

Sky Marshall 6

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A Bugs Life

Dear Mom,
The fleet made transit into a new system our scouts had reported cattle in. The system was an Emissive Nebula! The new inertial compensators we installed have been having a lot of problems in this system due to the amount of high energy particles in space. This apparently was not anticipated by the Bug Design Group. Not only have the compensators not been working at peak efficiency since being in this system, but several have fail out right. This resulted in several crews moving slightly slower than the rest of the ship during maneuvers. Since ships move at a significant portion of light speed, the effect upon the crew was...dramatic. The poor buggers were nothing but paste. There was hardly enough to scrape up to put into the fleet recyclers!

My squad has been very busy shutting to various ships to repair this system. The Engineering Drone Squad Leader has been in a foul mood as well due to this as well. He has recovered from the bad food he had last month and resumed his oversight and beatings of the squad drones with a vengeance. Sigh. It's good to have him back, he was missed. I am writing this letter to you using my off appendage due to the other being in a sling from the last thrashing the EDSL gave me. He seemed to give me special attention using me to bash several underlings, swinging me around by one of my limbs like a giant arachnid flogger. I do think he is noticing my work! I expect that promotion any day now!

Must close, have much work to do. .

*Your loving son,
AN973-D175-Y9000
'Andy'*

Dear Mom,
Our advanced skirmishers found and destroyed a small outpost of cattle found on one of the super terrestrial planets. There were not enough to keep a proper heard, so the spoils were divvied up and sent to the fleet. There were a few crude defenses but nothing a couple Super Dreadnaughts couldn't handle.

I always enjoy super terrestrial cattle. The meat is denser and while some find it a bit chewy, I enjoy it. The cattle do not tend to prance around as much during feeding, being a bit slower but they last

longer being a hardier life form. Squirring and flailing till the last bite. Yum!

Work has slowed down some for the squad. The new inertial dampeners have been ordered taken off line. They were causing too many problems (not to mention the lost crew paste was overworking the recyclers!) So the squad has some down time to rest and heal. I think even the EDSL was getting tired of administering the motivational beatings as well.

The new promotion lists will be out next week, I'm very excited. I think I finally will be getting that promotion soon!

*Your loving son
AN973-D175-Y9000
'Andy'*

Dear Mom,
This has been a very rough week. The fleet made two more transits following the worm holes down a chain believed to lead to major cattle planets. The second jump out, our scouts reportedly took major losses with only a single ship returning. The cattle have somehow known we were coming and massed near the worm hole. The fleet is preparing to crush them with the tried and true method of superior numbers. Although forces are reported to be very strong, I do not doubt our success.

I heard that cousin NI223-K056-Y9000 and his scout squadron have been assigned to the fleet. It has been several years since I have seen Niky and am eager to find out what he has been up to in detail. His scout ship was the one who initially survived to report the cattle on the worm hole. Oh, how I envy him and the action he must have seen. Im sure he sees a lot of excitement in the Scouts. He was always exploring the caverns and tunnels ahead of us as hatchlings. It will be good to catch up with him.

I was informed that our ship is to be one of the first Dreadnaughts through the worm hole tomorrow. I am quite excited. I must go prepare and make sure all is ready. I will also check the promotions board before I head down to report to the EDSL.

*Your loving son,
AN973-D175-Y9000
'Andy'*

Dear Mom,
I did not get the promotion. When I looked

the board I was excited as I saw my designation listed, but when I read it, it was not a promotion but a transfer. I am to pack and take the next shuttle and report for Bug Assault Marines training! BAM!?! Is this some sort of mistake I thought? It can't be. The hive does not make mistakes. But it is far beyond my comprehension as a lowly engineering drone to understand the transfer reason. But I will do my duty.

I only had time for a brief comlink to cousin Niky to let him know I was heading out, and we wont get to catch up like I had hoped. But that is the life of a servant of the hive as you always told us mom.

I must make this short as I must head out to the shuttle now. I am so disappointed I will miss the worm hole assault!

*Your loving son,
AN973-D175-Y9000
"Andy"*

*Dear Mom,
I am sorry I have not written until now. I know it's been nearly a month. But due to operational security outside contact has not been allowed, even to write you. I am here at BAM training. It has been a very grueling month. All my limbs are so sore every night. All day is running and climbing and drills. Then we are allowed 4 hours in the silk sack, and then it all starts over again!*

My platoon bugs are a very different group than my old engineering squad. You know I am an average sized bug for an engineering drone. Not bigger or smaller than most. But I am a virtual dwarf next to my platoon bug mates! At least half a limb shorter than most. They are hulking brutes with massive limbs and the mandibles mom! You should see our sergeant's! I think he could tear open a ship bulkhead with them!

The Sarge has spent most of the time when not drilling us or shouting telepathic commands so loud our antenna nearly shrivel, with the platoon submission beatings. I thought my old EDSL had it down pat. I will have to revise my opinion of what a true beating is! Sarge has moves and blows I have never even heard of before, much less felt. He decapitated a 'bug boot' the first day who was a bit slow in standing to attention with those formidable mandibles of his.

I have found the equipment to be quite fascinating. They issued me some battle armor and a plasma canon. The armor and canon weight in at nearly 200 KG! It's almost all I can do to walk upright on all 8 limbs with all of this. But they would not have assigned it to me if I could not do it I'm sure. The Sarge must have great faith in me; I will not let him

down!

I must go mom, they are calling me for drills again. Will write soon!

*Your loving son,
AN973-D175-Y9000
"Andy"*

*Dear Mom,
The BAM defiantly has one advantage over other services I have found, and that is the food! They ship in wild cattle and put them in the 'mess' at feeding times. However everything here is geared to train us, so they ARM them! Wow, it's quite exciting. They open the mess doors and we rush in for lunch, and it's a mad flashing of mandibles, spearing cattle as we can, with the occasional bug marine boot falling to a chemical slug or axe of one of the armed cattle (although that is rare, its considered failure to adapt if cattle incapacitate you during mess and you are shipped out or simply dropped into the recycler).*

I have found a slight advantage in being of smaller stature than most here. While not as strong as my platoon bug mates, I am quite a bit faster and more agile. And at times can slip between or under them during mess times and snatch one of the cattle. There are not quite enough cattle to go around, also part of the training, to promote aggressiveness. The weak and timid simply do not get food, and thus will grow weak and sloppy during training and wash out.

I had a close call the other day. We were doing BCQ (bug close quarters) combat drills, and I got a nasty crack on my exoskeleton near the thorax. I saw the medics, who were debating if the time to heal would be worth it, or simply a write off to the recyclers, as I was not worthy of regen tank time. As it turned out they noted my high technical aptitude scores and decided to assign me temporarily to the armors facility. This allowed me to be of use, while I healed. And I have enjoyed tinkering with and fixing the pulse rifles and plasma canons. They are not that much different than some shipboard systems, just smaller in scale.

I have heard from some of my old engineering squad members, that the battle of the worm hole was won by the fleet (as I expected), but the cattle cost us a dozen super dreadnaughts and nearly 50 other lesser ships. My old squad was virtually annihilated with only the EDSL and 2 others surviving a ruptured ion drive exploding while making repairs in the middle of the battle.

My training here is almost over, and scuttlebutt says we will be shipped out to the front very soon. I am excited, soon I will see action! I hope to bring glory

to the hive!

That's all for now,

Your loving son,
AN973-D175-Y9000
"Andy"

Story by Kam West

TFN OFFICER RANKS

Midshipman
Ensign
Lieutenant (JG)
Lieutenant (SG)
Lieutenant Commander
Commander
Captain
Commodore
Rear Admiral
Vice Admiral
Fleet Admiral
Sky Marshal

*Thanks Jim!

BATTLE OF HAMYANG

Admiral Yevgeny Knox encountered the Hre'Daak invasion fleet on January 13th in the Hamyang System. He was unable to stop their advance and suffered tremendous material losses within Task Force Three before being forced to retreat to Red Rocks. This fleet had 6 months to drill and at the time was very experienced. Admiral Knox was a famous 2nd Arachnid War commander that was why Fleet Admiral Winzel tapped him as the first trip-wire force in Hamyang. In the Battle of Red Rocks the Pan-Sentient Unions' huge forces were crushed in a one-sided 30 minute battle, leaving the Road to Terra open for the Hre'Daak advance. (More of this in my upcoming Armageddon War stories).

KNOX'S HAMYANG FLEET

12 SD (6 Luna, 6 Colorado)

16 DN (12 Audacious, 4 Budapest)

12 CVA (6 Unicorn, 3 Scylla, 3 Thor-D)

30 BC (15 Destitute-C, 12 Volga-C, 3 Tower-B)

SHIP NAME	CLASS
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<i>Bluemoon</i>	Luna SD
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<i>Bowie</i>	Luna SD
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<i>Bowmark</i>	Luna SD
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<i>Greenlight</i>	Luna SD
<i>Idaho</i>	Colorado SD
<i>Missouri</i>	Colorado SD*
<i>North Dakota</i>	Colorado SD
<i>Twin Moons</i>	Luna SD
<i>Utah</i>	Colorado SD
<i>Washington</i>	Colorado SD
<i>Watermark</i>	Luna SD
<i>Wyoming</i>	Colorado SD

*Fleet Flagship

<i>Alert</i>	Audacious DN
<i>Arrogant</i>	Audacious DN
<i>Bold</i>	Audacious DN
<i>Brave</i>	Audacious DN
<i>Budapest</i>	Budapest DN
<i>Compare</i>	Audacious DN
<i>Devious</i>	Audacious DN
<i>Foul</i>	Audacious DN
<i>Infidel</i>	Audacious DN
<i>Miscreant</i>	Audacious DN
<i>Observant</i>	Audacious DN
<i>Redeem</i>	Audacious DN
<i>Romania</i>	Budapest DN
<i>Savage</i>	Audacious DN
<i>Taipei</i>	Budapest DN
<i>Ukraine</i>	Budapest DN

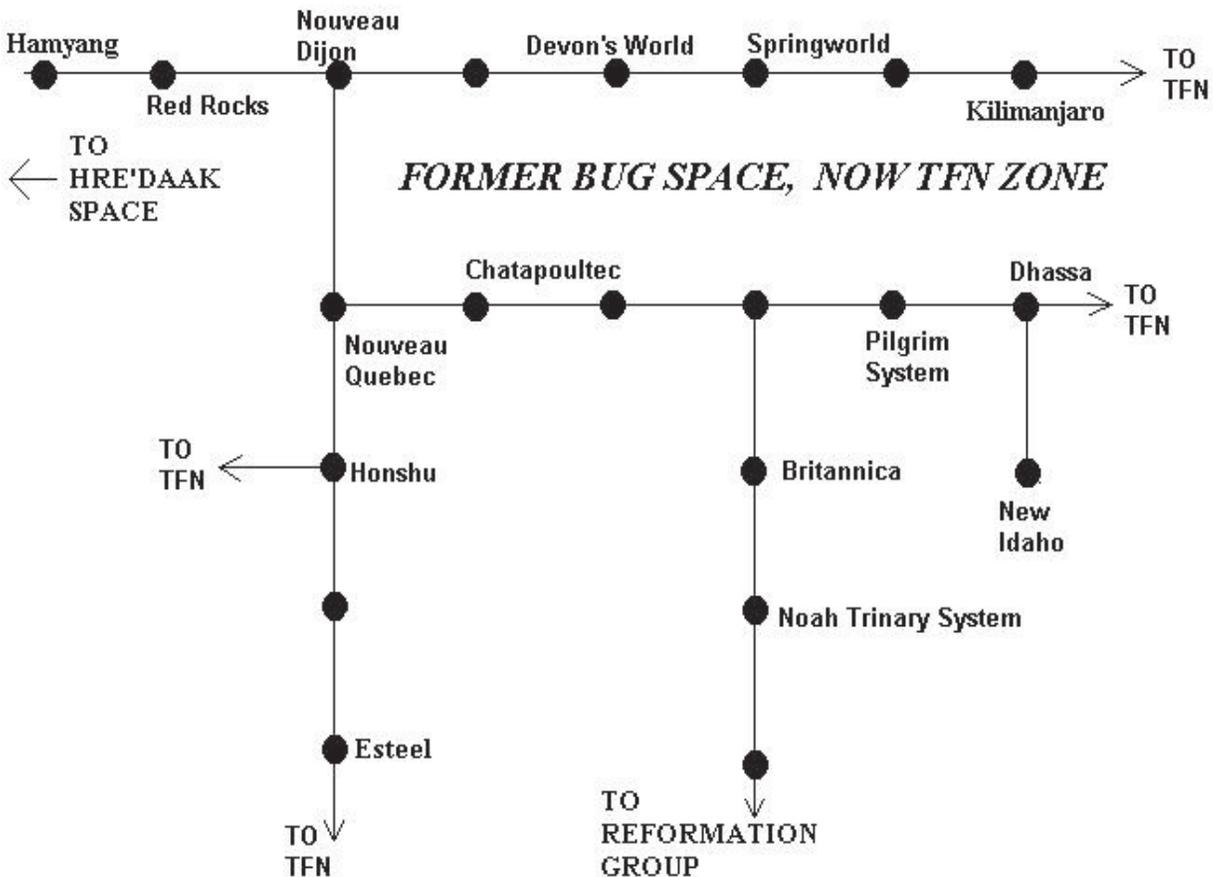
<i>Charybdis</i>	Scylla CVA
<i>Gorgon</i>	Unicorn CVA
<i>Griffon</i>	Unicorn CVA
<i>Harpy</i>	Unicorn CVA
<i>Homer</i>	Scylla CVA
<i>Hydra</i>	Unicorn CVA
<i>Manticore</i>	Unicorn CVA
<i>Munin</i>	Thor CVA
<i>Odin</i>	Thor CVA
<i>Scylla</i>	Scylla CVA
<i>Sphinx</i>	Unicorn CVA
<i>Yggdrasil</i>	Thor CVA

<i>Columbia</i>	Volga BC
<i>Volga</i>	Volga BC
<i>Attentive</i>	Destitute BC
<i>Aversion</i>	Destitute BC
<i>Amazon</i>	Volga BC
<i>Candid</i>	Destitute BC
<i>Danube</i>	Volga BC
<i>Nile</i>	Volga BC

Rhine	Volga BC
Empire State	Tower BC
Coarse	Destitute BC
Deft	Destitute BC
Vigilant	Destitute BC
Salado	Volga BC
Divergent	Destitute BC
Orinoco	Volga BC
Magnolia	Tower BC
Fit	Destitute BC
Indecent	Destitute BC
Parana	Volga BC
Might	Destitute BC
Perturb	Destitute BC
Yellow River	Volga BC
Profane	Destitute BC
Xun River	Volga BC
Reliant	Destitute BC

Resolute	Destitute BC
Ganges	Volga BC
Staunch	Destitute BC
Yale	Tower BC

TF 3.1 (Battleline and Fleet Flag)	(UCAV and GB)
Admiral Knox	
Admiral Phillyda Law	
TF 3.2 (Carriers and BCs)	(fighters)
Admiral Hektor Gika	
Admiral Toby Chu (BCs)	



New Technology

Black Hole Point Defense(Dh): One of the most powerful engineering systems ever built, the Dh system fires micro black holes from their ship-based projector into the space near the ship, seeking to “absorb” incoming missiles and attacking small craft. The Dh fires 15 times (at 8 to hit) before massive overheating shuts the system down, treats fighters as missiles, engages sprint-mode missiles at -2, and is command datalink capable. The Dh, when fired, can cause up to 2 points of damage out to range 5 if used offensively (similar to Dk series weapons), is not capable of accepting modifications, and neither Computer Cores (Cpu) nor Phased Array Radar (PhR) helps with defensive targeting. After ten minutes a Dh can fire again. Size 3 hull spaces, cost 300, dev cost 50,000. TL17. (Thanks Kencyr and Phoenix for the ideas).

Orbital Habitat: An orbital habitat is an artificial living space based on the SS hull. It is a non-military system (i.e. can be placed in the central module), costs 50 mc, occupies 10 hs, and can support 1 PTU of population. If the habitat orbits a world that has an REI, the REI of that world applies to the habitat if 1 st for every 10 PTU's or portion of a PTU is available to transport resources. The habitat provides it's own maintenance, including that of the hull spaces it occupies. The cost of transporting colonists is normally calculated from the source world, with the “emplacement cost” being replaced by the construction cost of the habitat. Populations can only grow in the habitat if free space is available in that habitat. Moving to another habitat incurs the normal transportation costs. For habitats orbiting the same world, treat movement as between a planet and it's moons. For in the same system, treat normally (i.e. insystem CFN, then 1/10th cost). For habitats not orbiting an inhabited world they assume an REI of very poor (.8). In deep space, they do not produce any income, nor grow. There is no limit to the number of orbital habitats in a central module of a SS. Populations of orbital habitats that exceed the ground based population can not grow.

Optional: If there are no T/ST worlds in any system reachable by ANY means by the population of a orbital habitat, then they are assumed to have “adjusted to life in space” and can grow, basically because they have no other option.

Analysis: ROR for this is .5 percent. Only useful for races that have no better colonization prospects, are cut off or in a dead end, or as a “lifeboat” for a portion of the race. Support needed for this includes boat bays, Q & H, and possibly a

shipyard, depending on circumstances. None of the maintenance of these support facilities is paid for automatically.

(Tech courtesy of Joe Land).

WARP DRIVES

by Michael Rohde

Faster Than Light Drives

“...This expression approaches infinity as the velocity v approaches the velocity of light c . The velocity must therefore always remain less than c , however great may be the energies used to produce the acceleration...”

Albert Einstein (1879–1955) wrote these words in 1905 as part of what later came to be known as “The Special Theory of Relativity”. The result of this and works based off of it or related to it is that it is generally accepted that traveling faster than the speed of light is not possible. Even today while science has advanced a great deal this basic fact as not really changed. Perhaps one day science will prove that the work of Einstein, Lorentz and Poincaré was not wrong but mealy incomplete. Till that day arrives nothing can travel faster than the speed of light and Starfire with its system of movement generally conforms to this.

Classical Science fiction has considered many ways to travel faster than light. Commonly this is done through some type of work around or the like were under certain conditions the Special Theory and its derived work doesn't apply. For example we have the “Hyperdrive” of Star Wars, “Warpdrive” of Star Trek or “Hyperspace” of Babylon 5 and many other ways from the works of Movies, TV and Written SciFi. Warp Points in Starfire as a form of Worm Holes are able to side setup the limits on velocity as established by the Special Theory of Relativity.

All of which brings us to this question. What if there were other ways to side step these limits on maximum velocity in Starfire? What if ships could travel to any other system through the use of some Faster Than Light Drive? The nature of the game would fundamentally change and in ways not readily apparent. One of the most obvious would be that you would not have to fight one warp point after another, smashing through massed enemy defenses trying to break into an enemy empire's core systems. Or to look for the closed warp point that lets you enter a system without facing the

point blank battle on top of a warp point. Asteroid Fortresses, Battle Stations, PODS and Short Range weapons in General all might become less useful. All depending on the exact nature of how a Faster Than Light Drive (FTLD) worked of course.

For my own FTLD I have chosen to borrow the concept of a Hyperspace or Multiple Dimensions like in Babylon 5 and David Webers Honor Harrington books. This system like others assumes a special condition that allows us to side step Einstein and it is detailed below.

Other Dimensions and the Dimensional Drive

The Universe we are familiar with has 4 Dimensions, Length, Width, Height and Time; however outside of those normal boundaries there is another region, call it Hyper Space or the 5th Dimension if you will. The 5th Dimension overlays all space. Within the 5th Dimension the 4 normal dimensions are in a sense compressed and as a result movement within this region appears to be faster. Also there appears to be no solid matter native to the 5th Dimension, only energy fields and the gravity silhouettes of objects from within normal space. The Gravity Silhouettes of all objects are magnified within the 5th Dimension so what is merely a Yellow star in normal space could have the gravitational pull of a Super Giant within the 5th Dimension.

Through the use of the Dimensional Drive it is possible to create a rift between normal space and the 5th dimension. The rift allows the ship that created it to pass between normal space and enter the 5th dimension. The opening of the rift is not a subtle act and is visible cross 20 light minutes to Long Range Sensors or its equivalent if using some other sensor system, 1 light minute to a ships inherent scanners within normal space or 10 times the above distances within the 5th dimension. The Dimensional Drive projects a field around a ship that interfaces with the drive field of that ship to allow it to pass through the rift. Only the ship that created the rift can pass through it and if anything else attempts to transit the rift the extreme forces of the rift will destroy the ship. While a ship is passing through a rift the effects of the rift break any tractors locks on or from the ship. A ship declares that it is creating a rift during the Movement Phase, B Sub Phase after ram attempts are declared and at the end of movement phase the Rift Closes. Passing through a rift costs the transiting ship 1 movement point. The power it takes to create a rift is massive and it takes a ship 10 minutes to recharge Dimensional Drives capacitors before a new rift can be created.

Once within the 5th Dimension a ship can travel 1 light year per point of strategic in a strategic turn. As noted before within the 5th Dimension Gravity Silhouettes are magnified and gravity has a disruptive effect on the formation of a rift. Depending on the

mass of a stellar body a rift cannot be safely formed within a certain distance of the body. Stars disrupt the formation of rifts to a distance equal to their diameter times 3 in light minutes. So a blue giant with a diameter of 15 tactical hexes would prevent rift formation out to 45 light minutes. Now in normal space the formation of the rift could be done much closer than that 45 light minutes however the rift would be unstable because of the magnified gravity Silhouette of the Star in the 5th Dimension and ships are unlikely to survive transiting the rift.

Star Size

Blue Giant	15
White / Red Giant	11
Yellow	9
Orange	7
Red /White Dwarf	5
Red Dwarf	3

A rift cannot be opened on another ship as a way to destroy it. Remember tactical hex's are huge at $\frac{1}{4}$ light second a cross, the ships are vastly smaller than the hex and it is a little larger than the ship that creates the rift. When a rift is created it shows up some place within the hex, in front of the creating ship and so you can hardly aim a rift at another ship. Also a rift cannot be used to clear mine fields, DSB-L or other small buoys, these devices are even smaller than a starship. In theory sooner or later a ship or something could get caught in the creation of another rift but it's not worth trying to track such low probability events.

The region of space that higher dimensions are made up of is a violent and unstable environment. As a result when a ship is in a higher dimension the following needs to be considered.

- 1) It is possible to send messages to and from the different dimensions but only over a limited area because of gravitational distortion effects. Ships can send messages to and from the different dimensions as long as the "relative" distance is no more than 1 LM.
- 2) Because of the distorted nature of the higher dimensions it is not possible to make exact jumps to and from it. It is very possible that if you want to jump to an exact location you will be off a number of tactical hexes's away from it, up to 20. It is suggested to roll a d12 to figure barring and then roll a d20 or 2d10 for distance to locate an "rifts" exact location.
- 3) Because of the distortions and energy disturbances all scanners function at half efficiency within the higher dimensions.
- 4) Shields function but do not regenerate within



higher dimensions.

- 5) A ship traveling in a higher dimension could run across a Gravity Storm without warning. These events occur without and they can be highly destructive. Attempting to form a jump point within such an event is not possible normally. If a ship encounters a Gravity Storm it takes half a d10 (FRD) of damage per hull size, Explorer sized vessels are destroyed outright. So an ES would take .5*1d10 points of damage, a CT 1d10, a FG 1d10 + .5*1d10 and so on. A fleet moving in the upper dimensions has a 2% chance per week to encounter a gravity storm. Damage is applied like force beam damage.
- 6) Lastly because of the high Energy State of the higher dimensions, energy weapons do 50% more damage at all ranges, (FRU).

Tech Systems Codes and Information

Notes on the Basic, Improved and Enhanced

Tech System	TL	Code	Cost	Hull Spaces	Development Cost
Alpha Dimensional Drive	2	(DDa)	50% of total hull cost	8	2,000
Alpha Dimensional Drive Link	3	(dLa)		1	2,000
Alpha Dimensional Gate	5	(DGa)		20	8,000
Basic Dimensional Drive	7	(DDb)	100% of total hull cost	8	8,000
Basic Dimensional Drive Link	8	(dLb)		1	8,000
Basic Dimensional Gate	10	(DGb)		20	12,000
Improved Dimensional Drive	12	(DDi)	200% of total hull cost	8	12,000
Improved Dimensional Drive Link	13	(dLi)		1	12,000
Improved Dimensional Gate	15	(DGi)		20	20,000

versions of these systems. The basic allows access to the 5th Dimension, which grants an apparent speed of 1 light year per point of strategic movement expended. The Improved is access to the 6th Dimension and that results in 2 LY of distance per point of strategic movement. The Advanced represents access to the 7th Dimension and has a 3LY per point of strategic movement.

Dimensional Drive: As described in “Other Dimensions and the Dimensional Drive” this device creates a rift between dimensions and allows the ship that created it to pass through. If a ship has an Improved or Advanced Dimensional Drive they must first pass to the 5th Dimension before creating a new gate to step to the next dimension. Ships are

only able to move up or down one dimension at a time.

Dimensional Drive Link: The Dimensional Drive Link allows a ship equipped with one to pass through a rift created by another ship. A ship that creates a rift transmits data on the rift it is forming to ships equipped with a Dimensional Drive Link. They then can use that data to create a force bubble around their own ships using their Dimensional Drive Link to then transit the rift. If a ship that created the rift is also going to transit the rift it must transit last as it is providing constant updates on the ebb and flow of the forces within the rift to allow the other ships to transit. If more than 1 ship tries to pass through a rift in the same phase they risk being torn apart by the forces of the rift. In the event that more than one ship tries to transit a rift treat this as a simultaneous transit, see 03.06.02 for more information. Ships to share navigation information on the rift need to be in data link.

As with Dimensional Drives, a ship equipped with an Improved or Advanced Drive Link can only move up or down 1 dimension at a time unless using Dimensional Gate. Also a ship with Drive Link can only enter into dimensions that their link is rated for no matter the rating of the ship they are in datalink with.

Dimensional Gate: With Advances in Engineering it became possible to create the Dimensional Gate. The Gate creates a rift allowing ships other than those possessing a Dimensional Drive to enter the Higher Dimensions. Also the Dimensional Gate has enough power to allow up to 6 ships to pass through the rift in a movement phase. If more than 1 ship tries to pass through a dimensional gate in

the same phase they risk being torn apart by the forces of the rift. In the event that more than one ship tries to transit a rift created by a gateway treat this as a simultaneous transit, see 03.06.02 for more information.

A Dimensional Gate only needs 1 tactical turn to recharge between rift formations. Note if a ship were equipped with a dimensional gate it could not transit to the 5th Dimension, the Gate is designed to create a stable rift to allow other ships to transit and not itself. Otherwise Dimensional Gate acts like a Dimensional Drive.

Dimensional Gates ignore the limits that Dimensional Drives and Links have on moving up or down 1 dimension at a time. Because of the massive power of a Gate it can create rifts directly to any dimension that they are rated for.

Designers Notes and Comments

One of things I wanted to achieve with my FTLD was for it not to result in swarm fleets. The Gravity Storms and size of the Dimensional Drive are to help prevent swarm fleets and FTLD. If other players and spacemasters want different results they can of course make the Dimensional Drive Smaller and or Remove the Gravity Storms from the game.

As noted in the beginning FTLD will have many effects on Starfire combat. From a few play tests I have had with this using this system there is a marked tendency for Missile Designs and Carriers even more than usual. With the exceptions of the few times a fleet is attacked in an Upper Dimension or is some how ambushed from cloak or the like Beam Weapons play a very reduced roll. I have noticed other things but don't want to give it all away.

With FTLD it's possible to go right to the good systems, the ones with White, Yellow and or Binary Systems. As after all classic astronomy would have provided at least this much information on the universe and perhaps more if the Spacemaster is feeling generous.

With this system its possible to not have any warp points at all or to have only a few. The likelihood of a warp point in a system is the choice of the players and their space master. I would recommend that there are only a few nexus systems and the systems connected to them. These nexus systems become very valuable as rapid transit nodes and control of them gives a crucial edge. Or you could just use the tech with classic warp points but this can generate a great deal of confusion of systems that are physical close to each other are not so via warp point.

Now that system locations has been brought up, some are wondering I am sure how do you lay out

a "universe" that could be used with this FTLD system? There are a number of ways that this could be done and to be honest I suggest that the players and spacemasters that use the FTLD system come up with one that works for them. The reason is I am not giving a "generation" system is that so much depends on the flavor of the game people are looking for. Warp Points or not, Number if they are there, distance between systems and so on. So its best I think for people to create there own universe so to speak. I did include a map I created for a game with no warp points to show what could be done.

PSU MEGASCALE ENGINEERING PROJECTS: JUGGERNAUT-classes

One of the largest engineering feats ever conceived by the PSU, juggernaut-class warships are tremendous objects that costs billions of credits and a whole new class of technology had to be developed in order to field these mammoth warships. Called "megascall engineering", this type of engineering can literally only be conducted by very large stellar states that have vast sums of credits and can afford the long build lead times that are needed. Literally a gargantuan project, construction of the first juggernaut-class warship by the Pan-Sentient Union began in 2464 at the Garsten Yards. Costing a huge sum of money just to begin the project, the PSU actually put off building these monstrous warships until they ran into the enormous Hre'Daak *Arbiter*-class warship in the Red Rocks System. Although construction on a number of juggernauts began none of them were ready until the *Armageddon War* was well under way. The PSU initially constructed three different classes of juggernauts, the *Red Dragon*, *Majestic*, and *Titan*-classes. The *Majestic*-class was designed as a warp point assault warship packed with over 200 small craft (fighters and gunboats) and six units were eventually completed, although only three ever saw commissioning (the *Majestic*, the *Marvelous*, and the *Magnificent*). The *Titan*-class was built as a heavy beam combatant and proved to be highly effective against all smaller warships as well as a devastating close-in WP assault and defense platform. The *Red Dragon*-class fielded an impressive array of new weapons and the strategic speeds of juggernaut-class warships was incredibly slow, allowing only two *Red Dragon*-class vessels to be finished before fighting ended in the Beijing Chain (the *Tiamat* and the *Bahamut*). *Red Dragons* were equipped with ten devastating bombardment missile launchers, forty 4th generational advanced gun/missile launchers, as well as forty 4th generation hetlasers and numerous defenses such as phased





Pods, automated drones, and micro-warships called battleriders. Battleriders are 10-15 bpb sized warships that are launched from internal bays within the juggernaut. The first in class of the *Red Dragons* was the Fringe naval ship Tiamat which was built at Toricelli Naval Yards in orbit of Deuteronomy and completed on 2466. However, due to the immense maintenance needs of this vessel it was turned over to the PSU almost immediately. The *Red Dragons* were built in the standard sphere while the *Majestics* were built oval shaped and the Titan-class as a bulged vessel. All juggernaut-class warships were built to combat the impressively huge Hre'Daak *Arbiter*-class vessels (called battlemoons by PSU strategists) and PSU juggernauts were typically constructed as flagships for Fleet Admirals. Additionally, only the hyper-capable mind of an advanced AI is capable of keeping a juggernaut's systems and engines running without catastrophe overtaking such a monumental vessel. If an AI runs amok or is disabled the vessel can fight on, but at a reduced 70% combat rate.

Developing construction techniques for juggernaut-class vessels took an immense amount of time and engineering ability, which took decades to finalize. Unique fabrication methods were created, including the aforementioned megascale engineering techniques, but it was the use of new mesoscale engineering that allowed for the breakthrough in engines designs and high-density armoring that truly allowed the juggernaut-sized vessels to fight in the battleline. Advanced quantum armoring and ablative armor enabled the class to remain in the fight far longer than traditional warships and their ability to dish out a phenomenal amount of damage made these whopping monsters utterly deadly to any smaller vessels that ran into them. As can be seen from the size comparison chart below, juggernauts are tremendously huge vessels.

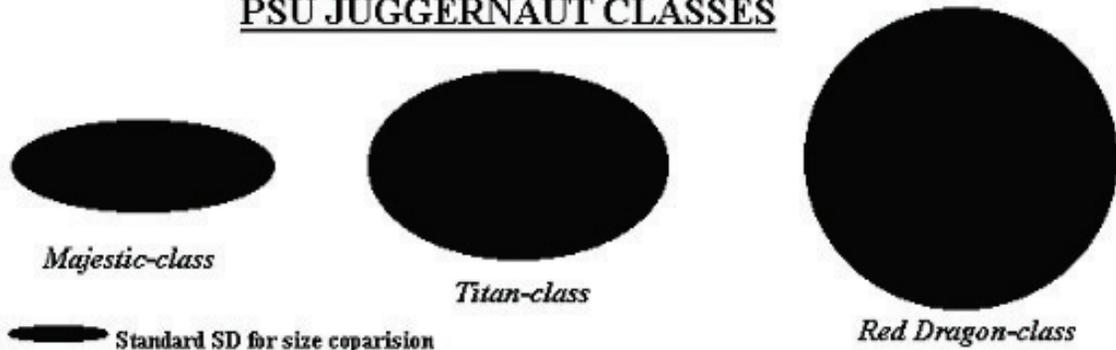
SIZE COMPARISON CHART



Juggernauts constructed at the huge Jehovah Yards (seen below) are significantly larger than their naval predecessors and will most likely continue to take huge amounts of credits and time to build. Although all juggernauts have been mothballed after the end of fighting of the *Armageddon War*, these brobdingnagian monsters will remain in the official reserves of the Pan-Sentient Union and their allies for the foreseeable future.

Standard tonnage for a juggernaut-sized vessel is 900,000 tons and each has an average of 9,000 crew. Substantial maintenance costs are critical to the continual functioning of a juggernaut and it was these costs (nearly fifteen times a normal planet's GPV) that forced them into early retirement. Nearly all units are mothballed at Galloway's World (New Human League) and the Boneyard (Frontier Alliance Worlds). Side note: The Jehovah Yards are administered by the Reformation Group and were a joint military/civilian yard under the Terran Federation until the Insurrection.

PSU JUGGERNAUT CLASSES



WARSHIPS WITHIN THE PSU: Part 1

Being a premier military superpower, the Pan-Sentient Union invested millions of megacredits into its' military arms even before the fighting of the Armageddon War broke out and these monies paid off quite handsomely in regards to new warship construction. While the pre-PSU Terran Federations' Navy was continually strapped for cash, the Pan-Sentient Union as a whole had far more money and scientific knowledge available to it than anyone possibly dreamed. Entire new classes of warships and, indeed, entire new sizes of warships became attainable by the PSU Navy within a few years after amalgamation. Even though it was Corporate World interests that keep the Terran Federation Navy on such tight purse strings, the corporate elites in the new PSU had far less power over military spending.

The joining of the Terran Federation and the Khanate of Orion produced widespread military integration problems, however, and stymied substantial warship production until the year before the Armageddon War broke out. The new PSU BuShips had prototyped several new heavy warship classes and were beginning production runs on several when the fighting began. Both Monitor and Superdreadnought designs were updated and this article focuses mainly on the Terran designs. While the unification process did slow overall production the result on the PSUs military forces was slight as newer vessels were far more capable of sustaining damage as well as inflicting it. Although there was a 90 year gap between ISW4 and the Armageddon War (not counting 2nd Arachnid War), Terran naval designers have always had their fingers on the pulse of reality and their designs have almost always proved efficient when conflicts had broken out in the past. However, no one, not any living race in existence, had ever faced the awesome brutality of a Hre'Daak Arbitor and its' screen of lighter vessels.

Several new Monitors were discussed by both Orion and Terran naval planners and while the humans had their doubts about joint coordination of military production, the Orions let them off the hook. In early 2450 the Orion Admirals told the Terran half of the PSU Navy that they should pursue their own naval construction plans with regards to their own needs while also trying to integrate Orion operational needs into any new designs.

Naval engineers eagerly got to work at Garsten Yards, pumping out novel vessels like the *Drake Belgrano*-class Monitor, a long-range and extremely lethal class of warship mounting new generation bombardment missile launchers (Rh3). The old *Horatio Spruance* class monitors were scrapped or modified to the modern *Hernando de Soto*-class MT, swapping all beam weapons for a full load of advanced capital missile launchers (Wca). The old style *Hannah Avram*-class MTs were disposed of in favor of the fresh *Irina Rubinova*-class, which mounted a devastating array of second generation advanced missile launchers (Wa2) and advanced quantum armor laminates. Additionally, none of the old-style superdreadnoughts survived the long-lasting decades, being replaced by far more capable classes. The old *Matternhorn* SDs were scrapped and a completely new class was laid down: the Battle-class. Mounting a single Rh3 and substantial Wca batteries, the Battle-class proved effective in nearly every long-range missile duel they were ever in. The *Chimborazo* were decommissioned and a newer version of this class was built in large numbers, the *Colorado*-class, with an effective broadside of Wa2 defended by phased shields and second generation gunboats mounted on XO racks. The old *Mekong* were replaced by the *Gladiator*-class and the *Mount Hood* by the pod-packed *Medusa*-class. Various other warships were also constructed by the PSU during the *Armageddon War* and all heavy warship classes are listed below.

SUPERMONITORS

Assassin-class (Wca)
Continent-class (Pc3)
Drake Belgrano-class (Rh3)
Legacy-class (Wa2)
Renaldo Chavarra-class (Fvc)
Resolute-class (HET3)

MONITORS

Hernando de Soto-class (Rh3)
Howard Anderson(C)-class (Wca)
Irina Rubinova-class (Wa2)
Stout-class (HET3)

SUPERDREADNOUGHTS

Battle-class (Rh3/Wca)
Colorado-class (Wa2)
Everest-class (Pc3)
Gladiator-class (Cbc)
Luna-class (Wca)
President (HET3)

DREADNOUGHTS

Audacious-class (Fvc)
Budapest-class (Wa2)
Catapult-class (Wca)
City-class (HET3)
Punishment-class (Pc3)
Takahashi-class (Rh3)

CARRIERS

Adamant-class CVL
Borsoi-class CV
Direwolf-class CV
Hellhound-class CV
Scylla-class CVA
Skokaku-class CVL
Thor-class CVA
Unicorn-class CVA

BATTLECRUISERS

Ballista-class (HET3)
Broadsword(C)-class (Fvc)
Destitute-class (Rh3/Pg2)
Tower(C)-class (Wa3)
Volga-class (Wca)

The Terran half of the PSU maintained large numbers of battlecruisers, for they were the only “small” class of warship still capable of surviving on the combat-intensive battlefield of the future. While the Khanate half of the PSU saw battlecruisers as still valuable, they tended to concentrate on more heavy warships. The Gorm continued to build new designs of small capital ships, particularly the battlecruiser, but only because of their limited manning capabilities. A more comprehensive listing of Terran battlecruisers is listed below:

BALLISTA-Class Battlecruisers: Designed by BuShips and first constructed in 2452 (during the Second Arachnid War) the *Ballista*-class battlecruiser is a continuation of the much favored *Dunkerque*-class, but with a redesigned interior. The ships’ advanced capital missile launchers and focus beams were gutted during the war and a new long-range heavy bombardment missile launcher (Rh3) was installed, as was a substantial broadside of plasma guns. Although a *Ballista* could only mount one Rh3, it was more than enough firepower to conduct devastating long-range strikes against light enemy forces, long before they could bring their weapons to bear on a *Ballista*. Anything that survived the bombardment missile fire would almost assuredly be annihilated by the sizable second generation plasma gun array that the *Ballista* sported. A total of 245 of these vessels were procured by the Pan-Sentient Union before the *Armageddon War* and 12 were used (and destroyed) at the *Battle of Red Rocks*.

BROADSWORD-C Class Battlecruisers: An updated version of the old-style *Broadsword*-class, the new *Broadsword* battlecruisers were updated with an

extensive defensive suite, including phased shields and quantum armor. Designed for close-in combat, the *Broadsword*’ original armament was gutted and updated dual-capable primary/forcebeam (Fvc) projectors were installed. An enhanced ECM section was also added once the CIC was removed, with modern RD and anti-fighter bays affix within the vessel. Initially built at Kawaski Heavy Industries, production was jointly shared by Kawasaki and Galloway’s World, of which over 250 were built. Actual construction on the first vessel, the *Glaive*, began in 2453 and production ran until 2459.

DESTITUTE Class Battlecruisers: First built at the Hecate Naval Base, the *Destitute*-class battlecruiser was a follow-on design from the *Longbow*-class. The initial unit (PNS *Replete*) was constructed in 2454 with a total of 324 vessels built by the PSU Navy. Even before the *Replete* was laid down the Terran Admiralty foresaw a significant need for longer-ranged escort battlecruisers in new conflicts and the result was the *Destitute*-class. The initial design phase took over two years as bureaucratic infighting and parts shortages halted significant progress, but the Terran Federations’ infamous troubleshooter Commodore William Wainwright was brought in by BuShips to restore the program and ensure the *Repletes*’ construction. Also initially included in the design were highly sensitive and untested sensors (including a phased array radar) which were installed aboard the *Replete* but they failed design tests and were scrapped for a more conventional set-up later that year. Over 88 of these vessels were lost in the *Armageddon War* but the Terran Admiralty Board has stuck by the design. Although several prominent leaders in the PSU government howled at their continued production the Admiralty pointed out that even though they were vastly outclassed by the hyper tech of the Hre’Daak, they performed exactly as thought.

TOWER-C Class Battlecruisers: An updated version of the old *Tower*-class battlecruiser, the *Tower-C* was equipped with twelve upgraded Wa3 systems. It had no CIC version but cloaking ECM was added at the last minute as well as the new advanced black hole point defense system. Since the loss of a significant number of Terran Shipyards after the “Insurrection”, the human half of the PSU shifted significant production of its’ warships to the newly built Garsten Shipyards, a massive facility located in the recently colonized “Frontier” region of the PSU. The Wa3 is a system of very rapid-fire gun/missile launchers, capable of delivering a devastating broadside of close and medium range missiles packed with antimatter or anti-small craft ordinance as well as close-in assault missiles.

VOLGA Class Battlecruisers: A design promoted by Admiral Alexei Voronov, the first of the *Volga*-class

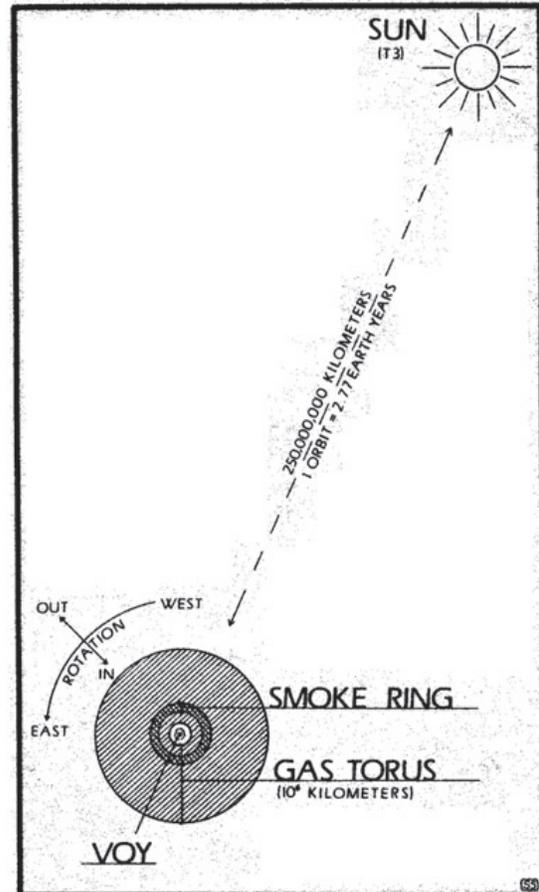
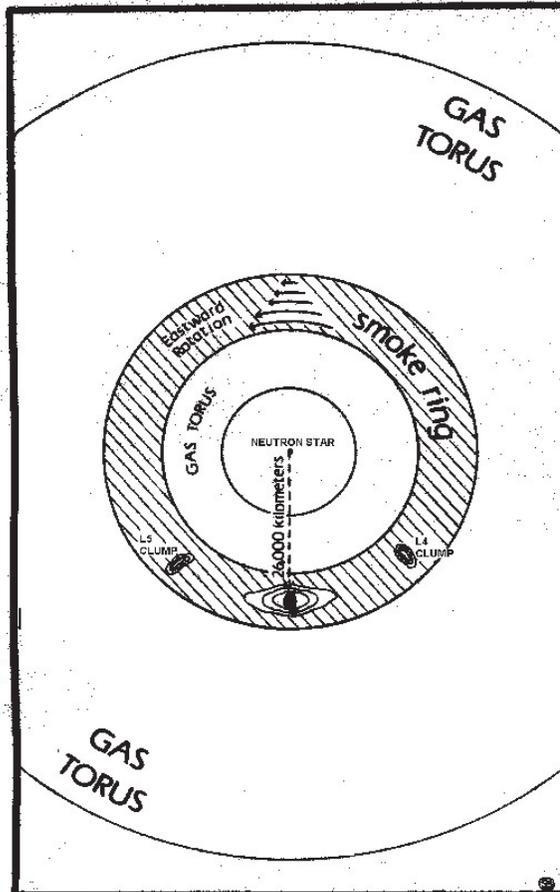
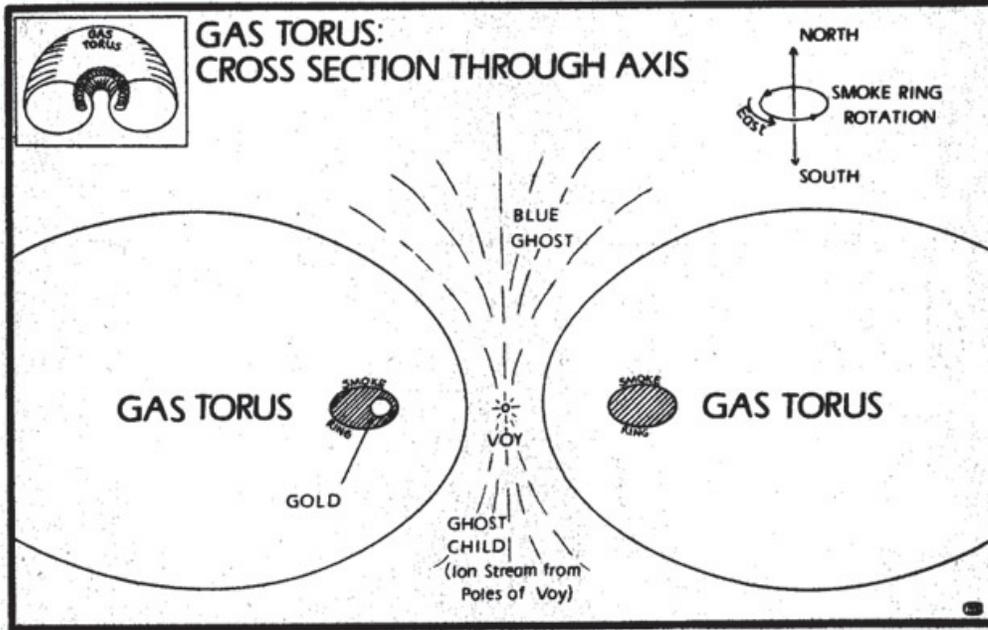
(PNS Columbia River) was rolled off the production line at the Garsten Shipyards in 2457, just two years before the *Olympus Affair* broke. The initial vessels were built in orbit of Raider's World in the Frontier region of the Pan-Sentient Union and proved to be an excellent design. *Volga*-class battlecruisers were primarily constructed to escort PSU dreadnoughts and superdreadnoughts through hostile warp points and conduct close-in fighting, as well as provide anti-gunboat protection for their larger cousins. Their third generation hetlaser array was developed at the Nuevo Laredo Energy Center and proved devastating in combat. Over 300 were built, of which 212 were lost during the fighting of the *Armageddon War* but overall they were considered a successful design by BuShips and their onboard personnel. Again PSU politicians disagreed with the military over the continued production of the *Volga*-class but again they were forced to concede that the class performed exactly as required.



HABITABLE GAS TORUSES

Across the universe many unique and indeed majestic objects can be seen, from novae to nebulas, and neutron star systems are no different. Most neutron stars mass around 2.3 Solar masses and are about 10 km in diameter. Several different types of neutron star systems exist but the most conspicuous are known as “habitable gas toruses”. The HGT are a result of the gravitational stresses placed upon nearby gas giants,

reducing these titanic planets to asteroids intermixed with breathable gases. HGT are very rare star systems. Two distinct types of HGT exist, the standard type and the “Niven” type. The Niven-type HGT is quite a bit different than the standard type HGT and is much smaller in colonizable area. Below are several different shots of a Niven-type HGT and the variation between the two are remarkably different:



Glossary

Adhocracy: A non-bureaucratic networked organization. A form common in law firms, consulting companies, and research universities, as well as some planetary governments. These organizations and institutions must continually readjust to a changing array of projects, each requiring somewhat different combinations of skills and resources. These organizations depend on many rapidly shifting project teams and much lateral communication among these relatively autonomous, entrepreneurial groups.

Basement Universe: A small, a possible artificially created, universe linked to the old universe by a wormhole. This could be used for living space, computing, or an escape from a decaying universe. Also possibly used for hiding from enemies or destructive phenomena (a mega-engineering feat). It is unknown what happens to a Basement Universe when its' primary universe dies out.

Battlescreens: A unique forcefield technology, Battlescreens are a highly restricted technology that was developed by Civilization early in its conflicts with the Hre'Daak. It is a 'hard screen technology' that is wide-spread use with Civilization forces. The ability to withstand moderate damage and stay online is one of Battlescreens more unique features, but once overwhelmed, it stays down several minutes (the difference between a 'hard screen' and regular shields is screens must be overwhelmed in one salvo, or it does no damage). Also, when a 'hard screen' is 'up', a warship cannot fire out through it. A vessel with Screens up cannot launch or recover fighters, bombers, or other small craft and point defense also cannot fire out.

Beanstalk: A strong cable lowered from geosynchronous orbit and anchored to the ground (often with a small asteroid at the outer end to provide extra tension and stability). This would provide cheap and simple access to space using elevators. The term beanstalk was spread by the role-playing game 2300AD by GDW.

Berserker: Incredibly dangerous automated killing machines left over from some ancient war, usually found in orbit in the form of massive and unstoppable warships. Their only goal is the eradication of all life within the known galaxy. Usually a self-reproducing machine, Berserkers are widely seen throughout the known universe.

Biological Fundamentalism: A conservative religious movement that resists asexual reproduction, genetic engineering, altering the

human anatomy, and overcoming death. A resistance movement born to counter the evolution from the human to the posthuman.

Borganism: An organization of formerly autonomous beings that have merged their individual wills to create one, collectively conscious being. A highly dangerous group of individuals that routinely spring up across the universe, the cause being unknown but quite possibly the perverted use of nanotechnology. Essentially a Hivemind.

Civilization: A super-conglomerate of races joined in mortal combat against the utterly vicious Hre'Daak race, Civilization is a association of races that have vowed to stop the Hre'Daak invasions into their vast space no matter what the cost. Civilization itself is ancient, the organization dates back nearly 30,000 years although most of the originator races have "moved on" long before the fighting broke out. Now, nearly 3,000 races have combined their defensive firepower to withstand the overwhelming might of the Hre'Daak Dominate whose ultra-tech has substantially mitigated Civilizations' numerical superiority. Although combat has been waged on and off for hundreds of years, the major races of Civilization: the Bushi, Deeorti, the Mandru Collective and the Negentropy Alliance refused to give in and have completely geared their empires towards weapons production. Significant defeats within the last two years, including the fall of the Talo'sian homeworld, the destruction of the Grand Fleet at Norcross, and the reduction of the fortifications along Civilizations' border with the Hre'Daak have many races threatening to sue for peace, an offer the Hre'Daak surely won't accept.

Concentrated Intelligence: An intelligent entity (vast computer network) which is spacially concentrated into a single volume, as dense as possible, to reduce communications lag. This arrangement is not as flexible as a distributed intelligence, but probably more efficient. These entities are still being produced today, mainly for the Civilization military and research labs.

Distributed Intelligence: An intelligent entity (vast computer network) which is distributed over a large volume with no distinct center. This is the opposite strategy of concentrated intelligences. Distributed intelligences have much longer communications lags, but are more flexible in their structure and survive damage to their parts. Mainly left over from ancient wars across Civilization space.

Dis Technology: Dis is a devastating substance, the



culmination of centuries of nanotech development and military research. The substance is composed of trillions of disassembling nanobots, microscopic in size and destructive in action. Dis dissolves organic materials, anything organic including human flesh with incredible rapidity. When a warship is hit with a dis warhead, the nanobots go to work immediately, disassembling the ship in minutes into a grayish goo. Dis achieves its greatest horror when used against planetary targets, dissolving everything on the planet's surface; cities, oceans, and people. Quarantines must be maintained around dis-enveloped worlds, otherwise it spreads rapidly like a cancer across the star lanes.

Ectogenesis: The creation of human life within artificial wombs. Wide-spread use within the Civilization has allowed both the federal and local governments as well as the Civilization military to create vast standing armies of warriors that have little or no rights as citizens. A vast underclass within the military, these supersoldiers (also called "tanks") can become a serious liability within Civilization military as they have no political or social loyalties.

Kardashev Type Civilizations: A classification of alien civilizations in relation to their energy usage. Type I civilizations control all available energy on a single planet. Type II civilizations control all available energy in a solar system. Type III civilizations controls all available energy of an entire galaxy. A Type IV civilizations, theoretically, could control all available energy in the entire universe. Civilization is somewhere between a Type II and a Type III civilization.

Megascale Engineering: Technology using energies, scales, or methods far beyond current levels. Beginning uses include huge warships that standard races are unable to build, including juggernauts and battlemoons. Typical examples of more advanced megascale engineering is ground-to-orbit beanstalks, Dyson spheres, and stellar husbandry. Civilizations' tech levels are high enough for megascale engineering to be used throughout their space.

Merchancy: A proprietary, commerce-orientated quasi-government which claims sovereignty over its land and property but not the allegiance of its citizens/clients. Only fifteen recorded planets within Civilization space have this type of government. They enter into trade agreements faster, but refuse all partnerships.

Picotechnology: Technology using objects on the picoscale (quantum level). This involves nucleons and other elementary particles doing useful work, involving quantum effects. Unlike nanotechnology, picotechnology has been only in limited use within Civilization for a half dozen years.

Rif: A Rifkinite, or supporter of ancient humanist Jeremy Rifkin and his anti-genetic engineering, anti-nanotech crusade; against any and all research or implementation in these areas. Having survived for centuries, Rifkin's ideas have evolved into a sect bent on "saving" humanity from rabid technology.

Stellar Husbandry: To control the evolution and properties of stars, especially to stabilize them, prolong their lifetimes, manipulate the stellar wind, lift off useful material, or create new stars. Typical methods would be star lifting or mixing the stellar core with envelope material to make hydrogen burning last longer. Civilization specializes in this type of megatechnology, although the Pan-Sentient Union has recently begun to lift off useful material from stars in several locations across PSU space. The first real application of stellar husbandry took place under the supervision of stellar theorist Cristina Zurita of the Instituto de Astrofisica de Neove Canarias in the Tenerife System, PSU.

Warp Point Junctions: A Warp Point Junction differs from standard warp point nexii in that all warp points are within a similar distance to the parent star. The number of warp points vary from system to system but their locations are always consistent: equidistant around the parent star, making transit times between WPs much faster. This also makes warp point defense especially easy, for orbital forts can be towed to adjacent warp points within a short amount of time. Both a strategic asset and liability, Warp Point Junctions within Civilization space are heavily defended. The Barawhara WP Junction is one of the most famous of these anomalies



Talo'sians

Talo'sians are a powerful and technologically advanced race that are an integral part of Civilization, a vast multi-species organization located near the core of our galaxy. Talo'sians were first introduced to the human race at the Second Trans-Species Conference in 2488. Apparently from a homeworld that has substantially more gravity than Terra, Talo'sians are typically around 20% stronger than standard humans, although they have never been known to colonize super terrestroid worlds. A martial society bent on staving off Hre'Daak military advances, the Talo'sians have been fighting in the war on the side of Civilization for centuries even though they are clearly losing the conflict with the hyper-tech Dominate. Although combat has been waged on and off for hundreds of years between the "Civilization" and the Dominate, three years ago the Talo'sian homeworld fell to the Hre'Daak forces, striking a major blow to the races in Orpheus Cluster area. Talos had over one trillion inhabitants on it when the planet finally fell, after

being on the front lines for nearly a decade. This number accounts for over 95% of the Talo'sian population as their once mighty colony worlds were conquered by the ever-advancing Hre'Daak conquest. For now, the future of the Talo'sian race appears grim.

Talo'sian Society

Almost completely human in appearance, Talo'sians are identical to humans in many ways with the notable exceptions of a small nose, pronounced cheek bones, and a long, prehensile tail. The tail acts as a fifth limb and is extremely sensitive and coordinated. This allows a Talo'sian increased dexterity and physical prowess. Both striking and shooting weapons have been modified in many variations to attach to or be held by this extra appendage. Most Talo'sians have little or no body hair except on the head, and facial hair is usually kept shaved. The skin of both sexes is extremely smooth, soft, and supple.

Among sentient species Talo'sians curiosity and cleverness is second to none. They are creative thinkers and enjoy any challenge to "build a better mousetrap". Unfortunately their curiosity and inventiveness sometimes gets the best of them. Most Talo'sians are strong, have quick reflexes, and are generally athletic as their genes keep them in tip-top shape and obesity is unknown to them as a race. The typical Talo'sian family emphasizes the maintenance of the body and engages in sports and physical activities. Unfortunately, this has marked them by the Hre'Daak as the ideal labor force. They are also recruited as warrior slaves and used in law enforcement and the military.

Talo'sian history is tens of thousands of years old and significant events are listed below:

0: Initial scrolls (at Mezo'satos Valley) on Talos written, beginning of era of writing and historical recordings.

5,051: Hrada Catastrophe: ancient comet Hrada impacts southern continent, causing worldwide deep freeze for 451 years. Population dropped to the lowest point in five millenia. State resources declined precipitously. In many strategic and formerly prosperous areas there were tax revenue losses of 90 percent or more in a single lifetime.

8,991: Brown-tail Plague decimates Talos' population, dropping total levels to below sustaining populations. This period of disintegration and conflict also produced some of Talos' major philosophical, literary, and scientific achievements.

15,657: The collapse of the Myce'nou Civilization. One of the most advanced empires in Talo'sian history, a period of unstable conditions destroyed modern civilization. Metalwork became simpler. Writing disappeared. The craftsmen and artisans seemed to vanished. Estimates of the magnitude of population decline ranged from 75 to 90 percent within Myce'nou areas, although population growth across the planet continued at a rapid rate.

20,622: Talos enters modern technological era, including airplanes and telephony.

20,760: Talos enters an exceptionally dry period. Icebergs are floated from the polar ice cap to irrigate vital farmlands to prevent famine on the heavily populated world.

20,791: Plastic recycling is perfected, needing no new petroleum sources to create.

20,831: First main producing fusion plant begins operating. Talo'sian cloning originally outlawed.

20,877: Prompted by public opinion and following the trend over half a century, national boundaries are drastically reduced. Travel becomes so cheap and communication so instant, that a global culture and identity was crated. The new global government begins taking more and more governmental duties to itself (first real global government on Talos).

20,943: Talos' population passes 10 billion. Genetic engineering becomes widely available. Direct neural interfacing implants commercially available. First mesomachines constructed, allowing initial but expensive and inefficient nano-manufacturing.

20,949: First manned electrostatic ion drive spacecraft created in Talos orbit. First artificial intelligence built.

21,011: First permanent off world colonies constructed at Talor Minor. Initial space elevator built on Talos.

21,015: Initial probe of warp points conducted; accidental transit by space probe recorded. Global weather net completed on Talos. Thirty orbital habitants depopulated by virulent strain of virus. Second probe of warp points by manned spacecraft conducted (TNS Verdage Glory). First new star system discovered and colonized.

21,047: Talo'sian offworld colonies (T-worlds) reach 30. First contact with alien race fails utterly, Erselrope Wars begin. Contact with other aliens leads to contact and acceptance within Civilization. Technological uplift of Talo'sian society begins. First battlewagons laid down. Nebula exploitation begun.

21,102: Mass offworld colonization of Talo'sians begins in Orpheus Cluster. The first Talo'sian colony (Gantimerov) falls to Hre'Daak forces during this time (most offworld colonization canceled after this event).

21,407: Negative first contact between Talo'sians and Kalderhut leads to decades of strife between the two races. Poor relations with many other races hinders defense of Talos against Hre'Daak. Talos homeworld reaches 1 trillion population.

21,677: Fall of Talos. Talo'sians complete their first mobile Warstation.

Talos Prime



Like most sentients within Civilization, Talo'sians generally respect all life and freedom. They share a great concern for the well-being of their race and the future of the star-spanning Civilization government. Talo'sians are especially gifted climbers and acrobats which makes using rooftops and swinging and climbing along bridges, underpasses, and from building to building as natural as walking. This also gives them an edge in combat, for their speed, balance, and agility can be astonishing and until three years ago millions of Talo'sians fought in Civilizations' ground forces but most have resigned and returned to their homeworld to fight the Hre'Daak. Many were able to reach their homeworld before it fell to the Hre'Daak forces.

Most Talo'sian men, women, and children also practice the ancient martial art of Talitsu. This martial arts form was developed thousands of years ago and is part of most every (82%) Talo'sians' life starting at age three. It combines body building, acrobatics, and the use of the tail with combat arts. Since the Hre'Daak have conquered their homeworld and assimilating the planet they are seriously thinking of banning it. This style of combat is highly useful in the massively built-up areas across Talos, where close-in combat and room-by-room fighting are prevalent.

Before the arrival of the Hre'Daak the Talo'sians had made great strides in medicine, making the life span of the average Talo'sian roughly 100

years, with some living to 140. Since the Hre'Daak invasion of their planet, the quality of life and medical care have dropped severely due to the

T world similar to their homeworld, and are breeding themselves to build up a new Talos, to help Civilization win, and liberate the homeworld.

This has causing friction with some other Talo'sians who want to return and liberate the homeworld now.

Talo'sian Enemies

For nearly 800 years the Talo'sians have been fighting on the side of Civilization against the mighty Hre'Daak forces. They despise these aliens with a passion as well as the Kalderhut (an ancient, sneaky, and honorless race of beings in neighboring Garadda Cluster) as well as the Seeronians (who use mental powers to influence others). Talo'sians also slightly dislike the Darcanan and the Endori but only because of their stench. They utilize carriers and fighters exceptionally well and their favorite warship classes are Microstars, Battlestars, Pocketstars, and Ministars, although they refuse to use dis on enemy planetary targets in spite of Gran'Admiral Mellors' standing orders to do so. Talo'sians make very limited use of cybernetics and genetic engineering although Civilization excels in both of those areas. They prefer natural combat over augmented warfare and especially enjoy hand-to-hand combat with their enemies. A continuing blood feud between Talo'sians and the Kalderhut badly hurt local forces in Orpheus Cluster and the refusal by the Empire of the Crescent Moon to help in the growing fighting against



massive fighting that continues across the globe. As members of Civilization the Talo'sians were granted access to databases from hundreds of different species, a leap which substantially helped the heavily overpopulated Talo'sian homeworld. When they joined Civilization nearly 900 years ago, Talo'sians were extremely warlike but service in Civilizations' armed forces has tempered them somewhat although they continue to excel at ground combat and gunboat tactics.

Finally, there are several hundred thousand Talo'sians who have set themselves upon a new

the Hre'Daak only worsened relations between the races in the area, including the Endori, Darcanan, and Talo'sians. With the fall of their homeworld the Talo'sians are in very desperate straits and recolonization efforts by the Civilization Security Council have gone forward, placing new Talo'sian colonies far away from the Combat Zones and near Sreen space. Finally, although it took many years of dedicated construction the Talo'sians have finally built and fielded their first mobile Warstation and have begun using it in mobile operations across Orpheus Sector.

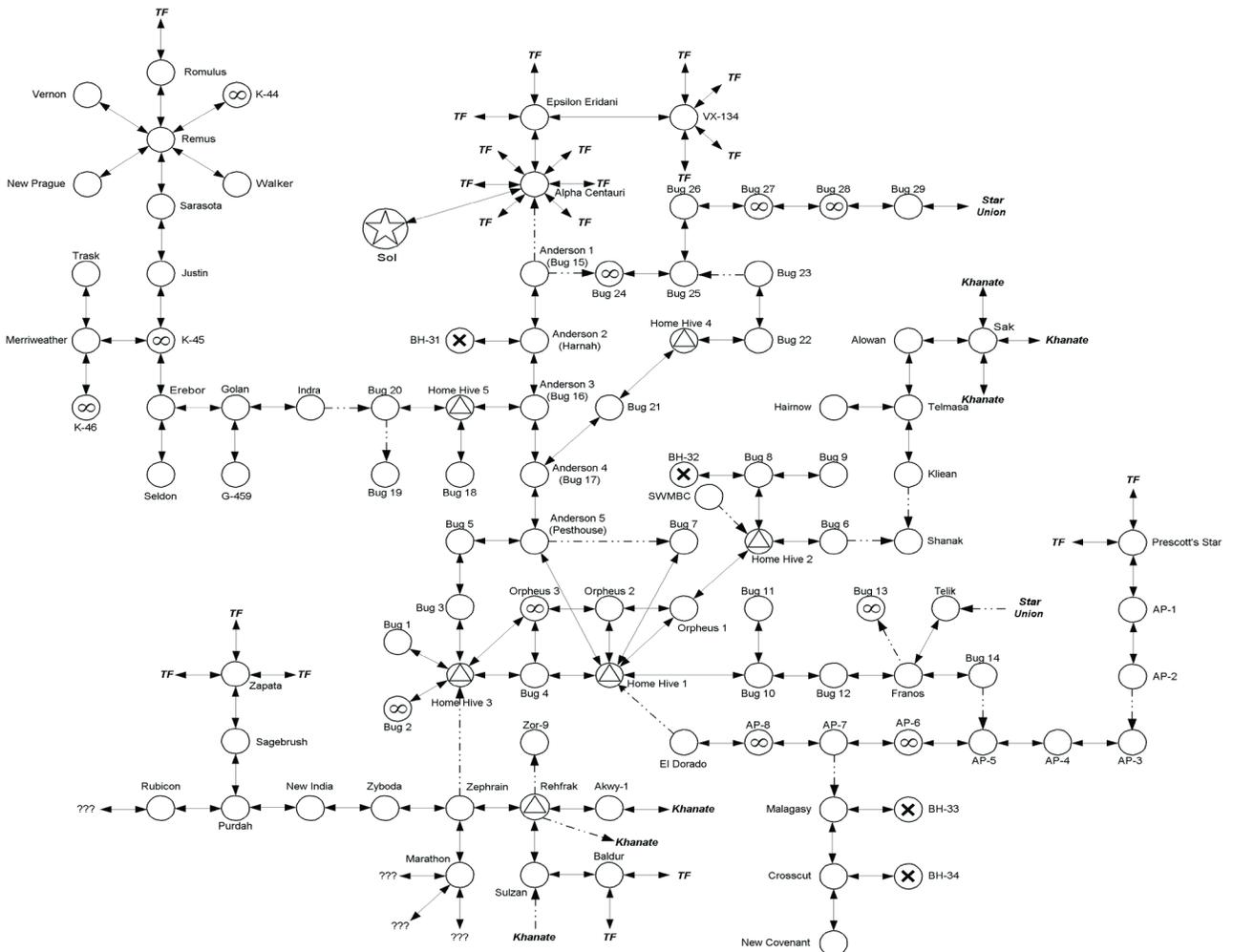


ARACHNID OMNIVORACITY

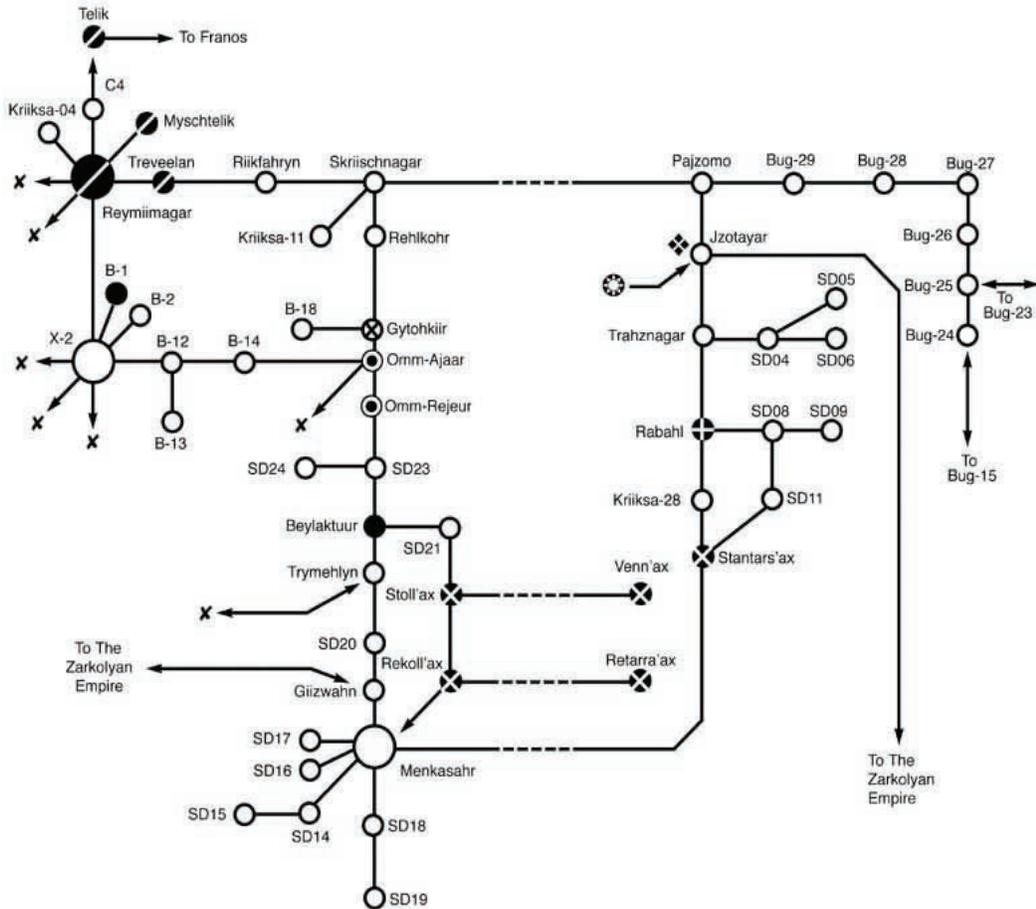
The Arachnid Omnivoracity was an unusually compact and powerful interstellar empire, with multiple core systems having multiple terrestrial worlds. In fact, Hive Home 5 had a total of five T-worlds, with an estimated total system-wide population over 50 billion, with ranges assumed to be as high as 200 billion for all five worlds. Although no major Bug population centers survived the brutal fighting of Interstellar War 4, the Bug “System Which Must Be Concealed” did survive the destruction of the Arachnids’ interstellar empire.

CRUCIAN UNION

Although unknown to the Grand Alliance for most of the war, the Crucian Union was fighting the Arachnids for several centuries before the Alliance became involved in the fighting. While the Crucians were hiding behind closed warp points in several key systems they were building up their forces and just before the war was renewed the Crucians ran into and allied with the Zarkolyan Empire, an uber capitalist alien race with advanced laser torpedo technology. The major areas of fighting between the Crucians and the Arachnids is shown below. The only reason the Crucian Union survived as long as it did against the Bugs was the constant Alliance attacks and the strategic depth in which the Union was able to far back to.



Operating Area for the 2nd CAW



Legend

- Unpopulated
- ⊕ Arachnid population
- Crucian population
- ⊗ Br'stoll'ee population
- ◐ Telikan population
- ⊙ Ajaarian population
- Giant Star Warp Nexus
- ⊗ Pre-Ind population
- Closed Warp Point

Special Notes

- ⊖ This is a special warp point which is actually in a starless nexus 2 weeks travel at speed 3 from Jzotayar's "outer system border."
- ⊗ This closed warp point comes from somewhere in the Pitariad.
- ⊗ To other Star Union "core sector" star systems.



Loose Ends

INTERVIEW with HENRIK GEISE

This interview was conducted after I found Henriks' new version of Starfire. I was completely blown away by his revised 3rd Edition version and asked him for an interview. Here are his comments:

D: I wanted to know where you got some of your tech, specifically Hyperwave Generators. They sound AWFULLY familiar.

H: Hyperwave Generators (HPGs) is stolen straight of from FASA's Battletech. Just as VLCAs (Very Large Communication Arrays) are stolen from their Renegade Legions universe. I like stealing from FASA! ;)

D: Why don't you tell us all a little more about yourself (where's home? how long have you played Starfire? any Starfire buddies we might know from the List?).

H: I'm a long-time player, started with 1st edition back in the early 80's. I live in Stockholm, Sweden which unfortunately isn't near any of the other Swedish players on the list (Melcer is the only one I know personally, and he lives about 300 miles away).

D: When I found your new Starfire files I was really amazed. Where did you get these ideas?

H: Most of it is just extrapolation of the published rules. It came up due to badly balanced technologies in 2nd and early 3rd edition, especially fighters.

D: It seems you are taking your Starfire in a slightly different direction, why are you doing that?

H: All current Starfire rulesets seems, to me, to be very limited in what they allow. GSF is generally more varied the 3rdEd, but if you see a fleet of 12 BCs and 30 CTs you can still make a very good guess on their TL and equipment. In my version that can be practically anything!

D: What technology, that you invented, do you really like the best?

H: Engine/hull size rules (not really a new tech, but rather a new way if implementing existing tech) and the changed smallcraft weapons.

D: Do you game with other Starfire players? Has your new system been gamed out (tested)?

H: Now that I don't have anyone near me to play with I mostly have to play solo, but different

versions of my rules have been tested by me and four other persons. It has gone through a lot of changes over the years!

D: Will you allow Skymarshel magazine to print your materials(hopefully)?

H: I suppose that is really up to Marvin, but I have no objection.

D: How long did it take you to develop your new system Henrik?

H: A long time. I have been working on it for at least ten years, on and off. I'm not exactly the fastest writer on the planet!

D: What DON'T you like about the old Starfire system?

H: Predictability. As I said before even in GSF you will have a very good idea of a fleet's capability from just a few pieces of information. All things go back to TL, and getting just the enemy's speed (in GSF) or hull sizes (in 3rdEd) will tell you a lot about their possible offensive/defensive capabilities.

D: What technologies don't you like about the old Starfire system? I noticed you dropped the SBMHAWK, was there a reason for that?

H: Dropping the SBMHAWK (as well as all other automated weapons) has two reasons: 1) With only FTL drives (no warp points) most of the reason for AW goes away. 2) With my rules it is quite possible to build an "AW" using the normal ship construction rules (a small ship without engines).

D: What additional tech systems did you delete?

H: Dedicated boat bays went away, replaced by hangar bays that do double duty as fighter storage. And the different types of missile launchers were all rolled up into three basic types (R, G and W) with variable size. But, barring systems that was added in 3rdEd supplements and GSF I didn't delete anything else.

D: What is the MAJOR difference between 3rd and your new version of Starfire?

H: Hull sizes, changed weapon damage tables and changed detection ranges. But in theory it should be possible to build a fleet using my rules and fight a battle against a (roughly) equal cost/TL 3rdR fleet.

D: Have you developed any other gaming systems?

H: Not really. A short try at a RPG system 15 years ago that never really got anywhere, and an

aborted attempt at doing what I've done to Starfire to HERO system. There is just too much else to do...;)

D: What else do you play, gamewise?

H: Empires in Arms is a favorite, Advanced Civilization another. Various "light" boardgames (mostly German) and whatever RPGs I can find a GM for, favorites are Champions/HERO system and a Swedish fantasy RPG called "Eon".

D: Will more details on your tech system become available soon? I noticed the Hyperwave Generator and VLCA have very little data on them.

H: I have a document with notes on those systems as well as FTL travel, but it's not in a state fit for publishing yet. It will most likely be finished during the summer.

D: Could you describe the Missile Tube system a little more and tell us what the idea was behind them please?

H: It is basically XO racks inside the hull. You'll notice that only one system allows objects to be attached to the outside of a ship's hull, and that is carrier racks, "@". The reason for this is simple: In my rules "@" provides no motive power. Anything carried an "@" adds to the ship's size, reducing speed and increasing turn mode. Having to calculate the HS equivalent of a size X missile on the outside of a hull just isn't my idea of fun!

D: Could you describe the Bridge system a little more and tell us what the idea was behind them please?

H: Well, IMHO life support will be distributed throughout the whole ship, making dedicated Q/Lh systems impossible. But when loosing the last "Q" system was described as "loosing the bridge" I realized that there was a system that had a real function! Bridge systems represents the command/coordination centrals for all active ship's systems. Without sufficient command facilities some systems will have to go to local control, loosing effectiveness. This is represented by the "command points" generated by "B" systems.

D: What now? What new project are you going to work on?

H: Oh, I'll probably spend the next few years improving this ruleset... And maybe finish painting all my miniatures, write the novel I've been thinking about, restart my project to "improve" the HERO system and probably something else as well!

D: I am assuming from the name you are German, do many Germans play games like Starfire?

H: Swedish, no German (from another discussion board: "Sweden? Oh, that's the supply source Germany always captures right away!"). But I think the proportion of Starfire players is about the same in Sweden and Germany, i.e. not very high... But the

active players are often very active.

D: What other major changes in tech systems in your version of Starfire would you like to tell us about?

H: The missiles. Variable size, range, damage, to hit, intercept modifiers, even custom designed EDMs! Just seeing the look upon your opponent's face when you tell him you have missile launchers larger than some of his ships, or missiles that cause 5+ point of damage without using antimatter! The point defense system I'm using is also worth a mention. Twice, in fact. On the positive side it gives one of the nicest curves possible for intercept probability/number if inbounds. No "first 10 missiles cause no damage, rest goes in unopposed" as is often the case in 3rdR. On the negative side it's a pain to use. And I still haven't figured out a way to make it better.

D: Well, I guess that's all for now Henrik. Thanks for the interview and keep up the excellent work!

H: You're welcome! Henrik

STARFIRE ERRATA

The Fourth Interstellar War

- Fighting begins in the Romulus Chain in June, 2360
- Admiral Murakama arrives at K-45 in August, 2360
- First Battle of Sarasota: December, 2360
- Ivan the Terrible on the Front Lines, April, 2361
- First Arachnid Gunboats spotted, September, 2361
- Kliean Chain invaded on March, 2362
- Admiral Raymond Prescott defends Alowan, May, 2363
- Centaurus Raid: March, 2363
- Operation Pesthouse begins, May, 2363
- First Battle of Pesthouse, August, 2363
- Arachnid Monitors first spotted, August, 2363
- Ivan Antonov and Hannah Avram die in combat, August, 2363
- Second Battle of Centauris, November, 2363
- First Battle of Home Hive III, October, 2364
- Second Battle of Home Hive III, April, 2365
- Retribution Campaign begins, November, 2366
- First Battle of Home Hive I, February, 2367
- Operation Orpheus begins, March, 2368
- Crucians meet the Grand Alliance, November, 2368
- First Battle of Home Hive II, May, 2369
- First Battle of Home Hive IV, June 2369
- Second Battle of Home Hive II, November, 2369
- Third Battle of Home Hive II, December, 2369
- Return to Home Hive V, June, 2370
- Fourth Interstellar War ends, June, 2370

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