Collected By *OMEGA1967*

These notes from the web for Spacedock are useful and have significant purpose. I have used only a few in modifications but keep a copy of them with the pages of the Spacedock that I have printed in the use of constructing starships and space stations. Sorry, I don't have notes on who created some of them.

SPACEDOCK NEW & ALTERNATIVE TECH FROM THE NET

OK, guys, time for the first rules change (as opposed to clarifications, of which I've issued several).

Yeah, I know, I know, you're thinking, "That idiot Long! Damn book hasn't been out a week, and he's already changing it. What is he, a moron?"

As to the answer to that question, I plead the Fifth.

Anyhow, on to business. Pages 35-36 say that you can only put embedded nacelles on a ship of Size 4 or larger. That's being changed to any ship of ***Size 2*** or larger. I've already encountered three exceptions, from three different species, to the Size 4 rule, so clearly it makes no dang sense.

Now, just watch them put a Size 1 ship with embedded nacelles in the next movie, and make me change this rule *again*....

Steve Long

Regenerative Ablative Armor

SU Cost: Varies, see chart.
Power Cost: 3/Resistance regenerated

In 2377, Commander Trinity Zeldis of Eperion IV was order to reinforce the USS Covington's armor (the ship's captain had made one of those Freudian slips or something). The ablative armor had already been evaporated. The cybernetic priest reasoned that since he couldn't get out of the ship to weld more armor onto it, he would have the transporters set on a continuous transport sweep over the hull of the ship.

The Covington's transporters (4 six man, two 100,000 kg, and one 20 man emergency) were reconfigured and one of the computer cores programmed to continuously beam strips of armor over the hull.

Fortunately, Captain Revik had order the ship into a nebula to get a damage assessment which gave Trinity the chance to have all the systems reconfigured. When the ship emerged, it had a full complement of armor.

Ablative armor is bought as normal.

The addition of the regenerative system is bought thusly:

System SU Maximum Regen
Class I Size 20
Class II Size x 2 40
Class III Size x 3 60
Class IV Size x 4 80

Variable Hull Geometry (First seen in Star Trek Chronology of Spaceflight)

SU Cost: 5 per system (see text)
Power Cost: Size x 12 per change

The variable hull geometry system is actually "alive." The hull is composed of nanites that shift and move to allow a "path of least resistance" for warp field and shield maintenance. The nanites all come from the same world (that one where Wesley's nanites were sent). The nanintes are incorporated into various systems and integrate themselves into the system. This takes several months of learning time for the nanites to fully integrate and test out the functions of their new home. Once integrated, the tiny robots maintain a "zero" position shape. All following designs are variations on that theme.

Normally, the system is set up for maximum warp field efficiency or shield efficiency, but the system can be set to increase sensor efficiency, as well as other systems.
Warp lowers energy cost by 50%
Shields gain a theshold of +50%
Sensors increase bonus by 5
Component Repair 5 SU's a turn (requires power cost per turn)
PTC can transfer 50 more points of power And anything else your Narrator can think of.

These numbers can be altered so that maximum change is never more than five (fifty percent) ie. warp lowers energy cost by 20 percent, but increase threshold by 30%.

Components that need to purchase this system to be considered a variable hull are:

Outer and Inner Hulls
Resistance
Ablative Armor
Nacelles
ODN
Life Support
Personell Transportation
Shield Emitters
MVAM
Saucer Separation
PTC

The biggest down side for this is, each time the ships hull is altered (unless to 0-position), the ship as a whole takes 100 points of damage that cannot be repaired by this system and the various fields and resistances cannot stop it.

Both of these are currently being playtested. The Variable Geometry Hull has come close numerous times to being written out of the series it was originally tied to. Fortunately, most of the players were mature enough not to rely on it except in extreme emergencies.

Notes for starship advancements and designs of starships systems.

Warp Engines
The chart says it all, for 10 SU you go up to the next engine type for a power range of +50 to minimum and maximum. I see a new engine type coming out once every 2-4 years.

Impulse Engines
There really is no increase in speed, but for each additional 5 SU you get 8 more power.

Shields
Generators are Size x (maximum rating/200). Subtract 190 from the maximum and that is the standard strength for that shield.

Distortion Amplifiers just add a .5 x Size cost and increasing threshold range by 50.

Recharge system adds a .5 x cost and reduces recharge time by 5 seconds.

Quantum Torpedoes
Just follow the theoretical torpedo advances, but each additional type after the two listed adds only 150 damage.

Bio Neural Computer
2 x Size per core and 5 power per core. Simple, to the point. These are basically just advances in the genetics of the gel packs.

EMH
Mark V: 23 SU 7 Power +1 Emapthy (reducing the -2 to -1)
Mark VI: 25 SU 8 Power + 1 to each skill
Mark VII: 30 SU 10 Power +1 Empathy, +1 to each skill
All bonuses are cumulative from the Mark IV
Shipwide Integral Holographic Coverage
SU cost: to decide, I thought initially 1 SU/size, give me your thoughts
Power cost: 2 x size

In effect, this allows your ship's EMH to go pretty much where it wishes to, unless you cut off the Hologrid in your room, which I would do if I had a nosy hologram with complete freedom of movement on my ship. It also allows to create bigger simulations, install shipwide holographic personnel, although Starfleet tends to frown on this practice, (they prefer to send EMH I to do this). Not much in term of game effects, except you can always try to do the Picard trick in ST: FC if you're caught weaponless in while being boarded, or add it to external hologrid coverage to simulate the internal rooms, like USS Incursion.

Ensign Arrgh

Hydroponics/Aeroponics food production unit

SU cost: Size -1, can't be mounted on a pod (please, tell me where would it fit in a shuttlepod)
Power cost: Counts as 1 person per 20 units or fraction (always round up) in the life support equation, negligible on most ships.
Special cost: 45 cubic meters of cargo space for each person to feed. Don't count consumables as carrying food supplies, the replicator supplies are used for the hydroponics.

Ah! Real fresh food. It is a rare thing nowadays onboard a Starfleet vessel, but sometimes things go bad and the replicator doesn't seem anymore like the wonder machine it was thought it would be back in 2353. While most often Starfleet ships only jury rig Hydroponics systems onboard (USS Voyager being a good example) when the replicators either blow up in their face or are strained by lack of power, Replicator tech is not that old in the Federation and many powers around are still using a good ol' galley. This is a proposed ship's system to represent that fact. Essentially, no power is required to run the galley, but if you want to try to

pump their generators during a fight, I'd say you are lucky or lying if you manage to power a type 1 phaser with them.

If you have a jury-rigged Hydroponics system, meat will be harder to come by, unless grasshopper roast à la Neelix suits you, but if you are lucky enough to have it as standard, or well installed in a yard or a well-equipped dock, you could be lucky enough to have them produce fish, rodents, hare, or anything with such good production rates, for only 15 additionnal cubic metres of cargo space lost. For the milk products, part of the hydroponics serve just that purpose, through the use of recycled bones from animals, various plants and a set of tanks which simulate the fabrication process of milk in an animal body, it is produced in small doses, but sufficiently for an average being.

Of course, the main problem with them is their potential vulnerability to various biological problems and the few peoples added to service the hydroponics and galleys effectively. In terms of creature comfort, even the biggest hydroponics bay will not be able to accomodate more than a thousand various recipes using more or less the same basic ingredients, therefore, train your pallate in the subtlety of various flavours of dressing and spices, and you will forget about this limitation. The point cost only includes the installation of galley sections in mess halls, with no food teleportation or turbolift system, you'll just have to go get it yourself, or have your personnal tray set with a short range personal transporter locked between the galley and your room, assuming it has been invented...

Is it overly superior to food Replicators, or do you feel that it's O.K., I'd like your comments

By the way, the cargo area is using standard SD rules, I use a figure of 6 cubic meters (+2 for the pisciculture upgrade) and have toned down cargoes to something over 10%. David

Last edited by Ensign Arrgh : 09-28-2002 at 12:16 PM.

Ablative Armor

Normal deflector shields can be converted at a cost of 1/2 x Size SU's per shield generator (for the additional equipment). To generate the armor requires an expenditure of energy equal to the normal cost of generating the shields and requires one turn to fully deploy. Once deployed the armor requires only half the power cost of normal deflector shields to maintain. The resulting suit of armor is treated as a unitary deflector shield with a Protection and Threshold equal to four times its normal shield strength (so a ship with Protection 900 and Threshold 300 shields can generate a suit of armor with Protection 3600 and Threshold 1200 for example). The armor is treated as a normal shield except for the following: An opponent cannot shoot through shield junctions (the armor is unitary with no seams)(Exception: an opposing Tactical officer can target an exposed section of the ship like a phaser strip that just fired at a suitable penalty to bypass the armor). The armor does not use frequency modulation and cannot be bypassed using this method. Regenerative shield generators cannot be used to restore points of lost armor.
If the damage to the armor exceeds its protection, the armor collapes and must be restored like a normal shield. Also if a shield generator is destroyed, any armor it currently wears is not affected but any future armor generated loses one-quarter of its Protection and Threshold per generator destroyed.
Okay, there's my idea. What do you think?

Maybe a special version of metaphasic shields with these adjustments: No shield junctions 1.5 x shield cost to generate, Normal shield cost to maintain. (few ships have the capacity to generate 2 x shield energy) Regenerative systems works as for normal shield (stiffening up weak armor). Torpedoes can be fired without penalty, but phaser arrays suffer a -1 penalty to their test roll to hit. How does that sound?
Highway Hoss

Aero/Hydroponics decks

---SU Cost: Size - 1
---Power Cost: One person per (Crew + passengers)/20, rounded up on the Basic Life Support Table.
---Aero/Hydroponics decks serve many purposes, from botany laboratory to source of fresh produce, to recreation for crew members looking for a green sanctuary in the midst of their metallic environment.
---Only ships of Size 3 and larger may have Aero/Hydroponics decks.
---Example: *An Aero/Hydroponics deck on an* Enterprise-*class heavy cruiser (a.k.a the Constitution re-fits) would cost 5 SU's* [6 - 1] *and cost 4 power per round* [(500 + 66)/20].

Paraphasic Torpedoes

SU Cost is normal for a torpedo/probe.
Power cost is 2 more per torpedo in addition to firing cost.

A paraphasic torpedo is any torpedo (photon or quantum) that is surrounded by a polaron field within the warp bubble. This polaron field forces the target out of warp and the resulting relativistic speeds between torpedo and ship "shoves" a hole

through the target's hull, planting the destructive force of the torpedo within the target.

The target's warp speed is turned into damage based on xd+x where x is the warp at which the target is travelling. This damage is used only to determine shield and hull penetration. Any excess damage is not calculated. The tropedo then explodes for normal amount of damage times 1.1 (a 400 point torpedo thus does 440 points of damage).

Been a year to the day since anyone lasted posted to this topic. Anyone else have a new system they thought up in that time that they would like to share?

FUSION BATTERIES

SU Cost: 1 SU per battery
Power Cost: None

Many support craft that vessels rely on are too small to utilize the standard power production systems. These support craft must depend upon fusion batteries to provide power for their operation. Each fusion battery occupies 1 SU and generates 2 points of power per round.

Only small craft, size two or smaller, may use fusion batteries. Fusion batteries are not practical for larger vessels.

Example: A size two travel pod uses 16 fusion batteries to provide power. This costs 16 SU's, and provides 32 points of power per round.

The Deep Space Nine Technical Manual notes that many standard probe designs have been updated from their previous levels (that is, Season 3 Star Trek: TNG). Here are my proposed game rules (Steve?)

UPDATED PROBE LISTING

Class I (Product Improved)
The Class I probe is designed to study stellar phenomenon. It is equiped with an 24.3 kiloquad isolinear processor. Some variants can be given low-observability coatings (Cloak 2).
Speed: .6c
Range: 320,000,000km
Long/Lateral/Navig.: -/+3/-
Stealthed Variant: Yes

Class IV (Product Improved)
The Class IV probe is designed to study unsual subspace and stellar phenomenon at high-impulse speeds. It is equipped with an 15.9 kiloquad isolinear processor.
Speed: .98c
Range: 723,000,000km
Long/Lateral/Navig.: -/+3/-
Stealthed Variant: No

Class V (Product Improved)
The Class V probe is intended as an stealthy long range reconnaissance system. It is designed for low observability on any known or projected Threat sensor system (Cloak 3). It is equipped with an 54.7 kiloquad isolinear processor.
Speed: .9c/Warp 2.6
Range: 842 billion km
Long/Lateral/Navig.: +3/+4/-
Stealthed Variant: Always

Class VIIIa
The Class VIIIa is a redesigned version of the old Class 8 probe using an quantum torpedo casing and more advanced sustainer engines. The actual sensor pallet is usualy optimized for one or two specific applications.
Speed: .993c/Warp 9+(max delta-v classified at Omega level)
Range: 100 ly
Long/Lateral/Navig.: +2/+3/-
Stealthed Variant: Yes

Class IXa
The new Class 9a also uses an more advanced quantum torpedo shell. It can only be fired from quantum torpedo tubes.
Speed: .993c/Warp 9+ (max delta-v classified at Omega level)
Range: 900 ly
Long/Lateral/Navig.: +1/+3/-
Stealthed Variant: Yes

Cargo ships

As I have said before, the Spacedock rules are a wonderful thing, and specificly the cargo rules work fine for Starfleet vessels.

However, when designing a transport ship, certain ... anomolies crop up.

This is made worse by the fact that cargo ships tend to be smallish. The largest we've seen on-screen was about 340m long, I'm pretty sure. The typical Cardassian Freighter is about 240m, and the other freighters tend to be about that size.

So, a Size 6 freighter is pretty big, and Size 5 is much more common. The Antares Class is Size 3.

This all ties in to a post I made in December. I'll quote it here: "In other sillyness, Size Classes of ships are given (guideline) outer dimensions, and Cargo Bays are given a stated volume. The sillyness comes in when you realize that a Size 1 ship can have (theoretically) up to 325 cargo bays, each of

which is about 1000 times larger than a Size 1 ship. TARDIS, anyone?"

And that's my problem in a nutshell. The rules work fine for a ship that is not going to devote the majority of it's space to cargo, but for a dedicated cargo ship it becomes entirely possable for the cargo area to be larger than the ship. I mean, a Size 5 ship of maximum dimensions is the size of 44 SU of cargo bays (actually 43.953), but has a minimum of 900 SU to fill. Remember, giving this ship 44 SU of Cargo Bays means it can actually carry more cargo than it has volume.

Anyway, in the SRM thread I said I'd post my concerns, and now I have.
(PS: Spyone has been known to push any system to it's absurd limits. In BTRC's VDS vehicle rules, reverse-engineering a TNG Impulse Fusion Reactor revealed that it had been constructed at TL 122,000. The rules are only good up to TL 20.)
Spyone

I was trying to design some civilian merchant ships, just for fun, and I ran into this problem as well. The 'value' (in terms of volume) of a single SU seems to go up as the size of a ship goes up. So, one SU on a size 10 ship seems like it would be able to contain more volume than one SU on a size 1 ship.

So I whipped up a quick little table, which gives the amount of Cubic Meters of cargo space than can be purchased per SU spent on cargo space, depending on the size of the ship.

Ship Size	**M^3 of Cargo Space per SU**
1	.5
2	1
3	2
4	5
5	10
6	25
7	50
8	60
9	75
10	100

It's rather arbitrary, but at least it differentiates between the two ends of the ship size spectrum. Also, this would probably work best for cargo ships and merchant ships, in which cargo space is a real issue.
[This message has been edited by Pete (edited 08-03-2001).]

Fusion Reactors

Class	SU	Power
Aux.	3	5
Beta	7	15
Alpha	13	30
1	21	50
2	36	90
3	51	130
4	66	170
5	81	210
6	111	290
7	141	370
8	171	450
9	201	530
10	231	610
11	276	730
12	321	850
13	366	970
14	411	1090
15	456	1210
16	516	1370
17	576	1530
18	636	1690
19	696	1850
20	756	2010
21	831	2210
22	906	2410
23	981	2610
24	1056	2810
25	1131	3010

[This message has been edited by Makklor (edited 01-22-2001).]

Creating Ships in the Pre-TOS ERA

Okay, to be 100% honest, I have no idea what I am doing. I have always loved the beginning of the Federation time period. So here is my first attempt to adapt some Spacedock rules and charts for constructing ships for this period. This is just my humble try at adapting some things to Steve Long's incredible work. Some of my material is based on the FASA supplement on the Romulan War (Chris Stansbury has adjusted my work to fit the information developed in the Starfleet Museum section of ex-astris-scientia . In other parts, I have just tried to guess at what might be appropriate. In general, I have assumed that the ships of this time are at least three times as primitive as current vessels. I most certainly invite criticism (be gentle) and any changes that might make it easier for all of us to create ships from the mid -2100's. Like many of us, I am also patiently awaiting Steve's TOS SRM! I will be placing a few Federation and Romulan ships up in a few days.

The way this works:
-Just follow Spacedock as usual, but refer to these special details when they are applicable.

I would suggest using the lowest number of SU's for each size.

It might be even better to try and use ¾ of the minimum SU's for each size.

Resistance of 1 for shuttlecraft - Resistance of 2 for starships.

Structural Integrity Fields

Type	SU Cost	Protection
Type I	6 + Size	10 / 20
Type II	8 + Size	20 / 30
Type III	10 + Size	30 / 50

Nacelle Table

Type	SU Cost	Speeds
Type I	10	1.0 / 1.5 / 2.0
Type II	15	1.0 / 2.5 / 3.0
Type III	20	1.5 / 3.0 / 3.5
Type IV	25	2.0 / 3.0 / 3.5
Type V	30	2.5 / 3.0 / 3.5

Plasma Injector System

Type	SU Cost	Duration at Max Warp
Type I	2	4 Hours
Type II	4	6 Hours
Type III	6	8 Hours

Chemical Impulse Drives (for very small, sub-light craft)

These drives make them the fastest things at sub-light. However, their duration at such speeds is very limited. Such craft powered by chemical impulse drives would need to be stationed where they could receive constant maintenance and refueling.

Type	SU Cost	Maximum Speed
Type I	5	.45c
Type II	10	.65c
Type III	15	.75c

Fuel for Chemical Impulse Drives

Duration at Maximum Speed	SU Cost
2 hours	10
4 hours	15
6 hours	20

Fusion Impulse Drives (For use on starships)

Type	SU Cost	Maximum Speed	Power
Type I	5	.10c / .20c	6
Type II	10	.10c. / .20c	12
Type III	15	.25c / .35c	8
Type IV	20	.25c / .35c	16
Type V	25	.30c / .35c	12
Type VI	30	.30c / .35c	20

Warp Drive Systems

Type	SU	Cost Power Generated
Type I	20	10-99
Type II	30	100-149
Type III	40	150-199

Emergency Power System

Type	SU Cost	Power Generated
Type I	5	5 power / round
Type II	10	10 power / round
Type III	15	15 power / round
Type IV	20	20 power / round

Long-Range Sensors
Type SU Cost
Type I (1) High Resolution: 1 light year (.25/.26-.50/.51-.75/.76-1.0)
Low Resolution: 4 light years (1/1.1-2/2.1-3.0/3.1-4.0)
Type II (2) High Resolution: 2 light years (.5/.6-1.0/1.1-1.5/1.6-2.0)
Low Resolution: 6 light years (1/1.1-2.5/2.6-4.0/4.1-6.0)
Type III(3) High Resolution: 3 light years (.5/.6.1.0/1.1-2.0/2.1-3.0)
Low Resolution: 8 light years (1/1.1-2.5/2.6-5.0/5.1-8.0)

Beam Weapons
*I am pretty sure that Scotty "charged" up phaser banks in TOS.

In STTMP, it was announced that the phasers take power directly from the warp drive now (when they went into the wormhole). I don't know how to account for this in the Spacedock supplement. I have used the first three lasers from Spacedock, but I have reduced their range.

Lasers (Particle Beams)
-All are only capable of: 1 Shot Per Round Standard Firing Mode.

Type	SU	Cost	Damage Range
Type I	2	20	5/10,000/30,000/100,000
Type II	4	40	5/10,000/30,000/100,000
Type III	6	60	5/10,000/30,000/100,000

	SU's	
Type I Accuracy	0	6/7/9/12
Type II Accuracy	2	5/6/8/11
Type III Accuracy	3	4/5/7/10

Disruptors
-All are only capable of 2 Shots Per Round Standard Firing Mode Only.

Type	SU	Cost	Damage Range
Type I	2	20	3/7,000/20,000/70,000
Type II	4	40	3/7,000/20,000/70,000
Type III	6	60	3/7,000/20,000/70,000

	SU's	
Type I Accuracy	0	6/7/9/12
Type II Accuracy	2	5/6/8/11
Type III Accuracy	3	4/5/7/10

Missile Weapons
-Apparently, fans are not exactly of one mind whether the Federation has some sort of Photon Torpedoes during this time period. So, I have put together a chart for a primitive type of Torpedo Launcher and another for rockets / missiles.

Rockets / missiles should be faster than the fusion impulse drives that starships use. However, their accuracy is less than that of Photon Torpedoes. As a compensation, rockets / missiles can often pack a much greater wallop.

Type of Launch Tube Spread SU Cost Power Cost
Small Missiles 3 5 1 power / rocket fired
Medium Missiles 2 5 3 power / rocket fired
Large Missiles 1 15 6 power / rocket fired

Special rules for Large Missiles
Large Missiles can also be magnetically attached to the hull of some ships. Thus, many ships will not have large missile launchers. It takes three rounds for a missile so attached to a vessel to really get going. Therefore, it is most vulnerable during these three rounds. A large missile can be considered a size 1 ship with a resistance of 1. If the firing ship receives sufficient damage while the missile is in flight, the weapons officer must make a challenging roll to keep it on target.

SU Cost Damage Accuracy
Small Missiles 12 rockets / 1 SU 10 6/7/9/12 5/15,000/35,000/50,000
Medium Missiles 4 rockets / 1 SU 35 5/6/8/11 10/30,000/70,000/100,000
Large Missiles 1 rocket / 10 SU 80 4/5/7/10 15/60,000/140,000/200,000

Primitive Photon Torpedo Launcher
SU Cost: 5
Power: 5 Power / Torpedo Fired
Range: 10/20,000/60,000/200,000
Accuracy: 5/6/8/11
*Primitive photon torpedoes can travel up to warp 1.0 for duration of their range.

Deflector Shields

The assumption here is that they are a very new technology and not very efficient. Let's say that in this primitive era "shields are shields" - no need for details on shield grids. Why don't we also say that Standard Federation shields recharge in 60 seconds (12 rounds)? There are no backup deflector shields. Because they are a new technology, I think they should cost a substantial amount of SU in this period.
Type: Type 1
Protection: 10-100
SU Cost 1 x Size (+1 SU for every 10 points of protection above 10) Threshold: .33 of maximum Shield Protection (round up)

Single Use Warp Engines (& Nacelles)

For ships that use single-use warp engines/drives (like the Romulans and Andorians of that time period), two things need to be done. First, these ships do not "purchase standard nacelles, warp drive, or a Plasma Injector System. Single use warp nacelles/drives do not provide power to the ship – only warp speed. These ships do need additional hull modifications to accommodate a "disposable" warp nacelle. Secondly, they must choose the type of single use warp drive.

Single-Use Warp Drive/Nacelle
Type Outer Hull SU's Warp Speed
I 4 x Size 1.0 / 3.0
II 6 x Size 1.0 / 5.0
III 8 x Size 1.0 / 7.0

Fusion reactors: This system is based on the discussion about Space Station systems.

Fusion reactors have about 45 percent the efficiency of a M/AM power system. Their saving grace is the fact that they are more stable and less prone to large scale explosions if damaged.

Unit Size		(SU)	Power
Class 2/sA	10	20-29	
Class 3/sB	20	30-39	
Class 4/sC	30	40-49	
Class 5/sD	40	50-59	
Class 6/sE	50	60-69	
Class 7/sF	60	70-79	
Class 8/sG	70	80-89	
Class 9/sH	80	90-99	
Class 10/A	100	200-224	
Class 11/B	110	225-249	
Class 12/C	120	250-274	
Class 13/D	130	275-299	
Class 14/E	140	300-324	
Class 15/F	150	325-349	
Class 16/G	160	350-374	
Class 17/H	170	375-399	
Class 18/I	180	400-424	
Class 19/K	190	425-449	
Class 20/L	200	450-474	
Class 21/lA	250	570-599	
Class 22/lB	260	600-629	
Class 23/lC	270	630-659	
Class 24/lD	280	660-699	
Class 25/lE	290	700-729	
Class 26/xA	350	740-779	
Class 27/xB	360	780-819	
Class 28/xC	370	820-869	
Class 29/xD	380	870-909	
Class 30/xE	390	910-939	

Docking clamps:
This are standard docking clamps that hold crafts by enclosing parts of the hull structure with a combination clamp/tractor beam system. The clamp holds an extendable airlock assembly. The biggest crafts that can use this style of docking system are Size 6 crafts. This is due to area required and the strength of the holding beams. Furthermore the station needs functional navigational sensors. A typical example are the docking clamps on the ring section of DS-9. The ship is physically locked by the clamps with the tractor unit as an assistance for docking and stabilising. The structure is divided in a basic control module handling up to two approaching ships simulatiously and the docking system with clamps, traktor beam and airlock. Ships above one million tons can not use this docking port due to the stress put on the supporting clamps.
Basic control module:
6 SU / 3 Power (Comm System Typ I / Gamma, Level I, Coordination I Auto Pilot)

Docking Port:
13 + Maximum Size * 0.5 SU / 16 Power (Airlock for five persons, Clamps, Delta Class Tractor beam restricted to level 5, Power / Data lines)

Docking arm:
This are larger constructs combining a heavy duty cargo loading/unloading system with a docking facility. They are officially known as Cooperative Docking Systems as they expect the ship to have a working station keeping system, assisting the docking unit. On the other hand ships up to nine million tons can be fixed by the twin tractor systems if neccessary but this puts a high drain on station power systems and the ships hull.

Basic control module:
24 SU / 9 Power (Control room, Nav Sensor Class 4/Beta, Comm System Typ I / Gamma, Level I, Coordination I Auto Pilot, Class II Control computer)

Docking Port:
25 + Maximum Size * 1 SU (+ 5 SU for fright airlock) / 61 Power (5 Person Airlock, Clamps, Twin Class Delta Tractor Beams, Power / Data Lines)

Carrier Spacecraft Systems

Unlike normal Auxcillery Spacecraft Systems, Carrier Spacecraft Systems are much more massive and require more internal space. Thus only ships of size 6 and larger can have Carrier Systems onboard. Further the builder must decided between Auxcillery and Carrier system as a ship can not posses both.

FLIGHTDECK
SU: cost 2 x combined size of ships which can be stored

Unlike a shuttle bay a Flight Deck is design for one purpose, launching spacecraft, nothing else. Further the flight deck is where spacecraft are readied for there missions by a large contingent of Flight Deck crew who are organized by their jobs, Launch personal, ordnance and etc. While it is possible for craft to land on the flight deck most recovery operations are carried out on the Recovery Deck.

A typical Flight Deck will be able to accommodate Two-thirds of the carriers full spacecraft complement, usually 80 points worth of spacecraft at one time on large fleet carriers. Further the Flight Deck actually launches by means of power assist devices (called a Catapult though the device is much more complicated) which cost 1 power per craft launched. A Flight deck can launch as many craft as its size, for example a size 6 carrier is capable of launching 6 craft at one time.

A Typical Spacecraft launch Takes 30 minutes from the moment the craft is brought up from the Hanger Deck (which see) to Launch.

A Flight Deck is constructed in the same manner as a Shuttle Bay.

SPACECRAFT FIRE SUPPRESSION & RESCUE SYSTEM

SU Cost: 2 x Size
Power Cost: 3 power/used/round

Due to the nature of Flight operations all Carrier Spacecraft Systems have a self contain Fire Suppression system capable of flooding the entire spacecraft system decks or part of with UHE (Ultra High Expansion) Foam capable of retarding even plasma fires. There is also a larger dedicated system for manually fighting deck fires and for rescue of trapped pilots in crashed spacecraft on the deck. These units are spread through out the various decks. The System requires 3 Power per round when in use. Once a Deck is flooded it remains so until Computer sensors measure that sufficent amounts of heat has been vented or cooled.

HANGER DECK

SU: cost 2 x combined size of ships which can be stored + 10

This is a large deck design for large repair of spacecraft and their general maintenance requirements. It is capable of holding, like the flight deck two thirds the full compliment of the carriers spacecraft. There are also many specialized rooms for specialized repairs, temporary ordnance storage and emergency space for evacuation needs.

A Typical Hanger deck cost 2 x combined size of ships which can be stored + 10. Another function of the Hanger is the refilling of the small deuterium tanks of spacecraft which while allowing long use usually require refilling at least twice during high tempo spacecraft flight operations, usually after 15,000 hours of service. The time required for such operation is usually 15 minutes per size of the ship i.e. a size 2 spacecraft requires 30 minutes to refill.

RECOVERY DECK

SU Cost: 2 x combined Size of ships which can be stored

The opposite of a Flight deck the Recovery deck unlike its Shuttle Bay counterpart is design for non-tractor beam landings. It is the pilots job to land the craft using a multitude of devices such as reverse thrusters, mag locks and even as an emergency arresting wires. The bonus to this is that recovery operations require no power but is the most dangerous operations in all of Starfleet, usually meaning a Spacecraft or Ground Vehicle skill test at a difficulty of 7.

A Hanger deck is usually built to accommodate one half of the Carriers full compliment at one time and can recover 2 craft per every minute of operations. But this is not the only method of figureing out the size of a Recovery Decks for example on larger Fleet carriers such as the Foch Class there are two Recovery Decks which can accommodate one forth of its compliment but can recover four craft per minute.

ELEVATORS

As most of the Decks are located above one another they are connected by a large system of elevators. These elevators can usually at least accommodate a size 1 spacecraft. However large ones on starbases and stations do exist. Its takes one minute per every three decks lifted up and 30 seconds to go down 3 decks.

Each elevator cost 2 SU per 1 Point of Spacecraft lifted at one time, up to a max of 6 points worth of spacecraft (6 SUs). A Typical Elevator

such as the four man ones on the Foch can carry either 2 Size one Spacecraft or 1 size 2 Spacecraft. However the Foch also posses two elevators to lift a size 3 spacecraft. Power cost is 1 Power per round used per every 2 points of spacecraft lifted.
[This message has been edited by Eric R. (edited 01-01-2001).]

Launch Tubes: SU = 5 x size of largest craft launched. Power = 2 x largest craft launched. Launch tubes require a flight deck and their own independant intertial damper system.

Launch tubes are the starfaring version of the old "wet navy" steam catapault, and are used to launch a large number of fighters in a hurry. This system uses a large magnetic impeller system similar in design to the standard torpedo launcher. A given launch tube can launch up to five fighters per turn (at a rate of 1 fighter per second) until their holding bay is emptied. The standard holding bay will hold up to ten fighters at launch ready status.

Launch tube holding bay
SU = 2 x largest size serviced x number serviced.
power = none

Balcony launch system
SU = (size of carried craft +2) x number of craft.
Power = 1 per craft.

This system requires the use of a flight deck. This is an alternate arrangement for carrage of fighters and similar vehicles on dedicated carriers. In this system, each fighter is launched from its own "bay". The fighters are recovered normally, and are moved into their bays (after being serviced) by an internal crane and gantry system.

This system is capable of launching its entire complement of fighters in a single turn.

Ablative Armor Generators

Since the generators in the show seemed to be mostly extenal and they did not have a very hard time installing them I make them to be size X1. The effect is to treat the shields as metaphasic. I realize that may seem like a strange way to represent armor, but I tend to view the armor generators as being holographic, the armor is actually an energy matrix generated off the shields by the armor generators.

At least that's how I explain why they are called generators, and it fits with the kind of tech they have on Star Trek.

No comments from the soapbox? Maybe everyone got scared off by the fish and frog fracas. Oh well if you want to do something right...

Ok, here's an idea. Since in "Endgame" ships with the armor did not use shields, I will assume the AAG's are actually modifications to the shield grid. The so-called armor is actually a solidified, skin-tight version of normal deflector shields (maybe using holomatter?)

For SPACEDOCK, I am thinking of this: Normal deflector shields can be converted at a cost of 1/2 x Size SU's per shield generator (for the additional equipment). To generate the armor requires an expenditure of energy equal to the normal cost of generating the shields and requires one turn to fully deploy. Once deployed the armor requires only half the power cost of normal deflector shields to maintain. The resulting suit of armor is treated as a unitary deflector shield with a Protection and Threshold equal to four times its normal shield strength (so a ship with Protection 900 and Threshold 300 shields can generate a suit of armor with Protection 3600 and Threshold 1200 for example). The armor is treated as a normal shield except for the following:

1. An opponent cannot shoot through shield junctions (the armor is unitary with no seams)(Exception: an opposing Tactical officer can target an exposed section of the ship like a phaser strip that just fired at a suitable penalty to bypass the armor).
2. The armor does not use frequency modulation and cannot be bypassed using this method.
3. Regenerative shield generators cannot be used to restore points of lost armor.

If the damage to the armor exceeds its protection, the armor collapes and must be restored like a normal shield. Also if a shield generator is destroyed, any armor it currently wears is not affected but any future armor generated loses one-quarter of its Protection and Threshold per generator destroyed.

Ablative Armor Generator:
***Ablative armor generator technology is a advanced combination of holocloak technology, energy projection, computer pattern formation and power generation. The result is the formation of a virtual layer of quasisolid ablative armor formed at a predetermined distance from the ship, which has the properties of both high-density type 3 ablative armor and regenerative shielding and is capable of offering

several magnitudes of protection above normal shielding, at the cost of a large power drain.
***The technology involves the construction of large omnidirectional holoemitters at key points along the hull; when activated, the beams form a conformal holofield alot like a holocloak`s. At this point energy is pumped into a replicator, capable of creating any matter directly from input energy. A dedicated computer core constructs a pattern of specialized type 3 ablative armor designed to best resist incoming energy; it updates this pattern every 5 seconds. The matter\energy beam is then conducted through the OHD`s, forming a quasisolid layer of energy armor, which is kept close to the hull of the ship via bonding to the SIF field, thereby enhancing both the ship`s structural integrity and the e-armor`s strength.
***There is one significant drawback to this technology; the strength of the e-armor is directly proportional to the energy put into it. So ships with smaller power reserves cannot put up a shield at all. Ships with powerful fusion engines or multiple warp cores would be best for this. On a side note, the size of the ship does factor into the equation for the generator; the power neccesary to cover a tiny shuttlecraft is many times less than that of a starship; even so, all non-essential systems on a fighter or shuttle would have to be shut down for the generator to be activated(this does not include weapons, engines or internal life support).
***Gelfworks had been working on a matter-energy system almost since its inception. It was obvious to the first teams of designers that a armor layer that was capable of being created by the ship and regenerated by its power systems would be an invaluable asset. The problem was, how to do it?
***Initially, research focused on a combination of transporter annular confinement beams and replicator matricies. This proved to be far too fragile and power-intensive to be of any use to even the most tech-hungry CO. It was reluctantly shelved in late 2396, with only intermittent work done on it by newcomers who thought they could solve the perplexing problem. Then, of all things, one Harry Barclay, the son of a obsessive holodeck user, came to work for the company, and hit upon the solution instantly: holocloaks.
***Holocloaks had been introduced fairly recently as a less energy-intensive alternative to a true cloaking device. They were essentially big holodeck generators that projected out instead of in. And that was the key; holodeck OHD`s were tied into replicator systems on the micromechanical level, enabling them to normally project matter inside of a holodeck for the user. Barclay used this to perfect his test generator. He first used a replicator to disassemble a piece of Gelfwork`s most advanced ablative armor alloy, then fed the data to a specially designed isolinear computer. It failed, destabilizing due to destructive coherence. He went to a storage closet and got a small bioneural pack and plugged it in, and low and behold, it worked! The test target was protected from the brunt of three type-3 thaser rifle beams for over a minute before the nanofusion cell ran out of fuel. It seems that the pattern-recognizing abilities of the bioneural pack could compensate for the interference patterns before they destroyed the shield.
***Eager to size up the technology, a holodeck was stripped of its OHD`s, tied into a shuttles impulse engine and sent on a test flight. Drones using type VIII phasers could not penetrate the armor. The technology was condensed down into a workable generator, and showed to the Federation on SD 240106.

Highway Hoss

CARGO HOLDS

SU Cost: 1 SU per 33,000 cubic meters, cargo holds less than 33,000 cubic meters still cost 1 SU
Power Cost: Usually none, unless special cargo needing temperature control or treatment
Ships especially freighter and transport deal with cargo. Cargo on regular Starfleet vessels represents spare parts and other needed equipment that must be kept in storage. Typically a ship needs 1 SU worth of cargo space per point of size though this is not a hard and fast rule. When assigning cargo holds remember to consider the ships primary function, Duration of mission and other factors.

A Normal 33,000 cubic meter hold can accommodate 4,444 Standard Cargo Units or SCU's. Each SCU is 6.75 cubic meters in area and can represent 50 megatons of cargo, 200 bushels or 6,750 liters of liquid. For determining the cost in SU always round fractions upward. i.e. a cargo hold, holding 1,200 SCU is rounded up to 1 SU in cost during construction. As some types of cargo do require special needs for extended voyages such as grain elevators, refrigeration etc. it is suggested in such cases that 1 power per 33,000 cubic meters of cargo space per round be used as determined by the narrator.
Eric R.

Weapon Signature Damping Field

A system designed and perfected by the Andorian Defense Force scientists around mid-23rd Century, it alters the weapons' emmissions to make it resemble an ordinary piece of equipment. Usually,

nadion and anti-proton accelerators are the components in phasers and disruptors that give out the biggest evidence of weapon presence to enemies. The damping field diverts energy to weapon banks with variable, distinctive signatures, so they look like an entirely different thing, like drilling equipment, sensor banks, tractor beams, etc.

It kept being updated by the ADF until these days. Parallel, 'inspired' designs from other races (some suspect of a traitor high-level ADF officer) emulate this damping field, giving pirate and courier ships an advantage against the authorities.
Space taken (in SUs): 3 x size
Power consumption: 200/round
Inspired from "Among the Clans: The Andorians" page 70.

Warp Destabilizer

SU Cost: 25
Power: 15/ per use
Accuracy: 5/6/8/11
Range: 10/15.000/50.000/150.000

Pirates, bounty hunters and the Navies of some Interstellar powers use this weapon to prevent their intended Targets (be it a Blockade Runner, a fugitive from the law or a Trading ship) from running away at warp speed.

The weapon can only be used once a round and is only useful at half the Range of a phaser array. A successful hit upon a ship interferes with the proper functioning of the power transfer conduits connecting the warp engines, thus preventing the target from going to warp speeds (but not from providing power to the ship's systems). The effect lasts for 1 d 6 x 10 minutes.

A dramatic Success results in a much stronger effect: 1d 3 hours are added to the erstwhile effect. A dramatic failure can produce much more adverse effects than just a near miss. Instead of shutting down the power transfer, the weapon instead sends a power surge thru the conduits that lets the intended target go to warp immediately. In addition to this uncontrolled warp burst there is the possibility that the subspace continuum is severely damaged, as per the warp field effect (Space dock page 34). The exact nature of this effect is up to the narrator, but at least the result of the dramatic failure should prevent the ship using the weapon from attaining warp speed for at least 1 d 3 hours.

The Warp Destabilizer can ordinarily only be used at impulse speed.

It is not impossible to use the weapon to force a ship to fall out of warp. But this requires the attacking ship to match speeds exactly before attempting an attack. The accuracy shifts two numbers up. If the attack is successful, the ship falls immediately (and very violently) under warp. The inertial dampers compensate the brunt of the forces that come to bear. But still the target ship sustains 3 d 10 points of structural damage (only SIF and Resistance count against this). This rather violent tactic wreaks havoc with the subspace continuum (roll a d6 on a 1 or 2 the subspace continuum is severely damaged.

All the risks involving the use of this weapon led to its banishment in the light of the warp field effect. The possession of a warp Destabilizer alone is considered a capital crime in the Federation, the Klingon Empire and the Romulan Star Empire. The Cardassians have so far failed to sign such a treaty, an addition to the treaty that bans the use of Isolytic weapons.

Close Range Tractor Beam

Power: see below
SU Cost: Class Alpha: 5
Class Beta: 7
Class Gamma: 11
Class Delta: 14

Used for boarding actions the close range tractor beam (CRTB) has all the features as a standard tractor beam, except it works at close range with a higher efficiency and works at reduced efficiency at longer ranges. At ranges up to 1 Km the power cost is halved, from 1.1 – 10 Km the power cost is normal, at ranges beyond that the power cost doubles.

SU cost is slightly higher than with the standard models.

Gorn Spacedock Tech

GBL-1
SU: 4
Range: 9/27,000/80,000/250,000
Damage: 60
Power: [6]
Up to 1 Shot per Round
Note: Can Only use Type G1 Targeting Sensors

GBL-2
SU: 8
Range: 9/27,000/80,000/250,000
Damage: 60
Power: [6]
Up to 2 shots per round

GBL-3
SU: 8
Range: 90/28,000/90,000/275,000,
Damage: 100
Power: [10]
Up to 2 Shots per Round

GBL-4
SU: 10
Range: 10/30,000/100,000/300,000
Damage: 120
Power: [12]
Up to 2 shots per round

GBL-5
SU: 16
Range: 10/30,000/100,000/300,000
Damage: 120
Power: [12]
Up to 3 shots per round

GBL-6
SU: 20
Range: 9/27,000/80,000/250,000
Damage: 140
Power: [4]
Up to 2 shots per round

GBL-7
SU: 24
Range: 10/30,000/100,000/300,000
Damage: 120
Power: [12]
Up to 4 shots per round

GBL-8
SU: 30
Range: 10/30,000/100,000/300,000
Damage: 120
Power: [12]
Up to 5 shots per round

GBL-9
SU: 18
Range: 10/30,000/100,000/300,000
Damage: 100
Power: [10]
Up to 2 shots per round

GBL-10
SU: 38
Range: 10/30,000/100,000/300,000
Damage: 160
Power:[16]
Up to 3 shots per round

Type G1 Targeting Sensors
SU: 1
Acc: 7/8/10/12

HYPERDRIVE CLASSES

I know that there 2 warp scales but i really think there is only one scale. The reason is this. In the original series at no time ever was it stated just how fast any warp factor was. simply that it was faster than light. With the exception of warp factor one which was stated to be the speed of light. Now in 1987 Gene Roddenberry states that he wants warp 10 as the absolute speed that the new ship can go. The warp scale that was "official" was actually fan conjecture that was later used by the FASA people as the real warp scale. The TNG creators made the real "official" scale with the creation of the TNG tech manual. Here's where things get scary. In ENTERPRISE they use the warp scale established in the TNG. Hmmm? That is when I decided that since we know they use the warp scale established in TNG in the TNG and also in ENT places 200 years before TNG that maybe the used it in Kirk's era too. Since nobody in the original series era ever brings this to light it seems logical to assume this series also uses th same scale as the other trek eras. So in conclusionI decided that (at least in my trek universe) there should only be one scale. That it should be the one established by the producers and creators of the the show. So how was the old Enterprise able to go warp 11 in the old show? Easy the Kelvans did modify the ship. Oh yeah then theres "Star Trek V: The Final Frontier"! So need I go on? Below I created a system to help explain how I use the warp scale.

HYPERDRIVE CLASSES
Class velocity (c) distance traveled (per minute in light-years)
20 5.5x10^5 1.0 (just about as slow as they go)
10 1.1x10^6 2.0
7.5 1.6x10^6 3.0
5.0 2.1x10^6 4.0
4.0 2.7x10^6 5.0 (equal to the Quantum Slipstream Drive)
3.0 3.9x10^6 7.5
2.0 5.5x10^6 10
1.0 1.1x10^7 20
0.75 1.6x10^7 30
0.5 2.1x10^7 40 (Millennium Falcon's top speed on a good day!)

Cost to fit a ship with a hyperdrive is always size of the ship. Setting a course with a hyperdrive requires perfect a hyperspace field parallel phase lock. This ordinarily is accomplished with the use of computer-controlled adjustments using a navicomputer Space Science (Astrogate) TN 10 modified by the ships operations reliability modifier.

SUBSPACE FOLDS (A.k.a. a subspace shortcut.) AND THE (absolute) WARP SCALE (Warp 10+)
Contrary to some sources there is only one warp factor scale. By using "Transwarp" or speeds above warp 10 starships can attain great supraluminal velocities. This is very dangerous to any ship attempting it because of the severe stress placed on the vessel. But by using certain naturally occurring subspace "folds" caused by continual warp drive interaction with subspace through certain areas in space these folds can dramatically improve a starship's velocity by taking the shortcut. Folds can only exist where warp drives and subspace interact with each other or subspace has been subjected to stress of some kind thereby causing any ship to sink into a deeper layer of subspace and causing it to be hyper accelerated. This means that in deep unexplored space folds may not be found which is why U.S.S. Voyager NCC-74656 couldn't use on to return home. Starships with more advanced and more reliable 24th century warp drives can't exceed warp 10 as they are designed with safety features to prevent subspace or dangerous accelerations beyond warp 10. On older 22nd, & 23rd century starships however these features weren't available yet. It was not uncommon for such things as anti-matter imbalances or explosions to cause subspace interphase pockets, temporal rifts, or even wormholes to form if the ships warp system was not properly calibrated. On more than one occasion a starship has found a naturally formed subspace fold caused by subspace instabilities of some kind and found itself stuck in a dangerous situation. Using charted natural folds does not require a test. Known folds only exist between systems listed in all capital letters in the star charts. Any ship traveling along this path will be in the subspace fold while in a fold simply double the ships warp factor, i.e. warp 4.99825 (213.5c) would be 9.9965 (9574.18c). The NX-01 did this on her historic maiden voyage to Q'ronos. To find a natural fold have the player make a Science, Space (Astrogation) test, TN 20 (known space), TN 25 (explored space), & TN not possible for (unexplored space). Marginal success is needed to locate one, but only results in the ship losing 1d6 points of structure per minute and shields won't help. Only a complete success avoids this and Warp velocity is now Warp 10+. The U.S.S. Enterprise NCC-1701 has set several speed records and exceeded Warp 10 reaching Warp 11 on several occasions and once even reaching Warp 14.1. This maneuver however is not under any circumstances safe. If the ships crew decides to try to force the ship beyond warp 10 without a natural subspace shortcut the following test must be made. First to determine if the engines and the ship can take the stresses

involved have the engineer make an Engineering (Propulsion), and a Engineering (Structural) test TN 10+ Transwarp factor. Failure in either test results in the ship losing 1d6 points of structure per minute for every warp factor above ten the ship is at. With modifications to the engines and or navigational deflector starship can take the Blind Luck trait.

I borrowed the transwarp scale from http://www.ditl.org to illustate higher warp scales that Kirks Enterprise used while not violating the warp 10 barrier that the TNG established. which was later broken by voyagerTIME TO TRAVEL

Transwarp Factor Equals (xc) To nearby star (5 ly) Across Sector (20 ly) Across Federation (8,000 ly) To Andromeda (2 million ly)
11 32,561 1.3 hours 5.4 hours 89.7 days 136.6 years
12 47,474 55.4 mins 3.7 hours 61.6 days 42.1 years
13 67,156 39.2 mins 2.6 hours 43.5 days 29.8 years
14 92,588 28.4 mins 1.9 hours 31.6 days 21.6 years
15 124,852 21.1 mins 1.4 hours 23.4 days 16.0 years
16 165,140 15.9 mins 1.1 hours 17.7 days 12.1 years
17 214,756 12.2 mins 49.0 mins 13.6 days 9.3 years
18 275,115 9.6 mins 38.2 mins 10.6 days 7.3 years
19 347,749 7.6 mins 30.2 mins 8.4 days 5.8 years
20 Infinite An object at warp 20 travels at infinite speed, occupying all points in the universe simultaneously
21 11,267,725 14.0 secs 56.0 secs 6.2 hours 64.8 days
22 14,440,680 10.9 secs 43.7 secs 4.9 hours 50.6 days
23 18,304,103 8.6 secs 34.5 secs 3.8 hours 39.9 days
24 22,968,182 6.9 secs 27.5 secs 3.1 hours 31.8 days
25 28,554,861 5.5 secs 22.1 secs 2.5 hours 25.6 days
26 35,198,530 4.5 secs 17.9 secs 2.0 hours 20.8 days
27 43,046,721 3.7 secs 14.7 secs 1.6 hours 17.0 days
28 52,260,814 3.0 secs 12.1 secs 1.3 hours 14.0 days
29 63,016,748 2.5 secs 10.0 secs 1.1 hours 11.6 days
30 Infinite An object at warp 30 travels at infinite speed, occupying all points in the universe simultaneously
31 2.79 x 109 56.6 msec 226.4 msec 1.5 mins 6.3 hours
32 3.41 x 109 46.3 msec 185.1 msec 1.2 mins 5.1 hours
33 4.14 x 109 38.1 msec 152.4 msec 1.0 mins 4.2 hours
34 5.00 x 109 31.5 msec 126.1 msec 50.4 secs 3.5 hours
35 6.01 x 109 26.2 msec 105.0 msec 42.0 secs 2.9 hours
36 7.19 x 109 22.0 msec 87.8 msec 35.1 secs 2.4 hours
37 8.55 x 109 18.5 msec 73.8 msec 29.5 secs 2.1 hours
38 1.01 x 1010 15.6 msec 62.4 msec 24.9 secs 1.7 hours
39 1.19 x 1010 13.2 msec 52.9 msec 21.2 secs 1.5 hours
40 Infinite An object at warp 40 travels at infinite speed, occupying all points in the universe simultaneously
anyway in "Threshold".

Okay, I've been working on this all afternoon. So here goes:

My draft rules for starbase construction.

1. Select starbase size as per DS9 rulebook.

2. For the purposes of Spacedock, add 8 to the station size for the purposes of calculating all components (except bridge/ops, which I figure is no bigger than a starship bridge).

3. Select components as before, with the following modifications:

Resistance may be as high as 20 per hull.

Average crew per 100 SUs is 6.

For crew quarters assume the station is an explorer (unless a specific role is required ie for science station use researh/lab ship).

Merchantile Rating
SUs req'd: 8 x rating
Power: 2 x rating

Rating Description
1 1 bar and 2 stores selling basic goods
2 bar/restaraunt and 5 stores
3 bar/rest & 8 stores, some luxury goods
4 12 establishments
5 15 establishments
6 18 establishments
7 21 establishments
8 24 establishments, including rare & luxury goods.
9 27 establishments
10 30 or more shops, selling anything you desire.

Recreation: aboard starbases with a relatively high mercantile rating, some recreation items may be run by merchants.

Propulsion systems: warp drive & impulse drive are not required (Duh!)

RCS thrusters are required however.

Power systems:

Fusion reactors:

Do not use MIEs. Insteadd use the Fusion reactor table:

Class SUs Power generated
20 100 200
21 105 210
22 110 220
23 115 230
24 120 240
25 125 250
26 130 260
27 135 270
28 140 280
29 145 290
30 150 300

(this gives a power generation method that is less than half as efficient as a warp core, but more efficient than MIEs or auxiliary generators)

Ops (Bridge): only use the station's size (not the spacedock size)

Navigational deflector: not required

Navigational sensors: not required

Autopilot: not required

Navicomputer: not required

IDF: not required

Attitude control: is required.

Science systems: assume the station is an explorer

for determining labs etc (or wing it).

Auxilliary spacecraft systems:

Docking port: a docking port consists of an airlock and docking clamps. It allows large ships to dock at starbases without needing large docking bays or the use of transporters.

Docking ports are rated for the maximum size ship they can handle. SU cost: 0.25 x rating (maximum size of ship).
Docking ports require no power to operate but can transfer power to the docked ship at a maximum of 10 x the rating of the port.
ie, a port rated 5 could dock any ship upto size 5, could transfer upto 50 power/round to that ship and would require 2 SUs.

Open frame dock, for construction and repair of starships. SU cost: 1 x rating (maximum size of ship) Power: none, but should be able to supply power to the docked ship as per docking ports. On

dedicated construction facilities, the dock may be required to supply power to test all of a ships systems.

Okay let me know what you think.

I worked up DS9, and I think it came out pretty well, so I may post that if you don't all tear my rules to

bits.

Greg

"Calm may work for Locutus of Borg here, but I'm freaked and intend to stay that way."

[This message has been edited by Greg Smith (edited 12-30-2000).]

Misuse of the SU's

Out of everyone using the Spacedock tech I am probably the worst offender to going over the limits set. I generally make exceptions to this by accepting the fact that the size can be deceptive and to needs to the story.

Mostly if the story is that it needs a ship that can wallop a Galaxy-class Explorer starship is a single round and it is s buster for the SU's the power requirements for such a vessel. Someday I intend to build the Borg Vessel from Star Trek: The Next Generation episode Descent part 1 and 2 and I believe without scratching out the details it would be a budget buster. I see a lot of the Borg vessel as having much to do with conventional Starships and less to do with standard Borg vessels as it would have been build for battle not assimilation.

In some ways the SU's are sacrificed for the story whether it is to reduce the technology or size. The other sacrifice is to exceed the size such as V'ger (a.k.a. Voyager 6) would be a grand sacrifice to the SU's. The Voyager 6 probe would be small below the scale of Spacedock and the V'ger would be immensely huge. Someday I will make the vessel V'ger as well.

Soaurces of starships to build

I like to use a the following web sightes for the creation of starship. www.neutralzone.de, Star Trek SSTCSMU&A a Fasa based game design www.sub-odeon.com, two of the best being www.ditl.org and the www.ex-astria-scientia.org the last two where used in the construction of the Enterprise Era vessels and the Scimatar.

ENTERPRISE SERIES

Note: all changes made in red reflect changes that I made sense placing this on the net. This is the final changes to this point. (2006-September-23 8:44 am)

These are the notes that I made for the Enterprise Era adventure that involved the Klingons Empire. I thought that the notes would be interesting to others who are either running or planning an adventure. There are something's that I have not used in these notes, but these are the original outline for notes I have been using.

I have upgraded the notes as of last week's episodes of Enterprise. These were not the notes I used for the adventure as I made the adventure a pre-Enterprise era adventure.

These notes were made before I began generating vessels for the 22nd Century adventure before going to over to the Klingon as the main species in the Series. *(Amended in italics 2006-09-04)*

Some of these are not even used or changed in the Series.

Notes for Enterprise Era's Spacedock

Not all of the ratings are equal, as it has only been a few years sense Zefrem Cochrane made his warp ship's first flight. The warp five project is under way. Nearly all Earth vessels are under equipped in comparison to Vulcan, Klingon and Andorian vessels.

Size: The vessel is smaller than the average ship. Some smaller vessels can travel higher warp speeds at greater distance.

The *average* largest average size of a starship vessel is that of a size 5 for most species have not extremely advanced starship designs. The majority of the species are just entering their early transportation day's space travel.

The Vulcan's have a few vessels as large as a size 6 starship. The Vulcan Combat vessels *(size 8)* are capable of handling a Klingon (early D7 variant) battle cruiser.

Some species have settled for a vessel the size 3 of the vessel with weapons capable of damaging a vessel two sizes higher with little trouble. Orioins and Naussicans have build their vessels around this as they are mass preproduction and has large fleets used for raiding.

Starfleet has several designs and vessels at their disposal and the NX-Class is the most advanced designed in the service. Although the future designs are already on the drawing boards with advanced designs and new technology there is always with a leaner and meaner vessel already out on the street. The older Intrepid-class a prototype cruiser is as advanced with the exception of the warp drive.

SU's: The SU's are lower in scale and reduced to the levels near the bottom end of all scales. Just over half the full SU's available for most species in the Enterprise era. Generally 60% *(or less)* of the available SU's available for use on the average vessel.

As an example the NX-class has a 606 su used with an optional 800 su's available. This gives the vessel a good base of use and the power to defend the ship against hostile activity.

Resistance: During this era the hull resistance has no free SU's available. Resistance costs lowering the resistance down to a maximum of 6 per hull. Klingon vessels can have as high as eight where as Earth Vessels would have four as maximum.

During this era the Vulcan's have a maximum of six for their largest and newest Klingon cruiser.

There are several vessels known to space fairing species that has a hull resistance of 10 per hull. Even the Borg Vessels of this time period would not have the hull rating any higher than that of 15 or 16.

The NX-Class has a total of 4 resistance (2 per hull) and the Intrepid-class has a resistance of 3. While the Vulcan's will have the advanced hulls of 5 or 6.

Structural Integrity fields: To this I restricted our constructions down to below Class D on the TOS Spacedock for all vessels before 2150 for all species vessels.

Crews: A ship's crew is usually smaller and have less security officer and science technicians staffing. Engineering staff is usually double that of later vessels and have the need to repair a vessel that has been extensively damaged and in later centuries is toed to a space dock for repairs.

During the Enterprise's third year the addition of the Maco's as a military threat to the Xindi military. The NX-Class outfitted with twenty Maco soldiers in addition to the standard Starfleet crews. Later vessels would have the increased capacity for the Macos of around thirty or more soldiers.

Crew Quarters: There are few luxuries for crews their quarters on a ship are generally the little that they get. Do to the ships have yet to have crews substantially larger Barracks have yet to be installed on Earth ships. Only the Klingons use them on their larger vessel possibly the predecessor to the D7 Battle cruiser of the 23rd century.

On earth vessels the crew they are assigned to quarters and a few lower ranked enlisted have to share their quarters with another.

With the addition of the Maco's the ships would have the Barracks installed for the Maco soldiers.

Manufacturing No Food Processors, but usually have a galley and mess hall that is Spartan in nature. The ship's galley is capable preparing a multitude of food dishes. The mess hall is capable of handling the entire crew of the vessel at the same time if it came to it.

Most species have a galley and large abundant food storage. Klingon ships often carry live Targs for food and pets in the galley or cargo bays. The Vulcan's have a food synthesizer that are the predecessor to the TOS era food processors and the replicators.

Some species have already created replicator systems but guard the technology very closely, as it is a key to their statues and power in the region.

Machining shops: Unlike the 23rd century industrial Fabrication Units and 24th century industrial replicators to do not have the easy to create tools and equipment for the ship. Instead of Industrial Fabrication Units the majority have machining shops that can create the equipment that is needed for a starship. Use the science lab chart to create the machining shops.

Medical systems: During this era only Humans and Vulcan's readily out fit their vessels with sickbays and carries Medical personnel. A size four is the top of the line medical bays.

Klingon vessels are rarely equipped with medical facilities. Many of the smallest Klingon vessels they don't even have a bay where they could lay out the wounded or dying warriors.

Starfleet has the medical facilities of a rating 4 on the NX-class and smaller on the other vessels created before the NX-class.

Recreation Facilities: Most vessels have small and Spartan recreation facilities in nature if any. The NX-class has a Spartan mess hall and gym. The mess does double duty as a movie theater on the NX-class as the shuttle bay a sports arena.

The alien vessels could have any level technology for recreation in the crews. A large vessel could have recreation facilities for passing crews and merchentile facilities as a trading vessel.

Fire suppression systems: Species who have shielding technology will have fire suppression abilities build into their ships. Those who don't have to have personnel using hand held fire-extinguishing equipment.

Escape Pods: Some species of this era have Escape pods and vehicles for such uses. The majority of vessels have the escape pods installed into them for the safety of the crewmembers.

Escape pods are no a necessity but most species do have escape pods installed in the vessels as they do wish to survive the disaster that would likely destroy their vessels.

Nacelles: This is where things get difficult. The lowest of space dock nacelles for let's say an intrepid class is not close but using multiple Uprating to adjust looks funny but works.

Restrict all warp nacelles Mark 1 up to Mark 3.5C on the TOS Spacedock sheet. *At least for Starfleet vessels.*

Even the Klingon vessels are not much faster than the Earth vessels. No ones vessel can go faster than that of warp six as maximum. *A Klingon vessel should be no faster than Warp Factor Seven in the emergency speeds.*

Plasma Injectors: Restricting injectors above Class C is simply sensible. I don't imagine a vessel from a world just setting out on space travel to be able to spend six hours at maximum warp travel.

Impulse Engines: Generally Types 1 to 3A are better looking for twenty-second century with type 1 for a shuttlepod.

Auxiliary Bridges: During this era auxiliary bridges and battle bridges have yet to be including into the ship designs.

Computers: The 22nd century's computers are slower and less advanced yet still make our present day PC's look like a toaster. I have been using 6 x size with 2 power

Autopilot: 22nd century Autopilot is generally lowest scaling in design. Shipboard Systems (Flight Control) 1, Coordination 1 with a 2 Power/round in use.

Navigational Computer: The 22nd century has only the Class 1 for the highest for all species. The early human have a lower navigational computer.

Communications: Lower the species technological level the lower their ability to communicate with their home systems.

Some species have Universal Translators and other have not. Some just don't care about it.

Tractor beams: The Vulcan's, Klingon's, Andorians and a few other species have tractor beams while humans have yet to discover them. Human starships use the grappler systems grapplers. Use the scale of alpha 1 km scale.

The Vulcan's have Class Alpha Tractor Beams and have 1000 km range.

Transporters: A few species employ transporters and use them for personnel transportation. Vulcan's, Klingon's, Orion's and Human's have transporters installed aboard ships and use them for cargo have bio upgrading for transports of living personnel.

In this era one transporter per ship it is usually a cargo transporters can have upratings to handle most biological substances. The standard upratings for cargo transporters to handle biological substances costs 2 SU's plus the personnel members SU's.

Cloaking Devices: The Romulans, Suliban and a few other species, employ cloaking devices. The Romulans are notorious for their employing cloaking devices even in their minefields.

The Romulans have created a holographic hull emitters that can project the image of another vessel, fooling another vessels sensors into detecting another vessel entirely. The Romulan vessel has a highly effective cloaking device.

Yet, there are a few other species with the technology to cloak their vessels as the Romulans and Suliban can do.

The Romulan's have invented the holographic cloaking devices to represent another species space vessels. Although the cloaking device can hide the Romulan vessels appearance as another the power systems is still identifiable as a Romulan vessel if it can be detected.

Internal Force Fields: during this era few species have integrated the force fields for the vessels. *Starfleet starships have locking bulkhead doors that require the crew to access with a code and turn a locking handle.*

Tactical Systems:
Energy weapons in general: In this era the energy weapons generally can fire at basics. At the lower levels of these weapons you get one shot only per weapon. I came up with if you want another shot for your ships weapons systems you must have an upgraded weapons system. To this I had to come up with a penalty of sorts by adding half again the energy weapons final size onto the weapon's SU's to gain the second shot. This weapon's up grade is just for the energy weapons only. And only adds one shot to the single shot weapon as it is. This increases the dangers at the basic levels.

The weapons are generally the know version but the exotic has been constructed be a very few species. The Orion's have constructed a weapon that destabilizes the ship and causes it to fall from warp speed and beam the cargo from the ships. All the weapons ranges are 20% that of the 23rd century vessels and have fewer shots than their predecessors.

Plasma Cannons: Using TOS era's laser table the plasma cannons are basically Lasers that are mounted on the ships exteriors. Fellow general

weapons construction routine. The Humans using the Plasma Weapons would be perfect for the ship. *Most Starfleet vessels have a number of these weapons and have been using them as a main battle weapon against the threats to their vessels.*

Phase Cannons: Phase cannons are the predecessors to the phaser with less functional weapons. They can fire only in the continuous beams with the ability to rotate and retract back into the hull of the ship for maintenance and storage. By 2151 there is only a single type of Phase Cannon being used the phase cannon is equal to that of a Class three phaser bank.

The phase cannons can fire only twice.

Starfleet Phase cannon weapons have begun to replace the Plasma weapons and are far more powerful than the previous weapons. The phase cannons are turret mounted with plenty of weapons arc per weapon. These weapons can be fired in linked fire or independent bursts with each other.

Disruptor weapons: Restrict disruptors to below type 4 *(type 2)* to these era vessels, as it will give the enemy a superior firepower without devastating the other vessels fired on. The disruptor cannons and arrays are no higher than that of the Photon Torpedoes of this period.

Like the Phase cannons the Disruptors are rather new to the fleets of the galaxy and have the increased power and fire that of the phase cannons. Although the disruptor weapons have begun to show the more destructive nature of the weapons.

The typical Plasma weapons range is 1/500/1,500/5,000 for most weapons at least Terran vessels and the Phase Cannon's weapons ranges are 1/1,000/3,000/10,000. the more advance the starship, belonging to another culture has longer ranges.

Spatial Torpedoes: Like the later photon torpedoes self-guided to a range of 50,000 km doing damage of 70 *(80)* and launchers using 6 powers to fire +1 power per torpedo. The launchers are capable of firing only a single torpedo per launcher. The simple torpedoes weapons range (10/30,000/100,000 /300,000) *(corrected 2/5,000/16,000/50,000)*. The Klingon cruisers have weapons the capability of firing a spread of two torpedoes.

Photon Torpedoes: Although Photon Torpedoes are new to some species others have yet to employ them or even research them.

Klingon's have them and humans employ them by 2153. The Vulcan's, Andorians, and others have yet to employ them to their ships.

The maximum range of the Photonic torpedoes is double of spatial torpedoes.

The standard for a Photon torpedo damage is 120 for this era yet the Terrain Photonic Torpedoes are rated for damage of 140 *(Later I settled on 120 for damage)*. Like the photon torpedoes of later eras the torpedoes are variable yield.

Most species are just designing these weapons as they are the next generation of weapons for the defense of their worlds.

Deflector Shielding: Many species have standard energy shielding and deflector screens of some sort. The Most have shielding in the class 1 rating below 120 to 200 *(75 to 100)*.

Larger ships of some more advanced species have the Class 2 *(Class 1)* rating up to 300 *(200)* points of shielding.

More advanced starships of vessels can have shields that are more advanced than that of the Enterprise era but not to far above that of the Enterprise Era as it would throw the balance off and destroy the game.

Polarized Hull Plating: Build like standard shields but burns off like ablative armor with a threshold removed, until gone until recharged or reset. Disruptors and Phase cannons act to the same as standard weapons. Kept low to show vulnerability.

When launched the NX-01 had the protection of 150 (100) at maximum protection. The refit in the second year of service the Polarized Hull Plating is upgraded to 200 (120) point of protection. The third refit, after the Xindi incident the rating in the polarized hull-plating rose to 250 (150) points.

Standard Shields: Vessels of this era have standard shields and either no grid type increasing protection if they do the Type A for most species.

Auxiliary spacecraft: Shuttles are generally size one in scale and the military vessels are the only vessels carrying a pair and freighter carry a single or none. *(The NX-class and other explorer type vessels are equipped with two or more spaces for shuttles. The shuttles of this period mostly do not have warp drive capabilities. Most shuttles have the capability to carry the crew and five or six passengers. Yet there are some size 2 ships that are low warp capable and lightly armed.)*

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Star Trek Wars Conversion

When I took a look at the Star Trek Wars sheets there was a plenty of costs and such as Point Value, Warp Delay, Maneuvering specs, Combat Stats (with fwd/Aft Defenses, Starboard/Port defense) that I could use in addition of the Hanger and weapon placements (in addition to the type).

For the difference in the system such as the weapons systems or what ever the system I would set one vessel as a standard. I balanced the others out against it with the difference in the weapons coming up with a percentage of change.

I used this as a guide not as a rock hard version but a balance. If the change was too high I just balanced it out with common sense.

Common sense is a key to the construction to all starship construction. These are my key stone rule for construction.

Mirror Universe vessels: In the episodes of Darkly Mirrored the Terran empire weapons are equal to that of the Vulcans as the Vulcan ships. Weather the NX-class has shields I was never able to determine. I would like to think that they had at least low level shields that could protect the hull from a few shots.

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Luxury Vessels

Here's some notes I've been generating for a new series of vessels for an adventure.

Civilian and Luxury starships

The civilian fleet of luxury ships and commercial vehicles are prolific throughout the Federation and beyond. Many members of the Federation have their civilian fleets and military fleets organized differently but many ex-military officers and crew join the civilian fleet as crewmen of the civilian fleet. All known races have civilian ships even the Klingons.

The Romulan Empire civilian fleet is highly regulated with the idea of keeping the population in check. The Romulan Tal Shiar agents are kept aboard these ships.

Types

Civilian Fleets are arranged in the groups of the following and many more variations of the fleets.

Civilian Private Yachts—size two or three capable carrying small groups of passengers and cargo. Many families and such have this ships for private use. The TOS era's Aurora-class civilian yacht is a version of this ship.

Cargo Carriers—this is a small size 2 cargo ships usually with a civilian owner and has a small crew and very few passenger on board the ship.

Commercial Transports—much like Civilian Yachts these carry passengers and cargo for a price. A private citizen and hires out his crew to whoever has money to do so usually own these.

Large capacity Cargo ships—these are size four through six and even larger by aliens in the Gamma and Delta quadrant. Many species have large cargo carriers such as the Desara-Class Merchant Vessel, the Klingon Huc'ta-class Merchant vessel and the similar looking Cardassian Salgar-class Military transport, as well as the Malgar-class Modular Transport.

Luxury Liners—these pleasure vessels are equipped with the latest in luxury. These ships are size eight and up to the size ten capable of carrying thousands of passengers and crew.

Entertainment vessels—these civilian fleets carry a ship capable of staging sporting events in the large lounges and theatrical rooms. Holodecks and Holosuites mounted in the ship are used as rent a pleasure room.

Brothel ships—size two or three size ships or even larger where a companion can be bought for the night. A Ferengi businessman has several of these vessels providing the workers, such as ore minors with a distraction for a fee. Naturally the Ferengi have extensive trading merchandise on board.

Transport ships—these are short-range transport usually with in the systems carrying a few hundred passengers to and from civilian stations and planetary colonies. (These are like airliners of the star trek eras carrying a small amount of cargo and passengers.)

Civilian authority—each colony world and world has its own orbital police force. These vessels are size four or five light warships. Several of these vessels are available at any given time in the orbit of any planet or star systems. These often are the older retired vessels such as an old Saladin-class frigate/destroyers.

Civilian Science Vessels—many civilian companies keep a fleet of civilian science vessels even though the Federation will likely step up to aid in any and all legitimate scientific research. Some smaller corporations prefer to do illegal and legal research without outsiders watching them.

Recreational vessel—used as a sail vessel with large solar canvases. The Bajoran Sail ship is an example. There are several species that use the sail ships as sporting race vehicle pushed by the solar winds. Another version of recreational vessels is a small shuttlecraft with high powered impulse engines capable of fast ultra sensitive maneuverability used as a high speed race vehicle. One or two crewmember vessels no armaments or extra cargo or equipment used for long duration travel. Fueled for short duration of hours not days or week.

Small Medium Range Trade Ship—mostly all are size two with the capacity of two or three crew and passengers with a small amount of cargo. The Ferengi have a small shuttle craft that is this class.

Civilian Outer Hull and Primary Hull Skeletal Structure

SU's: Outer and Inner hulls cost 3 x size

Power: None

The Civilian starships such as a cruise liner dose not need Combat rated hulls as they do not generally go to battle with warships or are exposed to the rigorous dangers of exploration.

Yet as a civilian ship exceeding warp speed the ship begins to take hull damage after an hour of exceeding rated PIS for maximum warp speed of one SU of damage.

Resistance

SU's: same as standard Spacedock.

Most civilian ships do not have resistance higher than four to six. Yet the average is four per hull

Crew and passengers

Generally the civilian ships have smaller crews and larger passengers. The passenger out number the

crew four to one on smaller vessels size's three and four, five to one on vessels size's five, seven and eight. On ships larger than size 9 the average is six to one or greater.
Luxury liners are capable of handling up to twenty time the passengers and crew.

Airline seating
SU's Cost: 1 SU's per 70 persons
Power: Zero power
Passenger shuttles or short distance transports generally used on size two and three ships. This is airline seating for passengers.

Luxury Recreations Facilities
Su's Cost: +2 to standard Recreation Facilities cost
Power cost: + 3 Power
Luxury recreation facility includes additional Holosuites, several bar lounges, theaters, museums and even a casino on board the vessel. In the TOS Era starships Holosuites would be Luxury spas.

Botanical Gardens (Luxury)
Su's Cost: like Cargo holds
Power Cost: Equal to number of SU's size of garden
The gardens are installed on size four starships or larger and can not exceed over one third of the ships full volume. Each garden is of one SU's equal to that of a cargo bay size of 33,000 cubic meters (length of 66 meters x width of 50 meters x height of 10 meters). The garden's ceiling and wall will have windows to allow the view of the stars and allow natural light into the garden.
These gardens cost power for both artificial lighting and environmental life support. In addition to being a recreation for the ships passenger it has trees and gardens for fresh food production. Each garden size of SU has at least four crew assigned to it beyond the standard crew.

Merchentile Facility
Use the merchentile Facility chart form the Cardassian sourcebook page 121. Works much the same way as the Space station merchentile facility. Only the largest and most luxurious of the civilian Luxury Liner has a rating of ten for the merchentile facility and will not be selling weapons.

Warp Propulsion and Power systems
Civilian vessels have a lower warp speed than that of starships and have less time for the maximum warp speeds. Luxury vessels are build for luxury and not for speed.
These vessels have plenty of power to power the luxury systems.

Specialized Tractor Beams
Gas collector Tractor beams
SU's: Cost +3
Power: +2

Gas collector Tractor beams are mostly looking like large trawling nets attached to the sides of the vessel. The emitters are adjusted to bring in any kind of materials by adjusting the residence to attract one atom and not another. The Emitters attract .25 Cubic meter of compressed gas for storage every 1 Minute. A tank of 33,000 cubic meters would take over 91 days to fill with a single emitter. Multiple Emitters will increase the collection operation.

The simple repair time is three days for a small damage to a single Tractor Beam Emitter. An overhaul to the emitters take two weeks per emitter.

Addendum to Tractor Beams the Specialized systems.

Delta-class .25 cubic meters per minute per emitter
Gamma-class .125 cubic meters per minute per emitter
Beta-class .0625 cubic meters per minute per emitter
Alpha-class .03125 cubic meters per minute per emitter

A single Class Alpha Emitter would take over two years to fill a cargo hold of 33,000 cubic meters. Four Class Alpha Emitters would take six months. Where as a single Delta-class could easily fill the same tank in three months, and four emitters could in just under 23 days.

So the type of emitter class and size would matter on the size of the ship the tank it needs to fill. The larger the ship, the larger tank, the larger the emitter.

Note: In Space away from a Nebula or Gas Giant where standard matter is a few particles per square centimeter, the emitters are nearly useless and would take centuries to collect enough gasses to sell.

Once the tractor beam emitters have been converted over to or are already gas collection emitters they cannot be used for toeing another ship. Conversion takes a minim of three days to convert over.

If held in a tractor beam the collection emitters become useless.

When reversed these collection emitters can blow (or dump) its entire load of gas creating a small

nebula if stationary blinding another ship, at speed a long trail of gas.

Gaseous Deuterium can be ignited by energy weapons causing sever damage.

If you don't know how much gas has been collected use two ten sided dice to arrange a percentage of gas collected. Using the percentage to determine the amount of gas the explosion can be determined by knowing one cubic meter of deuterium gas causes 1.25 SU's worth of damage to the ship.

These tractor beams are installed on craft size four or smaller as it takes time to collect the gasses.

Example: a ship with 33,000 cubic meters of gas cargo would causes 41,250 damage with in 1 MU distance of the explosion, dropping by half each MU distance out. The ship would have been vaporized instantaneously.

Tactical Systems
Defensive weapons are low rated phaser banks for the next generation.
Luxury vessels have no torpedo launchers or missile weapons of any kind.

Defensive Systems
Most Civilian vessels have shields in the lower range and are generally not raised except for that of a testing or in the case of a ion or plasma storm.

Autodestruct systems are not installed in civilian starships as civilians do not blow themselves up as a matter of principle.

Hanger bays
Luxury liners have large shuttle bays capable of handling size three and smaller ships and shuttles. Most ships carry cargo of some sort from one place or another and large shuttle bays help in loading cargo.

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FIRST PLANETARY FACILITIES NOTES

Planetary facilities are much like the Space Stations in the Spacedock; the only difference is that there is there are no propulsion systems. On a class M world the structures would be separate and lacking most of the Environmental systems. The resistance would be lower and most would have not Structural Integrity Field's.

For a planetary station with the spacedock buildings there is no need for the environmental systems. A Biosphere in an environment that has little or no oxygen the planetary facility would have environmental systems and all the backups. There would naturally be a shuttle bay and docking ports.

A typical residential house with three bedrooms, two baths, living room, a kitchen and dinning room would be to the ruff size of a size three ship. The dinning room would naturally have a Food Replicator.

The following list is the basic for the construction of a planetary facility (Most likely a house)

- Hull (cost would be 2 SU's time size.)
- Resistance (no resistance for non official Facilities)
- Crew Quarters (no Spartan or a Barracks)
- Basic life support
- Food Replicators
- Medical Facilities
- Recreational Facilities (Only an operations, head Quarters, medical, science, apartment Facilities)
- Fusion Reactor
- EPS
- Computer core (at least one core for a house.)
- ODN
- Communications (a Class 1 communications system in a facility connecting to the planets main facility.
- Security systems rating

A Typical Starbase structure such as an apartment building could have a shuttle platform and shields. The power systems would have auxiliary systems.

Weapons placements would be located in various places around what would naturally have been a city format. There would be Phaser Banks and Photon Torpedo Launchers most likely installed underground.

A building on the planetary surface would have garden for the people. Typically on a class M world there would a mall format with a mercantile rating with little or no residential apartments.

Typically a planetary Starbase would have a the following Facilities:

- Starfleet Starbase Command/Headquarters Facilities
- Starfleet Operations Facilities
- Starfleet Medical Facilities
- Starfleet Science Facilities
- Starfleet Communications Facilities (much like a sub-space relay station).
- Starfleet Transporter Facilities
- Multiple Apartments Facilities
- Individual Housing (much like a typical families house)
- Civilian Malls Facilities
- Power Stations Facilities
- Weapon Facilities (Phaser/Photon Torpedo)
- Starfleet and Civilian Spaceport Facilities

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Expanded PLANETARY COMPLEX STRUCTURES for Spacedock

Planetary facilities are much like the Space Stations in the Spacedock; the only difference is that there is there are no propulsion systems. On a class M world the structures would be separate and lacking most of the Environmental systems. The resistance would be lower and most would have not Structural Integrity Field's.

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The following list is the basic for the construction of a planetary facility (Most likely a house)

Hull (cost would be 2 SU's time size for the civilian structures military would have at least 4 SU's time the size like most space stations and starships.)

Resistance (no resistance for non governmental official or military Facilities.)

Crew Quarters (no Spartan or a Barracks. Yet, Expanded, Luxury, and Unusual Quarters are spread across the Starbase facilities. .)

Basic life support: The Optional Minimum of 1 power for basic life-support to power heating or air conditioning. With the removal of the reserve Life support for a planet with a Class M atmosphere. A Facility with Unusual Quarters would require the full set of Basic Life Support & Reserve Life Support like a starship or space station

Food Replicators: There is at least one Food Replicator in a Residential home at the cost of 1 SU per home and 1 power round.

Medical Facilities: Most residential homes have at least a Med Kits and larger buildings such as Hotels and apartment facilities have at least a first aid room rating one. A hospital would have a Level 10 rating for a few hundred people.

Recreational Facilities (Only an operations, head Quarters, medical, science, apartment Facilities and a residential home. A residential home would have basic Recreational facilities and could have a personal holodeck at the additional cost of 1 SU and one power per round of use.)

Fusion Reactor (A residentual home would have a fusion reactor as an auxiliary power system when the power planet would fail. Only Hospitals and Headquarters buldings would have their own power productions.)

EPS (The EPS grid would be the same as Starfleet Plus five SU's to provide a connection to the City wide EPS grid.)

Computer core (at least one core for a house equal to size one for the house. An apartment would have a core the size of a starship of equal size like a space station.)

ODN (Same as standard spacedock.)

Communications (a Class 1 communications system in a facility connecting to the planets main facility. And a Class 10 Communications system communicating beyond the planet's surface.)

Security systems rating (Residentual homes would have at least a rating of one and a facility such as Starfleet Headquarters building would have a maximum rating of five. There would be several security stations located throughout the starbase city.

A Typical Starbase structure such as an apartment building could have a shuttle platform and shields. The power systems would have auxiliary systems.

Weapons placements would be located in various places around what would naturally have been a city format. There would be Phaser Banks and Photon Torpedo Launchers most likely installed underground.

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01. Starfleet Starbase Command/Headquarters Facilities
02. Starfleet Operations Facilities

03. Starfleet Medical Facilities
04. Starfleet Science Facilities
05. Starfleet Communications Facilities (much like a sub-space relay station)
06. Starfleet Transporter Facilities
07. Starfleet Security Facilities
08. Starfleet Sensor Arrays communications relay (Long-Range Sensors (likely and orbital satellite and Lateral Sensors satellite)
09. Civilian Schools
10. Other Educational (Community Collage) facilities
11. Multiple Apartments Facilities
12. Individual Housing (much like a typical residential families house)
13. Civilian Malls Facilities
14. Power Stations Facilities
15. Weapon Facilities (Phaser/Photon Torpedo)
16. Starfleet Spaceport Facilities
17. Civilian Spaceport Facilities
18. Starfleet Storage facilities
19. Civilian Storage facilities
20. Civilian Museum
21. Civilian theater
22. Sporting Arena
23. Civilian news/entertainment 'Communications' Facilities
24. Civilian Community Center
25. Civilain Science Research Facilities
26. Weather Control Station (these are for terraformed worlds that need constant control)
27. Civilian Office Buildings
28. Bar/Tavern/Casino/Restaurants
29. Corner store (7-11, AM/PM)

Naturally there will be facilities and places that I have not thought of.

Years ago when I was a kid watching Saturday morning cartoons there use to be a show where a Biosphere was placed on the surface an asteroid with a set of what looked like Impulse engines to push itself around. Jimmy Doohan was in charge of a group of cadets. Later the same asteroid/biosphere model was used in another series. A spin off series called Jason of Star Command. I remembered this while I was sketching out these notes.

Omega1967 November 2006