

NOVA

PROTOTYPE NX-73515

EXTERNAL VIEWS SHEET 1/7
SPECIFICATIONS

SPECIFICATIONS

Particulars

Vessel Class Nova
Identification NX-73515
Type Light Research Cruiser

Spaceframe

Overall Length	180 meters	Decks	8
Overall Beam	43 meters	Displacement	2.1 X 10 ⁶ tons
Overall Draft	35 meters		

Crew & Auxiliary Systems

Complement	15 Officers 65 Enlisted	Transporters	2 6-personnel 1 Cargo
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Information Systems

Computer Core 2 (1 Primary / 1 Secondary)
Isolinear Optical Chip Transator FTL Nanoprocessors

Warp Systems

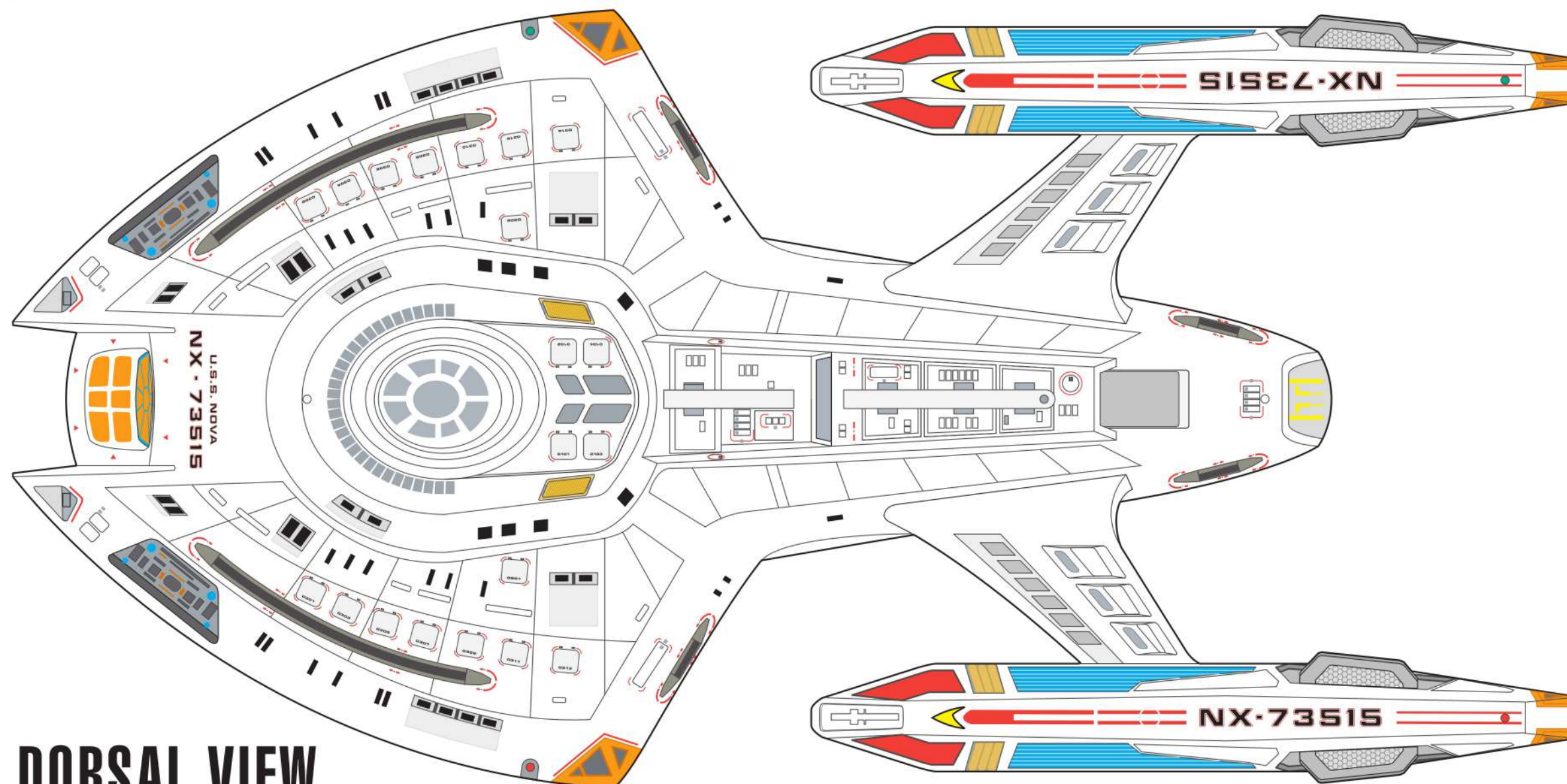
Power Matter / Antimatter Reactor
(5.2 X 10⁸ terawatt)

Cruising Speed wf 6.0
Flank Speed wf 7.0
Burst Speed wf 8.0 (Sustainable for 1 hour)

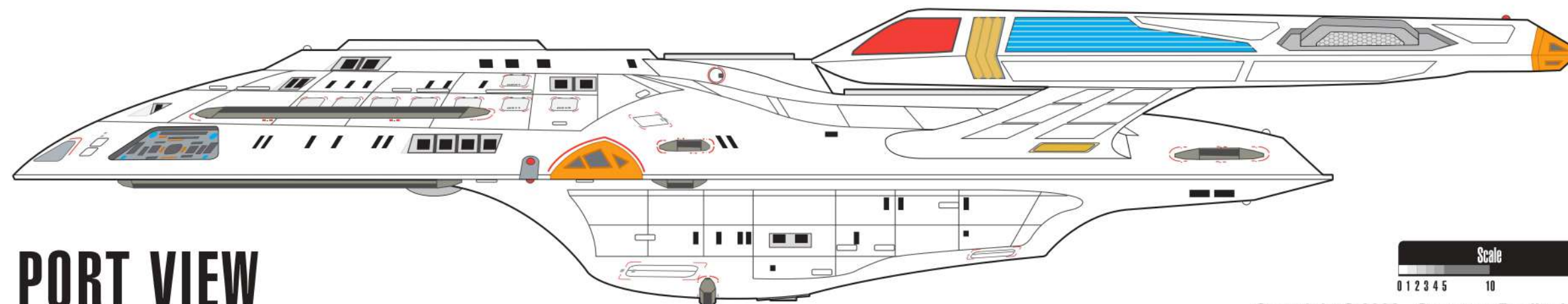
Impulse Systems

Power 4 - primary - deuterium fusion reactor
(6.1 X 10¹⁰ megawatt)
2 - Secondary - deuterium fusion reactor
(2.2 X 10⁹ megawatt)

Vector Nozzle 1 (dorsal-aft)
Cruising Speed 0.25 c
Flank Speed 0.90 c



DORSAL VIEW



PORT VIEW



NOVA

PROTOTYPE NX-73515

EXTERNAL VIEWS SHEET 2/7

SPECIFICATIONS

DESIGN HISTORY

SPECIFICATIONS

Tactical Systems

Phaser	11 - Type X strip
Torpedo Tube Magazine	2 Fore - Type 3f (burst fire) 30 Mark VI Photon Torpedoes
Grid	10 Class 1-9 Probes 6 Deflector Shield Generator (rated 5.75×10^2 mw - standby / 1.35×10^2 mw - alert / 2.67×10^5 mw - 0.0017 Sec.) 4 Structural Integrity Field Generator (rated 1.15×10^3 mw)
Deflector	1 - Primary - forward (2.01×10^2 megawatt - 210 millicochrane) 1 - Secondary - forward (1.10×10^2 megawatt - 115 millicochrane)
Tractor beam	1 Fore / 1Aft (10 megawatt - 290 millicochrane)

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.

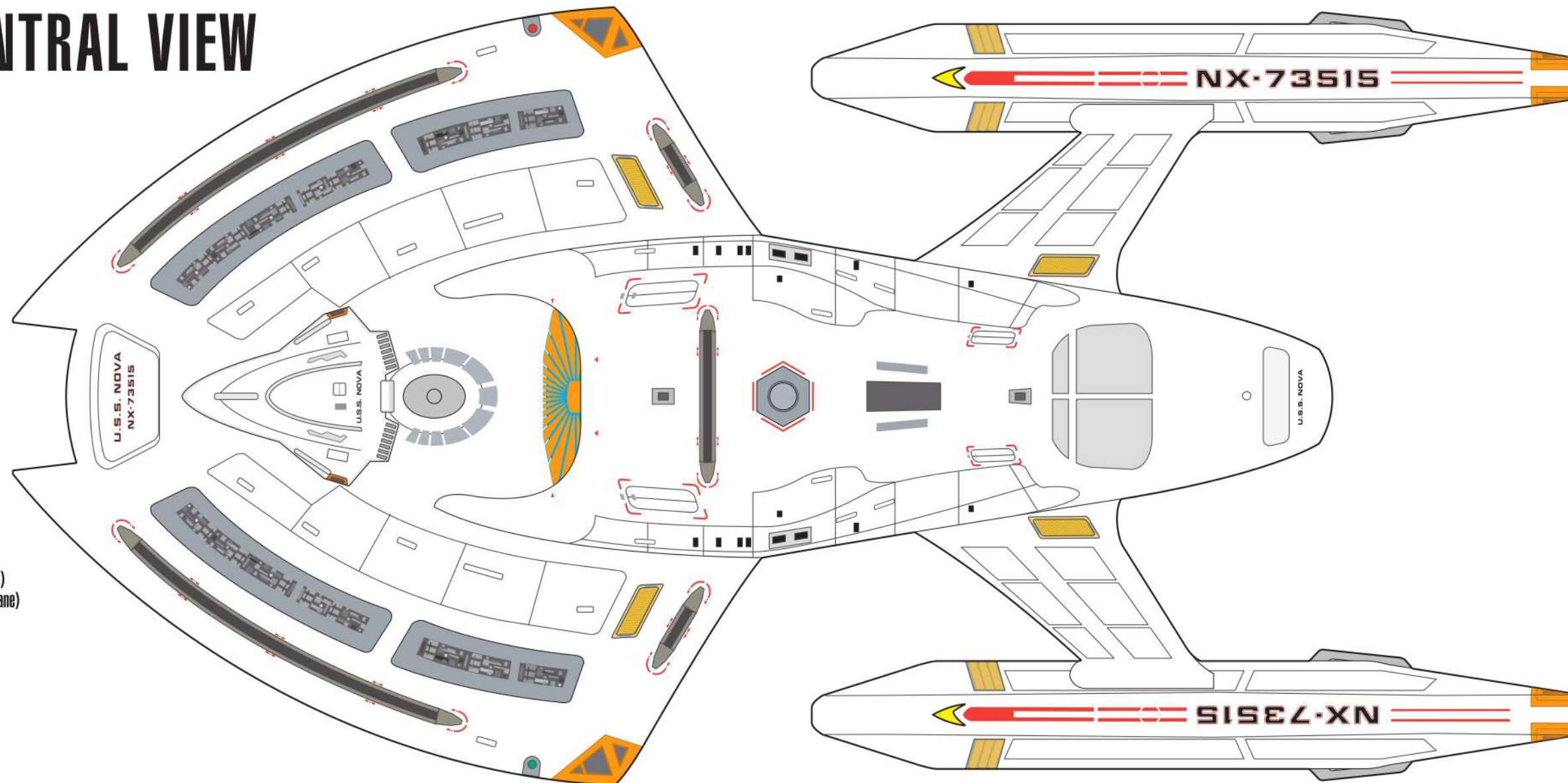
The Nova-class spaceframe was redesigned into a research ship. Her tactical sensor arrays were replaced with science sensor pallets, and her aft torpedo tubes removed completely - leaving room for a piggy-back cargo bay atop the shuttlebay.

The 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.

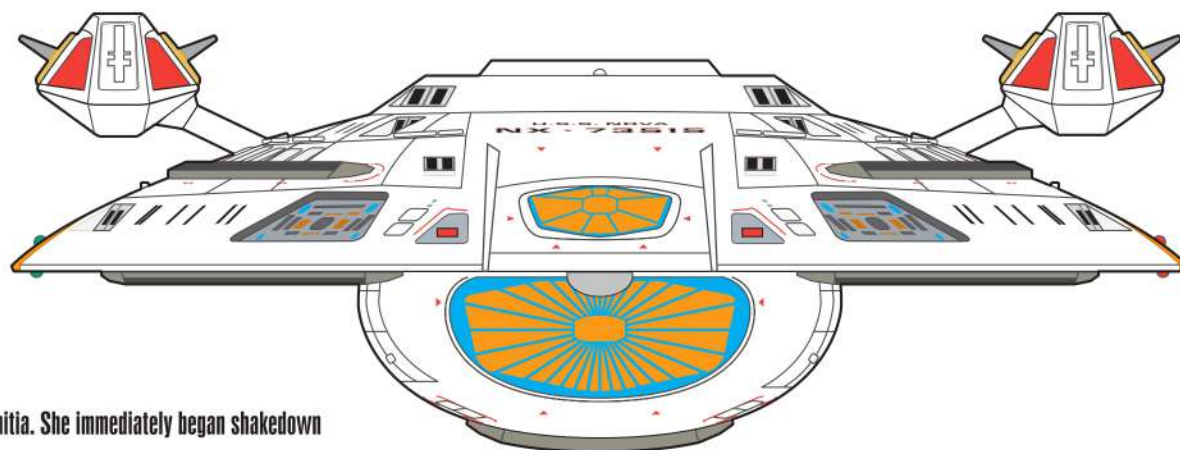
The first spaceframe components of the class' lead ship were gamma-welded at the Utopia Planitia Fleet Yards in 2365.

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.

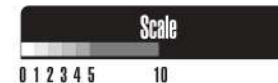
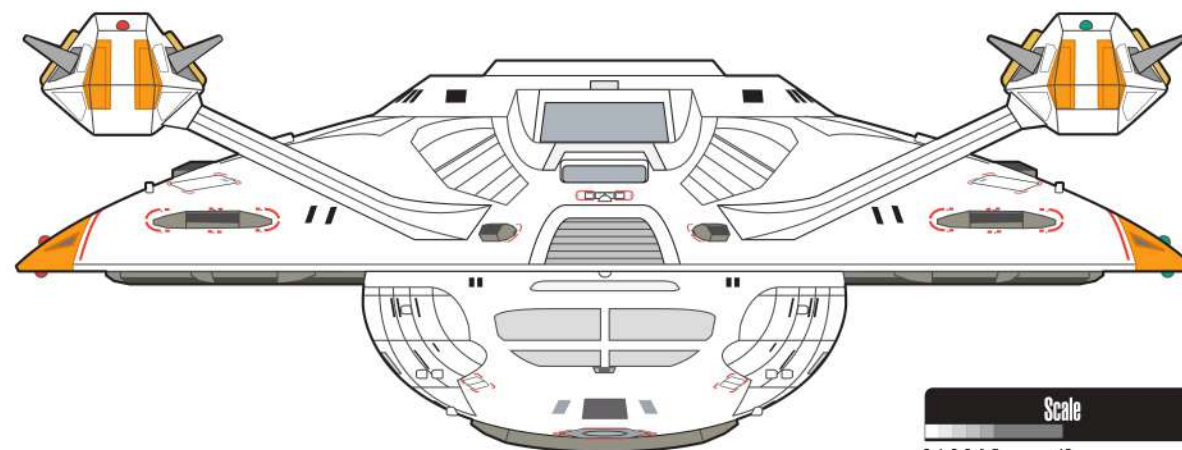
VENTRAL VIEW



FORWARD VIEW

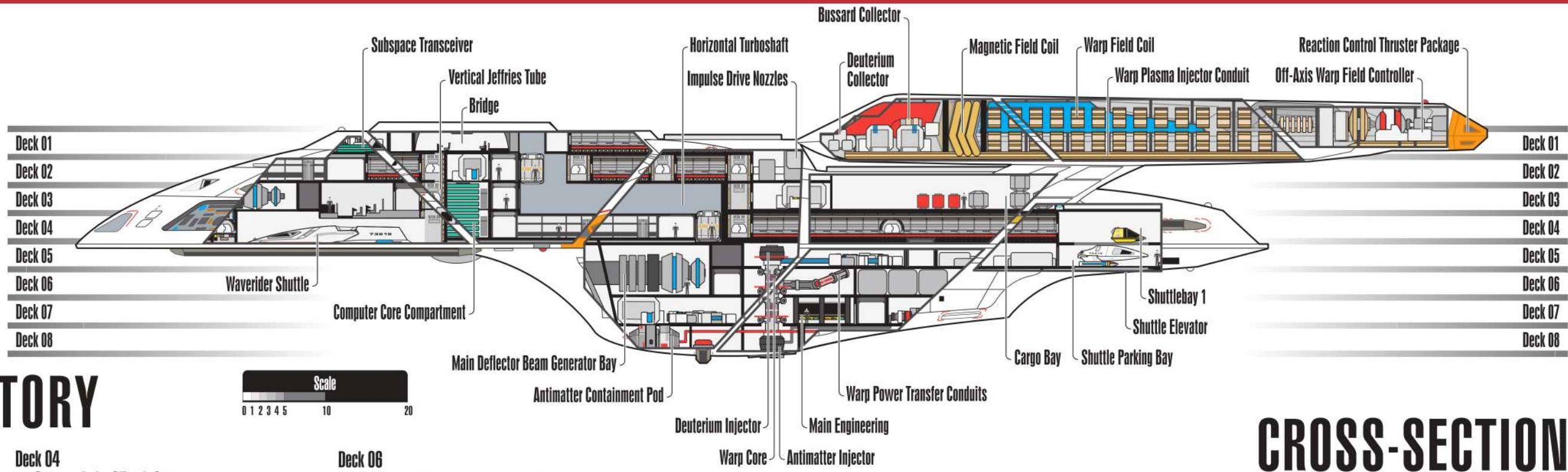


AFT VIEW



NOVA

PROTOTYPE NX-73515
CROSS-SECTION SHEET 3/7
DECK DIRECTORY
INTERNAL SYSTEMS



DECK DIRECTORY

Deck 01

- 1 Main Bridge
- 1 Conference Room
- 1 Captain's Quarters
- 1 First Officer's Quarters
- 1 Subspace / Radio Transceiver Room
- 2 Transporter Transceiver Room
- 1 Officer's Quarters
- 4 Escape Pod Access

Deck 02

- 4 Officer's Quarters
- 1 Officers' Mess (Refuge 1)
- 1 Enlisted Lounge & Mess (Refuge 2)
- 1 First Officer's Office
- 1 Chief Engineer's Office
- 2 6-Personnel Transporter Room
- 1 Life Support Compartment
- 1 Fusion Generator & Impulse Bay
- 2 Escape Pod Access

Deck 03

- 2 Officer's Quarters
- 2 Enlisted Quarters (4, 3-tier Bunks)
- 1 Sickbay Complex
- 1 Transporter Buffer Bay
- 1 Secondary Deflector Bay
- 1 Cryogenic Gas Tankage Bay
- 2 Dorsal-Forward Phaser System
- 1 Computer Core Bay - Upper Section
- 1 Security Complex
- 1 Sickbay
- 2 Science / Engineering Workshop / Lab
- 14 Escape Pod Access
- 1 Deuterium Injector Engineering Bay
- 1 Main Cargo bay

Deck 04

- 6 Junior Officer's Quarters
- 8 Enlisted Quarters (16, 3-tier Bunks)
- 2 Dorsal-Forward Tactical Scanner / 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
- 1 Shuttlebay
- 1 Computer Core Bay - Main Level
- 2 RCS Thruster & Fueling System - Main Section
- 2 Structural Integrity Field Generator & Antigrav
- 2 Landing Thruster Bay
- 2 Cryogenic Gas Tankage Compartment
- 1 Battery Compartment
- 2 Deflector Screen / Force-field Generator Bay

Port / Starboard Nacelle & Pylon

- 1 Bussard Ionizing Beam Emitter Bay
- 1 Bussard Magnetic Field Generator Collector Bay
- 1 Continuous Cycle Fractionator & Deuterium Chiller Bay
- 1 Warp Coil & Plasma Injector Bay
- 1 Off-Axis Field Coil Bay
- 1 RCS Thruster & Fueling System

Deck 05

- 2 Ventral-Forward Tactical Scanner / Sensor Suite
- 1 Primary Deflector Generator Bay - Upper Section
- 1 Deuterium Injector Engineering Bay
- 1 Replicator Main Systems Bay
- 1 Shuttle Parking Bay
- 2 Battery Room
- 1 Shipfitting & Maintenance Lab
- 2 Structural Integrity Field Generator Bay

Deck 06

- 2 Enlisted Quarters (4, 3-tier Bunks)
- 2 Life Support
- 1 Primary Deflector Generator Bay - Main Section
- 1 Main Engineering Bay - Upper Level
- 2 Deflector Screen / Force-field Generator Bay
- 1 Main Engineering Bay - Upper Level
- 1 Water Storage / Waste Recycling Compartment

Deck 07

- 1 Cryogenic Cooling Systems & Fluid Storage Bay
- 1 Civilian Science Complement Lounge & Mess
- 1 Workout Room
- 1 Main Engineering Bay - Main Level
- 1 Antimatter Processing Bay
- 2 Access to Forward Landing Strut Ladder
- 2 Aft Landing Struts / Pad Bay
- 1 Astrometrics Lab

Deck 08

- 2 Forward Landing Struts / Pad Bay
- 1 Antimatter Containment Bay
- 1 Plasma Relay Control / Ventral-Midships Phaser System
- 1 Antimatter Injector Engineering Bay
- 1 Tractor Beam Emitter
- 1 Antimatter Loading Port
- 1 Warp Core Jettison Hatch

INTERNAL SYSTEMS

Section 1.0 Spacecraft Structure

The spaceframe of the Nova-class starship is tritanium/duranium macrofilament truss frames, 0.65 m² in cross section. These are placed at the tops of Decks 1, 3, 5, and 7 for all three axis of the ship. Smaller trusses are spaced between quarters, at hall junctions, and at the turbolift shafts, measuring 0.25 m² in cross section. This physical framework is reinforced by the Structural Integrity Field (SIF), using a network of Class 2 ceramic-polymer wave guides to distribute energy to Class 1 ceramic-polymer elements. The exterior hull substrate is poly bonded to 4 cm by 0.5 cm bands with 2 cm studs every meter that are gamma welded to the main frame.

Section 1.1 Spacecraft Hull Structure

The first hull layer is 5 cm thick and is composed of a poly microfoam with interwoven tritanium filaments (nominally 1.5 meters in width by 2.5 meters in length). The second layer is four sheets of 0.4 cm thick tritanium, each going 90 degrees to the layer above it, for torsion strength, a fifth sheet of Aladium foil is 0.4 cm thick also and used for radiation protection. The third layer is a honeycombed duranium alloy with a micro-ceramic polymer boded to each side used for thermal insulation and SIF conductivity. The fourth and outer layer is composed of a 2.0 cm ablative ceramic fabric with interwoven tritanium filaments. This is attached to a polycobhrams sheet by a chemical bonding process. This layer 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 1.2 Structural Integrity Field

The physical integrity of the spaceframe is augmented by the SIF, created by four field generators on Deck 5, each consisting of a pair of 2 megawatt graviton polarity sources. These feed a pair 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 critical shut down. 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 usual tensile strength.

CROSS-SECTION

In addition to the waveguides within the internal spaceframe, there are a series of emitters on the hull.

Section 1.3 Inertial Damping Field & Synthetic Gravity Generators

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 according to SFRA-standard 352.12, averaging 75 millicochranes with field differential of 5.26 nanocochranes/meter. Flux generation for IDF and gravity are provided by generators within the crawl space under each deck, in a hexagonal grid with nodes spaced 30 meters apart.

Section 1.4 Security & Containment Force Field Generators

There are secondary force-field generators mounted within the vessel, filling a variety of roles. Main Engineering has a series responsible for maintaining containment for the Warp Core - with standby units for emergency containment in the event of coolant leakage and other hazards endemic to Antimatter and Fusion reactions. Others scattered throughout the ship are non-dedicated, and using waveguides and sophisticated forming software can be routed to perform various tasks - including corridor security barriers, brig security barriers, and bulkhead life-support barriers (in the event of localized hull breaches), these units have a set of four 1 megawatt polarity sources feeding a pair of 75 millicochrane field generators.

Section 2.0 Computer Systems

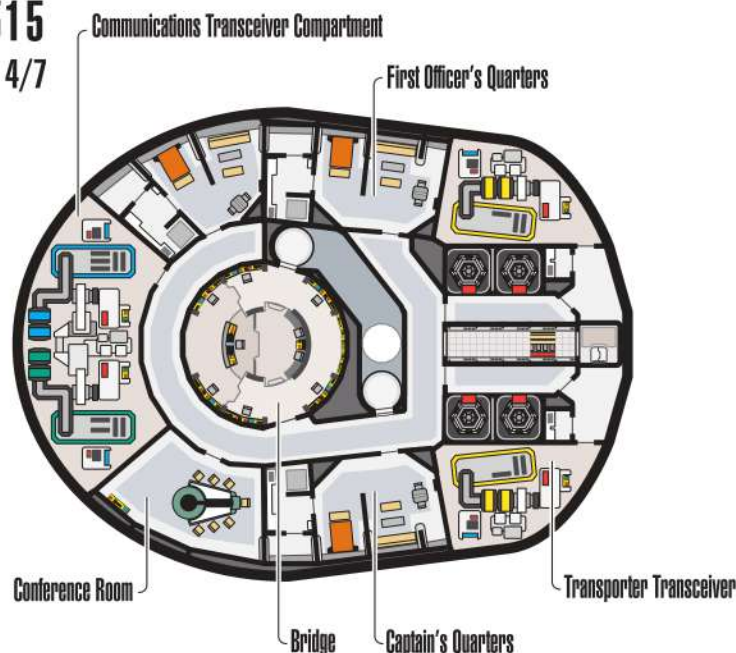
The Main Computer Cores (MCC) are located on Decks 3 through 4 in the Primary hull. The MCCs consist of 276 dedicated modules of 144 isolinear optical storage chips, which, under LCARS control provide dynamic access at a rate of 4,800 kiloquads/sec. The total storage capacity for each module is 64,000 to 128,000 kiloquads, depending on software configuration and data compression rates. The MCC is joined to the Optical Data Network (ODN) by triple redundant Micron Junction Links (MJL) on each module. The final layer to the computer systems is a dedicated short range Radio Frequency (RF) system that all cores use to communicate with the control panels, access points, and PADDs.

NOVA

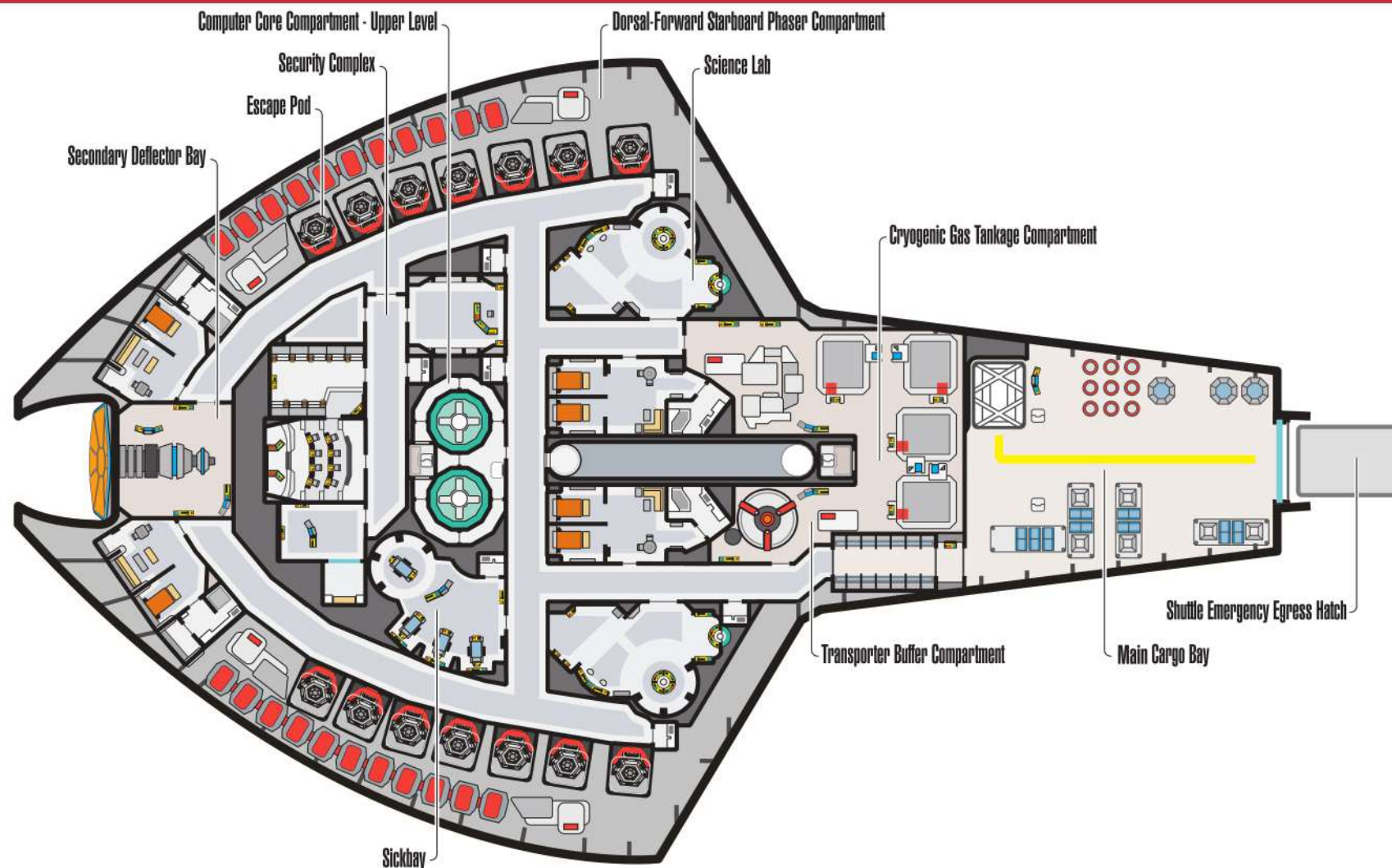
PROTOTYPE NX-73515
INTERNAL VIEWS
SYMBOL CHART

SHEET 4/7

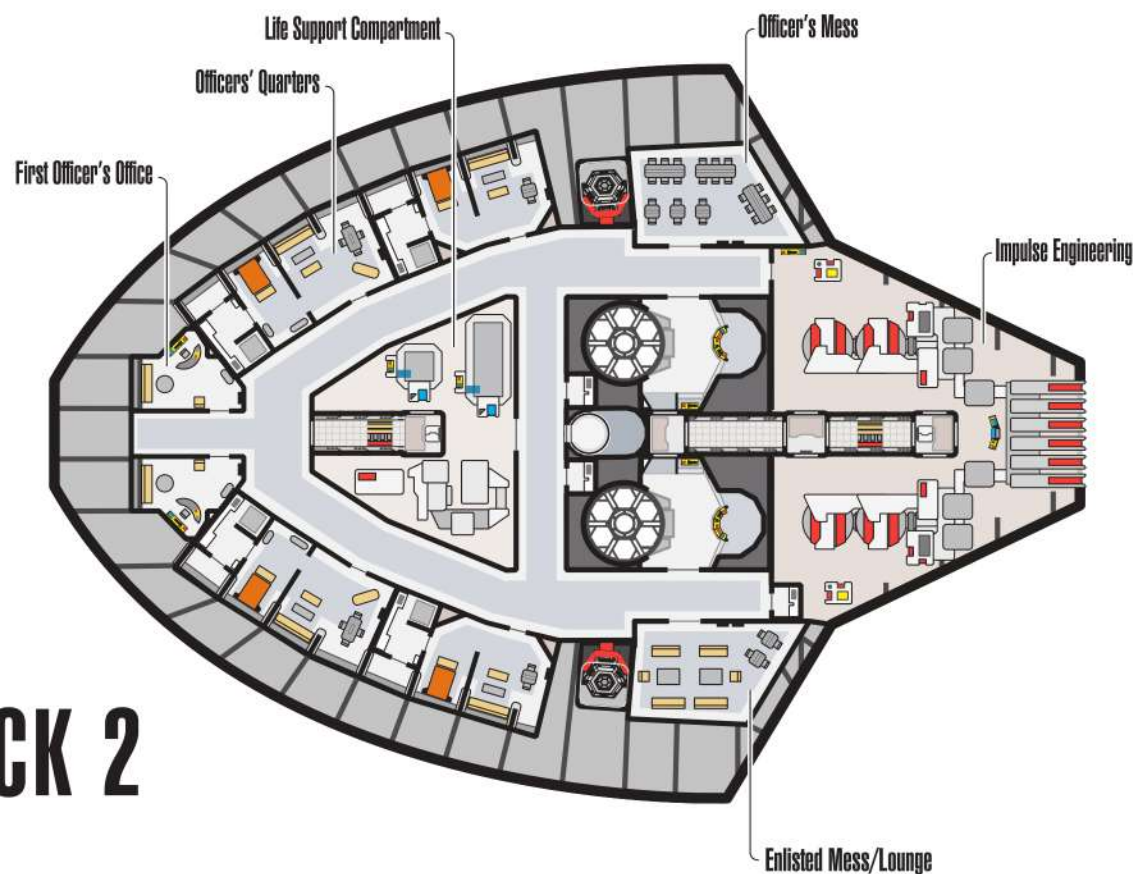
DECK 1



DECK 3

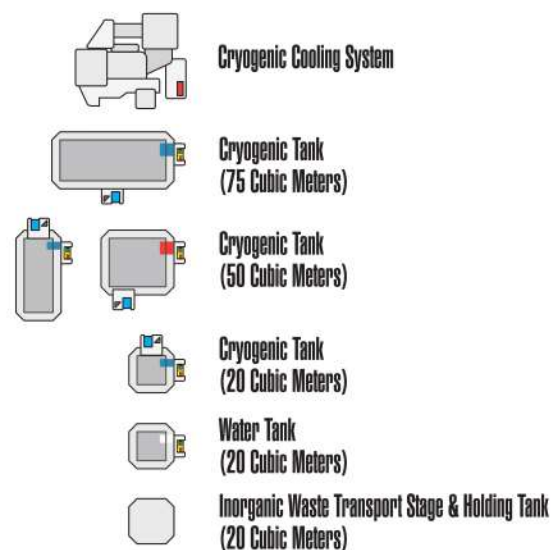


DECK 2

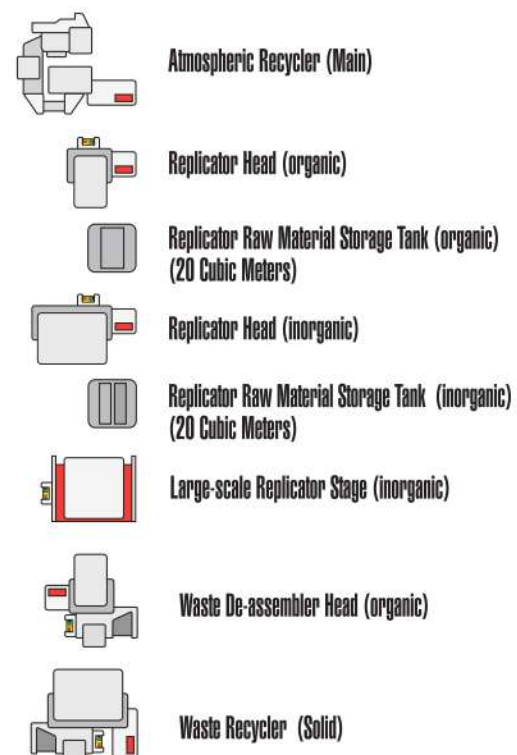


SYMBOL CHART

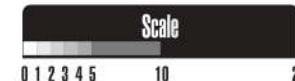
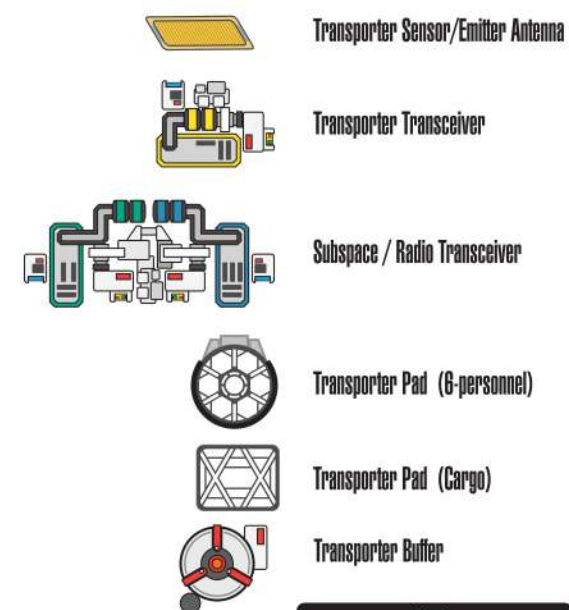
LIFE SUPPORT & FLUID/GAS TANKAGE



ENVIRONMENTAL ENGINEERING - REPLICATION



AUXILIARY ENGINEERING - TRANSPORT & COMMUNICATIONS SYSTEMS



NOVA

PROTOTYPE NX-73515

INTERNAL VIEWS SHEET 5/7
SYMBOL CHART

DECK 4

SYMBOL CHART

AUXILIARY ENGINEERING - COMPARTMENTS



Senior Officer
- Sleeping Area
- Relaxation & Lounge Area
- Dining Area
- Closet
- Head



Junior Officer & Enlisted Quarters:
- Sleeping Area
- Relaxation & Dining Area
- Closet
- Head



Science / Engineering Workshop / Lab:
- Research Area
- Operators' Stations
- Independent Computer Core



6-Personnel Transporter Room
- Stage
- Operators' Station



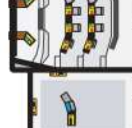
Sickbay Complex:
- Containment Area
- 1 Surgical Bed
- Head
- 3 Diagnostic Beds
- Replicator



Security Complex:
- Armory



- Locker Room



- Briefing Room



- Brig & Monitoring Room

AUXILIARY ENGINEERING - MISCELLANEOUS SYSTEMS



Access Way (Horizontal)



Access Way (Vertical)



Vertical Turboshaft



Horizontal Turboshaft/Sidestep



Turbolift Station



External Personnel Access Hatch



Landing Pad & Armature
(Retracted)



Antigrav Landing Thruster



Misc. Shipwide ODN Distribution Areas

AUXILIARY ENGINEERING - CONSOLES & STATIONS



Bridge Consoles



Free-standing Consoles



Wall-mounted Consoles



Desk



Replicator Station

AUXILIARY ENGINEERING - EXTERNAL FEATURES & MARKINGS



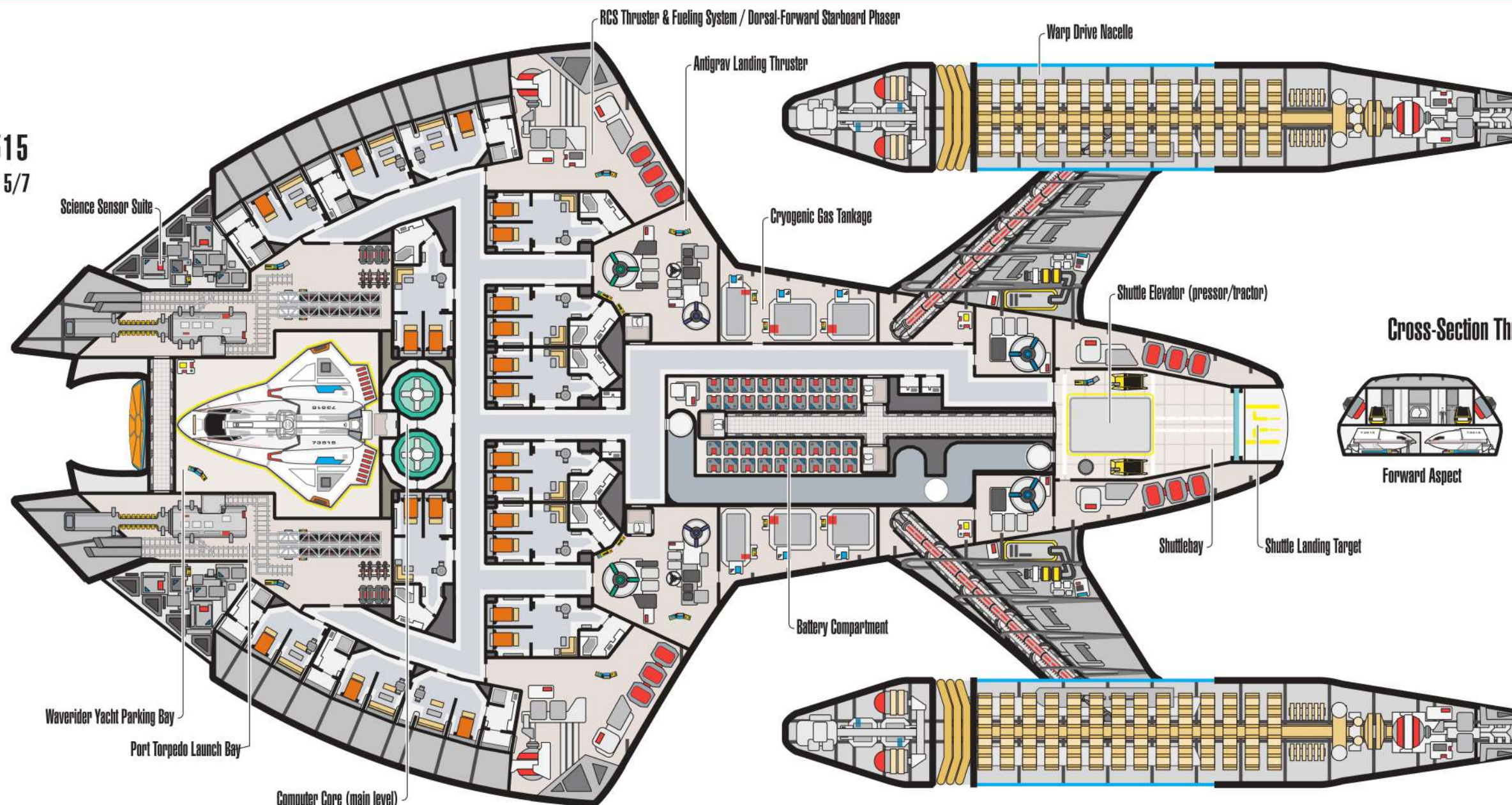
Radiation Hazard



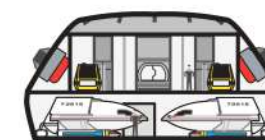
Equipment Access Panel



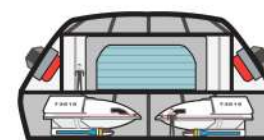
Navigation Beacon



Cross-Section Through Shuttlebay



Forward Aspect



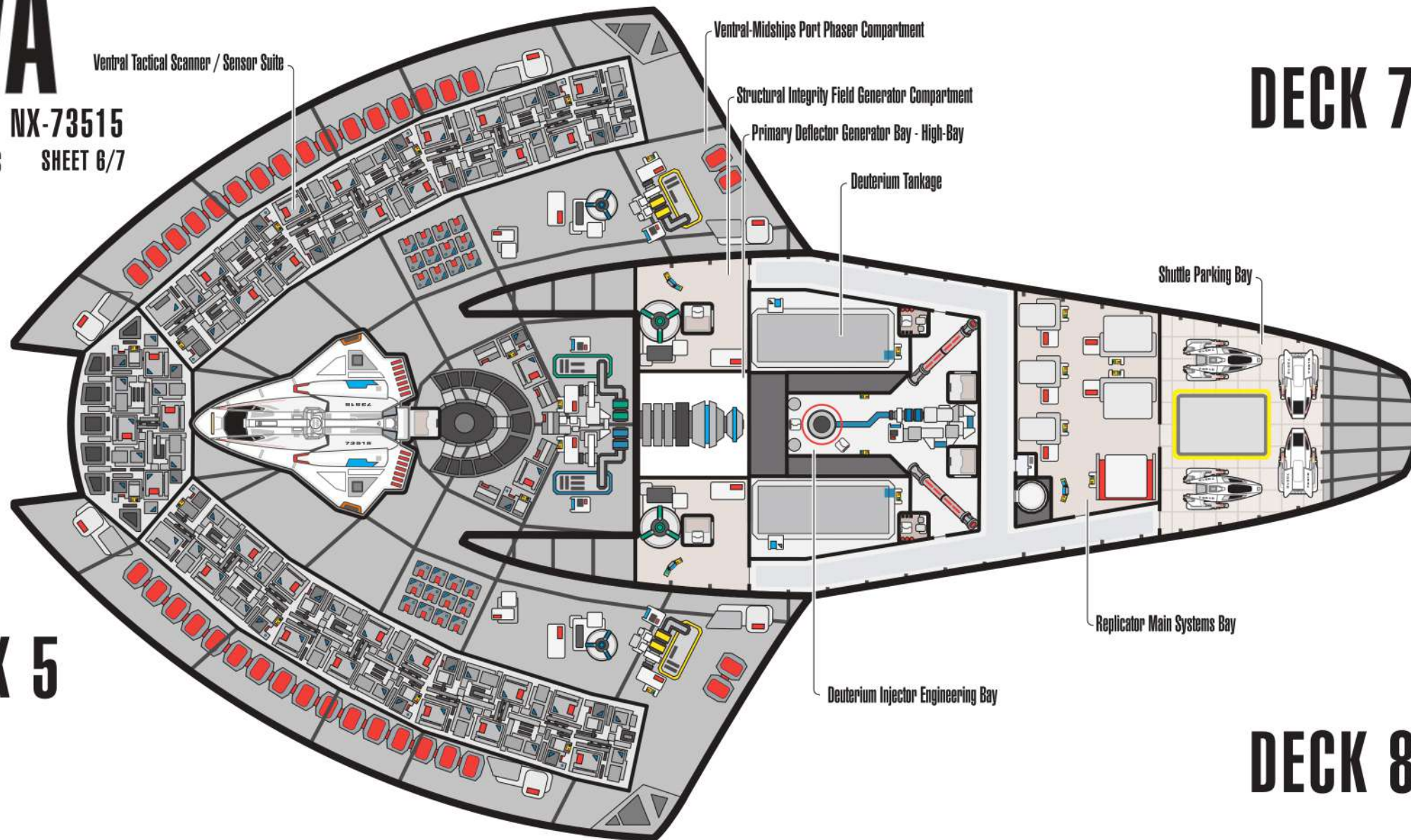
Aft Aspect



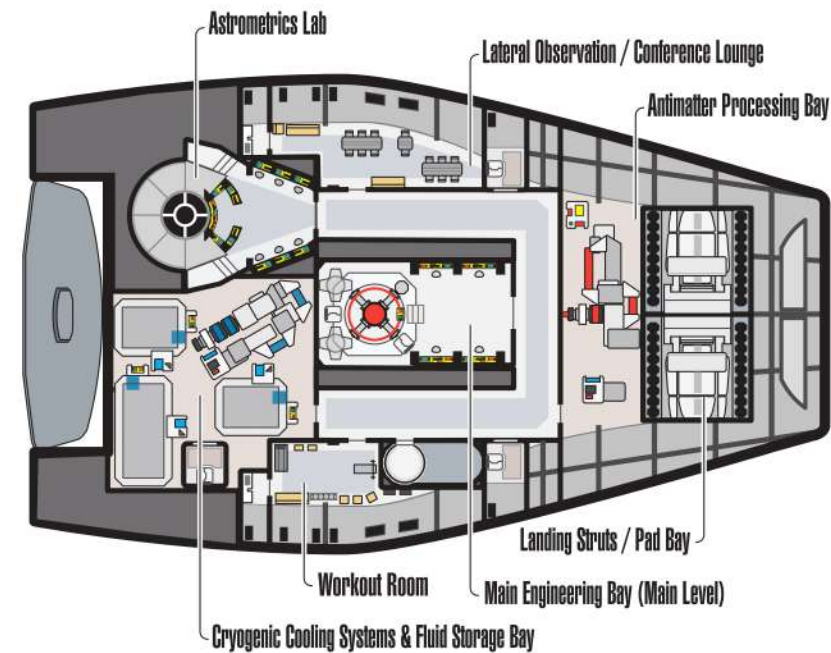
NOVA

PROTOTYPE NX-73515
INTERNAL VIEWS SHEET 6/7

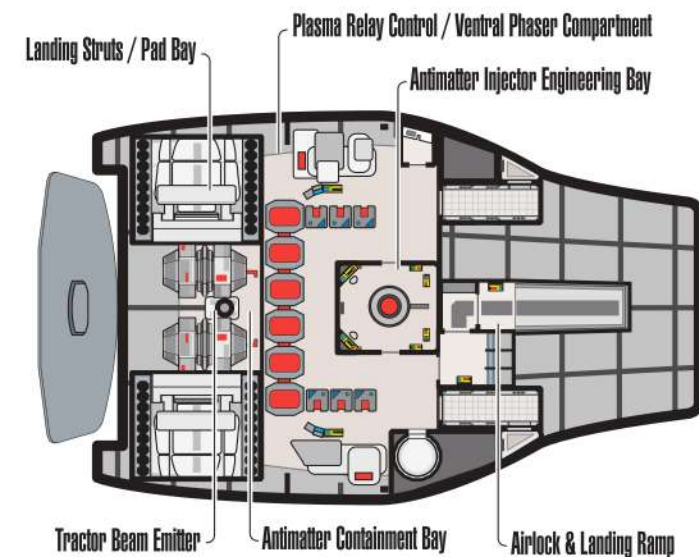
DECK 5



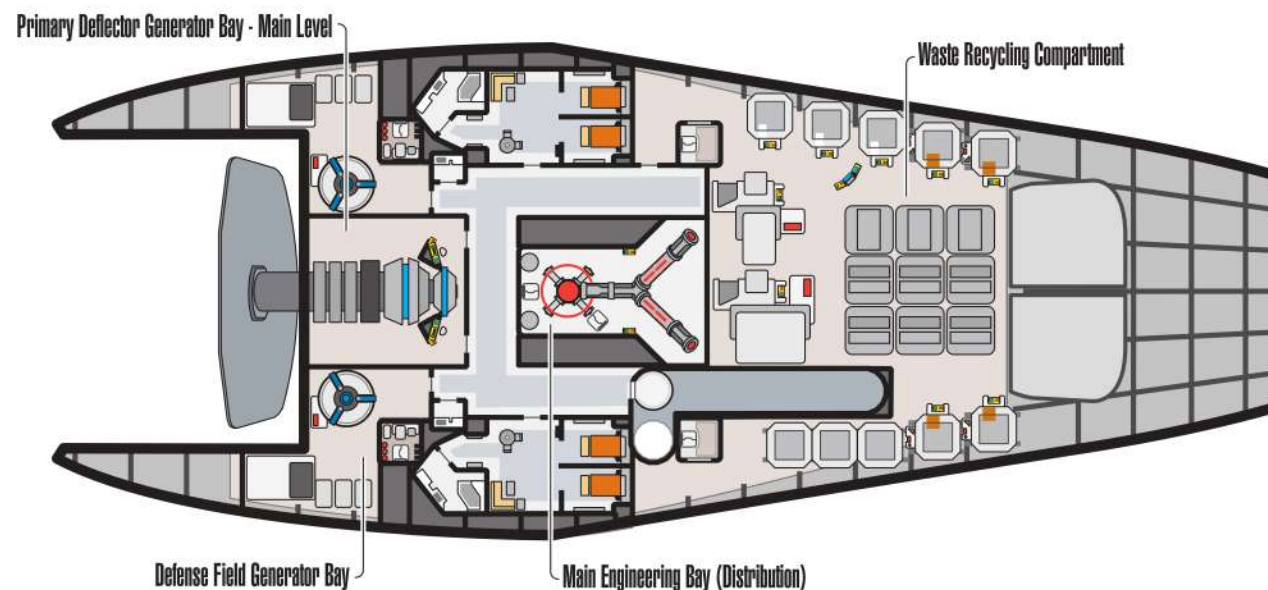
DECK 7



DECK 8



DECK 6

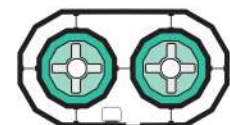


NOVA

PROTOTYPE NX-73515
SYMBOL CHART SHEET 7/7

SYMBOL CHART

AUXILLARY ENGINEERING - INFORMATION SYSTEMS



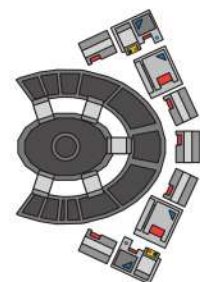
Computer Core



Navigation Sensor Pallets



Long Range Tactical/Science Sensor Array



Ventral Navigational Sensor Array



Forward Main Navigational Sensor Array



Ventral Short Range Science Sensor Array

ESCAPE SYSTEMS



Escape Pod



Escape Pod Niche & Cover

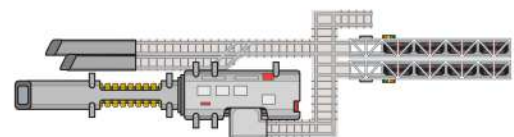
AUXILLARY ENGINEERING - DEFENSE SYSTEMS



Phaser Emitter



Phaser Firing Chambers



- Photon Torpedo Launch Bay:
- Launcher
 - Feed/Transfer Conveyor & Tunnel to Aft Launcher
 - Magazines (2 stacks of 4 x 4 = 32)
 - Loading Conveyors (from forward hull)
 - Torpedoes & Probe Loadout:
 - Quantum Torpedo
 - Photon Torpedo
 - Various Probes
 - Torpedo/Probe Mobile Storage Racks



Conventional Explosive Destruct Charge

AUXILLARY ENGINEERING - GRAVITONIC SYSTEMS



Tractor Beam Emitter



Secondary Deflector Dish



Main Deflector Dish



Primary Deflector Generator



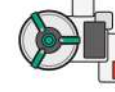
Secondary Deflector Generator



Force-field / Deflector Screen Generator



Engineering Insulating Force-field Generator



Structural Integrity Field Generator

MAIN ENGINEERING - ELECTRO-PLASMA SYSTEMS



EPS Relay



EPS Distribution Node



EPS Phaser Distribution Node



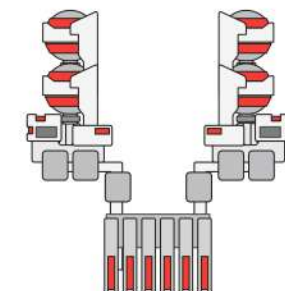
Cold Fusion Battery Bank

MAIN ENGINEERING - REACTION CONTROL THRUSTER SYSTEMS



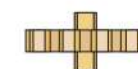
- Vectored Exhaust Nozzle Plenum
- Fusion Generator (2.2 X 10⁹ Mw)
- Deuterium Processors

MAIN ENGINEERING - IMPULSE DRIVE SYSTEMS



- Fusion Generators
(6.1 X 10¹⁰ Mw)
- Deuterium Processors

MAIN ENGINEERING - WARP DRIVE SYSTEMS



Warp Plasma Conduit

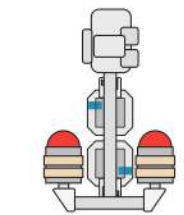


Warp Field Coil



Off-Axis Field Generator

MAIN ENGINEERING - BUSSARD COLLECTION SYSTEMS



- Magnetic Field Generator / Collector
- Continuous Cycle Fractionator & Hydrogen Tanks
- Ionizing Beam Emitters
- Magnetic Field Coils

MAIN ENGINEERING - WARP CORE SYSTEMS



Deuterium Injector



Warp Core Cross-sections



Warp Core Reaction Chamber



Antimatter Injector



Warp Plasma Conduit



Antimatter Containment Pod



Antimatter Processor



Deuterium Processor

EMBARKED CRAFT



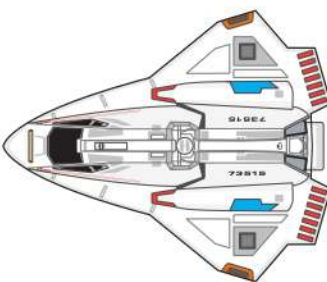
Work Bee



Type 8 Shuttlecraft



Type 9 Shuttlecraft



Waverider Shuttlecraft

