are undersized for the spaceframe. They contain only 14 small warp coils, which only allow a maximum of Warp 8. By contrast, a Sovereign Class Starship has 24 coils.

Warp Nacelles: A starship's warp nacelles contain these basic elements: Warp Coils—which, when energized with ionized warp plasma, create a subspace bubble that "warps" space and enables a starship to travel faster than light; a reaction control thruster quad, and a bussard collector in the nose, to gather ambient hydrogen atoms in deep space, for conversion into deuterium fuel, which is basically liquid hydrogen slush. Anti-matter fuel is this same hydrogen slush whereby the electron is a positron and the nucleus instead of

containing a positron instead contains a negatively-charged negatron. The anti-matter processing bay on Deck 8 is capable of converting normal hydrogen into anti-hydrogen fuel on a limited basis. The warp core sends a steady stream of charged warp plasma through the warp coils in the nacelles, which in turn produce a subspace bubble which surrounds the starship, and propels the vessel at supra-light velocities by warping normal space. Warp One is equal to light-speed, or approximately 299,792 kilometers per second, expressed mathematically as "c." Each warp factor increases relative speed geometrically. Warp 2 is approximately 10c, and Warp 8 is approximately equal to 1024c.

Warp System Type: B-Type APD-001 dilithium spiral Matter/Anti-Matter Reaction Drive, similar to the one installed on *Voyager*. Information on this Warp Drive can be found in any Starfleet Library, or *Star Trek: The Next Generation Technical Manual*. A Terawatt (TW) is a metric measurement unit of power. The terawatt is equal to one trillion watts (10^{12}W.) The warp core generates 5.2 x 10^{8} Terawatts every ten seconds at 100% operational status.

LUG Game Stats: The ship's energizers generate power every 2 rounds.

Normal Cruising Speed: Warp 6

Cruising Speed as pursuant to Warp Limitations, as a cause of subspace pollution: Warp 6.3

Flank Speed: Warp 7 (for up to 20 hours; afterwhich, the computer issues red-line warnings. Maintenance is then required, moderate damage is caused if 20 hours exceeded.)

Maximum Speed (Burst Speed): Warp 8 for 12 hours; afterwhich, the ship's computer initiates an automatic shut-down of the warp core and engines.

Note: Vessels equipped with the B-Type dilithium spiral M/ARA Drive System no longer have the maximum cruising speed limit of Warp 6.3, thanks to innovations discovered and utilized in the M/ARA Warp Drive outfitted in the new Intrepid Class Starship. Pursuant to Starfleet Command Directive 12856.A, all Starships will receive upgrades to their Warp Drive system to prevent further pollution of Subspace.

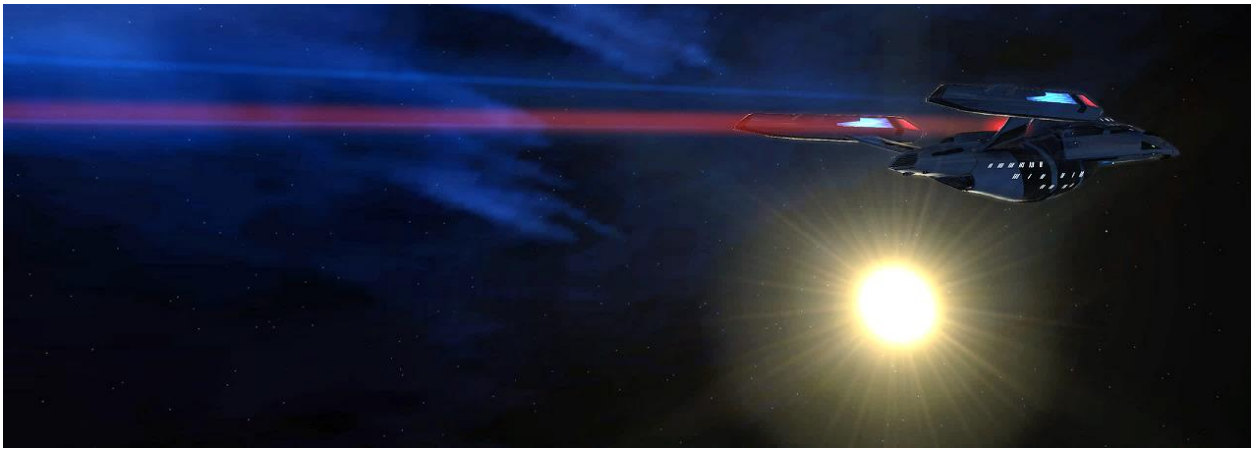
Cold Fusion Batteries (Battery Power): Every Federation ship, including shuttlecraft, have cold fusion battery units installed, kept constantly charged by the ship's reactors. Generally, this power is equal to the usual power output of all of the reactors in a 10-second period. In the event of power shortage, the ship's captain has the option to use this stored power at any time, but he is cautioned to keep in mind this power is a last resort, usually reserved to keep life-support systems functioning, or sickbay systems on-line. It usually takes a ship's warp core 12 hours to fully-charge the batteries, once they are used. If no other systems are operational, this battery power can be used to keep life support and emergency lights functioning for 12 hours, until repairs can be made to get a reactor on-line. Shutting down half the decks of the ship will extend this power accordingly, to 24 hours. 'Battery Power' is different from 'emergency power;' the latter term is the output of the ship's auxiliary fusion reactors. The output of the impulse engine's reactors is referred to as 'auxiliary power.'

Star Trek The Next Generation Role Playing Game Statistics: A *Nova Class* Starship's Warp Core generates 80 units of Power per 2 rounds; the remaining fusion energizers,

which power the impulse engine, generate another 40 units per 2 rounds, for a total of 120 units. (Emergency power—the ship's 4 auxiliary fusion reactors—can generate an additional 20 units—or 5 units per auxiliary reactor—for a grand total of 140 units.) This power is distributed according to the Ops control console on the Bridge, or from Main Engineering. Normally, there is sufficient power to operate all of the *Nova's* key and secondary systems. During combat and when systems are damaged, however, the Ops manager and Chief Engineer must play a balancing game with the power, distributing it where needed. If the Tactical Officer fires phasers at half power, then that frees up some power units to be used elsewhere, the shields, for example. If all energizers aboard are damaged or shut down, life-support and all other systems must rely upon battery power. The cold fusion batteries of *Twilight* hold a total of 120 units of power, but once that's depleted, the ship is cold and dead in space.

Warp Core in Main Engineering Deck 7

Nova Class Maximum Speed: The *Nova* Class was fitted with 14 undersized warp coils per nacelle, which only permit a maximum velocity of about Warp 8. (She can temporarily do an absolute maximum of Warp 8.3 if the Chief Engineer can optimize output of the warp core. This would require a Difficult 10 test, rolling the dice in-game.) Use of the older, albeit more advanced coils from the *Galaxy* Class nacelles would have permitted higher speeds, but continued to pollute subspace. Likewise, a larger warp core could have been installed, but the ship would've shaken herself apart, and the fuel would've been used up much more quickly. The warp core and nacelles installed were thus considered optimum for the spaceframe. *Twilight* can travel at her Warp 6 cruising speed for approximately 15 months before her deuterium fuel runs out. Fortunately, hydrogen is the most abundant element in the universe, and all starships are capable of gathering it and manufacturing more matter and anti-matter fuel in limited quantities.



Twilight's maximum speed is around Warp 8

5.2 IMPULSE PROPULSION SYSTEM

Type: Outfitted with a single T2-12 fusion-powered impulse engine, the refit *Nova Class* carries more than enough thrust to maneuver at her fully laden weight. Built by Trott Propulsion, the T2-12 is lauded for its reliability under extended use, as well as its fuel efficiency.

Fuel: A fusion reactor uses the same deuterium slush fuel as the M/ARA, which greatly simplifies matters in terms of fuel storage. Deuterium is loaded through the umbilical hard connect points along the "spine" of the starship, just above the Main Cargo Bay, when docked at a Starbase. All of the reactors aboard, both matter/antimatter and fusion, can be fed by the same storage tanks on Deck 5, although the impulse engine has its own fuel supply tank located on Deck 2, right near the fusion reactors. A fusion reactor uses far more fuel than its matter/antimatter counterpart, which produces a great deal of energy from the controlled mixing of a single hydrogen atom with its antimatter counterpart. Fortunately, the byproduct of fusion, helium, can easily be turned right back into hydrogen by a device similar to a replicator. Starships have also been known to "refuel" in an emergency, by simply using the Cargo Transporter to beam up hydrogen fuel from a Class-J gas giant and converting it into deuterium, or if caught between systems, from the ether via the bussard collectors in the nose of each warp nacelle.

Output: The impulse engine can propel the *Nova Class* at speeds just under 0.25c, at "Full Impulse" and an upper ceiling of 0.75c at three quarters the speed of light. Generally, Starfleet Vessels are restricted to 0.25c speeds to avoid the more dramatic time dilation effects of higher relativistic speeds. However, such restrictions can be overridden at the behest of the ship's captain. The four large primary deuterium fusion reactors generate 8.1 x 10^10 megawatts every ten seconds. The four smaller backup reactors (emergency power) generate 2.2 x 10^9 megawatts every ten seconds. A megawatt is a unit of power equal to one million watts, especially as a measure of the output of a power station.

Movement: In game, on a battle map, one hex is typically representative of 10,000 km. Full impulse is a move of six hexes, and a turn to one side of a hex counts as moving one hex. Thus, if the ship is traveling at full impulse speed, it can make a starboard turn of 45 degrees (one side of a hex to the right) and another five hexes forward in the direction the ship is pointing, for a total of six hexes. The starship moving "up" or "down" in space along

the Z axis is of course also possible; moving "up" 20,000 km counts as two hexes of movement. (This is usually represented by placing a die with two dots showing directly next to the miniature starship, to indicate that it is 20,000 km above the plane of the game board.) These definitions are for sublight speeds only. Most Game Masters will limit space combat to sublight speeds for ease of movement and comprehension of the players. In addition, since phasers are limited to sublight combat, warp-speed combat will of necessity be done using torpedoes, which travel at warp speed.

Battle mats are readily available for sale by a number of companies, such as Chessex. These maps are usually made of durable vinyl and can be rolled up and cleaned with water easily. The space map comes with a black background and white hexes that are numbered. They come in two sizes of mats: 26" x 23½" (66cm x 60cm) Battlemat™ and 34½" x 48" (88cm x 122cm) Megamat™. (See Chessex.com or Amazon.com or any local hobby store.) Eric Hotz makes a number of battle mats, both with and without hexes or squares, plain black background or fancy deep space or nebula in the background. Go to www.**hotzmats**.com to have a look at his products.


(On left) Chessex Space Battlemat with numbered hexes, and miniatures, mostly produced by micro-machines. (On right) HotzMat by Eric Hotz. www.**hotzmats**.com Hero Clix produces quality miniatures as well. The Earth and Moon were easily hand-made using a common table-tennis ball.

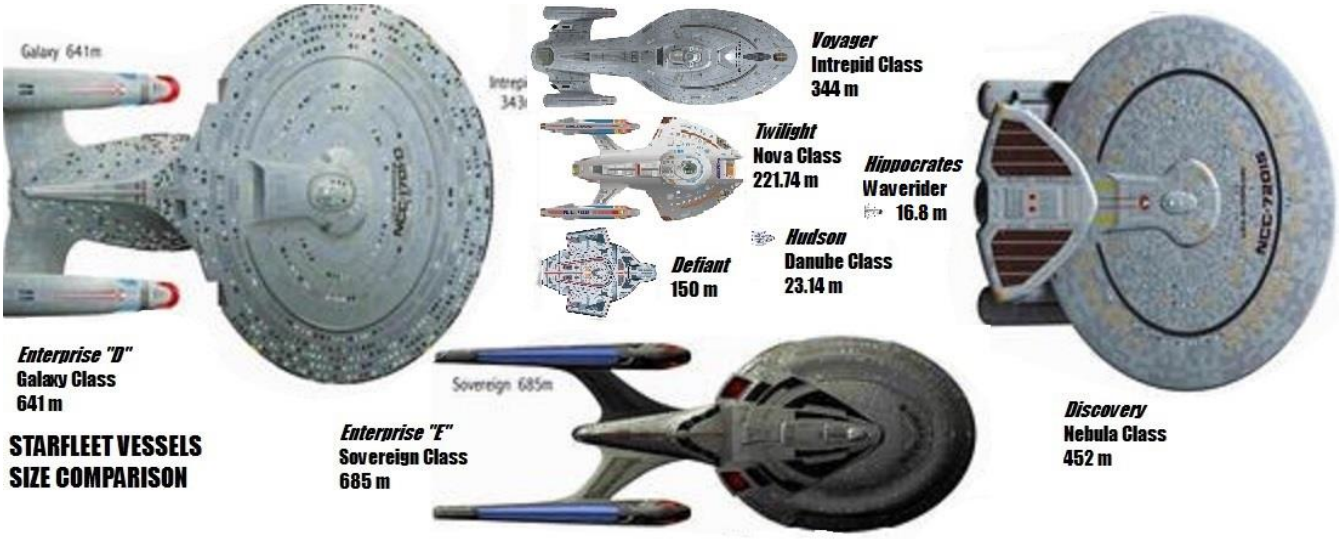


Above, Deep Space Maps by Eric Hotz of www.hotzmats.com

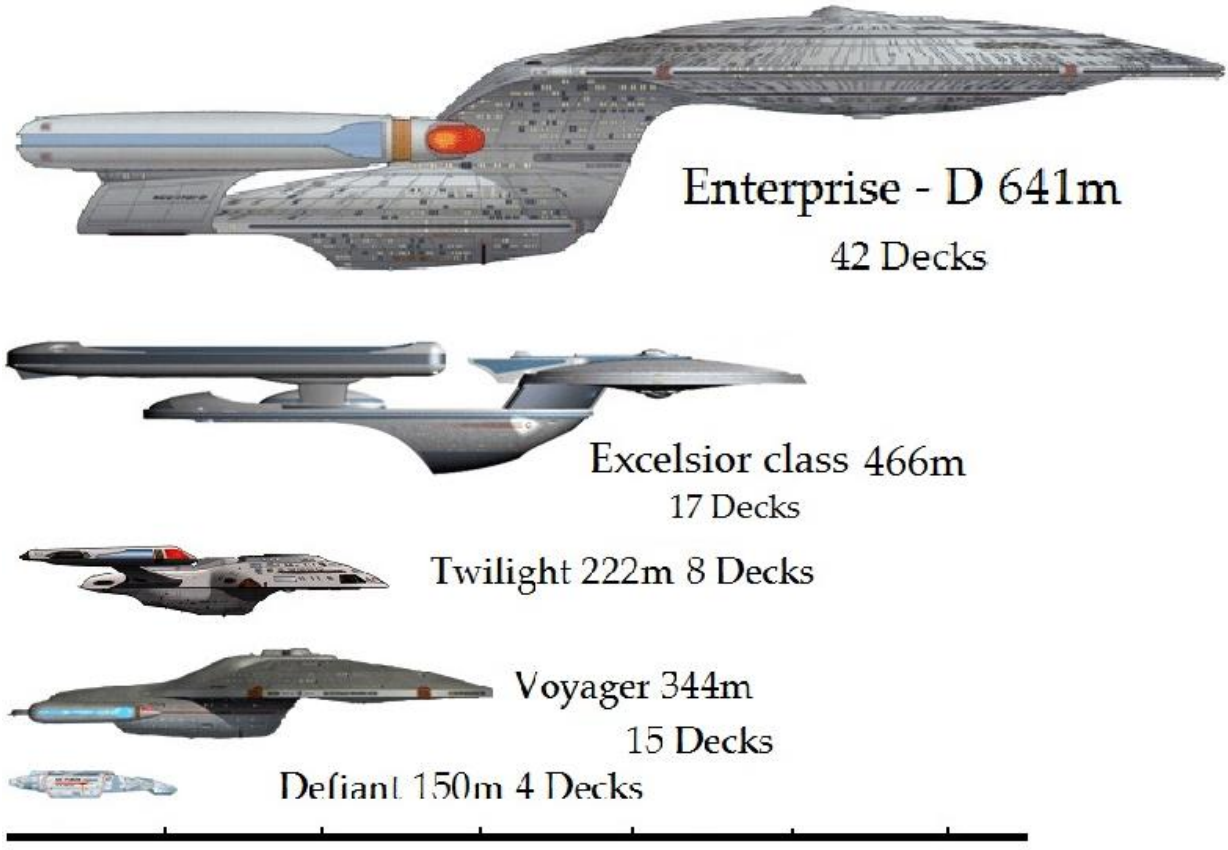
Fusion reactors power the Impulse (sublight) engines

Welcome aboard! We're a small ship, but go on more dangerous missions than most (by the way, Twilight is attached to Starfleet Intelligence. You didn't hear that from me!)

A close-up of *U.S.S. Twilight*. Note the circular docking bay on Deck 2, just forward of the impulse engine, surrounded by red warning labels. The main docking bay is located on Deck 3, portside, the other side of the ship.



Starfleet vessel size comparison shows the Nova Class is dwarfed by Galaxy and Nebula Class ships.



5.3 REACTION CONTROL SYSTEM

An RCS thruster quad can apply thrust in 3 separate directions to adjust the ship's position and course

Type: Standard Version 3 magneto-hydrodynamic gas-fusion thrusters.

Output: Each thruster quad assembly can produce 5.5 million Newtons of exhaust from two nozzles.

The RCS quads are responsible for making adjustments in the ship's course at every velocity from station keeping (relative dead-stop from an object in space, such as a planet or space station) to high-warp speeds. As for these requirements, the RCS quad system must produce output at least as powerful as a small impulse engine. The standard RCS quad output is 5.5 million Newtons thrust, fueled by standard deuterium slush, the same hydrogen-based fuel used in the impulse and warp drives. In an emergency, with the SIF and anti-gravity generators set to maximum output to reduce the relative mass of the starship, the quads can propel the vessel at 0.25c, or full impulse; however, this use of the system beyond its design schematics will burn out the RCS after a maximum of ten minutes. Replacement must then be done at a starbase.

The quads were designed to be easily maintained in the field, after a maximum of 400,000 firings and 5,500 hours normal use before requiring inner wall resurfacing. Manufacturer recommended replacement of each individual quad assembly is 24 months of normal use. U.S.S. *Voyager*, during its historic journey in the Delta Quadrant, was forced to manufacture replacement parts in the field, or purchase them from starfaring civilizations they encountered.

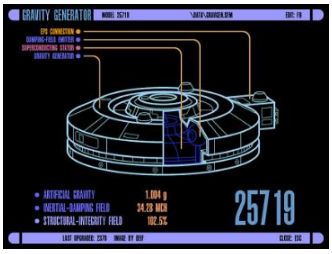
5.4 Structural Integrity Field

The starship's physical structure at high velocities must be reinforced by a system of internal force fields to hold everything together. No matter how well designed, even modern construction techniques are insufficient to sustain the load bearing members of the spaceframe should the ship travel much past a fraction of light speed. Much as the IDF protects the crew from being crushed to death by the inertial forces of high velocity, the SIF protects the basic structure of the hull from collapsing in on itself. The physical integrity of the spaceframe is augmented by the SIF, created by the primary field generators on Deck

5, located on the half-deck of the primary hull, which are accessed for maintenance when necessary via outer hull access doors on the underside of the primary hull. Each SIF generator consists of a pair of 2-megawatt graviton polarity sources. These generators feed a set of 150 millicochrane subspace field distortion amplifiers. Each unit is capable of supporting the entire SIF grid at 100% for 48 hours before gaussing causes a shut-down of the generator. For this reason, every pair of generators are in active or rest mode every 24 hours. The SIF system creates a subspace distortion field that is guided along all trusses and hull plates, reinforcing them by a factor of 150,000% of their natural tensile strength. In addition to the waveguides installed within the internal spaceframe, there are a series of emitters located on the outside of the hull. These external emitters work in tandem with the ship's tactical shield emitter plates. There are a total of ten SIF generators at various locations throughout the ship; the four main generators are located on Deck 5 of the primary hull. Four auxiliary generators are also located on Deck 7 of the engineering hull. This is in accordance with Starfleet general safety regulations, that every system aboard must have at least two back-ups, or three back-ups in the case of a major system such as the SIF, IDF, or life-support system.

5.5 Inertial Damping Field 

A starship's Inertial Damping Field is maintained to counteract the natural inertial forces acting upon the crew by acceleration. Without the IDF in operation, the vessel could not travel any speed past 170km/second or **0.05% c** (the thrust of a Saturn V rocket) or the predominating natural inertial forces would be fatal to the crew. The IDF system operates in tandem with the vessel's artificial gravity field generators, maintaining a series of variable symmetry force-fields that absorb the external inertial forces. These force-fields operate in accordance with Starfleet Corps of Engineering standard regulations 352.12, averaging 75 millicochranes with a field differential of 5.25 nanocochranes per meter of deck. Flux generation for IDF and ship's gravity are provided by generators and gravity plates located in the crawl space and Jefferies tubes located between each deck, in a hexagonal grid with nodes spaced every 30 meters apart. The IDF is considered part of the life-support system, and is therefore a priority for power. Diverting power from this system requires the duty Ops Manager or an engineering officer to override several sets of safety protocols in the Main Computer (in game terms, this is a Challenging 13 Test to divert power from the IDF or life-support elsewhere, even to shields.) There are two main SIF generators located on Deck 5, which are also the vessel's anti-gravity landing generators. Each main generator (or pair of auxiliary generators) is capable of supporting the entire SIF network by itself, with the second unit on hot stand-by; and they operate in tandem with each other, switching off in rest/active mode. There are four auxiliary IDF generators on a *Nova*-Class vessel, located on Decks 5 and 7, in the event of catastrophic breakdown of the main generators, or during regular maintenance periods. In an extreme emergency, should all 6 of these generators fail or be in danger of failing, there are two pairs of replacement auxiliary SIF and IDF generators packed away in the ship's Main Cargo Hold on Deck 3; any competent engineer can swap these out with the damaged units.



Without the IDF in constant operation, the crew would be reduced to chunky salsa.

6.0 UTILITIES AND AUXILIARY SYSTEMS

6.1 NAVIGATIONAL DEFLECTOR

Nova Class Secondary and Primary Navigational Deflector Dishes

A standard *Nova Class* main deflector dish is located in the engineering hull, just forward of the primary engineering spaces. Composed of molybdenum/duranium mesh panels over a tritanium framework (beneath the duranium-tritanium hull), the dish can be manually moved twelve degrees in any direction off the ship's Z-axis. The main deflector dish's shield and sensor power comes from two graviton polarity generators located on Deck 6, each capable of generating 128 MW, which can be fed into two 480 millicochrane subspace field distortion generators.

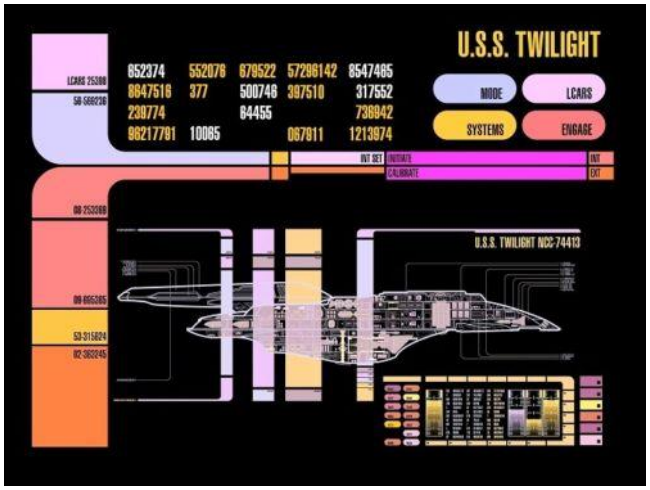
Three redundant subspace field distortion amplifiers built into the dish produces a coherent beam of 550 millicochranes, thrust ahead of the starship's flight path for about a full light-year. This beam of graviton-controlled energy pushes minute micrometeorites out the ship's flightpath, which would otherwise rip through the vessel's tritanium-duranium hull like a 20th-Century bullet through tissue paper. Small particles of hydrogen are redirected through the Bussard collectors built into the fore of each nacelle, where they are redirected to the proper conversion and storage tanks, into deuterium slush (matter fuel) or antideuterium slush (anti-matter.) Larger space-debris than the deflector dish can push out of the way requires the ship's computer to make minute course adjustments using the RCS quads to avoid them, far faster than a human pilot could manually. A smaller, secondary navigational deflector dish is installed just above the primary, on Deck 3. Should the primary unit become damaged or unusable, this secondary dish would still

enable the *Twilight* to travel at warp speeds, albeit a maximum of Warp 4, for safety reasons.

Both navigational deflector dishes are equipped with long range sensor arrays as part of their primary function, to deflect micro-meteoroids and other particles of space debris from the flight path of the ship, although obviously, this provides valuable data to be provided to the crew, which is then displayed anywhere on the ship. This doubling of long range sensor units is what helps provide the Nova Class with its enhanced sensor capabilities. Long range sensors can be augmented by launching sensor probes or auxiliary craft, which then transmit close-up sensor data back to the mothership. The subspace transmitter is mounted just behind the long range sensor array and primary deflector dish on Deck 5; although the communications unit can broadband transmit from any direction, greater clarity and range can be achieved by simply pointing the ship in the general desired direction, and transmitting on a tight communications beam.

Other Uses: A starship's primary navigational deflector dish can be modified by innovative Starfleet engineers to fire various rays and beams for a variety of purposes, including inverse tachyon beams, antimatter streams, resonance bursts, graviton pulses, interplexing beacons, a subspace tensor matrix, and even a one-shot makeshift phaser array. Unfortunately, these alternative uses are rarely utilized, because doing so generally damages or completely burns out the sensitive deflector dish, requiring extensive repairs or replacement of the unit at a starbase.

Shuttlecraft can augment the Twilight's sensor arrays



USS Twilight flying next to USS Enterprise. Note the size differential: Twilight is 222 m. long, Enterprise is 685 m.

6.2 TRACTOR BEAM


Type: Multiphase subspace graviton beam, used for direct manipulation of objects from a submicron to a macroscopic level at any relative bearing to the ship. Each emitter is directly mounted to the primary members of the ship's framework, to lessen the effects of isopiestic subspace shearing, inertial potential imbalance, and mechanical stress.

Output: Each tractor beam emitter is built around three multiphase 15 MW graviton polarity sources, each feeding two 475-millicochrane subspace field amplifiers. Phase accuracy is within 1.3 arc-seconds per microsecond, which gives superior interference pattern control. Each emitter can gain extra power from the SIF by means of molybdenum-jacketed wave-guides. The subspace fields generated around the beam (when the beam is used) can envelop objects up to 920 meters, lowering the local gravitational constant of the universe for the region inside the field and making the object much easier to manipulate.

Range: Effective tractor beam range varies with payload mass and desired delta-v (change in relative velocity). Assuming a nominal 15 m/sec-squared delta-v, the multiphase tractor emitters can be used with a payload approaching 116,380,000,000 metric tons at less than 2,000 meters. Conversely, the same delta-v can be imparted to an object massing about one metric ton at ranges approaching 20,000 kilometers.

Primary purpose: Towing or manipulation of objects

Secondary purpose: Tactical/Defensive

STTNG Game Statistics: The tractor beam uses 2 units of power per rating used. At rating **10**, the tractor beam can move a mass of 7,500,000 metric tons at a distance of 1km; rating **9**, 5,000,000 mt at 10 km; at rating **8**, 1,000,000 mt at 50 km; at rating **7**, 500,000 mt at 100 km; at rating **6**, 100,000 mt at 1,000 km; at rating **5**, 50,000 mt at 2,000 km; at rating **4**, 1,000 mt at 4,000 km; at rating **3**, 100 mt at 8,000 km; at rating **2**, 10 mt at 14,000km; and at rating **1**, 1 metric ton at 20,000 km. (In plain English, an *Intrepid* Class starship masses 700,000 metric tons, meaning a tractor emitter set for rating 7 can tractor *Voyager* from a distance of about 50 kilometers, using 14 units of power.)

6.3 TRANSPORTER SYSTEMS

Number of Onboard Transporter Systems: 4

Personnel Transporters: 2, located on Deck 2.

- Max Payload Mass: 900kg (1,763 lbs.)
- Max Range: 40,000 km
- Number of Pads per transporter: 6
- Max Beam Up/Out Rate: Approx. 100 persons per hour per Transporter
- Each personnel transporter has its own transporter buffer, located in the crawlspace Jefferies Tube below the deck, but can also make use of the main transporter buffer on Deck 3, or the Auxiliary Buffer on Deck 6.

Cargo Transporters: 1, located in Cargo Bay 1 on Deck 3.

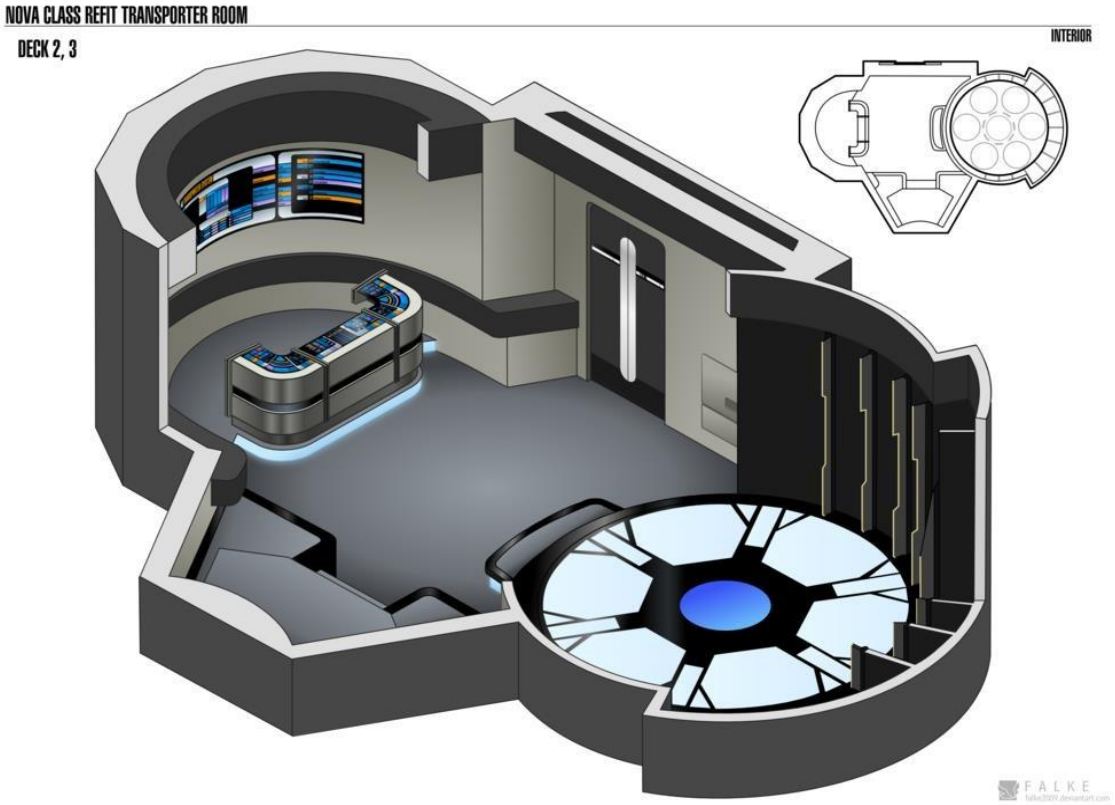
- Max Payload Mass: 800 metric tons. Standard operation is molecular resolution (Non-Lifeform).
- Set for quantum (Lifeform) resolution: 1 metric ton
- Max Beam Up/Out Rate (Quantum Setting): Approx. 100 persons per hour per Transporter
- The cargo transporter uses the ship's main transporter buffer on Deck 3 or the auxiliary buffer on Deck 6.

Emergency Transporters: 1, located on Deck 4 starboard.

- Max Range: 15,000 km (send only) {range depends on available power}
- Max Beam Out Rate: 100 persons per hour per Transporter (300 persons per hour with 4 Emergency Transports)
- These emergency transporters can only be used to transport persons from the vessel, not back to it.
- One tri-transporter stage, 18-Person.
- The emergency transporters use the ship's main transporter buffer on Deck 3 and the auxiliary buffer on Deck 6.

Site-to-Site Transporters: There are a number of small, site-to-site transporters built into the bulkheads of the vessel on all eight decks. Each unit is capable of transporting a maximum of four persons 1,000 meters per cycle, with pinpoint accuracy. The most common use of the site-to-site transporters aboard the ship are to dematerialize sick or wounded patients, beam them to the new location, and rematerialize them onto a biobed in sickbay on Deck 3. The site-to-site transporters typically use either the main transporter buffer on Deck 3, or the auxiliary transporter buffer on Deck 6.

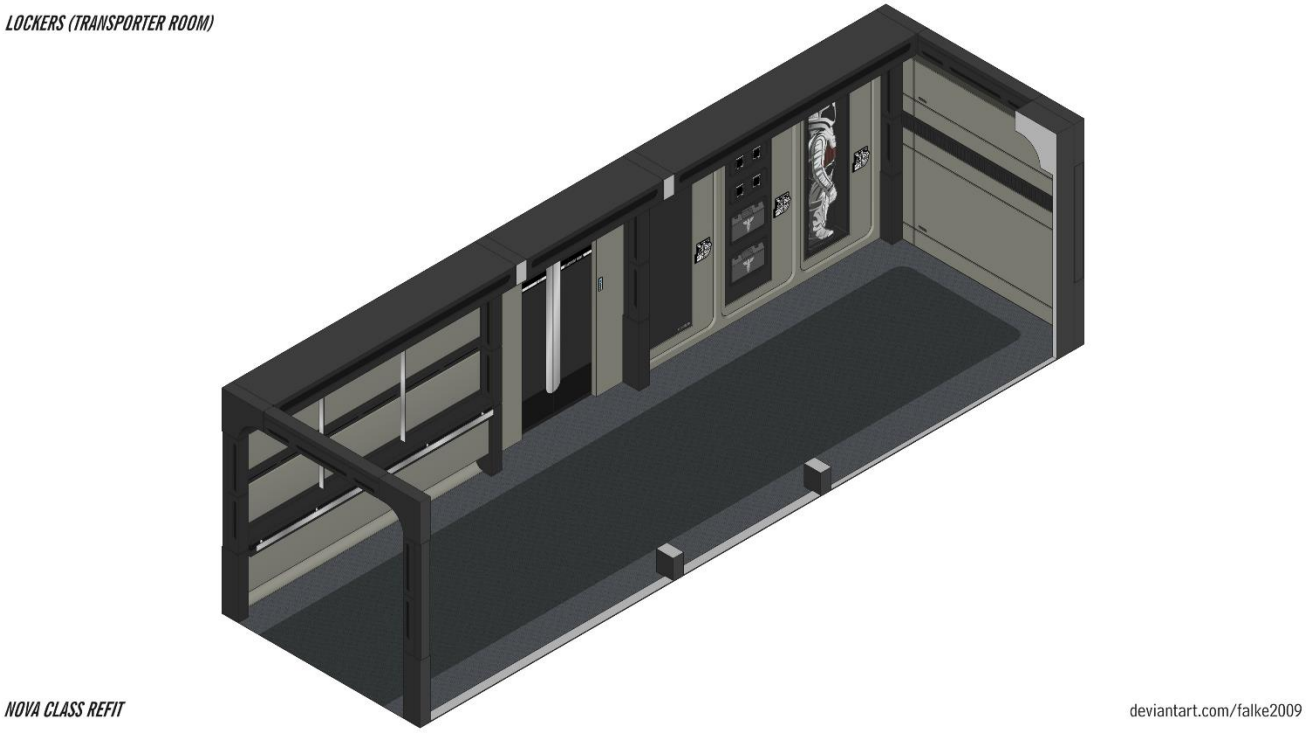
"Standard Orbit," according to Cmdr. Spock to Abraham Lincoln, for a Class M planet, is "643 miles, 2,021 feet, 2.04 inches above the surface of Excalbia," which works out to approximately **1036.42 Kilometers. "High Orbit"** or 20,000 mile perigee, works out to approximately **32,186.88 Km,** which is just within transporter range of 40,000 km.



Nova Class refit Transporter Room

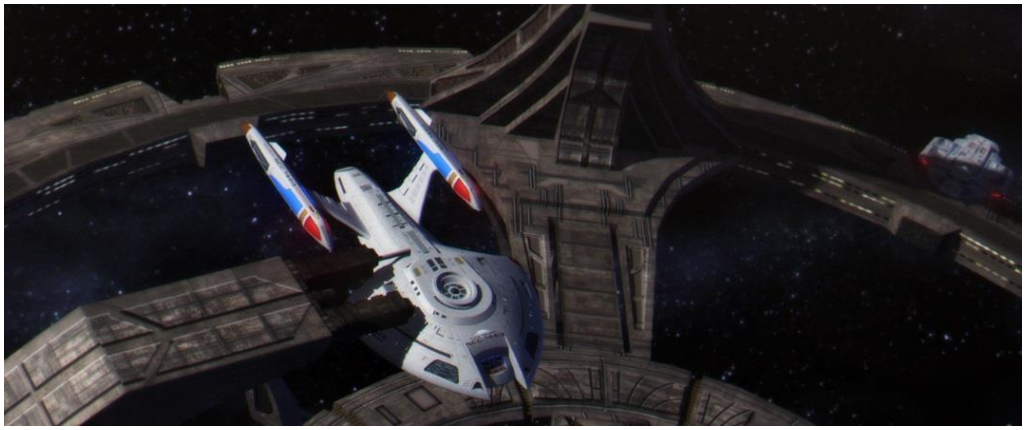
LUG Game Stats: Transporters use 2 power units per round for a maximum distance of 40,000 km. for personnel transporters, and a range of 15,000 for emergency transporters.

The Nova Class Transporter Room is roughly the same size as an Intrepid Class', with the exception of a smaller alcove to the right, for storage lockers and access to engineering systems.



Storage lockers filled with Away Team equipment line the corridor outside the transporter room on a Nova Class Vessel, to save valuable space. Located here are tricorders, phasers, medkits, SEWG suits, and other equipment.

Because of the smaller size of a *Nova* Class Starship, the transporter rooms are smaller than on her larger cousins. Common Away Team equipment such as tricorders, hand phasers, medkits, and SEWG garments for vacuum and corrosive or poisonous atmospheric environments are easily accessible from storage lockers in the corridor just outside both transporter rooms. Smaller EPS taps keep equipment constantly charged, while technicians routinely check the kits to make certain the drugs are still viable. A crewmember or midshipman is typically tasked with checking equipment like this every month on average. A smaller ship such as the *Nova* Class has a higher percentage of midshipmen to experienced crew than most vessels, so such senior-level cadets are tasked with more responsibility than on a *Galaxy* or *Nebula* Class starship.



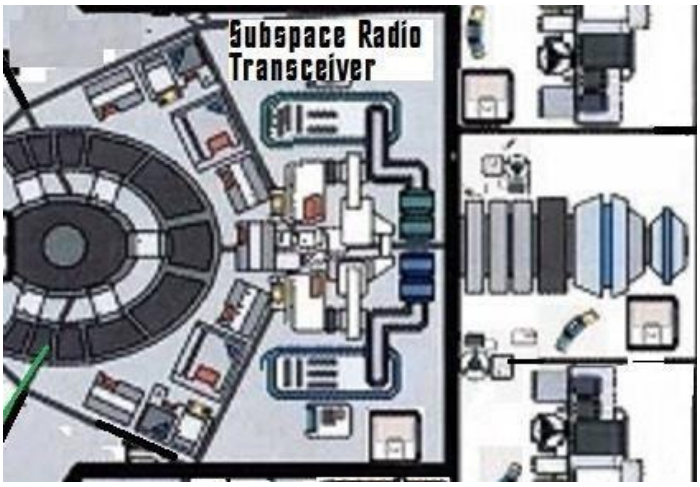
USS Twilight docked at Deep Space Nine

6.4 COMMUNICATIONS

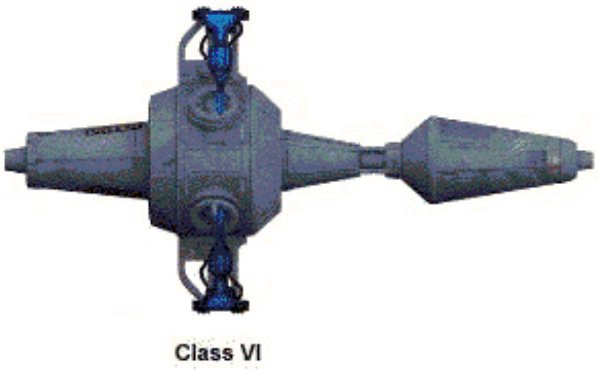
Standard Commbadge Communications Range: 30,000 – 90,000 kilometers
Standard Data Transmission Speed: 18.5 kiloquads per second
Subspace Communications Speed: Warp 9.9997

The main subspace transceiver array is located in a compartment on Deck 5, directly behind the long-range sensor array, although both the main and auxiliary deflector dishes can be easily configured to do this job, at a loss of 25% signal degradation. Auxiliary transceiver arrays are built into the secondary deflector dish for this purpose, but it does require repositioning the bearing of the starship to beam the signal in the correct direction. By transmission through subspace rather than normal space, subspace communication permits the sending of data and messages across interstellar distances faster than the speed of light, and even current warp drive. It is yet unclear which is faster: subspace communications or the new experimental slipstream drive.

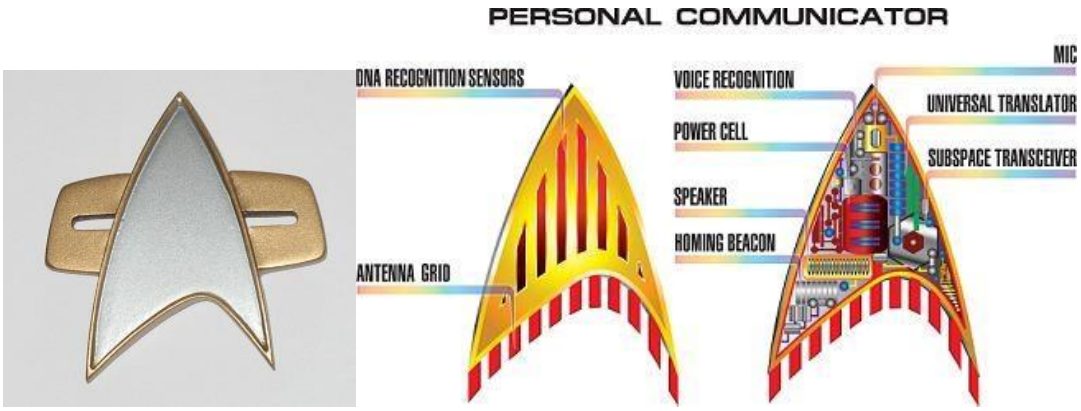
Federation communications are facilitated through the use of communications relay stations, both manned and automated, starbases, and even starships in flight. Voice and other data are transmitted and received through these stations, which receive the communication and then retransmit it, so there's no loss of signal degradation.



Main Subspace Radio Transceiver Fore Deck 5



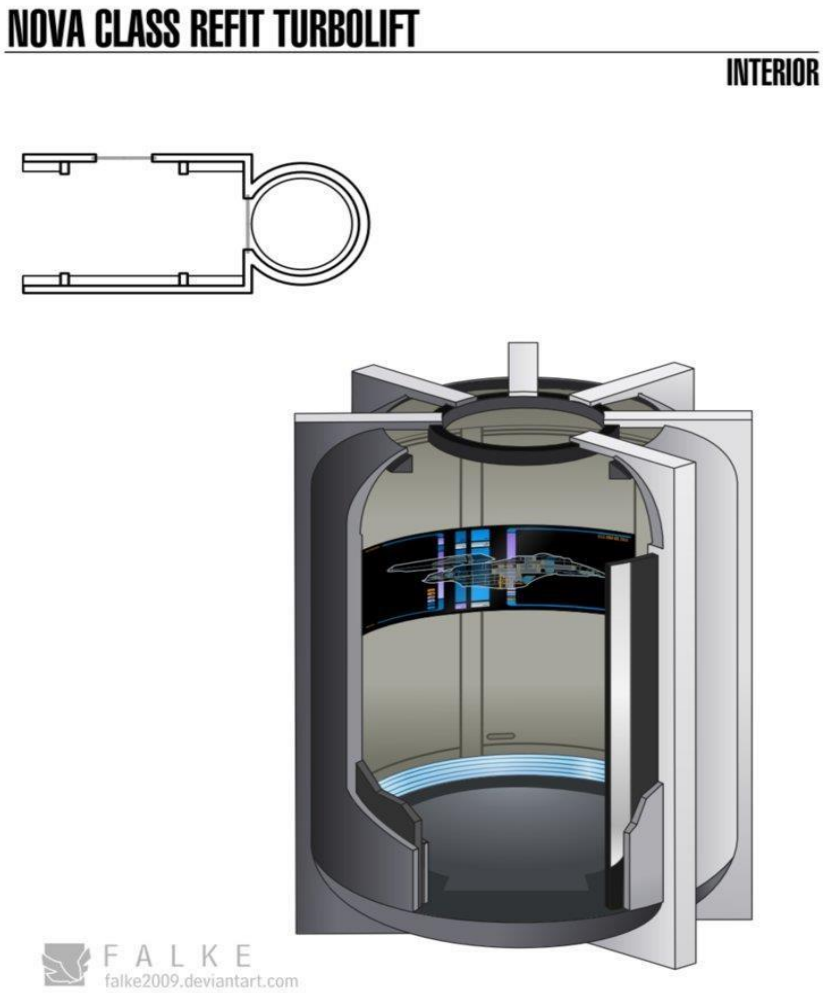
A Class VI Probe, or Communications Relay/Emergency Beacon, is launched from the torpedo tubes, and immediately becomes part of the Federation's subspace communications net.



Starfleet Commbadge

A standard Starfleet Commbadge is composed of micromilled duranium overlayered with beryllium, gold and silver alloys. Inside is the subspace transceiver assembly that allows voice contact with the ship and away team, between crewmembers, and to the ship's computer. Standard range for a commbadge is 90,000 km, or on a game board, 9 hexes (range is much further if linked to a starship's subspace communication system, or Federation communication arrays.) Built-in is a universal translator, programmed with 100,000 languages from hundreds of worlds and cultures. The commbadge can also be used as a locator to aid transporter operators.

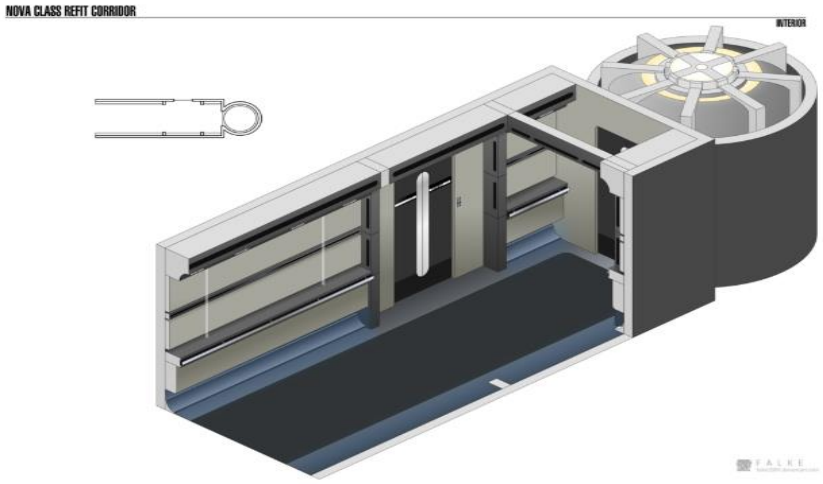
6. 5 Turbolifts



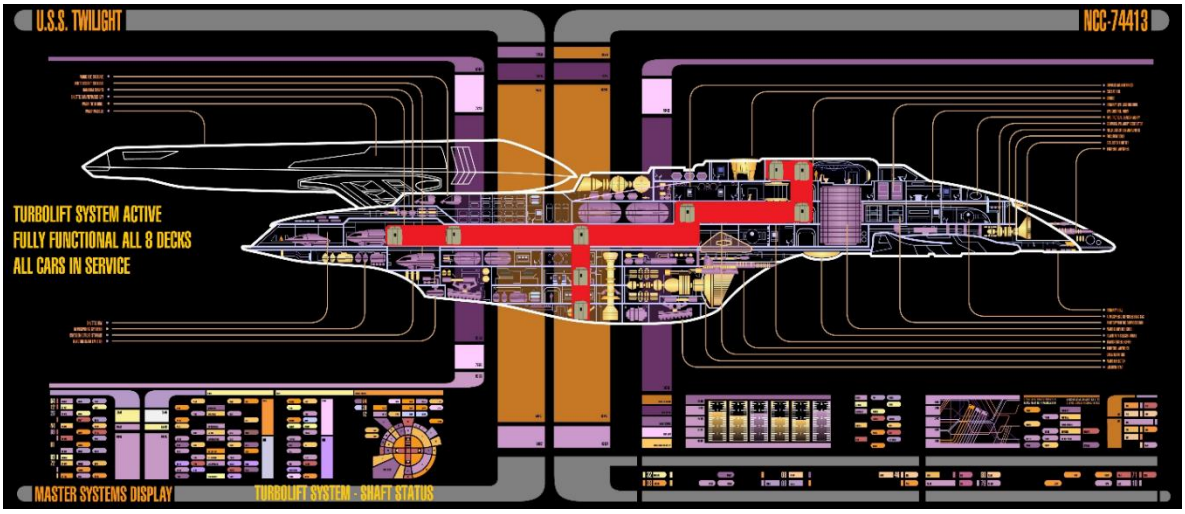
Intraship personnel transport is accomplished via the turbolift system. The ship's turbolifts travel to every deck, and in some cases, horizontally, allowing high-speed transport throughout the habitable volume of the spacecraft. Each turbolift car consists of a lightweight duranium-composite framework supporting a cylindrical personnel cab. Each induction motor is capable of speeds equaling 10m/sec². An auditory pickup allows voice commands of the turbolift. An average of 3 turbolift cars are in operation at all times within the Nova-Class ship. During alert status or reduced power scenarios, turbolift car transport can be suspended completely at discretion of the commanding officer.

While docked at a starbase, the turbolift system can be linked directly to the support facility's own system. This is accomplished via a connect point located at the terminus of the turbolift shaft on Deck One. When so linked, turbolift cars can travel freely between the starbase and the ship.

In the event of evacuation and abandon-ship scenarios, the turbolift car can also function as a lifeboat. Medikits, emergency rations, engineering control systems and tools, and other supplies are located beneath the floor of the turbolift car, accessed by a hatch.



Corridors on a Nova Class are cramped compared to a larger vessel, but clean. There is sufficient space for two humanoids to walk side-by-side. The doors at the end of this corridor are a turbolift stop.

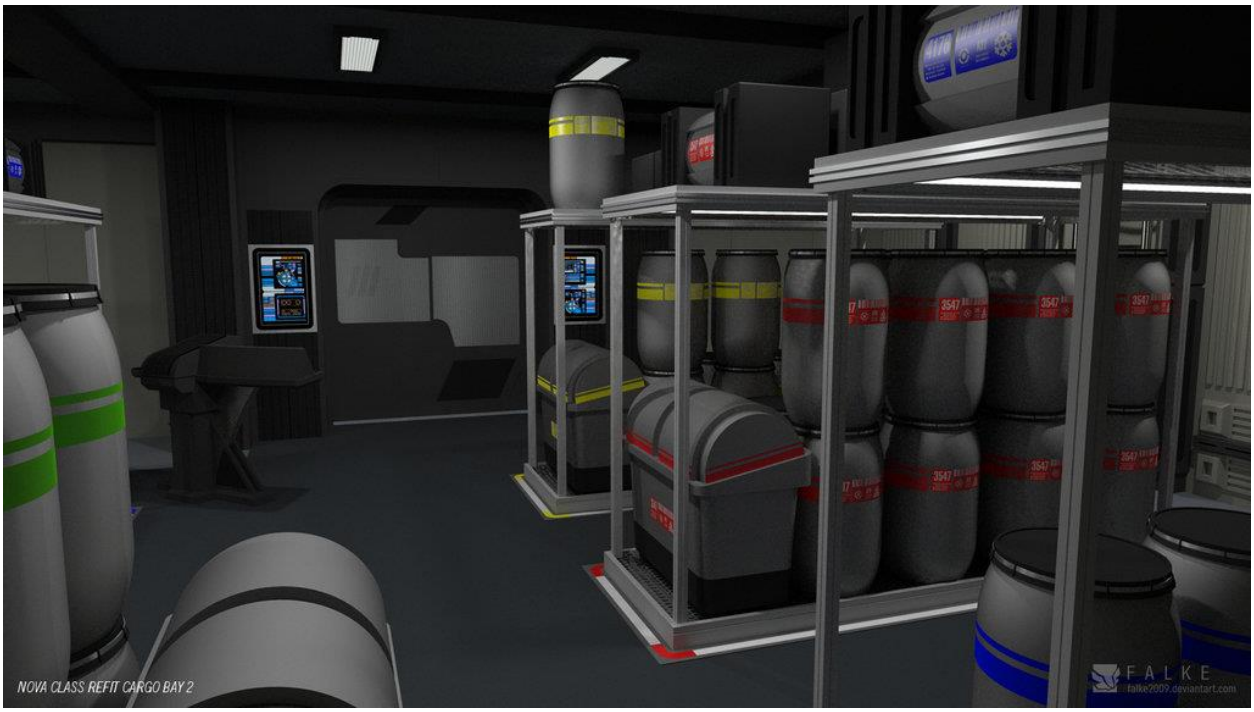


The Twilight's turbolift system whisks crewmembers to every deck

There are three vertical turbolift shafts on a Nova Class Starship, and three horizontal. The first vertical shaft connects Decks 1 through 3; the second, Decks 3 and 4, and the third runs from Deck 4 to 8. On Deck 3, there's a turbolift stop just steps away from both sickbays, 10 to 12 meters in either direction. The first horizontal shaft has a stop at the Bridge, circles the Bridge and opens into the Deck One corridor by the senior officer's quarters, near the entrances to the Bridge and Captain's Ready Room.

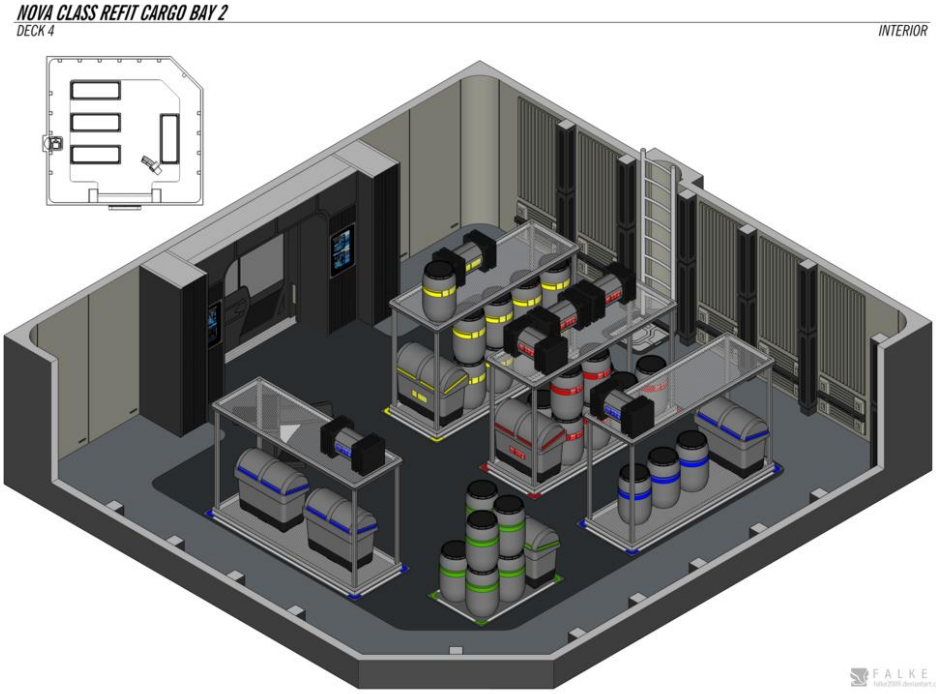
The second shaft runs from the center of the primary hull to the fore section of the engineering hull, and the final horizontal shaft runs the length of Deck 4, the largest habitable volume level of the ship. This final horizontal shaft has turbolift stops near visitor cabins, science labs, and the Main Shuttlebay.

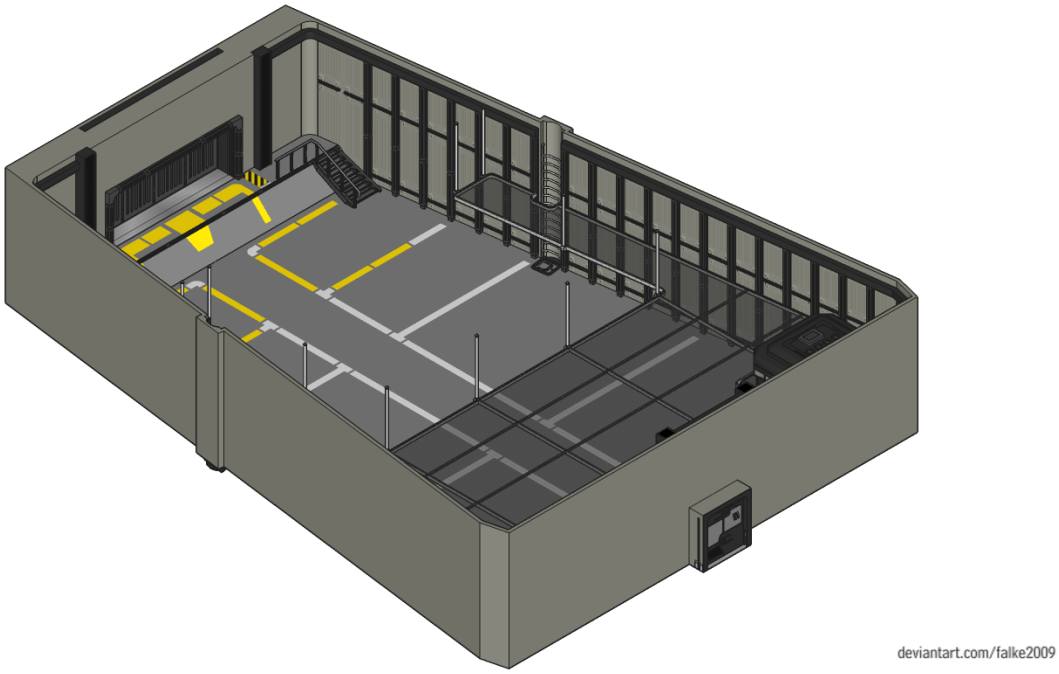
6.6 Cargo Bays



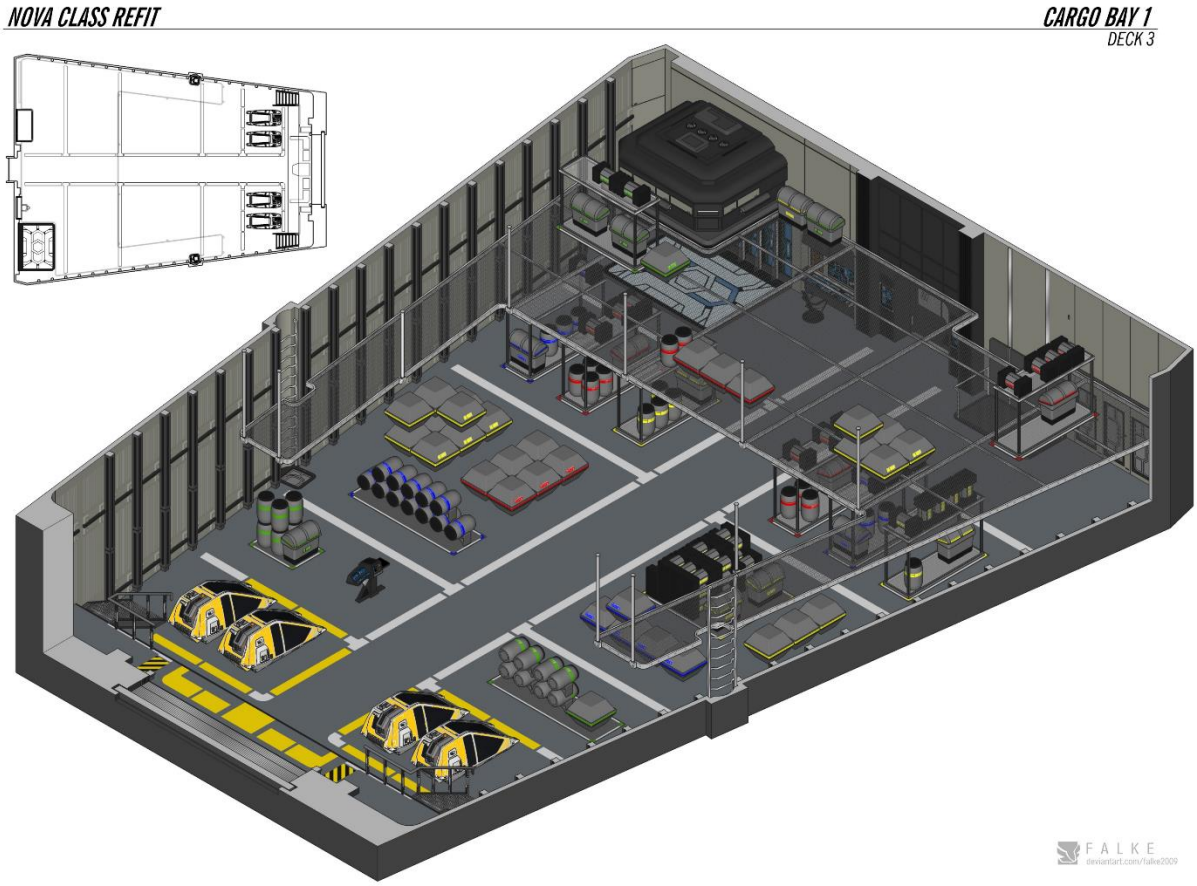
Cargo Bay 2

Configured for storage of biological samples, has its own environmental controls. Can easily be reconfigured as a hydroponics bay, or a third sickbay for non-humanoid casualties. Medical equipment and supplies are already stored here for easy conversion to a sickbay in an hour.





Cargo Bay One, looking Aft. This cargo bay is 6m high, with an upper level for storage. The cargo transporter's buffer is on the upper level. A ladder connects the two levels, and there is also a cargo elevator.



The Main Cargo Bay is slightly over 30 meters in length, 20 abeam at its widest point, and 6 meters high (19.685 ft.) This bay was once the aft Torpedo Bay on the original schematics before its redesign as a science vessel. The Main Cargo Bay can also be used as an auxiliary shuttlebay.

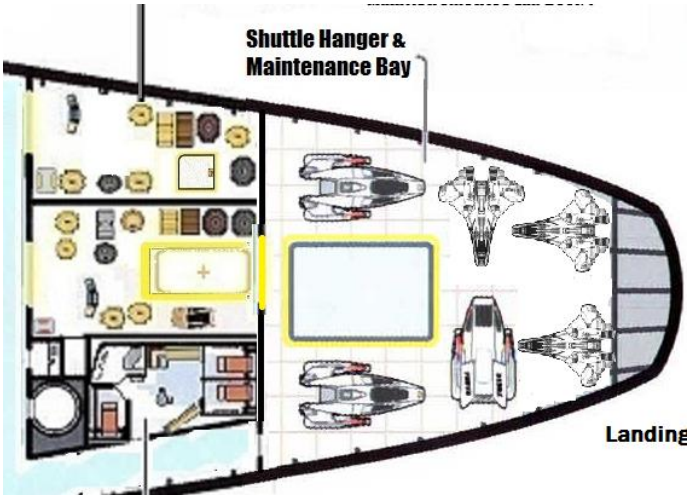
The refit *Nova* Class starship has four cargo bays spaced throughout the vessel, each with different storage volumes. Cargo Bays 1 and 4 are of similar storage capacity, as are Cargo Bays 2 and 3. Total cargo capacity of the vessel is 14,110 metric tonnes. Some cargo bays can be reconfigured to double as an extra sickbay, triage facilities, a shuttlecraft maintenance repair bay, and even emergency living quarters. There are also a number of storage compartments for specialized supplies, such as the medical stores rooms attached to each of the sickbays on Deck 3. Cases of emergency ration packs are stored in a supply compartment accessed through the Mess Hall on Deck 2.

Cargo Bay 1: Located on Deck 3, aft. The **Main Cargo Bay** was originally the aft torpedo bay when designed as Defiant/Pathfinder, and would've held two torpedo launchers. The Main Cargo Bay is approximately 30 meters long and 6 meters in height. This cargo bay has sufficient cargo space to transport 5,710 metric tonnes, or less cargo and two workbees and two shuttlepods, or cargo and one Type-8 shuttlecraft. The Main Cargo Bay can be easily used as an auxiliary shuttlebay. The ship's cargo transporter is located here; it is normally set for molecular (non-lifeform) transport, but can in moments be reconfigured for quantum (lifeform) transport.

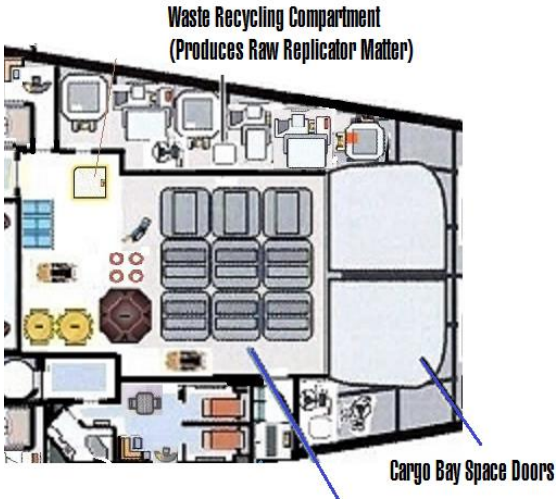
A Nova's Main Cargo Bay has two levels, for extra storage space. The ship's cargo transporter buffer is located on this upper level. The upper level can be reached by a pair of ladders, or a built-in cargo elevator. The deck is constructed of a special surface which cuts down on friction when sliding heavy cargo containers. Anti-gravs can also be applied for this purpose. Stored here are fuel pumps and other equipment for maintaining Workbees and other auxiliary craft, in the event part of this compartment is used as an auxiliary shuttlebay.

Cargo Bay 2: Located on Deck 5, aft, just forward of the Hanger Deck and starboard of Cargo Bay 3. This cargo bay has a capacity of 500 metric tonnes, and has its own environmental controls for storage of biological samples. Cargo Bay 2 can easily be converted into a hydroponics bay, or into a third sickbay. Medical supplies, biobeds, and other equipment is already stored here for such an eventuality. This cargo bay can easily be reconfigured to simulate types H, K, or L environments, intended for non-humanoid casualties. There is a cargo elevator that connects Cargo Bay 2 with Cargo Bay 4, so that crates and canisters can be brought aboard through the bay doors on Deck 6, then easily transferred to Cargo Bay 2 on Deck 5.

Cargo Bay 3: Located on Deck 5, aft, just forward of the Hanger Deck and port of Cargo Bay 2. This cargo bay has a storage capacity of 500 metric tonnes, a second set of heavy pressure doors that open into the Hanger Deck, so it can double as a shuttlecraft maintenance and repair bay. Spare engineering and shuttlecraft parts are stored here, for easy access. Cargo intended for this bay is loaded through the Shuttlebay on Deck 4, transferred to Deck 5 by the shuttlecraft elevator, and slid into Cargo Bay 3 by antigrav sled.



Aft Deck 5: Cargo Bays 2 & 3 and the Hanger Deck (Shuttlecraft Cold Storage and Maintenance Bay)



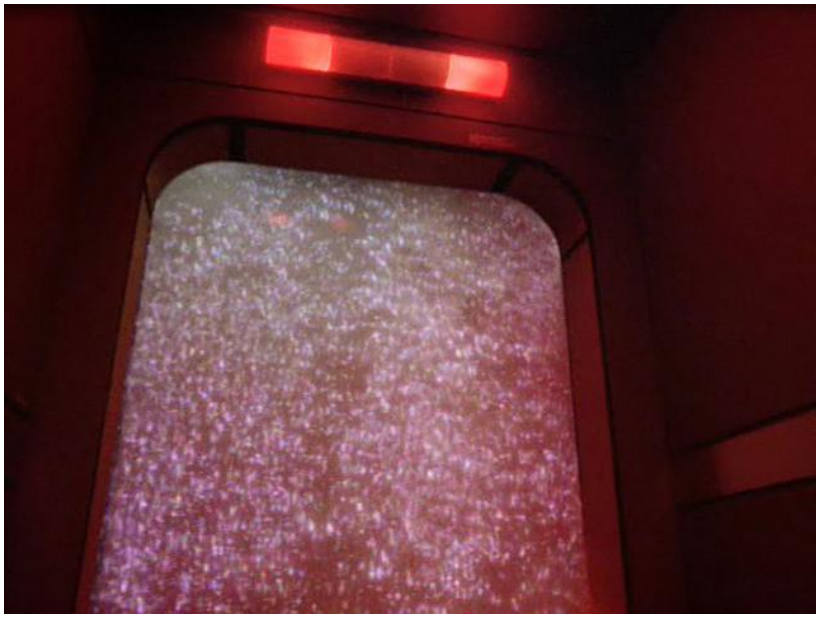
Cargo Bay 4, Deck 6

Cargo Bay 4: Located on Deck 6, aft, this was the original cargo bay on the *Defiant*/Pathfinder design schematics. As such, this bay was designed with two slanted space doors that open through the bottom outer hull of the starship, for onloading/offloading cargo. While this cargo bay has approximately equal storage volume to Cargo Bay 1, half of that space is taken up by huge replicator matter tanks. When she was redesigned as a science vessel, the cargo transporter was moved to the Main Cargo Bay on Deck 3, to make room for these nine organic and inorganic raw replicator matter tanks, sufficient for a one-year mission away from a repair/resupply facility. These tanks are hooked up directly to the ship's replicator systems. A tenth raw matter tank containing raw organic matter is located just forward of the Mess Hall for supplying food for the majority of the crew during mealtimes; once this is empty, the system draws on the other 6 tanks here in Bay 4. There is also a cargo elevator located here linking cargo bays 2 and 4.

Cargo Bay 4, on Deck 6 –this is where some hazardous biological cargo is usually stored.

6.7 Security and Containment Force Field Generators

There are numerous secondary force field generators mounted within the habitable volume of the starship, filling a variety of roles. Main Engineering has a series of force field generators responsible for maintaining containment for the vessel's Warp Core – with standby units for emergency containment in the event of coolant leakage or radiation leakage, and other hazards endemic to Antimatter and Fusion reactors. Other force field generators scattered throughout the ship are non-dedicated, using wave-guides and sophisticated forming software, can be routed to perform various tasks—including corridor security barriers, brig security barriers, medical isolation containment barriers, and bulkhead life-support barriers in the event of localized hull breaches. (A breached compartment is automatically locked-out from the rest of the ship by sealed pressurized doors by the computer, and ten nano-seconds later, a containment force-field is erected over the hull breach itself.) These force field generators have a set of four, 1-megawatt polarity sources, feeding a pair of 75 millicochrane field generators. These secondary force fields can be set anywhere from a Level-1 Containment Field (which allows passage of a human being, but not germs, setting up a sterile operating field in sickbay) to a Level-5 Containment Field (which allows the passage of a shuttlecraft, but holds atmosphere inside the mother spacecraft) all the way up to a Level-10 Containment Force Field (which is virtually impossible for anything to pass through, and will even contain certain explosions, up to approximately 90 isotons in strength.)



Level-8 Containment Field in operation, sealing off a compartment of a starship. Containment Fields vary in strength from Level 1 up to Level 10

7.0 SCIENCE AND REMOTE SENSING SYSTEMS

7.1 SENSOR SYSTEMS

While not as fast as most Federation starships, nor as heavily armed, a *Nova* Class starship is more sensor-heavy than most Starfleet vessels; only a *Nebula Class* with sensors in the upper equipment pod carries more isolinear sensing equipment. There are a total of 18 sensor arrays (short-, medium-, and long-range sensor suites), with each array composed of 144 sensor pallets. Each pallet is composed of 6 equipment racks.

Long range and navigation sensors are located behind the main deflector dish, to avoid sensor "ghosts" and other detrimental effects consistent with main deflector dish millicochrane static field output. Lateral sensor pallets are located around the rim of the entire Starship, providing full coverage in all standard scientific fields, but with emphasis in the following areas:

1. Astronomical phenomena
2. Planetary analysis
3. Remote life-form analysis
4. EM scanning
5. Passive neutrino scanning
6. Parametric subspace field stress (a scan to search for cloaked ships)
7. Thermal variances
8. Quasi-stellar material

Each medium- and short-range sensor arrays (11 in all—long-range sensors bring the number of shipboard sensor arrays up to 18) can be interchanged and re-calibrated with any other array on the ship. Warp Current sensor: This is an independent subspace graviton field-current scanner, allowing the ship to track ships at high warp by locking onto the eddy currents from the threat ship's warp field, then follow the currents by using multi-model image mapping.

Each standard sensor array is composed of six instrument pallets; each pallet is composed of a series of racks which typically contain the following devices:

Pallet #1: Wide-angle electromagnetic radiation imaging scanner, quark population analysis, Z-range particulate spectrometer;

Pallet #2: High-energy proton spectrometer, Gravimetric distortion scanner.

Pallet #3: Steerable lifeform analysis instrument cluster, multi-dimensional spectrometer, multi-dimensional quark scanner, DNA and RNA analysis spectrometer.

Pallet #4: Active magnetic interferometry scanner, Low-frequency electromagnetic flux sensor, Localized subspace field stress sensor, Parametric subspace field stress sensor, Hydrogen filter subspace flux scanner, Linear calibration subspace flux sensor.

Pallet #5: Variable band optical imaging cluster, virtual aperture graviton flux spectrometer, very low energy graviton spin polarimeter.

Pallet #6: Passive imaging gamma interferometry sensor, low level thermal imaging sensor, fixed angle gamma frequency counter, virtual particle mapping camera.

Medium- and short-range sensor suites are scattered about the outside of the starship's hull, two located on the ventral fore side of the primary hull, and four on the ventral side of the primary hull. The main sensor dome on the anterior of the primary hull contains medium- and short-range sensors. Additional sensors are located throughout the habitable volume of the spacecraft (internal sensors) which are all short-range.

Science Station 1 on a Nova Class Bridge

The *Nova Class* starship is equipped with four high-power science sensor arrays in the forward saucer section, ventral side. The arrays are unplated for ease of upgrade and repair, as well as enhancing sensor acuity. (On the model, the *Nova* Class has six large sensor arrays, dorsal and ventral, compared to *Voyager's* one.)

The Long-Range sensors are built into the Main and auxiliary deflector dishes, as part of their primary function, to sense and push micro-meteors out of the vessel's flight path.

All sensors are augmented by subspace transponder signals from scientific and espionage probes that can be launched from the ship's torpedo tubes.

STTNG Role Playing Game Statistics: *Nova Class* Long Range sensors cost 6 units of power/round, and gives a detailed reading up to 4 light years away (more than a parsec) and this adds a +4 to the dice roll to gain information (this is besides any bonuses the character has for skill in using scanners.) This addition to the die roll is increased to +5 if another officer is aiding in the scan. Lateral Sensors are enhanced to +5 within 3 Light Years, a +6 if another officer is helping.

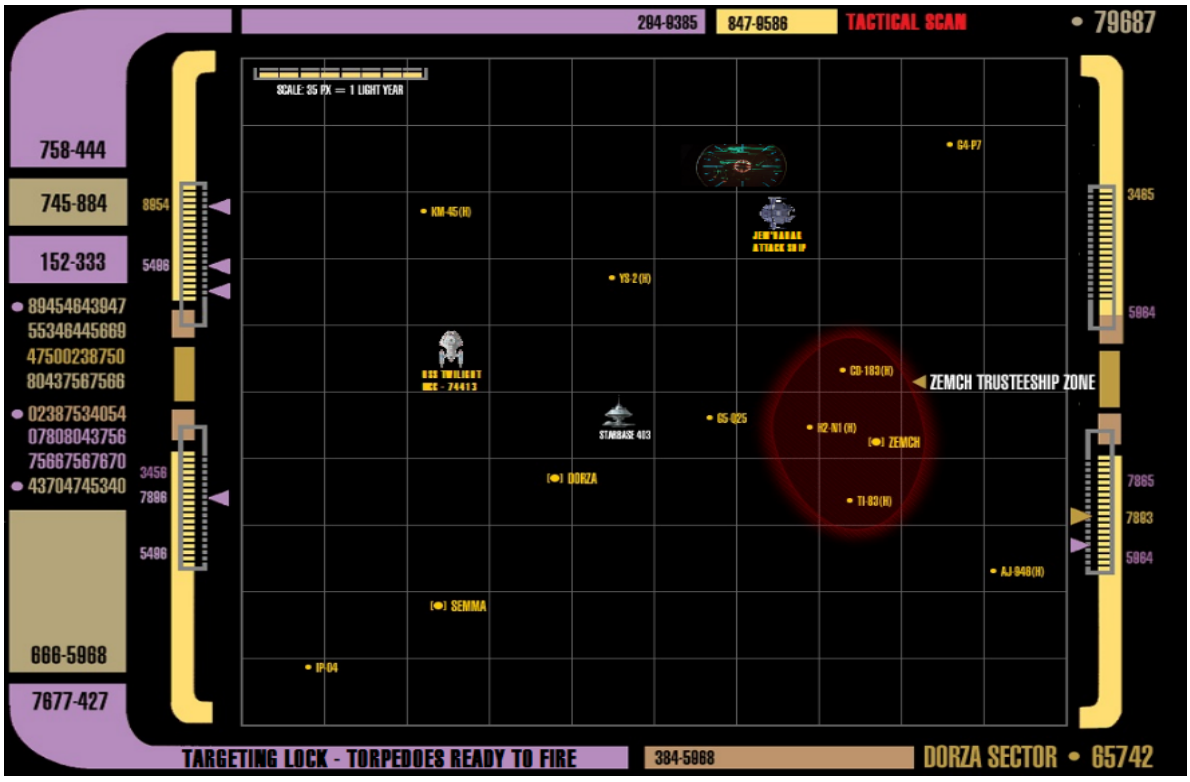
7.2 TACTICAL SENSORS

There are 12 independent tactical sensors on the *Twilight*. Each sensor automatically tracks and locks onto incoming hostile vessels and reports bearing, aspect, distance, and vulnerability percentage to the tactical station on the main bridge. Each tactical sensor is approximately 90% efficient against ECM, and can operate fairly well in particle flux nebulae (which has been hitherto impossible.) These tactical sensors were originally designed for the Defiant / Pathfinder project, and can lock-on to up to 50 threat targets at one time. A Valkyrie starfighter has miniaturized versions of these tactical sensors.

In addition, the function of these tactical sensors can be augmented by use of the ship's long- and medium- range science sensor pallets. Shuttlecraft, Valkyrie warp fighters, and probes can further augment the tactical sensors. Torpedoes typically come equipped with their own, on-board tactical sensor packages.

Use of the classified sensor jammer through the shield generators renders the ship's tactical sensors nullified; the use of this SI system is typically to prevent an enemy vessel from locking onto the starship to fire its own weapons, or detecting what is onboard, so it's a trade-off. Use of the cloaking device has the same effect.

The use of a transporter through an active cloak is strongly discouraged, because of signal loss; there is a 20% signal degradation per 100 miles distance, because the function of the cloaking device is to scramble all scanner beams, including targeting scanners. Beaming personnel from standard orbit down to a planet through an active cloak almost guarantees instant death, unless transporter enhancers are employed.



Tactical Scan Targeting Lock - USS Twilight engaging Jem'Hadar fighters near a Starbase

Twilight firing photon torpedoes

STTNG Role Playing Game Statistics: The *Nova* Class Tactical Sensors add a +4 to all rolls of the dice an officer makes while firing weapons, in addition to his own skill bonuses. The sensors are so good, in fact, that on a Dramatic Success (a "6" on the Drama Die) the sensors can even tell the frequency the Threat vessel's shields are modulating on! This allows the officer to fire weapons right through the enemy shields as if they weren't even there…until the enemy remodulates his shield frequency.

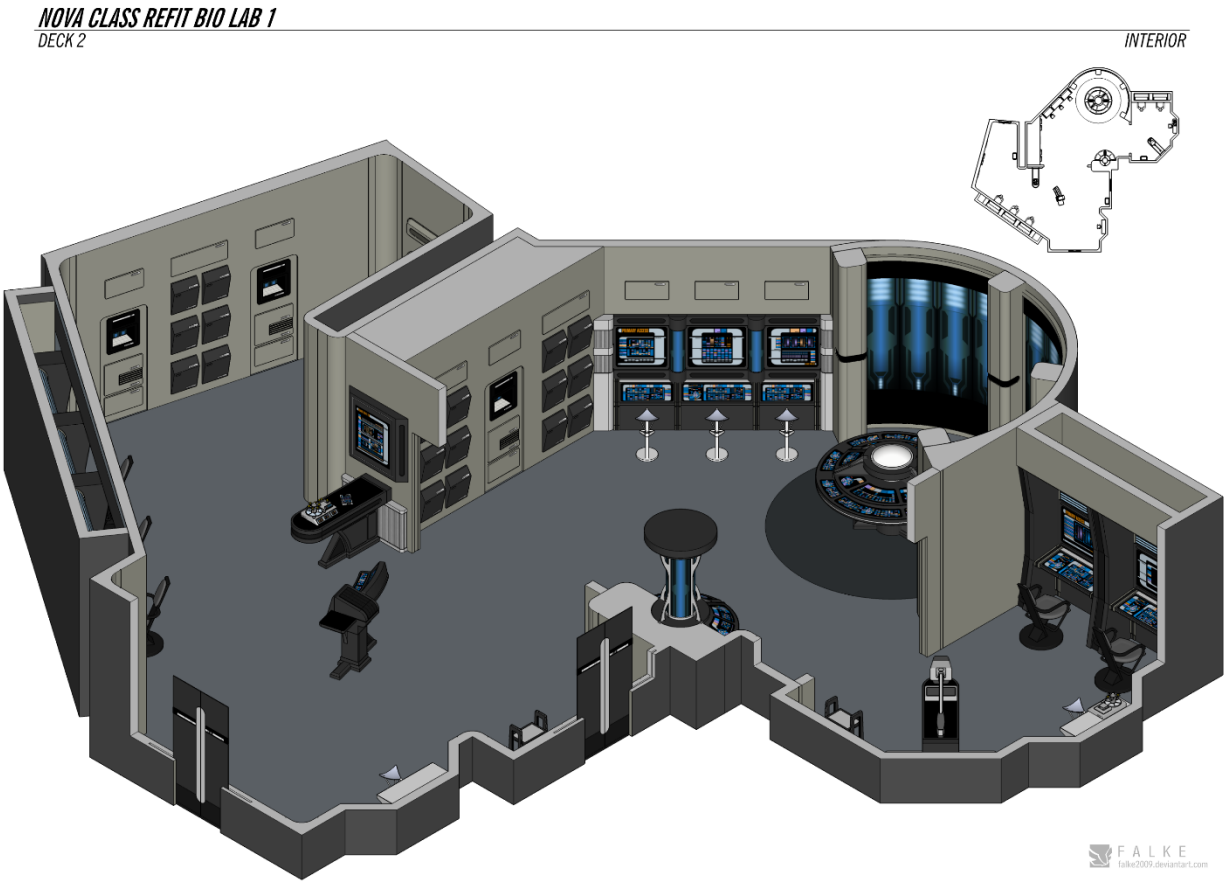
7.3 STELLAR CARTOGRAPHY / ASTROMETRICS

Astrometrics has several research consoles as well as one giant holographic viewscreen

One small Stellar Cartography Laboratory is located on Deck 1, to process all incoming data from the *Twilight's* highly sensitive and advanced sensor suites. A second, larger stellar cartography / astrometrics lab is located on Deck 7, starboard, with direct EPS power feed from Main Engineering. All data is directed to the bridge and can be displayed on any console or the main viewscreen. When under warp or staffed by demand, the astrometrics Lab is manned by a supervising officer and as many as three subordinates, during detailed charting or alert status.

U.S.S. Twilight surveying a Class-M planet

7.4 SCIENCE LABS



The Twilight has 14 science labs differing in size and specialty

Including the two stellar cartography labs and two medical labs, there are a total of 14 science laboratories on a refit *Nova* Class starship, four of which are non-specific labs that can be easily modified for various scientific endeavors including Bio/Chem, and Physics tests and/or experiments. Crew members rotate often among these laboratories. Located on Decks 1 through 4, and 7—mostly on Decks 3 and 4—the *Nova Class*' laboratories are well equipped due to the nature of their mission profile. More specific and specialized laboratories include Atmospheric Physics, as well as the more dangerous High-Energy Physics (note: additional SIF Field Generators are installed in the bulkheads around this lab.)

Additional laboratories include a Botany Lab, where experiments and studies are done on the various phylum found on the surfaces of planets being surveyed for new medications, as well as development of better, more robust terraforming flora for use in colonization. This lab is also called the Arboretum. The Geology Laboratories cover two major areas,

Planetary and Astronomical (astrometrics.) Though a good portion of the Nova's time is spent in-system, other missions may include studying astronomical phenomena, and these laboratories are provided for that purpose. Still other laboratories study genetics and Xenobiology. The Xenobiology lab is separated from the rest of the ship by two security doors and an internal airlock, and this lab is the only one with its own turbolift stop, located one meter from the door. This is to protect the ship in the event of a viral contagion outbreak spreading beyond this laboratory. A dedicated air-vent connects this laboratory directly to the ship's outer hull, to decompress the lab and sterilize all surfaces by exposing them to the cold vacuum of space.

There is also one sealed non-specific laboratory on Deck 4, starboard, that does classified research for Starfleet Intelligence. This laboratory is ray- and sensor- shielded with both devices and ablative-armor, so nothing can be beamed in or out, nor recorded, nor detected by threat forces. It is here that captured alien technology or bio-weapons are brought to be studied in the field, until they can be off-loaded onto a starbase or other secure facility. Only a security Level of Nine or higher can gain access to this lab, so typically, the captain or another officer of command rank has to grant access through the computer. An automated defense system is built into the ceiling of the lab, similar to the device on the Bridge, which will automatically stun any intruder who gains access to this compartment, and then automatically use site-to-site transport to beam the interloper to the ship's brig. Besides the Bridge, this is the one area of the ship that is protected in this manner.

The beautiful artwork of the inside of a Nova Class Starship laboratory was done by Falke of Deviant Art (falke2009.deviantart.com) as were most of the internal views. Note the computerized electron microscope and LCARS stations.

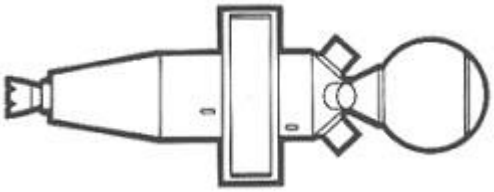
7.5 SPACE PROBES

A probe is a device that contains a number of general purpose or mission specific sensors and can be launched from a starship for closer examination of objects in space.

There are nine different classes of probes, which vary in sensor types, power, and performance ratings. The spacecraft frame of a probe consists of molded duranium-tritanium and pressure-bonded lufium boronate, with sensor windows of triple layered transparent aluminum. With a warhead attached, a probe becomes a photon torpedo. The standard equipment of all nine types of probes are instruments to detect and analyze all normal EM and subspace bands, organic and inorganic chemical compounds, atmospheric constituents, and mechanical force properties. All nine types are capable of surviving a powered atmospheric entry, but only three are specially designed for aerial maneuvering and soft landing. These specific probes can also be used for spatial burying. Many probes can be real-time controlled and piloted from a starship to investigate an environment dangerous hostile or otherwise inaccessible for an away-team.

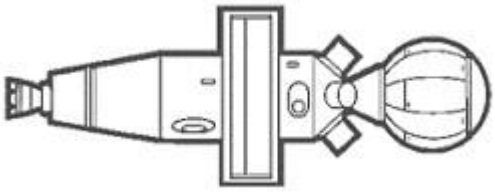
The nine standard classes of sensor probes are:

7.5.1 CLASS I SENSOR PROBE:



Range: 2 x 10^5 kilometers (200,000 km)
Delta-v limit: 0.5c
Power plant: Vectored deuterium microfusion propulsion
Sensors: Full EM/Subspace and interstellar chemistry pallet for in-space applications. Telemetry: 12,500 channels at 12 megawatts.
LUG Game Stats: Lateral sensors +2

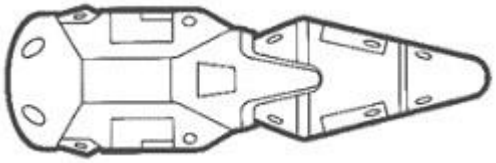
7.5.2 CLASS II SENSOR PROBE:



Range: 4 x 10^5 kilometers (400,000km)

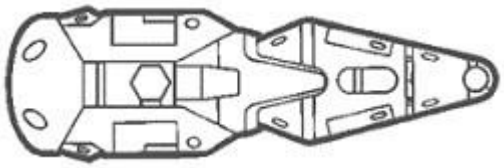
Delta-v limit: 0.65c
Power plant: Vectored deuterium microfusion propulsion, extended deuterium fuel supply
Sensors: Same instrumentation as Class I with addition of enhanced long-range particle and field detectors and imaging system Telemetry: 15,650 channels at 20 megawatts.
LUG Game Stats: Lateral Sensors +2

7.5.3 CLASS III PLANETARY PROBE:



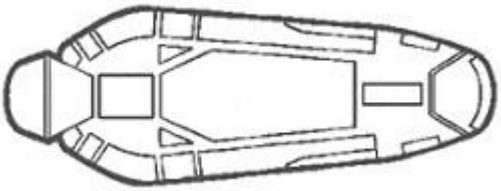
Range: 1.2 x 10^6 kilometers (1,200,000km)
Delta-v limit: 0.65c
Power plant: Vectored deuterium microfusion propulsion
Sensors: Terrestrial and gas giant sensor pallet with material sample and return capability; onboard chemical analysis submodule Telemetry: 13,250 channels at ~15 megawatts.
Additional data: Limited SIF hull reinforcement. Full range of terrestrial soft landing to subsurface penetration missions; gas giant atmosphere missions survivable to 450 bar pressure. Limited terrestrial loiter time.
LUG Game Stats: Lateral Sensors +2

7.5.4 CLASS IV STELLAR ENCOUNTER PROBE:



Range: 3.5 x 10^6 kilometers (3,500,000km)
Delta-v limit: 0.6c
Power plant: Vectored deuterium microfusion propulsion supplemented with continuum driver coil and extended deuterium supply
Sensors: Triply redundant stellar fields and particle detectors, stellar atmosphere analysis suite.
Telemetry: 9,780 channels at 65 megawatts.
Additional data: Six ejectable/survivable radiation flux subprobes. Deployable for nonstellar energy phenomena
LUG Game Stats: Lateral Sensors +2

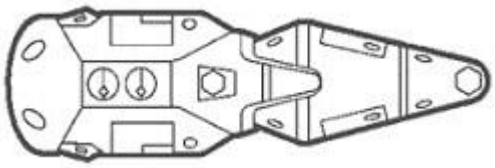
7.5.5 CLASS V MEDIUM-RANGE RECONNAISSANCE PROBE:



Range: 4.3 x 10^10 kilometers (430 billion km)
Delta-v limit: Warp 2, 0.5c

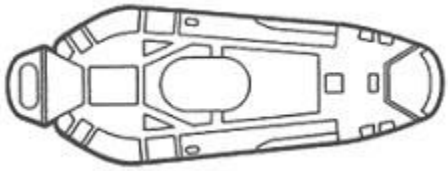
Power plant: Dual-mode matter/antimatter engine; extended duration sublight plus limited duration at warp
Sensors: Extended passive data-gathering and recording systems; full autonomous mission execution and return system Telemetry: 6,320 channels at 2.5 megawatts.
Additional data: Planetary atmosphere entry and soft landing capability. Low observatory coatings and hull materials. Can be modified for tactical applications with addition of custom sensor countermeasure package.
LUG Game Stats: Lateral Sensors: +3

7.5.6 CLASS VI COMM RELAY/EMERGENCY BEACON:



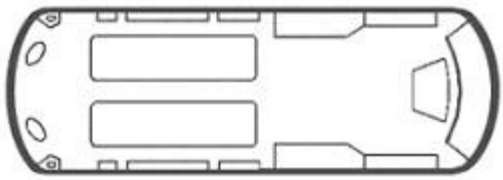
Range: 4.3 x 10^10 kilometers (430 billion km)
Delta-v limit: 0.8c
Power plant: Microfusion engine with high-output MHD power tap
Sensors: Standard pallet
Telemetry/Comm: 9,270 channel RF and subspace transceiver operating at 350 megawatts peak radiated power. 360 degree omni antenna coverage, 0.0001 arc-second high-gain antenna pointing resolution.
Additional data: Extended deuterium supply for transceiver power generation and planetary orbit plane changes.
LUG Game Stats: Lateral Sensors: +3

7.5.7 CLASS VII REMOTE CULTURE STUDY PROBE:



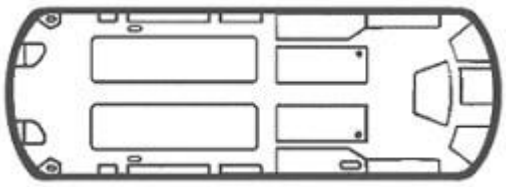
Range: 4.5 x 10^8 kilometers (450,000,000 km)
Delta-v limit: Warp 1.5, 0.5c
Power plant: Dual-mode matter/antimatter engine
Sensors: Passive data gathering system plus subspace transceiver Telemetry: 1,050 channels at 0.5 megawatts.
Additional data: Applicable to civilizations up to technology level III. Low observability coatings and hull materials. Maximum loiter time: 3.5 months. Low-impact molecular destruct package tied to anti-tamper detectors.
LUG Game Stats: Lateral Sensors: +3

7.5.8 CLASS VIII MEDIUM-RANGE MULTIMISSION WARP PROBE:



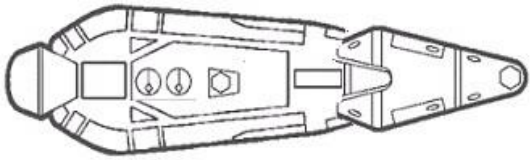
Range: 1.2 x 10^2 light-years (At warp 8, about 12 LY; at Warp 9, 6.5 hours)
Delta-v limit: Warp 9
Power plant: Matter/antimatter warp field sustainer engine; duration of 6.5 hours at warp 9; MHD power supply tap for sensors and subspace transceiver Sensors: Standard pallet plus mission-specific modules Telemetry: 4,550 channels at 300 megawatts.
Additional data: Applications vary from galactic particles and fields research to early-warning reconnaissance missions
LUG Game Stats: Long Range Sensors: +3, Lateral Sensors: +3

7.5.9 CLASS IX LONG-RANGE MULTIMISSION WARP PROBE:



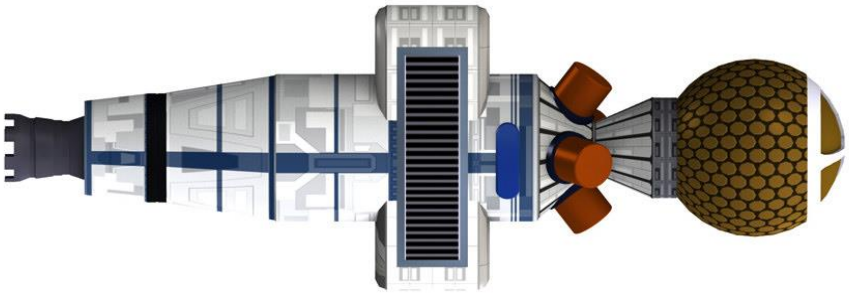
Range: 7.6 x 10^2 light-years (At warp 8, about 76 LY; at Warp 9, 12 hours)
Delta-v limit: Warp 9
Power plant: Matter/antimatter warp field sustainer engine; duration of 12 hours at warp 9; extended fuel supply for warp 8 maximum flight duration of 14 days Sensors: Standard pallet plus mission-specific modules Telemetry: 6,500 channels at 230 megawatts.
Additional data: Limited payload capacity; isolinear memory storage of 3,400 kiloquads; fifty-channel transponder echo. Typical application is emergency log/message capsule on homing trajectory to nearest starbase or known Starfleet vessel position.
LUG Game Stats: Long Range Sensors: +3, Lateral Sensors: +3

7.5.10 CLASS V-B LONG-RANGE ESPIONAGE PROBE: CLASSIFIED



Range: At Warp 6, about 9 LY; at Warp 5, about 15 LY
Delta-v limit: Warp 6
Power plant: Dual-mode matter/antimatter engine; extended duration sublight plus limited duration at warp
Sensors: Extended passive data-gathering and recording systems; full autonomous mission execution and return system Telemetry: 8,320 channels at 2.5 megawatts.
Additional data: Planetary atmosphere entry and soft landing capability. Low observatory coatings and hull materials. Can be modified for tactical applications with addition of custom sensor countermeasure package. Stealth: Type 2 Cloaking Device; holographic camouflage package.
LUG Game Stats: Long Range Sensors: +3, Lateral Sensors: +5, Navigational: +1

While a Nova Class Starship is equipped with an impressive sensor package, those sensors are augmented by scientific probes launched from the ship.

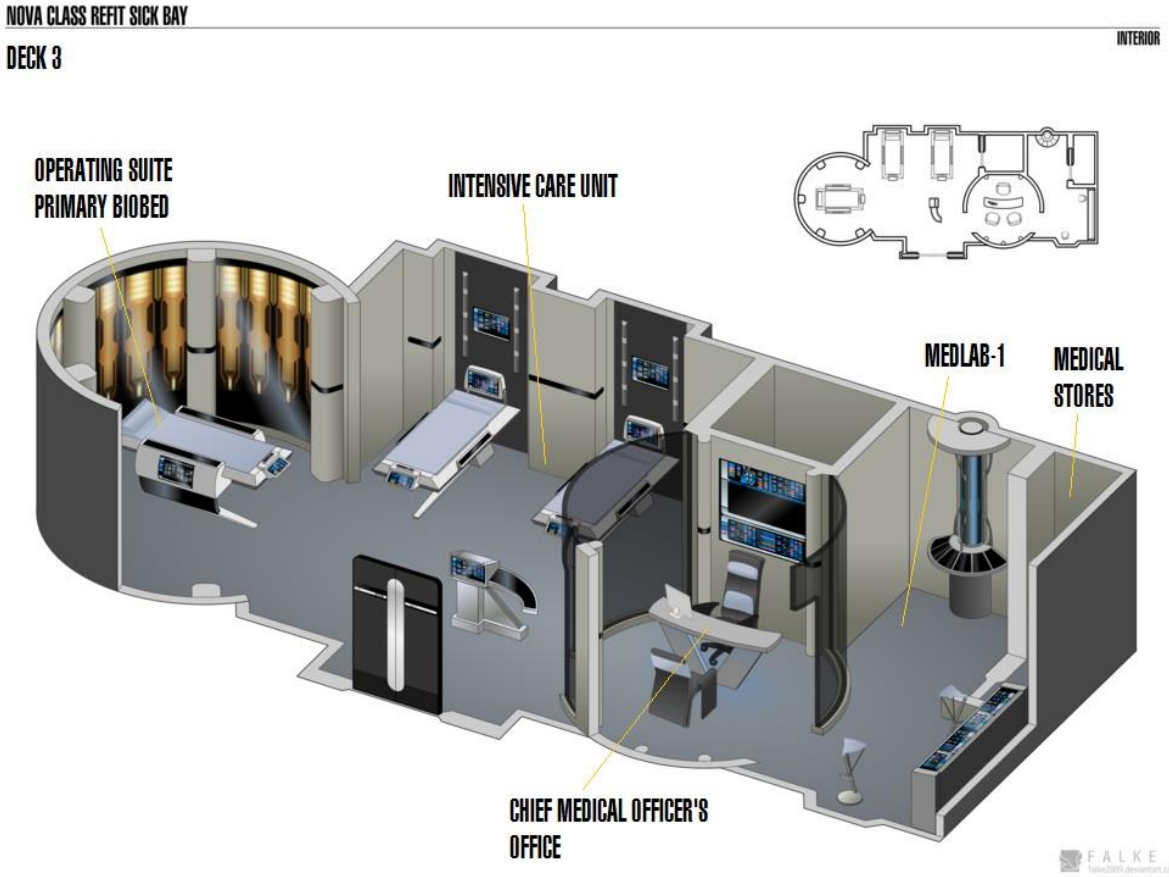


Class-2 Probe

8.0 CREW SUPPORT SYSTEMS

8.1 MEDICAL SYSTEMS

Twilight was deliberately refit as a "medical research vessel" as much as she was originally designed as a planetary surveyor. Then-Commander Harker made a number of changes when he learned he was to be her next commanding officer, and the San Francisco Fleet Yards put in a lot of overtime to get *Twilight* ready within the six-month deadline. She has two permanent, fully-equipped sickbays and two medical labs on Deck 3. Additionally, Cargo Bay 2 can be reconfigured into a third sickbay, capable of treating non-humanoid lifeforms, with an hours' notice. Two holosuites were added, both hardwired to become any specialized sickbay or laboratory required. All guest quarters can be converted into extended treatment wards, with both the VIP Quarters and Cargo Bay 2 able to simulate H, K, L, N, and N(2) environments, and all remaining cargo bays, bio-labs, the Main Shuttlebay, and the Mess Hall, can all be outfitted as triage and treatment centers. All starship commanders and crewmen of *Nova* Class starships thus have Dr. Harker to thank for their new holodecks, because originally, they weren't thought necessary.



The Main Sickbay Complex on a refit Nova Class Starship is an efficient environment fit into a compact space that was designed by a Vulcan physician in San Francisco.

Sickbay: There are two modern sickbay facilities located on Deck 3, equipped with ICU and Biohazard Support, a Radiation Treatment Ward that doubles as a Surgical Ward, a ward for Null-Gravity Treatment, and Isolation Suites. Two fully-equipped medical laboratories are located here. There is also a Morgue, accessed through Med Lab 2. Both sickbay facilities have a medical stores compartment filled with medications that cannot be easily replicated, medical tricorders, hyposprays, protoplasers, laser scalpels, DNA resequencers, portable molecular microscopes and imaging scanners, and a host of other state-of-the-art equipment. The **Chief Medical Officer's office** is attached to Main Sickbay, and the main ward contains a load-out of four standard biobeds, with ten more in the main treatment ward, and a small complement of emergency cots. Pursuant to new Medical Protocols, all Medical Facilities are equipped with holo-emitters for the emergency usage of the Emergency Medical Hologram System. A *Nova* Class starship sickbay is normally staffed by one or two doctors, one or two nurses, and three or four medical technicians; during a Red Alert, all medical staff are called to duty.
LUG Game Stats: Once in a starship sickbay and if still alive, a patient can be cured of almost any condition, and all wounds can be rapidly treated. If an unknown disease has infected the patient, the doctor has a +2 to cure this disease with the equipment and facilities of the sickbay. If the EMH is activated, that help increases by +5.

First Aid Stations: Strategically positioned throughout the Nova Class vessel, especially near potentially hazardous sections like Main Engineering, are emergency First Aid Stations. Each Aid Station contains what amounts to a small scale sickbay, with limitations on specialized surgical hardware and amounts of standard supplies. Medical tricorders and small overhead sensor clusters provide rapid comprehensive scanning capabilities, and the collected data can be fed to semiautomated diagnostic and treatment gear. The Aid Station's link to the Main Computer adjust the operating modes of the equipment to match the qualifications of the personnel performing the medical procedures. There are holographic projectors built into the system for providing access to the ship's EMH program. The goal of these Aid stations is to provide patient care to stabilize a patient prior to moving him to sickbay. The first choice to do so is a site-to-site transport; should the transporter system be down, each Aid Station has a floating backboard complete with anti-grav unit for physical transport to Deck 3.

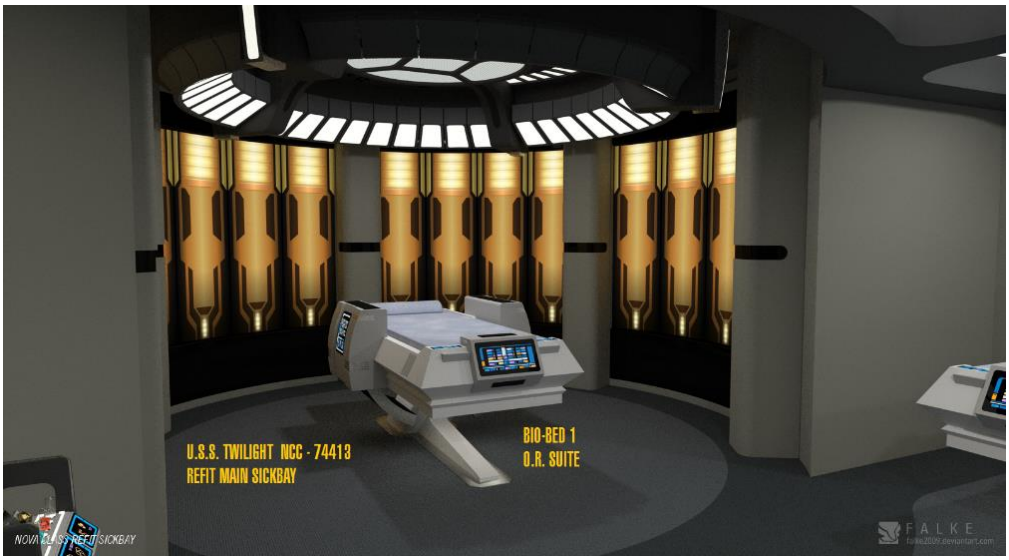
A standard Starfleet Medikit contains the following: 1 medical tricorder, 2 multimode hyposprays, 1 dermal regenerator, 1 blood infuser, 1 defibrillator, 1 PADD, and 1 neural stimulator; also a variety of injectable fluids, bandages, & spare device power packs.

Counselor's Office: The **Counselor's office** is located on Deck 7 to assure a more efficient medical treatment environment. Though small, the office is nicely decorated and comfortable for the patient. There are no visual sensors in this office and audio recordings are done only with the voice code of the Counselor.

It has standard furnishings (decorated to the Counselor's preference), a personal viewscreen, a computer display, a replicator, and a number of flowering plants. It has an individual therapy area furnished with chairs and couch for one-on-one sessions.

In the event of a crewmember who is suffering a psychotic episode and needs to be isolated from the crew, that ill crewman is kept in sickbay, in the isolation unit, or in the intensive care units, as determined by bed availability.

Starfleet policy is that the ship's counselor is also required to be a certified medical technician on all vessels.



U.S.S. Twilight is fully equipped to deal with any medical disaster in the Federation.

Chief Medical Officer's Office: The ship's CMO is provided with a centralized office with transparent walls, so the duty physician can easily see if something is wrong with his patients. This also provides a modicum of privacy, so the doctor can discuss treatment options with individual patients. In practical use, all attached medical personnel use this desk, including the night nurse assigned to Gamma Shift. A dedicated medical computer core is housed in the attached Medical Lab, in Main Sickbay; this small but powerful computer core contains the functioning Emergency Medical Hologram program (EMH.) A back-up copy is stored in the ship's main computer core.

With the exception of personal medical records, the medical database is mostly classified security Level One, meaning that any and all Starfleet Personnel are free to read and learn from it. This open-book policy sometimes caused problems with crew attempting to "self-diagnose" themselves, such as Lieutenant Barclay of the U.S.S. Enterprise NCC – 1701-D. Dr. Beverly Crusher made a request to increase the Security Level of a starship's general medical database to at least a 4, but the Starfleet Medical Board merely said they'd "take it under advisement." They eventually decided that the request went against Starfleet's general mission of exploration.

CMO Office and Med-Lab 1 in Main Sickbay of a Nova Class Starship (Art by Falke on D.A.)

8.2 CREW QUARTERS SYSTEMS

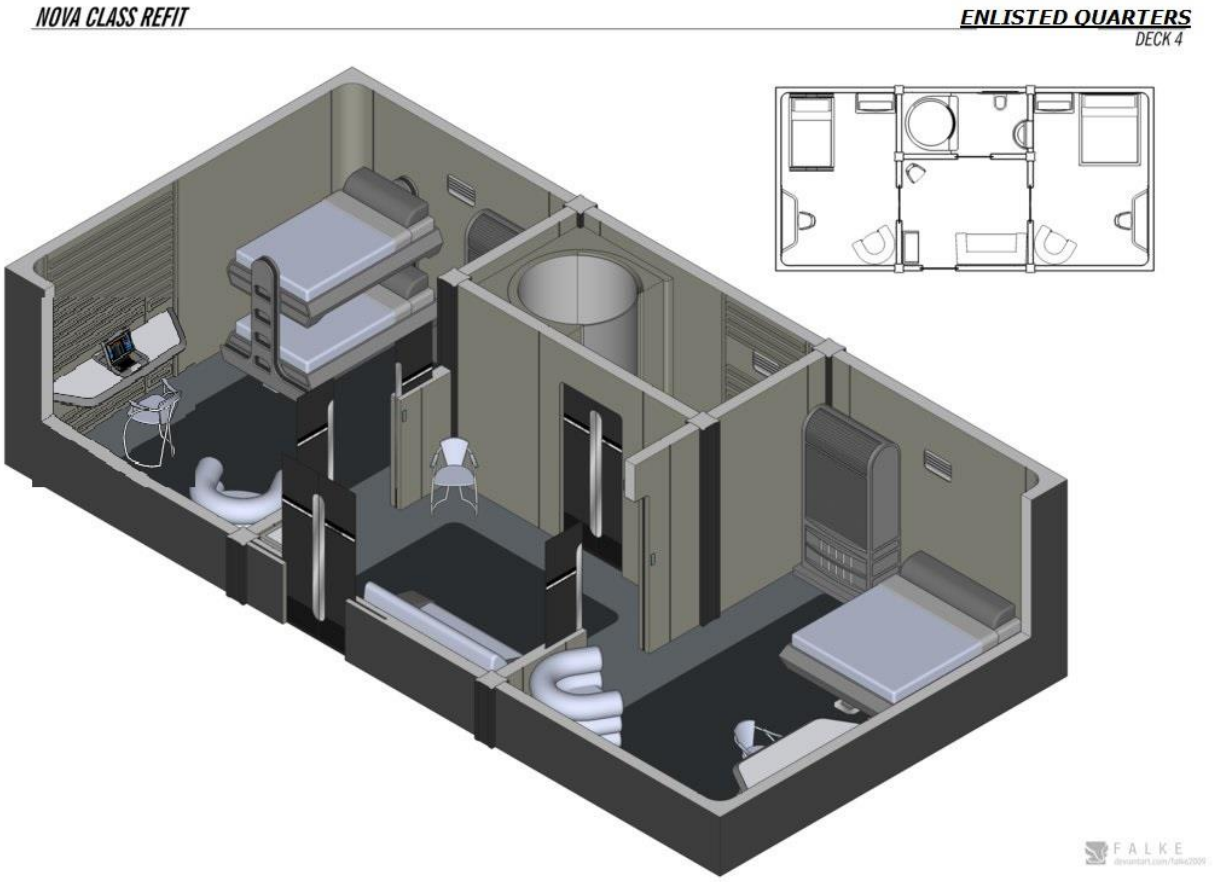
General Overview: Considering that all Starfleet personnel must perform at near perfect efficiency at all times, and that the fate of the ship, crew, or even a world may depend upon a single crewmember at any given time, Starfleet's regulations place priority on the health, safety, and performance of its starship crews. In accordance with Starfleet general policy, all of its valued personnel are provided with comfortable living accommodations aboard ship and starbases, limited only to the size of the vessel and practicality. These accommodations include comfortable beds suitable for each species, a living/work area, and

a private or semi-private bathroom. Personnel quarters include amenities such as personal food synthesizer replicators, sonic showers, null-grav sleeping chambers, personal holographic viewers, and even provisions for beloved pets. Additional considerations for humanoid crews include a number of observation lounges, a rec room, a crew mess for socializing during meals, a gymnasium, and holodecks where appropriate. The ship's computer also contains a number of recreational programs such as novels, literature, music, and visual entertainment for relaxation. In addition, each crew member is granted cargo space for personal items, with the exact size of this space dependent upon rank. Due to the small size of the *Nova Class*, and its internal arrangement of systems and laboratories, crew accommodations are distributed throughout most decks of the ship, concentrated on Deck 4 (which is the largest habitable volume deck of the entire vessel.) Officers and crew may usually find their quarters not too far from their battle stations, in case of a Red Alert, i.e., Bridge crew are assigned quarters on the upper decks, while engineering techs are usually housed in the engineering hull. Medical personnel are usually assigned quarters on Deck 3, as close to both sickbays as possible. On U.S.S. *Twilight*, Captain Harker, a doctor himself, deliberately assigned his own quarters on Deck 2, halfway between the Bridge and Sickbay.

Individuals assigned to a *Nova Class* for periods over six months are permitted to reconfigure their quarters within hardware, volume, and mass limits. Individuals assigned for shorter periods (i.e. VIPs, guest scientists and physicians) are generally restricted to standard quarters configuration. Guest Quarters on Decks 3 and 4 are convertible on short notice to extended treatment wards, equipped with utility hook-ups for bio-telemetry and medical gasses. Stored in Cargo Bay 2 are the conversion kits with all necessary hardware and medical supplies.

Officers and regular crew are generally allowed to furnish their quarters according to personal taste. Captain Harker and Lt. Cmdr. Ryk Orn Raekaar generally prefer simulated leather upholstery and simulated wood furniture (though in Raekaar's case, his quarters are littered with small experimental devices, and taking up half the living space is a small personal holosuite.) Most crew have bookcases filled with real books, if they can afford them; otherwise, knick-knacks are displayed on these shelves. Officers generally are given a desk with a personal computer terminal. Officers generally also have the luxury of a real water bathtub in their quarters.

It is mainly for this reason that I dismissed the theory that the *Nova Class* Starship was as tiny as 164 meters long. This simply did not physically allow for the living accommodations necessary for a crew and passengers of 80, to say nothing of the number of science labs that must be present aboard a science vessel. The biggest giveaway that this figure had to be wrong was when Quantum Reality, the original creator of the fan-produced *Nova Class* blueprints, included bunk beds three berths high! I therefore tend to agree with the publishers of Eaglemoss Magazine and the original designer of the *Nova Class*, Rick Sternbach, that she must be at least 221 meters in length. Having worked on the shows, Rick's statement is considered canon over the theories of fans (and Rick is also given top billing as the author of STTNG Technical Manual.)



Typical Nova class enlisted crew accommodations include bunk bed alcoves for berths, within a null-grav sleeping alcove. These quarters are typical for four enlisted crew members. The standard-size bed is for a couple, or a single Petty Officer. A Chief Petty Officer is entitled to larger, private quarters.

Crew Quarters: Standard Living Quarters are provided for both Starfleet and non-commissioned crew. Aboard a *Nova Class*, bringing families aboard is usually discouraged due to the small size of the vessel. Crew accommodations typically include a small bathroom with an ultrasonic shower, a sleeping alcove usually equipped with bunk beds, a living/work area, a food replicator, one large holographic viewer, two smaller personal viewers at the foot of each bunk, and provisions for pets under 14 kilograms. This is also typical of cadet accommodations at Starfleet Academy.

Most enlisted crew quarters have bunk beds, 52 exactly aboard *Twilight,* albeit with a bit more space than provided aboard a *Defiant*-class starship. A small number of berths are stand-alone beds, assigned to petty officers and visiting civilian personnel. Two cabins containing these standard-size beds are on Deck 3, located close by both sickbays, and both general science labs. Others are located on Deck 4, close by other labs.

Crewmen can request that their living quarters be combined to create a single larger dwelling. This will result in three or more sections with bunk beds, two standard bathrooms or one larger bathroom, and one very large living/working section for the eight crewmen. In one case, ten crewmen share the same communal living area, with one large bathroom

equipped with two sonic showers and three stall toilets. Each enlisted crewmember has a semi-private sleeping alcove with only two persons assigned to it, however. Duty schedules attempt to arrange it so that only one person is using the sleeping alcove at a time. The gravity and temperature in the sleeping area can be adjusted easily.

Enlisted Quarters Type-2, Nova Class Starship, grants a great deal more living space to the four crewmen quartered here. This cabin is granted on the basis of seniority.

Officers' Quarters: Starfleet personnel from the rank of ensign on up to lieutenant commander are given one set of quarters to themselves (cohabitation is not required.) Most officers' quarters are located in the fore portion of the primary hull, with the sole exception that the ship's Chief Engineer has his quarters located appropriately on Deck 6, close by his command center. The Chief Engineer also has smaller, duplicate engineering controls on the desk in his quarters in the event of catastrophic emergency.

An officer's accommodations are divided into three modular sections, which typically include a small private bathroom, a bedroom (with a standard-size bed and dresser with drawers), and a living/work area, each equipped with a food replicator, an ultrasonic shower, personal holographic viewer, and provisions for pets. All officers' quarters feature large windows composed of transparent aluminum, through which the stars can be seen. All sections of personnel quarters have these windows, except for bathrooms. (Crew quarters located on

the outside hull also have these large windows, but those located in the interior of the ship do not. Instead, four large viewscreens are installed on the bulkheads, and display an image of the stars; of course, this image can be replaced with any other view desired, including a summer's day with blue skies on Earth.)

These living compartments are typically decorated according to individual tastes. Captain Janeway chose to have a glass-top desk and an ancient grandfather clock; Dr. Pulaski has a china cabinet in her cabin that occupies an entire bulkhead, filled with British dishes, teacups, and silverware that have been in her family for ten generations. Officers may also request that their living quarters be combined to form one large dwelling.

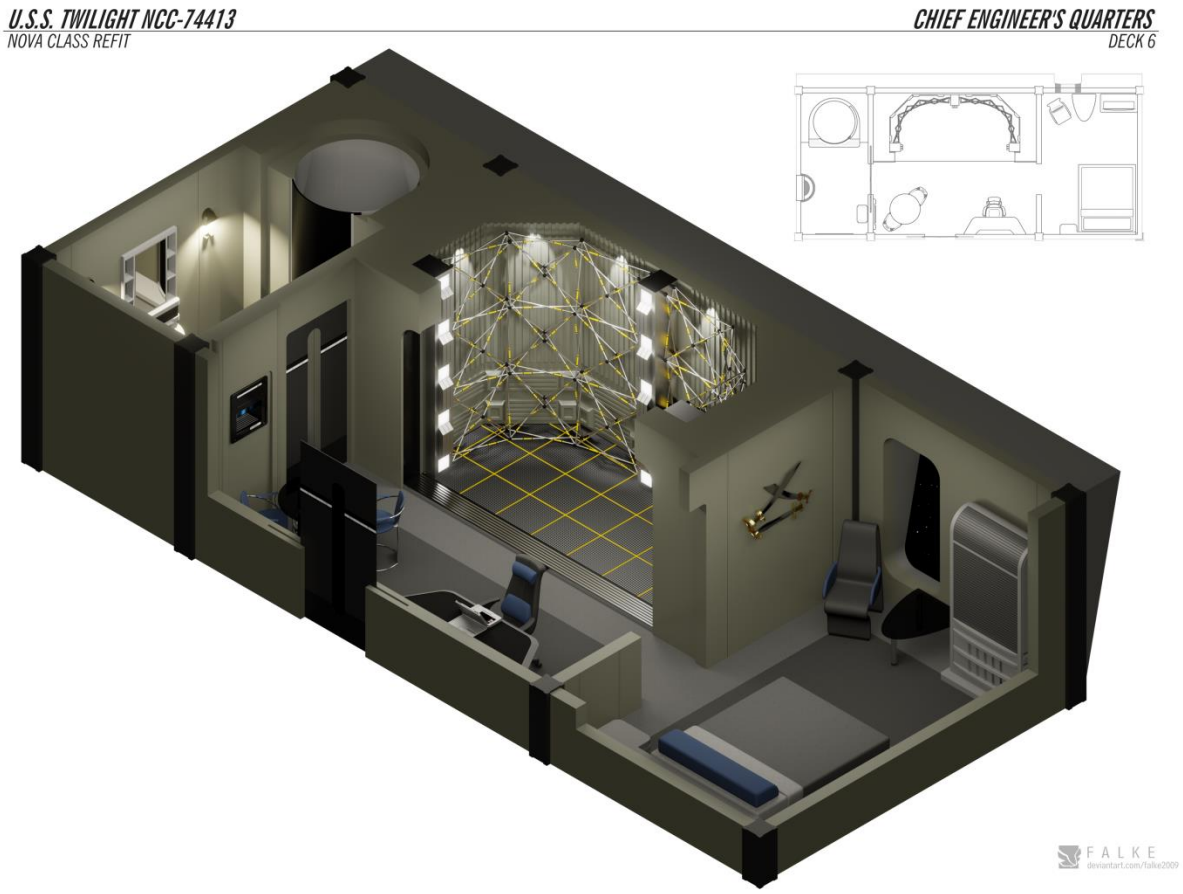
Note: a chief petty officer's quarters onboard a *Nova* Class starship greatly resembles a "studio" apartment. Usually, there are no bulkheads separating the sleeping area from the living room area. The hatches next to the bed are for stowing clothing and other personal items.

Chief Petty Officer's Quarters

Senior Officer's Quarters on refit Nova Class Starship USS Twilight have 3 sections.

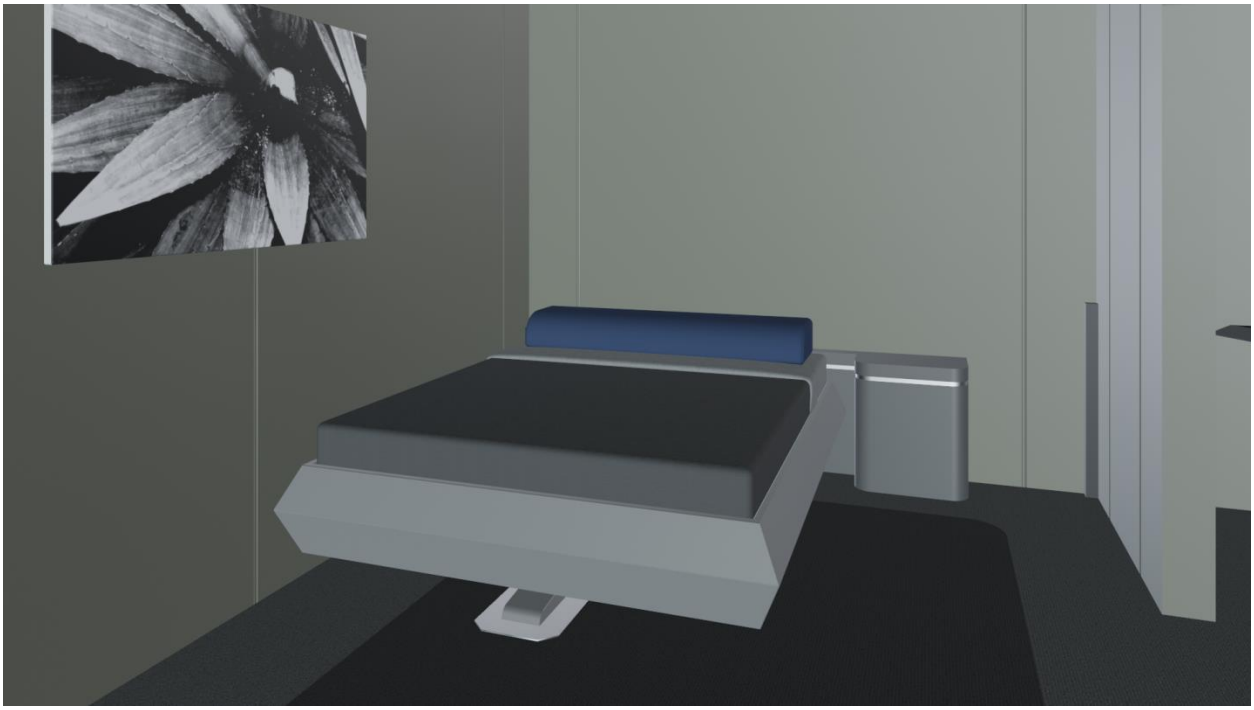
Twilight ship corridor with Red Alert Klaxons

A typical corridor on our little science vessel

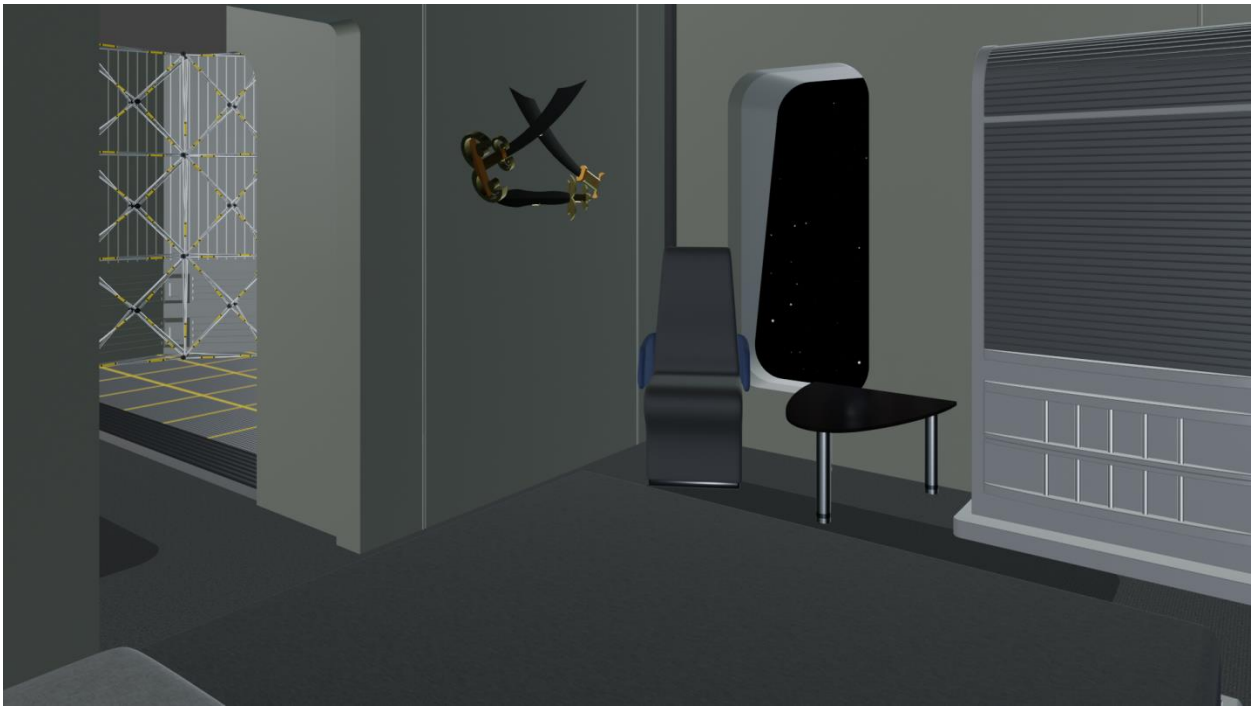


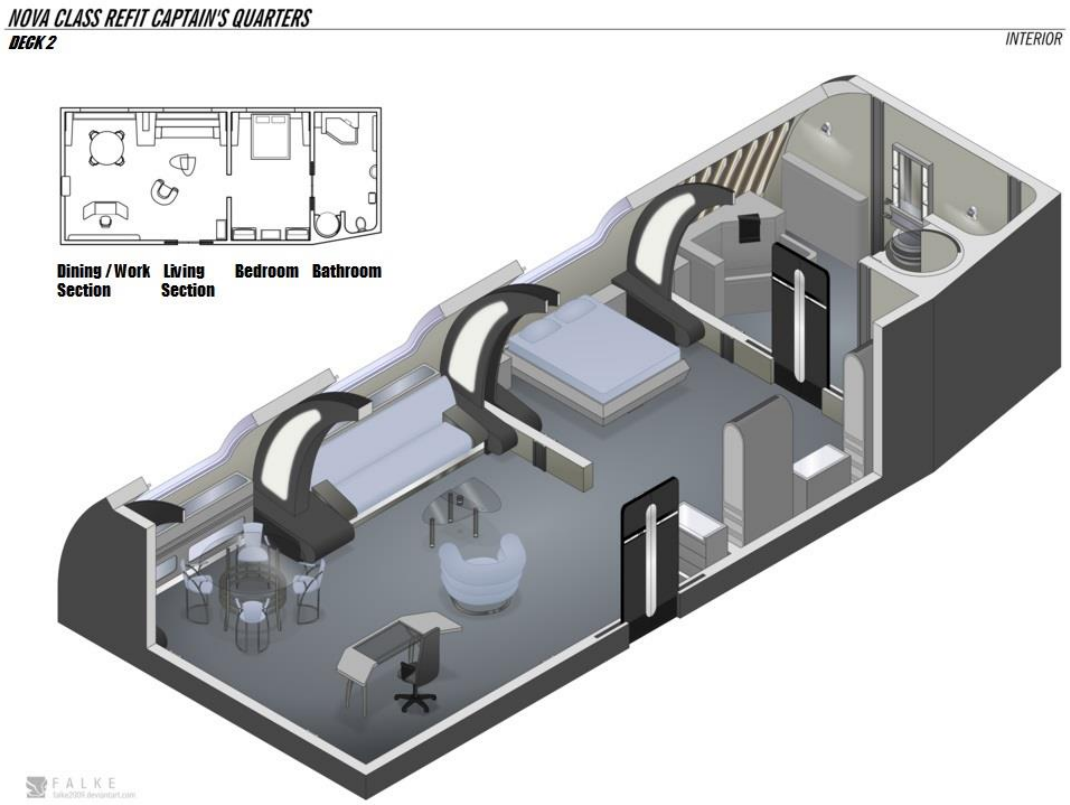
Chief Engineer Ricky has installed a small personal holodeck in his quarters.

The Chief Engineer has LCARS in his cabin that duplicate the key controls in Main Engineering.



A senior officer's quarters are larger than enlisted crew, and private.

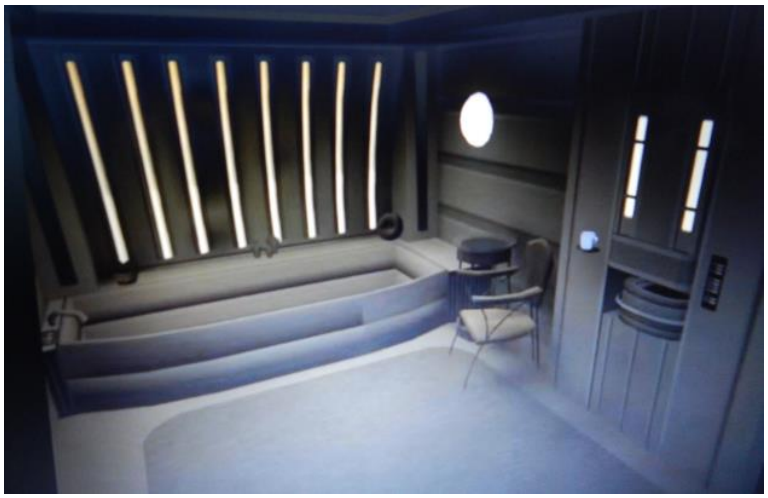




Starship Executive Quarters have four large modular sections: Dining Area, Living/Lounge Area, Bedroom, and the Bathroom/Head/Closet; a desk is also provided, and the cabin is decorated to personal taste. Capt. Harker has bookcases throughout his quarters, and a small dog bed. He usually keeps a vase of fresh flowers on the dining room table from the world they happen to be orbiting.

Executive Quarters: The Captain and Executive Officer of a *Nova* Class both have elegant, larger quarters, located forward on Deck Two. The captain's quarters are composed of four sections, the same size as the captain's cabin on an *Intrepid* Class Starship. Pictured are two sections, the living room and the dining room/office. The door on the right is a locked closet containing Starfleet Intelligence equipment, mostly medical in nature. The ancient book resting on the recliner's armrest is a leather-bound edition of *The Lord of the Rings* by J.R.R. Tolkien. Directly behind the "cameraman" is the bedroom section, and the bathroom (which also contains a large closet.)

These cabins are much more luxurious than any others on the ship, with the exception of the VIP Guest quarters. Both the Executive Officer's and the Captain's quarters are larger than standard Officers Quarters, and this space generally has the following accommodations: a bedroom (with a nice, standard size, fluffy bed in a null-grav chamber), a living/work area, a dining area with seating for four, a private bathroom equipped with an ultrasonic shower and old-fashioned water shower and bathtub, a food replicator, personal holographic viewer, and even provisions for pets (Captain Harker keeps a small beagle that he typically takes on walks in one of the holodecks on Deck Four, or the Arboretum on Deck Two. Automaintenance devices use site-to-site transporters to automatically keep the ship clean of unsightly dog-droppings.)



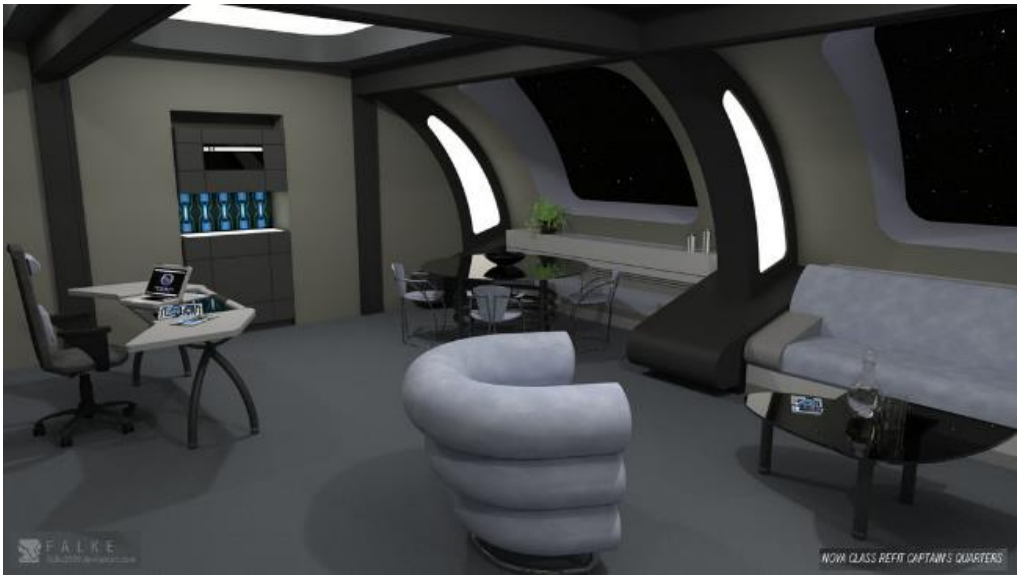
Officer's Quarters come equipped with a water bathtub as well as a sonic shower. The bathtub is also equipped with miniature jets to produce a whirlpool bath.

Captain Harker's bedroom section, with chaise lounge and a shelf of books in the relaxation area

The captain's bedroom has a standard-size bed, drawers and closet space built into the bulkheads, and a relaxation area furnished with a lounge chair, a nearby shelf of books within handy reach, and a reading lamp over the "head" of the couch. Wall to wall carpeting covers the entire cabin, with the sole exception of the bathroom, which is tiled.

Harker was honored with a gift--a Klingon Haqtaj (ancient scalpel) after curing a KDF battlecruiser's entire crew from a Romulan bioweapon.

No captain's cabin is complete without a beagle!

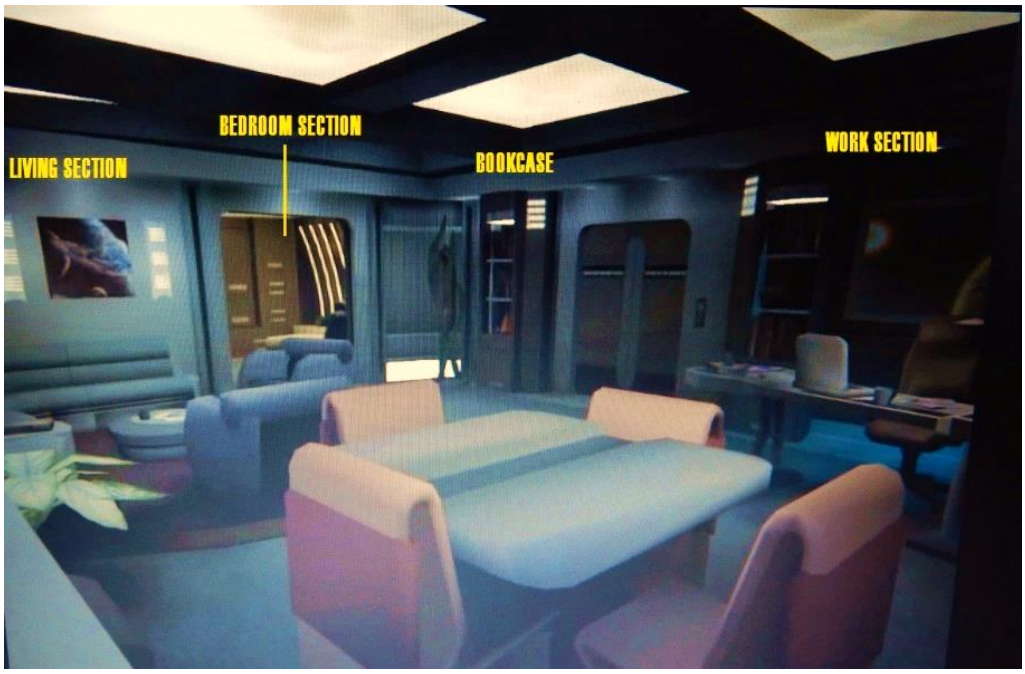


Captain's Cabin with standard Starfleet furnishings, portside Deck 2

Executive accommodations aboard a Nova Class Starship are equipped with all the comforts of home, and include three large, transparent aluminum windows from which to view the stars. The cabin is open plan, furnished with a wide couch, comfortable chairs, tables, shelves, and a desk for getting work done when off-duty. A food replicator is conveniently located near the dining area and the desk. The couch is a convertible bed, in case an officer has guests he invites to sleep in his own cabin. This can be more convenient than expected, on such a small ship.

The bathroom in the executive quarters featured a bathtub with whirlpool jets.

Twilight's arboretum, Deck 2 Starboard. Note the transparent aluminum windows. The captain frequents this laboratory with his pet beagle. Plants are force-grown from the world being surveyed, in a search for new drugs and medicines.


BEDROOM SECTION
LIVING SECTION
BOOKCASE
WORK SECTION


JARYD HARKER, MD
COMMANDING OFFICER
U.S.S. TWILIGHT, NCC - 74413
Cabin 2-1
LCARSCOM.NET

The captain's cabin on a refit Nova Class starship is similar to that onboard an Intrepid Class ship (plus one beagle!) The leather-bound book is The Hobbit *by Tolkien, the cup contained hot chocolate with mint. Above is the same cabin from two different angles.*

Captain Harker can use his quarters for privacy, or he can invite fellow crewmembers or other personnel to his cabin for meals at the full-sized dining room table to work on various projects in a relaxed setting, or even as an office in the small hours of the morning. The good captain has an extensive private collection of real bound books, including a handful of rare and first editions. The paintings hanging on various bulkheads are all copies, except for the few he's painted himself. He has been known to invite friends among the crew over for a game of Scrabble, cards, or chess, all played at the ancient dining room table constructed of English oak. The chess set was hand-carved in New York City on Earth, though he obtained it from Quark's on Deep Space Nine at an exorbitant price. (At the time, he was picking up an extremely rare first edition of the *Hobbit*, signed by J.R.R. Tolkien.) Quark knows his customers by extensive research, and obtains what he knows they want; those two purchases alone cost Harker two years' worth of pay from investments he'd made before Earth gave up its monetary economy; being a 234-year-old El-Aurian has its advantages. (One such investment was in the computer company that eventually evolved into manufacturing the computing systems for most of Starfleet's vessels.) Starfleet has a system in place, so its officers can turn duotronic credits from their pay into actual strips of gold-pressed latinum, if desired.

On the original *Nova* Class schematics, the prototype Starships *Nova*, *Quasar*, and *Equinox*, the captain's cabin was located on Deck One, opposite the Bridge, and as a result, his private cabin of necessity doubled as the captain's ready room. When Captain Harker saw this, he immediately moved his private quarters to one of the VIP Diplomatic Quarters on Deck Two, and one of the officer's cabins on Deck One became the new second VIP Quarters. The secondary full-sized subspace transceiver unit was removed from the "ring" on Deck One, replaced with a smaller unit, leaving space for a new Captain's Ready Room, Officer's Conference Room, small laboratory, and a Deck One life support compartment. The upper transporter transceivers were likewise replaced with smaller models, leaving room for a small astrometrics lab and a posh VIP Observation Lounge.

Bedroom for Executive Quarters and VIP accommodations.

VIP/Diplomatic Guest Quarters: Though not ideally suited for diplomacy, the *Nova Class* (like all Starfleet Vessels) provide accommodations for special guests and visiting personnel aboard the ship. Though not as large or well-appointed as on larger vessels, the *Nova's* VIP quarters are more than adequate. On the original *Nova* schematics, two designated VIP quarters were located on fore of Deck 2; when she was redesigned, one of these two cabins was reassigned for the captain of the ship. One of the officer's quarters on Deck One was then redesignated as the second VIP quarters; all expensive furnishings were moved there.

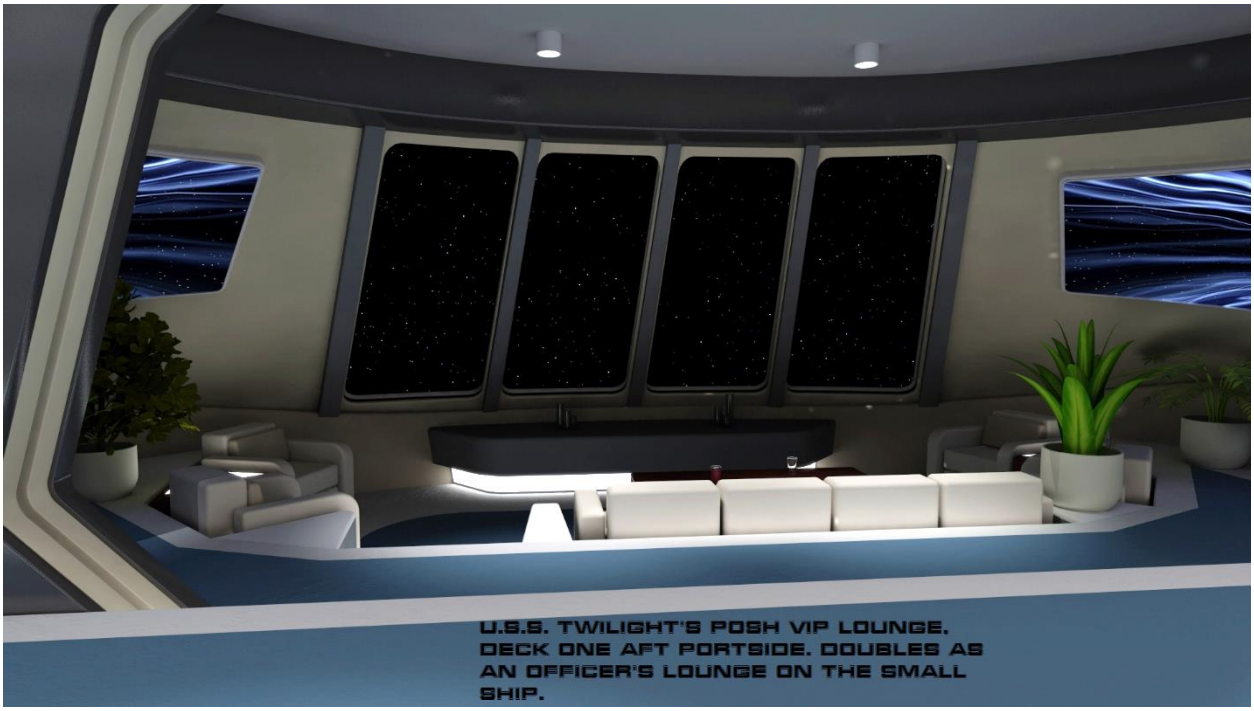
One special quarters are located on Deck 1, starboard; the other is starboard on Deck 2. Both of these cabins include a bedroom, a spacious living/work area, a private bath, large personal viewscreen, ultrasonic shower, bathtub/water shower, provisions for pets, a food replicator, personal wet bar, and a null-grav sleeping chamber. The leather couch in the living room is a convertible, in case the visiting dignitary has family members with her. These quarters can be immediately converted to class H, K, L, N, and N2 environments, and hidden behind panels in the bulkhead are the attachments for medical diagnostics and gasses. In the event of primary and secondary life-support equipment failure, a tertiary life-support unit is capable of supporting all of Deck 1, which is why the VIP quarters are located here. The VIP Observation Lounge is also located on the same deck.

These guest quarters on Deck One were once occupied by Ambassador Troi of Betazed, the mother of Counselor Troi of the *Enterprise*. While the ambassador found her quarters smaller, she enjoyed the fact that the Bridge and Captain's Ready Room were located on the same deck, and insisted that Captain Harker personally attend her care as physician. The ambassador believed she was suffering from some rare Betazoid ailment, and when Harker realized this, gave her a placebo. Lwaxana Troi forever after hailed Harker as the Federation's greatest physician. Directly opposite the captain's cabin on Deck 2, the primary VIP quarters retains its original position, giving the ship two sets of quarters

reserved for VIPs. Both of these quarters, as well as the few guest cabins on Decks 3 and 4, feature special diagnostics and medical gas hook-ups, to turn them into private patient rooms, if necessary. The hardware for converting the cabins into treatment wards are located in Cargo Bay 2.

Twilight's VIP Quarters are special, the best aboard. Even a wet bar is included!

Fine real-leather upholstered furniture is included in the VIP quarters on Twilight.



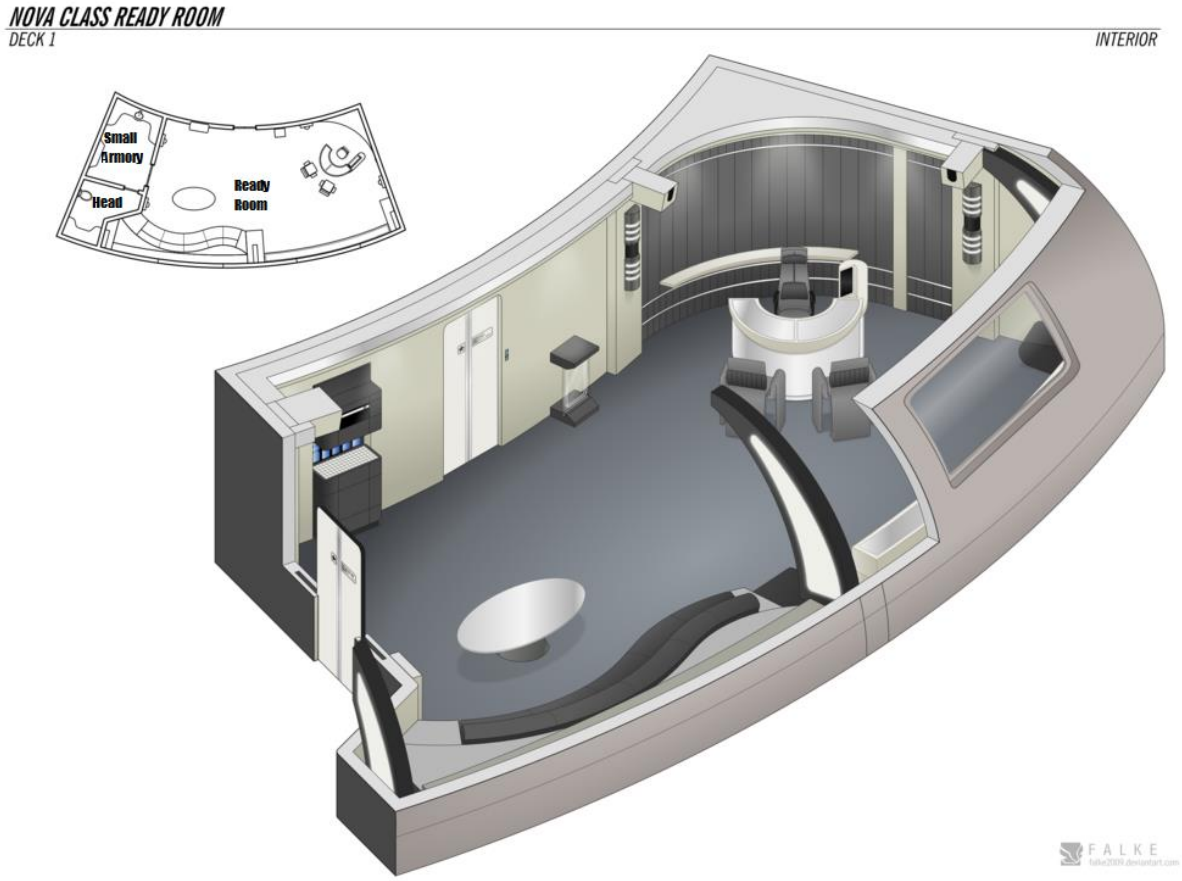
Other VIP accommodations include the posh VIP lounge on Deck One, located aft portside. The transparent aluminum windows offer a spectacular view of the stars to the rear of the ship, as viewed from white leather furniture, which match the furniture in the two VIP cabins. A wet-bar with real liquor supplements the food replicator here. To the rear of this lounge area is a solid oak conference table with chairs for 8, from Earth's 22nd Century for official sit-down meetings. A few feet away from the conference table is a matching sidebar table, where sits a solid silver coffee set, and a buffet of food is usually set for the participants in discussions. Off to the side, and throughout this compartment, are various plants, coffee tables, and a bookcase of rare paper books containing literature from 5 Federation member worlds. This compartment is thus well appointed to serve the interests of peace and diplomacy. When not on a diplomatic mission (which is most of the time for a *Nova* Class starship like *Twilight*) this compartment is frequented by the senior staff as an officer's lounge to wind down. If desired, the conference table in the rear section can be used as an officer's mess for meals—but on *Twilight*, this is rarely done. Captain Harker and his senior officers usually take their meals in the Crew Mess Hall on Deck Two, or in their private cabins. A medical officer, Harker likes to maintain an "open-door" policy with his crew, and taking lunch in the Crew Mess is a way to accomplish this goal.

A small communications compartment, located right next to the Deck One VIP quarters, completes the VIP accommodations aboard. This is technically the ship's auxiliary subspace transmitter room, in the event of break-down of the main unit on Deck Five. It can be separated electronically from the rest of the ship's systems, in order to assure a totally secure communications link for any ambassadors or diplomatic personnel.

8.2.1 Captain's Ready Room

Captain's Ready Room: The commanding officer of the starship has a special, spacious office just opposite the Bridge, where he can study, relax, hold meetings, and still be available at a moment's notice to take command of his bridge. The *Nova Class* ready room has a large, 400-year-old oak wood desk, a comfortable simulated leather upholstered swivel chair, a high-security clearance personal computer terminal, a food replicator, and a couch, table, and comfortable chairs for guests in the lounge area. The couch is a convertible bed, allowing the captain to nap while still remaining a few steps from the bridge during crisis situations. Attached is a small lavatory, and opposite this, a small armory. The small armory has sufficient weapons to arm the entire bridge crew in the event of a hostile boarding, and the door is kept locked and protected by a Level-8 force field. Only command crew have access to the small armory. The ready room is physically located inside the "ring" on Deck One, which surrounds the Bridge.

On *U.S.S. Twilight,* Captain Harker has a number of rare and valuable items in his ready room, such as a shelf of real books, a scale model of an 18th Century sailing vessel, an oil painting of *Twilight*, El-Aurian and Terran knick-knacks, and several plants from various worlds. A hand-carved chess set rests on a small table in the lounge area. On the walls hang his medical degrees, as they would in any doctor's office, and hanging nearby is a Klingon *Haqtaj* or ancient scalpel from Qo'noS, for having saved the lives of a Klingon battlecruiser crew from a Romulan bio-weapon. In one corner of the lounge is a dog-bed (although Merlin has been known to use the couch by the viewport. Admiral Uhura did not appreciate the dog hair on her uniform.)



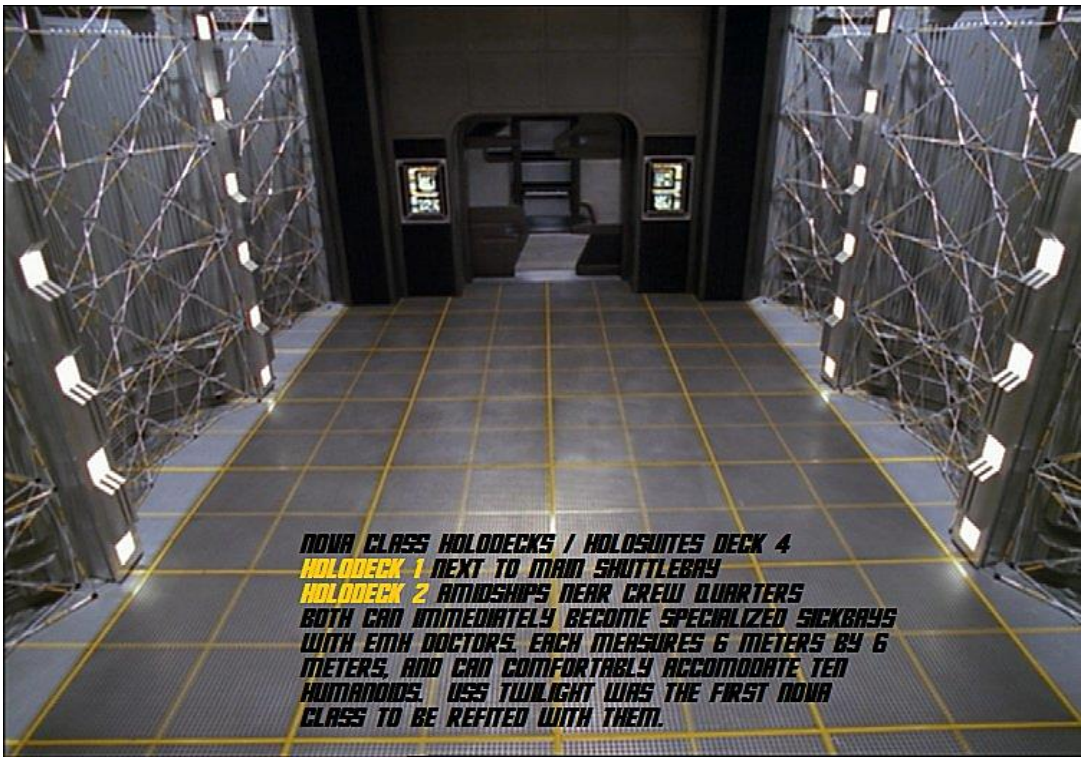
The Ready Room on a refit Nova Class has a desk for the captain to work, a lounge to rest and entertain guests, a food replicator, and private head. There is also a sealed small armory here. The couch converts to a bed, so the captain need not leave this deck during a crisis situation.

8.3 RECREATIONAL SYSTEMS

General Overview: Small ships tend not to be as well-equipped as the larger vessels in Starfleet. Though all are well attired, smaller vessels do not come with all the fringe benefits of a larger ship, such as a *Galaxy* or *Ambassador* Class, with their expansive holodeck facilities, some of which take up two decks in height. The *Nova* Class is such a small ship, and what recreational capabilities it does have are taken advantage of on long missions of up to a year.

Holodecks: While originally the *Nova* Class had no holodeck facilities—including the ill-fated *Starship Equinox*—later versions of this class do. There are two small holodecks aboard a refit *Nova Class;* each are approximately eight meters long by six meters wide (actually holosuites on a larger ship.) Located on Deck 4, these Holodecks are proprietary Federation Technology and can comfortably support 8 - 10 people at a time. Captain Harker and Chief Engineer Raekaar usually play a fantasy role-playing program called D&D 33rd Edition, and pull other crew members into the game for fun. Popular is a 12th Century Inn and Tavern called the Scarlet Unicorn, which is from a fantasy world setting, and

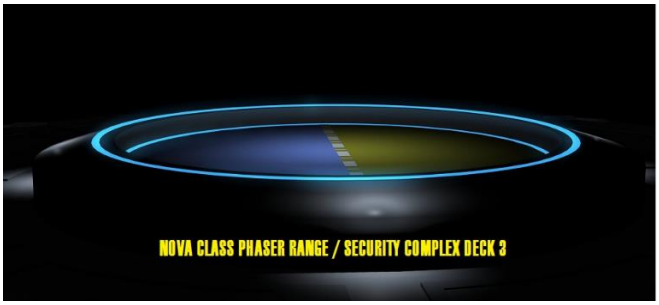
includes a massive fireplace and holographic patrons who are elves and dwarves. The holodecks are also used for serious pursuits. The pilots, for example, use the holodecks to simulate combat conditions in space, at the helms of Valkyrie warp fighters, shuttlecraft, or even starships. These holodecks can also of course be any required facilities in an instant, such as additional labs or a specialized sickbay for non-humanoid species—which is how Harker sold it to the SCE team refitting *Twilight* into a medical/intelligence ship in the first place. Each holosuite measures 6 x 8m, and is 2.85m in height.



A Nova Class Holodeck is only 6m by 8m (19.685 ft. by 26.2467 ft.) and 2.95m (9.67 ft.) in height.

Target Range: Tests of skill are an important form of recreation in many cultures, and the *Nova* Class provides a facility especially for such pursuits. The facility materializes self-healing polymer absorptive targets for a variety of projectile and bladed weapons firing and/or tossing. Here in the Target Range facility phased weapons firing is done.

The phaser range is also used by security to train ship's personnel in marksmanship. During training, the holo-emitters in the phaser range are activated, creating a holographic setting, similar to what a holodeck does. Personnel are trained, either independently or in an Away Team formation to explore the setting presented to them, and the security officer in charge will take notes on the performance of each person as they take cover, return fire, protect each other, and perform a variety of different scenarios. As per Starfleet general regulations, all personnel on a *Nova Class* starship are tested every six months in phaser marksmanship.



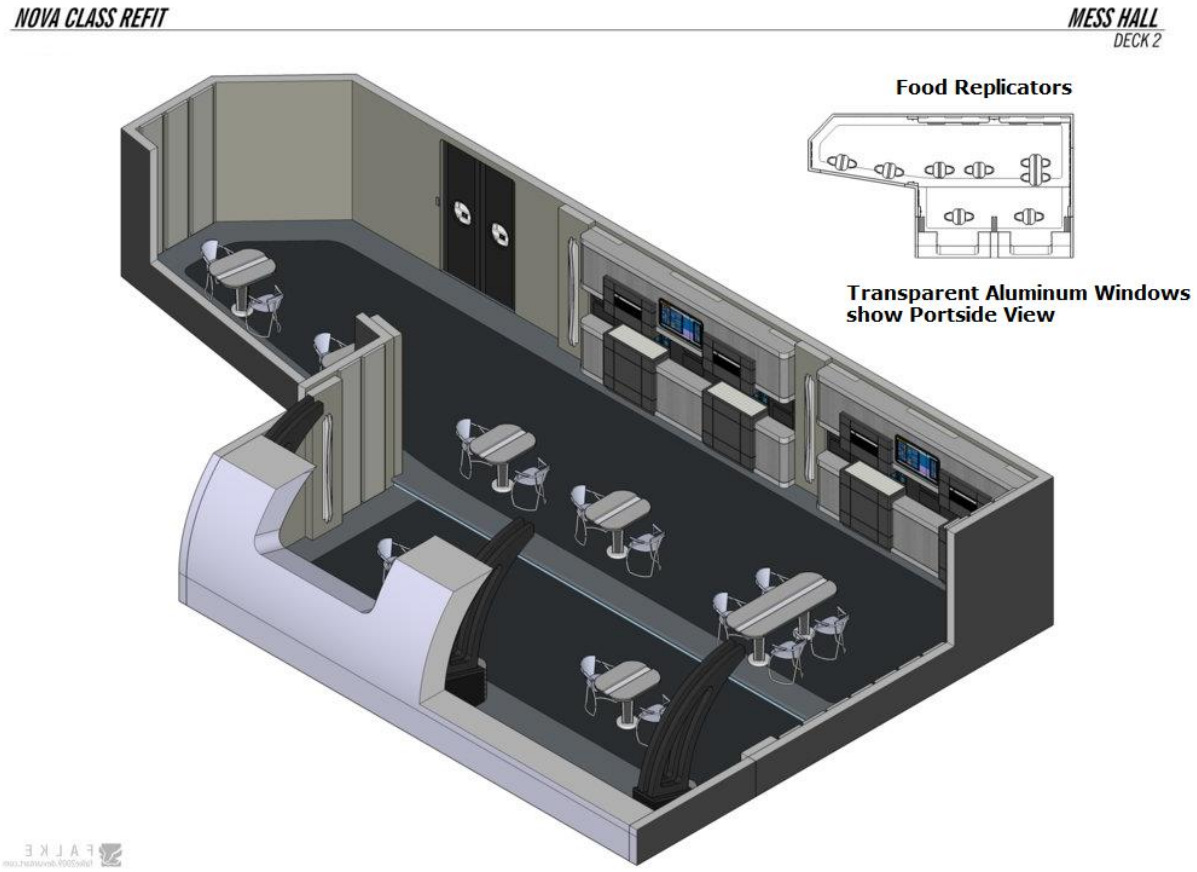
Gym Facilities: Some degree of physical fitness is a requirement for Starfleet personnel, and all starships provide some sort of facilities to maintain that aboard. Due to the limited size of the *Nova Class*, these facilities are not as spacious as on other vessels, but have large wall-mounted mirrors to make the gym appear larger. Perhaps a dozen multi-use machines dot the workout area, including weights, stationary bikes and treadmills, as well as mats and a special area for physical training. A small swimming pool is also located here, six meters in length and two deep at the far end. Crew members can use this pool for exercise, relaxation, or hydrotherapy, under orders of the ship's physician. While any area of a spaceship can grant null-gravity at the touch of an environmental control, there is something to be said for the resistance and soothing temperature of real, heated water. Once weekly, the crew gathers here for a friendly game of water-volleyball, organized by Transporter Chief Petty Officer Darla Reynolds.

An emergency medical kit is located in an easily visible location near the door to the Gym, and Sickbay is nearby, one deck above.

USS Twilight's gym is equipped with a small swimming pool that can easily be heated to create a hot tub. It's also used by the crew for a weekly game of water volleyball.

A Nova-Class gym has mirrors on opposite bulkheads, to give the illusion the space is larger than it really is. A handful of exercise machines are in this compartment, often used.

8.4 CREW MESS and RECREATION ROOM



Nova Class Crew Mess Hall, Deck 2 Forward

The crew **Mess Hall** serves double duty aboard the *Nova Class* because of the vessel's small size; its prime function is of course as a mess hall for all officers and crew, although the officers also have a small mess across the corridor on Deck 2, starboard side. One must walk through the Emergency Supply Compartment to reach the Officers' Mess (what was intended as the officers' lounge is filled with emergency ration containers, and is now given over to storage.) The Mess Halls serve a secondary function as additional recreation rooms. These 3 important compartments serve as the social centers of the ship. Located in the forward portside section of Deck 2, the Crew Mess is equipped with four large mass-use food replicators, programmed with an extensive recipe listing from over five hundred worlds. Eating accommodations are provided by a slew of tables, and by a small row of molded couches and chairs that follow the forward curve of the mess hall and face the large viewports on one side of the compartment. There is sufficient seating for up to twenty persons at a time, which is one-fourth of the crew. With its single large mass-use food replicator, the recreation room can also serve meals, as can the food replicators in individual cabins. This is more than sufficient, as it is assumed that only a limited number

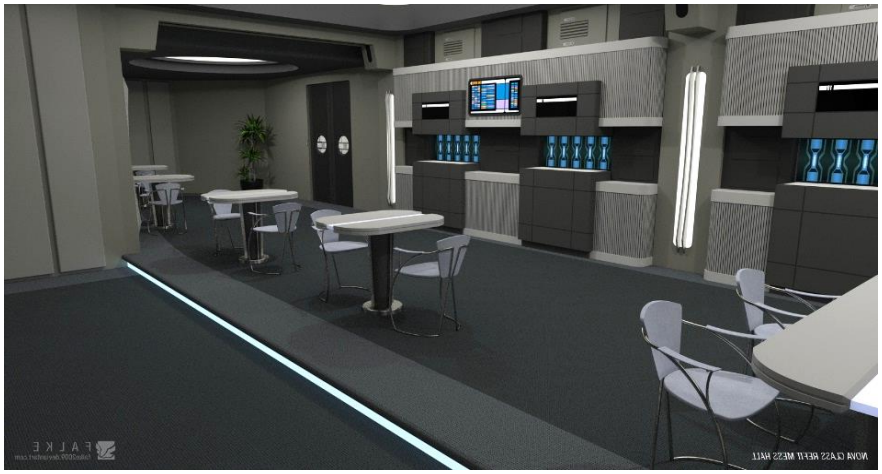
of crew who are off-duty are taking meals at any given time. In the event of a shipwide celebration, extra chairs can be brought in, and food can be served buffet style.

In the event of emergency, should both primary and auxiliary life-support go off-line, a bulkhead cuts off this entire section of Deck 2, and tertiary life-support supplies its needs. The section that includes the crew and officers' mess, and both lavs, become Refuge 1.

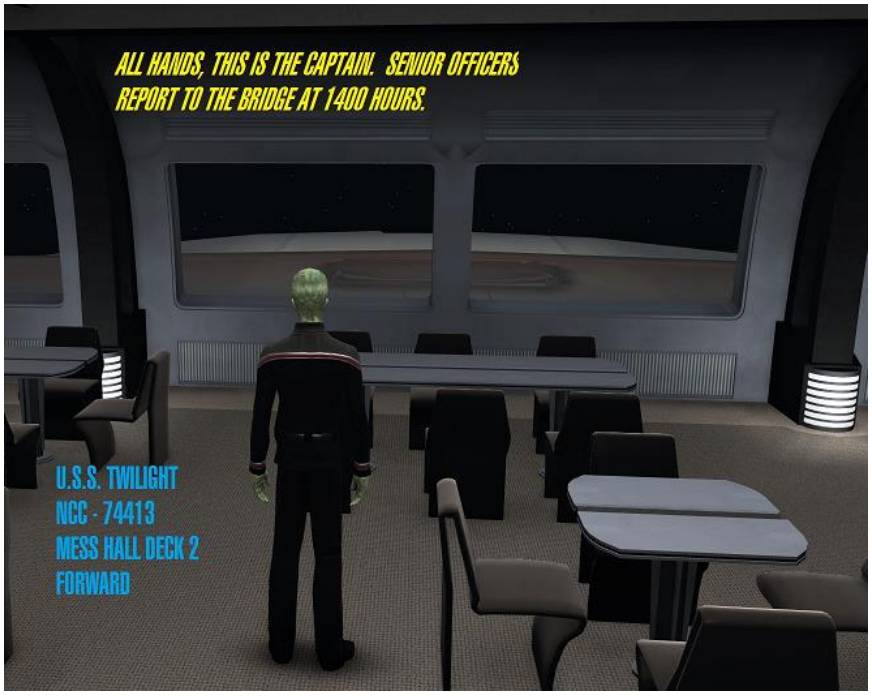
The Officers' Mess is located on Deck 2, starboard side, directly opposite the Crew Mess. This compartment is roughly a third the size of the Crew Mess, but it only has to serve 15 officers. Here, there is a large dining room table directly in front of the two transparent aluminum windows, with seating for 6. Two easy chairs and a low table between them occupy the other corner of the room, and frequently is used for a friendly game of chess. A small rubber tree in a planter rests near these two armchairs. As previously mentioned, the compartment attached to the Officers' Mess was originally designated as the Officers' Lounge, but it was decided that in the event of life-support failure, this entire section in the prow of the ship would be closed off and used as Refuge Number One. Then, these emergency ration containers would be opened. Two lavatories are accessible, one from the corridor, and the other from the officers' lounge, obviously intended for the exclusive use of the officers.

The **Recreation Room**, also located on Deck Two, has a number of recreational games, hobbies, and other assorted entertainment items. Chess and 3-D chess, pool tables, and a storage center with more eclectic games such as Vulcan Plak-tow can be found in the recreation room. A small holographic table is set up here for entertainment purposes. Lieutenant Commander Ryk Orn Raekaar typically stores 3D props for a tabletop version of a 20th Century fantasy role-playing game here. (He is also building a very small, personal holosuite in his own quarters on Deck 7, which take up half of the living room section—rank hath its privileges, and he is the chief engineer.) Crew members with musical talent frequently play instruments in both compartments. Naturally, a mass food replicator is present in the Rec Room for crew who wish to take meals here—generally a sandwich or cup of coffee while playing 3D-Chess.

NOVA CLASS RECREATION ROOM DECK 2 PORTSIDE—This important compartment is one of the social centers of the ship. Various games are available, including chess, poker, and Vulcan Plak-Tow. A single mass-use food replicator unit provides food and beverages to off-duty personnel.



Nova Class Refit Mess Hall

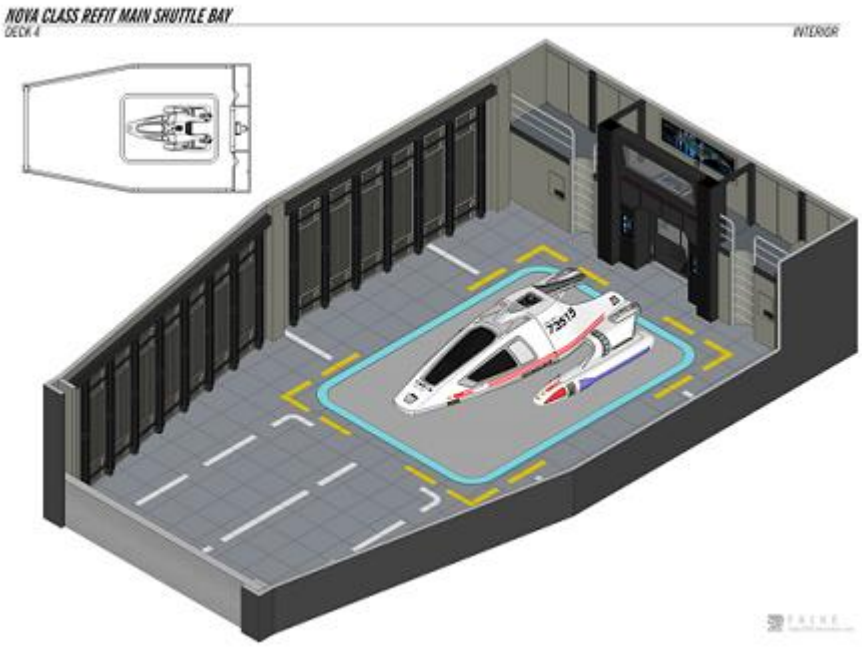


Twilight's Mess Hall offers a spectacular view through transparent aluminum viewports; these windows are located on the port side of the mess hall, while they are usually on the prow on most ships. The thick duranium wall to the bow offers protection from incoming enemy disruptor fire.

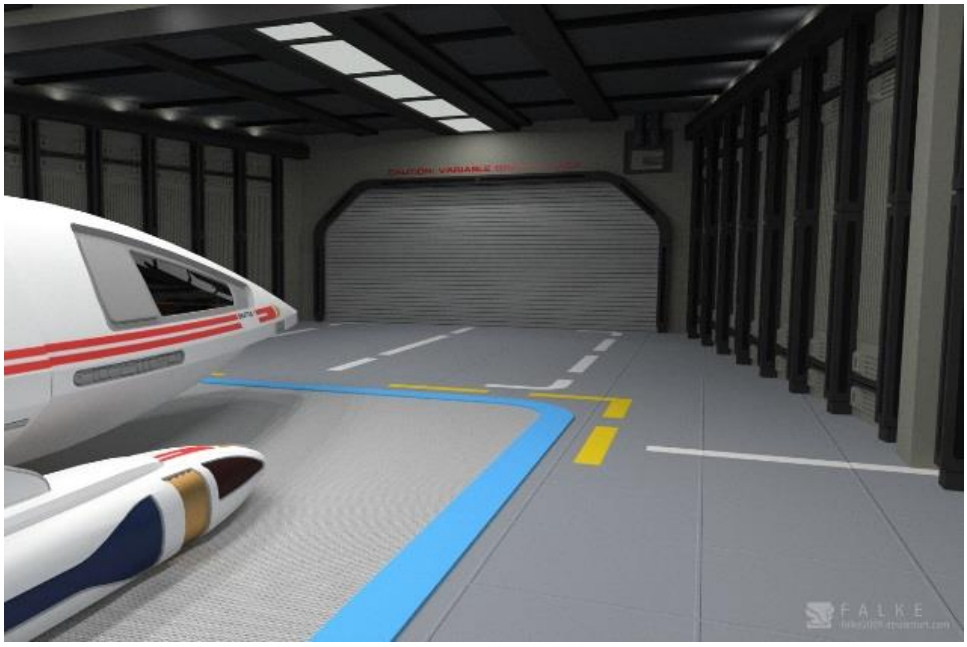
9.0 AUXILIARY SPACECRAFT SYSTEMS

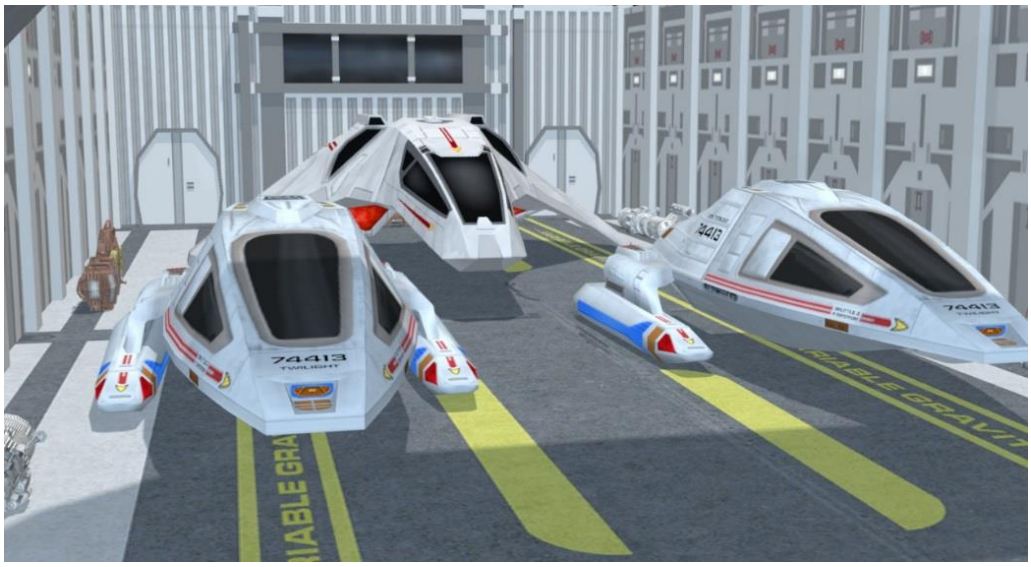
9.1 MAIN SHUTTLEBAY

General Overview: Located in the aft dorsal portion of the engineering section, the Main Shuttlebay is the primary port for entrance and egress, as well as management of the *Nova* Class' auxiliary craft and shuttles. The Main Shuttlebay is 21.5 meters long (70 and one-half feet) and 6 meters high (19.685 ft.), well-equipped, and is managed by a team of Pilots, Engineers and Technicians and Operations personnel that are based in the **Flight Operations office**, under the supervision of the Flight Control Officer. This facility handles all launch, recovery, and maintenance operations for small auxiliary craft. The outer bay doors may remain open during operations, and atmospheric integrity is maintained by an annular force-field (technically Level-5 containment field.) A small control booth oversees all flight operations, and is reached by two ladders from the deck; beneath this control booth is the hardware for refueling shuttlecraft. During a Red Alert, one or two auxiliary craft are kept at hot stand-by, launch minus thirty seconds (either two shuttlecraft, two Valkyrie starfighters, or a combination of both.) Emptied of auxiliary spacecraft, the Main Shuttlebay can be converted into a large dorm living quarters, or a medical triage center. Cots and medical equipment is stored in limited supplies here behind bulkhead panels. Once, the *Twilight's* shuttlebay was depressurized to accommodate an injured space-faring life-form, and holoemitters were installed to allow the EMH to treat it.



A Nova Class Shuttlebay handles flight operations for 7 auxiliary craft, and has sufficient space to store up to two shuttlecraft. All remaining shuttles are stored one deck below via the shuttle elevator, in the spacious Hanger Deck/Shuttle Parking Bay. Additional craft can be stored and serviced in the Main Cargo Bay, if needed. An operations gallery is accessible from two ladders, and right below this are the hook-ups for fueling hoses and diagnostic equipment.





The *Nova Class* Main Shuttlebay is usually equipped with:

1. One or two Type-9 Medium Long-Range Shuttlecraft;
2. Or two Valkyrie II Warp Starfighters.
3. Ordinance and Fuel,
4. Flight Operations Gallery

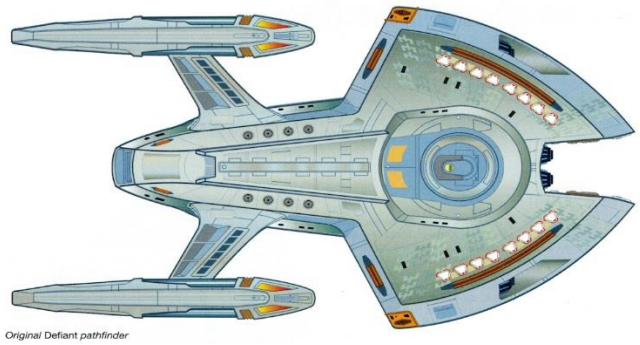
9.2 HANGER DECK & MAINTENANCE 
(Cold Storage Shuttle Parking Bay)

General Overview: Just beneath the Main Shuttlebay on Deck Five is the *Nova* Class Cold Storage Parking Bay, commonly called the Hanger Deck. Slightly larger in size at 30.5 meters long, the Hanger Deck houses the cold-storage facilities for all the ship's auxiliary craft, as well as additional maintenance areas. A shuttle elevator/tractor raises craft to the Main Shuttlebay, above on Deck 4. Adjacently located, Cargo Bay 3 serves as an additional Hanger Deck/Maintenance Bay for shuttlecraft when needed; there is a space-door sufficiently large enough to allow passage of a Type-8 shuttlecraft that opens into the Hanger Deck. When not in use, the Hanger Deck storage bay is kept locked and only opened for regular maintenance checks. In total, between the Main Shuttlebay, the Hanger Deck, Cargo Bay 3, and the Main Cargo Bay/Auxiliary Shuttlebay, a maximum of four Type-8 and/or type-9 shuttlecraft, four Valkyrie warp starfighters, two shuttlepods, the Waverider shuttle, and an additional five workbees, 15 auxiliary craft can be carried and launched from a refit *Nova* class starship. In practice, 1 shuttlecraft is held at launch readiness in the Main Shuttlebay, with three or four more auxiliary craft stored in the Hanger Deck below, for a total of 9 auxiliary craft, including the Waverider shuttle. The *Twilight* only carried four Valkyrie starfighters during the Dominion War.

The *Nova Class* Hanger Deck is equipped with:

1. 2 to 4 Valkyrie II Warp Starfighters (wartime only)
2. One Type-8 Medium Range Shuttlecraft
3. Two Type-9 Medium Range Shuttlecraft
4. Two *Workbee*-type Maintenance Pods
5. One Maintenance Facility (spare parts are stored in Cargo Bay 3.)

Cargo Bay 1 can function as an auxiliary shuttlebay as needed, and can accommodate the needs of a Type-8 Shuttlecraft for launch, recovery, and maintenance. Fueling hoses and diagnostic equipment is located behind panels in this cargo bay. Two shuttlepods, including an experimental and classified *Tiberius* class shuttlepod, are currently stored on this deck. (This experimental shuttlepod is capable of making maximum Warp 3, and is equipped with highly efficient sensors and stealth equipment.) It is intended for use by Starfleet Intelligence agents on classified missions.



Original Defiant/Pathfinder Design. Note the 6 Torpedo Tubes. The rear tubes became the Main Cargo Bay.

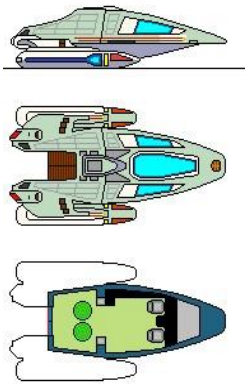
9.3 SHUTTLECRAFT

9.3.1 TYPE-9 PERSONNEL SHUTTLE

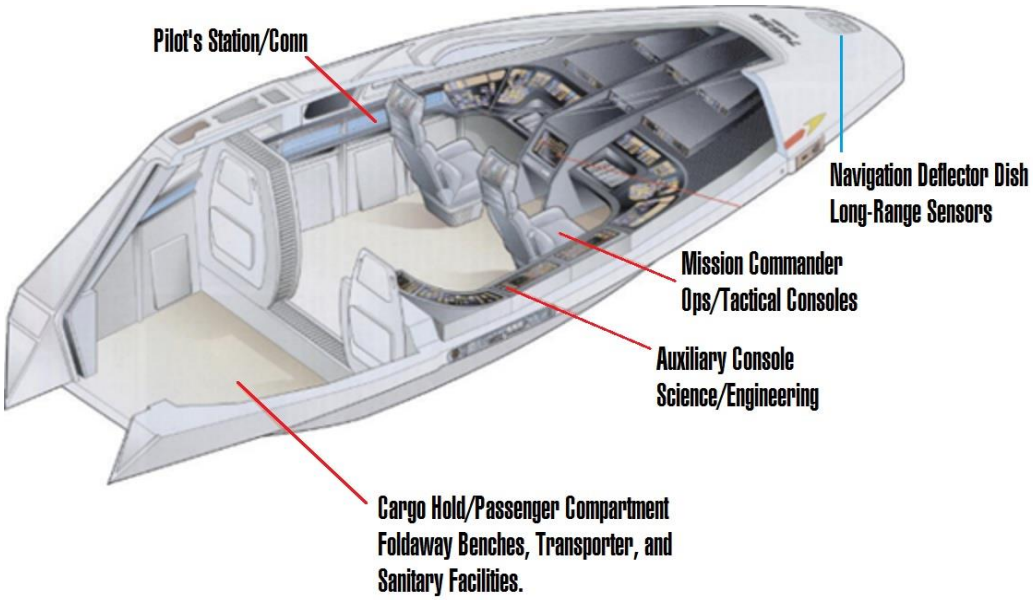
Type: Medium long-range warp shuttle.
Accommodation: Two flight crew, two passengers.
Power Plant: One 400 Cochrane warp engine, two 800 millicochrane impulse engines, four RCS thrusters.
Dimensions: Length, 8.5 m; beam, 4.61 m; height 2.67 m.
Mass: 2.61 metric tonnes.
Performance: Warp 6.
Armament: Two Type-VI phaser emitters.

The Type-9 Personnel Shuttle is a long-range craft capable of traveling at high warp for extended periods of time due to new advances in variable geometry warp physics. Making its debut just before the launch of the *Intrepid*-class, this shuttle type is ideal for scouting and recon missions, but is well suited to perform many multi-mission tasks. Equipped with powerful Type-VI phaser emitters, the shuttle is designed to hold its own ground for a longer period of time. Comfortable seating for four and moderate cargo space is still achieved without sacrificing speed and maneuverability. As is standard by the 2360's, the shuttle is equipped with a medium-range transporter and is capable of traveling through a planet's atmosphere. With its ability to travel at high-warp speeds, the Type-9 has been equipped with a more pronounced deflector dish which houses a compact long-range sensor that further helps in its role as a scout. The Type-9 is now being deployed throughout the fleet and is especially aiding deep-space exploratory ships with its impressive abilities.

Twilight's two Type-9 Personnel Shuttlecraft are named the ***Richard Daystrom*** and the ***Elizabeth Dahner***. (Shuttlecraft are named for ease of the GM in game.)



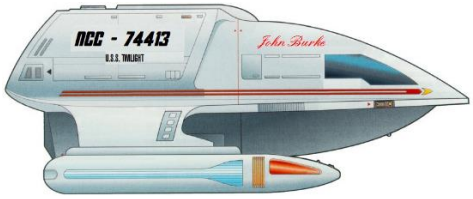
Type-9 Top, Side, and internal views



Type-9 Shuttlecraft Interior

LUG Game Statistics: Class and Type: Cochrane-Class Shuttle; Commissioning Date: 2371
Hull Characteristics: Size: 2 (8.5m long, 1 deck), Resistance: 2, Structural Points: 40
Operations Characteristics: Crew / Passengers: 2/2 [2 pwr/rd]; Computers:1 [1 pwr/rd]
Transporters: 1 personnel [1 pwr/rd]; Tractor Beams: 1 av [2/rating used]
Propulsion and Power: Warp System: 1.0/4.0/6.0 (24 h) [2/warp factor];
Impulse System: .6c/.8c [6/8pwr/rd]; Power: 90
Sensor Systems: Long-Range Sensors: +1 / 6 lightyears [6pwr/rd];
Lateral Sensors: +1/ 1 lightyear [4pwr/rd]; Navigational Sensors: +1 [5pwr/rd];
Sensors Skill: 3
Weapons Systems: Type VI Phaser: Range: 10/ 30000/ 100000/ 300000;
Arc: all (720 degrees); Accuracy: 4/5/7/10; Damage: 9; Power: [9]
Defensive Systems: Starfleet Deflector Shield; Protection: 28/ 40; Power: [28]

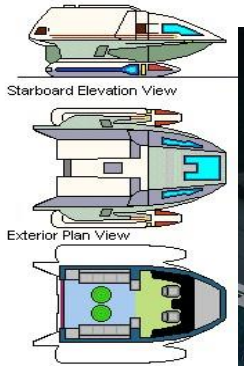
9.3.2 TYPE-8 PERSONNEL SHUTTLECRAFT



Type: Light long-range warp shuttle.
Accommodation: Two flight crew, six passengers.
Power Plant: One 150 cochrane warp engine, two 750 millicochrane impulse engines, four RCS thrusters.
Dimensions: Length, 6.2 m; beam, 4.5 m; height 2.8 m.
Mass: 3.47 metric tons.
Performance: Warp 4.
Armament: Two Type-V phaser emitters.

Based upon the frame of the Type-6, the Type-8 Shuttlecraft is the most capable follow-up in the realm of personnel shuttles. Only slightly larger, the Type-8 is equipped with a medium-range transporter and has the ability to travel within a planet's atmosphere. With a large cargo area that can also seat six passengers, the shuttle is a capable transport craft. Slowly replacing its elder parent craft, the Type-8 is now seeing rapid deployment on all medium to large starships, as well as to Starbases and stations throughout the Federation. The Type-8 can easily be outfitted with a biobed and medical equipment, turning the rear cargo area into a makeshift sickbay.

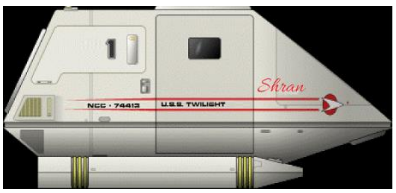
Twilight's Type-8 Personnel Shuttlecraft is named the ***John Burke***.




A shuttlecraft features comfortable, ergonomic seating for long voyages. All controls are efficiently within reach for a crew of two.

LUG Game Statistics: Class and Type: Shuttlecraft, Type-8; Commissioning Date: 2363
Hull Characteristics: Size: 2 (6.2m long, 1 deck), Resistance: 1, Structural Points: 40
Operations Characteristics: Crew / Passengers: 2/4 [2 pwr/rd]; Computers: 1 [1 pwr/rd]
Transporters: 1 personnel [1 pwr/rd]; Tractor Beams: 1 av [2/rating used]
Propulsion and Power: Warp System: 1.0 / 2.5 / 4.0 (36 h) [2/warp factor];
Impulse System: .6c/.75c [6/7 pwr/rd]; Power: 85
Sensor Systems: Long-Range Sensors: +0 / 5 lightyears [5 pwr/rd];
Lateral Sensors: +1/ 1 lightyear [1 pwr/rd]; Navigational Sensors: +1 [1 pwr/rd];
Sensors Skill: 3
Weapons Systems: Type IV Phaser: Range: 10/ 30000/ 100000/ 300000;
Arc: all (720 degrees); Accuracy: 4/5/7/10; Damage: 8; Power: [8]
Defensive Systems: Starfleet Deflector Shield; Protection: 24/ 36; Power: [24]

9.3.3 TYPE-16-B SHUTTLEPOD



Type: Medium short-range sublight shuttle.
Accommodation: Two; pilot and system manager.
Power Plant: Two 850 millicochrane impulse driver engines, four RCS thrusters, four sarium krellide storage cells.
Dimensions: Length, 4.8 m; beam, 2.4 m; height 1.6 m.
Mass: 1.25 metric tons.
Performance: Maximum delta-v, 19,250 m/sec.
Armament: Two Type-IV phaser emitters.

Like the Type-15, the Type-16-B Shuttlepod is a two person craft primarily used for short-ranged transportations of personnel and cargo, as well as for extravehicular inspections of Federation starships, stations and associated facilities. Lacking the ability to obtain warp speeds, the Type-16-B is a poor candidate for even interplanetary travel, and is traditionally used as a means of transport between objects only a few kilometers apart. The craft is capable of atmospheric flight, allowing for routine flights between orbiting craft or stations

and planetside facilities, and its cargo capacity is slightly higher than that of the Type-15. Ships of this type are stationed aboard various starship classes and stations, both spaceborne and planetside. *Twilight's* Type-16-B Shuttlepod is named the ***Shran***.

LUG Game Statistics: Class and Type: Shuttlepod, Type 16-B; Commissioning Date: 2369
Hull Characteristics: Size: 1 (4.9m long, 1 deck), Resistance: 1, Structural Points: 20
Operations Characteristics: Crew / Passengers: 2/6 [2 pwr/rd]; Computers: 1 [1 pwr/rd]
Transporters: None; Tractor Beams: None
Propulsion and Power: Impulse System: .6c/.8c [6/8pwr/rd]; Power: 80
Sensor Systems: Long-Range Sensors: None; Lateral Sensors: +0/ 1 lightyear [1 pwr/rd];
Navigational Sensors: +0 [5 pwr/rd];
Sensors Skill: 3
Weapons Systems: Type IV Phaser: Range: 10/ 30000/ 100000/ 300000;
Arc: all (720 degrees); Accuracy: 4/5/7/10; Damage: 8; Power: [8]
Defensive Systems: Starfleet Deflector Shield; Protection: 24/ 36; Power: [24]

9.3.4 TYPE-12 PERSONNEL SHUTTLEPOD

Type: Medium long-range warp shuttlepod.
Accommodation: Two; pilot and system manager.
Power Plant: Two 90.8 Cochrane warp engines, Two 750 millicochrane impulse driver engines, four RCS thrusters, four sarium krellide storage cells.
Dimensions: Length, 4.8 m; beam, 2.4 m; height 1.6 m.
Mass: 1.25 metric tonnes.
Performance: Maximum delta-v, Warp 3.
Armament: Two Type-IV phaser emitters; one microtorpedo tube, 20 quantum microtorpedoes.
Shields: Enhanced, 800 MW spacial graviton distortion shielding with regenerative warp-powered sub-generators.
Additional Data: **CLASSIFIED LEVEL SIGMA-NINE:** One experimental cloaking device; enhanced sensor package; five enhanced sensor jamming devices; one experimental web device (based on Tholian technology); experimental slipstream drive (installed, untested, non-functional.) Onboard *Twilight* NCC – 74413, only Captain Harker, Lt. Cmdr. T'Lura, and Lt. Cmdr. Raekaar even know this craft exists.

Like the Federation Scout Talon Class, the Type-12T "Tiberius" Class shuttlepod is a two-person craft primarily used for long-ranged espionage missions (Note her lack of identifying decals.) Like the Talon Class, her larger navigational sensor dish allows for enhanced sensor scans. The craft is capable of atmospheric flight, allowing for routine flights between orbiting craft or stations and planetside facilities, and its cargo capacity is slightly higher than that of the Type-15 shuttlepod. Ships of this type are still in the experimental stage, and classified at the highest levels of Starfleet Intelligence. Installed—but not yet tested—is an experimental slipstream drive, potentially capable of reaching Warp 9.9879, and traversing the galaxy in six months. From the Personal Log of Adm. N. Uhura: "It is

hoped that if the experimental slipstream drive works, we can deliver an engineer familiar with the new drive to the Delta Quadrant, and bring *Voyager* home soon."

LUG Game Statistics: Class and Type: *Type-12 Personnel Shuttlepod;* Commissioning Date: 2372
Hull Characteristics: Size: 2 (7.64m long, 1 cockpit); Resistance: 2**;** Structural Points: 40
Operations Characteristics: Crew/Passengers: 2/0; [2 pwr/rd]
Computers: 1 [1 pwr/rd]; Transporters: 1 personnel [1 pwr/rd]
Tractor Beams: 1 fd [2/rating used]
Propulsion and Power Characteristics: Warp System: 1.0/2.5/3.0 (12 hours)**;** [2/warp factor]**;** Impulse System: .76c/.96c [8/10pwr/rd] Power: 85
Sensor Systems: Long-Range Sensors: +1 / 17 lightyears [6pwr/rd]
Lateral Sensors: +3/ 1 lightyear [4pwr/rd]
Navigational Sensors: +1 [5pwr/rd]; Sensors Skill: 3
Weapons Systems: Type IV Phaser: Range: 10/ 30000/ 100000/ 300000;
Arc: all (720 degrees); Accuracy: 3/4/6/9; Damage: 5; Power: [5];
Photon Microtorpedoes (20); Range: 10/200,000/750,000/2,000,000
Accuracy: 4/5/7/10; Damage: 14; Power: [5];
Or Quantum Microtorpedoes (20): Same statistics as photons, but Damage is 18
Power: [5]
Defensive Systems: Starfleet Deflector Shield; Protection: 28/35**;** Power: [28]
Cloak: One (Invisibility only); Power: 60

9.3.5 WORK BEE

Type: Utility craft.
Accommodation: One operator.
Power Plant: One microfusion reactor, four RCS thrusters.
Dimensions: Length, 2.7 m; beam, 1.2 m; height 2.7 m.
Mass: 1.69 metric tonnes.

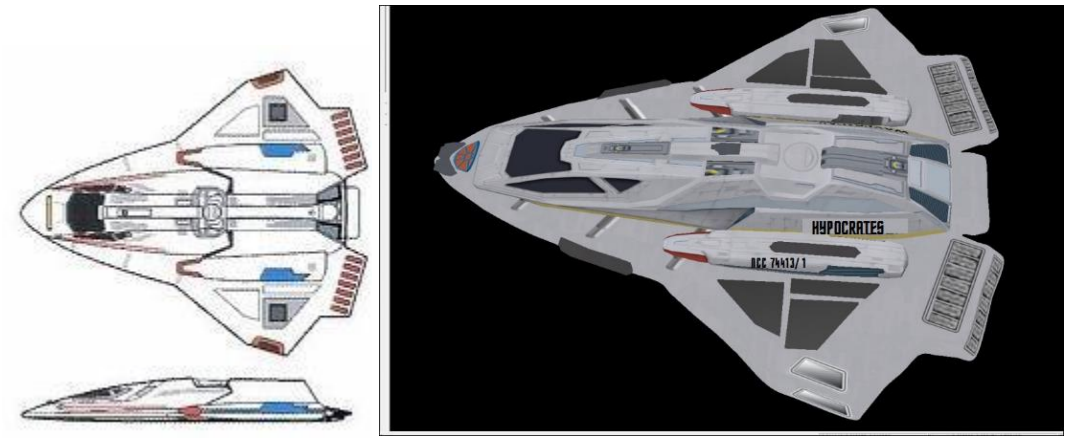
Performance: Maximum delta-v, 4,000 m/sec.
Armament: None

The Work Bee is a capable stand-alone craft used for inspection of spaceborne hardware, repairs, assembly, and other activities requiring remote manipulators. The fully pressurized craft has changed little in design during the past 150 years, although periodic updates to the internal systems are done routinely. Onboard fuel cells and microfusion generators can keep the craft operational for 76.4 hours, and the life-support systems can provide breathable air, drinking water and cabin heating for the pilot for as long as fifteen hours. If the pilot is wearing a pressure suit or SEWG, the craft allows for the operator to exit while conducting operations. Entrance and exit is provided by the forward window, which lifts vertically to allow the pilot to come and go.

A pair of robotic manipulator arms is folded beneath the main housing, and allows for work to be done through pilot-operated controls. A low-power tractor beam is included in the Type-7 workbee. In addition, the Work Bee is capable of handling a cargo attachment that makes it ideal for transferring cargo around a large Starbase and spaceborne construction facilities. The cargo attachment features additional microfusion engines for supporting the increased mass. Due to their small size, a *Nova* Class Starship can carry between three and six of these repair pods.

LUG Game Statistics: Class and Type: *Workbee VII;* Commissioning Date: 2369
Hull Characteristics: Size: 1 (2.7m long, 1 cockpit); Resistance: 2**;** Structural Points: 30
Operations Characteristics: Crew/Passengers: 1/0; [2 pwr/rd]
Computers: 1 [1 pwr/rd]; Transporters: None
Tractor Beams: 1 ad [2/rating used]
Manipulator Arms: 2 fd [2/rating used]
Propulsion and Power Characteristics: Thrusters System: 0.01c [8/10pwr/rd] Power: 20
Sensor Systems: Lateral Sensors: +1/ 0.05 lightyear [1pwr/rd] Sensors Skill: 3
Weapons Systems: None
Defensive Systems: Light Duranium/Tritanium Single Hull (20 Structural Pts.)
No Shields

9.4 WAVERIDER CRAFT



Type: Nova Class Waverider Craft
Accommodation: 3 flight crew, 3 passengers
Power Plant: 3 Magnodynamic thrusters (Aft), fusion core, maneuvering thrusters.
Dimensions: Length: 19.8m; Width: 17.5m; Height: 5.1m
Mass: 12 Metric Tonnes
Performance: Impulse: 0.25c, Atmospheric: Mach-12
Armament: 2 Type-IV Phaser Arrays.

An auxiliary craft for *Nova Class* Survey Vessels, the Waverider-Type atmospheric shuttlecraft is designed to facilitate close quarters examination and survey of planetary bodies by science personnel aboard the ship. It is equipped with a small general scientific laboratory, and even a foldaway biobed and vital medical equipment.

At just under 20 meters in length, the vessel is small enough to be carried by the *Nova Class* but large enough to be useful. Intended to work primarily in atmosphere, the small craft is highly fuel efficient at Mach-5 and above, making use of conventional propulsion with back up impulse and RCS thrusters for maneuvering in space.

The WaveRider is capable of sustained sublight velocities approaching 0.65c. The impulse propulsion system (IPS) consists of six sequential beam-fusion reaction chambers feeding a central toroidal driver coil. Each chamber measures 1.3 m in diameter and is similar to its larger IPS cousins on the *Twilight*. The reaction exhaust is vented through the driver coil and magnetohyodynamic (MHD) accelerator for impulse travel. The MHD tap provides power to the navigational deflector grid for removal of interstellar dust and gas from the vehicle flight path. For atmospheric flight the exhaust is redirected after it exits the MHD tunnel and sent through the aerodyne engines around the ellipse equator. The normal atmospheric cruising velocity is Mach 5; maximum safe Waverider velocity is Mach 20. Magnetic turbulence contour equalizers, variants of the navigational deflector, provide momentum conditioning at Mach transitions.

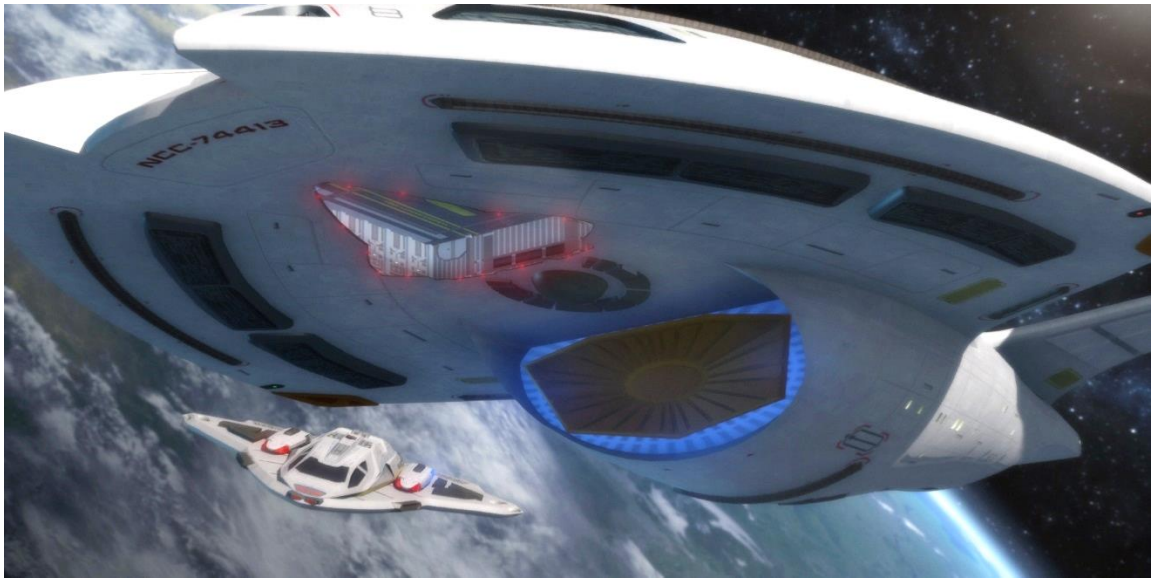
The *Twilight* is designed to operate safely without the *Hippocrates* in place, since its structural integrity field and inertial damping fields produce slightly modified fields in those areas to compensate for the concavity of the Waverider docking structure. Waverider rules in the vicinity of the starship are generally the same as those for other auxiliary spacecraft, with the difference being that the Waverider, during emergency underdockings, may be

safely deployed at velocities as high as Warp Factor 7. The Waverider's systems are designed to afford the craft a smooth falloff of warp field, unless the craft's own warp engines take over. The Waverider's velocity then drops smoothly to its own warp drive, which has a cruising velocity of Warp 5.

Unlike ordinary shuttlecraft, the Waverider does not enter the ship's Main and Auxiliary Shuttlebays; instead, it inserts itself into a recessed docking port in the ventral part of the saucer just forward of the main sensor dome. Access to the Waverider is provided by a hatchway inside the ship through the Main Computer Core compartment, and a ladder-equipped hard umbilical.

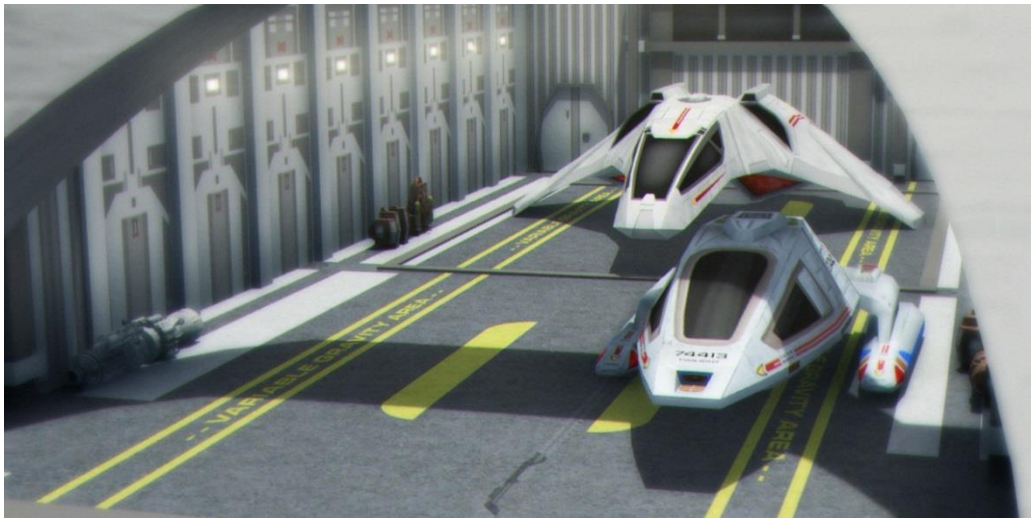
It is not warp capable, but can be modified. **NOTE:** As of this Stardate, the *Hippocrates*, the Waverider shuttle attached to U.S.S. *Twilight* NCC-74413, has been modified to include streamlined nacelles and a Danube-class warp core. The starcraft is capable of cruising at Warp 5, with a burst speed of Warp 6.5 for 12 hours before automatic shut-down of the engines. Additional modifications include a fold-away biobed and a Mark-I EMH. She has an ample cargo hold compartment, and is equipped with all the sensors necessary for any mission she might undertake.

LUG Game Statistics: Class and Type: *Waverider Shuttle;* Commissioning Date: 2367
Hull Characteristics: Size: 2 (19.8 m long, 1 deck); Resistance: 4**;** Structural Points: 40
Operations Characteristics: Crew/Passengers: 3/4; [2 pwr/rd]
Computers: 1 [1 pwr/rd]; Transporters: 1 personnel [1 pwr/rd]
Tractor Beams: 1 av, 1 fd [2/rating used]
Propulsion and Power Characteristics: Warp System: 4.0/5.0/7.5 (12 h)**;**
[2/warp factor]**;** Impulse System: .76c/.96c [8/ 10pwr/rd] Power: 105
Atmospheric Engines: Mach 5/Mach 20 [5 Pwr/Rd]
Sensor Systems: Long-Range Sensors: +1 / 10 lightyears [6pwr/rd]
Lateral Sensors: +3/ 1 lightyear [4 pwr/rd]
Navigational Sensors: +2 [5 pwr/rd]; Sensors Skill: 3
Weapons Systems: Type V Phaser: Range: 10/ 30000/ 100000/ 300000;
Arc: all (720 degrees); Accuracy: 3/4/6/9; Damage: 10; Power: [10]
Defensive Systems: Starfleet Deflector Shield; Protection: 32/45**;** Power: [32]



U.S.S. Twilight launching the Hippocrates Waverider shuttle

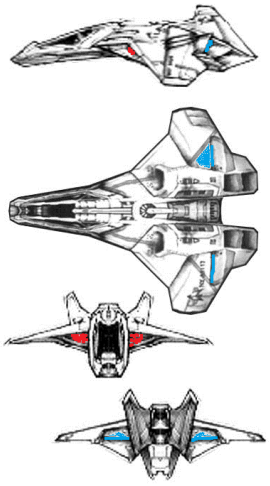
Nova Class Main Shuttlebay at Stern of Deck Four



Type-9 Shuttlecraft and a Valkyrie starfighter prepped for launch

The *Nova* Class Main Shuttlebay is 21.5 meters, or 70 and ½ feet long! This is sufficient for the prepping, launching, and recovery of up to two (or perhaps three) auxiliary craft at the same time. Equipment is stored here behind bulkheads, in storage lockers, for maintaining, refueling, and keeping all craft in good working order. When emptied of auxiliary craft, this facility can be converted into an emergency triage center for wounded and sick sentient beings, or a large living quarters for an evacuation. A complete hospital unit is stowed here behind the bulkheads, and can either be set up on the shuttlebay deck, or loaded into a shuttlecraft for transport to the surface of a planet. The shuttle elevator descends to a shuttlecraft cold storage bay that is 30 meters long (over 98 feet) sufficient to stow up to 7 Class-8 and Class-9 Federation shuttlecraft, or three shuttlecraft and four Valkyrie starfighters.

9.5 FIGHTERS



9.5.1 TYPE-2 Valkyrie Warp Fighter

Type: Medium short-range warp starfighter.
Accommodation: Two; pilot and system manager. No passengers.
Power Plant: Two 600 Cochrane high-performance warp engines, two 800 millicochrane impulse engines, four RCS thrusters, four sarium krellide storage cells. The Type-1 carries

enough fuel for powered flight at Warp 4 for 36 hours; Warp 5 for 20 hours; Warp 6 for 13 hours; **cruising at Warp 7 for 6.5 hours**; Warp 8 for 4 hours; bursts of Warp 9 will drain this fuel much more quickly.
Life Support: Sufficient to sustain two crew members for two weeks, recycling the air supply, and providing Inertial Damping against the forces of extreme acceleration. A small replicator can produce food and water for two adult crew for a minimum of two weeks, less if the deuterium and anti-matter fuel runs out. (This is obviously in the event the starcraft made planetfall, and is not in constant powered flight.)
Dimensions: Length, 9.64 m; beam, 4.86 m; height 2.85 m.
Mass: 2.73 metric tonnes.
Performance: Impulse 25.125c; Cruising Warp 7, Flank Speed Warp 8; **Warp 9 in short bursts of 60 seconds.**
Armament: Three Type-VI phaser emitters, two micro-torpedo launchers, sensor jamming devices, spacial distortion shields. Can carry either 20 micro-photon or 20 micro-quantum torpedoes. (The magazine can hold a max. of 20 micro-torpedoes.)

Developed in the early-2370s, the Type-1 Valkyrie Warp Fighter is somewhat of a departure from the traditional layout for ships of its size. In response to the growing threat of conflicts with various galactic powers bordering or near to the Federation, this starfighter was designed to handle more vigorous assignments that covered response from threat-forces. Even with her parent vessel under attack, the Valkyrie was designed to function in battle situations and could even be used as an escape vehicle should the need arise. The vessel is designed to be operated by a single pilot, with a secondary officer to assist with scanners, tactical, and power distribution if the mission calls for it. A high-performance warp drive is installed, providing a cruise speed of Warp 7, with short bursts of warp 9 for combat maneuvers. Her attack computer and tactical sensors are capable of locking onto 50 threat force targets at one time, to keep down rates of "friendly fire." In squadrons of six Valkyries or more, the starfighters have proven as deadly as a capitol starship of the line, especially when striking a single target from multiple angles of attack. Ships of this type are seeing limited deployment on various border patrol and defensive starship classes, including the *Typhon*-, *Sabre*-, *Akira*, *Steamrunner*-, and even *Nova* class. The Valkyrie 2 was designed with a more efficient warp core and engines, extending the fuel to a powered flight at Warp 6 for 72 hours, sufficient to reach a nearby starbase or another starship. Her shields and phasers were also enhanced to be more effective against the Borg. Typical missions include defense of the mothership, convoy duty, assault on threat forces by attacking in unison in a classic multi-vector attack, scouting unknown and enemy territory, and courier missions (which is really when the high-performance warp drive comes into its own.) The Valkyrie is compact, and able to out-maneuver almost anything of its size and certainly larger, capitol ships. The small size, combined with sensor jamming, and its shields, make the fighter nearly impossible to hit.

Twilight and other *Nova*-Class Starships only carried up to four of these starfighters during the Dominion War, as the science vessels were barely armed, and required an escort with some firepower to repel attacks by enemy forces. Even with enhancements such as quantum torpedoes and starfighters, Captain Harker was reluctant to even use the ship's phasers, as a Starfleet medical officer in command of a medical research vessel.

LUG Game Statistics: Class and Type: *Valkyrie Starfighter;* Commissioning Date: 2370
Hull Characteristics: Size: 2 (9.64m long, 1 cockpit); Resistance: 2**;** Structural Points: 40
Operations Characteristics: Crew/Passengers: 2/0; [2 pwr/rd]

Computers: 1 [1 pwr/rd]; Transporters: 1 personnel [1 pwr/rd];
Tractor Beams: 1 fd [2/rating used]
Propulsion and Power Characteristics: Warp System: 7.0/8.0/9.0 (1 minute)**;** [2/warp factor]**;** Impulse System: .76c/.96c [8/10pwr/rd] Power: 150
Sensor Systems: Long-Range Sensors: +1 / 10 lightyears [6pwr/rd]
Lateral Sensors: +3/ 1 lightyear [4pwr/rd]
Navigational Sensors: +2 [5pwr/rd]; Sensors Skill: 3
Weapons Systems: Type VI Phaser: Range: 10/ 30000/ 100000/ 300000;
Arc: all (720 degrees); Accuracy: 3/4/6/9; Damage: 12; Power: [12];
Photon Microtorpedoes (20); Range: 10/200,000/750,000/2,000,000
Accuracy: 4/5/7/10; Damage: 14; Power: [5];
Or Quantum Microtorpedoes (20): Same statistics as photons, but Damage is 18
Power: [5]
Defensive Systems: Starfleet Deflector Shield; Protection: 35/45**;** Power: [35]

10.0 NOVA CLASS FLIGHT OPERATIONS

Operations aboard a *Nova Class* starship fall under one of three categories: Flight Operations, Primary Mission Operations, or Secondary Mission Operations.

Flight Operations are all operations that relate directly to the function of the starship itself, which include power generation, starship upkeep, environmental systems, and any other system that is maintained and used to keep the vessel space worthy.

Primary Mission Operations entail all tasks assigned and directed from the Main Bridge, and typically require full control and discretion over ship navigation and ship's resources.

Secondary Mission operations are those operations that are not under the direct control of the Main Bridge, but do not impact Primary Mission Operations. Some examples of secondary mission operations include long-range cultural, diplomatic, or scientific programs run by independent or semi-autonomous groups aboard the starship.

10.1 MISSION TYPES

Seeking out new worlds and new civilizations is central to all that Starfleet stands for. The *Nova Class* Survey Vessel facilitates this, outfitted for long duration missions over planets and systems, cataloging and monitoring anything and everything of interest inside a designated area.

Missions for a *Nova Class* starship may fall into one of the following categories, in order of her strongest capable mission parameter to her weakest mission parameter.

- **Ongoing Scientific Investigation**: A *Nova Class* starship is equipped with scientific laboratories and a wide variety of sensor probes and sensor arrays, as well as a state-of-the-art dorsal subspace sensor assembly; giving her the ability to perform a wide variety of ongoing scientific investigations.

- **Medical Research:** *Twilight* is specially refit to serve as a medical research vessel at request of her captain, a doctor. She has two fully functional sickbays, can convert Cargo Bay 2 into a third sickbay to handle non-humanoid lifeforms on short notice, and her science laboratories are geared toward curing exotic diseases and finding cures. A specialized xenobiology lab is isolated for pathology research and can be vented to space in dire emergencies. *Twilight* is an emergency first-response vessel for medical emergencies. Designated as a medical research vessel and known to counter biogenic weapons, during wartime *Twilight* was strictly "hands-off" by both sides—although it was accepted that medical personnel from the opposing side was welcome aboard.

- **Contact with Alien Lifeforms**: Pursuant to Starfleet Policy regarding the discovery of new life, facilities aboard the *Nova Class* include a variety of exobiology and xenobiological suites, and a small cultural anthropology staff, allowing for limited deep-space life form study and interaction.

- **Federation Policy and Diplomacy**: A *Nova Class* starship's secondary role is the performance of diplomatic operations on behalf of Starfleet and the United Federation of Planets. These missions may include transport of Delegates, hosting of negotiations or conferences aboard in the vessel's conference rooms, courier for important people and/or items, and first contact scenarios. *U.S.S. Twilight* usually hosts visiting doctors and scientists in her two VIP cabins.

- **Tactical/Defensive Operations**: Though not designed primarily for battle, the *Nova* Class –like all modern Starfleet vessels– is designed to be resilient and is ably armed. She's equipped with 11 Type Xb phaser arrays, two forward torpedo tubes, and enhanced combat-rated shields. SI Vessels also typically carry hidden other equipment packages, such as an interphasing cloak.

- **Emergency/Search and Rescue**: Typical Missions include answering standard Federation emergency beacons, extraction of Federation or Non-Federation citizens in distress, retrieval of Federation or Non-Federation spacecraft in distress. Planetary evacuation is not feasible.

- **Espionage (Starfleet Intelligence vessels only)**: Typical missions include intelligence gathering, scouting unknown and enemy territory, and courier missions. These are typically accomplished while the vessel is apparently on a scientific survey mission; a cursory or detailed examination of her cargo holds and laboratories will support this claim.

10.2 OPERATING MODES

The normal flight and mission operations of the *Nova Class* starship are conducted in accordance with a variety of Starfleet standard operating rules, determined by the current operational state of the starship. These operational states are determined by the Commanding Officer, although in certain specific cases, the Computer can automatically adjust to a higher alert status.

The major operating modes are:

- **Cruise Mode –** The normal operating condition of the starship.
- **Yellow Alert –** Designates a ship-wide state of increased preparedness for possible crisis situations. Usually invoked on *Twilight* when a known contagion or biogenic weapon is on board.
- **Red Alert –** Designates an actual state of emergency in which the ship or crew is endangered, immediately impending emergencies, or combat situations.
- **Blue Alert –** Mode used aboard starships with planetfall capability when landing mode is initialized; also used for Docking.
- **External Support Mode –** State of reduced activity that exists when a ship is docked at a starbase or other support facility.
- **Reduced Power Mode -** This protocol is invoked in case of a major failure in spacecraft power generation, in case of critical fuel shortage, or in the event that a tactical situation requires severe curtailment of onboard power generation.

During Cruise Mode, the ship's operations are run on three 8-hour shifts designated Alpha, Beta, and Gamma. Should a crisis develop, it may revert to a four-shift system of six hours to keep crew fatigue down.

Typical Shift command is as follows:

Alpha Shift – Captain (CO)
Beta Shift – Executive Officer (XO)
Gamma Shift – Rotated amongst Senior Officers

During Red Alert/General Quarters: All crew and attached personnel are informed via alarm klaxons and red annunciator lights; all control consoles display a red blinking icon with the message: "Alert, Condition: Red. All Hands to your Battle Stations." All second-shift personnel are to report to their secondary duty stations, and all key third-shift

personnel (presumably in their sleep cycle) are to report to duty stations in fifteen minutes. Level 4 Diagnostics are automatically performed on all ship's systems at 5-minute intervals. Warp Core output is brought to 75% of full capacity. Main Impulse propulsion is brought to full operating status, and all operational back-up reactors are brought to hot standby. All tactical and long-range sensors are brought to full operational status, and secondary mission use of sensors is discontinued, except with approval from Ops. Combat shield generators are brought to operational status. Type Xb Phaser banks are always on hot stand-by. Photon torpedo launchers are brought to hot standby, one torpedo is inserted into each tube at full readiness, and primed with a standard anti-matter charge of 1.50 kg. Auxiliary control is brought to full stand-by, and back-up bridge crews are notified for possible duty; two officers are on standby in the auxiliary control compartment, and two more are told to wait in the Deck 1 observation lounge, or the bridge. All medical personnel, including both doctors, two nurses, and all medics are brought to duty status, and all sickbay systems are brought to full preparedness. Emergency power is on standby, to be diverted to sickbay if there are patients to be treated; the EMH may be automatically activated at discretion of the Chief Medical Officer. The Shuttlebay is brought to full launch readiness, with one shuttlecraft or two Valkyrie Starfighters brought to launch minus thirty-seconds' readiness, armed with miniature torpedoes as needed. Onboard sensors record the locations of all crew members, and alert Security of any anomalous activity. Level 4 diagnostics are automatically performed on all escape pods; security officers are assigned to insure that all passageways to lifeboat accesses are clear. Isolation doors and force fields are automatically closed between sections to contain the effects of possible emergencies, including fire and decompression of habitable volume of the starcraft—these doors are opened in the event of an abandon ship scenario, or can be temporarily opened by manual control.

Red Alert can be invoked by the Commanding Officer, Operations Manager, Chief Engineer, or Tactical Officer. The Chief Medical Officer can also invoke a Red Alert if a contagion gets loose from containment. Additionally, the main computer can automatically invoke Red Alert status in certain cases, including sensor detection of certain types of unknown spacecraft, or detection of certain types of critical malfunctions or system failures.

During Yellow Alert: The ship is on a state of heightened alert status for a possible crisis situation. All on-duty and attached personnel are alerted to prepare for an emergency; second-shift duty personnel are also alerted. Key operational personnel are warned to prepare for duty on five-minutes' notice. The computer automatically runs Level 4 diagnostics on all primary and tactical systems. The Warp Core is brought to full operating status and at least 20% power output. The Flight Control Officer receives a report on Warp and Impulse engine status. The impulse propulsion system is brought to full operational status; at least one auxiliary fusion reactor is brought to hot standby. All tactical sensor arrays are brought to full operational status; secondary mission usage of science sensors can be overridden if required by Ops Manager on the bridge. Deflector systems are brought to full operational readiness; Combat Shields are brought to hot

standby. Type Xb Phaser Arrays are always on hot standby mode. Torpedo tubes are brought to partial standby, and one torpedo is energized to partial readiness, with a standard explosive charge. The Auxiliary Control Room is brought to partial operational status and at least one officer is assigned to duty there. Both sickbays are alerted for possible casualties, with both doctors, a nurse, and two medics called to duty status; The Main Shuttlebay is brought to full launch readiness, and one shuttlecraft is brought to launch minus five minutes. Internal sensors record the locations of all personnel and alert the security station of any anomalous activity. Level 5 diagnostics are performed automatically on all autonomous survival and recovery vehicles (lifeboats.)

Yellow Alert can be invoked by the Commanding Officer, Operations Manager, Chief Engineer, Tactical Officer, or by the supervising officer of any primary mission operation. The main computer can also invoke Yellow Alert upon the detection of certain types of unknown spacecraft, outer space phenomena, or significant malfunction in any of the ship's systems. On *Twilight*, Yellow Alert is typically invoked if there's a known deadly contagion aboard.

During Cruise Mode (nominal operational mode): Ship's primary operational crew are organized into three 8-hour shifts: (0800-1600, 1600-2400, 0000-0800.) Cruise Mode Operational Rules include: Level 4 diagnostics are performed on all of the vessel's primary and tactical systems at the beginning of each duty shift. At least one major power generator is maintained at operational status at all times; at least one secondary power energizer is maintained at standby status. Long-range navigational sensors are brought to full operational status if the ship is traveling at warp. Lateral and forward sensor arrays are brought to ready status, and are used by secondary missions as directed by the Ops Manager. Navigational Deflectors are at operational status for protection of the spacecraft from interstellar debris or drag from the subspace medium. All phaser arrays are always in hot standby mode; one torpedo tube is maintained at cold standby status, awaiting activation on two minutes' notice. Typically one doctor, one nurse, and two medical technicians are on duty during Alpha and Beta Shifts; one registered nurse or the physician's assistant, and one medic are on duty during Gamma Shift—during a medical crisis with patients aboard, this number of medical personnel are increased as needed. The Main Shuttlebay is held at launch readiness with at least one shuttlecraft at launch minus five minutes' readiness; this shuttlecraft is loaded with any necessary equipment required of primary or secondary missions, and fully-fueled. This shuttlecraft and all scientific laboratories are at the disposal of any visiting civilian scientists.

During External Support Mode: This is a state of reduced activity that exists when the ship is docked at a starbase or other support facility. The vessel will typically receive umbilical support for at least a portion of operating power and/or life-support, thus enabling a partial or total shutdown of onboard power generation, enabling routine maintenance to be performed. External Support Mode rules permit the starship to conduct a cold shutdown of all primary and secondary power plants as long as sufficient umbilical support is provided for all remaining personnel and systems, although it is preferred that at least one auxiliary fusion generator remain on-line, if possible. The spacecraft must be hard-docked to the support facility with umbilical connects providing electro-plasma system power, environmental support including thermal and gravitational control, and sufficient structural integrity field (SIF) power to maintain the spacecraft's integrity at station keeping. Partial shutdown of environmental support is permitted, allowing atmospheric and water processing to be handled by the support facility through umbilical connects. Life support service must be maintained in all inhabited portions of the ship's interior. Onboard ventilator fans, heating, air conditioning, thermal control, and plumbing must be maintained, although specific areas may be shut down as needed for maintenance work. Gravitational power generation may be discontinued so long as field energy for synthetic gravity is provided through umbilical connects; this may be discontinued completely if the ship has landed on a planet with close to One-Gee of gravity. Cold shutdown of SIF, IDF, navigational and tactical deflectors is permitted so long as the ship is hard-docked to the facility.

Reduced Power Mode: (Also called Grey Mode) An operating state designed for maximum power conservation. These protocols can be invoked in case of a major failure in spacecraft power generation, in case of critical fuel shortage, or in the event that a tactical situation requires severe curtailment of onboard power generation. *Voyager* immediately invoked a variation of this mode when Captain Janeway realized they were 70,000 light years from Earth. Food for the crew was provided by traditional gathering on planets, and forced growth in a hydroponics bay; food replicator use was strictly rationed. Holodeck use was only reluctantly deemed permitted when it was realized that the power generation for that system was incompatible with the rest of the ship's systems, and necessary for the morale and mental health of the crew.

When Reduced Power Mode is invoked, a Level 5 systems analysis is automatically performed by the computer for the entire spacecraft, with the results made available to the

Commanding Officer, the Chief Engineer, and the Operations Manager. The purpose of this analysis is to determine an overall energy budget for the spacecraft, to help plan power allocations that will minimize operational compromises. If the spacecraft is not presently traveling at warp velocity, a cold shutdown of the entire warp propulsion system is to be performed. Exceptions to this rule include situations where the warp core is the only remaining power source for the ship, or when the Commanding Officer determines the necessity for warp velocity travel. The main Impulse propulsion system is to be brought to the minimum required to maintain onboard power usage. Backup fusion reactors are to be kept at standby, but should remain off-line unless necessary, at the discretion of the Chief Engineer. Hourly energy budget and consumption reports are to be made by the Operations Manager to the Chief Engineer and the Commanding Officer. Spacecraft flight operations are to be conducted in a conservative manner. IDF and SIF systems are to be operated at minimum levels. Only one of each generator is to be operational, with a second on hot-standby. All use of tactical and lateral sensor arrays for secondary missions is to be discontinued, except where deemed essential by the Ops Manager. Deflector and navigational systems are brought to minimum power. Secondary deflector generators and backups are brought to cold shutdown unless deemed necessary by the CO, Conn, or Tactical Officer. Type Xb phaser arrays are no longer kept recharged, but the energy stored in their capacitors remain due to their design. Shuttlebay operations are suspended unless specifically authorized by the Bridge; ingress and egress is minimized. Crew status survey conducted by Security department with preparations made for contingency evacuation of part of the ship's habitable volume for environmental support conservation. Environmental systems are to operate at no more than 50% of normal levels. Ship's compartments not in use are sealed off for conservation of environmental resources. Transporter usage is suspended without specific authorization from the Bridge, or a department head. Turbolift system usage is discouraged for all personnel; activation requires voice ID, and the computer may request an explanation of need. Food replicator use is discontinued; preserved food stores are made available for all personnel. In a lesser crisis, minimum replicator power can be made available for synthesis of TKL rations or similar.

10.3 LANDING MODE

Nova Class extending her landing struts

Nova Class vessels are capable of atmospheric entry and egress with equipment worked into the physical design of the starship. Each *Nova Class* vessel is equipped with anti-gravity generators as well as impulse and RCS lifters strategically placed at the mass and stress points on the bottom portion of the engineering section. One anti-gravity landing generator is sufficient to handle landing the entire vessel, but safety protocols call for both to be in operation.

Alert Lighting in all ship's corridors glow blue to indicate the ship is about to enter atmosphere, or during spaceborne docking maneuvers.

During Blue Alert, the warp core is shut down cold before entering a planet's atmosphere. All hands report to their Blue Alert stations, and the alert lighting glows blue. The *Nova* Class lowers the projection sphere of the deflector shields and assumes an angle of attack perpendicular to the angular rotation of the planetary body if it has an atmosphere. This allows the vessel's shape to work as a lifting body with air traveling under the broad and flat saucer and under the wing-like nacelle struts. Once in the atmosphere, navigation is controlled with RCS thrusters and use of the aft impulse engine.

It is standard procedure to lower the landing gear at approximately 2500 meters above the Landing Zone (LZ) surface, regardless of LZ altitude. This minimizes the drag on the vessel. Once prepared for landing, Aft impulse engines are shut down and four vents on the ventral hull are opened. These vents cover the ventral impulse thrust plates. Impulse engines in miniature, the thrust plates serve only to provide lift to the *Nova Class* as the anti-gravity generators effectively reduce its weight. The RCS thrusters provide final maneuvering power.

Once on the ground, crew or equipment can be transported to the surface from the vessel via her boarding ramp on Deck Eight, or use the ladders on the landing struts themselves, and open out near the 'feet'.

Take-off is done in reverse.

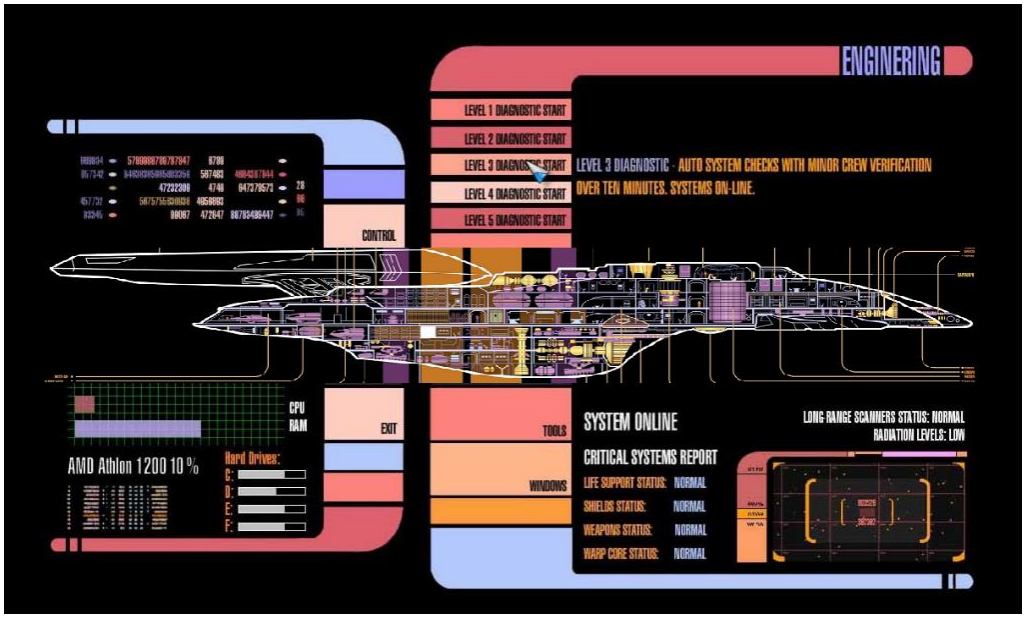
Blue Alert is also declared for spaceborne docking maneuvers.

USS Twilight landed on a Class-M world. Note the warp nacelles are shut down.

10.4 MAINTENANCE

Though much of a modern starship's systems are automated, they do require regular maintenance and upgrade. Maintenance is typically the purview of Engineering, but personnel from certain divisions that are more familiar with them can also maintain specific systems.

Maintenance and calibration of onboard systems is almost constant, and varies in complexity. Everything from fixing a stubborn replicator to realigning the Dilithium matrix is handled by technicians and engineers on a regular basis. Not all systems are checked centrally by Main Engineering; to do so would occupy too much crew and computer time by routing every single process to one location. To alleviate that, systems are compartmentalized by deck and location for checking status. Department heads are expected to run regular diagnostics of their own equipment and report anomalies to Engineering to be fixed. Maintenance of some important equipment, such as tactical shield generators, IDF and SIF generators, are all located on Deck 5, accessed by several doors in the outer hull, on the underside of the primary hull. Crew in workbees and/or space-suits can easily access and maintain these systems in the field.



10.5 Systems Diagnostics

All key operating systems and subsystems aboard the ship have a number of preprogrammed diagnostic software and procedures for use when actual or potential malfunctions are experienced. These various diagnostic protocols are generally classified into five different levels, each offering a different degree of crew verification of automated tests. Which type of diagnostic is used in a given situation will generally depend upon the criticality of a situation, and upon the amount of time available for the test procedures.

Level 1 Diagnostic – This refers to the most comprehensive type of system diagnostic, which is normally conducted on ship's systems. Extensive automated diagnostic routines are performed, but a Level 1 diagnostic requires a team of crew members to physically verify operation of system mechanisms and to system readings, rather than depending on the automated programs, thereby guarding against possible malfunctions in self-testing hardware and software. Level 1 diagnostics on major systems can take several hours, and in many cases, the subject system must be taken off-line for all tests to be performed.

Level 2 Diagnostic – This refers to a comprehensive system diagnostic protocol, which, like a Level 1, involves extensive automated routines, but requires crew verification of fewer operational elements. This yields a somewhat less reliable system analysis, but is a procedure that can be conducted in less than half the time of the more complex tests.

Level 3 Diagnostic – This protocol is similar to Level 1 and 2 diagnostics but involves crew verification of only key mechanics and systems readings. Level 3 diagnostics are intended to be performed in ten minutes or less.

Level 4 Diagnostic – This automated procedure is intended for use whenever trouble is suspected with a given system. This protocol is similar to Level 5, but involves more sophisticated batteries of automated diagnostics. For most systems, Level 4 diagnostics can be performed in less than 30 seconds.

Level 5 Diagnostic – This automated procedure is intended for routine use to verify system performance. Level 5 diagnostics, which usually require less than 2.5 seconds, are typically performed on most systems on at least a daily basis, and are also performed during crisis situations when time and system resources are carefully managed.

Nova Class refit Main Engineering

11.0 EMERGENCY OPERATIONS

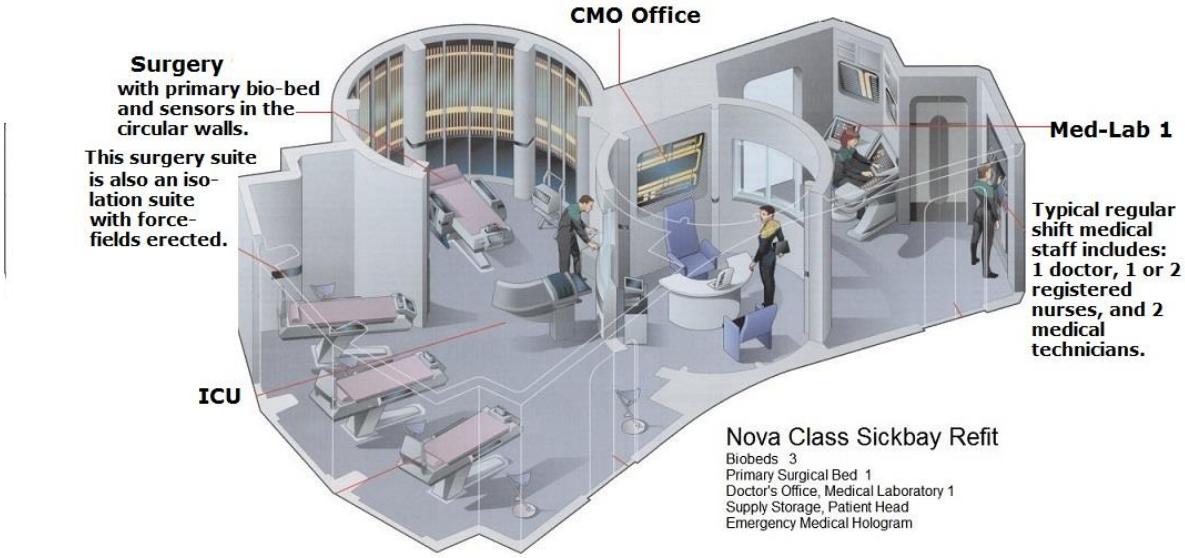
11.1 EMERGENCY MEDICAL OPERATIONS

Pursuant to Starfleet General Policy and Starfleet Medical Emergency Operations, at least 25% of the officers and crew of the *Nova Class* are cross-trained to serve as Emergency Medical Technicians, to serve as triage specialists, medics, and other emergency medical functions along with nonmedical emergency operations in engineering or tactical departments. This set of policies was established due to the wide variety of emergencies, both medical and otherwise, that a Federation Starship could respond to on any given mission. *Twilight's* crew includes two staff medical doctors (one of which is trained in emergency medicine), two registered nurses, 12 medical technicians, and an EMH—besides the ship's captain, who is a trained medical doctor, and the required cross-trained personnel.

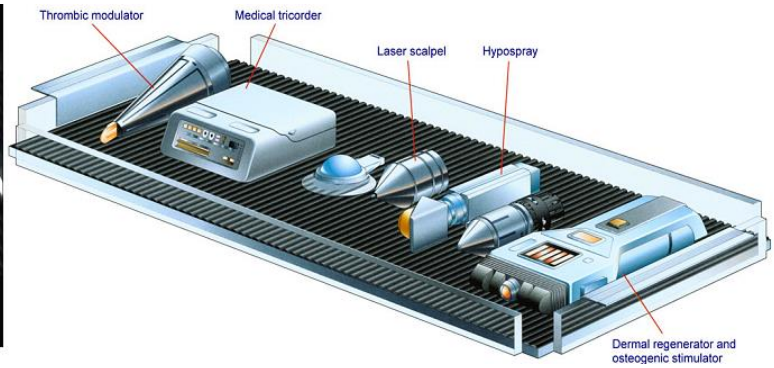
At the request of Capt. J. Harker MD, on refit *Nova* Class Starships, all of the cargo bays and some of the science labs (biological sciences) can be easily converted into emergency treatment wards. Cargo Bays 1 and 4 also provide additional space for emergency triage centers and recovery overflow; here, portable field emitters can be erected for contagion management. Cargo Bay 2 can be reconfigured into a fully-functional third sickbay in an hour, if needed. The two VIP quarters on Decks 1 and 2, and the visiting scientist quarters on Deck 3, can all be converted to private treatment units. Of course, both holodecks can

serve as sickbays or labs on demand—indeed, this is the reason they were installed on a refit *Nova* Class Starship in the first place. As such, naturally, mission-related use of the holodecks take precedence over recreational uses. All medical personnel and scientists have priority for holodeck use, followed by engineering personnel.

Among the crew's medical technicians are several emergency field medics, one pharmacology expert, a specialist in veterinary medicine, and three biology research specialists. The captain himself is an expert in biogenic weapons counterintelligence.

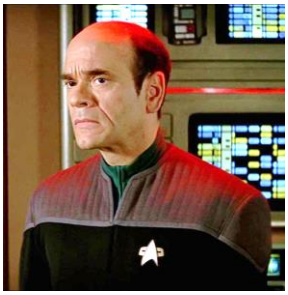


First Aid Stations: There are emergency First Aid stations spaced throughout the vessel, especially near the engineering compartments, on Decks 1, 2, 4, 5, 6, 7 and 8. These Aid stations contain medikits and medical tricorders, as well as EMH emitters.



11.2 EMERGENCY MEDICAL HOLOGRAM

Pursuant to new Medical Protocols, all Medical Facilities are equipped with holoemitters for the emergency usage of the Emergency Medical Hologram System. Starships of this type carry the EMH Mark-I, with options to upgrade to new versions as they become available. These Holoemitters are installed throughout both Sickbays, the Bridge, Main Engineering, Cargo Bay 2, and every scientific laboratory, especially the med-labs on Deck 3. If the holodecks are configured into additional sickbay treatment wards, the holographic doctor can also transfer there as well. This is fortunate, as if there is a radiation hazard in Main Engineering, the Doctor can do whatever needs to be done.



Starship Twilight's Emergency Medical Hologram

Role Playing Information: An EMH has an automatic +6 to all medical sciences rolls, including medical research. If the EMH (+2 because the EMH is actually a ship's system) is working on a combined test along with a medical character, a +2 is added to the roll of the PC medical officer character, to see if the test is passed. For example, if Dr. Harker has a +4 in medical research relating to biogenic weapons, and the EMH is assisting him in the ship's med lab, they have a combined +8 to the role of the dice, to beat a 13 (Difficult) test. (+4, +2, and +2 for use of the starship medical laboratory—for a total of +8.) If the Player running Captain Harker rolls a 5 on a dice roll, that's a result of 13, which passes the test and discovers the cure for the disease. The GM may rule that the doctor PC rolling to find a cure for the disease can only roll twice or three times every day, or once every duty shift of 8 hours (assuming the doctor PC is forgoing sleep and working round the clock to find the cure.)

LUG Character Sheet for an EMH:

Name: Emergency Medical Hologram Mk. I
Rank: n/a
Position: Emergency Medical Hologram
Assignment: Starship Sickbay and anywhere else needed
Race: Human holographic simulation
Gender: male (appearance only)
Age: 45 (appearance only)

Attributes

Fitness 1
Coordination 4
Dexterity +1
Intellect 5
Presence 2
Empathy -2
Psi 0

Skills

Computer (Research) 4 (5)
First Aid (all known Specializations) 5 (6)
Life Sciences (all known Specializations) 4 (5)
Medical Sciences (all known Specializations) 5 (6)
Personal Equipment (Medical Equipment) 1 (6)
Physical Sciences (Chemistry) 5 (6)
Shipboard Systems (Medical Systems) 1 (6)

Traits

Arrogant -1
Code of Honour (Hippocratic Oath) -2

Other Statistics
Courage: 0
Renown: 15
Aggression: 0
Discipline: 0
Initiative: 3
Openness: -5
Skill: 10
Luck: 0
Resistance: n/a

Description and Personality

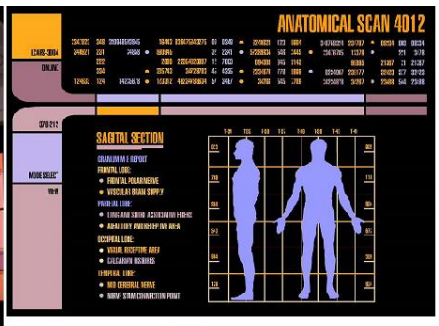
Height: 1.8m
Weight: n/a
Complexion: pale
Hair: brown (balding)
Eyes: brown

The EMH Mk. I is a holographic expert system designed as a supplement to the normal medical staff of a starship or base. It has been given the personality engrams of its designer, Dr. Lewis Zimmerman, an acerbic, short-tempered perfectionist. The EMH, or Doc (as it is sometimes known) has all the knowledge of the Starfleet Medical Database available to it, but its personality makes it an unpopular choice for medical treatment.

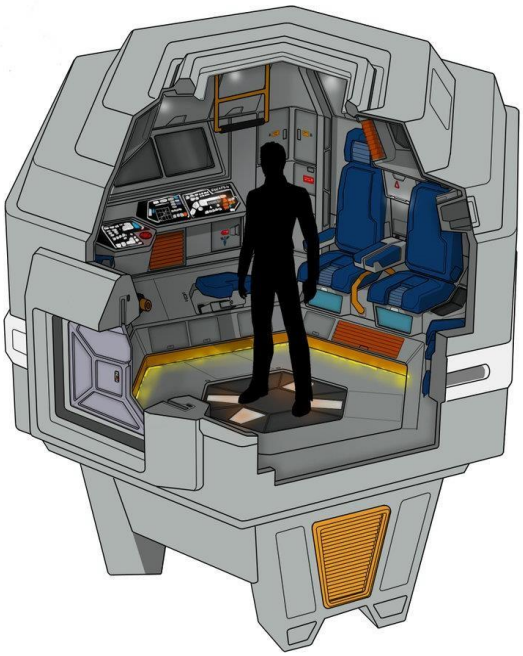
Notes

The EMH is based on the statistics created by Steve Long for his Spacedock Netbook, and reflects the EMH Mk. I as shown in the first episode of Star Trek: Voyager, with no modifications or run-time upgrades.

During emergency evacuation or taking aboard medical casualties, the Main Shuttlebay can be emptied of craft, and turned into a makeshift triage or overflow treatment center. The Main Shuttlebay is equipped with one emergency hospital module in a sealed locker. In such a situation, all cross-trained personnel with medical experience are called to duty. This facility can naturally simulate H, K, L, and N atmospheric environments for non-humanoid lifeforms.



11.3 LIFEBOATS/ASRVs



Emergency Escape Pods are located on Decks 1, 2, and 3. Each pod can support a total of eighty-six person-days (meaning, one person can last eighty-six days, two can last for forty-three, etc.). Two pods are reserved for the top four officers in the chain of command on the ship, because they are the last four to leave the ship. These pods are located on aft Deck 1. As the number of experienced Captains dwindles in Starfleet, the notion of a Captain going down with his ship has been abolished. If the ship is abandoned, the top four officers in the chain of command will wait until everyone else is off the ship, opt to arm the auto-Destruct (required of an SI vessel in imminent danger of being captured), and then leave in the four escape pods. The current lifepods are called ASRVs, or autonomous survival and recovery vehicles. The first group of these were delivered in 2337 to the last *Renaissance* class starship, the *USS Hokkaido*.

In situations when the vessel is not near a habitable system, up to four ASRVs may be linked together in a chain at junction ports to share and extend resources. In the event the ASRVs are launched, the ship's computer automatically transmits a general distress call on all frequencies via the subspace transmitter, for as long as possible (i.e. for as long as there is power to do so, or until the self-destruct system blows up the starship.)

In the event of absolute emergency, the ship's turbolift cars are also equipped to serve as ASRV lifeboats. Medikits, emergency rations, and other supplies are accessed through a panel in the floor. Each turbolift car can support up to two persons for up to 25 days. While it lacks a small impulse engine, the turbolift cars are equipped with basic maneuvering thrusters and docking systems, to link up with the ship's ASRV lifepods. Also, while an ASRV is capable of surviving the heat of reentry into a planetary atmosphere, emergency evacuation would also make use of the ship's auxiliary craft, especially the three shuttlecraft, the Waverider shuttle, the Valkyrie fighters, and even the workbees. The Waverider shuttle is equipped with a fully functional biobed and an EMH, for the sick and injured.

11.4 RESCUE AND EVACUATION OPERATIONS

Rescue and Evacuation Operations for a *Nova Class* starship will fall into one of two categories – abandoning the starship, or rescue and evacuation from a planetary body or another starship.

Rescue Scenarios

Resources are available for rescue and evacuation to a *Nova Class* starship include:

- The ability to transport 200 persons per hour to the ship via personnel transporters.
- The availability of the 2 Type-9 shuttlecraft to be on hot standby for immediate launch, with all additional shuttlecraft available for launch in an hour's notice. Total transport capabilities of these craft vary due to differing classifications, but an average load of 50 persons can be offloaded per hour from a standard orbit to an M Class planetary surface.
- Capacity to support up to **245** evacuees with conversion of the shuttlebay, all crew recreation facilities and all cargo bays to emergency living quarters.
- Ability to convert the Mess Hall, Cargo Bays 1, 3 and 4 to emergency triage and medical centers. (Cargo will be pushed up against the bulkheads and outer doors.)
- Ability to temporarily convert Cargo Bay 2 to type H, K, or L environments, intended for non-humanoid casualties. This same cargo bay can be converted to a fully-functional sickbay with an hour's notice.
- Ability to temporarily convert the Main Shuttlebay into an emergency triage and medical center, and to support lifeforms from H, K, L, or N environments.

Abandon-Ship Scenarios

Resources available for abandon-ship scenarios from a *Nova Class* starship include:

- The ability to transport 300 persons per hour from the ship via personnel and emergency transporters.
- The availability of the two Type-9 shuttlecraft to be on hot standby for immediate launch, with all additional craft available for launch in an hour's notice. Total transport capabilities of these craft vary due to differing classifications but an average load of 75 persons can be offloaded per hour from a standard orbit to an M Class planetary surface.
- Protocols also include the use of Lifeboats. Each *Nova Class* vessel carries 24 of the 6-person variants, which measures 5.6 meters tall and 6.2 meters along the edge of the rectangle. Each Lifeboat can survive longer if they connect together in "Gaggle Mode." Gaggle mode must be separated into individual pods prior to reentry in atmosphere of a planet.
- Environmental Suits are available for evacuation directly into a vacuum. In such a scenario, personnel can evacuate via airlocks, the flight bay, or through exterior turbolift couplings. Environmental suits are available at all exterior egress points, along with survival lockers spaced throughout the habitable portions of the starship. Standard air supply in an EVA suit is 24 hours, although extra air tanks are available and can extend this to 48 hours.

11.5 CORE EJECTION

Though rare, starships occasionally face the horrendous possibility of a warp core breech. As the primary power source for a starship, the explosive power of a warp core far surpasses the superstructure and structural integrity field strengths and most often ends in the complete destruction of the starship and anything within a 20,000 km blast radius. (Meaning anything within two hexes of an exploding warp-core on the game board will be destroyed, or at least, take heavy damage, on the order of a 30d6 dice roll.)

Modern starships have been equipped for this possibility and have the capability to eject their warp core. The *Nova Class* has an ejection port on the forward side of the ventral engineering hull. Magnetic rails inside the channel accelerate the core once disengaged from the ship and 'fires' it as far as 2000 meters away from the ship. The ship then moves away from the core as fast as possible under impulse power.

Should the core not go critical, the *Nova Class* can recover its warp core by use of tractor beams and careful manipulation. (Alternatively, a malfunctioning warp core about to go critical can be used as an improvised photon torpedo, with the tractor beam used to "toss it" at an enemy vessel. Captain Harker used this tactic in Operation: Return, during the heated battle to retake Starbase Deep Space Nine. Naturally, the loss of his vessel's warp core, combined with heavy damage, left his ship crippled. As I recall that battle in-game, even *Twilight's* starboard warp nacelle was ripped clean off.)

11.6 EMERGENCY LIFE SUPPORT AND OTHER BACK-UP SYSTEMS

Starfleet Regulations require at least two back-ups for every system aboard each ship and space station in the event of catastrophic breakdown or battle damage, especially for the life-support systems. On a *Nova* Class Starship like *Twilight*, the entire atmospheric life-support and heating of the habitable volume of the ship is managed by the Primary Life Support System on Deck Two. Gas storage for the atmosphere, Cold Fusion Batteries for

power shortage, and emergency spare parts are stored in this compartment. In the event something were to happen to the Primary Life Support System, there are a number of back-ups which take over immediately. A slightly smaller life-support unit is located on Deck Five, which is capable of handling the entire primary hull (4 decks.) A second back-up life-support unit is located on Deck 6 portside, which is capable of handling the life-support needs for the entire engineering section of the starship (4 decks.) When the Primary Life Support System is temporarily taken off-line for regular maintenance (every 25,000 hours, usually while docked at a starbase) or in deep space, the two back-ups are activated.

In the unlikely but very real possibility that the primary and both back-up life support systems are off-line, there are 6 Refuge Areas for the entire crew to retreat to, each with their own, smaller life-support systems. Refuges One, Two, and Three are the Mess Hall, Recreation Room, and Visiting Scientist Lounge. Each of the two sickbay complexes have their own independent life-support system, with Cold Fusion Battery back-ups to power life-support and other sickbay systems. Finally, the Bridge tertiary life-support back-up system is capable of handling the needs of all of Deck One.

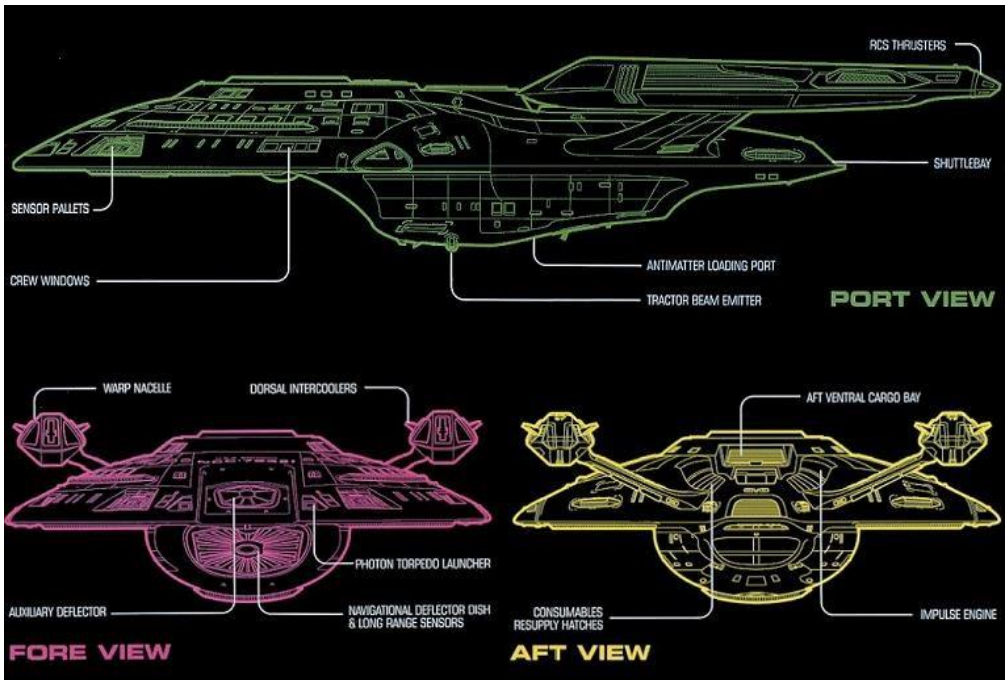
Further catastrophic breakdown of life-support is handled by retreat into a lifeboat escape pod or extravehicular activity suits, which is of course call for abandoning the starship. The Primary SIF and IDF generators are located in the primary hull of Deck Five; they can be accessed through access plates on the outer hull of the vessel from space.

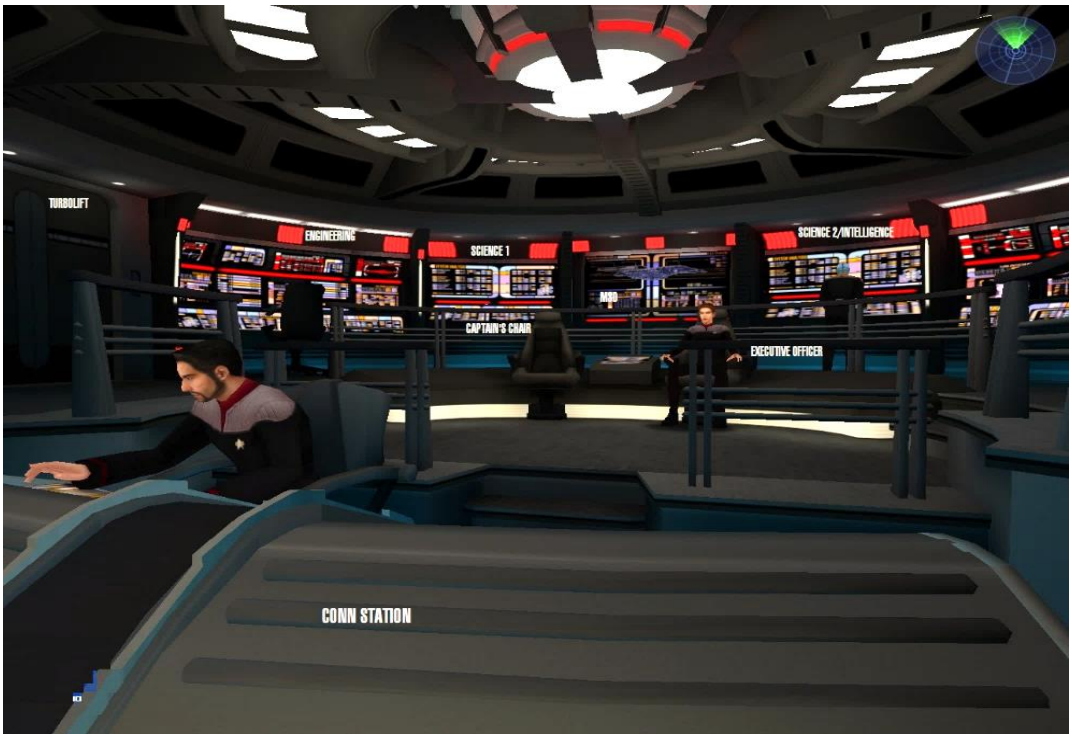
Structural Integrity Field – The SIF generators produce a constant 1000 Cochrane force-field on all load-bearing members and other sensitive parts of the spaceframe during warp or impulse speeds, to reinforce the structural integrity of the spacecraft by 150,000% of her normal tensile strength. Without these force fields, the spaceframe would quite simply collapse within 1.24 minutes of achieving Warp One, even with modern alloys and welding techniques. Therefore, the SIF is a Priority for power while traveling at any speed past 170km/second or **0.05% c** (the thrust of a Saturn V rocket.) Back-up SIF generators are located throughout the volume of the starship.

Inertial Damping Field – The primary IDF generators on Deck 5 operate with the ship's gravity plates and internal force fields to negate the harsher effects of relativistic delta-v speed on the crew. Without this, the crew would end up as a millimeter-thin paste on the rear bulkhead the very moment the ship went to warp, or even a quarter of the speed of light. Back-up IDF generators are located throughout the volume of the starship, and even in the crawlspace between the decks.

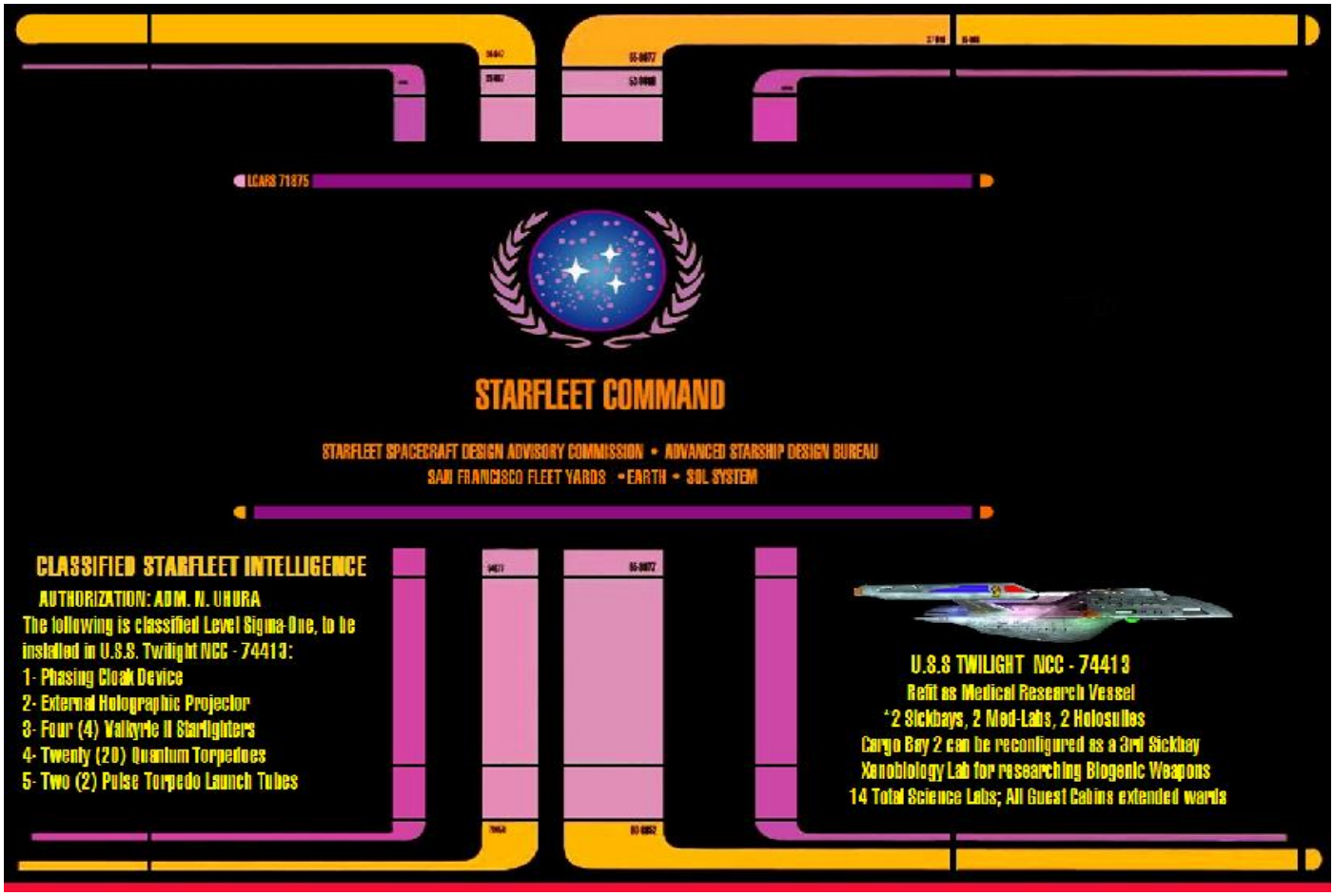
APPENDIX A – VARIANT DESIGNATIONS

N-LFFG – Light Fast Frigate
MSRV-Medical Science Research Vessel





The Bridge, looking aft from the main viewscreen



APPENDIX B – BASIC TECHNICAL SPECIFICATION

ACCOMMODATION

Officers and Crew (typical): 65-80
Evacuation Limit: 245

DIMENSIONS (based on Eaglemoss Official Star Trek magazine)

Overall Length: 222 meters (728 ft.)
Overall Draft: 120 meters (394 ft.)
Overall Beam: 47 meters (154 ft.)

PERFORMANCE

Full Impulse: 0.25c (can go higher with captain's authority, but not recommended)

Cruise Speed: Warp 6
Flank Speed: Warp 7 (maximum sustainable speed without taxing the engines)
Maximum Velocity: Warp 8 (12 hours maximum before automatic shut-down)

ARMAMENT

Standard – 11 Type Xb phasers, 2 forward torpedo launchers.
Enhanced Starfleet Shields for ship of its size.

Special – (SI vessels only): 1 Interphasing cloak, 1 external holographic projector unit, 1 sensor jammer; 20 Quantum Torpedoes (wartime only.)

TRANSPORT EQUIPMENT

Shuttlecraft (typical):

- 2 Type-9 Light Medium-Range Shuttlecraft (4-person)
- 1 Type-8 Medium-Range Shuttlecraft (6-person)
- 4 Valkyrie II Warp Starfighters (1 or 2-person, during wartime only)
- 3 *Workbee*-Type Maintenance Pods
- 1 Type-16B Shuttlepod (2-person, short-range)
- 1 Waverider Shuttle (Warp 5 capable, 7-person)
- 1 Tiberius Class Medium-Range Shuttlepod (2-person, SI vessels only)

Transporters:

- Two 6-person, personnel transporter rooms
- One cargo transporter
- One emergency 18-person (send only)
- Several Site-To-Site units built into bulkheads

Sensors:

- Class-C Long-Range sensors behind both navigational deflector dishes (specialized and enhanced for a science vessel.) This effectively nearly doubles the range of Long-Range sensors.
- 18 Sensor Suites with the most advanced Lateral sensors known to Federation technology. (*Only the *Intrepid*, *Sovereign*, or *Nebula*-Class ships have the same enhanced sensor equipment.) The sheer number of sensor pallets installed on a Nova-Class Starship mean that all 14 Science Labs, including Astrometrics, and the science stations on the bridge, can use the sensors for secondary missions at the same time. This would only be discontinued during Alert modes.
- 11 independent tactical sensors guarantee that the Bridge Tactical Station can lock-on to 50 Threat vessels at one time, cutting down instances of "friendly-fire."

VIP Observation Lounge, Deck 1 – used for visiting dignitaries, scientists, doctors and off-duty senior officers to unwind. Meals are sometimes taken here by senior officers.

APPENDIX C – DECK LAYOUT

Antimatter Injector on Deck 8, bottom of M/ARA assembly

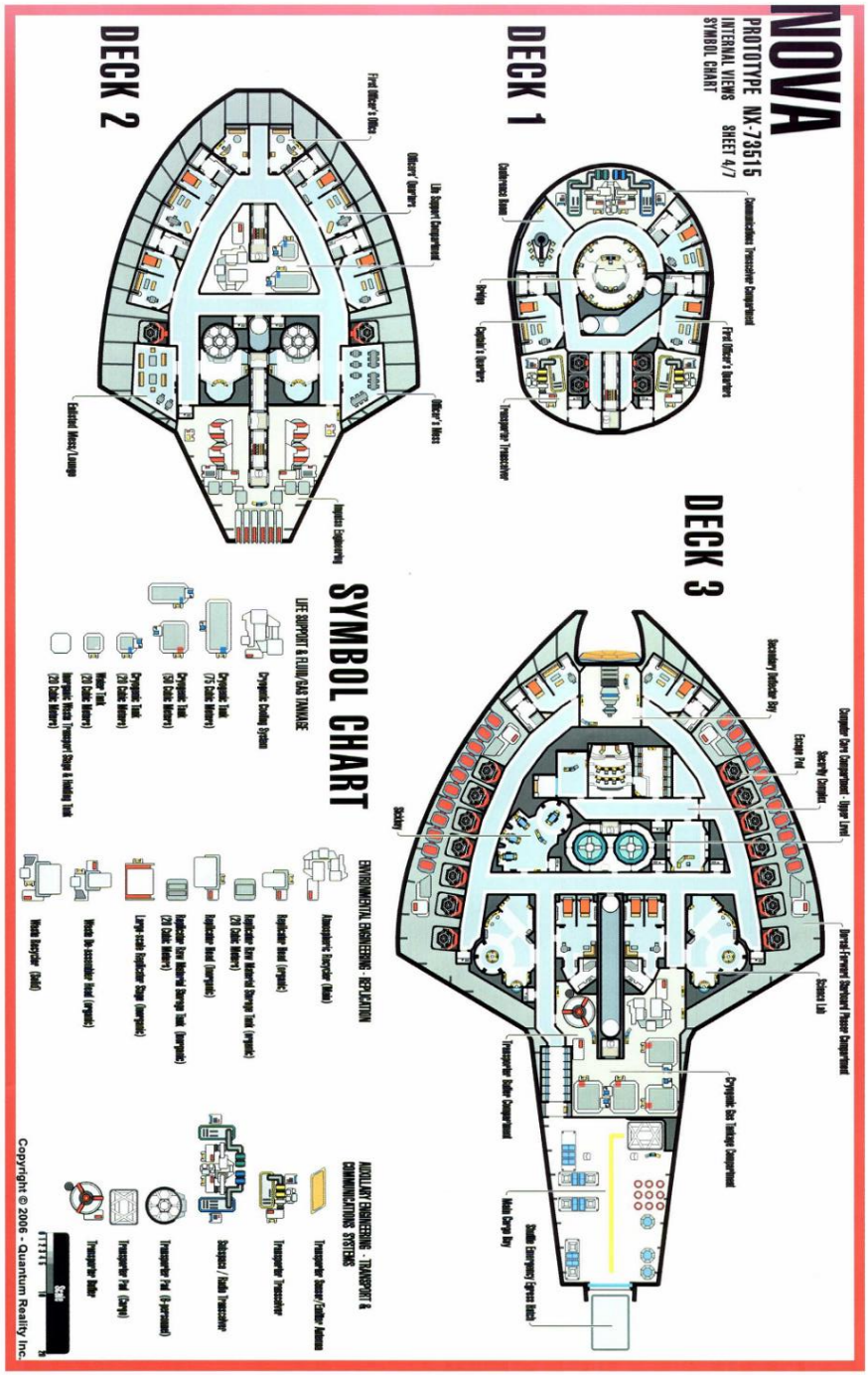
Twilight's refit Main Sickbay before power-up

Twilight on final approach to Spacedock-1

Captain Harker's personal display screen, indicating a classified incoming transmission

Type-9 Shuttlecraft approaching USS Twilight

One of Twilight's 14 Science Labs



The Nova's *original schematics had to be completely redesigned. The prototype ship even lacked a captain's Ready Room, so his private cabin had to be used instead, as on Equinox. Note the undersized sickbay with no medical lab, no CMO office, and the completely unnecessary humongous second subspace transmitter on Deck One.*

The original plans for the *Nova* Class wasted a great deal of space on oversized equipment and cavernous compartments to house them. Most of this oversized equipment was designed for use on a *Galaxy* Class Starship. There were only two science labs—too few for a science vessel—one very small sickbay that lacked even an office for the Chief Medical

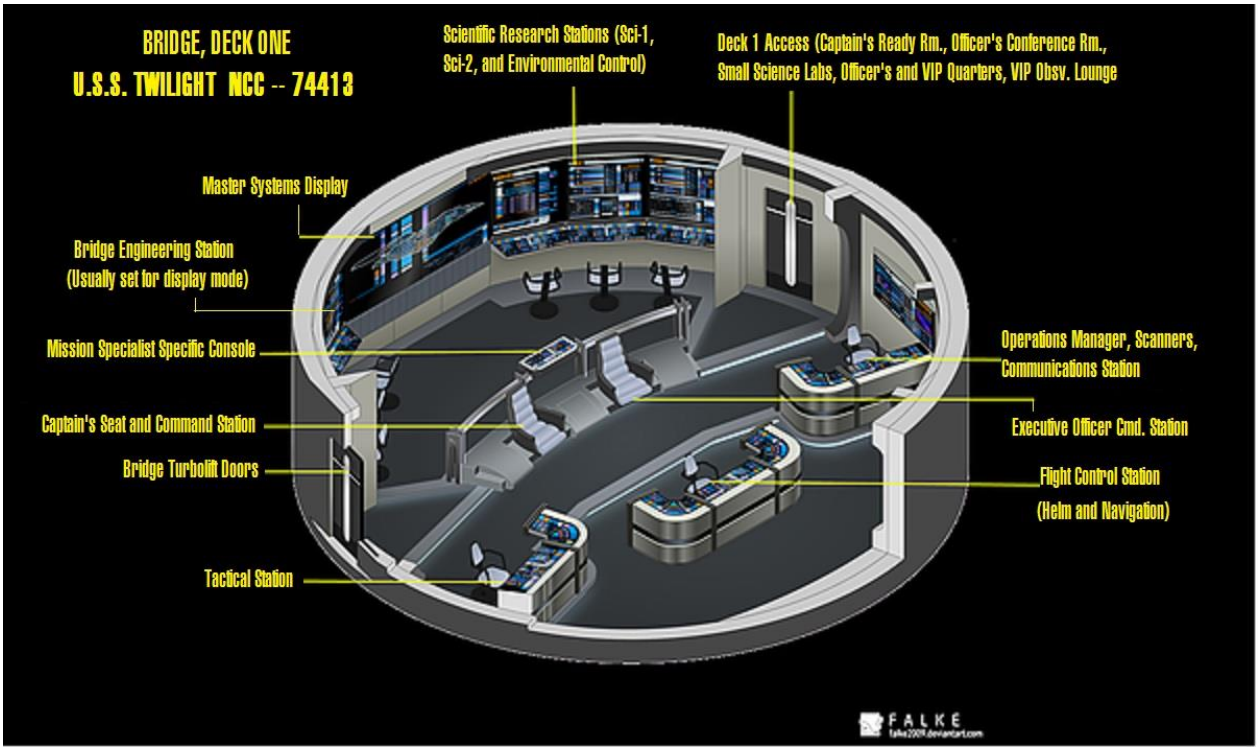
Officer, undersized structural integrity field and inertial damping field generators, or even a holodeck. The U.S.S. *Nova* and *Equinox* only had one cargo bay, and lacked basic amenities for crew and extremely limited required spare parts for maintenance and repair. As a direct result, when stranded in the Delta Quadrant, the *Equinox* was on the verge of complete collapse when the crew of *Voyager* stumbled upon her. To be fair, these original *Nova* Class starships were probably just outfitted with basic equipment to get by, to meet scheduled testing deadlines and to make production easier. Even so, within two years of initial launch, the Type-1 Variant followed the chief designer's recommendations for additional cargo space, additional science labs, and crew accommodations, and the Type-2 Variant followed Dr. Harker's recommendations for a medical research vessel. Captain Ransom's logs recorded prior to *Equinox's* disappearance clearly record his request for a refit as soon as possible.

Captain Ransom in command of his wrecked starship Equinox

What was left of the Starship Equinox after 4 years in the Delta Quadrant

Nova Class Variant:

Nova Class Starship: Dorsal, Ventral, Starboard, Bow, and Stern views



Starship Twilight's refit Bridge module

Nova Class Variant/Medical Research Vessel:

Deck 1: Bridge, Captain's Ready Room & Small Armory, Officer's Conference Room A, Two Senior Officer's Quarters, VIP cabin, VIP Observation Lounge, Lav (3), a small general-purpose scientific laboratory, a small Astrometrics laboratory, and 4 Escape Pods.

Deck 2: Captain's Cabin, Executive Officer's Cabin, Senior Officer's Quarters, Arboretum, Recreation Room/Observation Lounge, Mess Hall, Officers' Mess, Transporter Rooms 1&2, Storage (5), Lav (2), Escape Pods, Life Support Compartment, Impulse Engine Control Room, Primary Impulse Engine (Amidships), and Impulse Engine Deuterium Storage Tanks. (Top of Main Computer Core is below the deck plates of Life Support.)

Deck 3: Sickbay 1&2, Primary Sickbay Support Systems (ICU, Biohazard Support, Surgical Ward, Critical Care, Null-Gravity Treatment, Isolation Suites, etc.), Chief Medical Officer's Office, Medical Stores, Med Labs 1&2, Morgue, Main Computer Core, Security Office/Brig, Armory, Phaser Range, Auxiliary Control Room, Lav (3), Medical Officers' Quarters (2), Crew/Guest Quarters (2), Science Labs (3), Cargo Bay 1, XO Office, Escape Pods, Spacesuit Lockers, Airlock & Lateral Docking System, Torpedo Launching Systems (P/S), Storage (14), Photon Torpedo Magazine & Photon Torpedo Loading Mechanism.

Deck 4: Shuttlebay, Holodecks 1&2, Geology/Planetary Development Lab, Chief Science Officer's Office, Senior Officers' Quarters (6) Crew/Guest Quarters (8), Turbolift Car maintenance and repair shop, EPS Node Monitoring, SIF Systems, Science Labs (4), Dorsal Main Phaser Emitters (P/S), Aft Saucer Phaser Emitters (P/S), Aft Engineering Hull Phaser Emitters (P/S), First-Aid Station (1), Main Computer Core, and WaveRider Shuttlecraft Docking Port (Twilight's Waverider shuttle is called the *Hippocrates,* because her captain is also a medical doctor.) Deck 4 has the largest habitable volume of the entire starship.

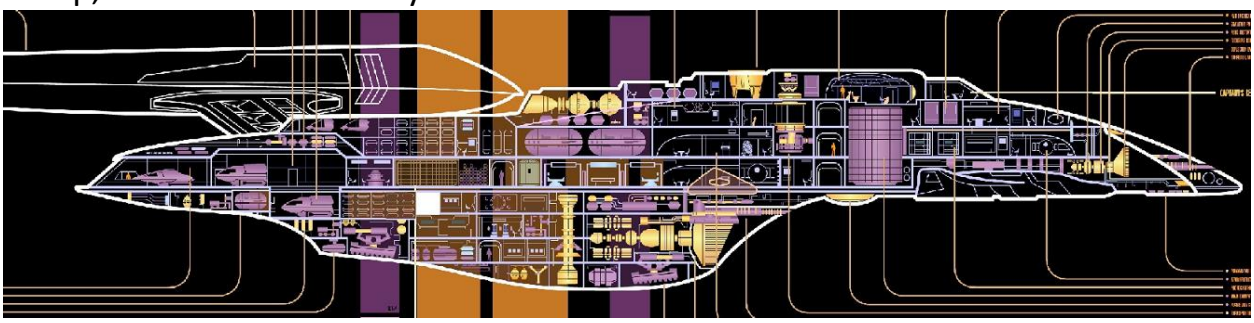
Deck 5: Hangerbay, Cargo Bays 2&3, Flight Control, Storage (8), Starboard Ventral Docking Port/Airlock, Crew Quarters, Primary Hull Shield Deflectors,

Antigravity Landing Generators (P/S), Inertial Damping Field Generators, Structural Integrity Field Generators, Damage Ctrl, Subspace Radio Transceiver, Main Sensor Dome, Long Range Sensor Array, Engineering Lab, Deuterium Storage Tanks, and Emergency Back-up Life-Support. (The names of *Twilight's* shuttlecraft are the *John Burke, Elizabeth Dahner, and Richard Daystrom*. These names should be familiar to anyone who's a fan of the original Star Trek TV series.) A lot of equipment is installed into the airless half-deck in the primary hull, this level, including the back-up atmosphere processors, gas storage, and auxiliary SIF and IDF generators.

Deck 6: Main Deflector Control, Upper Engineering, Chief Engineer's Cabin, Chief Engineer's Office, Lav, First Aid Station, Engineering Crew Quarters (3), Repair Bay, Deuterium Fuel Storage, Airlock, Consumables Storage, and Cargo Bay 4.

Deck 7: Main Engineering, Dilithium Reaction Chamber (Warp Core), First Aid Station, Counselor's Office, Quartermaster's Office, Auxiliary Fusion Reactors (4), Crew Quarters, Main Astrometrics Laboratory, Conference Room-B (Visiting Scientist Lounge), Waste Recycling, Antimatter Processing Bay, Cloaking Device, Landing Struts (2 – P/S), Landing Systems Control, and Landing Systems Maintenance.

Deck 8: Antimatter Storage Pods, Antimatter Injector, Warp Core Ejection Systems, Plasma Relay Control, Antimatter Pod Ejection Systems, Replicator Main Systems Bay, Ventral Phaser Emitter, Landing Struts (2 – P/S), Airlock & Landing Ramp, and Tractor Beam Systems.



Nova

Class Surveyor

Vessel Specifications and Related Data:

Class Name:	**Nova**
Vessel Name:	**U.S.S. Twilight**
Construction Contract:	**NCC – 74413**
Series:	**Class 1b starship**
Design:	**Scout**
Type:	**Surveyor**
Overall Length:	**221.74 meters**
Overall Draft:	**41.52 meters**
Overall Beam:	**119.94 meters**
Displacement:	**450,000 metric tonnes**

Missions: Scientific Exploration and Investigation, Planetary Surveys, Short-Range Patrol, Defense of Federation Interests, Espionage; Medical Research (Biogenic Weapons)

Standard Armament:

- Type Xb Phaser Arrays (11)
- Photon Torpedo Tube Launchers (2, Forward)

Defensive:

- Combat Shields (enhanced modulating type)
- Navigational Deflector Dish (2, Main, Auxiliary)
- Tractor Beam Emitter (1, Main, ventral hull)

Special:

- Phasing Cloak Device (1 of 15 authorized by special arrangement with Romulan Empress)
- Sensor Jammer
- External Holographic Projector Unit
- Four Valkyrie II Warp Starfighters, each armed with quantum micro-torpedoes and Type VI phasers
- 20 Quantum Torpedoes
- 3-5 Espionage Probes

Authority: Starfleet Intelligence, Starfleet Command, Earth

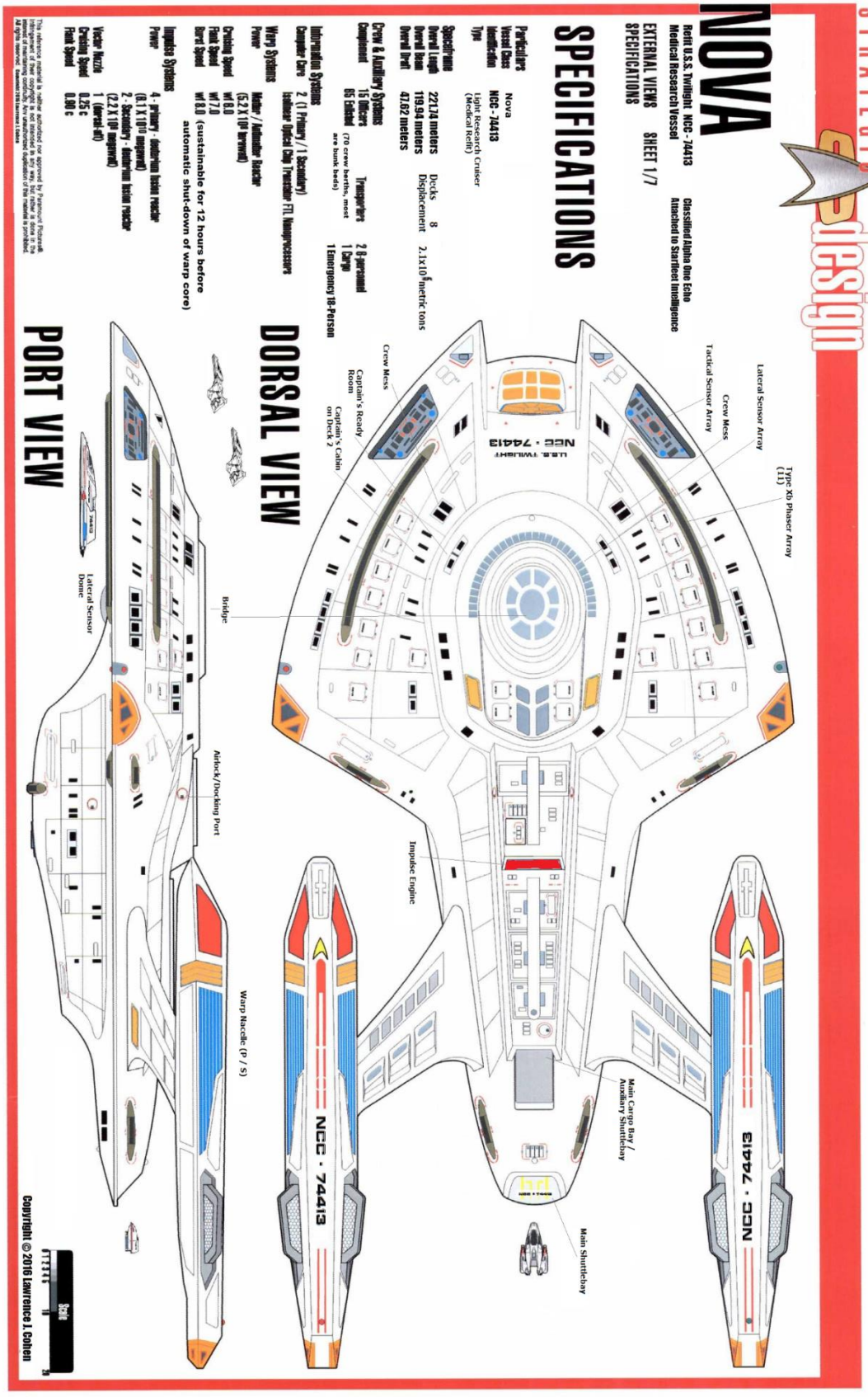
EMBARKED AUXILIARY CRAFT

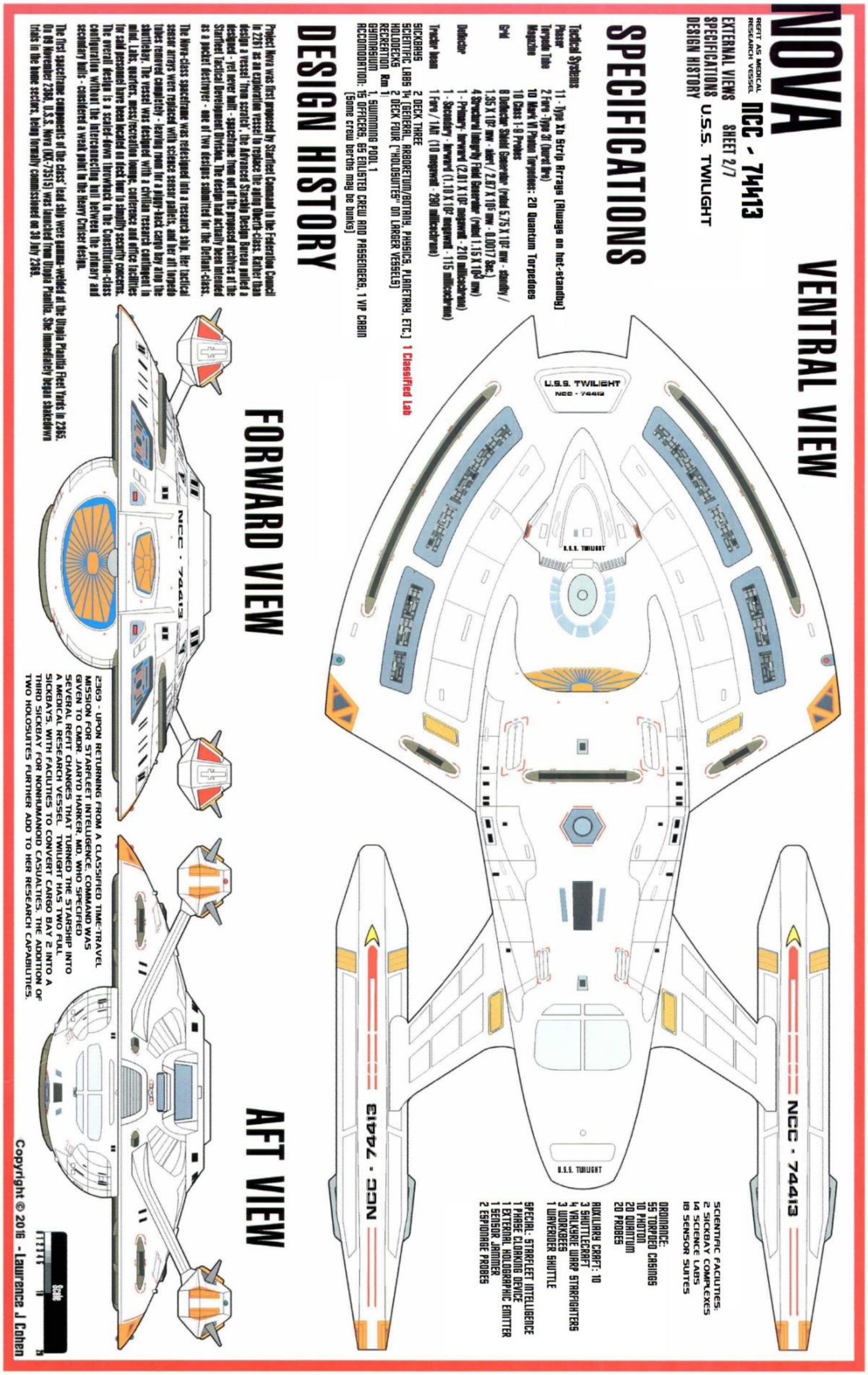
HIPPOCRATES	WAVERIDER SHUTTLE	NCC-74413/1
JOHN BURKE	TYPE 8 Shuttlecraft	NCC - 74413/2
RICHARD DAYSTROM	TYPE 9 Shuttlecraft	NCC - 74413/3
ELIZABETH DEANER	TYPE 9 Shuttlecraft	NCC - 74413/4

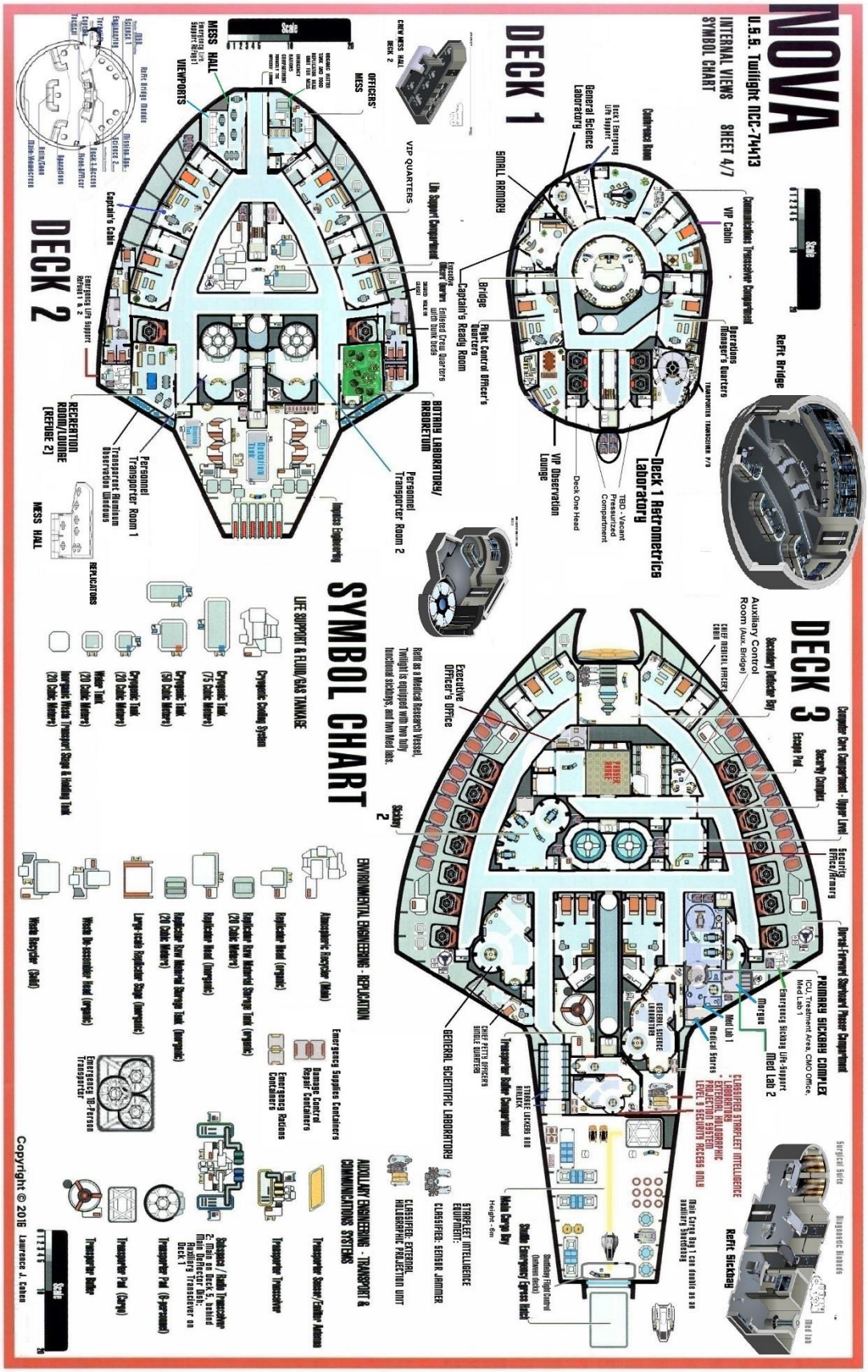
U.S.S. TWILIGHT
NCC - 74413

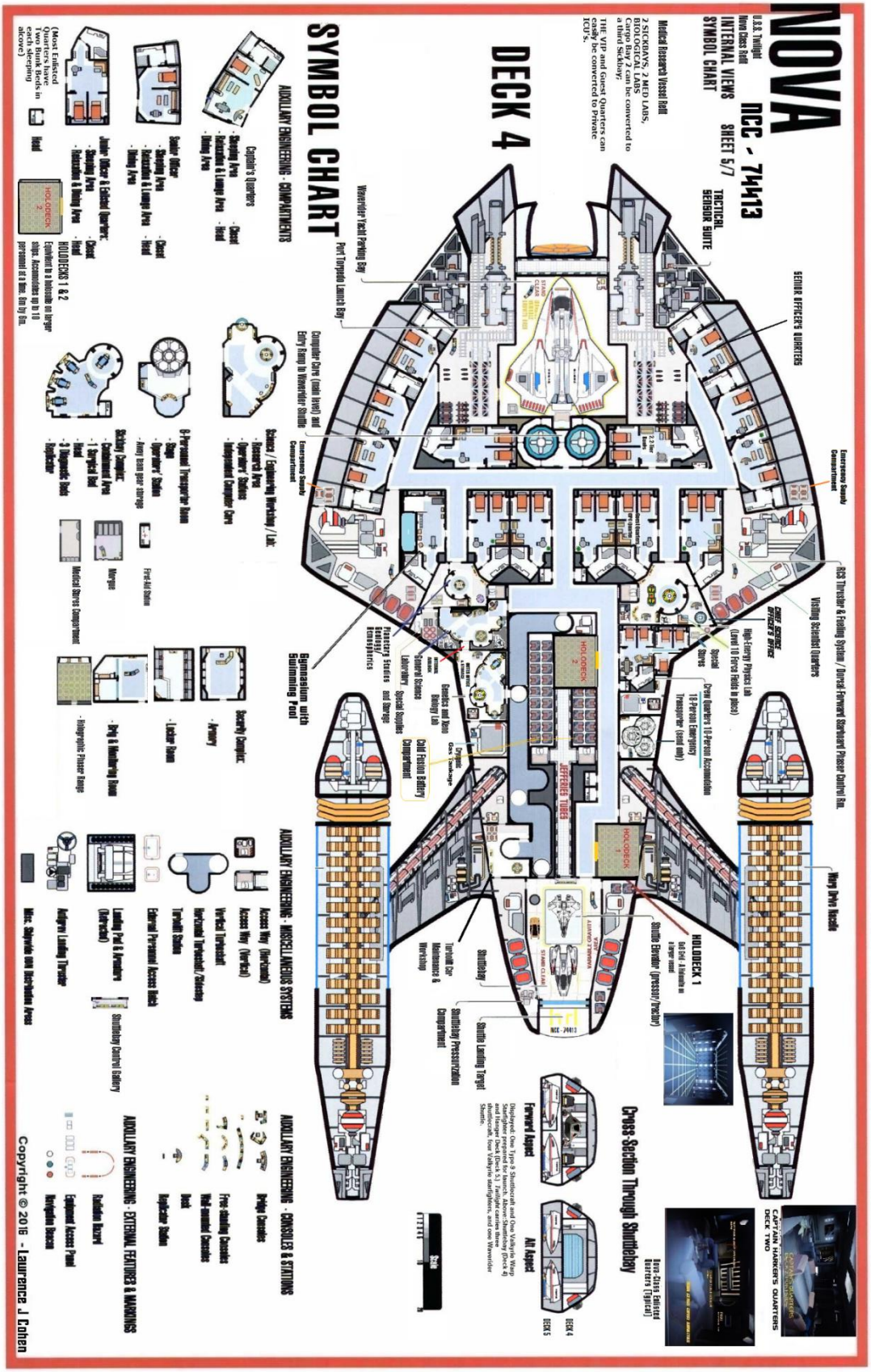
CLASSIFIED - LEVEL SIGMA-ONE
STARFLEET INTELLIGENCE

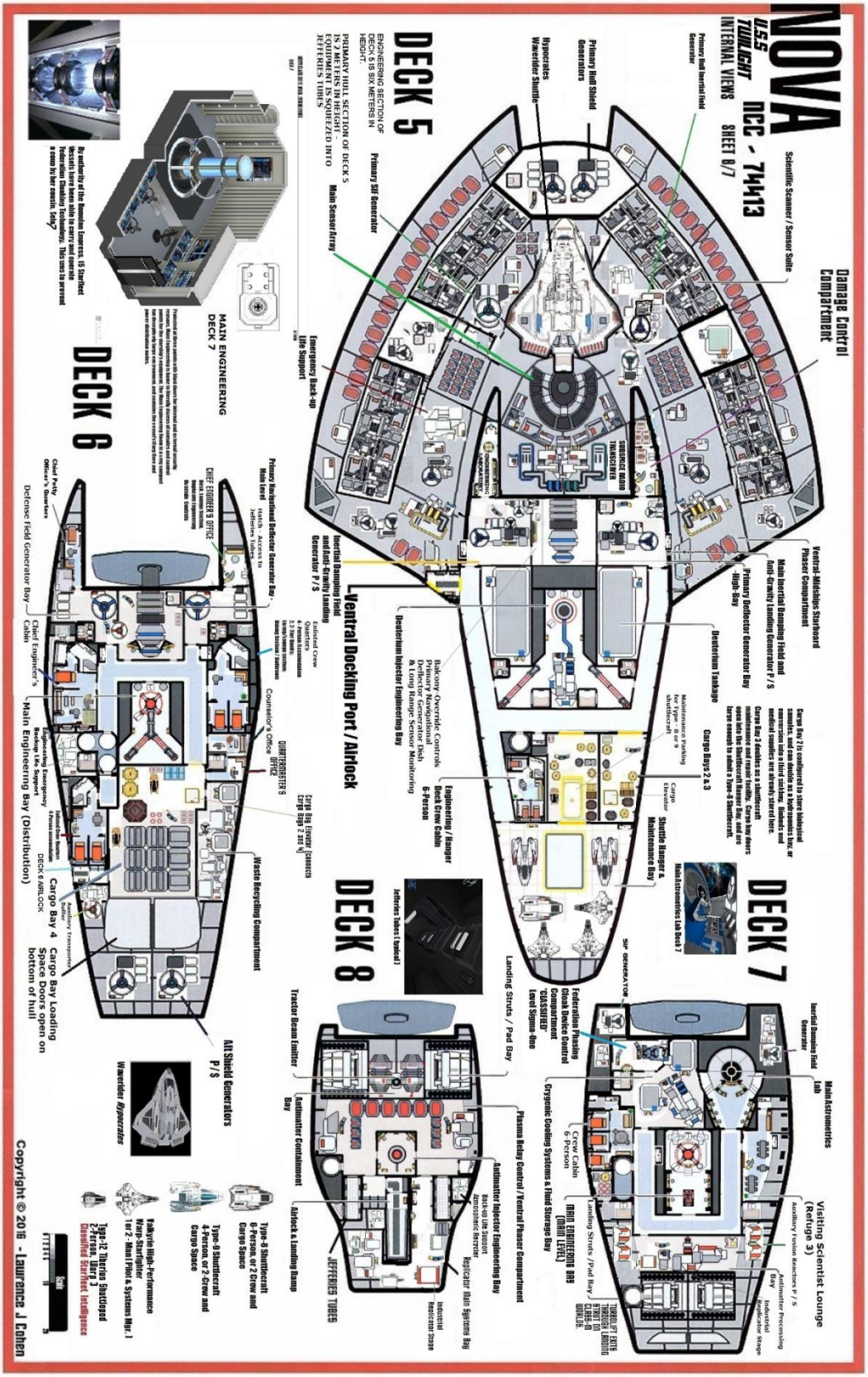
ADMIRAL N. UHURA, DIRECTOR
STARFLEET COMMAND, SAN FRANCISCO, EARTH

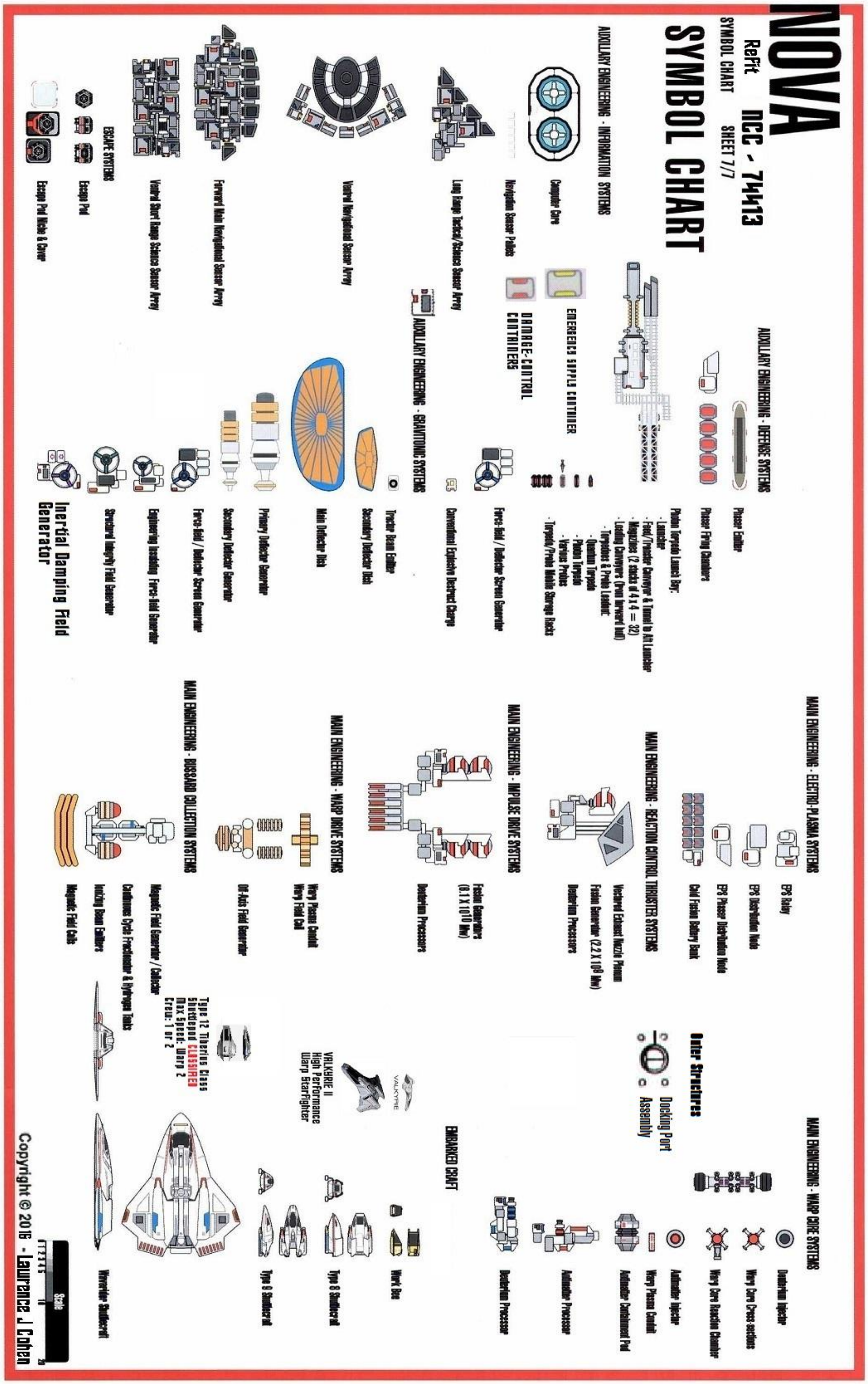

STRATEGIC design
Innovative Concepts Into Tomorrow's Technology - Today
NOVA
Refit U.S.S. Twilight NCC - 74413
Medical Research Vessel
EXTERNAL VIEWS SHEET 1/7
SPECIFICATIONS
Classified Alpha One Echo
Attached to Starfleet Intelligence
SPECIFICATIONS
Particulars
Vessel Class Nova
Identification NCC - 74413
Type Light Research Cruiser (Medical Refit)
Specifications
Overall Length 22124 meters
Overall Beam 119.94 meters
Overall Draft 41.62 meters
Decks 8
Displacement 2.1x10⁶ metric tons
Crew & Auxiliary Systems
Complement 15 Officers
85 Enlisted
(70 crew berths, most are bunk beds)
Transporters 2 Ø-personnel
1 Cargo
1 Emergency 18-Person
Information Systems
Computer Core 2 (1 Primary / 1 Secondary)
Isolinear Optical Chip Transistor FTL Nanoprocessors
Warp Systems
Power Matter / Antimatter Reactor
(5.2 X 10⁹ terawatt)
Cruising Speed wf 8.0
Flank Speed wf 7.0
Burst Speed wf 8.8 (sustainable for 12 hours before automatic shut-down of warp core)
Impulse Systems
Power 4 - Primary - deuterium fusion reactor
(8.1 X 10¹⁰ megawatt)
2 - Secondary - deuterium fusion reactor
(2.2 X 10⁹ megawatt)
Vector Matrix 1 (aerial-aft)
Cruising Speed 0.25 c
Flank Speed 0.90 c
PORT VIEW
DORSAL VIEW
Lateral Sensor Array
Tactical Sensor Array
Crew Mess
Type XO Phaser Array (11)
U.S.S. TWILIGHT
NCC - 74413
Crew Mess
Captain's Ready Room
Captain's Cabin on Deck 2
Bridge
Impulse Engine
Main Cargo Bay / Auxiliary Shuttlebay
Main Shuttlebay
Airlock/Docking Port
Warp Nacelle (P / S)
Lateral Sensor Dome
Scale
Copyright © 2016 Lawrence I. Colten


NOVA
REFIT AS MEDICAL RESEARCH VESSEL
NCC - 74413
EXTERNAL VIEWS SHEET 2/7
SPECIFICATIONS U.S.S. TWILIGHT
DESIGN HISTORY
VENTRAL VIEW
SPECIFICATIONS
Tactical Systems
Phaser 11 - Type Xb Strip Arrays [Always on hot-standby]
Torpedo Tube 2 Fore -Type 3f (burst fire)
Magazine 10 Mark VI Photon Torpedoes; 20 Quantum Torpedoes
10 Class 1-9 Probes
Grid 8 Deflector Shield Generator (rated 5.75 X 10² mw - standby / 1.35 X 10² mw - alert / 2.87 X 10⁵ mw - 0.0017 Sec.)
4 Structural Integrity Field Generator (rated 1.15 X 10³ mw)
Deflector 1 - Primary- forward (2.01 X 10² megawatt - 210 millicochrane)
1 - Secondary - forward (1.10 X 10² megawatt - 115 millicochrane)
Tractor beam 1 Fore / 1Aft (10 megawatt - 290 millicochrane)
SICKBAYS 2 DECK THREE
SCIENTIFIC LABS 14 [GENERAL, ARBORETUM/BOTANY, PHYSICS, PLANETARY, ETC.] 1 Classified Lab
HOLODECKS 2 DECK FOUR ["HOLOSUITES" ON LARGER VESSELS]
RECREATION Rm 1
GYMNASIUM 1, SWIMMING POOL 1
ACCOMODATION: 15 OFFICERS, 65 ENLISTED CREW AND PASSENGERS, 1 VIP CABIN
[Some crew berths may be bunks]
DESIGN HISTORY
Project Nova was first proposed by Starfleet Command to the Federation Council in 2261 as an exploration vessel to replace the aging Oberth-class. Rather than design a vessel 'from scratch', the Advanced Starship Design Bureau pulled a designed - yet never built - spaceframe from out of the proposed archives at the Starfleet Tactical Development Division. The design had actually been intended as a pocket destroyer - one of two designs submitted for the Defiant-class.
The Nova-class spaceframe was redesigned into a research ship. Her tactical sensor arrays were replaced with science sensor pallets, and her aft torpedo tubes removed completely - leaving room for a piggy-back cargo bay atop the shuttlebay. The vessel was designed with a civilian research contingent in mind. Labs, quarters, mess/recreation lounge, conference and office facilities for said personnel have been located on deck four to simplify security concerns. The overall design is a scaled-down throwback to the Constitution-class configuration without the interconnecting hull between the primary and secondary hulls - considered a weak point in the Heavy Cruiser design.
The first spaceframe components of the class' lead ship were gamma-welded at the Utopia Planitia Fleet Yards in 2365. On 09 November 2368, U.S.S. Nova (NX-73515) was launched from Utopia Planitia. She immediately began shakedown trials in the home sectors, being formally commissioned on 30 July 2369.
U.S.S. TWILIGHT
NCC - 74413
SCIENTIFIC FACILITIES:
2 SICKBAY COMPLEXES
14 SCIENCE LABS
18 SENSOR SUITES
ORDINANCE:
55 TORPEDO CASINGS
10 PHOTON
20 QUANTUM
20 PROBES
AUXILIARY CRAFT: 10
3 SHUTTLECRAFT
4 VALKYRIE WARP STARFIGHTERS
3 WORKBEES
1 WAVERIDER SHUTTLE
SPECIAL: STARFLEET INTELLIGENCE
1 PHASE CLOAKING DEVICE
1 EXTERNAL HOLOGRAPHIC EMITTER
1 SENSOR JAMMER
2 ESPIONAGE PROBES
FORWARD VIEW
AFT VIEW
2369 - UPON RETURNING FROM A CLASSIFIED TIME-TRAVEL MISSION FOR STARFLEET INTELLIGENCE, COMMAND WAS GIVEN TO CMDR. JARYD HARKER, MD, WHO SPECIFIED SEVERAL REFIT CHANGES THAT TURNED THE STARSHIP INTO A MEDICAL RESEARCH VESSEL. TWILIGHT HAS TWO FULL SICKBAYS, WITH FACILITIES TO CONVERT CARGO BAY 2 INTO A THIRD SICKBAY FOR NONHUMANOID CASUALTIES. THE ADDITION OF TWO HOLOSUITES FURTHER ADD TO HER RESEARCH CAPABILITIES.
Scale
Copyright © 2016 - Laurence J Cohen


NOVA
U.S.S. Twilight NCC-74413
INTERNAL VIEWS SHEET 4/7
SYMBOL CHART
DECK 1
DECK 2
DECK 3
SYMBOL CHART
Refit Bridge
Deck 1 Astrometrics Laboratory
Refit SickBay
Med Lab 2
PRIMARY SICKBAY COMPLEX
Morgue
Emergency Sickbay Life Support
Main Cargo Bay 1 can double as an auxiliary Shuttlebay
Shuttle Compartment (Upper Deck)
Shuttle Compartment (Lower Deck)
Main Cargo Bay
Height - 6m
Transporter Maker Compartment
Transporter Maker
Personnel Transporter Room 1
Personnel Transporter Room 2
RECREATION ROOM/LOUNGE [REFIGURE 2]
MESS HALL
VIEWPORTS
OFFICERS' MESS
Captain's Cabin
VIP Cabin
VIP Observation Lounge
Bridge
Captain's Ready Room
Flight Control Officer's Quarters
Operations Manager's Quarters
Conference Room
General Science Laboratory
Deck One Head
TBD - Vacant Pressurized Compartment
Life Support Compartment
Computer Core Compartment - Upper Level
Escape Pod
Security Complex
Auxiliary Control Room (Aux. Bridge)
Executive Officer's Office
Secondary Deflector Bay
Holodeck 2
Holodeck Engineering
BOTANY LABORATORY/ ARBORETUM
GENERAL SCIENTIFIC LABORATORY
Emergency Supplies Containers
Damage Control Repair Containers
Emergency Rations Containers
Emergency 18-Person Transporter
Transporter Saucer/Cutter Antenna
Transporter Transceiver
Transporter Pad (8-personnel)
Transporter Pad (Cargo)
Transporter Biter
Scale


NOVA
NCC - 74113
U.S.S. Twilight
Nova Class Refit
INTERNAL VIEWS
SYMBOL CHART
SHEET 5/7
TACTICAL
SENSOR SUITE
Medical Research Vessel Refit
2 SICKBAYS, 2 MED LABS,
BIOLOGICAL LABS
Cargo Bay 2 can be converted to
a third Sickbay.
THE VIP and Guest Quarters can
easily be converted to Private
ICU's.
DECK 4
SENIOR OFFICER'S BUNKERS
Emergency Beamdy Compartment
RCS Thruster & Folding System / Retract Forward Starboard Phaser Control Rm.
Viewing Scientist Quarters
Navy Drive Nacelle
Wavefront Yacht Parking Bay
Port Torpedo Launch Bay
Computer Core (main level) and
Entry Ramp to Waverider Shuttle
Emergency Beamdy Compartment
Gymnasium with
Swimming Pool
Cryogenic Studies and Storage
Genetics and Xeno Biology Lab
Special Supplies
Cold Fission Battery Compartment
Dynamic Gas Transducer
Transporter (used only)
Special Stores
Crew Quarters 10-Person Accommodation
High-Energy Physics Lab
(Level 10 Force Fields in place)
HOLODECK 1
Add Info: 3 Rooms in 1 Large Level
Shuttle Elevator (pressure/Vacuum)
Shuttlebay
Turbolift Car
Maintenance & Workshop
Shuttlebay Pressurization Compartment
Shuttle Landing Target
Cross-Section Through Shuttlebay
Fore Aspect
Displayed: One Type 3 Shuttlecraft and One Valkyrie Warp Starfighter prepared for launch. Above: Shuttlebay (Deck 4) accommodates four Valkyrie starfighters, and one Waverider Shuttle.
Aft Aspect
Nova Class Enlisted Quarters (Typical)
CAPTAIN HARKER'S QUARTERS
DECK TWO
SYMBOL CHART
AUXILLIARY ENGINEERING - COMPARTMENTS
Captain's Quarters
- Sleeping Area
- Relaxation & Lounge Area
- Dining Area
- Closet
- Head
Senior Officer
- Sleeping Area
- Relaxation & Lounge Area
- Dining Area
- Closet
- Head
Junior Officer & Enlisted Quarters:
- Sleeping Area
- Relaxation & Dining Area
- Closet
- Head
HOLODECKS 1 & 2
Capable of simulating an Interior or Exterior Environment within Accomodates up to 10 personnel at a time. Can be Enl.
(Most Enlisted Quarters have Two Bunk Beds in each sleeping alcove)
Head
Station / Engineering Workshop / Lab:
- Research Area
- Operators' Station
- Networked Computer Core
Sickbay Complex:
- Treatment Area
- 2 Surgical Bed
- Head
- 2 Diagnostic Beds
- Disinfector
Morgue
Fire-Fighting Station
- Emergency Medical Equipment
- Fire-Fighting Equipment
- Emergency Breathing Apparatus
- Protective Clothing
Medical Stores Compartment
Brig
- Operators' Station
- Heavy Duty gear storage
Security Complex:
- Armory
- Locker Room
- Port & Monitoring Room
- Holographic Phaser Range
Transporter Room
- Transporter Gate Technician
Laboratory
Physics Studies and Transporters
Medical Science
Laboratory
Biology Lab
AUXILLIARY ENGINEERING - MISCELLANEOUS SYSTEMS
Access Way (Horizontal)
Access Way (Vertical)
Vertical Turbolift
Horizontal Turbolift/Elevator
Turbolift Station
External Personnel Access Hatch
Landing Pad & Armatures (Turbolift)
Shuttlebay Control Gallery
Antigrav Landing Elevator
Misc. Shipwide OHA Distribution Areas
AUXILLIARY ENGINEERING - CONSOLES & STATIONS
Bridge Consoles
Free-standing Consoles
Wall-mounted Consoles
Desk
Replicator Station
AUXILLIARY ENGINEERING - EXTERNAL FEATURES & MARKINGS
Radiation Hazard
Equipment Access Panel
Navigation Beacon
Copyright © 2016 - Lawrence J Cohen

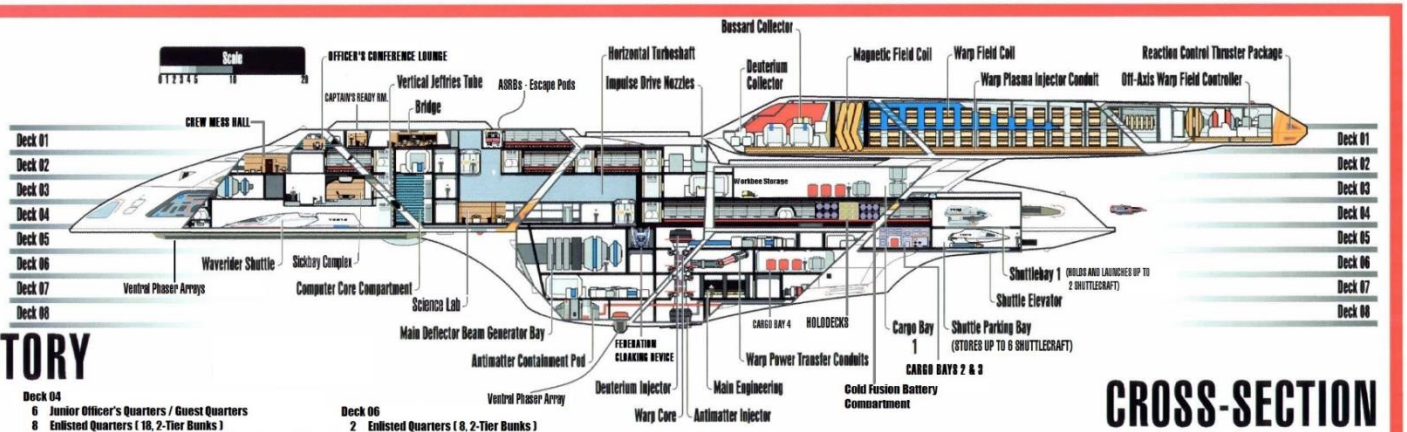

NOVA
USS TWILIGHT NCC - 74413
INTERNAL VIEWS SHEET 8/7
DECK 5
DECK 6
DECK 7
DECK 8
Ventral Docking Port / Airlock
Damage Control Compartment
Scientific Scanner / Sensor Suite
Primary Hull Inertial Field Generator
Primary Hull Shield Generators
Hypercortex Waverider Shuttle
Primary SIF Generator
Main Sensor Array
Emergency Back-up Life Support
Ventral Hitchiker Starboard Phaser Compartment
Main Inertial Damping Field and Anti-Gravity Landing Generator P / S
Primary Deflector Generator Bay - High-Bay
Deuterium Injector Engineering Bay
Deuterium Tankage
Cargo Bays 2 & 3
Shuttle Hangar & Maintenance Bay
Engineering / Ranger Deck Crew Cabin 6-Person
Landing Struts / Pad Bay
Main Astrometrics Lab
Visiting Scientist Lounge (Refuge 3)
Auxiliary Fusion Reactors P / S
Antimatter Processing Bay
Industrial Replicator Shape
Inertial Damping Field Generator
Federation Phasing Cloak Device Control Compartment "CLASSIFIED" Level Sigma -One
Crew Cabin 6- Person
Cryogenic Cooling Systems & Fluid Storage Bay
Plasma Relay Control / Ventral Phaser Compartment
Antimatter Injector Engineering Bay
Backup Life Support Atmospheric Recycler
Replicator Main Systems Bay
Industrial Replicator Shape
Tractor Beam Emitter
Antimatter Containment Bay
Airlock & Landing Ramp
JEFFERIES TUBES
Type-9 Shuttlecraft 6-Person, or 2 Crew and Cargo Space
Type-9 Shuttlecraft 4-Person, or 2-Crew and Cargo Space
Hallyrite High-Performance Warp Starfighter for 2 - Main Photon & Systems Mgr. /
Type-12 Tharian Shuttlepod 2-Person Warp 3 Classified Starfleet Intelligence
Alt Shield Generators P / S
Waverider Hypercortex
Cargo Bay 4 Cargo Bay Loading Space Doors open on bottom of hull
Waste Recycling Compartment
Primary Horizontal Deflector Generator Bay - Main Level
Main Engineering Bay (Distribution)
Chief Engineer's Cabin
Chief Petty Officer's Quarters
Defense Field Generator Bay
Counselor's Office
Enlisted Crew Quarters 4 - Person Accommodation
Cargo Bay Elevator Connects Cargo Bays 2 and 4
MAIN ENGINEERING DECK 7
ENGINEERING SECTION OF DECK 5 IS SIX METERS IN HEIGHT.
PRIMARY HULL SECTION OF DECK 5 IS TWO METERS IN HEIGHT. EQUIPMENT IS SQUEEZED INTO JEFFERIES TUBES
Copyright © 2016 - Lawrence J Cohen


NOVA
ReFit NCC - 74413
SYMBOL CHART SHEET 7/7
SYMBOL CHART
AUXILIARY ENGINEERING - INFORMATION SYSTEMS
AUXILIARY ENGINEERING - DEFENSE SYSTEMS
AUXILIARY ENGINEERING - GRAVITONIC SYSTEMS
ESCAPE SYSTEMS
EMERGENCY SUPPLY CONTAINER
DAMAGE-CONTROL CONTAINERS
Inertial Damping Field Generator
MAIN ENGINEERING - ELECTRO-PLASMA SYSTEMS
MAIN ENGINEERING - REACTION CONTROL THRUSTER SYSTEMS
MAIN ENGINEERING - IMPULSE DRIVE SYSTEMS
MAIN ENGINEERING - WARP DRIVE SYSTEMS
MAIN ENGINEERING - BUSSARD COLLECTION SYSTEMS
MAIN ENGINEERING - WARP CORE SYSTEMS
Outer Structures
Docking Port Assembly
EMBARKED CRAFT
VALKYRIE II
High Performance
Warp StarFighter
Copyright © 2016 - Laurance J Cohen

NOVA

U.S.S. TWILIGHT NCC - 74413
MEDICAL RESEARCH VESSEL
(ATTACHED TO STARFLEET INTELLIGENCE)

CROSS-SECTION SHEET 3/7
DECK DIRECTORY
INTERNAL SYSTEMS



CROSS-SECTION

DECK DIRECTORY

Deck 01
- 1 Bridge
- 1 Officer's Conference Rm.
- 2 Officer's Quarters
- 1 Captain's Ready Room
- 1 Small Science Lab
- 1 Small Astrometrics Lab
- 1 VIP Observation Lounge
- 1 VIP Quarters
- 4 Escape Pod Access

Deck 02
- 1 Captain's Quarters
- 4 Officer's Quarters
- 1 Crew Mess (Refuge 1)
- 1 Crew Lounge & Recreation Rm (Refuge 2)
- 1 Executive Officer's Quarters
- 2 6-Personnel Transporter Rm.
- 1 Life Support Compartment
- 1 Fusion Generators and Impulse Control Deck
- 2 Escape Pod Access
- 1 Botany Lab / Arboretum
- 2 Enlisted Quarters (7, 2-Tier Bunks)

Deck 03
- 2 Officer's Quarters
- 2 Enlisted Quarters (4, 2-Tier Bunks)
- 2 Sickbay Complex (Surgery, ICU, Medical Lab)
- 1 Transporter Buffer Bay - Main
- 1 Secondary Navigational Deflector Bay
- 1 Crygenic Gas Tankage Bay
- 2 Dorsal Phaser Array System
- 1 Computer Core Bay - Upper Section
- 1 Security Complex (Brig, Armory, Phaser Rang
- 3 Science / Engineering Lab / Workshop
- 14 Escape Pod Access
- 1 Deutorium Injector Engineering Bay
- 1 Main Cargo Bay / Auxiliary Shuttlebay
- 1 Cargo Transporter
- 1 Airlock / Docking Port / Storage Lockers
- 1 Executive Officer's Office
- 1 Chief Petty Officer's Single Quarters

Deck 04
- 6 Junior Officer's Quarters / Guest Quarters
- 8 Enlisted Quarters (18, 2-Tier Bunks)
- 2 Dorsal-Forward Tactical Scanner / Science Sensor Suite
- 2 Torpedo Launch Bay
- 2 Dorsal-Midships Phaser System
- 2 Ventral-Midships Phaser System
- 2 Dorsal-Aft Phaser System
- 1 Waverider Shuttle Parking Bay, Refueling & Maintenance
- 1 Main Shuttlebay
- 1 Computer Core Bay - Main Level, Monitoring
- 2 RCS Thruster & Fueling System, Main Section
- 2 Holodeck (Holosuite)
- 1 18-Person Emergency Transporter
- 2 Cryogenic Gas Tankage Compartment
- 1 Cold-Fusion Battery Compartment
- 2 Deflector Screen / Force Field Generator Bay
- 4 Science / Engineering Lab / Workshop

Port / Starboard Nacelle & Pylon
- 1 Bussard Ionizing Beam Emitter Bay
- 1 Bussard Magnetic Field Generator Collector Bay
- 1 Continuous Cycle Fractionator & Deuterium Chiller Bay
- 14 Warp Coils and Plasma Injector Bay
- 1 Off-Axis Field Coil Bay
- 2 RCS Thruster & Fueling Bay

Deck 05
- 2 Ventral-Forward Science Sensor Suite
- 1 Primary Navigational Deflector Bay - Upper Section
- 1 Deuterium Injector Engineering Bay
- 1 Shuttlecraft Parking & Maintenace Bay
- 2 Structural Integrity Field Generator Bay
- 2 Inertial Damping Field / Anti-grav Field Gen. Bay
- 2 Deuterium Tankage (Liquid Hydrogen Slush)
- 1 Long-range Sensor Suite
- 1 Subspace Radio Transceiver Unit
- 1 Damage Control Compartment
- 1 Engr. / Hanger Deck Crew Cabin / 3, 2-Tier Bunks
- 1 Primary Hull Combat Shield Generators
- 1 Emergency Back-up Life-Support Unit
- 1 Engineering Laboratory
- 2 Cargo Bays (2&3)

Deck 06
- 2 Enlisted Quarters (8, 2-Tier Bunks)
- 1 Chief Engineer's Office
- 2 Auxiliary Life Support
- 1 Primary Navigational Deflector Bay
- 1 Main Engineering Bay - Upper Level
- 2 Aft Combat Shield Deflector Screen - Force Field Generator Bay
- 1 Chief Engineer's Quarters
- 1 Water Storage / Waste Recycling Compartment
- 1 Cargo Bay Four / Space Doors

Deck 07
- 1 Cryogenic Cooling Systems & Fluid Storage Bay
- 1 Classified - Federation Cloaking Device Control Compartment
- 1 Civilian Science Complement Lounge & Mess
- 1 Counselor's Office
- 1 Quartermaster's Office
- 1 Main Engineering Bay - Main Level
- 1 Anti-matter Processing Bay
- 2 Access to forward Landing Strut Ladder
- 2 Forward Landing Struts Pod Bay
- 1 Main Astrometrics Laboratory
- 1 Enlisted Crew Cabin (3, 2-Tier Bunks)
- 4 Auxiliary Fusion Reactors, P / S
- 1 Auxiliary SIF & IDF Generators

Deck 08
- 1 Forward Landing Struts Pod Bay
- 1 Anti-matter Containment Bay /
- 2 Plasma Relay Controls
- 1 Ventral Midships Phaser Array System
- 1 Anti-matter Injector Engineering Bay
- 1 Tractor Beam Emitter
- 1 Anti-matter Loading Port
- 1 Warp Core Jettison Hatch
- 1 Replicator Main Systems Bay Industrial Replicator Stage
- 1 Airlock and Landing Ramp

INTERNAL SYSTEMS

Section 1.0 Spacecraft Structure

The spaceframe of the Nova-Class starship is tritanium/duranium macrofilament truss frames, 0.865m2 in cross section. These are placed at the top of Decks 1, 3, 5, and 7 for all three axis points of the ship. Smaller trusses are spaced between quarters and other compartments, at hull junctions, and in the turbolift shafts, measuring 0.25m2 in cross section. This physical framework is reinforced by the Structural Integrity Field (SIF) using a network of Class 1 ceramic-polymer wave guides to distrubute energy to the ceramic-polymer elements. The exterior hull substrate is poly bonded in 4cm by 0.5 bonds with 2cm studs every meter that are then gamma welded to the spaceframe.

Section 1.1 Spacecraft Hull Structure

The first hull layer is 5cm thick and is composed of a poly microfoam interwoven with tritanium filaments which are nominally 1.5m in width by 2.5m in length. The second layer is composed of four sheets of 0.4cm thick tritanium, each positioned at 90 degrees to the layer above it, to increase torsion strength. A fifth sheet of aledium foil 0.4cm thick is gamma welded in place to protect against harmful radiation. The third layer is a honeycombed duranium alloy with a micro-ceramic polymer bonded to each side, and used as insulation and SIF conductivity. The fourth outermost layer is composed of a 2.0cm ablative ceramic fabric interwoven with tritanium filaments. All of this is attached to a polycobramss sheet by a chemical bonding process. This layer is 3.0 meters wide by 3.0 meters in length and is attached with standard duranium fasteners to the first three layers after they are bonded together. This layer is replaced as needed, with no more than 8 years between oldest and newest sheets.

Section 5.4 Structural Integrety Field (SIF)

The physical integrity of the spaceframe is augmented by the Structural Integrity Field, created by field generators on Deck 5, located on the half-deck of the primary hull, accessed when necessary by outer hull access doors on the underside of the primary hull. each consisting of a pair of 2-meganatt graviton polarity sources. These generators feed a set of 150 millicochrane subspace field distortion amplifiers. Any two units are capable of supporting the entire SIF grid at 100% for 48 hours before gaussing causes a shut-down. For this reason, every pair of SIF generators are in active- or rest- mode every 12 hours. The SIF system creates a subspace distortion field that is guided along all trusses and hull plates, reinforcing these by a factor of 150,000% of their natural tensile strength. Their are a total of ten SIF generators in various locations throughout the ship; the four main generators are all located on Deck 5 of the Primary Hull, four auxiliary generators are located on Deck 5, and two are located on Deck 7 of the Engineering Hull. This is in accordance with Starfleet general regulations, that every system aboard must have at least two back-ups, or at least three back-ups if it is a primary system like the SIF and IDF generators, and the life-support system. In addition to the waveguides installed within the internal space-frame, there are a series of emitters located on the outside of the hull. These emitters work in tandem with the vessel's combat shield emitter plates.

Section 5.5 Inertial Damping Field (IDF)

The Inertial Damping Field (IDF) operates in parallel with the ship's artificial gravity generators, maintaining a series of variable-symmetry force-fields that absorb external inertial forces. The force-fields are maintained in accordance with Starfleet Corps of Engineering standard regulations 352.12, averaging 75 millicochranes with a field differential of 5.25 nanocochranes per meter of deck. Flux generation for IDF and ship's gravity are provided by generators and gravity plates within the crawl-space and jefferies tubes running under each deck of the ship, in a hexagonal grid with nodes spaced every 30 meters apart. Without this system in operation, the starship is limited to 170km per second, or 0.05% of the speed of light, which is the thrust of a Saturn V rocket. The IDF is considered part of the life-support system, as without it, the crew would be instantly killed the moment the ship went to Warp, or even violent maneuvers at impulse velocities. There are two main generators located on Deck 5, which are also the vessel's anti-gravity landing generators. There are four auxiliary IDF generators located throughout the ship, most on Decks 5 & 7, in the event of break-down of both main generators. Each main generator, or pair of auxiliary generators, is capable of supporting the entire vessel's IDF system. In an extreme emergency, there are two auxiliary SIF generators located in the cargo bays, which merely need to be swapped-out and connected to the ship's EPS power and SIF system. In a pinch, a capable Chief Engineer is qualified to hook up the SIF generators in the Waverider shuttle and shuttlecraft to support the vessel's SIF grid for up to 3 hours.

Section 2.3 Security & Containment Force Field Generators

There are several secondary force field generators mounted within the habitable volume of the starship, filling a variety of roles. Main Engineering has a series of force field generators responsible for main-taining containment for the vessel's Warp Core - with standby units for emergency containment in the event of coolant leakage or radiation leakage, and other hazards endemic to Antimatter and Fusion reactors. Other force field generators scattered throughout the ship are non-dedicated. Using wave-guides and sophisticated forming software can be routed to perform various tasks - including corridor security barriers, brig security barriers, medical isolation containment barriers, and bulkhead life-support barriers in the event of localized hull breaches. (A breached compartment is automatically locked-out from the rest of the ship by sealed pressurized doors by the computer, and ten nano-seconds later, a containment force-field is erected over the hull breach itself.) These force field generators have a set of four, 1-meganatt polarity sources, feeding a pair of 75 millicochrane field generators.

These force-fields can be set anywhere from a Level -1 Containment field (which allows passage of a human being, but not germs, setting up a sterile operating field in sickbay), to a Level -5 Containment Field (which allows passage of a shuttlecraft, but holds atmosphere inside the mother spacecraft) all the way up to a Level-10 Containment Force Field (which is virtually impossible for anything to pass through, and will even contain certain explosions, up to 90 megatons in strength.

Section 4.0 Computer Systems

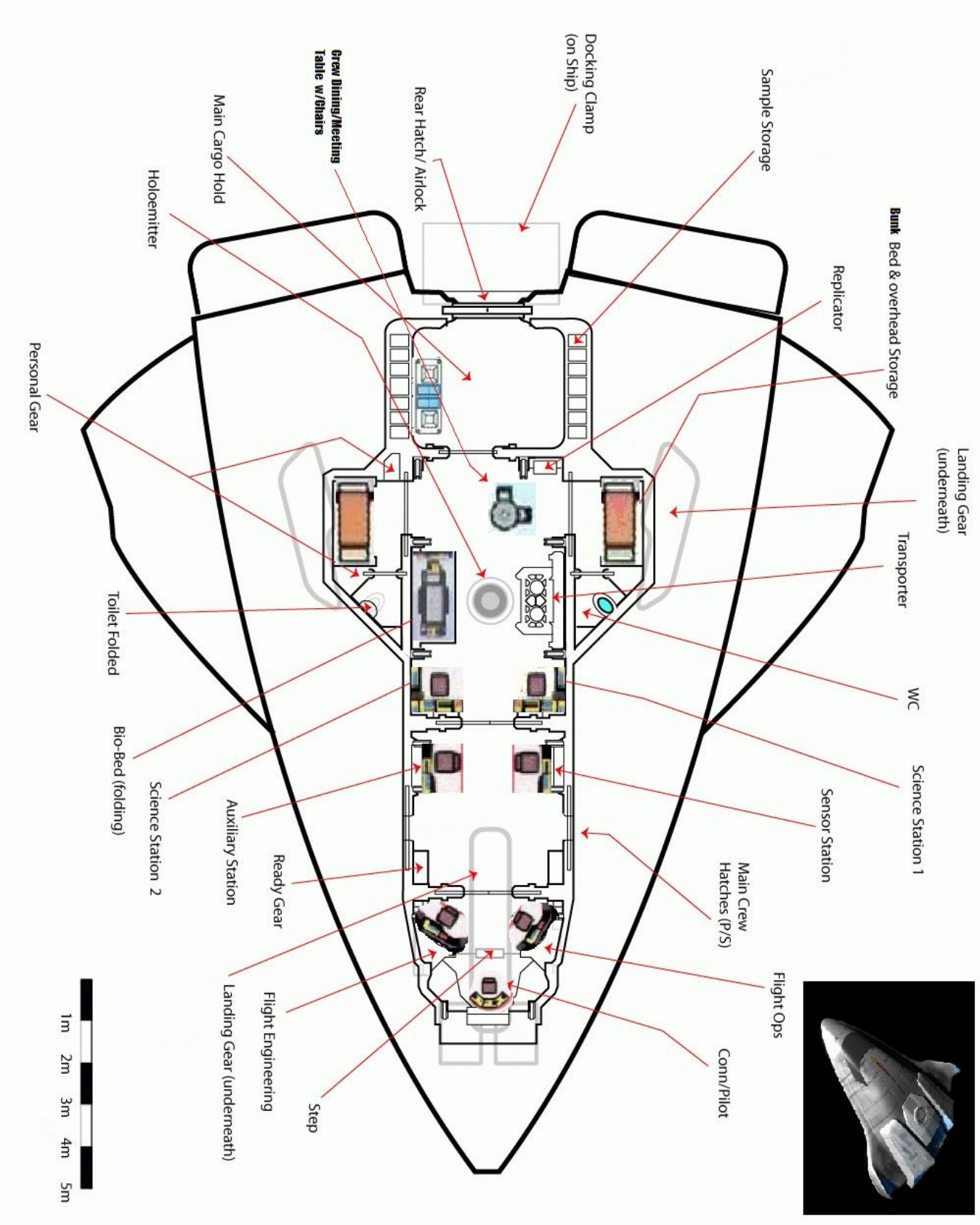
The Nova Class Starship's massive, cylindrical Main Computer Cores (MCC) are located on Decks 3 through 4 in the Primary Hull. The MCCs consist of 276 dedicated modules of 144 isolinear optical storage chips each, which under LCARS control, provide dynamic access at a rate of 4,000 kilquads/second. The total storage capacity for each individual module is 64,000 to 128,000 kilquads, depending upon software config-uration and data compression rates. The MCC is joined to the Optical Data Network (ODN) by triply- redundant micron junction units (MIU) on each individual module. The final layer to the computer system is a dedicated short-range subspace radio frequency (SRF) system that all cores use to communicate with the ship's control panels, access points, Commbadges, tricorders, PADDs, and other devices. Within the core itself, a micro-warp field is established, enabling the core itself to exchange data and perform calculations at several times the speed of light. This enables the navigational software to detect obstructions in the vessel's flight path, and either use the navigational deflector to push the obstruction out of the way, or make minute course-corrections far faster than a human pilot ever could. The ship's computer is responsible for maintaining every system aboard the ship, from the vital systems such as the Warp Core and primary generators and life-support, to fire-suppression systems, to music played in individual crew cabins.

To: Starfleet Corps of Engineers, San Francisco Fleet Yards, Earth
From: Cmdr. Jaryd Harker, MD, CO USS *Twilight* NCC - 74413
Re: Refit USS Twilight NCC – 74413
Stardate: 48015.5 (2369, 7 January)

Cmdr. Okuda:
As per this Stardate, I have entered enhanced command training at Starfleet Academy. Upon the completion of this 6-month compressed course of study, I will assume command of U.S.S. Twilight NCC – 74413, currently being refit at your facility. Admiral N. Uhura has submitted her specifications, which includes a refit bridge module after the command center was utterly destroyed during a recent classified mission for Starfleet Intelligence.

As this vessel to be under my command will undergo a number of scientific missions which include medical specifics, I have been granted cart-blanche in requesting changes by Admiral Uhura. These requested additions/changes are as follows:

1) A new Primary sickbay complex, with CMO office, attached medical stores compartment, attached medical laboratory, and full holographic emitter and Emergency Medical Hologram capability (in addition to the existing sickbay on the same deck);
2) A second medical laboratory on Deck 3, as well as a small general-purpose science laboratory on Deck 1; this brings the total number of labs on the refit *Twilight* up to 14;
3) That one of the two soon-to-be-added cargo bays be configured to be easily converted into a fully-functional third sickbay complex, within 1-hours' notice. This cargo bay is to have its own environmental controls to simulate H-, K-, and L-, N, and N(2) Class Planetary environments for treating non-humanoid lifeform casualties;
4) Guest Quarters on Decks 3 and 4 are to be convertible on short notice for medical extensive care use. These quarters are to include utility hook-ups for bio-med telemetry and medical gasses. To be stored nearby are the conversion kits containing necessary hardware and medical supplies. Additionally, these quarters should be immediately convertible to H, K, L, N, and N(2) environments;
5) Two fully-functional holosuites, measuring 6 meters by 8 meters, one to be located immediately next to the Main Shuttlebay. Software for configuring these holodecks into sickbay complexes and medical laboratories for treating non-humanoid casualties is to be hardwired directly into the subprocessors. Secondary power is to be provided by a bank of cold-fusion batteries;
6) Both permanent sickbays are to have their primary power supplemented by a bank of cold fusion batteries in case of emergency;
7) A small swimming pool is to be added to the ship's gymnasium, for hydrotherapy and general swimming exercise by the crew;
8) Personal: that a Captain's Ready Room be added, directly opposite the Bridge, where the Captain's Quarters are currently located. Adm. Uhura has recommended that a small armory be attached to this Ready Room, for arming the bridge crew in the event of hostile boarding; that the Captain's Quarters and Executive Officer's Quarters are to be expanded to 4 sections—the same size as on an *Intrepid* Class vessel—and moved to Deck Two, Forward.


Landing Gear (underneath)
Bunk Bed & overhead Storage
Replicator
Transporter
WC
Science Station 1
Sensor Station
Main Crew Hatches (P/S)
Flight Ops
Conn/Pilot
Landing Gear (underneath)
Flight Engineering
Step
Ready Gear
Auxiliary Station
Science Station 2
Bio-Bed (folding)
Toilet Folded
Personal Gear
Holoemitter
Main Cargo Hold
Crew Dining/Meeting Table w/Chairs
Rear Hatch/ Airlock
Docking Clamp (on Ship)
Sample Storage
1m 2m 3m 4m 5m

Appendix D – Starship Combat Game Stat Form (for Last Unicorn Games)

STAR TREK
STARSHIP COMBAT STATUS SHEET

STARSHIP: U.S.S. *Twilight* NCC-74413 CLASS: *NOVA*

CURRENT POSITION:_____ BEARING:_____

STARSHIP HIT LOCATIONS

ROLL	LOCATION	DIFFICULTY MODIFIER	
2	BRIDGE	+10	□
3	COMMUNICATIONS	+6	□
4	ENGINEERING	+8	□
5	IMPULSE ENGINES	+7	□
6	LIFE SUPPORT	+8	□
7	MAIN DEFLECTOR	+6	□
8	SENSORS	+6	(VENTRAL, DORSAL) □□
9	SHIELD GENERATORS	+7	(FORE, AFT) □□
10	TRANSPORTERS	+6	(PERSONNEL 1, 2 ; CARGO) □□□
11	WARP NACELLE	+7	(PORT, STARBOARD) □□
12	WEAPONS SYSTEM	+8	(PHASERS, TORPEDO TUBES) □□□

POWER USAGE/Rnd

HULL CHAR: SIZE: 4 (__221.64____m. long, __8___decks)
Resistance:__3____ Structural Pts__70_____
OPERATIONS CHAR: Crew/Pass/Evac:__80 / 6 / 245 _____

Computers: 4 __4 pwr/round_
Transporters: _2_ Prsnel, __1_Crgo___1__Emgr _2 pwr/round___

Tractor Beams:_1 av___, __1 fv__, ____2/rating used_

PROPULSION & POWER:
WARP SYS: ___6.0___,___7.0____,___8.0____ (12 hrs)_____
IMPULSE SYS: ___.60c_____,____.75c_____
POWER:__120/140 Batteries: 120 Units_____

SENSOR SYSTEMS:
LONG RANGE:___+4/20 LY____6 pwr/round_
LATERAL SEN:__+5/3 LY___ __4 pwr/round__
NAV SENSORS:__+4_____ __5 pwr/round__
CLOAK: _____1_____ Power (80)
SENSORS SKILL: ____4____

WEAPONS SYSTEMS: PHASER: RANGE: 10/30,000/100,000/300,000_ ARC: All 720_ ACCURACY_5/6/8/11_____ DAMAGE:_20 (30)__ POWER:_20 (45)_
TORPEDOES: NUMBER__20 photon, 20 quantum_ LAUNCHERS: _2 f RANGE: 15/300,000/1,000,000/3,500,000_
DAMAGE:_21_(24 for quantum)___ POWER: 5____
DEFENSIVE SYSTEMS: STARFLEET DEFLECTOR SHIELD PROTECTION: ___55____/____70___ POWER: ___50___

APPENDIX E – AUTHOR'S NOTES

Since its debut on Star Trek Voyager, the *Nova* Class starship has been a fan favorite, both in fan stories and in Star Trek role playing and tactical games. She is a small, tough little ship that can hold her own in a firefight with superior foes — provided of course, "the right man is at the helm." Her strengths are in her highly-accurate sensors and top-secret Intelligence equipment; weaknesses are of course in her slow speed—max of Warp 8—and a small warp core. If used creatively, her equipment can be lethal in combat. One trick I recall using is the offensive use of our advanced sensors during battle. Besides the sensor jammers (which were hardwired directly into our sensor suites) we were capable of transmitting false images to enemy display screens. *Twilight* appeared to be heavily damaged, when in fact our phaser arrays and torpedo tubes were fully functional! We were also able to locate the precise locations of weaknesses in enemy shields, and given a sufficiently high roll of the dice, could even tell what frequency the enemy vessel's shields were modulating at. This impressed a visiting General Kang, who made note to enhance the sensors on all Klingon warships.

Some technical changes were made to this manuscript as per information culled from the Star Trek Technical Manual, the Core Rulebook of Last Unicorn Games' Star Trek: The Roleplaying Game, and other sources, such as Star Trek: The Magazine and the video game Star Trek: Invasion, and logical conjecture, as well as active roleplaying. (For example, burning out the RCS thruster quads to pursue an enemy vessel when both warp drive and impulse were down.) Thus, this manuscript has been completely rewritten.

The *Nova* Class Deck Plans, originally published by Strategic Designs, had a number of problems. Too much of the habitable volume of the ship was taken up by bulky equipment (what really blew my mind is why the designer chose to waste valuable space by putting a second subspace transmission unit on Deck One, when there was clearly another one directly behind the main sensors on Deck Five!) There were only three science labs, including the astrometrics lab on Deck 7, which is far too few for a science vessel. Vital compartments, such as medical stores, the CMO office, the holodecks, and even the turbolift car repair bay, are missing entirely. Finally, there weren't nearly enough berths to account for a crew of 80 persons. The original designer explained this as having three bunk beds on top of each other, which I found to be completely illogical; for one thing, there wasn't nearly enough space between floor and ceiling for this. For another, even the *Defiant* had only two bunks per cabin, and a *Nova* class is twice the size of that ship. Thus, I had to almost completely redesign every deck, shrinking bulky equipment down to a manageable size, so that I had more space for needed compartments. I stuffed equipment into the "gray" areas of the ship, especially on the half-height primary hull on Deck 5, that were originally left as empty space, and in-between the decks, where the Jefferies Tubes are located—which makes perfect sense. This is the 24th Century, Picard's time, not Kirk's—equipment would of necessity be shrunken down. Only the deflector shield generators and the SIF generator were kept the same size, although I supplemented the primary SIF with smaller auxiliary units all over the ship. I also found that the

IDF generators were completely missing, so I included that, lest the crew end up as a molecular-thin paste on the rear bulkhead the first time the ship goes to warp.

I also deliberately added an arboretum laboratory, not just for crew relaxation, but because this is a planetary survey vessel, and naturally, they would either beam up or force-grow some tree specimens in some soil on top of the deck. I also added an emergency transporter, a captain's ready room, two holodecks (which would be holosuites on the *Enterprise*) and even a small swimming pool (five meters long. The reason for this is obvious—the holodecks have far more uses than simply a recreation system. In a moment, they can be converted into additional labs, sickbays, or anything else required.

The more I rearranged "my" *Nova* Class ship, I realized I was thinking exactly as my Star Trek character would—and he was a Starfleet physician. With two permanent sickbays, two medical labs, a cargo bay that could be easily converted into a third sickbay for non-humanoid casualties, and even two holosuites to handle any emergency, the *Twilight* was clearly a medical research vessel. While she could still survey planets, *Twilight* was equipped to handle a medical crisis anywhere in the Federation—and that was what my character was all about—Harker was a Starfleet Intelligence agent who dealt with disabling biogenic weapons.

This ship has a primary energizer and warp nacelles small enough that it only reaches a maximum of Warp Factor 8, while other ships—even starfighters—can reach Warp 9. However, as the vessel's primary missions are to conduct planetary and stellar surveys, speed is not an issue. Once in orbit, she is likely to remain there for six months to a full year, taking samples and conducting various experiments. If the planet is inhabited, this can take quite some time, especially with an indigenous pre-warp society on the planet. Duck-blind facilities are sometimes built, using holotechnology to mask them, while studying these developing, alien cultures. If the captain deems it appropriate, the ship can land on the planet, with the cloaking device in full operation, or, the external holographic projector can simulate a hill instead of an alien ship. Specially-trained personnel can be surgically altered, in the event the captain decides social interaction is warranted, to learn more about the culture. In the event a foreign starfaring culture—such as the Romulans, for example—have sent agents to this world for any reason, the captain also has an option to send agents of his own, as *Twilight* is an Intelligence attached vessel.

This vessel does not use bio-neural gelpacks in its central processing computer system; the *Nova* Class is slightly older than an *Intrepid* class, which was the first vessel to carry the new system. However, the isolinear chip technology is quite advanced—it is more than adequate for the missions this type of vessel undertakes.

As it is a smaller vessel, like an *Intrepid* class, the *Nova* class is capable of making planetfall—i.e., landing on a planet surface. Two large anti-gravity generators are aboard for just that purpose, and the cut-away view of *Equinox* in *Star Trek: The Magazine*, clearly shows the landing struts. To keep the

vessel hidden from a pre-warp culture, this ship is equipped with a Federation cloaking device—the same one once installed on the U.S.S. *Pegasus*, in fact—authorized by the Romulan Empress herself, requesting Starfleet's aid in rooting out certain of her political opponents. Admiral Uhura walked a razor's edge with that mission, balancing her division and staff against the Prime Directive, but ultimately decided to help, as help had been requested directly by the head of the Romulan Government. The result was that 15 Starfleet vessels, all attached to Starfleet Intelligence, now have a permanent license to carry and operate cloaking devices. The Romulan Empress Donatra was also once the Romulan Commander that Ambassador Spock had once fallen in love with in the Original Series—and it was Spock who had suggested it to both the Empress and Starfleet Command. All of this was played out using Star Trek's Role-playing game published by Last Unicorn Games.

CREDITS (Long Overdue)

This is in acknowledgment to the true creator of the Star Trek: The Next Generation Roleplaying Game, Jose Sanchez. In the early to mid- Nineties, a group of us used to gather in Joe's basement for D&D and a new Star Trek game, the details of which, all of us were sworn to secrecy. Three of us were the original playtesters and crew of the U.S.S. *El Dorado*, a Galaxy-Class Starship: Ricky Choate (Chief Engineer Ryk Orn Rykaar), James Moore (Executive Officer), myself (Chief Medical Officer, initially a Betazed, then an El Aurian), and Joe's ex-wife Angela (Ops Manager.) Joe had promised us all that we'd be mentioned as playtesters when he finally published his game, but when he did finally sell it, he sold away all rights to what became Last Unicorn Games, and nobody, not even Joe, was even mentioned. All of us of course recognized the published game, which includes our original characters on pages 60 – 61; the artist's renderings even look a bit like us, down to Ricky's beard as a Tellarite engineer. The "human command officer" looks a bit like Angela. I recently learned that my old friend Joe Sanchez passed away from a stroke. Rest in Peace, my friend.

Nova Class launching a shuttlecraft

APPENDIX F –

Crew Complement List of U.S.S. *Twilight* NCC - 74413

Command Crew

Officers: 15

Commanding Officer:	Captain Jaryd Harker, MD		El-Aurian
Executive Officer:	Lt. Commander T'Lura	۞	Vulcan
Chief Engineer:	Lt. Cmdr. Ryk Orn "Ricky" Raekaar		Tellarite
Chief Medical Officer:	Lt. Katherine Pulaski, MD	۞	Human
Chief Tactical Officer:	Lt. Cmdr. Thavgaren ch'Serth	۞	Andorian
Operations Manager:	Lieutenant Sh'rp		Vulcan
Flight Control Officer:	Ensign Michael Kaplan	۞	Human
Counselor:	Ensign Rotrum Ozo	∞	Betazoid
Asst. Chief Engineer:	Lt. Zonnoth Ioran Kull	∞	Tellarite
Doctor (Resident):	Ens. Lurleon Lundon, MD		Human
Head Nurse:	Lt. Hona Malu, RN		Betazoid
Nurse:	Ens. Karen Goldstein, RN		Human
Chief Science Officer:	Lt. Adrian Lessing	۞	Human
Asst. Security Chief:	Ens. Vitally A. Romanov	∞	Human
Asst. Ops Manager:	Ens. George Bernstein		Human

Enlisted Crew

Enlisted Crew and Passengers: 63

Security:

CPO	Th'erev		Andorian
CO	Harren		Orion
Crewman	Tomas Perez	∞	Human
Crewman	Rids Masen		Bolian
Midshipman	Atsax K'Taet	⌾	Klingon
Crewman	Daniel Warren		Human
Crewman	Nancy Clark	⌾∞	Human
Crewman	Corey Hensen		Human
Crewman	Daniel Hensen	∞	Human

Medical:

Technician	Thalaeor th'Tovos	⌾	Andorian
Technician	Jennifer Collins		Human
Technician	Mdn. T'Pro		Vulcan
Technician	Albert Maister		Human
Technician (Veterinary)	Beatrice Huey		Human
Physician's Assistant	Jeffrey Miagi		Human
Nurse's Aid	Susan Stein		Human
Pharmacologist	Clarence P. Scott		Human
Medic	M'Tress		Catian
Medic	Walter Greenspan		Human
Medic	Douglas Hunt		Betazoid/Human
Intern	Midn Lawrence Katz		Human

Command:

Yeoman	Midn Jennifer Banner	⌾	Human
Yeoman	Midn Peter Beagle		Human
Yeoman	Midn Angela Sanchez		Human
Yeoman	Midn Lir		Vulcan
JAG Officer	Midn Elise Weiss	⌾	Human

Engineering:

Engineer	Petty Officer Skag Mulish		Tellarite
Engineer	Midn Isaac London		Human
Engineer	Midn Vepik		Vulcan
Engineer	Lt. Ricky Choate		Human
Technician	Ges Clishness		Tellarite
Technician	Bettan		Orion
Technician	P.O. Bok Emogg	∞	Bolian
Technician	Charles Lee		Human
Technician	Sean Collins		Human
Sensor Tech	Spenser Fairisles		Human
Sensor Tech	George McDonald		Human
Computer Tech	Aseviv ch'Orolren		Andorian
Computer Tech	Elijah Levine	∞	Human
Engineer PO	Darla Reynolds		Human
Shuttlecraft Tech	Alan Bevin	∞	Human
Shuttlecraft Tech	Ronald Koenig		Human
Technician	Denise Quinn		Human
Transporter Tech	Jason Woodruff	∞	Human
Transporter Tech	Gary Butterworth		Human

Operations:

Quartermaster	PO Roger Matthew Blessing	۞	Human
Pilot	Midshipman Utras Agreacin		Betazoid
Pilot	Midshipman Kit Austin	∞	Human
Pilot	Midshipman Rids Masin		Orion
Pilot	Midshipman Derrick Lee		Human
Pilot	Midshipman Kathryn Leland		Human
Pilot	Midshipman Sorrel	۞	Vulcan
Ops Officer:	Midshipman Rathal Harrison	۞	Human
Ops Officer:	Midshipman David Dorfman		Human
Communications Tech	Rebecca Hamilton		Human
Pilot/Technician	Ariass Piin		Trill (joined)

Science Staff: (mostly passengers)

Physics	Dr. Shern		Vulcan
Chemistry	Dr. Seamus O'Halloran		Human
Astrophysics	Dr. Karen Morrow		Human
Astrophysics	Midn Itath ch'Zyhran		Andorian
Xenobiologist	Dr. Tuduss Gratnan	∞	Trill
Oceanographer	Dr. Merit Jol		Ktarian
A&A	Dr. Sh'isarr		Catian
Anthropologist	Dr. Taelov		Rigilian
Xenoanthropologist	Dr. Leslie Hathaway		Human

Geologist Dr. Jethro Wolfe ۞ Human

∞ Cross trained as Medical Technician
۞ Cross trained as Engineering Technician

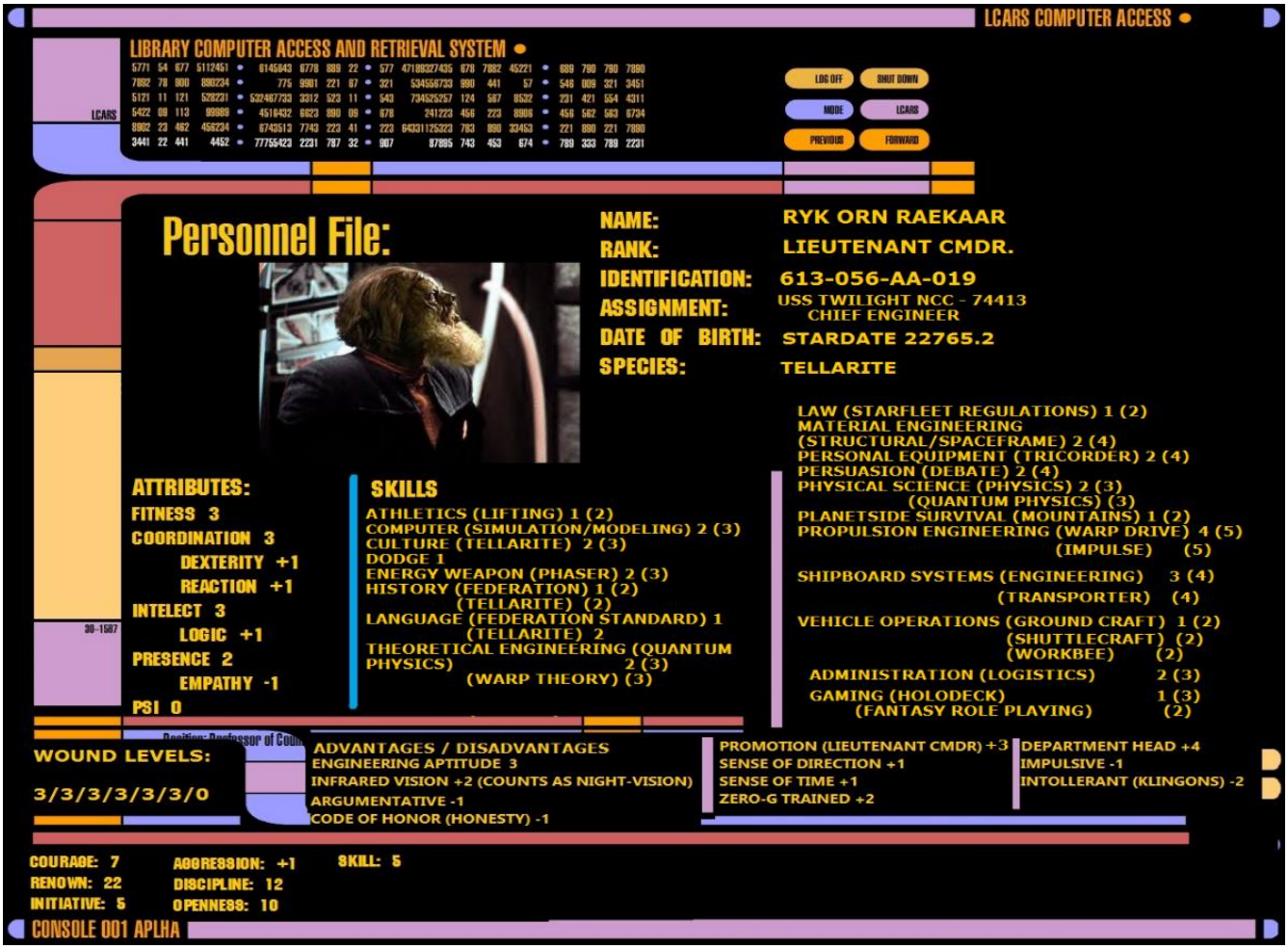
(Naturally, any of the above crew can be replaced by PCs.)

Difficulty Number (Target No.)	Description
0, 1, 2	Automatic; No Roll Required
3, 4, 5	Routine
6, 7, 8	Moderate
9, 10, 11	Challenging
12, 13, 14	Difficult
15 +	Nearly Impossible

Dice Roll Results for Tests in Last Unicorn Games' Star Trek: The Role Playing Game

Following are a few Character Sheets for important NPCs in the Star Trek LUG Roleplaying Game.


LCARS 47 - Starfleet Intelligence - Personnel
PERSONNEL FILE
File10
NAME
Harker, Jaryd
RANK
Captain
IDENTIFICATION
613-054-AA-010
ASSIGNMENT
U.S.S. Twilight NCC - 74413
Commanding Officer
DATE OF BIRTH
April 13, 2143 (Prior to Stardates)
SPECIES
El-Aurian
NEXT
PREV
WOUND LEVELS:
3/3/3/3/3/3/0
SECURITY CLEARANCE: 14
BIOGRAPHY
Special Or Unique Abilities: *El-Aurians can detect changes in the time-line, as well as the presence of Q.
Special Or Unique Skills: Known as exceptional listeners, El-Aurians excel at interpersonal skills (this gave Harker an automatic 2 for influence and 3 languages.)
Attributes:
Fitness: 2
Vitality: +1
Coordination: 2
Intellect: 4
Perception: +1*
Presence: 3
Empathy +2
Psi 0 [6*]
ADVANTAGES / DISADVANTAGES:
ALLY (CREW +2, ADM. UHURA +5)
CONTACT (GUINAN +1)
DEPT. HEAD (MEDICAL) +4
LINE OFFICER +1
FAMOUS INCIDENT (MANY)
INNOVATIVE +1
RANK (CAPTAIN) +5
SECURITY CLEARANCE +3
CODE OF HONOR (HIPP OATH) -2
ENEMY (Q) -2
SWORN ENEMY (TAL SHIAR, SELA) -3, -3
OBLIGATION (SI, EL-AURIANS) -2, -3
Skills:
Charm (Influence) 2 (3)
Computers (Research) 2 (3)
Culture (Aurelia) 2 (3)
(Earth) (3)
Dodge 1
Energy Weapon (Phaser) 2 (3)
First Aid (Combat Trauma) 4 (5)
Life Science (Exobiology) 2 (3)
(Exopathology) (4) *(biogenic weapons counterintelligence)
Medical Science (General Medicine) 4 (5)
(Surgery) (5)
(Cardiology) (5)
Personal Equipment (Medical Tricorder) 2 (3)
(Espionage) (3)
Planetary Survival (Forest) 1 (2)
Shipboard Systems (Medical) 2 (3)
(Command)(3)
Vehicle Operations (Shuttlecraft) 1 (2)
Language (Aurelian) 2 (3)
(Federation Standard) (3)
(Romulan) (3)
Law (Starfleet Regulations) 1 (2)
Espionage (Biogenetic Weapons) 2 (4)
Athletics (Gymnastics) 1 (2)
Administration (Starship) 2 (3)
Command (Starship) 3(4)
Starship Tactics (Starfleet) 2 (3)
(Romulan) (3)
World Knowledge (Aurelia) 1 (2)
(Earth) (2)
Non-energy Weapon Combat (Quarterstaff) 1 (2)
(Bat'leth) (2)
DISADVANTAGES
PHOBIA (BORG) -3
OBSCESSION (NEXUS) -1
REVENGE (BORG) -3
Courage: 15
Renown: 47
Aggression: 1
Discipline: 12
Initiative: 3
Openness: +2
Skill: 25
Resistance: 4
U.S.S. TWILIGHT
NCC - 74413
NOVA-CLASS REFIT
EXIT
MISSION LOGS
PERSONNEL DB



**Player Ricky Choate*

LCARS COMPUTER ACCESS

LIBRARY COMPUTER ACCESS AND RETRIEVAL SYSTEM

LOG OFF | SHUT DOWN | MODE | LCARS | PREVIOUS | FORWARD

Personnel File: Emergency Medical Hologram (EMH)

Attributes

Fitness 1
Coordination 4
Dexterity +1
Intellect 5
Presence 2
Empathy -2
Psi 0

Description

Height: 1.8m
Weight: n/a
Complexion: pale
Hair: brown (balding)
Eyes: brown

Skills

Computer (Research) 4 (5)
First Aid (all known Specializations) 5 (6)
Life Sciences (all known Specializations) 4 (5)
Medical Sciences (all known Specializations) 5 (6)
Personal Equipment (Medical Equipment) 1 (6)
Physical Sciences (Chemistry) 5 (6)
Shipboard Systems (Medical Systems) 1 (6)

Traits

Arrogant -1
Code of Honour (Hippocratic Oath) -2

Other Statistics
Courage: 0
Renown: 15
Aggression: 0
Discipline: 0

Initiative: 3
Openness: -5
Skill: 10
Luck: 0
Resistance: n/a

Personality

The EMH Mk. I is a holographic expert system designed as a supplement to the normal medical staff of a starship or base. It has been given the personality engrams of its designer, Dr. Lewis Zimmerman, an acerbic, short-tempered perfectionist. The EMH, or Doc (as it is sometimes known) has all the knowledge of the Starfleet Medical Database available to it, but its personality makes it an unpopular choice for medical treatment.

CONSOLE 001 APLHA

LCARS COMPUTER ACCESS

LIBRARY COMPUTER ACCESS AND RETRIEVAL SYSTEM

LOG OFF | SHUT DOWN | MODE | LCARS | PREVIOUS | FORWARD

Personnel File:

Name: Jal Kahn

Rank: Lieutenant
Identification: 609-321-AB-021
Assignment: USS Twilight Flight Control Officer
Date of Birth: Stardate 23465
Species: Trill (Joined)

Kahn Symbiont Skills:

Shipboard Systems
Systems Engineering
Space Science 0

Physical Science
Propulsion Engineering 0
Language (Vulcan)

History
Animal Handling 0
Artistic Expression 0

ATTRIBUTES

Fitness 3
Vitality +1
Coordination 3
Dexterity +1
Reaction +1
Intellect 2
Presence 2
Empathy +1
Psi 0

SKILLS

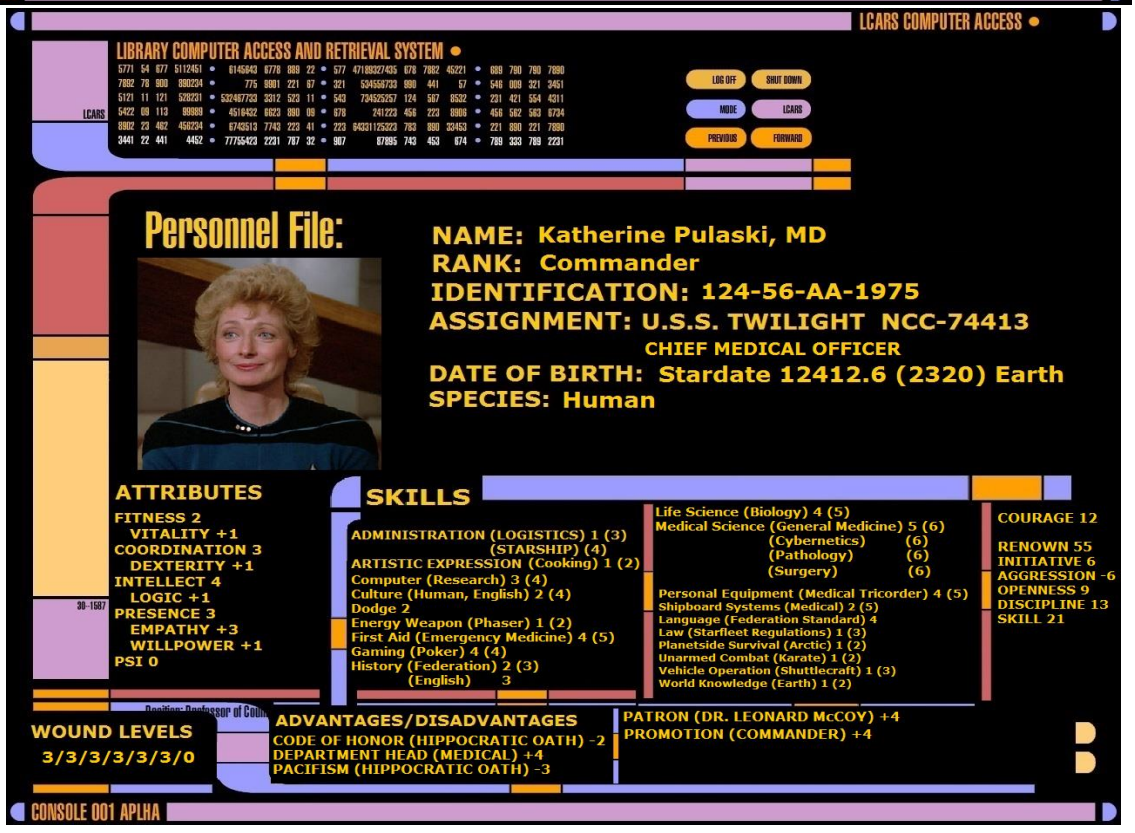
Athletics (Running) 4 (3)
(Tumbling) (2)
(Riding) (2)
History (Trill) 3 (3)
(Federation) 3
Language (Trill) 3 (3)
Vulcan 2
Federation Standard 2
Sciences (Astronomy) 2 (3)
(Computer Science) (3)
Shipboard Systems (Conn) 3 (5)
(Medical Systems) (2)
Systems Engineering (Sensor Systems) 2 (2)
Starship Tactics (Romulan) 1 (2)
World Knowledge (Trill) 1 (2)
Culture (Trill) 2 (3)
Administration (Starship) 3 (4)
(Logistics) (2)
Personal Equipment (Commbadge) 1 (2)
Vehicle Operation (Shuttlecraft) 2 (3)
Computer (Modeling) 1 (2)
Unarmed Combat (Starfleet Martial Arts) 1 (3)
Law (Starfleet Regulations) 1 (2)
Planetside Survival (Water) 1 (2)
First Aid 1 (2)
Medical Science (General) 1 (2)
Energy Weapon (Phaser) 1 (3)

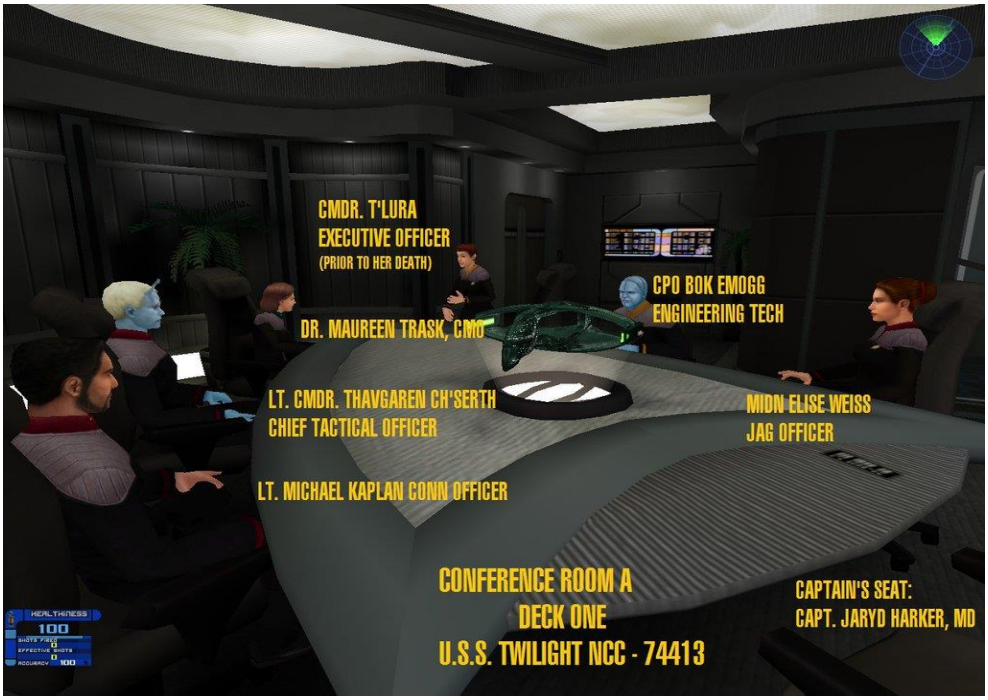
Wound Levels
4/4/4/4/4/4/0

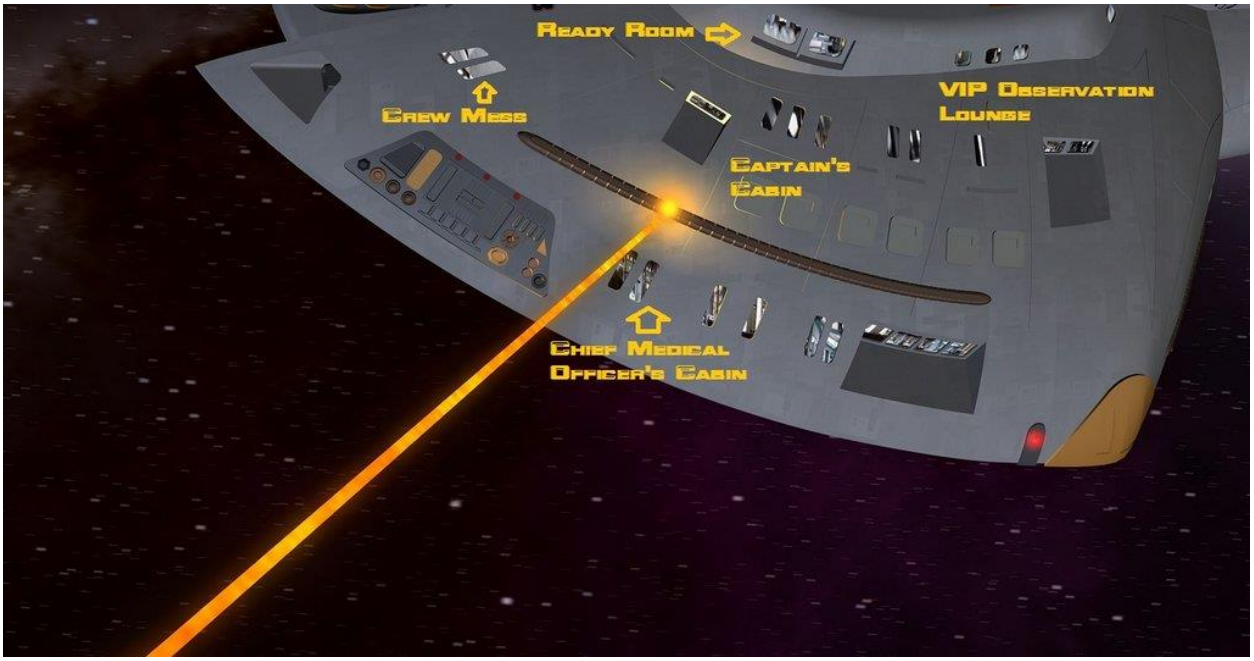
Advantages / Disadvantages
Ambidexterity +2
Medical Problem (Insect Venom) -1
Impulsive -1
Obligation (Trill Symbiosis Comm.) -2
Promotion (Lt.) +2
Dept. Head (Conn) +3
Bold +1
Pacifisim -3
Multitasking +2

CONSOLE 001 APLHA


LCARS COMPUTER ACCESS
LIBRARY COMPUTER ACCESS AND RETRIEVAL SYSTEM
LOG OFF
SHUT DOWN
MODE
LCARS
PREVIOUS
FORWARD
SECURITY CLEARANCE 11
COURAGE 5
RENOWN 18
INITIATIVE 5
AGGRESSION 7
OPENNESS -3
DISCIPLINE 2
SKILL 8
Personnel File:
NAME: THAVGAREN CH'SERTH "GAREN"
RANK: LT. COMMANDER
IDENTIFICATION: 599-82-AD-552
ASSIGNMENT: U.S.S. TWILIGHT NCC-74413
CHIEF TACTICAL OFFICER
DATE OF BIRTH: STARDATE 12049.6 (2332)
SPECIES: ANDORIAN (CHAN)
ATTRIBUTES:
FITNESS 4
VITALITY +1
COORDINATION 3
DEXTERITY +1
INTELLECT 3
PERCEPTION +1
LOGIC -1
PRESENCE 2
WILLPOWER +1
PSI 0
SKILLS
ATHLETICS (SWIMMING) 1 (2)
BEHAVIOR MODIFICATION (RESISTANCE) 1 (3)
COMMAND (STARSHIP) 1 (3)
COMPUTER (INTRUSION) 2 (4)
CULTURE (ANDORIAN) 1 (2)
DODGE 2
ENERGY WEAPON (PHASER) 2 (5)
ESPIONAGE (TRAFFIC ANALYSIS) 2 (3)
(COVERT COMMUNICATIONS) (3)
(INTELLIGENCE TECHNIQUES) (4)
LAW (STARFLEET REGULATIONS) 3 (4)
SHIPBOARD SYSTEMS (TACTICAL) 3 (5)
SECURITY (SECURITY SYSTEMS) 5 (6)
SYSTEMS ENGINEERING (SECURITY SYS) 1 (4)
UNARMED COMBAT (STARFLEET M. ARTS) 2 (5)
PRIMATIVE WEAPONS (CHAKA) 2 (4)
VEHICLE OPERATIONS (SHUTTLECRAFT) 2 (3)
(FIGHTER) (5)
PHYSICAL SCIENCE (COMPUTERS) 1 (2)
PLANETSIDE SURVIVAL (URBAN) 1 (3)
PERSONAL EQUIPMENT (TRICORDER) 2 (4)
HISTORY (ANDORIAN) 1 (2)
LANGUAGE (ANDORIAN) 2
(FEDERATION STANDARD) 1
(ROMULAN) 1
WORLD KNOWLEDGE (ANDORIA) 1 (2)
GAMING (3D CHESS) 1 (5)
WOUND LEVELS
5/5/5/5/5/5/0
ADVANTAGES/DISADVANTAGES
ALLY (ADM. UHURA +5)
DEPARTMENT HEAD (SECURITY) +3
EXCELLENT HEARING
EXCELLENT SIGHT
EXCELLENT BALANCE
PROMOTION (LT. CMDR.) +3
OBLIGATION (STARFLEET INTELLIGENCE) -2
FAVOR OWED (ORION CAPTAIN)
CONSOLE 001 APLHA


LCARS COMPUTER ACCESS
LIBRARY COMPUTER ACCESS AND RETRIEVAL SYSTEM
LOG OFF
SHUT DOWN
MODE
LCARS
PREVIOUS
FORWARD
Personnel File:
NAME: Katherine Pulaski, MD
RANK: Commander
IDENTIFICATION: 124-56-AA-1975
ASSIGNMENT: U.S.S. TWILIGHT NCC-74413
CHIEF MEDICAL OFFICER
DATE OF BIRTH: Stardate 12412.6 (2320) Earth
SPECIES: Human
ATTRIBUTES
FITNESS 2
VITALITY +1
COORDINATION 3
DEXTERITY +1
INTELLECT 4
LOGIC +1
PRESENCE 3
EMPATHY +3
WILLPOWER +1
PSI 0
SKILLS
ADMINISTRATION (LOGISTICS) 1 (3)
(STARSHIP) (4)
ARTISTIC EXPRESSION (Cooking) 1 (2)
Computer (Research) 3 (4)
Culture (Human, English) 2 (4)
Dodge 2
Energy Weapon (Phaser) 1 (2)
First Aid (Emergency Medicine) 4 (5)
Gaming (Poker) 4 (4)
History (Federation) 2 (3)
(English) 3
Life Science (Biology) 4 (5)
Medical Science (General Medicine) 5 (6)
(Cybernetics) (6)
(Pathology) (6)
(Surgery) (6)
Personal Equipment (Medical Tricorder) 4 (5)
Shipboard Systems (Medical) 2 (5)
Language (Federation Standard) 4
Law (Starfleet Regulations) 1 (3)
Planetside Survival (Arctic) 1 (2)
Unarmed Combat (Karate) 1 (2)
Vehicle Operation (Shuttlecraft) 1 (3)
World Knowledge (Earth) 1 (2)
COURAGE 12
RENOWN 55
INITIATIVE 6
AGGRESSION -6
OPENNESS 9
DISCIPLINE 13
SKILL 21
WOUND LEVELS
3/3/3/3/3/3/0
ADVANTAGES/DISADVANTAGES
CODE OF HONOR (HIPPOCRATIC OATH) -2
DEPARTMENT HEAD (MEDICAL) +4
PACIFISM (HIPPOCRATIC OATH) -3
PATRON (DR. LEONARD McCOY) +4
PROMOTION (COMMANDER) +4
CONSOLE 001 APLHA





Close-up of Twilight's Primary Hull, Decks 1, 2, and 3

HARKER, JARYD M.D.

Species: El-Aurian
Rank: Captain
Position: Commanding Officer
Current Assignment:
***U.S.S. Odyssey* NCC-65413 (Third *Sovereign*-class starship)**
Last Assignment:
***U.S.S. Twilight* NCC-74413 (*Nova Class* Starship, medical research vessel)**

Personal:
Gender: male
Age: 233
Place & Date of Birth: Aurelia, April 13, 2143 (prior to Stardates)
Known Relatives: Tanin (father), Guinan (godmother), Boothby (paternal uncle)

Background History:
Early Life: Destroyed World (Aurelia, 2155) when the Borg invaded and devastated the El-Aurian race. Jaryd's father, Tanin, worked with Dr. Tolian Soran to create the Dimensional Nexus so that 1265 people were able to escape. The being known as Q showed Tanin one possible future, where the Borg overran the entire Alpha Quadrant. With Q's help, Tanin forced every El-Aurian out of the Nexus to Earth. There, Tanin helped draft the Articles of Federation, and made certain of a strong Starfleet. It was Tanin who wrote Section 31, and later became that agency's director.

Guinan became a godmother to Jaryd, and raised him on Earth with her own children. Jaryd chose the surname Harker, thinking it appropriate for a Listener. For his first two centuries, Jaryd Harker practiced medicine in San Francisco. On the advice of a Trill officer named Kahn, Harker joined Starfleet as a medical officer.

Academy Life: An accomplished physician already, Harker studied exobiology and other medical sciences under Admiral Leonard McCoy. After graduating from Starfleet Medical, he began his first tour of duty with the rank of lieutenant j.g. in 2361.

Cadet Cruise: On board the ***U.S.S. Discovery*** NCC-62049, Harker distinguished himself after the ship's CMO was killed in the Battle of Po Ucan IV, a small planet near the Cardassian Demilitarized Zone. He saved the crew from a Cardassian bioweapon by using a combination of El-Aurian and Borg medical techniques. Harker was awarded the Starfleet Medical Cross and promoted to the rank of full lieutenant in 2363.

Tours of Duty: ***U.S.S. El Dorado*** **NCC-1722C,** 2364-2369**;**
U.S.S. Twilight **NCC-74413,** 2369-2375**;**
U.S.S. Odyssey **NCC-65413,** 2375-Present**.**

2364: ***U.S.S. El Dorado*** **-** Medical Officer, ranked second of three ship's doctors for first six months of the voyage. In 2364 an experimental coaxial warp propulsion system called "the Lattice Drive" was installed and tested with disastrous results. The ship was left stranded in the Gamma Quadrant, six months from the Idrian System end of the Bajoran Wormhole, with 23% of the crew dead, including the Chief Medical Officer, the Chief Engineer, and more than half the engineering staff. Harker became the *Starship El Dorado's* CMO, a post he held until he left the ship years later.

In early 2367, as CMO of *El Dorado*, Harker led a team to develop the *McCoy*-class Runabout, a dedicated emergency medical shuttle equipped with a class 8 sickbay. Just as this new runabout was completed, *El Dorado* answered a distress call from Vulcan. To minimize exposure to the crew, Harker was ordered to use the *McCoy* as a mobile biohazard sickbay. Working with the EMH, Harker found a cure for a synaptic biogenetic weapon developed by Section 31 designed to kill Romulans (and therefore deadly to Vulcans.) For his heroic efforts, Harker was awarded his second Medical Cross, with Star Cluster. Even more importantly, Harker came to the attention of Admiral Nyota Uhura, director of Starfleet Intelligence. He joined SFI as a medical field agent, and underwent Intelligence Training on board and while on leaves to Earth and Vulcan.

In March, 2369, Harker was transferred to the *USS Twilight* NCC-74413 for a classified mission, along with Engineer Lt. Ryk Raekaar. Section 31, the rival of Starfleet Intelligence, commandeered a *Defiant*-Class starship, the *Adamant*, installed an ancient but advanced artificial intelligence computer core called the M-5, and filled her corridors with a biogenetic virus designed to slaughter the Cardassian species. *Adamant* was sent back through time to before First Contact with the Cardassian Empire, to eliminate the threat long before they could join the Dominion against the Federation. Harker was assigned to deal with the biogenetic weapon. Upon arrival in the past, in 2268, *Adamant* attacked *Twilight*. With the computer's superior precision in firing pulse-phaser cannons, the *Twilight's* bridge took a direct hit from above, shattering the transparent aluminum dome, which killed all the ship's senior officers except for Dr. Harker and Chief Engineer Ryk Orn Raekaar. Harker being the senior line officer left aboard, was named captain by the ship's computer, and he successfully completed the mission.

In late 2369, while visiting Earth, Uhura convinced Harker to switch to command track. With the growing Jem Hadar threat, Uhura suspected that a war was looming, and recruited command officers she could trust. Uhura's fears were realized with the utter destruction of New Bajor and the first *Starship Odyssey* in 2370. The admiral had requested, and was granted, a small fleet of capitol vessels as mobile bases for intelligence work. At the completion of his abbreviated command training, Harker was granted a promotion to full commander, and awarded command of the *U.S.S. Twilight* NCC-74413, a *Nova*-class vessel.

2369: *U.S.S. Twilight* NCC-74413 - Commanding Officer. Harker was a new skipper, sent on dangerous recon espionage missions for Starfleet Intelligence. Many of these missions took place in the Neutral Zone and even into Romulan space proper. It helped that *Twilight* was designated as a "medical research vessel"; this generally shut up any objecting officials from hostile forces. A cursory scan of the vessel revealed two fully functional sickbays and 14 science labs, with hardware to convert other areas of the ship into sickbays to deal with numerous casualties. By treaty and interstellar law, even during war, as a medical ship, *Twilight* was strictly "hands-off." Nonetheless, in 2372, with the advent of the Dominion War, the *Twilight* was transferred to the Seventh Fleet, headquartered at Starbase 375. Harker became one of Uhura's point men, obtaining valuable intelligence from Cardassian space while at other times giving support to other capitol ships in important battles. Harker grew close with other Starfleet captains, including Jean-Luc Picard and Benjamin Sisko. In late 2373, *Twilight* identified a massive sensor array in the periphery of the Argolis Star Cluster, which enabled Starfleet to make a bold assault to destroy it, leveling the playing field in the war. In late 2374, during the fierce combat of Operation: Return to retake Deep Space Nine, Harker made a bold strategic move, jettisoned his starship's unstable warp core, and used it as a makeshift photon torpedo to destroy a massive Jem Hadar battleship. The action crippled *Twilight*, but saved the *Starship Defiant* from certain destruction. For conspicuous heroism under fire, Harker was awarded the Christopher Pike Metal of Valor, a promotion to captain, and command of the new *Sovereign*-class *U.S.S. Odyssey.* (Although Admiral Scott had wanted Harker and ch'Serth court-martialed for what they had done to the "poor, wee lassie" –the *Twilight*. Uhura promoted Harker while feigning anger.) *Twilight* was towed back to Spacedock in Sol System for major repairs and refit.

2375: *U.S.S. Odyssey* NCC-65413-Commanding Officer. On her maiden voyage, a Changeling nearly hijacked the new starship; she was neutralized by Captain Harker and his command crew: the Andorian Commander Thavgaren ch'Serth; a Vulcan Lt. Cmdr. Sh'rp, Ops Manager; Lt. Kahn, a joined Trill conn officer; the human Chief Engineer Cmdr. Ian Argyle, and the emergency holographic espionage agent MAX (onboard computer for the *Tolkien, Odyssey's* captain's yacht.) Lt. Cmdr. Paa Uhura, Admiral Uhura's daughter, once made the exasperated comment: "Captain, it took 4 years to develop the holographic espionage program, and you've turned it into your own private home-alarm system!"

On the personal request of Admiral Uhura and Lt. Cmdr. Worf at Deep Space Nine, Lt. Mord, a half Klingon/Romulan officer, joined the crew as Chief of Security. Mord was formerly named Toq, a youth rescued by Worf in 2369 from the Carraya System. This is a secret the command crew keeps under lock and key, as Mord would lose his honor in Klingon society if his heritage were generally known.

Harker spearheaded several task forces against Cardassian/Dominion forces, and personally trained new espionage agents on his vessel for Admiral Uhura. The Romulan government and even Section 31 used biogenetic weaponry against enemy forces without regard for the sanctity of human life. Harker led teams of physicians to neutralize these artificial diseases before they could lay waste to entire species.

Towards the end of the war, Q appeared on the *Odyssey* Bridge, the first time Harker had seen the entity since his childhood. Q tisked at the "primitive" weaponry of the Sovereign-class starship, and left a "gift"—ten temporal torpedoes from the 29th Century in their

torpedo magazine. ("Mord, get down there. Don't touch it. Just tell me what it is." "Yes, sir.") One torpedo was sufficient to annihilate a massive Jem Hadar battleship, even *before* it left the launch tube. Admiral Uhura rendezvoused with *Odyssey* in her new command cruiser, the *James T. Kirk*, and took possession of six of these advanced torpedoes. Two fully-functional temporal torpedoes remain on board *Odyssey*; one in her magazine, the other sealed off in Science Lab 4. Chief Engineer Argyle, late of the *Enterprise-D*, spends his spare time trying to understand and duplicate the advanced technology, while on Earth, the Starfleet Corps of Engineers, led by Admiral Montgomery Scott, tries to do the same. As of this writing, no one in the Federation is yet able to grasp the basic engineering of this marvel of future technology, beyond how to use it. It is as if Q traveled back in time and gave a hand phaser to Sir Isaac Newton.

On one memorable mission, *Odyssey* came across a rogue world that just appeared in the Romulan Neutral Zone. While investigating this pre-warp society, Harker found his commbadge and phaser missing. Sh'rp rescued the captain from a squad of knights wearing black armor and wielding primitive swords that had surrounded him. The Vulcan quickly explained that the purloiner of his equipment had somehow managed to activate the emergency beacon in the commbadge and had himself beamed aboard. Harker responded: "Lieutenant Commander Sh'rp, are you seriously trying to tell me that there's a Kender running loose aboard my starship?" After two weeks' adventures, the primitive world disappeared again, leaving the crew with a very small problem. ("Well, we can always make him an acting ensign and put him in charge of the cargo bays." Harker blanched. "That isn't very damn funny, Sh'rp. What's Nyota going to say?" The Vulcan shrugged. "Who says the admiral has to find out?" Harker conceded the point. "Just keep him out of the engine room!") Thus, Happy Pouchfinder became the first—and only—Kender in Starfleet. Every now and then, odds and ends from various Starbases, alien worlds, and the odd Romulan warbird or two end up in *Odyssey's* cargo bays.

Following the war, Captain Harker and the crew of the *Starship Odyssey* have continued Starfleet's mission of exploration, while keeping an eye on old enemies: Sela and the *Tal Shiar*, his father and Section 31, the remains of the Obsidian Order, and of course, Q.

Attributes:
Fitness: 2
Vitality: +1
Coordination: 2
Intellect: 4
Perception: +1*
Presence: 3
Empathy +2
Psi 0 [6*]

Special Or Unique Abilities: *El-Aurians can detect changes in the time-line, as well as the presence of Q.

Special Or Unique Skills: Known as exceptional listeners, El-Aurians excel at interpersonal skills (this gave Harker an automatic 2 for influence.)

Skills:
Charm (Influence) 2 (3)
Computers (Research) 1 (2)
Culture (Aurelia) 2 (3)
(Earth) (3)
Dodge 1
Energy Weapon (Phaser) 2 (3)
First Aid (Combat Trauma) 4 (5)
(Vulcan) (5)
Life Science (Exobiology) 2 (3)
(Exopathology) (4) *(biogenic weapons counterintelligence)
Medical Science (General Medicine) 4 (5)
(Surgery) (5)
(Cardiology) (5)
Personal Equipment (Medical Tricorder) 2 (3)
(Espionage) (3)
Planetary Survival (Forest) 1 (2)
Shipboard Systems (Medical) 2 (3)
(Command) (3)
Vehicle Operations (Shuttlecraft) 1 (2)
Language (Aurelian) 2 (3)
(Federation Standard) (3)
(Romulan) (3)
Law (Starfleet Regulations) 1 (2)
Espionage (Biogenetic Weapons) 2 (4)
(Intelligence Techniques) (3)
Athletics (Gymnastics) 1 (2)
Administration (Starship) 2 (3)
Command (Starship) 3 (4)
Starship Tactics (Starfleet) 2 (3)
(Romulan) (3)
(Jem'Hadar) (2)
World Knowledge (Aurelia) 1 (2)
(Earth) (2)
Non-energy Weapon Combat (Quarterstaff) 1 (2)
(*Bat'leth*) (2)
Gaming (Dungeons and Dragons) 2 (3)
(Chess) (3)
Knowledge (Fantasy) 1 (2)
Artistic Expression (Writing Novels) 2 (3)
(Oil Painting) (2)

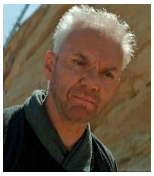
Advantages and Disadvantages:
Ally (Crew +2, Admiral Uhura+5), Contact (Guinan +1) Department Head (Medical +4), Line Officer +1, Famous Incident (Many), Innovative, Rank (Captain +5), Security Clearance (+3 above normal rank), Code of Honor (Hippocratic Oath -2), Enemy (Q -2), Sworn Enemy (*Tal Shiar -3,* Sela -3), Revenge (Borg -3) Obligation (El-Aurians -3, Starfleet Intelligence –2), Phobia (Borg -3), Obsession (Nexus -1)

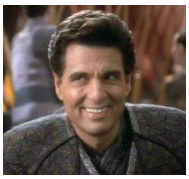
Other Statistics:

Courage: 15
Renown: 47
Aggression: 1
Discipline: 12
Initiative: 3
Openness: +2
Skill: 25
Resistance: 4
Wound Levels: 3/3/3/3/3/3/0

Notes: Renowned as a medical expert in biogenic weapons, an expert Intelligence agent, and starship commander; Christopher Pike Metal of Valor (Sacrificed own starship *Twilight* to aid Sisko during Operation: Return, 2374); Medical Cross x2 (with cluster)

Character Jaryd Harker created by Lawrence Jeffrey Cohen. Permission granted to copy for Roleplaying purposes, permission granted to publish in future Star Trek publications and for Last Unicorn Games



Template: El-Aurian
Note: It was a bit of work inventing a template for an El-Aurian, but it was well worth it. I started with a +2 for Fitness (Reflexes), and a +1 Vitality, to reflect a species with a lifespan of about 5,000 years. Superior science background, 2 (3, 3) (Choose 2 specializations); Charm (Influence), and Openness (Listening) +2. Enemy (Borg -3), Phobia (Borg -3), Revenge (Borg -3), Culture (Aurelia) 2 (3), Gaming (2, choose specialties), Knowledge 1 (1) (choose specialty), and finally Language 2(3) Choose 3 Languages, one of which is Aurelian. Finishing it off is a Psi of 0[6] to detect changes in the timeline, or any being powerful enough to do so. You *might* wish to add Obsession (The Nexus +1 to +4), but that might be overdoing it. No surprise that Boothby the Academy groundskeeper is an El-Aurian, the character just naturally falls into it. If you choose this template, just be warned, only about 200 survived the Borg's devastation of Aurelia, so they all know each other. If your narrator/GM has Q pop onto your bridge, your character instantly knows it.

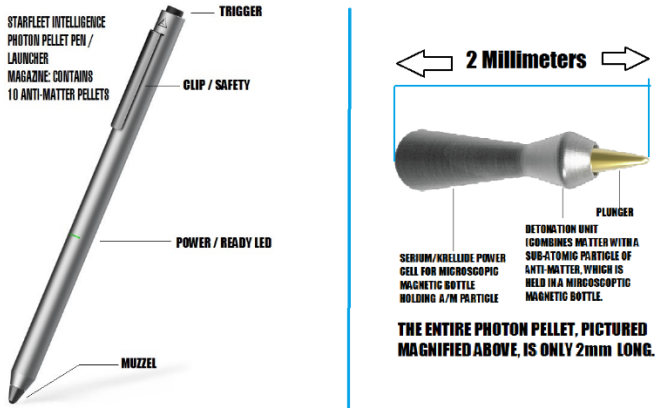
Overlay: Starfleet Intelligence Agent, Field Operative
Energy Weapon (Choose) 2 (2)
Non-energy Weapon Combat (Choose Specialization) 1 (2)
Dodge 1
Personal Equipment (Espionage) 1 (2)
Espionage (Biogenetic Weapons) 3 (4) OR, (Intelligence Techniques) (3)
Computer (Hacking) 1 (2)

Unarmed Combat (Choose Specialization) 2 (3)
Advantage: Security Clearance (+3 to existing rank computer clearance, goes above 10)

Overlay: Starfleet Intelligence Agent, Field Operative, Science Specialist
Energy Weapon (Choose) 2 (2)
Non-energy Weapon Combat (Choose Specialization) 1 (2)
Dodge 1
Personal Equipment (Espionage) 1 (2)
Any Science (Choose Specialization) 2 (3)
Medical Science (Biogenic Weapons) (3) 4 (Doctors only)
Or,
Any Science #2 (Choose Specialization) 2 (3)
Security Clearance (+3 to existing rank computer clearance, goes above 10)
Espionage (Biogenetic Weapons) 3 (4) OR, (Intelligence Techniques) (3)

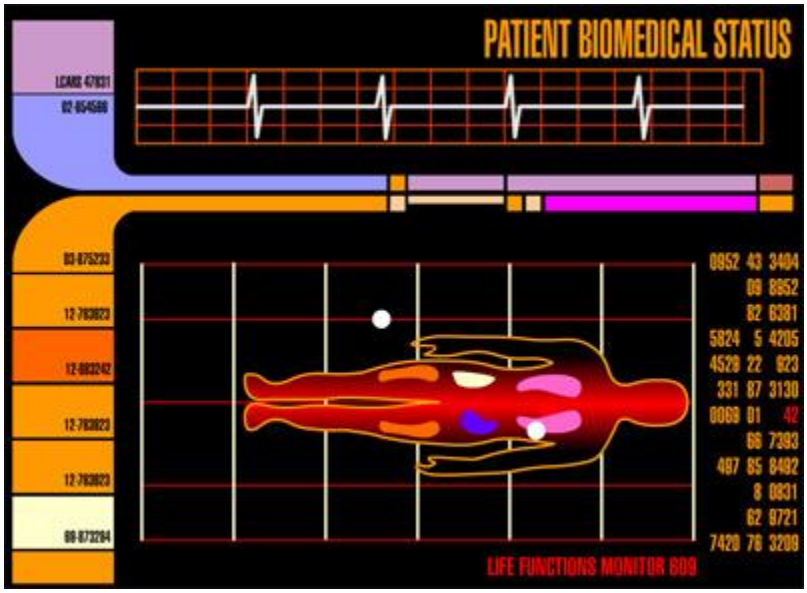
Definitions:
Personal Equipment (Espionage) 1 (2): This skill is to enable the agent to use generic James Bond type spy equipment, such as the stylus that fires photon pellets (cartridge of 10). Harker once used a photon pellet on a changeling who had infiltrated the bridge, and when the anti-matter particle went off, it blew out 30% of the bridge control surfaces, and made a bang loud enough to temporarily deafen everyone on the bridge. (*"Captain, didn't you bother to read the manual that came with that thing? It says explicitly, 'Do not use indoors'!"*) Anyway, in order to use the spy equipment listed in *The First Line* properly, you need this skill.

Security Clearance +3 to existing rank. Normally, computer security clearance on a starship ranges from 1 – 10, 1 being non-classified for civilian use, and 10 for captains and above. For admirals and Starfleet Intelligence agents, the clearance goes a lot higher. An ensign who is also an agent begins with a security clearance of 7; it's not unusual for a captain who's also an agent to have clearance of 13 or 14. Higher clearance than this must be purchased. Currently, Harker has a clearance of 18. Adm. Nyota Uhura, the director of SI, has a clearance of 99. The clearance is also "need to know," meaning that anything that has to do with medical science, including biogenic weapons, Harker can access it.



New Equipment:
Photon Pellet Launcher: Fires ammunition the size of a grain of sand, 2,000 m/second for a maximum range of 2,000 meters. Magazine contains 10 anti-matter pellets. The pellet itself is only 2mm long, and is the cutting edge of 24th Century Technology. It contains a single sub-atomic anti-matter particle in a microscopic magnetic containment bottle. Upon contact, the gold plunger connects with the detonator's internal circuitry, which simply collapses the static magnetic bottle and allows contact with positive matter. The resulting explosion yields a damage index of 2,450, or **160+12d6** damage, sufficient to explode 600 cubic meters of rock into rubble, or, a phaser III (rifle) on setting 16.

The above weapon is my own invention; the narrator advising me, "*Are you* sure *you wanna do that?*" before I fired it at the changeling in a suit of SI armor with shields in operation, should have been a hint. Yeah, my bridge crew was mostly unconscious and in danger of dying at the hands of this bastard changeling, so *hell yeah*, I fired! Result: I scared the changeling off the bridge, and everyone on Deck One went deaf till I managed to heal their ruptured inner eardrums. Conclusion: I saved my ship and crew.



A Brief Run-through on Miniature Combat

Combat: If you are using miniature starships and a battle mat, each hex is representative of 10,000 km. A move at full impulse is six hexes, with a single turn to one side of a hex counting as one.

Weapons: The phasers at normal power deal 20 points of damage; if overpowered, they can deal a maximum of 30 points damage for 45 points of power. Type-VI photon torpedoes deal 21 points of damage, and the firing tubes cost 5 power points for each tube (there are two of them, for a total of 4 torpedoes and cost of 10 power points per firing.) Quantum Torpedoes deal 25 Pts. of damage for the same firing statistics.

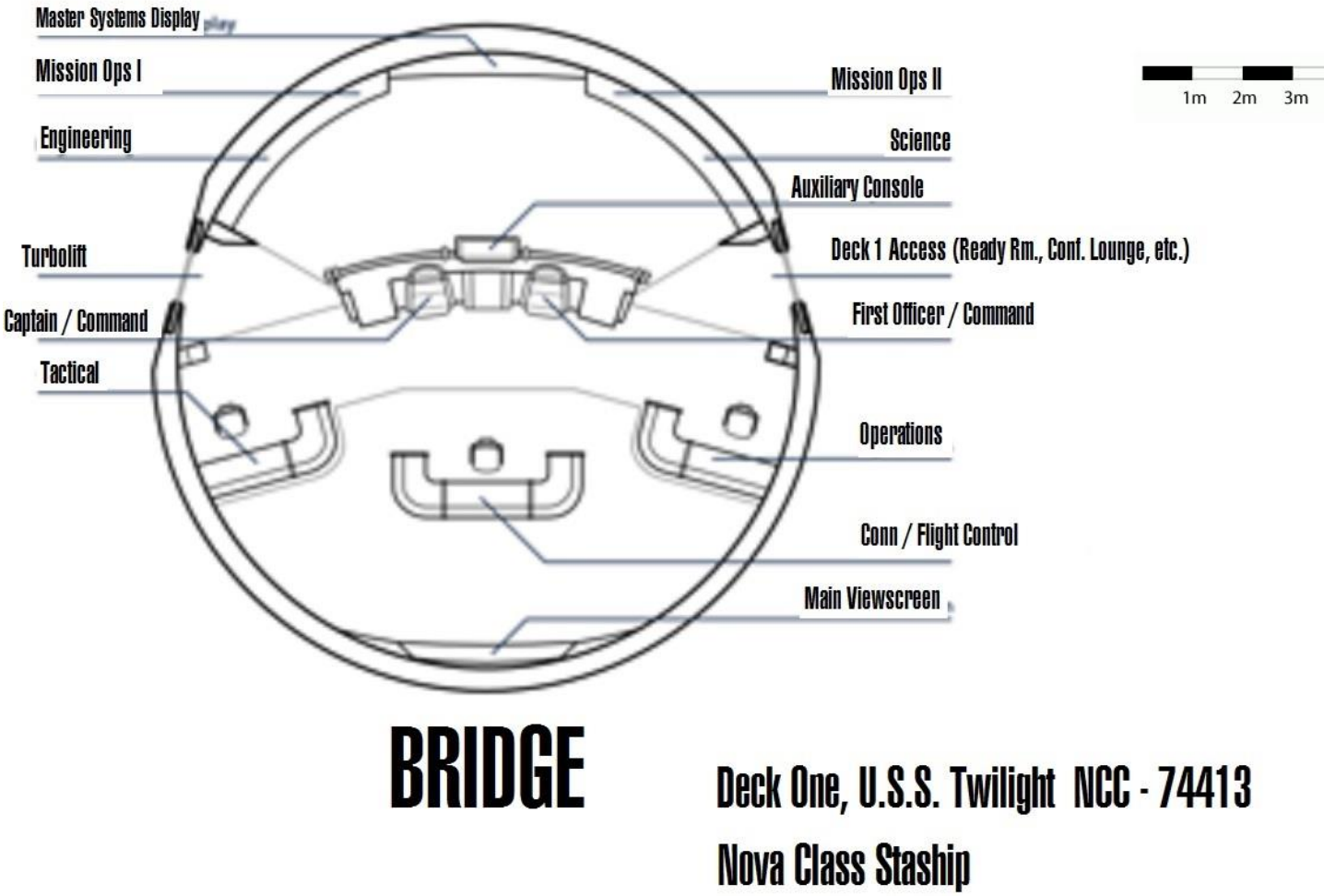
Power: The warp core and impulse reactors deliver 120 Power Points every other Round. Emergency Power is available from the auxiliary fusion reactors: 20 more points every 4 rounds—usually this power is kept in reserve for shields. (There is also 120 more power points available in the Batteries—use this power wisely; battery power is a one-shot deal. The batteries are an absolute last resort in case all reactors are damaged and off-line, for powering life support for 12 hours till repairs can be made.) The Ops manager (PC player) has to play a balancing game with the power, ensuring sufficient power is available for phasers, torpedo tubes, shields, impulse engines, and life support. The Ops manager therefore has to stretch 120 power units out for the two rounds. The Tactical officer has to keep the total energy available in mind, as well as the PC manning the Conn. If the Tactical officer fires phasers at half power, that frees up 6 power units per shot to be used elsewhere. If Tactical overpowers the phasers (costing 22 power points per shot) that means the impulse engines are strained, and probably the Conn has less than six hexes of movement per Round.

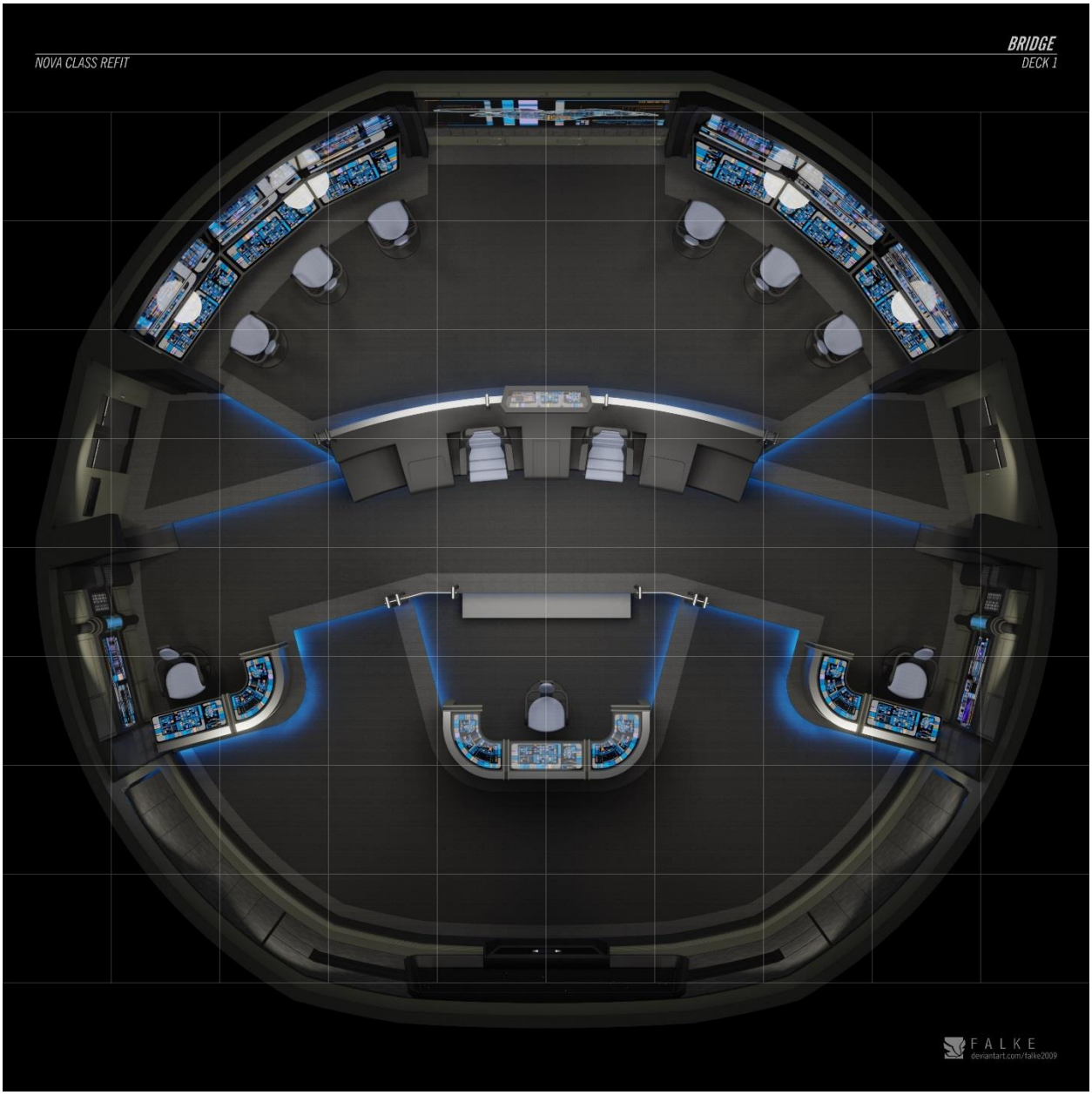
If the Crew coordinates with each other while role-playing the combat, give them an extra 2 points at the end of the episode adventure.

Space Combat using miniatures on a battlemat adds realism to the game and helps players visualize the battle.

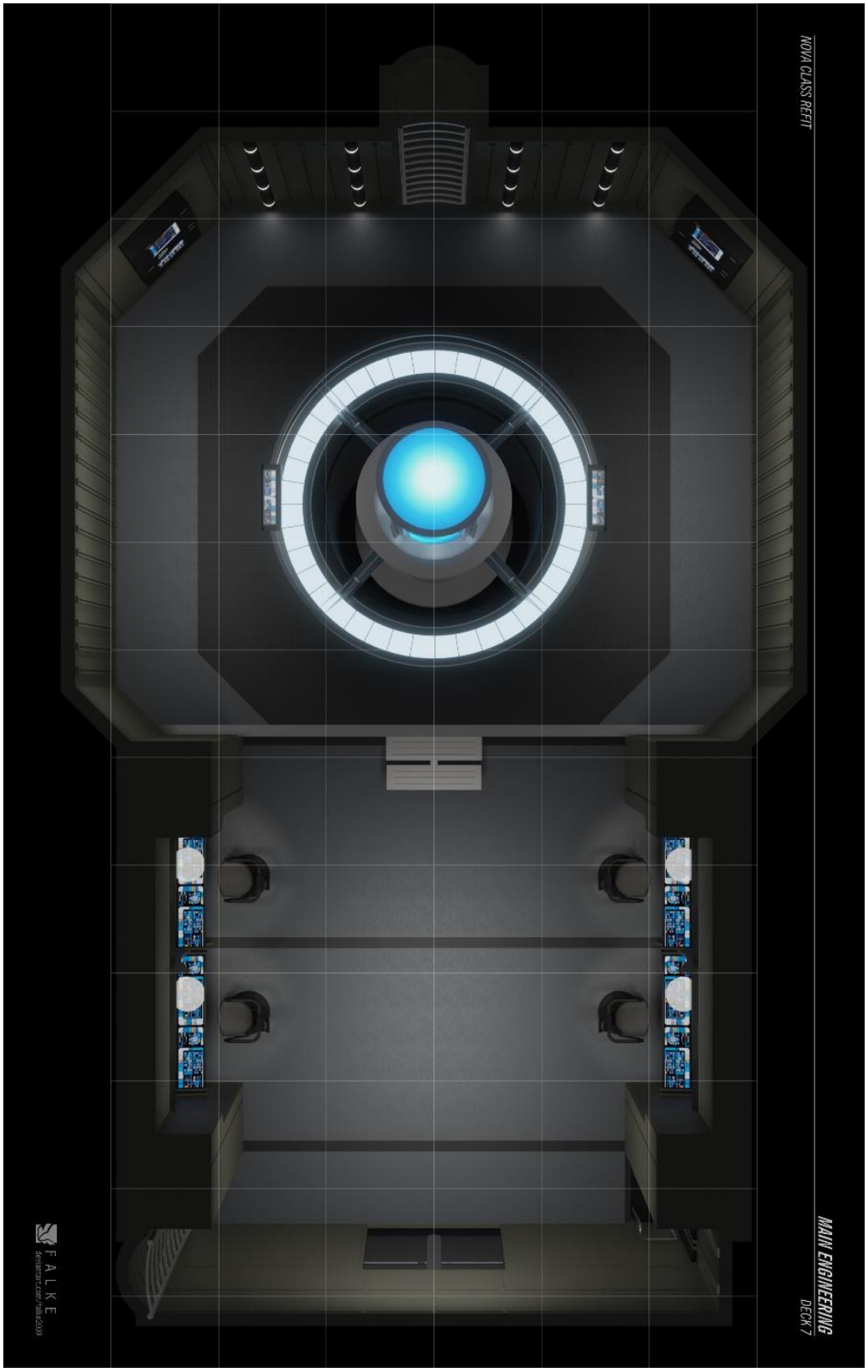
LAST UNICORN GAMES STAR TREK ROLE PLAYING

HANDOUT
DECK PLAN OF BRIDGE
NOVA CLASS STARSHIP



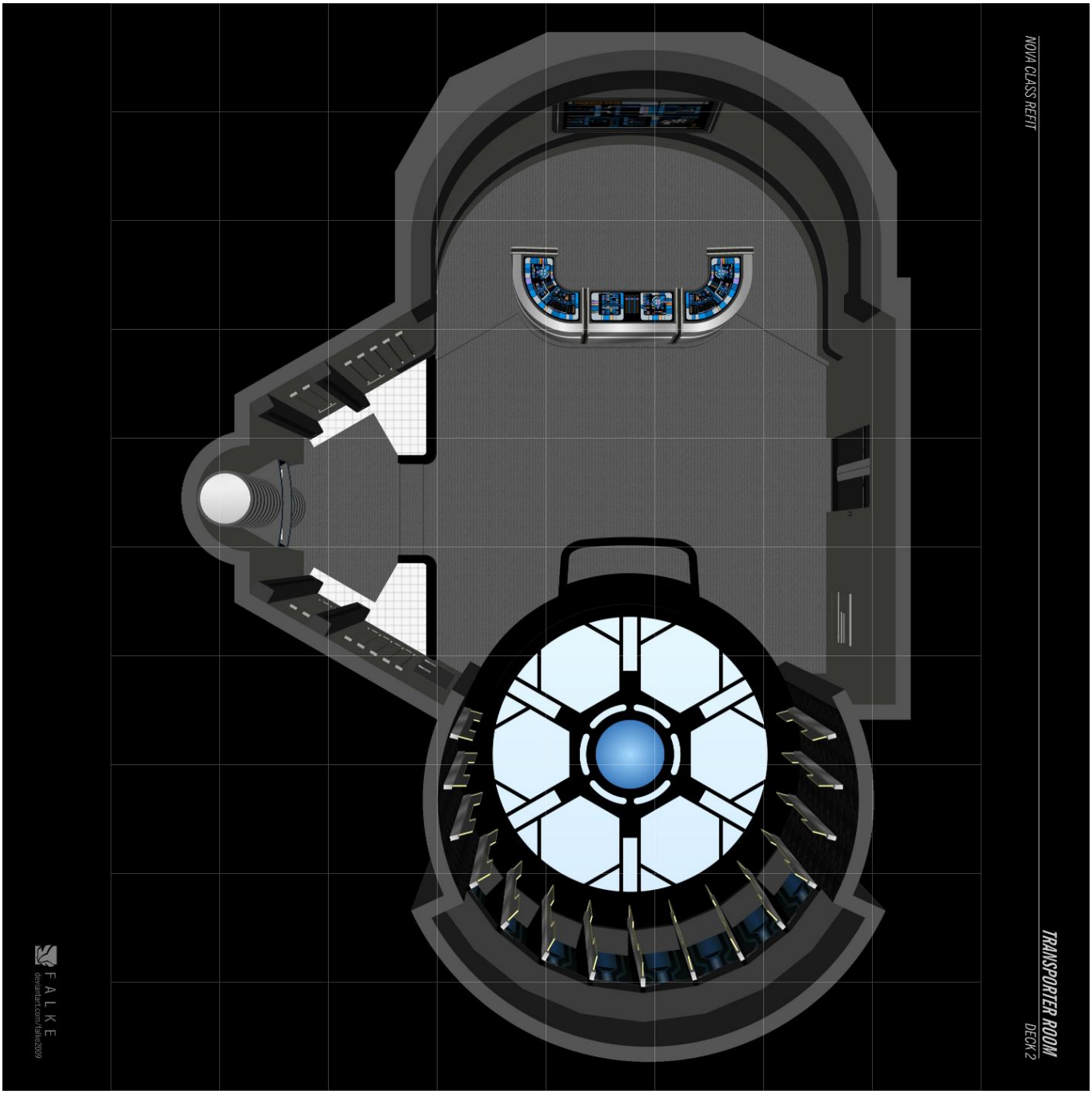


Twilight Bridge game tile

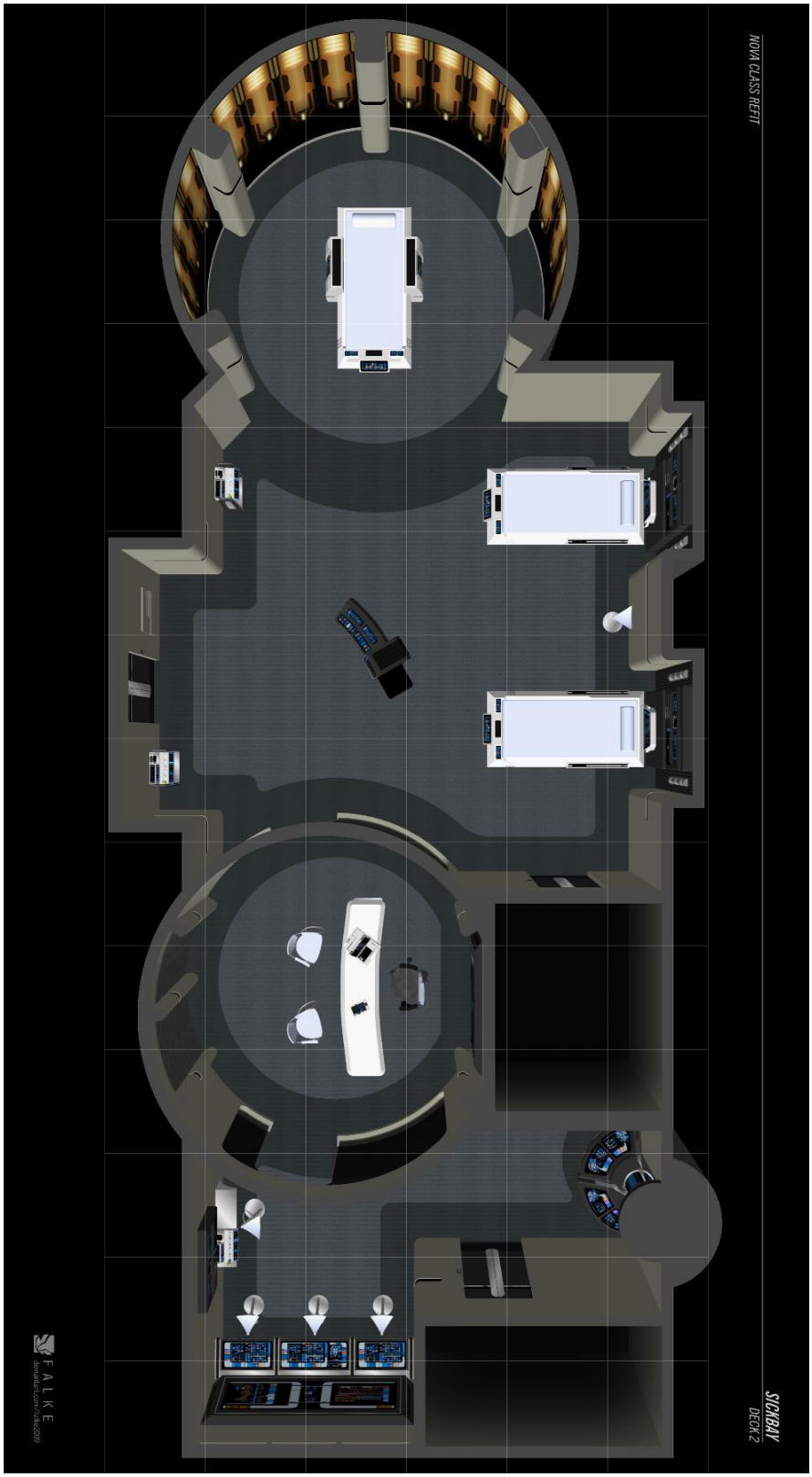


Twilight Main Engineering game tile

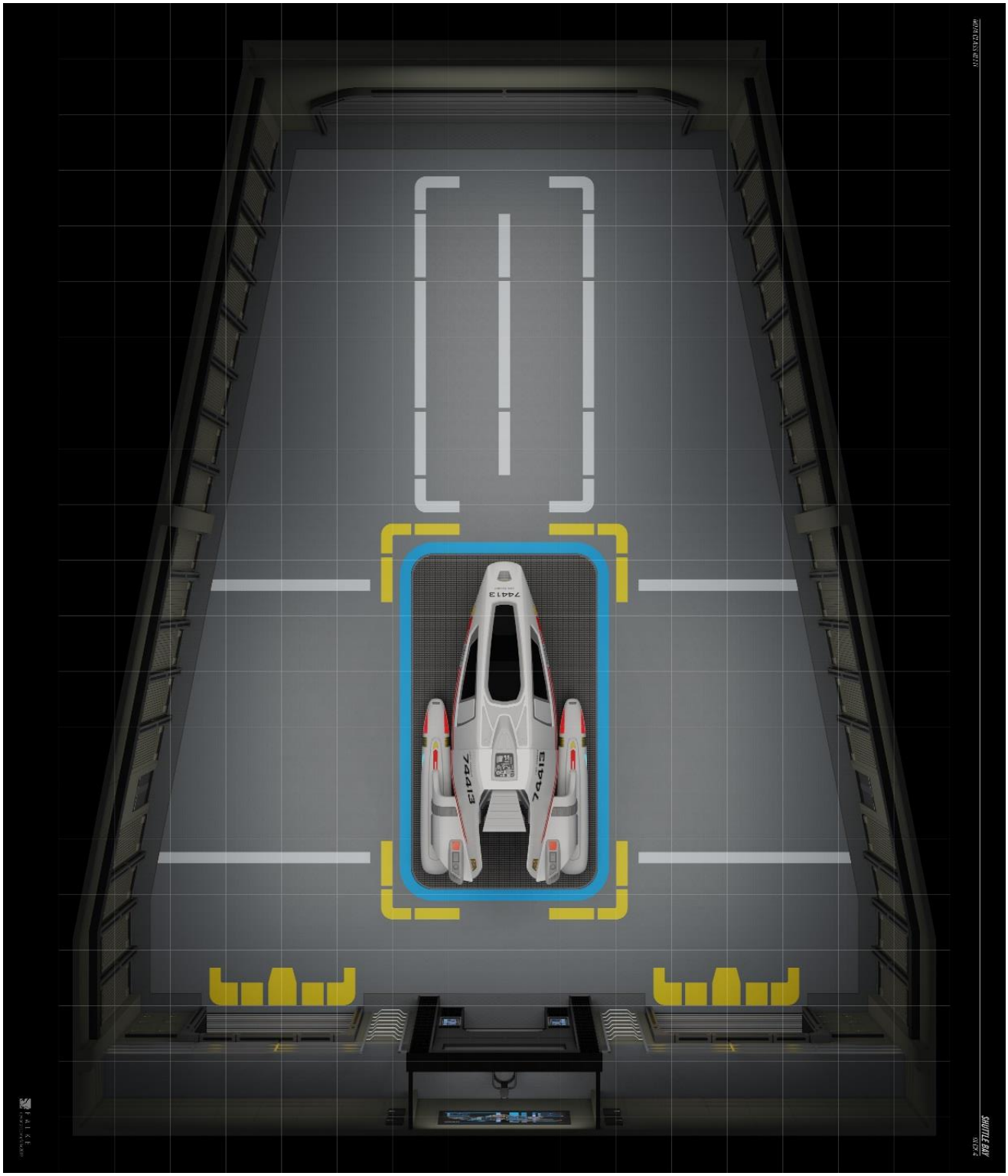
Nova Class Science Lab game tile



Nova Class Transporter Rm game tile

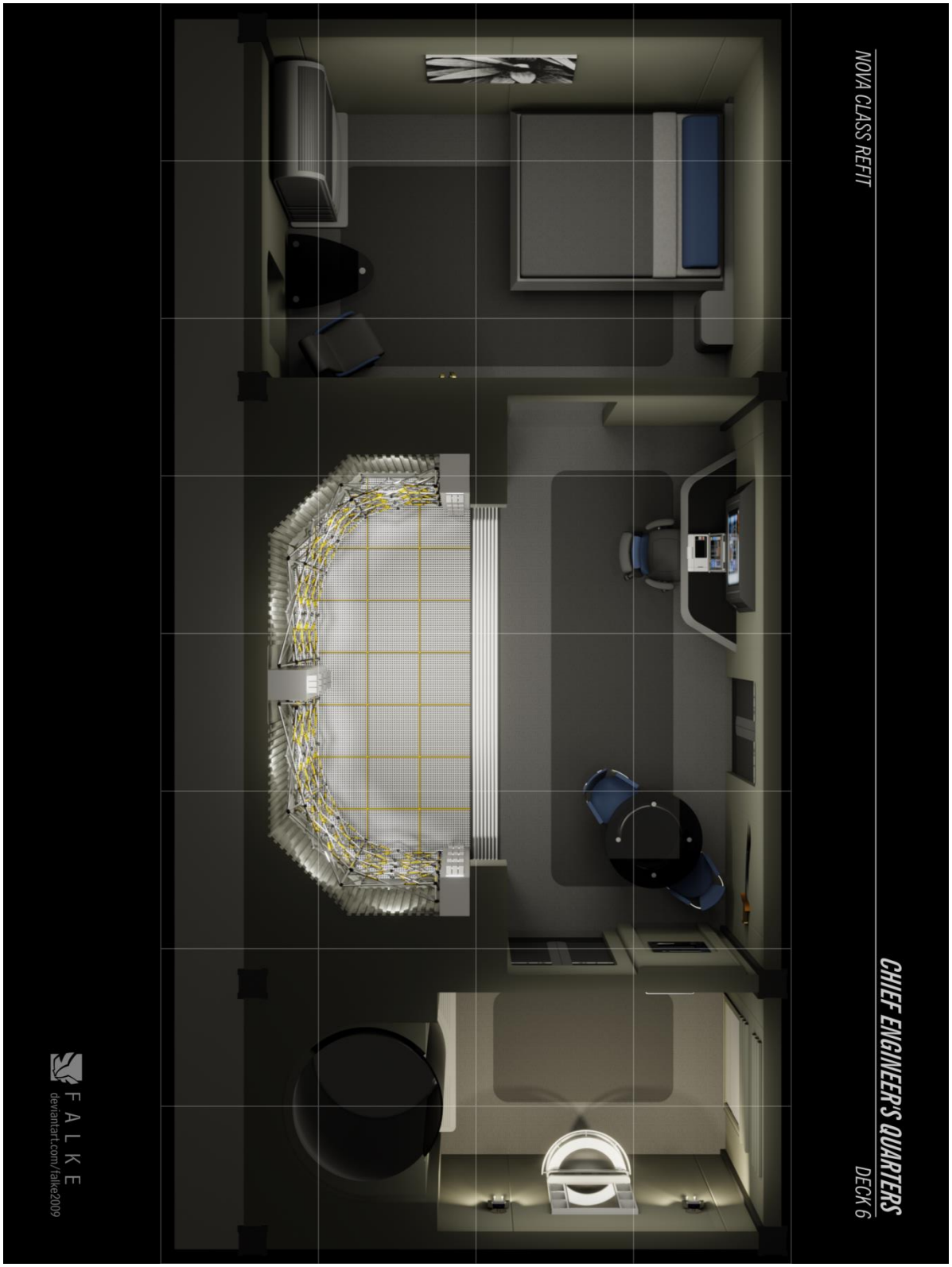


Nova Class Sickbay game tile

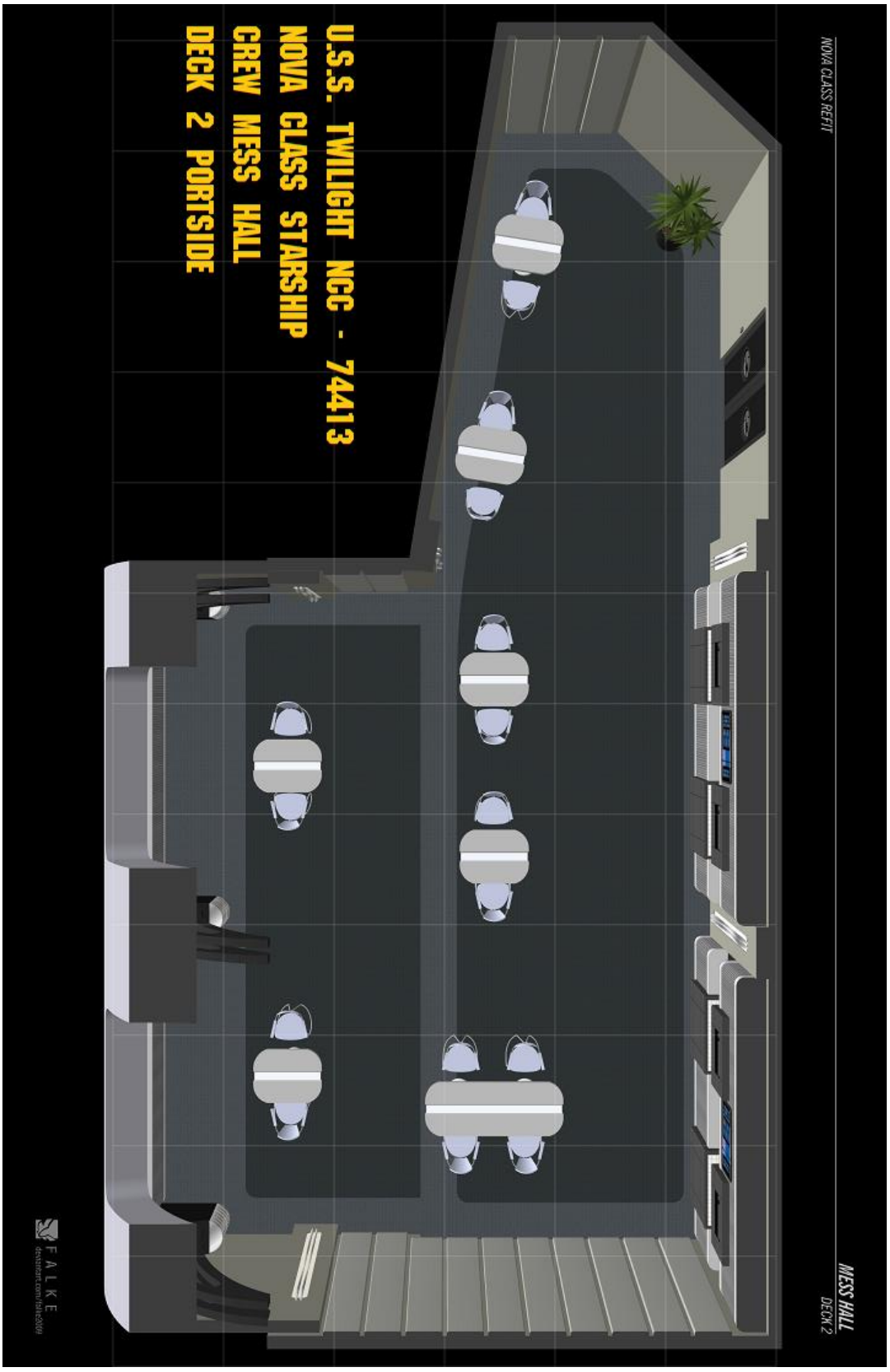


Twilight Shuttlebay game tile

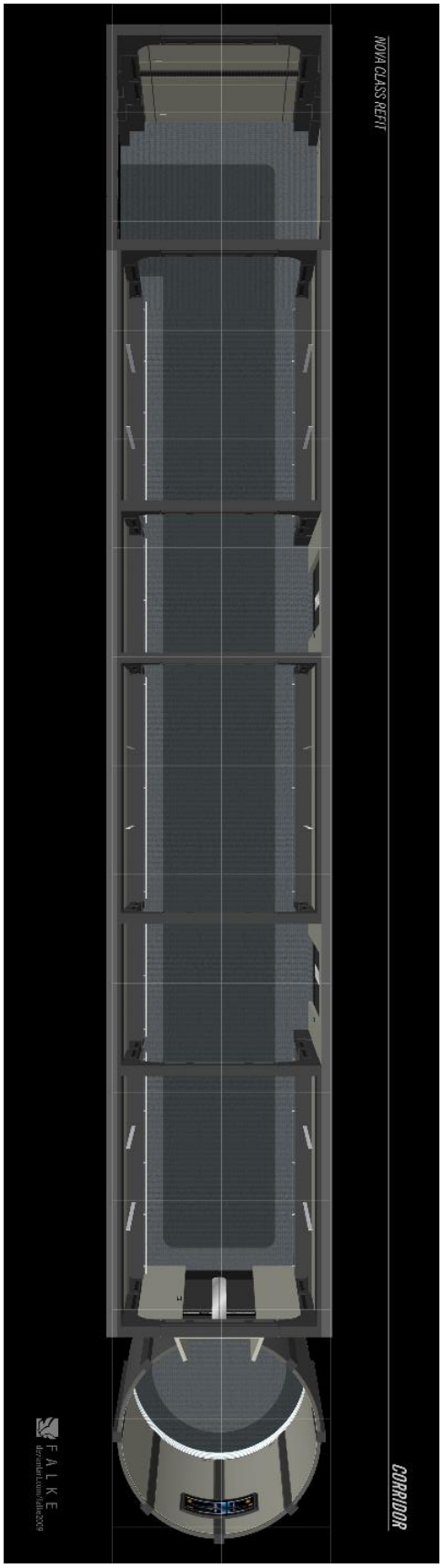

NOVA CLASS REFIT
CAPTAIN'S QUARTERS
DECK 2
FALKE
deviantart.com/falke2009



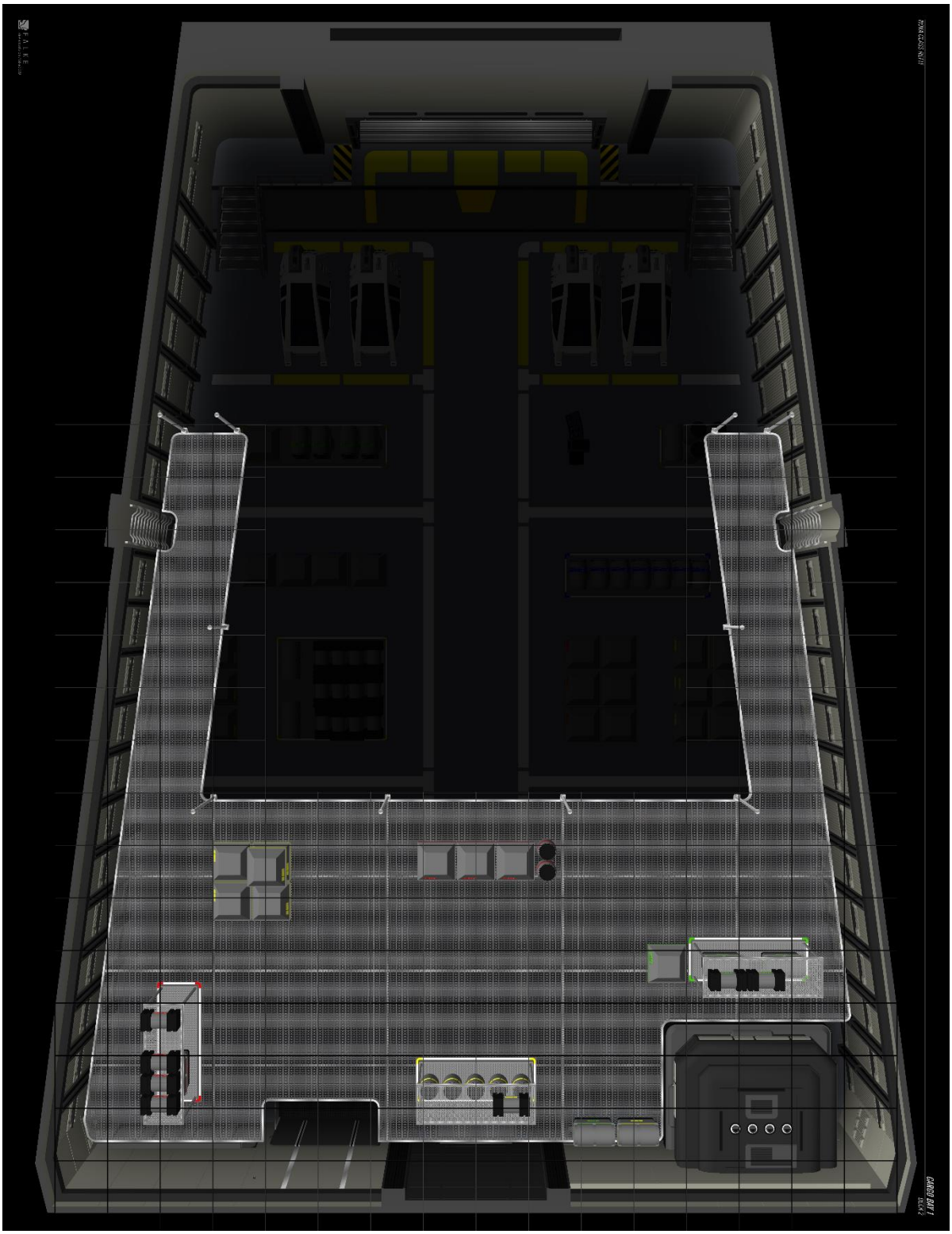
Chief Engineer Ryk Orn Raekaar has installed a small personal holodeck in his quarters that takes up half of the living space.



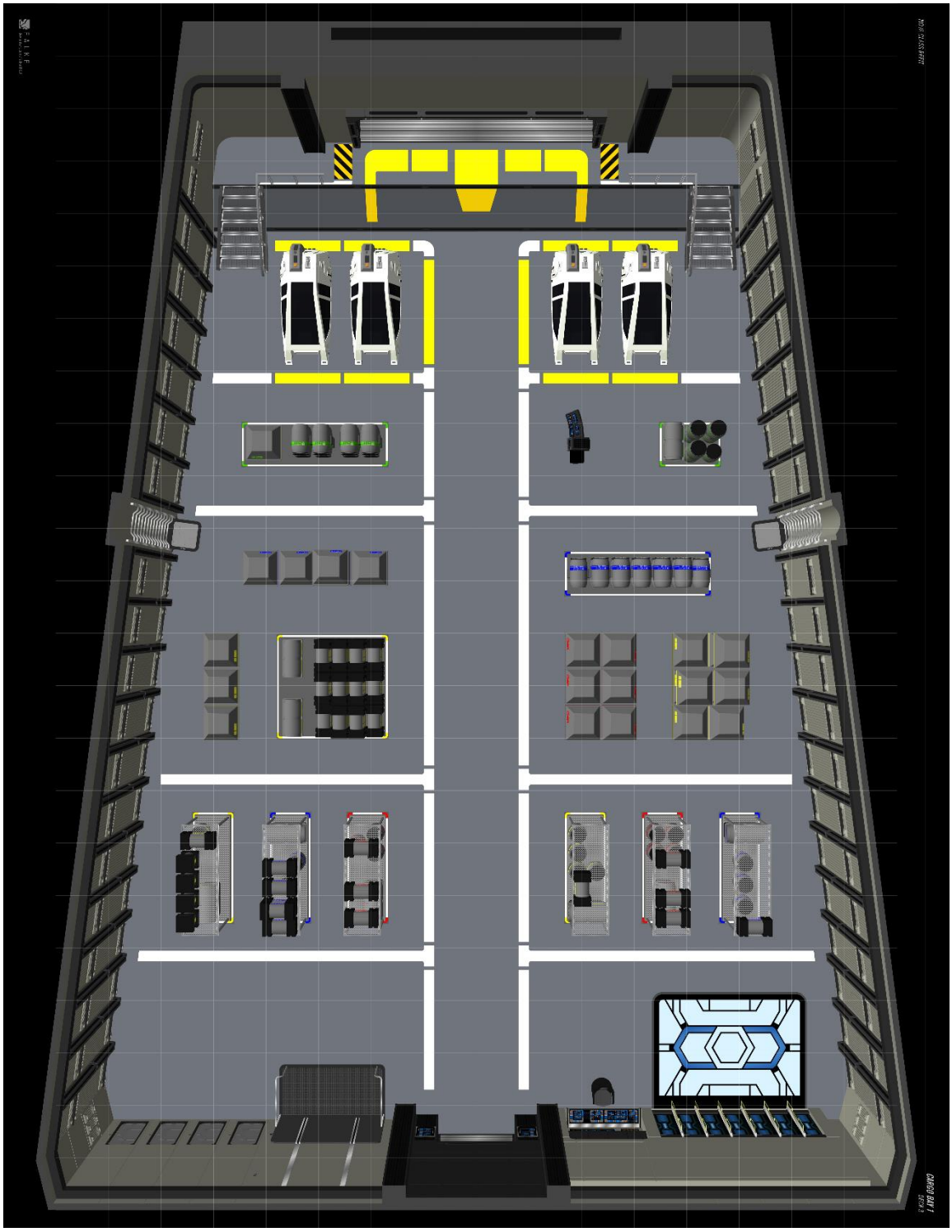
Twilight Crew Mess Hall game tile


NOVA CLASS REFIT
CORRIDOR
FALKE

USS Twilight Corridor game tile



Main Cargo Bay Upper game tile

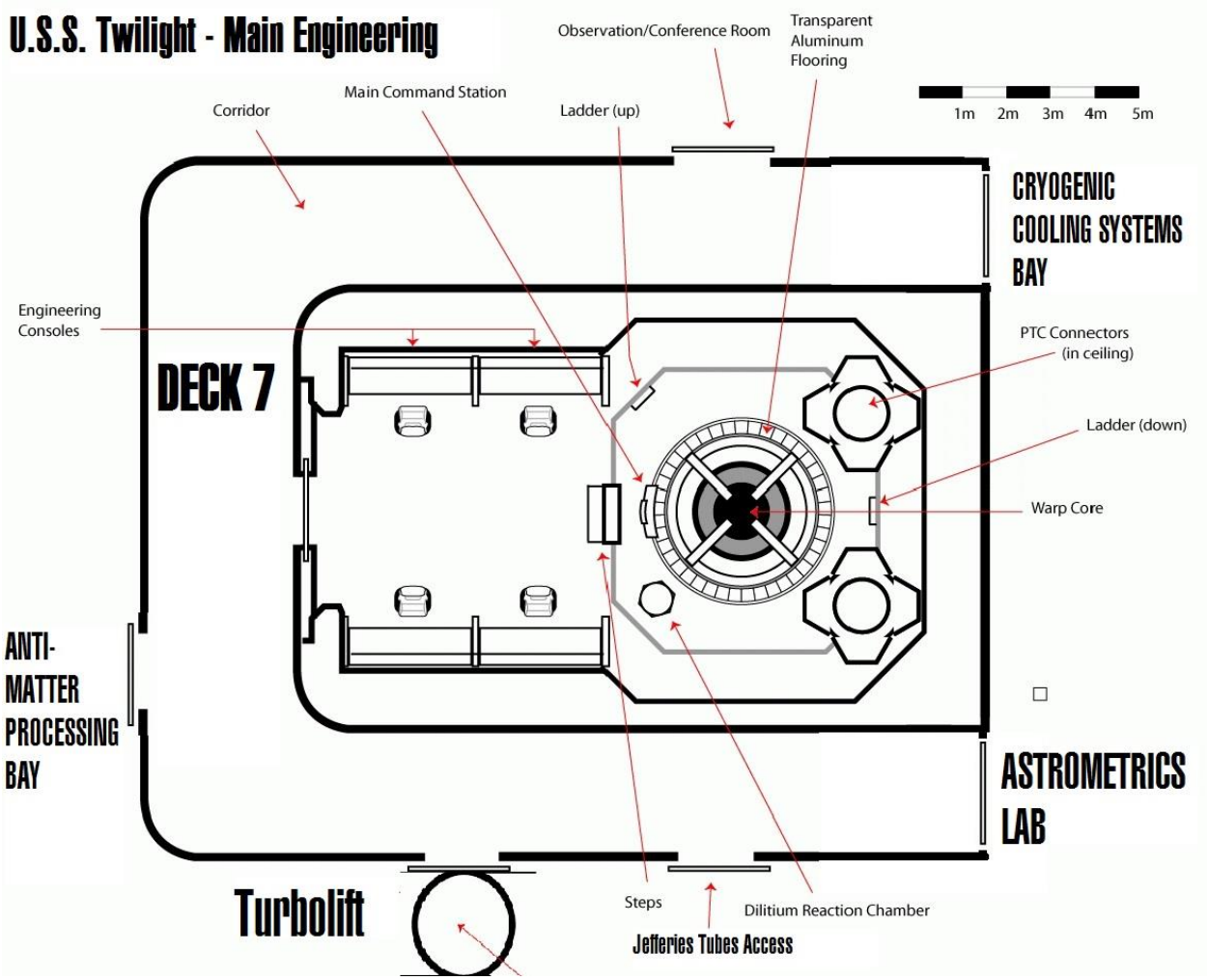


Twilight Main Cargo Bay Lower game tile

*Open Game License: Permission to reprint and resize for game purposes ONLY, all game tiles and handouts.

Micromacine-sized model of USS Twilight -- yes, I had it professionally relabeled with the correct name and registry number on her hull.

USS TWILIGHT NCC - 74413
Eaglemoss Nova Class Model renamed profesionally. I think Mark may have actually lasered the new name on her hull!



LAST UNICORN GAMES STAR TREK ROLE PLAYING

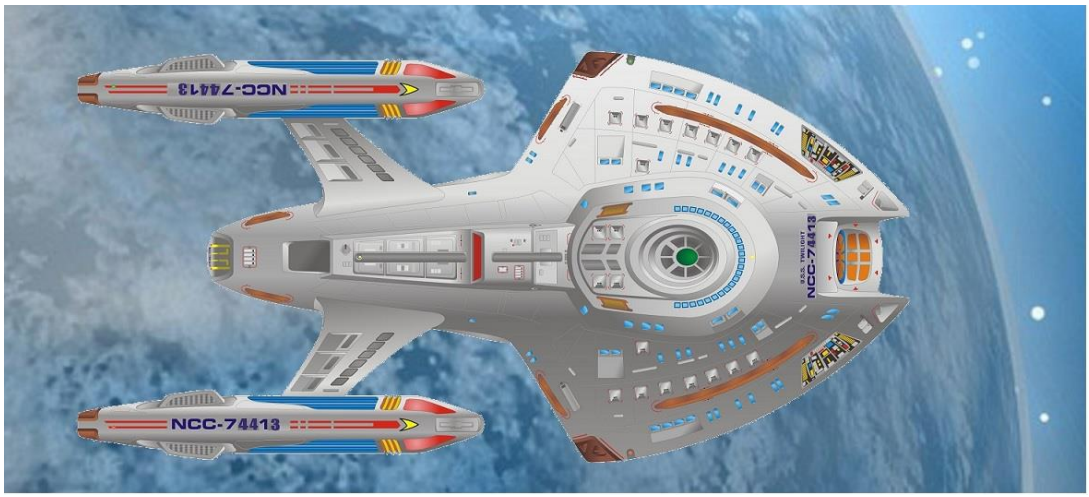
HANDOUT

DECK PLAN FOR MAIN ENGINEERING

NOVA CLASS STARSHIP

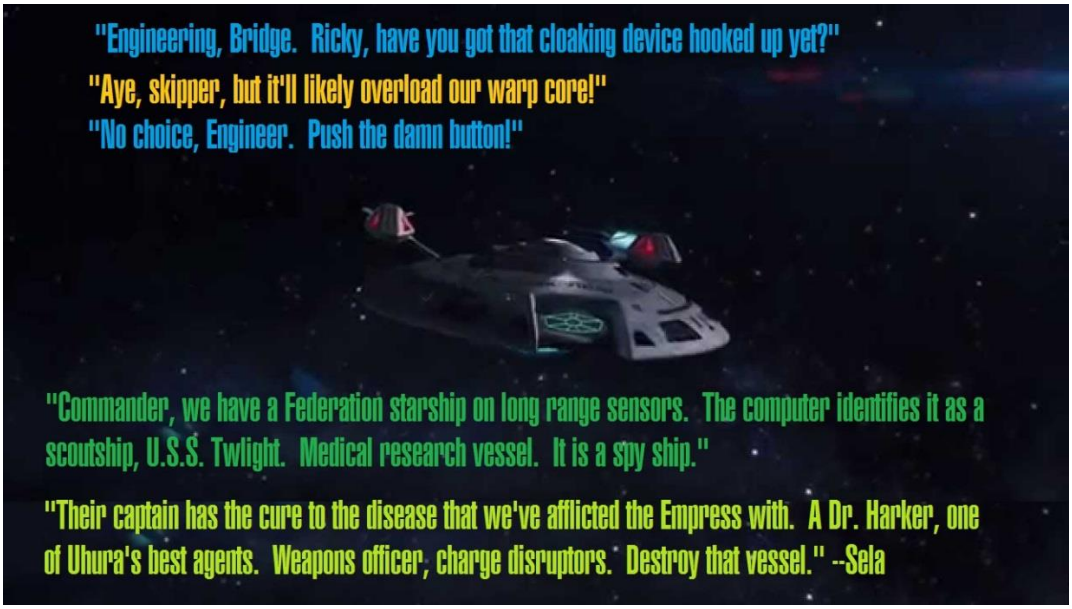
The above gaming stats are for *Twilight* prior to the Dominion War, before she was fit with quantum torpedoes or Valkyrie fighters. The Xb phasers normally do can go up to 30 damage, but cost only 45 power pts.; 3 Power Pts. per Damage Pt. thereafter, as normal.

Nova Class Starship Docked at Starbase 12. There is a ventral docking port on Deck 3 Portside



Starship Twilight in orbit about a Class-M world

Sela trying to kill us



Yeah, the above scene really happened in-game. *Twilight* was called back to Spacedock, and quickly fit with a highly-classfied Federation phasing cloak device, while my command crew and I (Harker) were called into a closed-door meeting with Admiral Uhura and my old professor, Admiral McCoy. Nyota informed me that even as we sat there, Admiral Scott was installing the cloaking device. It was to enable us to safely cross the Neutral Zone and penetrate Romulan space all the way to Romulus itself; we would have to drop the cloak for all of six seconds, to beam down the away team, which would include myself and three security guards, including Lt. Cmdr. T'Lura (who died on this mission), Lt. Cmdr. Ch'Serth (my Andorian tactical officer), and Lt. Mord (my half-Klingon/Romulan Chief of Security.)

McCoy placed the silver box on the desk, which contained a hypospray and six ampules, with a bluish-purple fluid inside: the cure to the bioweapon that was killing the empress, her daughter, and the entire Romulan Royal Family, except of course, Sela. If the head of the Tal Shiar succeeded, Sela would become the new empress. Then, the other shoe dropped: the empress was the old commander Kirk and Spock once stole a cloaking device from in 2268; the empress's 14-year-old daughter was sired by Ambassador Spock. This was more than a mission; this was a personal, family matter.

Once in orbit of Romulus, I left Ricky in command, and beamed down to the planet, armed with only the silver box in a shoulder bag, and a phaser II. Everybody else was armed with a compression phaser rifle, set and locked onto heavy stun. I also wore a specialized personal shield-belt, good for 5 minutes. Spock met us as we materialized, and we had to sneak through secret passages choked with cobwebs, till we were in the corridor outside the royal apartments. I saved Spock's daughter just in time; she issued me an isolinear chip with her personal signature on it, empowering Starfleet Intelligence to carry and operate 15 cloaking devices of Federation make, anywhere in space. This saved our lives, as Sela was ready to destroy the *Twilight*, with a fleet of ten *D'deridex*-class, B-type warbirds, all equipped with enhanced sensors that could see through our cloak.

Tony (GM/Narrator): "Okay, there's your little science vessel, under cloak. Here, here, here, here….(until he'd dropped ten green warbirds onto the Battlemat) is Sela's fleet. And oh, yeah. They can see you!"

Appendix G – Starfleet General Orders

Curiously, the complete list of Starfleet General Orders and regulations was never published by Simon and Schuster, not even in the *Star Trek Encyclopedia*. I found it published by Last Unicorn Games' *Player's Guide*, General Orders 1 -15 reproduced here for gamers of Star Trek:

General Order One (also referred to as the "Prime Directive"): *No officer of Starfleet shall interfere in the natural evolution of a sapient species, nor shall any officer permit a Federation citizen to interfere in the natural course of development of a sapient species.*

This is the sole General Order that takes precedence over all others; all remaining General Orders are considered equal in authority to each other; the commanding officer, or ranking duty shift officer, must make an informed decision when two general orders appear to contradict each other.

General Order Two: *Starfleet officers shall at all times protect the life, liberty, and property of Federation citizens.*

General Order Three: *In the event of catastrophe, the commanding officer is authorized to order the destruction of the ship, to keep Federation technology from falling into the hands of a developing culture less advanced than the Federation.*

General Order Four: *Starfleet authorizes any and all commanding officers to countermand Starfleet regulations in the event of extreme threat to Federation security.*

General Order Five: *Commanding Officers shall safeguard the safety and liberty of crew members and civilians under their command.*

Starfleet Regulation 3, Paragraph 12: "In the event of imminent destruction, a captain is authorized to preserve the lives of his crew and passengers by any justifiable means."

General Order Six: *Starfleet Personnel must aid and assist any space-faring vessel signaling a distress call.*

General Order Seven: *No Starfleet vessel or officer shall visit the planet Talos IV, nor shall he allow any Federation citizen to visit Talos IV.*

This is the only death penalty still on the books. Even in the 24th Century, it has never been changed.

General Order Eight: *Starfleet personnel are required to investigate any and all instances of espionage on Starfleet facilities and vessels, and within the United Federation of Planets.*

Starfleet Regulation 13, Paragraph 4: "In the event of espionage efforts by threat forces found to be at work in Federation territory, responsibility for counterintelligence falls to the ranking Starfleet Intelligence agent on hand."

General Order Nine: Starfleet personnel are directed to protect and defend Federation property and territory.

General Order Ten: Starfleet personnel shall take no hostile action unless responding to a hostile action.

Starfleet Regulation 13, Paragraph 5: "In the event of hostile action or potential hostile action which would endanger Federation lives and property, Starfleet officers are authorized to respond as necessary to neutralize said threat."

General Order Eleven: Starfleet Personnel shall not enter the Romulan Neutral Zone or permit Federation citizens from entering the Neutral Zone, without a direct order from Starfleet Command.

Starfleet Regulation 13, Paragraph 6: "In the event of loss of contact with Starfleet Command, or when time is a pressing issue, Starfleet Intelligence agents are authorized to enter threat territory, even the Romulan Neutral Zone, if in their own judgement the need is urgent. However, if caught or killed, the Secretary will disavow all knowledge of your actions. (Good luck, Jim.)"

General Order Twelve: *Starfleet personnel are required to take adequate defensive precautions when approached by a spacecraft with which prior contact has not been established.*

Starfleet Operations Regulation 69, Paragraph 1: "When the commanding officer or duty officer orders a Red Alert, the main computer will automatically raise the combat shields to a defensive posture."

Starfleet Operations Regulation 69, Paragraph 2: "Upon the approach of any vessel or artificial construct, when communications have not been established, combat shields must be raised."

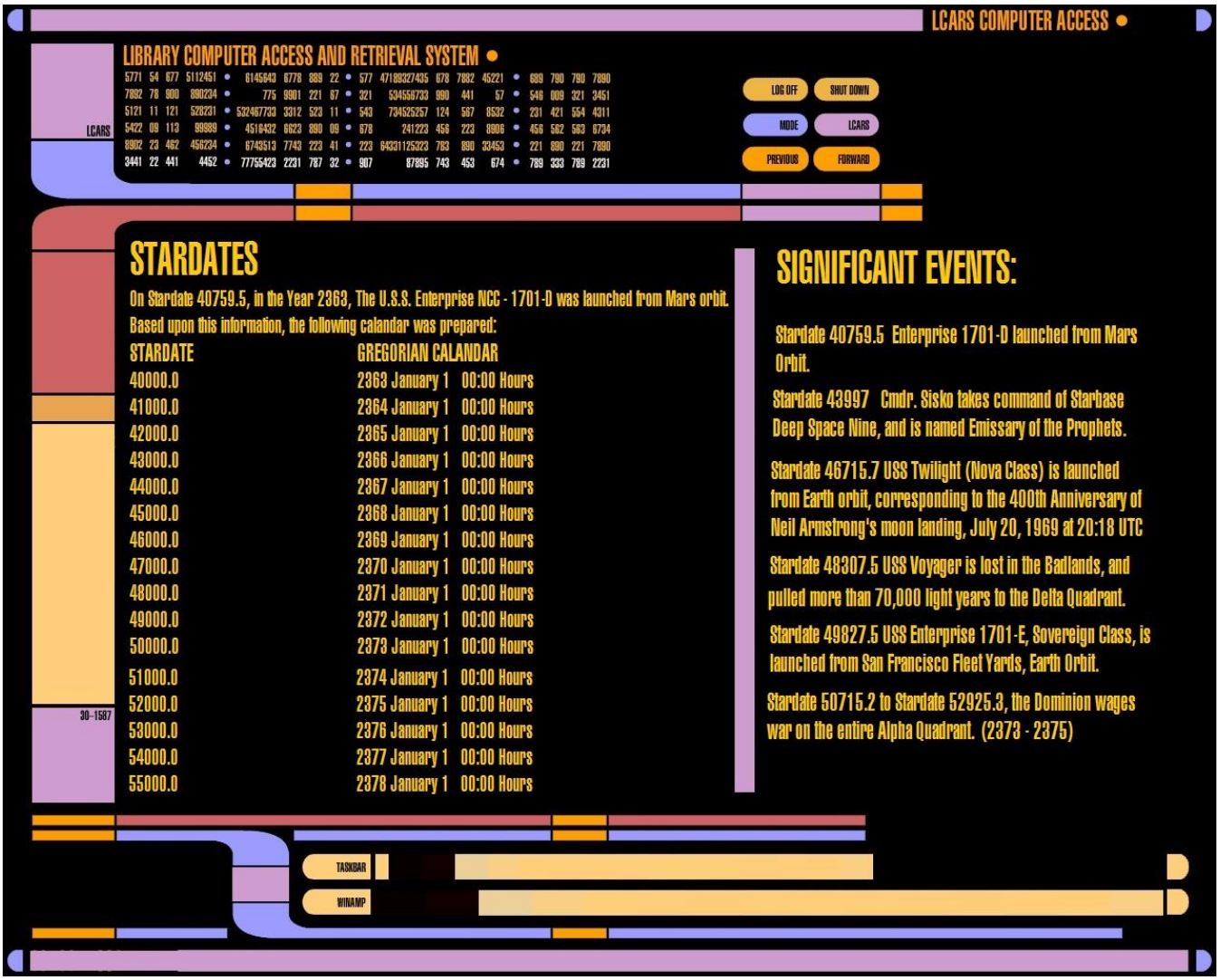
General Order Thirteen: *To the extent that it does not interfere with their other duties, Starfleet personnel are obligated to investigate any unusual phenomenon.*

General Order Fourteen: *In the event the captain of a Federation starship is killed or incapacitated on a classified mission, the ranking Starfleet Intelligence agent shall assume command of the vessel, to assure success of the mission.*

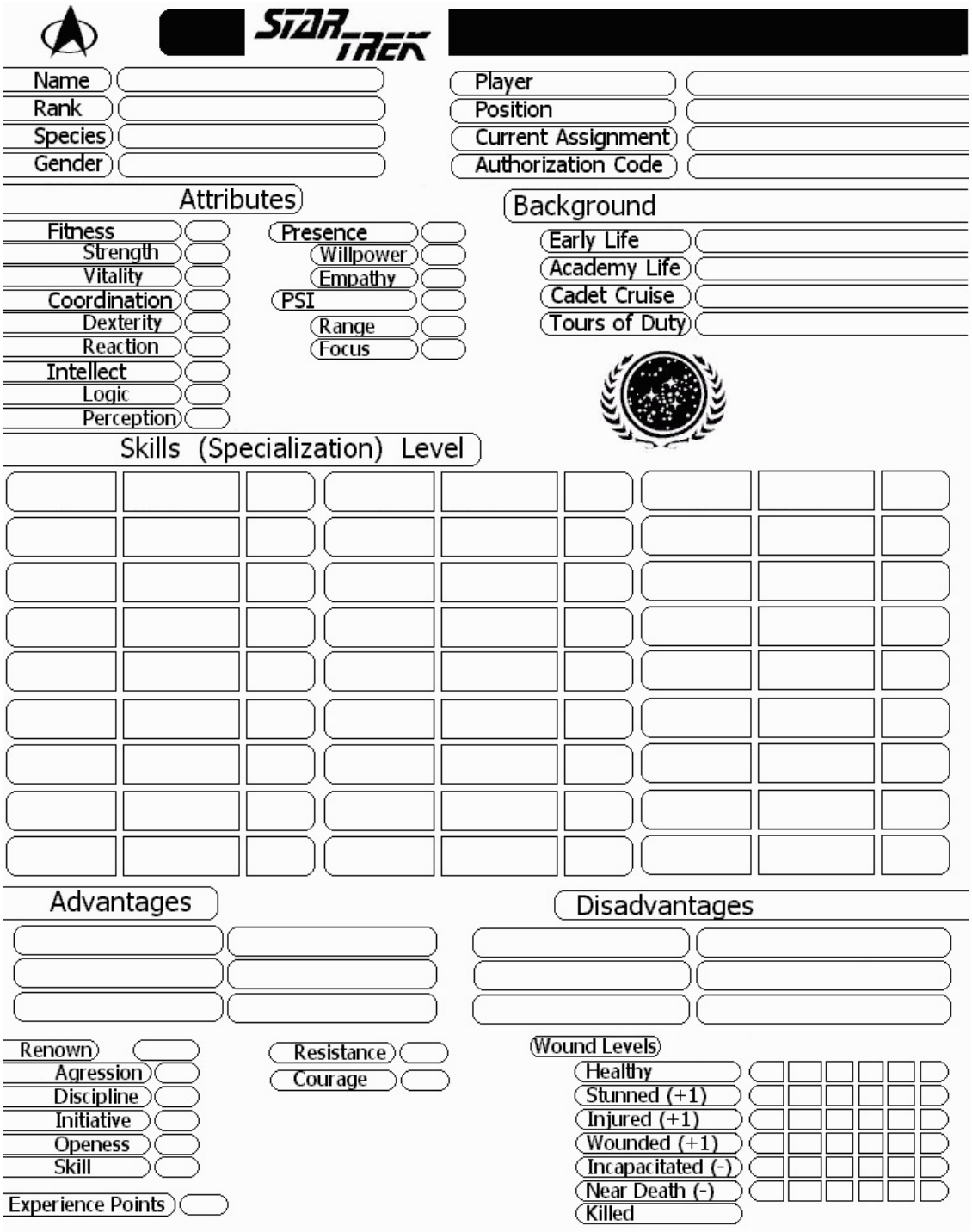
(*U.S.S. Twilight's* main computer used this General Order to give command of the ship to Lt. Cmdr. Jaryd Harker, M.D., when the bridge was destroyed and most of the senior officers were killed. Even though Harker was the ship's Chief Medical Officer, he was the ranking line officer left aboard, as well as the ranking SI agent, so command of both the mission and the ship fell to him. This was Harker's first command. Uhura made it permanent upon their return to the 24th Century, after promoting Harker to full commander, and a six-month crash course in command school.)

General Order Fifteen: *No flag officer shall beam into a hazardous area without armed escort.*

STARDATES



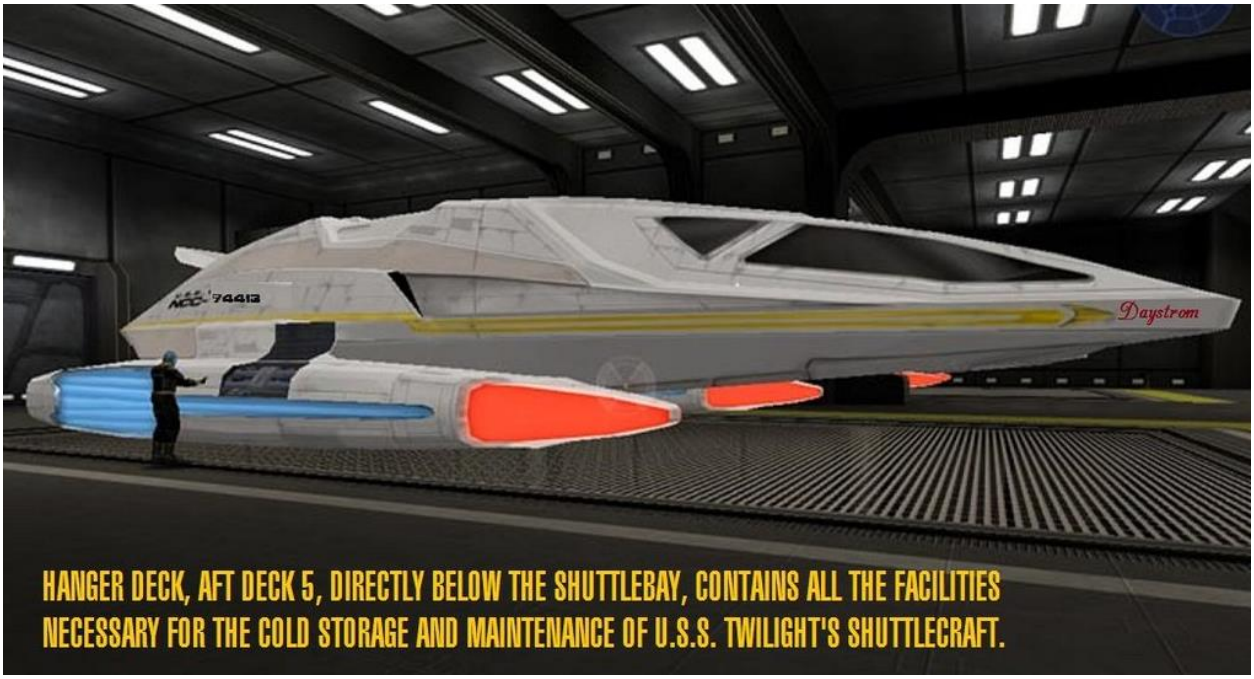
The above Calendar translates Stardates into the Gregorian Calendar. Stardate 40000.0 is January 1, 2363, 12:00 am.


STAR TREK
Name
Rank
Species
Gender
Player
Position
Current Assignment
Authorization Code
Attributes
Fitness
Strength
Vitality
Coordination
Dexterity
Reaction
Intellect
Logic
Perception
Presence
Willpower
Empathy
PSI
Range
Focus
Background
Early Life
Academy Life
Cadet Cruise
Tours of Duty
Skills (Specialization) Level
Advantages
Disadvantages
Renown
Agression
Discipline
Initiative
Openess
Skill
Experience Points
Resistance
Courage
Wound Levels
Healthy
Stunned (+1)
Injured (+1)
Wounded (+1)
Incapacitated (-)
Near Death (-)
Killed

Operation: Return, Twilight's final mission before she was disabled and tractored back to Earth for major repairs. The crew was then assigned USS Odyssey, a Sovereign Class Starship, early 2375.

Valkyrie Starfighters

Operation: Return



This image of the cavernous Hanger Deck/Cold Storage Bay shows the scale of a crewman next to a Type-9 shuttlecraft. The Daystrom could reach Warp 6, and was equipped as a medical shuttle.

Twilight at Warp

APPENDIX I – Glossary and Key to Acronyms

ACB – annular confinement beam

AI – artificial intelligence

APFM – asymmetrical peristaltic field manipulation

Atmospheric – engines designed solely for use in a planetary atmosphere

ARI – anti-matter reactant injector

ASDB – Advanced Starship Design Bureau (of the United Federation of Planets)

ASPA – anti-matter storage pod assembly

ASRV – autonomous survival and recovery vehicle (also called life-boats)

Auxiliary Control Room – (also called a battle bridge) an alternate control center in the event the ship's bridge is damaged or uninhabitable

Away Team – (formerly called landing parties) a group of personnel sent on a mission away from the starship or Starfleet facility, usually for the purpose of exploration

Bearing – the direction a starship is facing relative to the galaxy, or its last position

Biobed – a medical diagnostic device for a patient to lie upon, equipped with medical scanners, one or more displays, and devices for injecting the patient with medications, affecting the patient with healing rays, etc.

Biofilter – a device that is incorporated into a personnel transporter's matter buffer that removed DNA and RNA strands that are recognized as disease, as programmed into the computer controlling the transporter

Bridge – the control center of a starship (called the Operations Center or Ops on a starbase)

Bussard Ramscoop – a device built into the nose of a warp engine nacelle that attracts and recovers hydrogen atoms from the ether of outer space

Cargo Bays – a typically large compartment aboard a starship designed for the purpose of storing consumables and other supplies for a long voyage. Usually, these compartments can serve other purposes, such as alternate shuttlebay operations, emergency living quarters, and medical triage facilities

Cargo transporter – the matter/energy scrambler designed for use with non-lifeform cargo, usually set at molecular resolution, not the higher-resolution of a personnel transporter, and with fewer built-in safeties. Analogue to the original transporters used aboard an *NX*-class starship of the 22nd Century.

Captain – the commanding officer of a starship. By naval tradition, the officer assigned this duty by Starfleet Command is called "captain" regardless of actual rank, but usually it is lieutenant-commander or higher

CE – Chief Engineer

CMO – Chief Medical Officer

cochrane – a unit of measure of warp fields and sub-space warp stress. Also used to measure field distortion generated by spacial manipulation devices, including tractor beams, deflectors, and artificial gravity generators (which are all variants of the same technology.)

Conn – short for the Flight Control Station on the Bridge, which combines the ship's helm with navigation

Cruise Mode - The normal operating condition of the spacecraft

DCA – Driver coil assembly

DCAF – dilithium crystal articulation frame, the heart of a Warp

EM – electromagnetic

Engineering – the compartments of a starship that deal with power generation, system maintenance, and repair of all shipboard systems

EPS – electro-plasma system, the conduits that provide power for all shipboard systems. Hand phasers, tricorders, and commbadges are examples of devices that must be plugged into the EPS to recharge their batteries

EVA – extra vehicular activity outside the protective hull of the spacecraft

External Support Mode – the condition of the spacecraft when it is harddocked at a starbase or other maintenance facility

Flight Control – the primary bridge station that serves as the helm and navigation console

FTB – federation timespace beacon. A network of satellite devices that automatically transmit important data between Starfleet Command and its fleets of starships. This data not only helps calibrate ship's time chronometers to standard, but keeps tabs on a ship's structural integrity field and other vital systems

FTL – faster than light

Holodecks – a facility aboard a starship, starbase, or other facility that provides entertainment, training, and other important activities to crews. The compartment produces realistic holograms that are enhanced by manipulative tractor beams and force fields to recreate a realistic environment. On USS *Twilight*, two small holodecks are provided to recreate additional sickbays, laboratories, or other specialized medical facilities, in addition to entertainment of the crew

Hypospray – a small medical device used to inject medications into a patient via subcutaneous spray rather than an invasive hypodermic needle

IDF – inertial damping field

Impulse Propulsion Engine – a type of engine that produces propulsive force for a starship at sub-light speeds, usually at a maximum velocity of 0.25c. These engines are powered by cold fusion reactors assembled in a chain, and fueled by deuterium, or frozen hydrogen slush

IRC – impulse reaction chamber, that produces an atomic fusion reaction

Jefferies Tubes – a crawlspace aboard a starship, starbase, or other facility, that gives engineers and technicians access to hard-to-reach but vital equipment for maintenance and repair

LCARS – short for Library Computer Access and Retrieval System, the operating system of modern 24th Century computer systems. The ultimate computer-friendly operating system, that can be used either via tactile controls or voice command

Life Support – a vital system aboard all starships and starbases operating in outer space. The system not only provides appropriate heat and ventilation of a breathable atmosphere for the crew, it also includes gravity and the IDF, which prevents the crew from being crushed to death during the enormous inertial forces imposed upon them during space travel

Main Deflector Dish – the rather large device usually located on the bow of a starship, that senses objects in space ahead of the ship's course, and either pushes them out of the flight path if small enough via a deflector beam, or alters the ship's heading slightly to avoid the object if too large

Main Viewer – the large, holographic computer display screen usually located in the front of a starship's bridge

MMC – Main Memory Core, a starship's main computer

Nova Class starship – a scientific research vessel currently built and in operation in Starfleet

Oberth Class starship – a former scientific research vessel operated by Starfleet, the immediate predecessor of the *Nova* Class

ODN – optical data network. Provides a means of communications between systems aboard ship

Ops – short for Operations or Operations Manager, a department and station on the Bridge

PADD – acronym for a personal access display device. In the 21st Century, this was referred to as a Kindle reader. By the 24th Century, this device is far more advanced, and can even give orders to the main computer with the proper command authorization codes

Pattern Buffers – part of a transporter system that temporarily holds multiple quads of data and the actual molecules and/or energy matter-stream of the persons or cargo being transported

Phasers – Short for Phased Amplitude Rectification. The primary defensive weapons system of a starship. The weapon also comes in much smaller hand-held versions, referred to as hand phasers or phaser rifles

Photon Torpedos – a projectile weapon aboard a 24th Century starship, fired at warp speeds at a target. The warhead contains a small portion of matter and anti-matter, which when combined, produce a massive explosion on the order of 28 isotons or higher

Prime Directive – also referred to as General Order One, which forbids all Starfleet and civilian personnel from interfering in a developing culture that has not yet achieved warp spaceflight capability. This has rarely been overridden if the culture in question has developed other advanced technologies, but for whatever reason, never found it necessary to venture forth into space, but could if it wished to

RCS – reaction control system, also referred to as thrusters. Produces output at least equal to a small impulse engine, usually for altering a starship's course, or for maneuvers in a planet's gravity well, or other relatively-close quarters

Reactant Injectors – the mechanism that introduce matter (deuterium) or anti-matter (anti-deuterium) into a starship's warp reactor core, or M/ARA

Ready Room – a special office for the starship's commanding officer, usually close-by the Bridge, where the captain can relax, review reports, or hold meetings in relative privacy. Also used as an alternate sleeping quarters for the C.O. of the ship in the event of an emergency situation, so the captain can remain nearby the bridge if needed

Red Alert – the highest alert condition of a starship; also referred to as "General Quarters," or "Battle Stations"

Replicator Systems – based on transporter technology, materializes close approximations of food dishes, beverages, clothing, playing cards, or other needed items for the crew

RF – radio frequency communications, an ancient form of long-range contact originating in the 20th Century on Earth

Security – the armed police department aboard a starship or starbase; formerly referred to as marines, or MACOS

SEWG – short for standard extravehicular work garment; a space-suit

SFRA – Starfleet Regulatory Agency

Shields – combat shielding generated by a starship to absorb incoming enemy fire, or to protect the crew from hard radiation in outer space

Shuttlebay – a facility aboard a starship or starbase that houses, maintains, and provides launch and recovery for small auxiliary spacecraft attached to the vessel

Shuttlecraft – a small auxiliary spacecraft attached to a starship

Sickbay – the primary medical facility aboard a starship or starbase

SIF – structural integrity field. A series of force-fields generated aboard a starship to reinforce the ship's structural integrity during violent, high-velocity maneuvers in outer space

SI – Starfleet Intelligence, the military intelligence espionage agency headquartered at Starfleet Command

SSF – surgical support frame, used in starship sickbays to assist and provide aid to surgeons. Capable of a number of functions, including vital signs monitoring, producing a sterile field, and injecting of medications

STA – subspace transceiver assembly

Starfleet Command – the operating authority of Starfleet, the United Federation of Planets' exploration and peacekeeping naval forces. Starfleet Headquarters is located in San Francisco, on Earth

Tactical – a department and station on the bridge, closely tied to security. Provides for defense of the spacecraft, especially during combat

TA/T/TS – threat assessment/tracking/targeting system

Time Dilation – part of Einsteinian physics, the concept that time flows at a much slower rate for the crew of a ship traveling in normal space, close to c or light-speed. One day may pass for the crew, while back on Earth, 20 or 30 years may have gone by

Transporter – a matter/energy scrambler and beaming system, used to convert people and objects into energy, beam them to a new location up to 40,000 km away, and safely reassemble them into their original form

Tricorders – a small handheld device used aboard starships and on Away missions, to scan and record images and other data for later study. Typically, the computer memory of a tricorder can hold up to 2 quads of data

Turboelevator System – the turbolift is a personnel transport system aboard starships and starbases, to quickly bring personnel to desired destinations relatively quickly

Universal Translator – a device and system incorporated into Starfleet communications systems and small personal commbadges, for translating a spoken language into Federation Standard or any other desired language spoken by the recipient.

Warp Factor – a measure of relative velocity in relation to the rest of the galaxy in normal space for how fast a starship is traveling

XO- the Executive Officer or First Officer of a starship

Yellow alert – a heightened state of alert for personnel serving aboard a starship or starbase. Indicates a likely potential danger to the safety of the ship and crew

UNITS OF MEASURE

AU – astronomical unit, measure of the length from Earth to its sun, Sol

Angstrom – measure of length, one ten-billionth of a meter

C – Celsius, a measure of temperature

c - A measure of velocity, the speed of light in a vacuum in normal space.

cm - centimeter, measure of length, one hundredth of a meter

cochrane – a measure of subspace field stress

delta-*V*, a change in velocity, sometimes measured in meters per second squared.

g or gee – a measure of acceleration equal to the Earth's gravitational field

g/cm3 – grams per cubic centimeter, a measure of density

gauss – a measure of magnetic flux density

GFP – giga floating point operation – a measure of computing speed, one billion floating point operations per second. Modern 24th Century computers generate a low-level warp field inside the computer core, speeding up this operation by multiples of the speed of light

GHz – gigahertz – a measure of frequency, a billion cycles per second

GW – a measure of generated power, one billion watts

Hertz – measure of sound, one cycle per second

K – Kelvin, a measure of absolute temperature on the same scale as Celsius

Khz – kilohertz, a measure of frequency, one thousand cycles per second

Kilometer – a measure of length, one thousand meters

Kilopascal – a measure of pressure, one thousand pascals

Kiloquad – a measure of data storage capacity computing power, one thousand quads

Kiloquads/sec – a measure of data transmission or access rate

km/sec^2 – a measure of acceleration, kilometers per second squared

kW – a measure of generated power, one thousand Watts

light-year – a measure of length, the distance a ray of light can travel through normal space in one Earth year, 9.5 trillion kilometers

m – measure of length, one meter

m/sec – measure of acceleration, one meter per second

Mach – a measure of speed in a planetary atmosphere, the speed of sound

meter – a measure of length

metric tonne – measure of mass, one thousand kilograms

millicochrane – measure of subspace field stress, one thousandth of a cochrane

millisecond – measure of time, one thousandth of a second

MJ – megajoule, a measure of energy, one million joules

mm – millimeter, a measure of length, one thousandth of a meter

mmHg – millimeters of mercury, a measure of atmospheric pressure

MW – megawatt, a measure of power, one million watts

nanocochrane – measure of subspace field stress, one billionth of a cochrane

Newton – a measure of force

ns – nanosecond, measure of time, one billionth of a second

quad – a measure of computer data storage (a quad appears to be the standard unit, but the producers deliberately left this term nebulous because computer technology would be so much more advanced in the 24th Century)

Warp Factor – a measure of warp velocity. Warp One is light-speed

APPENDIX I – CREDITS AND COPYRIGHT INFORMATION

NOVA-CLASS SPECIFICATIONS CREATED BY:

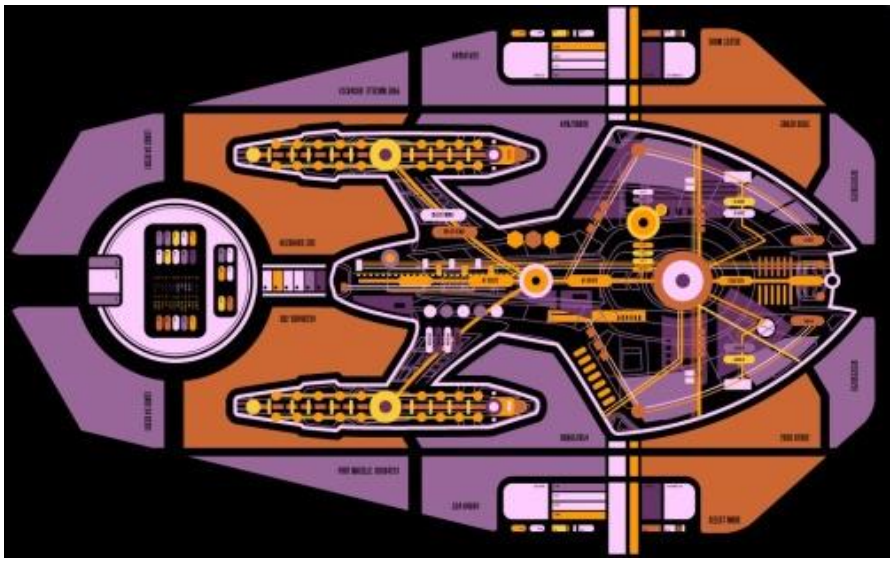
L. J. Katz

SOURCES USED:

1. *Star Trek: The Next Generation Technical Manual* – Rick Sternbach and Michael Okuda
2. *Star Trek: Deep Space Nine Technical Manual* – Herman Zimmerman, Rick Sternbach and Doug Drexler
3. *The Star Trek Encyclopedia: A Reference Guide to the Future*—Michael and Denise Okuda, and Debbie Mirek
4. *Star Trek: First Contact*
5. *The Art of Star Trek*
6. *Star Trek: The Magazine* (Various issues)
7. *Star Trek Roleplaying Game* (both from FASA & Last Unicorn Games)
8. Star Trek: Invasion! video game by PlayStation.
9. Star Trek *The Official Starships Collection* No. 15 by Eaglemoss Collections
10. Strategic Designs (original *Nova Class* deck plans)
11. Photo Credits: ARP Design, Cygnus game, Falke*, Jetfreak9

***Special thanks to Falke of Deviantart.com**, for working so hard on the internal ship artwork for the refit *Nova Class* Starship, and giving his generous permission to publish his artwork in this book. I had personally requested of Falke artwork for the Captain's Quarters, Main Shuttlebay, Main Engineering, Sickbay, Crew Mess, Enlisted Quarters, and the Captain's Ready Room, and a year later, they were completed, from different angles. Falke also did the wonderful game tiles I included in this book. He also did the beautiful Commission Plaque for the *Starship Twilight*. **Another Special thanks to Jetfreak of Deviantart.com,** for doing up the special external view artwork of the *Starship Twilight!* This includes *Twilight* in Orbit of the Ringed M-Class World, fighting the Jem'Hadar, the scene with her Bridge smoking fighting the *Defiant*-Class *Adamant*, and cloaked while under Romulan fire.

A copy of this work was mailed to the editors at Pocket Books, for consideration to be published. It is requested by the author that fans who read and enjoy this work contact the editors of Pocket Books, owned by Simon Schuster, and request its publication by them.



Nova Class "pool table" console from Main Engineering

(Editing was done to correct errors and to reflect changes in Nova-Class refit starships by Starfleet Intelligence, as per Last Unicorn Games' Star Trek: Role Playing Games. For example, as per the model of the Nova Class, there are 11 phaser arrays, not just 9.) Wherever possible, published sources were

consulted to add to the wealth of knowledge in this document, and in some cases, this text was reproduced here. Sources used are properly cited in the "Credits and Copyright Information" appendix. No copyright infringement is intended, and no financial profit is sought. All copyrights belong ultimately to Paramount Pictures. This is strictly a fan-based publication, for use under Open-Gaming License granted by Paramount Pictures to Last Unicorn Games, for specific use by fans in Star Trek role-playing and battle simulation games.

Nova Development Project Patch