FUTURE ARMADA

DELUXE STARSHIP DESIGNS

INVICTUS

CARRIER

Requires the use of the d20 Modern™ Roleplaying Game, published by Wizards of the Coast, Inc.

d20 system

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Future Armada: Invictus

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Overview

Invictus is the flagship of the Confederation fleet and the first of its kind (so technically it is an "Invictus-class" vessel). At almost 2400 ft long, the ship carries 200 fighters, 40 boarding shuttles, and a 1500 crew, soldiers, and passengers. It is designed to rapidly deploy combat craft and serve as a long range missile platform – allowing it to command a battle well back from the lines while still contributing massive firepower to the fight.

Invictus expands and improves upon the technologies developed for the Argos III station. The Sendai Component System was employed for most of its habitable areas. The same Transportation Tube technology is used to move personnel efficiently about the ship and similar gravitic redirectors are employed to propel the carrier. As on Argos III, rotation is used to efficiently simulate gravity in the habitation rings, but in other areas grav plating is employed. The landing and launch mechanisms are unique to this class of carrier.

Invictus is assigned a wide variety of missions. As the flagship, it is often part of a battle group. The admiral, however, takes as many opportunities as he can to "got it alone" or travel with just a pair of Fenris-class escorts. During peace time it is not uncommon to find the carrier on exploratory or diplomatic missions to distant systems.

The crew is divided into two distinct groups: the marines, and everyone else. The marines are a contingent of 600 soldiers trained for boarding actions and zero-G combat. Using the dozens of shuttles carried on board, their mission is to board and capture (or destroy) enemy capital ships while they are engaged in combat. They also train to prevent such things happening to Invictus Between engagements they provide routine security on board the carrier itself. The aft habitation ring is "soldier territory". This is where all of the marine barracks are. The aft recreation facility is also tailored to their combat training needs.

The rest of the crew consists of 200 fighter pilots (the marines provide their own shuttle pilots), 200 deckhands dedicated to keeping the small craft flying, and 350 general crew to run Invictus itself. That leaves room for about 250 passengers – with most of the empty bunks in the aft ring. There is a rivalry between the groups but dedication, and pride at being stationed aboard the ConFederation flagship, keeps things friendly. Everyone knows that they are on the same team, and dependent upon each other for success. Also, the on board sports leagues provide an easy means to work out stress while showing who's best.

The captain of Invictus is the reknown and well-respected Admiral Jack Foster, a vibrant gentleman with fiery red hair and a temper to match. Well into his forties, he has taken to sporting a short beard and occasionally smoking a pipe – both against regulations on board ship. He is from a long line of military men – some of which helped found the ConFederation itself. He has served aboard every class of ship larger than a shuttle, and commanded on most as well. At this point in his career he is serving as captain as a springboard into the political arena. With a reputation as a war hero and fearless leader, he is gather support for

In charge of the soldiers on board is Colonel Octavia Abondio (AH-bahn-DEE-oh), a stern but likeable African woman known as a shrewd tactician. She is very proud of her marines and while she will not hesitate to shoot down a plan that spends their lives foolishly, she is quite willing to send them to their death when necessary. Colonel Abondio is subordinate to Admiral Foster. With the respect (and firepower) of her soldiers, she could likely take control of the ship if necessary. She and the Admiral, however, are close friends and Octavia's inherent respect for the chain of command makes such an event extremely unlikely.

The executive officer on the ship does not share the Colonel's admiration for Admiral Foster. He is currently languishing in the detention center pending a court martial for insubordination and so is not detailed here.

Though d20 statistics are provided, you are welcomed and encouraged to make any modifications that you desire to fit your system of choice. On the interior maps, one square is equivalent to 5 ft (or 2m if that better fits your game system).

NB: Because of file size limitations, this product does not include giant, composite images of the interior of the ship.

Ship Characteristics

General Layout

Like Argos III, Invictus was constructed using the Sendai Component System. ConFed analysts were impressed with the versatility of the system and the rapid-response capability of the station; the only problem being that Argos III was stationary and so unsuitable for patrol or attack duties. Their goal with Project Invictus was to make a highly mobile carrier that capitalized on the strength of the Argos design while avoiding its weaknesses.

Several pages from the Argos III design are duplicated for Invictus. These pages have been placed at the end of the document so that readers familiar with them need not read them again.

Flight Support

Invictus is first and foremost a carrier. It is designed to support and launch a large number of fighters and boarding craft in the shortest possible time. This is why the extensive launch tube system was developed. Every fighter and boarding shuttle has its own dedicated preparation and launch area. This approach is expensive both in terms of equipment and space, but it allows for the fastest possible cycling and launch of craft. If the craft are ready, every 3rd tube can be launched simultaneously (that's potentially 40 launches on each side). For landing, there is only the single large landing bay – so retrieval of those craft takes considerably longer. On average, 5 combat craft can land and clear the run way in half a minute.

The huge landing bay is open at both ends and runs the length of the ship. There is a runway down the middle and long rows of lifts down either side. These lifts take small craft down to the launch bays which lie beneath (and to either side) of the runway. There are three decks of these launch bays, each with 40 individual launch tubes. A Transit Tube runs the length of each deck.

The floor of the runway itself is divided into three long sections. Each of these sections can retract to allow access to a large hangar bay directly beneath the runway. These three hangar bays occupy the lower half of the great hexagonal tube that has the landing bay as its top half (there is a color schematic later in the document which illustrates the location of these areas). The hangars are generally used for 'guest' ships or storage for out-of-service fighters and shuttles. There is no gravity or atmosphere in the landing bay or hangar bays, though there are airlocks (granting access to transit stops) and couplings suitable for large craft.

Crew Areas

The main habitation areas on Invictus are within two rotating rings near the aft end of the ship. About half of each ring is comprised of barracks. The rest is divided between recreation and support (like cafeterias and other personnel services). The forward ring holds the main administration center while the aft ring has the ship's medical facilities. The living quarters are also divided with the soldiers aft and the rest of the crew forward. Viewed from the bow, the forward ring rotates clockwise and the aft ring rotates counter-clockwise. The center hub of both rings are stationary, providing the connection to the rest of the hull and a core through which the Transit Tubes can cross.

Because rotation is used to simulate gravity, the "floor" of the mapped areas in these rings is actually the outer wall. In any of the longer hallways the curvature of the floor is apparent - one always seems to be at the lowest point of a corridor that curves up both before and behind.

Aside from the engines, the ship is built using Progress Level 7 and lower technology. The rotating rings may seem primitive, but they are efficient and work well with Sendai's component system. Inside, the rotational mechanism uses contained magnetic fields rather than large gears and motors - the same basic technology used to push transit spheres through the tubes.

Miscellaneous Information

A Note on Gravity

The habitation rings rotate to simulate gravity. Given their relatively short radius, they would have to spin faster than is comfortable to simulate a whole G (Earth gravity equivalent). At those speeds the Coriolis effects would cause nausea and other difficulties for most people. Instead, the habitation rings are spun to about

one half G, which can take some getting used too. On the bright side, the spin is slow enough that the majority of people experience no lasting discomfort. Any area designed for human use is well signed with visual cues to keep occupants oriented with regards to location and spin.

The bridge areas, cargo decks, launch bays, and engine control corridors are also designed for human occupation but do not rotate. In the default setting, these areas employ grav plating to simulate gravity (also kept at half a G to be consistent with the rings). This plating is very expensive and requires a large amount of energy to operate. It also has a tendency to fluctuate when power is redirected to engines or weapon systems. The technology is new and relatively untested and so there might be other risks from long-term exposure.

If you are playing in a lower tech setting, these areas can be considered Zero-G. On the cargo decks and in the launch bays this would be very useful for moving large crates and small craft about, but it might make life more difficult for the maintenance crews and pilots rushing to their craft. In either case, the Transportation Tubes (aka Transit Tubes) do not have artificial gravity. The transit spheres do not accelerate at more than 1 G and they reorient automatically to keep the “floor” properly aligned.

Armament

Invictus is armed with the latest (and very expensive) missile system. It employs eight launchers which can fire simultaneously or independently. Each launcher has a magazine of two dozen mass reaction missiles plus an assortment of chaff and decoy drones. A mine layer, employing gravitic warheads, is mounted below the aft end of the landing bay.

The missile tubes are mounted vertically in the ‘wings’ of the ship so that they fire straight up or down (there are four launchers on top and four beneath). This keeps the missiles clear of both the launch vectors (to port and starboard) and the landing bay approach and exit paths. The missiles, of course, are guided and so can easily arc around to any desired heading in order to reach their designated target.

Invictus is armed only with missiles because it is a command ship meant to stay well back from the fighting. Other carriers built following this same design, but meant to fight at the front (or for an extended period of time) trade out some of the missile capabilities for energy weapons. In these ships, the four gravitic redirector pylons on the wing tips are modified so that they can enhance and project their singularity effects along a desired path. The effect – a beam of overwhelming gravity that tears apart space itself – is known as a “zero bore” gun. The stats for this alternate configuration are show at the bottom of the page.

Computer System

The computer system on board Invictus is just as complex and powerful as the one on Argos III, but its scope has been purposefully limited to avoid problems in the event of tampering or system failure. The mainframe handles inventory and record keeping, as well as the usual functions for a ship-board mainframe, but human operators oversee all critical tasks and many of the mundane ones (like making reservations for a Z-ball court) as well. This computer also lacks a personality of any sort and does not have a distinct voice or name.

Though the computer system has access to almost unlimited storage online, much of the data is archived offline in physical data ‘books’ which are loaded into memory when needed. Though this seems archaic (and slow) the system is much more resistant to tampering and electronic warfare attacks. In a matter of minutes, the entire system can be wiped and restored using this backup data.

Alternate Weapon Configuration	
Weapons	4 fire-linked zero bores (range 6,000 ft) 4 fire-linked mass reaction missile launchers (24 missiles each) 1 mine layer (100 gravitic mines with magnetic field and stealth screen)
Attacks	4 fire-linked zero bores +1 ranged (32d8) 4 fire-linked mass reaction missiles -4 ranged (40d8/19-20)

INVICTUS

Progress Level	PL 7 (+PL 8 engines)	**Size**	Colossal (-8 size)
Type	Superheavy	**Tactical Speed**	4000 ft
Subtype	Carrier	**Length**	2370 ft
Defense	11	**Weight**	400,000 tons
Flatfooted	7	**Targeting Bonus**	+5
Autopilot	7	**Crew**	750 (Expert +8)
Hardness	40	**Passenger Capacity**	250 + 600 marines
Hit Dice	1000d20 (20,000 hp)	**Cargo Capacity**	20,000 tons on cargo decks +18,000 tons in deep storage
Initiative	+6	**Grapple Modifier**	+16
Pilot's Class Bonus	+5	**Base Purchase DC**	80
Pilot's Dex Modifier	+4	**Restriction**	Military (+3)
Gunner's Attack Bonus	+4	**Grappling Systems**	Tractor beam emitter
Engines	Thrusters & Gravitic redirectors	**Armor**	Neutronite
Sensors	Class V sensor array, Improved targeting system	**Communications**	Radio transceiver Drivesat comm. array

Defense Systems	Point defense system, improved autopilot, improved damage control (6d10), chaff launcher, decoy drone launcher, stealth screen, light fortification, particle field, magnetic field, radiation shielding
Weapons	8 fire-linked mass reaction missile launchers in a variable link (24 missiles each) 1 mine layer (100 gravitic mines with magnetic field and stealth screen)
Attacks	8 fire-linked mass reaction missiles +1 ranged (50d8/19-20)
Attack of Opportunity	Point-defense system +5 ranged (5d12x10)

SIDE
TOP
200 ft
FRONT
INVICTUS

Interior Areas

The habitable areas of Invictus (those which maintain atmosphere, heat, and – usually – gravity, can be broken into three distinct areas:

1. **Habitation Rings** – There are two rings, designated forward (or fore) and aft. These comprise the majority of livable space and are where all crew spend their off-duty time.

2. **Central Stack** – This column of decks is in front of the forward ring. It has the bridge on the top, cargo decks in the middle, and the auxiliary bridge on the bottom (beneath the landing bay and hangars. These areas do not rotate and so rely on artificial gravity or get by with zero-G.

3. **Other Areas** – There are habitable engineering corridors in each of the nine engine pylons, and a three decks of launch bays (with 40 launch tubes each) running along either side of the ship. This is where small craft are refitted and prepared for launch. They enter the area through lifts in the landing bay and exit through the launch tubes.

Schematic

The next page is a rough schematic of Invictus – showing the general location of many of the important areas and systems. These areas are color coded as follows:

Blue – Habitable Areas. These are also the areas for which miniature-scale maps are provided (see the 3 enumerated items above). The habitation rings use centrifugal force to simulate gravity. Other areas use more expensive (and less reliable) gravity plating.

Green – Accessible but Uninhabitable. These areas are open or easy to get into but do not have atmosphere or gravity. The landing bay and hangar bays beneath comprise the majority of this type of area. Both are large empty spaces used primarily by small craft. Lifts and airlocks lead from the landing bay to the launch bays and airlocks lead from the hangar bays directly to a Transit Stop. There are also large ordinance and supply areas in each wing of Invictus. These are a honeycomb of storage areas linked by an automated retrieval system. In these areas are spare parts and other items not used enough (or perishable enough) to warrant space on the cargo decks.

Technically, the Transit Tubes themselves also fall into this category, but they have their own color code (yellow).

Purple – General Systems. A catch all for support equipment and structures, the purple areas include the launch tubes which lead from the launch bays to the ship exterior as well as the engines, sensors, and communications systems.

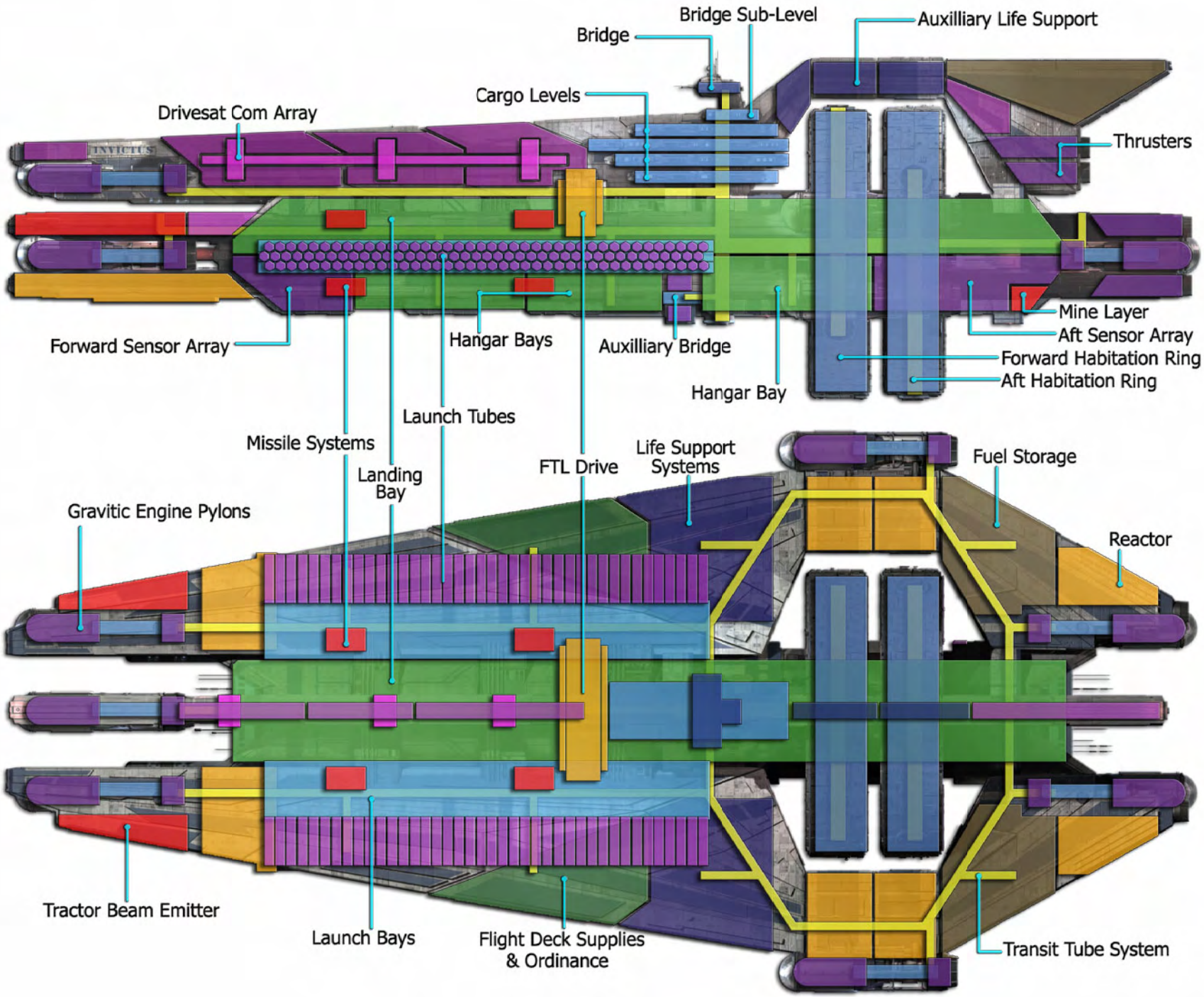
Red – Weapon Systems. This includes the missile launchers, mine layer, and tractor beam emitters. Like most other unmapped locations on the ship, these can be accessed though cramped crawlways but do not contain proper rooms, atmosphere, or gravity.

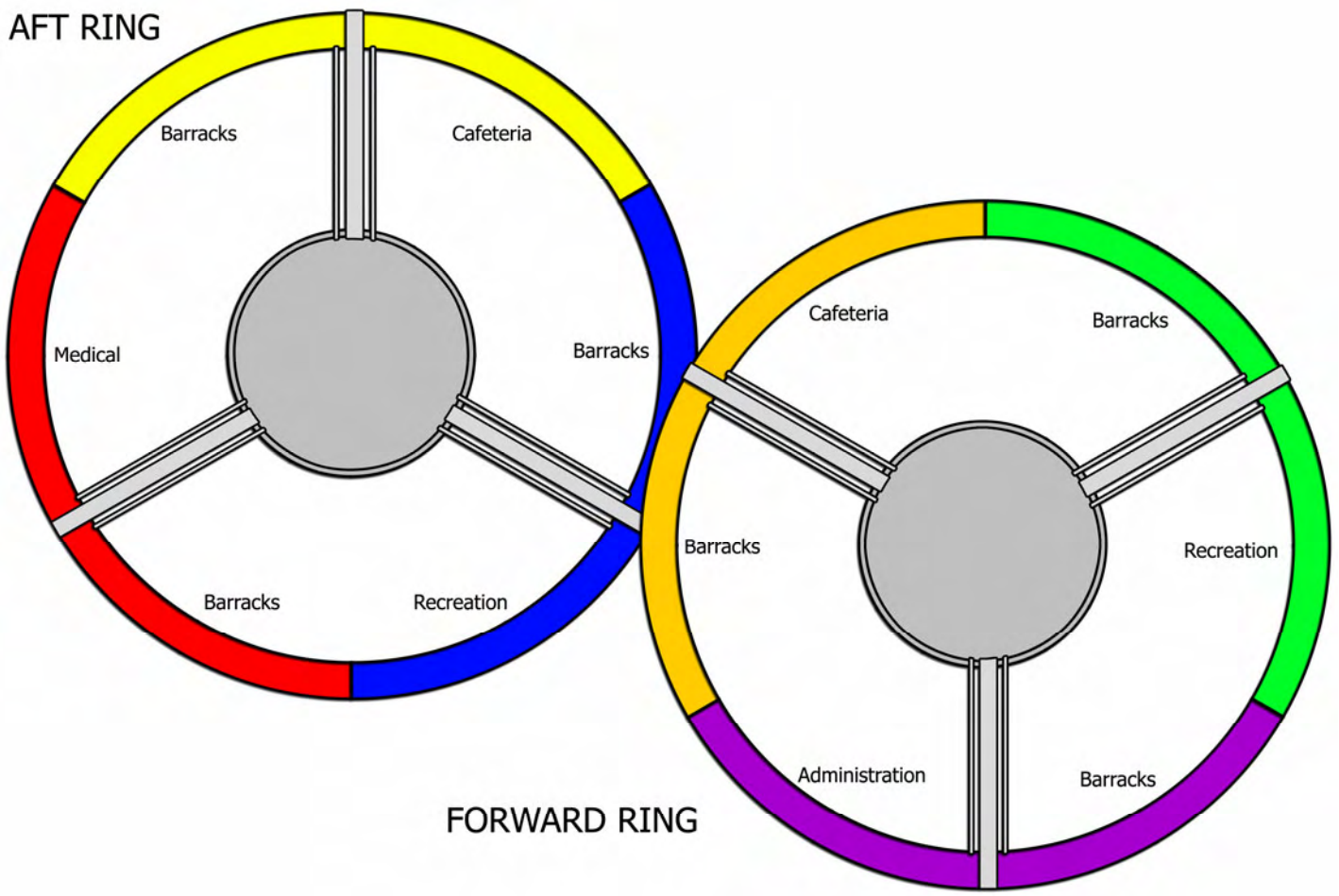
Orange – Reactors. Each gravitic engine has a dedicated reactor providing power to it and the ship in general. The FTL ring in the center of the ship is also coded to this color. It may be treated as a large power storage capacitor if a Faster-Than-Light drive is not appropriate for your setting.

Yellow – Transit Tubes. In addition to the circuits running around each habitation ring, the Transit Tube System (also called the Transportation Tube System) runs the length of the ship and has branches stretching into many different areas. The end each such line is a remote transit stop (map Mi.06) with a maze of ducts, systems, and crawlways beyond. Vacuum suits are required off of the map.

Brown – Fuel Storage. These areas are fuel storage for the standard thrusters. They are used as a backup propulsion system or to provide an extra boost when bringing the ship up to speed.

Note that not every system is explicitly called out with a line and label. If an unlabeled area looks a lot like one that is labeled, then assume that they are the same. For example only one “Gravitic Engine Pylon” is explicitly labeled, but there are several on the schematic.


Bridge Sub-Level
Auxilliary Life Support
Bridge
Cargo Levels
Drivesat Com Array
Thrusters
Forward Sensor Array
Hangar Bays
Auxilliary Bridge
Mine Layer
Aft Sensor Array
Forward Habitation Ring
Aft Habitation Ring
Hangar Bay
Launch Tubes
Missile Systems
Landing Bay
FTL Drive
Life Support Systems
Fuel Storage
Gravitic Engine Pylons
Reactor
Tractor Beam Emitter
Launch Bays
Flight Deck Supplies & Ordinance
Transit Tube System



Interior: Habitation Rings

Invictus has two habitation rings (forward and aft). While these are only half the size of the main habitation ring found on Argos III, they still provide sufficient room for crew housing, support, and recreation as well as administration, detention, and medical facilities.

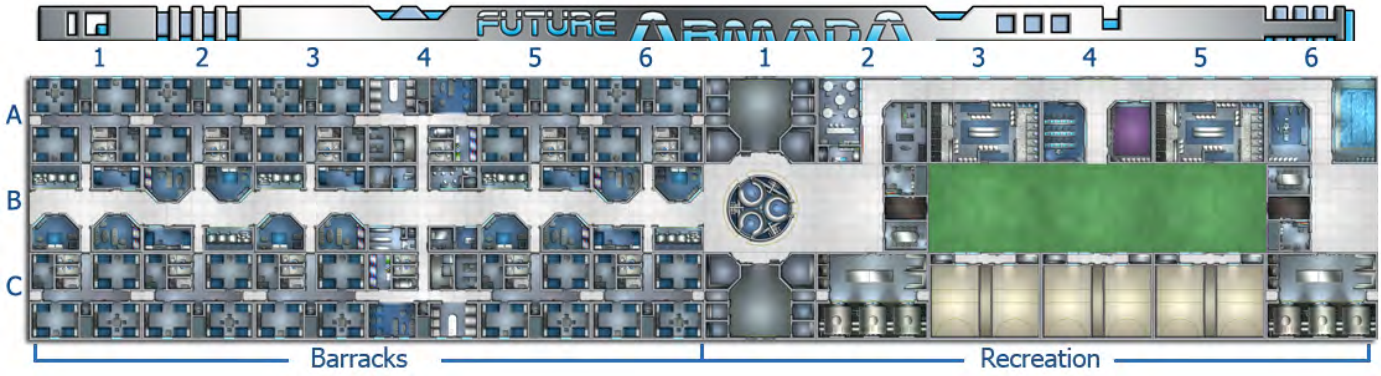
Each ring consists of three sectors – each one designated with a color and served with a transit stop near the middle. The traditional primary colors (yellow, blue, red) are used in the aft ring and the secondary colors (green, violet, orange) in the forward ring.

Each sector is broken into two subsectors, mainly for the sake of addressing specific locations. Unlike Argos III, the subsectors are not referred to by number. Half of every sector (specifically, the left half) consists of barracks. The right-hand subsector varies, though there is redundancy between the fore and aft rings here as well.

Of the 12 sub-sectors which comprise the habitation rings, 6 of them are barracks and use the exact same maps. Each ring also has a single recreation subsector and a single cafeteria subsector so each of these subsector maps is used twice. That only leaves one subsector on each ring unaccounted for so, map-wise, the only real difference between the forward and aft rings is that the forward ring has an administration/detention subsector where the aft ring has a medical facility.

Like Argos III, the interior of the ship generally follows a blue/white/grey color scheme but there is a wide decorative stripe on the hallway walls (at waist level) that matches the sector color. Each sector has its own Transportation Tube stop – also color coded.

Note that the terms “above” and “below”, when talking about map blocks, refer to the map layout. The actual habitation ring is just one story at all locations. There is only ductwork and machinery *literally* above and below each area.



Green & Blue Sectors

This is the “Recreation” sector (Green in the Forward Ring, Blue in the Aft). But first the barracks side of the sector is discussed in more detail. The barracks text is applicable to **every** sector in the habitation rings.

Barracks

The left half of every sector on Invictus is comprised of barracks. These are the living quarters for crew, pilots, marines, and passengers. Each barracks ‘subsector’ has single bunks for 250 people in the rooms along either edge of the wheel. The more spacious rooms along the central corridor can accommodate another 25-30 people per subsector and are generally reserved for ranking officers, special teams, and guests. There are single restrooms and showers spaced throughout the area. These are available for anyone to use.

Also along the central hallway are five “requisition stations”. These are automated inventory access points that can retrieve small items (like uniforms, bedding, and prepackaged food) from ‘deep storage’. The system also sends used items and garbage to the proper systems for cleaning or disposal. Within the system, items travel in collapsible plastic boxes about the size of a milk crate and these ubiquitous crates are sometimes used as improvised furniture. Each requisition station has a computer terminal and three access points. Proper ID is requires and the system keeps complete logs of who checks out and returns what items.

On the subsector map (in the Subsector Map Book), only one requisition station block is specifically labeled. The others look just the same and so, to avoid map clutter, were not labeled. This holds true for most areas – if an unlabeled area looks just like another area on the map that is labeled, then you can assume it is the same.

Column 4 of the barracks subsector contains public areas on either side of the main corridor (A4and C4). These have a small utility room with washing machines and document processors, a public computer lounge, some vending machines, and a couple of storage rooms for the cleaning crews.

Block B4 has four small ‘shops’ set up to support the crew living in the subsector. The upper left is the office of the local liaison officer assigned to oversee the subsector and provide a place for personnel to voice concerns or pose questions. In the upper right corner of the block is a computerized testing and training facility. There are five workstations for crewmen to prepare for and take various proficiency exams and similar activities. Across from this is the subsector doctor, who can handle both psychiatric counseling and basic medical diagnosis & examinations. The lower right shop is a luxury outlet – selling items that are not available though the requisition stations.

Recreation Area

The right half of this sector is dedicated to sports and recreation – giving the crew a way to get exercise and relieve stress during long patrols. The Transit Stop is located in the center of the left edge of the subsector (block B1). Above and below it are storage rooms holding a variety of training gear and sports equipment.

Column 2 in the recreation area has a large utility room at the bottom (block C2). Crates of dirty laundry are processed here and then sent to deep storage for later retrieval by the requisition system. The heat from the giant sanitizers is oppressive inside and the constant rumble of the machines can be heard even outside. The room also contains a large table and shelved alcoves to help with the sorting and processing. The trio of closets contains a variety of cleaning supplies. There are almost always several unlucky crewmen on duty here in the ‘sweat shop’.

Block A2 has a food outlet (specializing in spectator snacks and health drinks) and the recreation administration office which handles league rankings, court reservations, and similar matters.

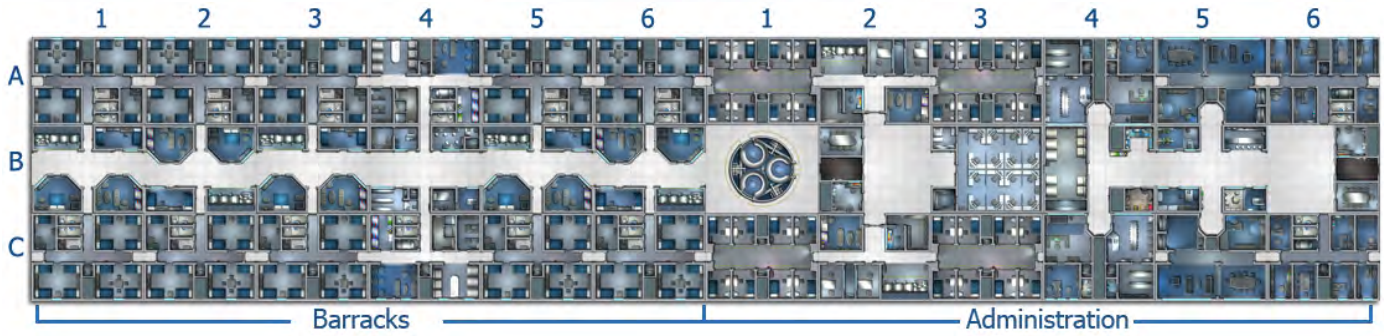
The central part of the subsector is the large arena covering blocks B3, B4, and B5. This high-ceilinged area has a reconfigurable floor. The default surface is artificial grass but the other side of the 5x5 panels have a hard grey surface more suitable to some sports. Both sides can display a variety of boundary lines on command. Thin wall panels can also be raised between the sections – dividing the area into smaller courts or creating a maze of corridors and enclosed areas. This latter configuration is used in conjunction with light guns to practice urban and ship-board combat.

At either end of the arena is an entrance gate, team room, and (often unmanned) security post. It is also possible to walk into the area though the "spectator entrance" mid-field.

The C row below the main arena is divided up into a series of Z-ball courts. This is a game somewhat like racquet ball but played in zero G. The area can be configured into six small courts or 3 large ones – again with movable walls and variable floor markings to suit different games. The hallway outside of each court pair contains a drinking fountain and a couple of equipment storage closets. Note that these courts can only be accessed from the main arena, which can be a problem if an ongoing game is using the full space.

The A row above the arena has two large locker rooms. Between them is a briefing room generally used for team tactics reviews or LAN gaming, and a martial arts room with equipment lockers and a large practice mat.

To finish off the sector column 6 has a small weight room and pool, and another large laundry processing facility.



Violet Sector

As will all six sectors in the habitation rings, the left half of Violet sector is a barracks subsector. The right half, however, is unique – holding the detention center and the primary administration offices for the ship.

Detention Center

Columns 1, 2, and 3 of the Administration subsector are devoted to a prisoner holding facility. This facility is built with the intention of housing prisoners of war, but may also be used for crew members requiring such isolation.

The Transit Stop is in block B1. Access to the barrack area to the left is unrestricted but access to the detention area to the right is tightly controlled. One can only enter through the security checkpoint in block B2. Anyone visiting must have clearance before being allowed to enter – there is no general reception area within. The area beyond is the heart of the detention center. The cubical farm in B3 is set up for prisoner processing but handles day-to-day data processing nine days out of ten. The machines tie into the data farm and archives in the administration area.

Blocks A2 and C2 are the same as each other. Each has a small waiting room with couches, a vending machine, and a non-networked computer terminal. Across from this room is a locked armory and another security checkpoint. Beyond the checkpoint are a couple of visitation/interrogation rooms and a limited-access requisition station (used to bring prisoner uniforms, bedding, and prepackaged meals from deep storage).

There are bunks for 64 prisoners in the four prison blocks (A1, C1, A3, and C3). The doors on the left side of blocks A1 and C1 are permanently sealed as they lead directly into the barracks area.

If prisoners are present, there are five security guards in the detention facility – one in each of the three security checkpoints, and two more that patrol the cell blocks or stand outside of the cubicle farm. Note that there is no way to move from the detention area to the administration area. The wall between has no doors or other breaks.

Administration

The primary administration area is reached by taking the T^2 to the Orange Sector stop and then walking through the orange barracks so most of the administrative staff live in Orange Sector.

The security checkpoint in block B6 of the administration subsector keeps out anyone without actual business here. There are doors to the barracks area via A6 and C6 as well – but these are kept secured and are only for emergency use. Blocks A6 and C6 hold a number of small offices, all concerned with various aspects of keeping Invictus operating smoothly and in accordance with ConFed directives.

Block A5 has a luxurious conference room and executive lounge, as well as a private office for a high ranking post. This area is shared but meant primarily for the convenience of the admiral. Block C5 has the same layout and is intended for the use of the executive officer (currently being detained). The area between (block B5) has some small faux-shops provided for the administrative staff. The upper left room cleans and tailors uniforms for the top-level officers. To the upper right is a high quality café & snack bar. The lower right is a single-seat salon and the lower left provides general supplies (custom letterhead, pens, and the like).

Block A4 is the admiral's office, with his assistant's desk out front and an archive room nearby. The executive officer's office, and a secondary archive, is across the way in block C4. The area in between has a communications station and a data processing facility.

Orange & Yellow Sectors

The non-barracks half of these sectors (Orange forward and Yellow aft) is dedicated to feeding the crew and providing other day-to-day services.

Cafeteria

Blocks B1, B2, B3, and B4 are a series of dining rooms set up as a large cafeteria. Each has its own kitchen (A1-A4) and tray processing area. Much of the food is stored in the pantries next to the kitchen, with restocking done from deep storage periodically. Meal trays are handed out from the conveyor at the end of the counter, and dirty trays are sent back though the same mechanism.

Each dining room has a capacity of 50 people. They operate at all hours since the crew comes through in shifts. Patrons do not have any choice as to what food they are given, though often the available meal will vary between the four cafeteria rooms, with a menu posted at the entrance.

For a custom meal, crew members can eat at the diner in block A1. There is a similar, though smaller, café in block C6. These places have a real menu and reservation tokens are handed out based on rank and other factors to give everyone occasional access.

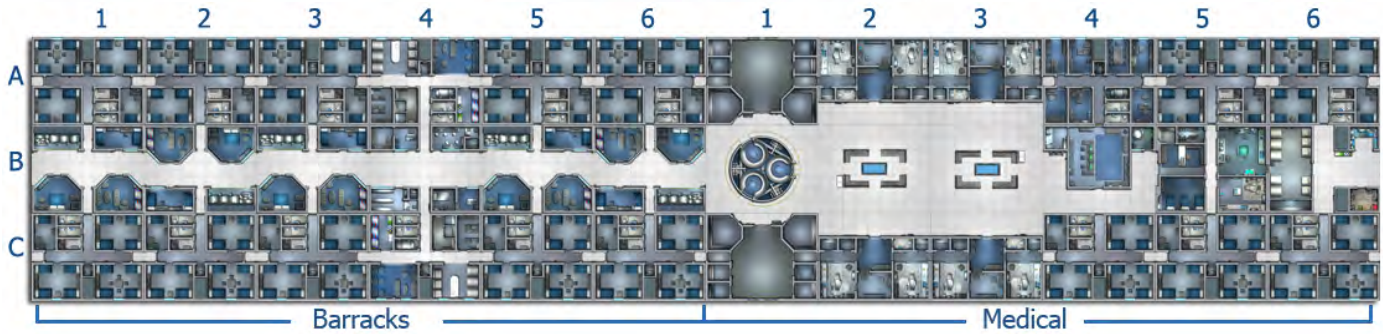
Support Services

There is a long hall that runs along the C edge of the subsector. Traversing the hall from the Transit Tube, one would first pass through a standard security checkpoint in block C1. Across the hall from the checkpoint is a general store, providing a variety of small items (mainly entertainment, luxury, or local items brought on board from the last port of call).

Turning down the hall, the next facility (in block C2) is a small theater which can also serve as an auditorium. There is an identical room at the far end of the hall (C5). C3 is a barber next to a general storage room, and the next block has a small bar (the “C4 Lounge”, Fore or Aft) and a clothier which handles cleaning and tailoring civilian wear. The corner in C6 has the excursion office – which handles all things related to shore leave and other off-ship / off-duty activities.

A6 is the Chief Purser’s office in the forward ring and his second in the aft ring. The room next door holds financial, cargo, and supply data archives, as well as currency for several different systems. It is heavily secured with a permanent guard stationed inside.

The sector ends with a quartet of shops in block B6. The one in the upper left corner of the block is dedicated to “tourist-wear” and the shop in the lower left stocks a selection of local luxury items. The bar in the upper right is a quick beverage stop and the facility in the lower right does cosmetic procedures that are more sophisticated than the general barber shop can handle. This includes dermal art (tattoos), piercings, non-invasive grafts, iris color changes, and the like. It can also provide maintenance (though not installation) for general cybernetic parts.



Red Sector

Medical

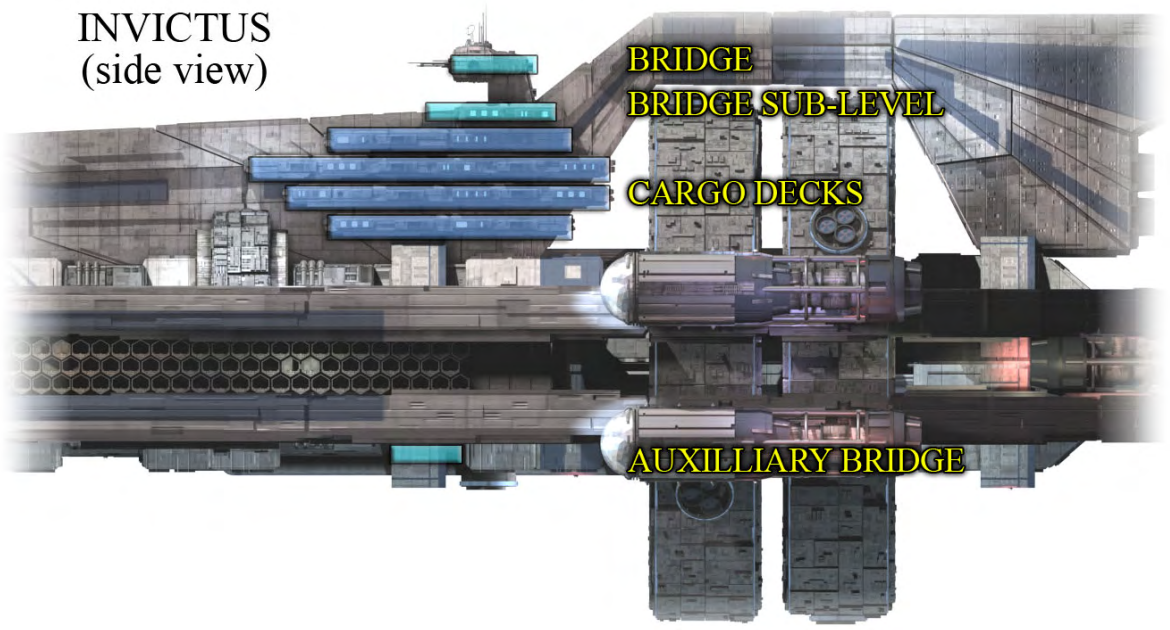
The non-barracks right side of Red sector (which is unique to the aft ring) is the Invictus medical facility.

Column 1 is occupied by the Transit Stop and a pair of general storage areas. These areas supply the medical facility and so have a lot of medical equipment in the large central rooms and pharmaceuticals in the secured vaults along the sides.

The waiting plaza occupies blocks B2 and B3, with comfortable benches and relaxing fountains to enjoy. During combat, however, this area doubles as a triage staging area and so is far less relaxing. Either side (blocks A2, A3, C2, and C3) is lined with operating theaters which double as examination rooms. Each block has a pair of such rooms with a small administration and admittance area between.

B4 is the main reception area, with the doctor's office area just beyond in block A4. To one side of the reception room is a simple break room – to the other is an experimental regeneration chamber in a sealed room. The medical labs occupy B5, while a dedicated laundry room and comm station finish out the sector in B6. The communication station is meant for the barracks subsector off-map to the right.

The rest of this subsector is taken up by patient wards. There are five wards, each with 24 beds plus a single private room. The lab has three more beds, but these are reserved for special needs patients and quarantine.



Interior: Central Stack

In the middle of Invictus is a column of decks – six above the landing bay and one beneath. Shown in shades of blue above, these decks are detailed in the following section. A small overview map is shown on the next page. Note the orientation of the Bridge levels is different than the cargo decks. This is because the bridge faces forwards.

Bridge

Sitting atop the central fin, the bridge area is reached through a pair of lifts or ladders that connect to block A2 in the bridge sublevel. That block, like the one on the bridge level, also contains a security check point, storage room and the ship's main computer core (which runs vertically through those rooms and the space between). On the bridge level, the storage room is an armory.

There are emergency "Discus" class lifeboat berths on either side of the lifts. Each can carry 11 people, and they are stacked two-deep on this level, the bridge sublevel, and the machinery level in between. This is enough room to evacuate 132 people - far more than is ever present in the immediate vicinity.

Note that the "machinery level" below the elevators & lifeboats is not depicted on the maps as it contains no accessible areas. An automated system moves the boats up or down as others are launched.

The actual bridge room is a large chamber packed with state of the art technology. It is always fully staffed and buzzing with activity as the room handles both ship's systems and flight control.

Beyond the security doors on either side of the bridge are communications and sensor operations areas. On one side is the station commander's officer and on the other is a conference room. Each side also has a large airlock and security checkpoint. The airlocks are only used to bring V.I.P.s on board and the security checkpoints next to them are generally unmanned except when docked.

To either side of the elevators/lifeboats is machinery accessed through a maintenance hatch in the wall. Beyond are dark, narrow corridors sandwiched between large banks of machinery, tanks, and ductwork. It is explicitly shown here just to complete the bridge area as the areas beyond this are the void of space.

Bridge Sublevel

This level is a 3x3 deck of blocks provided to support the bridge crew as it is otherwise a long trip to the nearest facilities. This deck is restricted access and a pair of armed guards is present to greet any unauthorized visitors.

On the Bride Sublevel block A1 (the upper left corner on the small map to the right) is a lounge area. The ship's liaison officer - an expert in alien customs and diplomatic protocol - keeps an office here as well. This puts him close enough to be quickly summoned to the bridge, but does not require his constant presence there.

Block A2 is the route up to the bridge. A security checkpoint, storage room, and the bottom of the computer core are here, as well as the elevators (leading up only) and life boat access. The quartermaster (in charge of navigation) has her office in block A3, with stellar cartography references and archives next door.

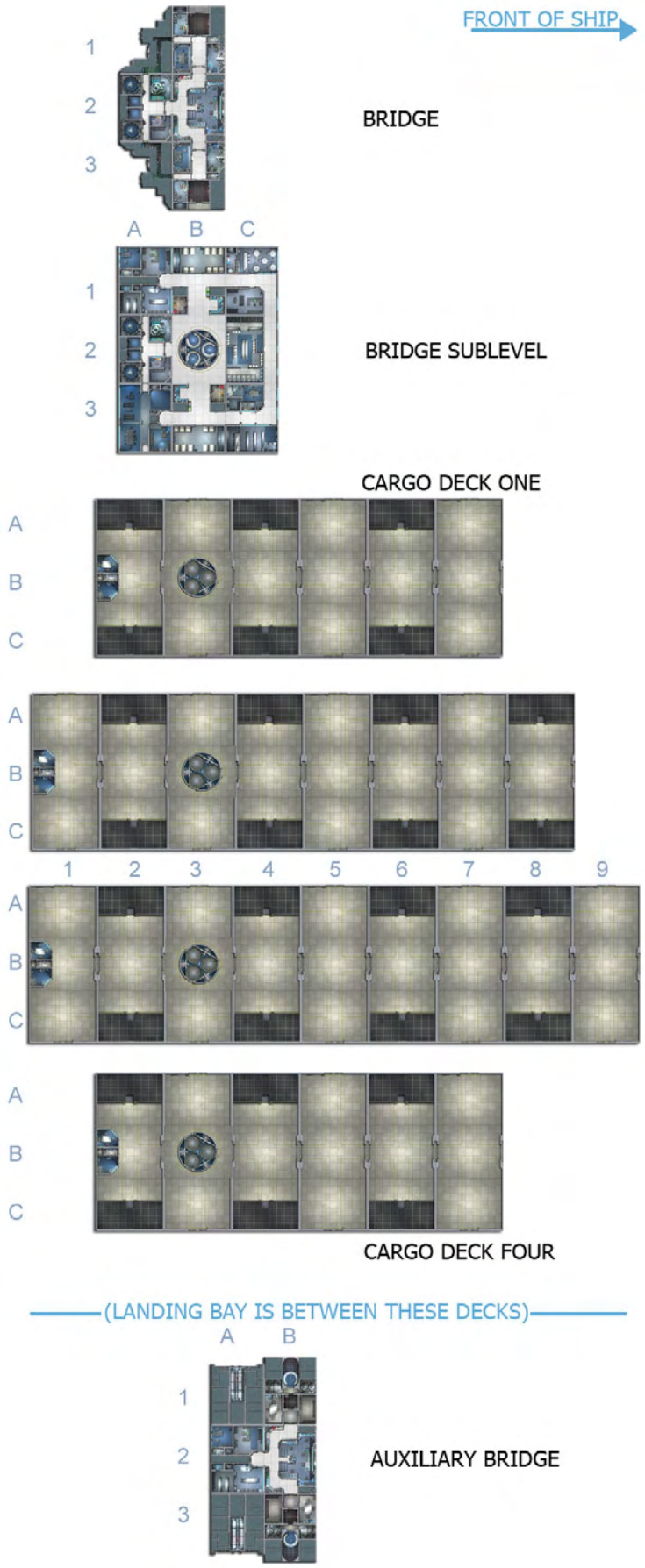
Blocks B1 and B3 are parallel computer arrays and support servers slaved to the main computer core (though yes, they do look somewhat like a laundry mat from the top). Complex computer interface stations, and small utility rooms, are outside of each.

The room in the C1 corner is the primary data archive with shelves full of shielded data books and backup chips. The room across the hall is occupied by security personnel. There is a mixed-gender locker room in block C2 and a self-serve café in C3. The office next to the café is used by the manager in charge of sublevel personnel (the techs, security, and staff who work here).

Cargo Decks

There are four cargo decks on Invictus. These are used to store items too large (or numerous) for the automated deep storage & requisition retrieval system. The cargo bays are segmented to limit possible depressurization and they alternate between those with cargo shelving (providing additional 'floor space' half way up the wall) and those with pressure doors that open to the exterior of the ship.

The cargo bays without exterior access have sturdy metal balconies installed 10 ft above the floor. These shelves allow for additional storage



and can be accessed via ladder or the small (5x5) lift in the front center of the shelf. Containers that are too big for the lift can be moved too and from the shelves using fork-lifts or they can wait until the next time the gravity is turned off.

At the aft end of each deck is a small inventory control office and break room. The doors at the forward end of each deck open into the innards of the Commsat Array and are kept locked. The Transit Tube system is the only easy means of accessing the cargo decks.

As on Argos III, Invictus has a number of cargo-adapted Transit Spheres. These have had the interior rails and seats removed so that it is easier to haul crates within. These are used to move inventory from the cargo decks to the habitation rings or other destinations. Items which are too large for this system can only be moved by using the exterior doors. There is a small complement of remote-controlled drones on board to help with such endeavors, though it is also typical for crewmen to be given the duty of shuttling cargo through the void.

The cargo decks are often kept at zero or minimal G to conserve power. They do typically maintain heat and atmosphere, however. The exterior views of the ships show windows running along these decks. These viewports are not visible on the maps as they are under the cargo shelves.

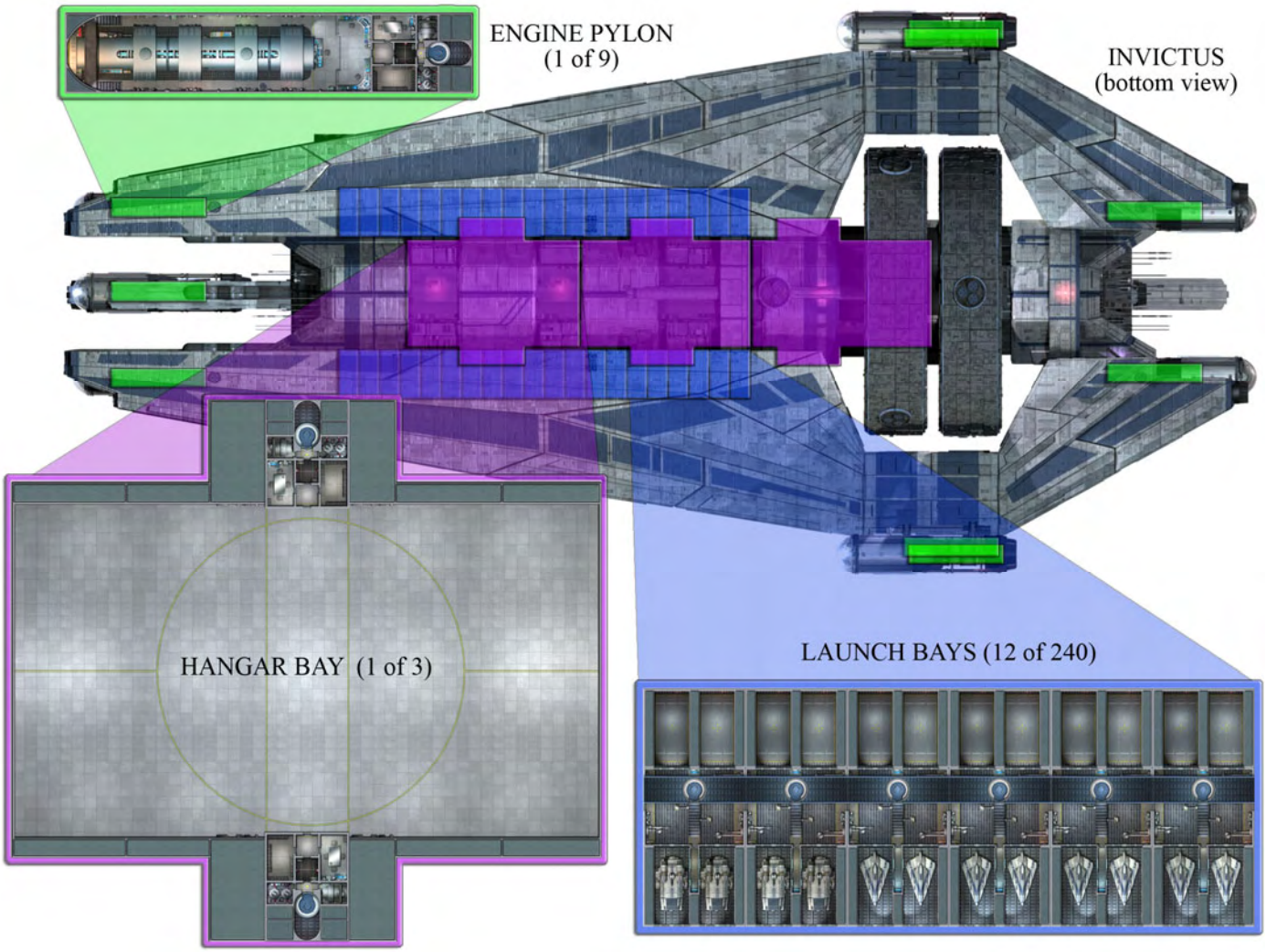
NB: An ambitious game master could create custom decks for this area – using the existing pages and assuming all cargo is kept in deep (unmapped) storage in the wings.

Auxiliary Bridge

At the bottom of the ship is a replica of the bridge – created to serve as a backup should the main bridge be destroyed in battle. This area is reached from a remote transit stop on either side of the control room. The control room itself is identical to the one on top of the fin, though it is wholly contained within the structure of the ship itself.

Behind the main control room is the office for the commander on duty and a secondary data archive with emergency backup and restoration information. The conference and storage rooms to either side of the control room are rarely used.

Except during battle stations (or the occasional training exercise), this area has minimal crew present - often only the commander on duty in his office and a single tech or security officer in the main control room.



Interior: Other Areas

Aside from the habitation rings, and the stack of decks beneath (and including) the bridge, there are a few other important areas on Invictus that maintain atmosphere, heat, and gravity. The gravity here is artificially generated and usually kept on the light side.

Remote Transit Tube Stop

In addition to the 3-tube Transit stops found in the habitation ring, there are also smaller remote stops scattered throughout the ship. These open up to remote crewed locations or into the usual maze of crawlspaces and equipment that comprise the wings and fin of Invictus.

Outside of each stop is an airlock, meeting room, and general storage area. These areas are typically at zero-G but do maintain atmosphere. Beyond the final door, however, there is no such guarantee. Some areas (like the engine pylons) are pressurized while others (like the hangar bays and the general internal areas of the wings and fin) are not.

Engine Pylons

There is a long engineering corridor that runs down the middle of each gravitic engine pylon. At the back end of this area is a remote Transit Tube stop – the only means of access without going outside of the ship or crawling (in a vac suit) through the internal structure. A large control center is at the base of the gravitic core which runs the length of the corridor. This center monitors and controls both the core and the reactor which powers it. There are some redundant controls on the bridge, but those at the engine (both in the control center and along its length) are much more extensive and have precedence.

Note that this room is contained within the engine pylon itself. While the floor is flat and level, the ceiling overhead follows the contour of the inside of the tube-like pylon.

Launch Bays

Three decks of launch bays run along either side of Invictus. The top-most is level with the runway in the landing bay. The other two lie directly beneath the first one. A Transit Tube runs the length of each deck, able to drop a Transit Sphere into the stop at each bay without blocking the circuit. Ships enter the launch bays from the landing bay (where the runway is) . Doors along the side of the landing bay open up into the lift area of the upper launch deck. The ship is then either moved into the preparation area of that deck or lowered to the middle or lower decks. The lift area of each deck functions as an air lock to transition the small ships from the vacuum of the landing bay to the normal atmosphere of the preparation area.

The preparation area is largely automated, though there is often a tech or two on duty when the bay is active. After arriving in the elevator/air lock (the lower map page), the ships are moved on an automated track into the examination and refitting area (the middle map page). Here are scanners and diagnostics to examine each arriving ship and report any problems. Fuel lines and computer links are engaged via mechanical booms which retract out of the way when done. If a ship needs repairs or special equipment, it will also be handled here as well.

Once the ship is prepped, the doors into the launch tube itself open and the fighter or shuttle is moved into launch position (the upper map page). This area is kept pressurized so that pilots can easily get to their ships. When it is time to launch, the atmosphere is evacuated, the launch tube doors open and the ship is magnetically propelled down the launch corridor and into space – usually using its own thrusters as well so as to have the highest possible velocity when entering the combat arena.

Note that each launch bay area has tracks and service areas for a pair of ships. Since there are two tracks on each map page, the given map section repeats 20 times for each deck (and there are 6 decks total: 3 port and 3 starboard). Doors on either side (right and left) of the launch bays lead to the adjacent bays. The ones furthest forward and aft lead into the unpressurized mechanical crawlspaces and are kept secured.

Invictus has 240 launch tubes (3 decks of 40 tubes each, on each side of the landing bay). Every Brahma and Serena in service is assigned to a given bay. Specific bay assignments vary, and the Invictus computer system reads pilot IDs to route personnel to the proper craft when it is time to launch.

Pilots and technicians arrive via the Transit Tube system as a tube runs the length of each launch deck. In the bay, the tube crosses about 15 feet above the floor – allowing room for the ships to pass underneath. From the transit stop, stairs lead down to the floor of the bay. From here (in the preparation area), a door leads into the launch tubes themselves. This is where the fighters and shuttles are kept after being serviced. The large doors at the top of the launch bay map open directly into the long launch tubes. These tubes are open to space.

Note that all three decks share the same map pages. For the elevators on deck one, there are actually pressure doors (not shown) at the back of the lift as well as the front. These doors lead out onto the runway and are opened to move landing craft from the runway into the launch bay area.

Hangar Bays

The bottom half of the landing bay (beneath the runway itself) is occupied by three large hangar bays (fore, central, and aft). The roof of these bays (which is the underside of the runway) can retract to allow craft to enter and leave. They do so under their own power, which is made easier given the lack of gravity in the area. The landing bay is unusable during these times.

The hangar bays are just large empty areas (135 ft. wide, 240 ft. long, and 90 ft high) with a remote Transit Tube stop on either side. The bays are not generally kept pressurized as this would vent a huge amount of atmosphere when the doors in the roof were retracted. The tube stops, however, are equipped with umbilical's that can attach to most ships. Otherwise vacuum suits are required to embark or disembark.

Like other uninhabitable areas on the ship, this area is not mapped out at the miniature level except for the transit stops.

Non-Player Character Stats

Admiral Jack Foster

Charismatic 10 / Ambassador 8

CR 18; human; HD 10d6+8d6+36; HP 101; Mas 14; Init +5; Spd 30 ft; Defense 18, touch 18, flatfooted 17 (+1 Dex, +7 class); BAB +11+6+1; Grap +11; Atk +12+7+2 ranged (2d8, Laser Pistol); AL ConFed; SV Fort +9, Ref +10, Will +13; AP 8; Rep +11;
Str 10, Dex 12, Con 14, Int 10, Wis 14, Cha 12.

Occupation: Military (Knowledge (Tactics), Pilot)

Skills: Bluff +20, Diplomacy +20, Intimidate +15, Knowledge (Behavioral Sciences) +8, Knowledge (Theology & Philosophy) +7, Knowledge (Civics) +7, Knowledge (Tactics) +13, Pilot +7, Profession (Military Officer) +23, Sense Motive +16, Spot +8
Speaks 4 additional languages

Feats: Confident, Leadership, Starship Operation (Light, Mediumweight, Heavy, Superheavy), Armor Proficiency (Light), Personal Firearms Proficiency, Simple Weapons Proficiency,

Bonus Feats: Oathbound, Point Blank Shot, Lightning Reflexes, Trustworthy, Iron Will, Improved Initiative, Reknown

Talents: Coordinate, Inspiration, Greater Inspiration, Charm, Favor

Ambassador Abilities: Diplomatic Immunity, Open Arms, Information Access, Stipend (x2), Restricted Access

Possessions: Laser Pistol, comm.-link; Wealth +14

"Expert" Crew

Smart Ordinary 4 / Fast Ordinary 3

CR 7; human; HD 4d6 plus 3d8; HP 28; Mas 10; Init +4; Spd 30 ft; Defense 22, touch 19, flatfooted 18 (+4 Dex, +5 class, +3 equipment); BAB +4; Grap +4; Atk +4 melee (1d3, unarmed), or +8 ranged (2d8, Laser Pistol); AL ConFed;
SV Fort +2, Ref +7, Will +3; AP 3; Rep +3;
Str 10, Dex 18, Con 10, Int 12, Wis 11, Cha 10

Occupation: Military (Navigate, Pilot)

Skills: Computer Use +8, Craft (Electronic) +8, Craft (Mechanical) +8, Craft (Structural) +8, Drive +8, Knowledge (Tactics) +8, Knowledge (Physical Sciences) +8, Knowledge (Technology) +8, Navigate +8, Pilot +8, Profession (Military) +8, Repair +8, Tumble +8

Feats: Armor Proficiency (light), Personal Firearms Proficiency, Simple Weapons Proficiency, Starship Operations (Superheavy), Starship Operations (Ultralight), Zero-G Training

Possessions: Light Combat Armor, Laser Pistol; Wealth +6

Colonel Octavia Abondio

Charismatic 6 / Soldier 2 / Field Officer 8

CR 16; Medium-size humanoid; HD 6d6+12 plus 2d10+4 plus 8d8+16; HP 102; Mas 14; Init +4; Spd 30 ft; Defense 20, touch 17, flatfooted 20 (+4 class, +3 equipment); BAB +12; Grap +4; Atk +13 melee (1d3+1, unarmed), or +12 ranged (2d10+2, Plasma Pistol); AL ConFed; SV Fort +11, Ref +7, Will +10; AP 10; Rep +6; Str 12, Dex 10, Con 14, Int 15, Wis 10, Cha 17.

Occupation: Military (Knowledge [Tactics], Survival)

Skills: Bluff +12, Diplomacy +20, Gather Information +8, Intimidate +20, Knowledge (Current Events) +9, Knowledge (History) +14, Knowledge (Tactics) +21, Listen +6, Pilot +5, Profession (Military) +18, Sense Motive +12, Spot +6, Survival +6, Tumble +4

Feats: Armor Proficiency (light), Armor Proficiency (medium), Leadership, Personal Firearms Proficiency, Advanced Firearms Proficiency, Simple Weapons Proficiency, Great Fortitude, Oathbound, Zero-G Training

Bonus Feats: Iron Will, Windfall, Point Blank Shot, Precise Shot, Improved Initiative

Talents: Coordinate, Inspiration, Greater Inspiration, Weapon Focus (Plasma Pistol) , Weapon Specialization (Plasma Pistol)

Field Officer Abilities: Leadership, Uncanny Survival, Tactical Expertise, August Leadership, Tactical Mastery, Commanding Presence

Possessions: Light Combat Armor, Plasma Pistol; Wealth +9

Marine

Tough Ordinary 6 / Fast Ordinary 2

CR 8; Medium-size humanoid; HD 6d10+12 plus 2d8+4; HP 58; Mas 14; Init +2; Spd 20 ft; Defense 23, touch 19, flatfooted 21 (+0 size, +2 Dex, +7 class, +4 equipment); BAB +5; Grap +7; Atk +7 melee (2d8+2, Concussion Rod), or +7 ranged (3d10, Plasma Rifle); AL ConFed; SV Fort +5, Ref +6, Will +2; AP 4; Rep +2; Str 14, Dex 14, Con 14, Int 9, Wis 10, Cha 10.

Occupation: Military (Knowledge [Tactics], Survival)

Skills: Balance +2, Intimidate +4, Knowledge (Streetwise) +1, Knowledge (Tactics) +5, Profession (Soldier) +4, Tumble +4

Feats: Advanced Firearms Proficiency, Armor Proficiency (light), Armor Proficiency (medium), Personal Firearms Proficiency, Simple Weapons Proficiency, Zero-G Training

Possessions: Medium Combat Armor, Concussion Rod, Plasma Rifle; Wealth +6

Additional Information

Brahma-class Boarding Shuttle

Though somewhat small and ungainly for a combat boarding craft, the Brahma-class shuttle (named after the Brahma Bull) was chosen for Invictus because it can use the same lifts, maintenance bays, and launch tubes as the Serena-class fighters. The Brahma is originally a civilian design created by Bishop Aerotech for short range cargo hauling, passenger transport, and ambulance duties. The military version adds armor and a turreted gun.

The large rear hatchway can iris completely open, allowing quick and easy access to the interior. All models have a universal coupling mechanism here. The boarding craft variant adds a ring of breaching lasers and extra sealing mechanism so that the craft can burn through a hull if needed. Note that the Brahma must back towards the hull to do this – it does not have a forward breaching laser, or even a hatch, in the front of the ship.

A typical run is done by accelerating full throttle to the half way point, then the Brahma is flipped around to finish the approach aft-first. The engines rapidly decelerate the ship while the breaching lasers soften up a section of hull for impact and penetration.

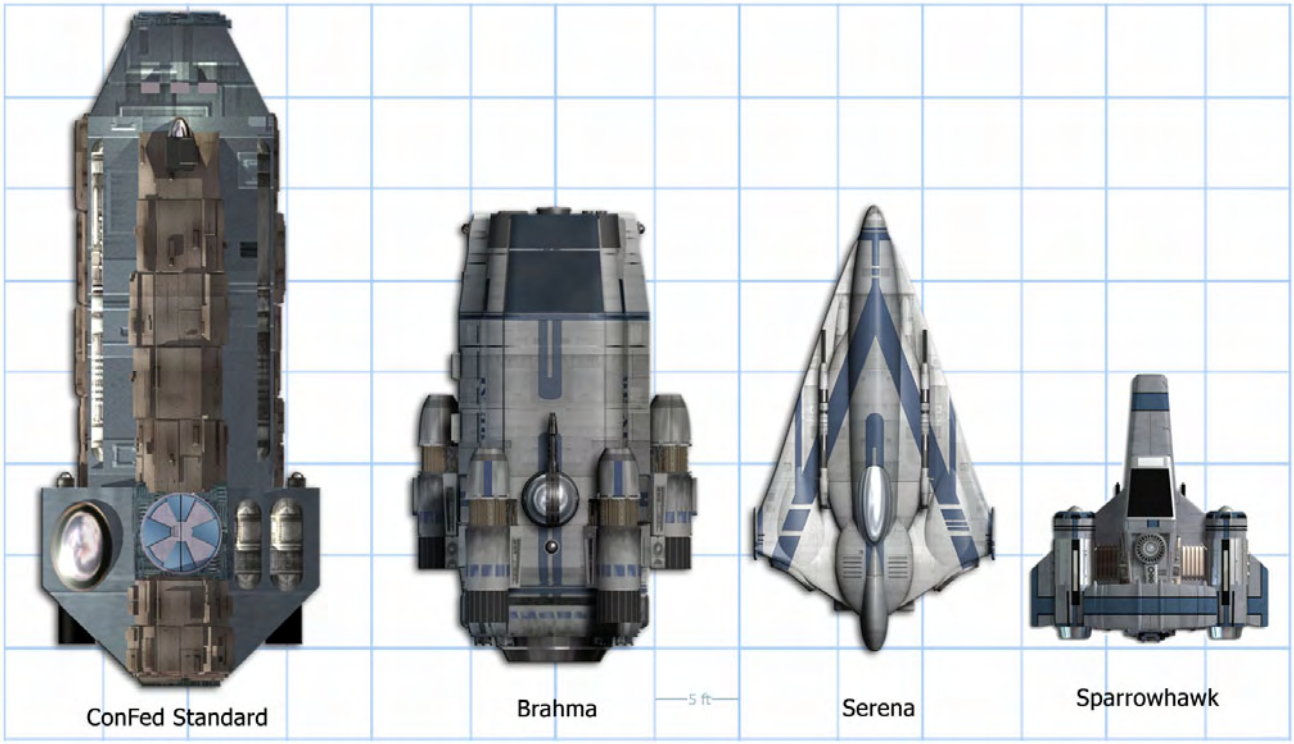
Serena-class Fighters

Invictus carriers the new Serena class fighter. While it employs the latest induction engine and mass transceiver technologies, its small size means that it cannot mount any weapons more devastating than lasers. Still, it is a very good ship for its tonnage.

The carrier's landing, maintenance, and launch facilities were designed specifically for this class of ship and are incompatible with anything much larger (though smaller craft work just fine).

Size Comparison

Below a Brahma and Serena are shown side by side for size comparison. For reference, a ConFed standard boarding launch and Sparrowhawk-class fighter are also shown. Though neither of these craft are generally carried aboard Invictus, the Sparrowhawk could easily use the same landing, maintenance, and launch facilities as the Serena. The standard boarding launch, with it's roomy interior and greater capacity, is too long to fit on the elevators which take ships from the landing bay to the maintenance and launch area.



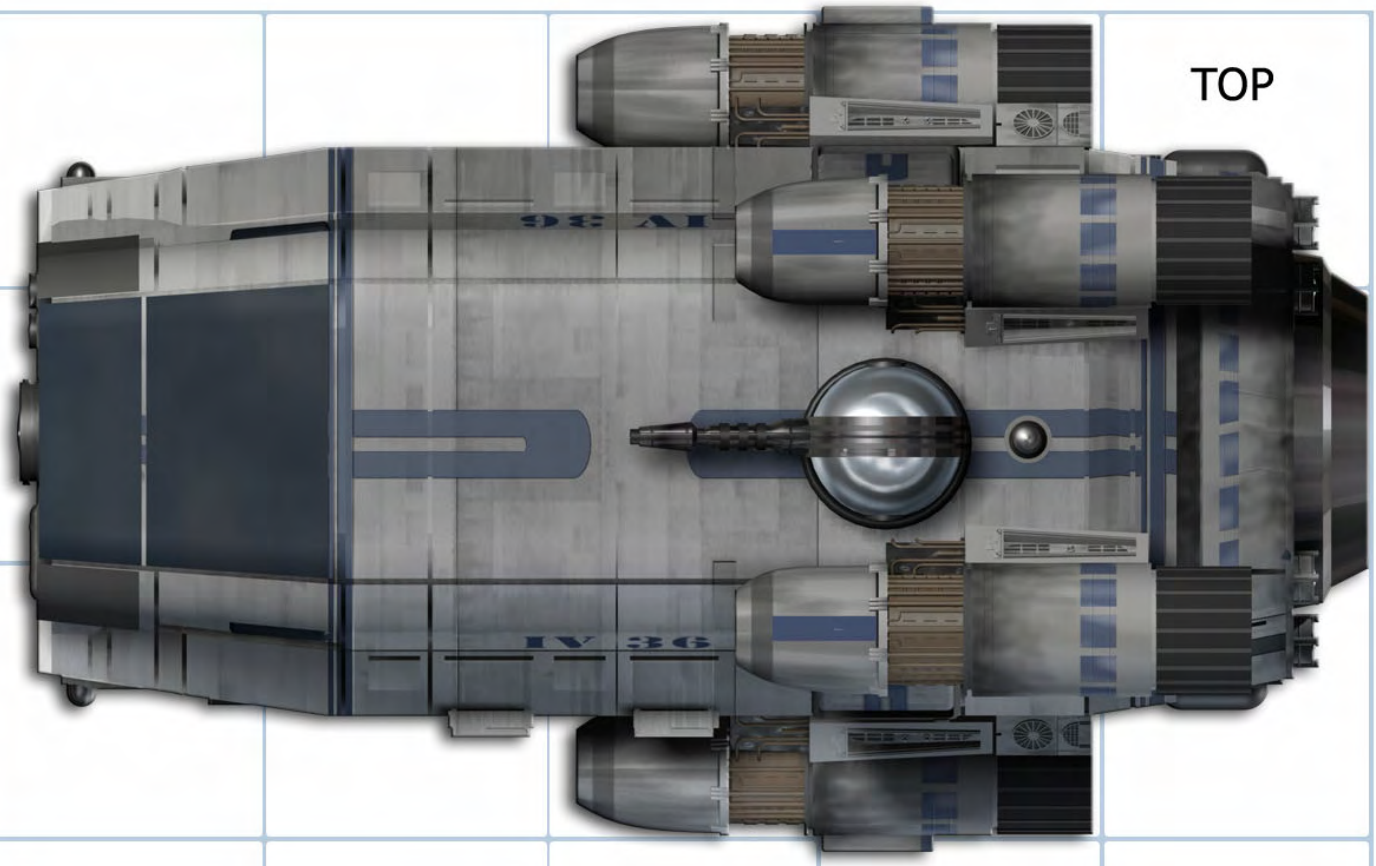
BRAHMA

(boarding shuttle configuration)

Progress Level	6	**Size**	Huge (-2 Size)
Type	Ultralight	**Tactical Speed**	3,500 ft. (7 squares)
Subtype	Boarding Shuttle	**Length**	24 ft.
Defense	17	**Weight**	32 tons
Flat-footed	13	**Targeting Bonus**	+1
Autopilot	8	**Crew**	1 Expert (+8)
Hardness	30	**Passenger Capacity**	4
Hit Dice	6d20 (120 hp)	**Cargo Capacity**	500 lbs.
Initiative	+4	**Grapple Modifier**	+8
Pilot's Class Bonus	+5	**Base Purchase DC**	44
Pilot's Dex Modifier	+4	**Restriction**	Military (+3)
Gunner's Attack Bonus	+4	**Grappling Systems**	none
Engines	Ion Engine, Thrusters	**Armor**	Vandium
Sensors	Class III sensors, Targeting System	**Communications**	Laser transceiver, Radio transceiver
Expert crew			
Defense Systems	Stealth screen, improved damage control (2d10)		
Weapons	1 turreted laser (range increment 3,000 ft) 1 set of breaching lasers (range increment 10 ft)		
Attacks	1 laser +3 ranged (6d8) or 1 set of breaching lasers (special)		
Attack of Opportunity	none		

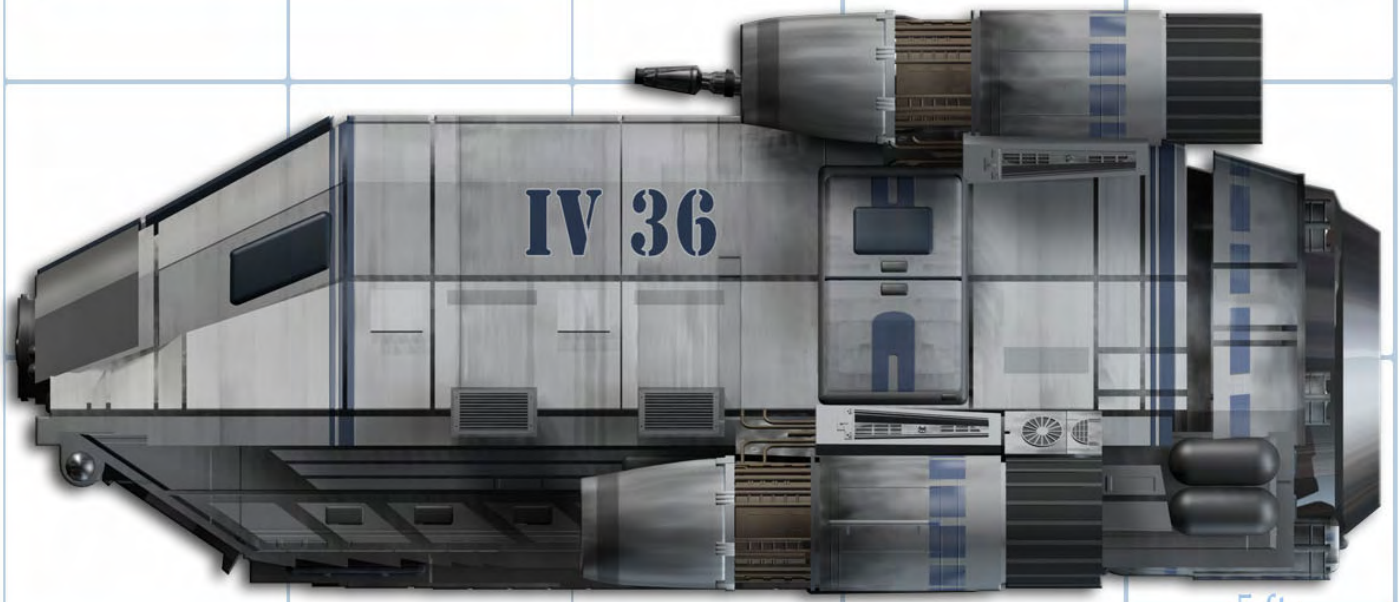
Breaching Lasers: These lasers can burn through a hull in 1 round per 10 points of hardness. Used in conjunction with the iris hatch and sealing mechanism on the rear of the shuttle, the breach will be air tight so long as the ships remain in contact. PL 6. Purchase DC 22 (Military)

TOP



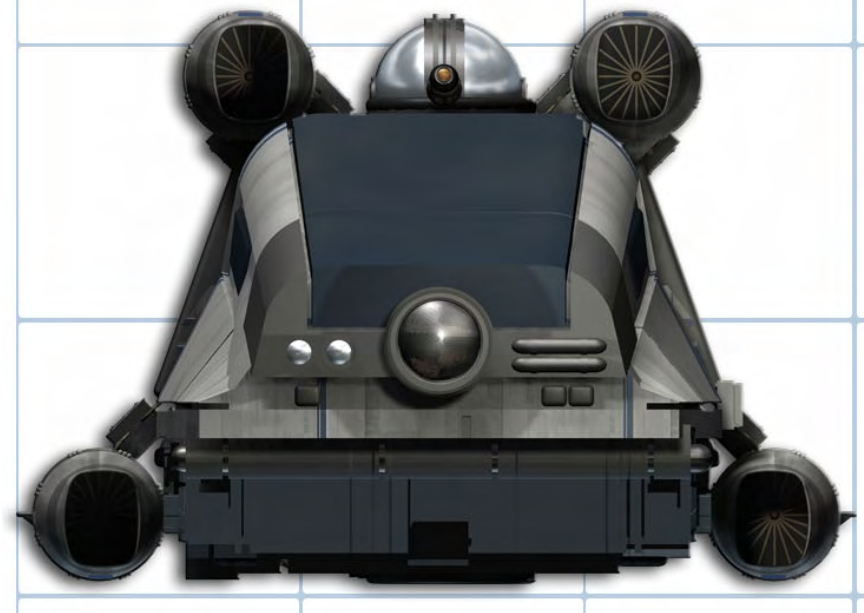
BRAHMA

SIDE

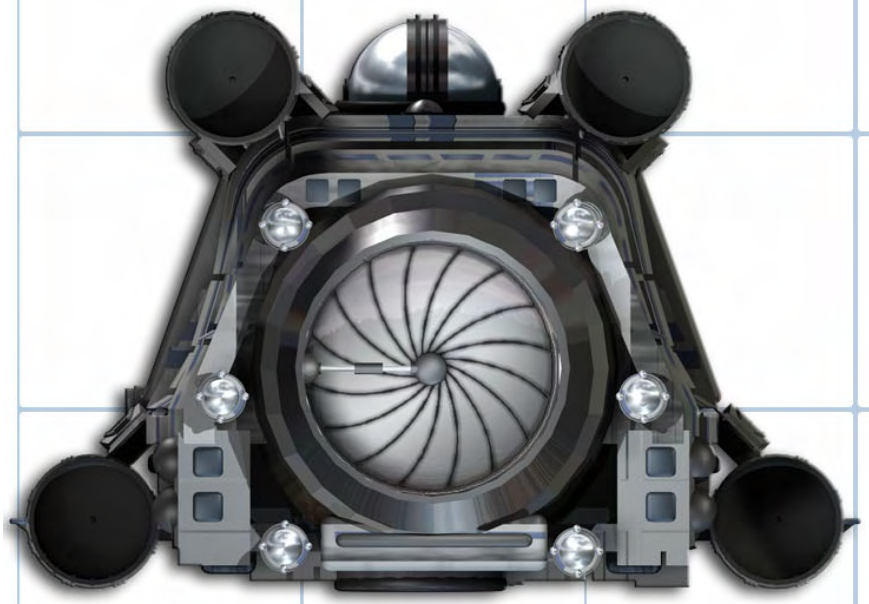


5 ft

BRAHMA



FRONT

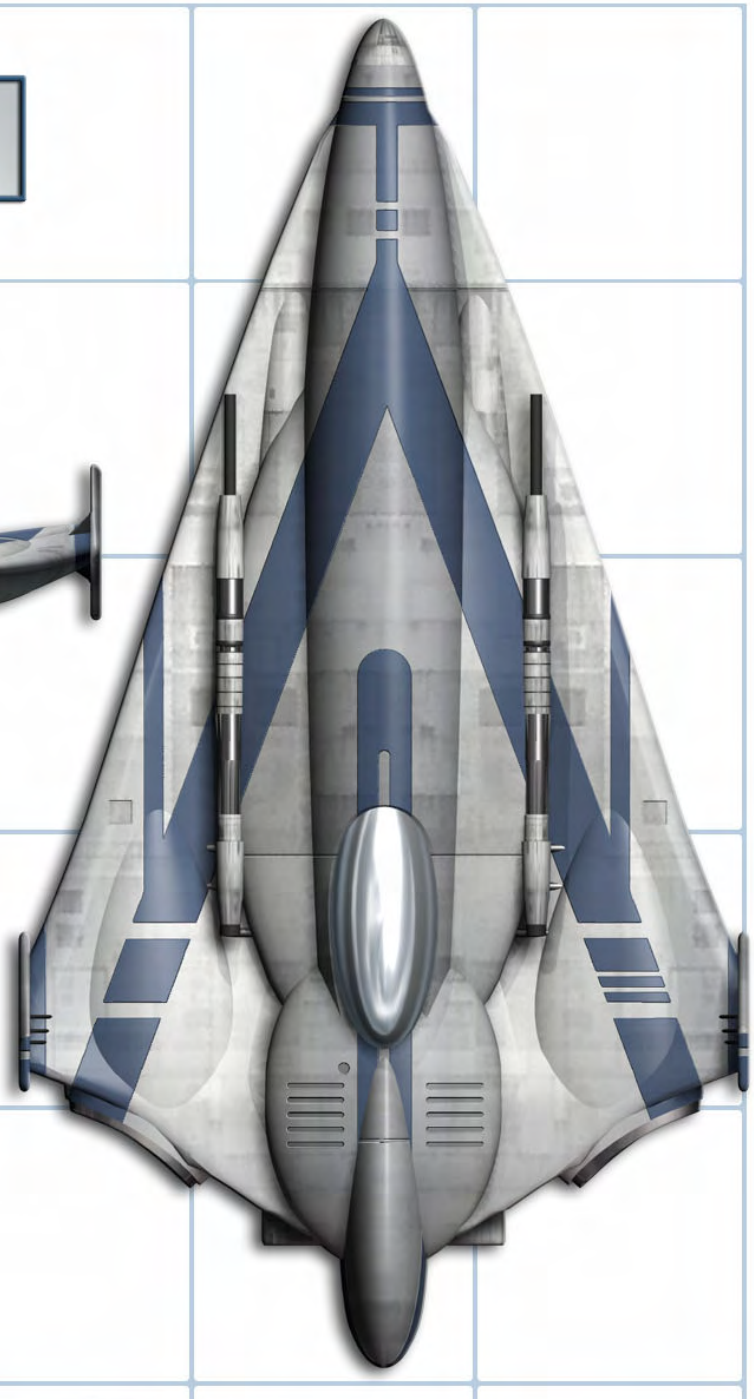


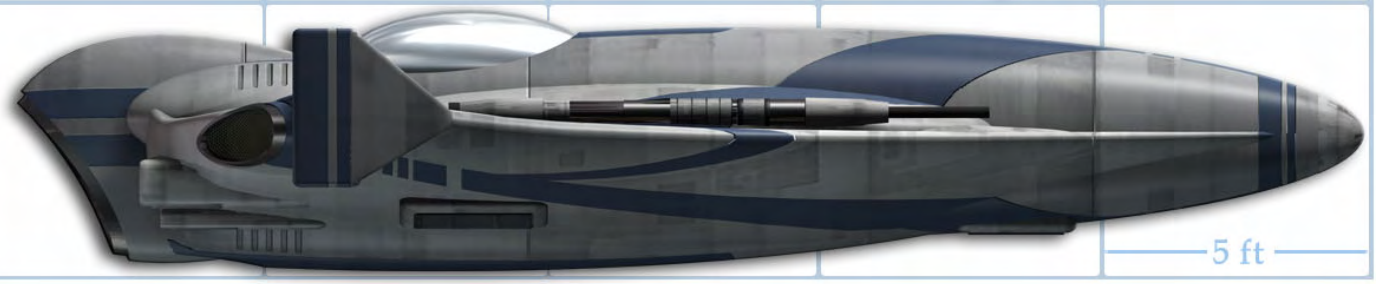
BACK

5 ft

SERENA				
Progress Level	7		**Size**	Huge (-2 Size)
Type	Ultralight		**Tactical Speed**	4,000 ft. (8 squares)
Subtype	Fighter		**Length**	24 ft.
Defense	17		**Weight**	20,000 lbs
Flat-footed	13		**Targeting Bonus**	+3
Autopilot	8		**Crew**	1 Expert (+8)
Hardness	30		**Passenger Capacity**	0
Hit Dice	7d20 (140 hp)		**Cargo Capacity**	50 lbs.
Initiative	+6		**Grapple Modifier**	+8
Pilot's Class Bonus	+5		**Base Purchase DC**	44
Pilot's Dex Modifier	+4		**Restriction**	Military (+3)
Gunner's Attack Bonus	+4		**Grappling Systems**	none
Engines	Induction Engine		**Armor**	Cerametal
Sensors	Class V sensors, Improved targeting system		**Communications**	Mass transceiver
Expert crew				
Defense Systems	Magnetic field, particle field			
Weapons	2 fire-linked lasers (range increment 3,000 ft)			
Attacks	2 fire-linked lasers +5 ranged (9d8)			
Attack of Opportunity	none			

SERENA





5 ft

Redundant Information

The following section contains data that is the same as that found in the *Argos III* supplement.

Sendai Component System

Much of the inhabitable area of Invictus was constructed using a prefabricated set of components, also called “blocks”. These are 35 ft by 45 ft areas roughly one and a half stories high (one block is a single 7x9 inch map page). They are sandwiched into a superstructure grid to form the habitation rings and central stack.

On Invictus both habitation rings are 3 blocks wide and 36 blocks long. Blocks are typically laid out in groups of 3 rows by 6 columns. This is a “subsector” in one of the rings (and is also what will easily fit onto one page at a decent scale).

The blocks within a subsector are identified by row and column as shown below:

A1	A2	A3	A4	A5	A6
B1	B2	B3	B4	B5	B6
C1	C2	C3	C4	C5	C6

Block Addresses in a Subsector

This is a top-down view of the subsector. For each habitation ring more subsectors would be to the right and left of this one, and windows would be along the outer edge of the A and C rows. The codes shown are used in addressing specific blocks in the given ring (and to help when organizing printed map pages). The area descriptions for each subsector reference these block numbers heavily.

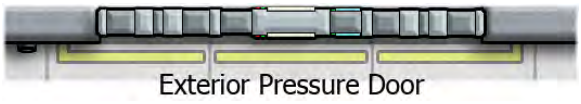
As an aside, the technology for constructing these blocks and the supporting superstructure has become known as the “Sendai Component System” because that company now owns the patents on the technology, though they were originally developed by ConFed government labs (and the government retrains limited rights to their usage).

Bulkheads & Pressure Doors

As the components are meant to be used in a vacuum, many come with emergency bulkheads. These are built into the walls at the edge of the block and close automatically (with appropriate warning sirens, flashing lights, and ominous countdown) in the event of serious depressurization.

On the character-scale maps, the bulkheads look like the adjacent image. The doors are thick steel, painted in black & yellow warning stripes, and are partially visible even when fully retracted into the walls.

There are also large pressure doors built into the side walls of some blocks. These were mainly used for construction but are still sometimes employed to deliver cargo or other equipment which is too large for the transit system.



Exterior Pressure Door

Unless there is a ship docked to the exterior, these doors open directly to the void. Because of this security is extremely high for these door. In addition to the codes entered at the door, remote clearance is required from the bridge as well. Even so, there is a warning siren and emergency bulkheads will seal if the sensor system detects vacuum on the other side of the pressure door. Similar doors allow cargo to be loaded and unloaded into the bays of the cargo decks.

Transportation Tube System ("T^2")

The Sendai Component System utilizes a unique mass-transit system to provide transportation between sectors and sections of the station. A complex system of automated tubes connects the various stops and people travel in through these tubes in transit spheres. The tubes are like elevator shafts except that they run in circuits and intersect each other through automated switching mechanisms such that any destination can be reached from a given stop. The transit spheres (described below) are akin to spherical elevators in that they carry groups of people along these routes.

The **T**ransportation **T**ube system is also known as Transit Tube system or the **T^2** (pronounced "T-square").

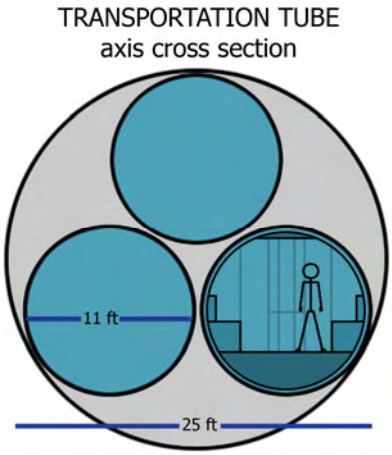
Transportation Tube Logo

A transit sphere has a stable inner sphere which serves as the cabin. It has a floor, seats, and destination controls like any advanced people mover. This inner sphere remains properly oriented with the current gravity (or acceleration) because the floor and equipment beneath is more massive than the air-filled passenger area. Encompassing the cabin like a metal shell is a thin outer sphere which can roll and reorient itself freely as the sphere moves along a tube.

Magnetic force is used to propel a transit sphere along a tube. It is also used to remove friction between the cabin and outer shell - the cabin actually hovers in the middle of the skin though there is less than a quarter inch of airspace between the two surfaces, and about half an inch between the shell and the tube wall. The outer surface of the cabin and the entirety of the skin are made of a special alloy that responds to the artificial magnetism used to power the system while shielding people inside from unwanted magnetic effects. This alloy is as strong, and opaque, as normal steel.

When the transit sphere reaches its destination, both the inner sphere and outer skin align so that the door areas in both match up with the doorway at the current stop. The Transportation Tubes do not have gravity generators installed so it is common to experience zero G during the trip. Various signs warn about loose items and possible disorientation.

The spokes of the habitation rings each contain three bundled T^2 tubes – one running spheres to the ring, one bringing them back, and a back-up tube used for maintenance, sphere storage, and shunting spheres during high traffic times. A transit sphere is 11 ft in diameter and the bundled set of three is contained in a cylinder 25ft across.



It takes less than half a minute to cross from one sector to another, and about a minute to travel the length of the ship.

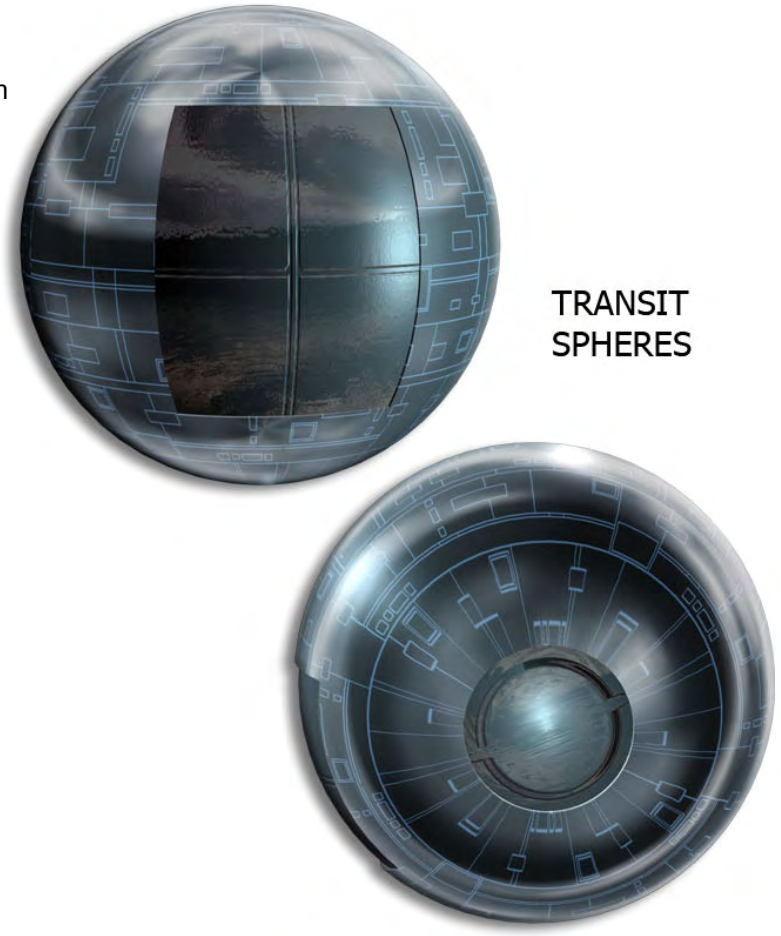
The tubes run the length of the ship even though the areas at the end are not always mapped out. In these cases, there is a remote transit stop (block Mi.06) surrounded by various machinery and equipment – most of it very large and complex. Assume that there are numerous maintenance crawlways leading off into the depths, but there is no life support beyond that initial block. Even getting the Transit Sphere to stop at such a location requires proper ID and authorization codes. All are under remote surveillance.

Ship Evacuation

There are only a handful of real lifeboats on the ship and these are located behind the main bridge. For the rest of the crew, the Transportation Tube System provides the primary means of evacuation. Of course it may also be possible to evacuate using any Brahma's, or other craft, still on board.

Each transit sphere can serve as a temporary shelter in the void. Beneath the seats and floor are atmosphere scrubbers, ration bars, and water tanks, as well as a distress beacon and simple toilet (which vents outside with no loss of atmosphere). When in good working order, a sphere can keep 10 people alive for 50 hours. These facilities can also be used if a sphere becomes stuck inside a malfunctioning tube or stranded due to a ship-wide power failure. The emergency kit also contains a lantern, communication unit, and small blowtorch (to create a doorway in the event that the inner cabin and outer skin are not properly aligned).

During an emergency evacuation, the loaded T2 spheres are just launched out of the bottom of the Transportation Tube and into space. Each sphere has a one-shot thruster in the bottom which can bring it to a near stop once well clear of the ship (overrides can be entered from the control panel inside the sphere). The spheres are otherwise without propulsion – meant to simply float in place and await rescue



TRANSIT SPHERES

Discus-class Lifeboats

These are the "real lifeboats" mentioned above. Each 13ft diameter disc has seating for eleven people. The power, supplies, and air scrubbers are sufficient to keep 11 people alive for 7 days. In addition to the usual distress beacon and radio transceiver, the craft also has an onboard autopilot that can handle travel to a nearby sanctuary or a single planetary landing. There is a built-in toilet facility but little in the way of privacy. Basic camping & survival supplies are stored beneath the floor, including a disassembled hunting rifle.

On Invictus, these lifeboats can only be found near the bridge.

DISCUS-CLASS LIFEBOAT

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