Basic Ship Combat System for T4

Comments about the basic ship combat system should go to Don Perrin. Comments about the Light design system should go to Dave Golden. And finally, comments about how the two interact should go to both!

UNIVERSAL SHIP DESCRIPTION

Type and Name of Ship

Tons	Volume	Cost in Mcr
Crew	Passengers High/Medium	Passengers Low
Cargo	Controls	Tech Level

## Size Rating	## Jump Rating
## Fire Control Rating	## G Rating / Maneuver Drive
## Battery 1 - ##, ##, ##, ##	## Power Plant Rating
## Battery 2 - ##, ##, ##, ##	## Fuel Rating / Scoop / Refine
## Battery 3 - ##, ##, ##, ##	## Meson Screen Rating
## Battery 4 - ##, ##, ##, ##	## Sand Caster Rating
## Battery 5 - ##, ##, ##, ##	## Damper Rating
## Battery 6 - ##, ##, ##, ##	## A ## P ## J (Mask) Sensor Rating
## Battery 7 - ##, ##, ##, ##	
## Battery 8 - ##, ##, ##, ##	## Armor ## Structure

BB Valiant

Tons: 2000	Volume: ?????	Cost in Mcr: ?????
Crew: 500	Passengers High/Medium: 0/0	Passengers Low: 0
Cargo: 100 tons	Controls: ?????	Tech Level: 12

14 Size Rating	3 Jump Rating
6 Fire Control Rating	2 G Rating / Maneuver Drive
M Battery 1 - 12, 10, 6, 4 (S)	?? Power Plant Rating
M Battery 2 - 10, 6, 4, 2	150 SR Fuel Rating
P Battery 3 - 10, 10, 10, 6	11 Meson Screen Rating
2L Battery 4 - 10, 10, 0, 0	30 Sand Caster Rating
3L Battery 5 - 5, 5, 0, 0	5 Damper Rating
2Ml Battery 6 - 20 (100)	16 A 8 P 16 J (Mask) Sensor Rating
	120 Armor 40 Structure

STARSHIP TECHNOLOGY

Lasers
Lasers use focused beams of coherent light to impart energy to enemy targets over a very small area. Relative to other long-range beam weapons, lasers have good penetration performance, but generate less explosive force and damage. Lasers are less affected by ship armor, but can be blocked by sandcasters and black globes.

Particle Accelerators
Particle accelerators accelerate subatomic particles - almost exclusively neutral atoms such as hydrogen - to very high speeds at enemy targets. These have less penetrative ability than do lasers, but generate a much greater explosive force. Unlike lasers, particle accelerators require long accelerator tunnels, and so most are built as spinal mount weapons, running the entire length of the ship. Particle accelerators can be blocked by ship armor, sandcasters, and black globes.

Meson Guns

Meson guns also accelerate subatomic particles at enemy targets. But in this case the particle is a meson, which does not interact with matter, and therefore passes through all objects without resistance. However, the meson has only a short life, after which it decays into other more destructive particles. By accelerating the meson to relativistic speeds, its subjective passage of time slows, and its decay is delayed. By timing the decay to occur as a group of mesons pass through an enemy ship, powerful explosions can be created within enemy targets without having to penetrate the armor. Meson guns may only be blocked by meson screens and black globes.

Missiles

Missiles are small unpiloted spacecraft with explosive warheads. The warheads can either explode with conventional high explosives, nuclear explosives or use a nuclear reaction to create high-energy X-ray laser shots. Missiles attempt to maneuver as close to their target as possible before detonating. Missiles may be blocked by sandcasters and, for nuclear warheads, dampers. Laser batteries on the target ship may also engage missiles as a defensive measure.

Sandcasters

Sandcasters fire cannisters of ablative crystals, com- monly known as "sand ." Each sandcastercontains a generatorwhich creates a field which manipulates the location and shape of the cloud of crystals. At early tech levels, these fields are electromagnetic in nature, and require the use of magnetk sand. More advanced systems are able to supplement and then supplant the magnetic manipulation with gravitic manipulation, which allows the use of more effective non-magnetic crystals. These clouds are placed in the path of incoming beam weapons, and cause the beam weapon to expend its energy burning through the cloud. The sandcaster operator uses laser warning sensors installed in the sandcaster to detect fire control locks and anticipate incoming beam fire. Sandcasters may only be used against laser and particle accelerator hits.

Meson Screens

Meson screens project an energy field which interacts with incoming mesons, causing them to decay harmlessly outside of the vessel's hull. Meson screens mayonly be used against meson gun hits. A meson screen is not directed at a specific meson gun hit; instead, the ship's meson screen automatically proteck it against all incoming meson gun hits that turn.

Nuclear Dampers

Nuclear dampers are based on the manipulation of the so-called strong nuclear force which holds atomic nuclei together. By properly projecting this force onto incoming nuclear missile warheads, the damper can prevent the warhead from undergoing nuclear or thermonuclear reactions.

Black Globes

Black globes are highly sophisticated and exotic defensive screens. The only black globes in use are recovered relics from an ancient civilization that pre-dated humanity's star faring days.Thus black globes are only rarely encountered.Although these weapons are very advanced from an engineering and scientific standpoint, their use is very simple. Black globe generators create a spherical field around themselves which absorbs all energy that crosses it.This energy is shunted into capasitors within the hull of the protected vessel where it is stored.

Active Sensors

Active sensors detect targets by sending out pulses of energy, such as radio waves or lasers, which then bounce off their targets and back to the

sensor. The time that it takes the pulse to return, the shift in frequency of the pulse and a myriad of other factors can be used to determine the distance and direction of the target, its motion relative to the sensor and other detailed information about the target. The two main drawbacks of the active sensor are that it bradcasts its own presence by filling space with pulses of energy, and that it requires a lot of power to generate pulses powerful enough to bounce back from very distant targets.

Passive Sensors
Passive sensors do not betray themselves by emitting energy. Rather, they detect targets by sensing the enrgy given off by those targets. Passive sensors are typically less effective than active sensors in therms of absolute range, but are more tactically useful for ships that wish to remain unnoticed.

Electromagnetic Masking
Ships which are equipped with electromagnetic masking packages reduce the effectiveness of active and passive sensors which are used against them. Electromagnetic Masking not only disguises a vessel's passive signature, it also includes the use of stealth materials to reduce the echo of active sensor energy.

Jamming
Vessels may be equipped with jammers which allow them to attempt to jam enemy active sensors. Deceptive jammers do not attempt to blot out enemy sensor energy, but instead attempt to deceive enemy sensors by sending back false echoes that fool the enemy sensor about its targets's true location and heading.

THE BASIC SHIP COMBAT SYSTEM
This combat system makes use of the Universal Ship Descriptions provided in ship descriptions. Combat using these rules may be one-sided (the referee manipulates the opposition) or two-sided (with opposing players controlling their own squadrons on each side).

REQUIRED MATERIALS
In addition to these rules and six-sided dice, the following materials are required for each ship involved:
A marker for each ship in the combat. This marker indicates the ship and may be as simple as a cardboard counter, or as elaborate as a miniature starship model.
All Ships' Universal Ship Descriptions. Completely filled-out, this description provides the data for the ship to use in combat.

SCALE
High Guard uses the following scales in this space combat system:
Distance is represented by four indeterminate ranges which are labeled short, medium, long and extreme. Unless the referee decides otherwise, all combats begin at long range.
Time is represented by turns equal to ten minutes each.
Units represented are individual ships, small craft, and fighters.

SEQUENCE OF PLAY:
Task Force Assembly Step
Initiative Step
Range Step
Break-off Step
Sensor Lock Step
Declare fire Step
Weapon fire Step
Launch/Recover Ancillary Vessels Step

Breakthrough Step
Pursuit Step
Go to start.

TASK FORCE ASSEMBLY
Ships are assigned to task forces. Once assigned, these task forces cannot be changed. If sub-craft are launched, then they are assembled into their own task force at the time of launch. Both players form their ships in each task force into two lines each. The first is the line of battle; the second is the reserve. Ships in the line of battle may fire and be fired upon. Ships in the reserve are screened; they may not fire and may not be fired upon unless their defending line of battle is broken (see Breakthrough).

INITIATIVE STEP
The side with the fewest ships - highest leadership has the initiative.

RANGE STEP
The side with the initiative can change range by one band. Task forces cannot go beyond extreme range unless they break off.

BREAK-OFF STEP
There are two ways for a ship to break off from the battle: by jumping out of the system or by accelerating away from the enemy. Ships may attempt to break off one at a time or in groups.
Jumping: A ship which breaks off by jumping must have a destination and enough fuel to get there. It must expend energy points equal to two turns output from a power plant whose number is equal to the jump being attempted (EP required =0.01 MJn) . If it can do this in two turns, it jumps at the end of two turns. If it can do this in one turn or less, it jumps at the end of one turn (in the pursuit step). A ship which cannot summon the required energy in two turns may not jump at all. For instance, if a ship with power plant 8 attempts jump 5, it takes two turns; if it attempts jump 4 (or less), it takes only one turn. Energy used to power the jump may not be used for other purposes. Ships may jump from the line of battle or from the reserve; they may jump at any range of engagement.
Acceleration: A ship which breaks off by acceleration must start at extreme range. It automatically escapes at the end of the pursuit step if it is not pursued. See Pursuit. A ship may break off from the line of battle or from the reserve.

SENSOR LOCKS AND DETECTION STEP
The player attempting detection declares which ship is sensing and announces to the target player the type of sensor being used, either active or passive.
The target player may try to jam the detecting player. If so, then the target player's jamming rating is applied to the sensor rating of the detecting player. If it is greater, the attempt to sense has failed. If not, then the jam was not effective, and is ignored. Only one jam attempt may be attempted per ship per turn.

The detecting player then rolls to detect:

Range	Roll
Short	roll <= ship size
Medium	roll +1 <= ship size
Long	roll +2 <= ship size
Extreme	roll +4 <= ship size

If the target ship is masking, then an additional DM of +3 is applied.
If the lock is successful, the player may fire the detecting ship's weapons at the target ship. Once the attempt is successful, then it need not be

rolled again for the duration of the combat.

DECLARE FIRE STEP
Each ship in a taskforce will declare targets. The ship's Fire Control rating states how many targets they can lock on to. A player may decide not to allot all laser batteries to firing, however. Any laser batteries that were not declared may be used in missile defense during the turn.

WEAPON FIRE STEP
To Hit
All of the declared fire for a ship is carried out per battery. Each battery rolls to see if it hits. If it does it, then the defender may attempt to use screens to reduce the damage inflicted. All remaining damage is applied to the ship's armor or structure, and surface or interior explosions damage are calculated.

To hit:

Range	Roll
Short:	2d6 + target G rating - own FC rating = or less than target size.
Medium:	2.5d6 + target G rating - own FC rating = or less than target size.
Long:	3d6 + target G rating - own FC rating = or less than target size.
Extreme:	3.5d6 + target G rating - own FC rating = or less than target size.

Size: something like:
5 = sub micro
6 = micro
7 = very small
8 = small
9 = medium
10 = large
11 = very large
12 = gargantuan, gigantic, grotesquely huge, really really big.

Missiles
Missiles are fired by battery as salvos of missiles. The Universal Ship Description lists missile batteries with two numbers. The first is the maximum size of a salvo. The second number is the maximum number of missiles carried by the ship for that battery. If at short range, each salvo rolls to hit as any other weapon at short range would. If fired at medium, long or extreme range, then they must first travel to their targets. Missile salvos are tracked independently. Each turn, missiles move closer to their targets by one range band. When they move to short range, they attack the ship, rolling to hit as any other weapon at short range would. Screens and laser fire may only be used against missile salvos at short range, after they hit.
Laser batteries that were not declared for offensive fire may fire at missile salvos that have achieved hits. Lasers fire at the salvo at short range at a target size of 10 doing 6G acceleration. The amount of damage done equals the number of missiles destroyed before they impact. Each conventional missile does 1 point of damage and each nuclear missile (whether explosive or laser generating) does 2 points of damage.

Screens
Sandcasters: Sandcasters may only be used against laser, particle accelerator and missile hits. A successful sandcaster hit on a laser or particle accelerator hit reduces its damage by 1 for each sandcaster fired.. A successful sandcaster hit on a missile salvo reduces the number of missiles that are effective by 1 for each sandcaster fired. When fired, the defending ship decides how many sandcasters will be fired against each hit. Only one roll is made per hit. If the sandcasters are successful, the total number of sandcasters firing at that hit are counted in reducing the

damage.

Range	Roll	DM for missiles
Short	roll <= 7	0
Medium	roll +1 <= 7	-1
Long	roll +2 <= 7	-2
Extreme	roll +4 <= 7	-4

A ship may fire its sandcasters each turn.

Meson Screens: Meson screens may only be used against meson gun hits. A meson screen is not directed at a specific meson gun hit. Instead, the ship's meson screen automatically removes the Meson Screen rating from the damage of any meson gun hit.

Dampers: Dampers reduce the effect of nuclear missiles attacking a ship. All incoming nuclear missile salvos have their number of missiles reduced by the Damper rating for every missile salvo. Conventional warhead missiles ignore dampers.

Black Globes: Black globes may be used either on or flickering at a set rate. When on, the black globe absorbs the energy of all weapons which successfully hit the ship. This energy is shunted to the ship's capacitors. When the black globe is set to flicker, it may do so at a rate of 1 through 6. For each hit, roll one die. If the die roll is equal to or less than the flicker rate, the damage is shunted to the ship's capacitors. If the die roll is higher, then the ship suffers the normal effect of a hit.
Ships operating with Black Globe generators may not use any other screens while the black globe is operating.
Capacitors installed aboard the ship will have a listed capacity in damage points. If this limit is ever exceeded, the capacitors spontaneously discharge. All of the points stored are applied as damage to the ship's armor and structure. Divide the number of damage points by 10, dropping all fractions, to determine the number of internal explosions that occur.
Capacitors are discharged whenever the black globe generator is off. Each turn the generator is off, it discharges 6 times the black globe rating of the generator. If the generator is flickering, it discharges 6-flicker rate times the black globe rating of the generator.

Damage
All weapon batteries are listed with four values. These values are the amount of damage the battery does at a given range. If a hit is achieved, and all screen effects have been calculated, the damage is applied to the target ship's armor value. The armor value is reduced by the number of damage points inflicted. For each hit that does 1 or more points of damage, a roll is made on the surface explosion table. If a ship does not have any armor left, then the damage points are applied to the ship's structure points. For each hit that does 1 or more points of damage, a roll is made on the interior explosion table. If a hit removes all remaining armor, and there are still damage points remaining, they are applied to the ship's structure. A roll on both tables applies when this happens.
When a ship has no structure left, it is completely destroyed.

Combat Damage Tables

ROLL	SURFACE EXPLOSION	INTERIOR EXPLOSION
2	Interior Explosion	Bridge Hit
3	Launch Capacity Hit	Fire Control Hit
4	Maneuver Drive Hit	Power Plant Hit
5	Battery Hit	Sensors Hit
6	No Effect	Battery Hit
7	No Effect	No Effect

8	No Effect	Fuel Hit
9	Battery Hit	Crew/Passengers/Cargo Hit
10	Defensive Screen Hit	Maneuver Drive Hit
11	Spinal Mount Hit	Jump Drive Hit
12	Interior Explosion	Ship Explodes

Explanation of Damage Results
No Effect: The hit did no damage to vital areas, and fire control teams or systems were able to render the damage ineffective.
Interior Explosion: The hit penetrated the armor - roll again on the Interior Explosion Chart.
Launch Capacity: The ship's capability to launch ancillary ships (fighters, ship's boats, battle riders) has been destroyed.
Maneuver Drive: The ship loses 1G of maneuvering if a surface explosion, 2G if an interior explosion.
Battery Hit: One of the ship's offensive batteries (not a spinal mount) is destroyed. It is the firer's choice of battery.
Defensive Screen: One of the ship's defensive screens is reduced by 3 factors. It is the firer's choice of screen.
Spinal Mount: All of the ship's spinal mount weapons are rendered non-functional.
Bridge Hit: The ship is no longer capable of maneuvering, entering jump, jamming enemy sensors, detecting new targets, or operating screens. Weapons may continue to engage targets, but attempt a sensor lock-on at a +1DM. Ships equipped with Auxiliary Bridges may ship control functions there at the beginning of the next turn.
Fire Control Hit: The ship's Master Fire Directors have been knocked off-line. No offensive weapons may fire. Screens operate normally.
Power Plant Hit: The ship may not maneuver, evade, jam hostile sensors, fire energy weapons, or operate any active sensors or screens. The ship may fire missiles and sandcasters and operate passive sensors at a +1DM.
Sensors Hit: The ship may no longer jam hostile sensors nor make active or passive detection attempts. The ship may still attempt target fire control locks, but does so at a +2DM.
Fuel Hit: The ship loses its fuel load. The ship may not jump, or maneuver (unless the maneuver drive is non-fuel based). Roll again on the Internal Explosions chart for collateral damage from the explosion.
Crew/Passengers/Cargo Hit: 25% of all crew, passengers and cargo are destroyed.
Jump Drive: The ship may not jump.
Ship Explodes: The vessel is completely destroyed.

LAUNCH/RECOVER ANCILLARY VESSELS STEP
Launch and Recovery: Ships carrying vessels (small craft or big craft) may launch or recover them. A launch facility may launch one vessel each per turn. A launch tube may launch up to forty vessels in a turn. A ship with a dispersed structure configuration may launch all its vessels in one turn. Recovery of craft is performed at the same rate.

BREAKTHROUGH STEP
A breakthrough occurs if all of one player's line of battle ships have been rendered incapable of firing any offensive weapons. If this occurs, the other player is allowed to fire all of his or her line of battle ships at any of the ships in the enemy's reserve. The (formerly) screened ships are not allowed to fire back, but may fire defensively. In the next turn, the player may form a new line of battle.

PURSUIT STEP
Ships breaking off by acceleration must begin at extreme range; they may break off from the line of battle or the reserve. Ships may break off alone or in groups; a group breaks off at the G rating of its slowest ship. Ships breaking off from the reserve (assuming the line of battle has not been

broken through) do so as if their G rating were two greater than they are. Enemy ships (from the line of battle or the reserve) may pursue if their G rating is at least equal to that of the group breaking off. Each group of pursued and pursuers forms a small battle of its own. No ships may return to the main battle. Ships may attempt to break off from their pursuers. A ship succeeds in breaking off if it is not pursued.