Star Frontiers: Mark's Classic Rules

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Assumptions

Star Frontiers is a Golden Age Science Fiction RPG. Unlike most modern SF genres (and the real world), it is based on the principle that technological change will not continue to accelerate (or, for that matter, that the rate at which tech. change accelerates will not continue to acclerate), and that human nature will remain unchanged, as will our (actually 1950s American) culture.

Unlike the real world, energy weapons are at least as efficient as kinetic energy weapons. (In the real world, energy weapons require highly efficient power storage systems, and a power system that efficient would be better applied to railguns and the like. Also, problems such as diffusion, atmospheric lensing, and the like make them less efficient).

There are no cybernetics in the GASF genre - when prosthetics are used, they are just replacements for lost limbs; they're no better than real limbs, and they don't (except in very rare circumstances) have concealed weapons or hidden compartments. The only exception to this is for some non-human types, but these are usually morality lessons about the dangers of becoming more machine than human.

When gengineering is used, it is used to create new species or subraces; it is not (and can not be) used to design killer viruses or modify individuals. Life extension is possible to some extent, but immortality is not (and even if it was, it wouldn't be desired by any sane individual in the GASF genre).

Computers are, in many ways, inferior to modern systems. While they are usually easier to use, they are bulkier than modern computers of equivalent power, they use simple networking paradigms (usually only allowing two computers to link to each other), and generally use voice or non-GUI interfaces only - there is no cyberspace or netrunners. Computers are not integrated into individuals - the idea of merging human (or Vrusk, Dralasite, whatever) and computer is unnatural in the GASF genre.

Recreational drugs are rarely encountered in the GASF genre - alcohol is much more common. There are certainly no neo-drugs (wireheading, BTL chips, etc). When drugs happen, they're an alien conspiracy as seen in Lensmen.

Players will have to decide their own background, and course of the campaign. If they choose to be Star Law, or Corporate Security, they will mostly be investigating crimes and pursuing criminals, largely on one urban planet. If they are criminals, they'll need to move along frequently (on hired starships), but their operations will mostly be urban. Interstellar explorers or mercenaries may need to be more rustic, they'll be on ship for some time between stops, and then on isolated planets for days, months, or years. Once they are skilled enough to operate a starship and rich enough to acquire one, they can move up to interstellar trade, piracy, exploration, or whatever, on their own terms.

Inspirational Authors

- Isaac Asimov
- Robert A. Heinlein
- H. Beam Piper
- E.E. "Doc" Smith
- Jim Starlin, Dreadstar (1982)
- Jack Williamson

Inspirational Movies/TV

- Buck Rogers (1939, 1979)
- Flash Gordon (1936, 1980)
- Star Wars & Empire Strikes Back (1977, 1980): It's a shame they didn't make more of these.
  The Marvel comics are good bonus material.
- Logan's Run (1976, TV 1977)
- Battle Beyond the Stars (1980)
- Message from Space (1978)
- Battlestar Galactica (1978)

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Rules

- **Star Frontiers: Alpha Dawn** (1982), Expanded Rules.
- **Star Frontiers: Knight Hawks** (1983), Expanded Rules.
- Dragon 115, "Interstellar Armory".

Characters

Ability Scores

- **Improving Characters**: Cost to increase an ability score by +1 (maximum 99):

Score	Cost
1-50	1
51-70	2
71-80	3
81-90	4
91-99	5

- **Movement**: Walking movement rate is (DEX+STA)/10, Running movement rate is (DEX+STA)/3, Hourly movement rate is (DEX+STA)/20.

Homeworld

Select a homeworld, or the GM can find an appropriate one.

Human	Dral	Yaz	Vrusk	Homeworld
01	01	01-10	01	Araks/Hentz (HI)
02	02	11-15	02	Athor/Yast (MA)
03-07	03	16	03	Cassidine/Rupert's Hole (MIA)
08-17	04-13	17-26	04-13	Cassidine/Triad (HI)
18-20	14	27	14	Dixon's Star/Laco (O)
21	15-19	28	15	Dramune/Inner Reach (MAI)
22-26	20-24	29-33	16-20	Dramune/Outer Reach (MIR)
27	25-27	34	21	Fromeltar/Groth (LA)
28	28-37	35	22-31	Fromeltar/Terledrom (HI)
29	38	36-45	32	Gruna Goru/Hargut (HR)
30	39	46	33-37	K'aken-Kar/Ken'zah Kit (MA)
31	40	47	38-42	Kizk'-Kar/Zik-kit (MIR)
32-41	41	48	43	Madderly's Star/Kdikit (MIA)
42-51	42-51	49-58	44-53	Prenglar/Gran Quivera (HI)
52-54	52	59	54	Prenglar/Morgaine's World (O)
55	53-55	60	55	Scree Fron/Histran (O)
56	56-60	61	56	Scree Fron/Hakosoar (LAI)
57-66	61	62	57	Theseus/Minotaur (HI)
67-71	62	63	58	Timeon/Lossend (LAI)
72-76	63-67	64-68	59-63	Truane's Star/Pale (MIR)
77-79	68	69	64	Truane's Star/New Pale (LA)
80-89	69	70	65	White Light/Gollywog (HR)
90-00	70-00	71-00	66-00	(reroll)

Code	Planet Attribute
H	Heavy
M	Moderate
L	Light
O	Outpost
I	Industry
R	Resource Mining
A	Agriculture

Combat

Hit Locations

Hit locations are used for determining armor coverage and descriptive wounds only - all damage still applies to current Stamina.

d20	Location	Side
1- 2	Head, Neck	To determine side, roll d6:
3- 4	Upper Arm	Melee: 1-4 = hit on the side opposite
5- 8	Upper Torso	the attacker's weapon hand
9-10	Lower Arm, Hand	5-6 = the other side
11-13	Lower Torso	
14	Hips	Missile: 1-3 = left
15-16	Upper Leg	4-6 = right
17-19	Lower Leg	
20	Ankle, Foot	

Weapons

Replaces several entries on the Weapon Table.

Projectile weapons remain king of the battlefield, but require more ammunition and maintenance than lasers and other high-tech weapons.

Burst: Fires 5 rounds (not 10), across one or more targets in a 5m area. Damage depends on the weapon (`single damage*3` , = d10xN damage). Divide damage among them evenly, remainder points to the first target.

Misfire: If an attack roll is in the Misfire range, the weapon is jammed. Roll d10: 1: Explosion, operator takes full damage; 2-5: Jam, any skilled operator can clear it in 1 minute, 6-9: Minor damage, Repairing Machinery can fix it, 10: Irreparable.

Needlers have Misfire 99-00, Gyrojets have 98-00, Grenade Rifle & Mortar have 96-00, Recoilless Rifle has 96-00, all other weapons have 00.

Weapon Type	Damage	Ammo	Rate	Defense	Range	Misfire	Mass	Cost
5mm Revolver	2d10	6 rounds	3	I	B	99-00	1	150
10mm Revolver	3d10	6 rounds	3	I	B	99-00	1	175
12mm Revolver	4d10	5 rounds	3	I	B	99-00	1	225
5mm Auto Pistol	2d10/d10x6	30 rounds	3(1)	I	B	98-00	1	150
10mm Auto Pistol	3d10/d10x9	15 rounds	3(1)	I	B	98-00	2	200
12mm Auto Pistol	4d10/d10x12	10 rounds	3(1)	I	B	98-00	2	250
Body Pistol	4d10	3 rounds	3	I	A	91-00	1	400
5mm Auto Rifle	3d10/d10x9	60 rounds	3(1)	I	D	98-00	4	300
10mm Auto Rifle	4d10/d10x12	40 rounds	3(1)	I	D	98-00	6	450
12mm Auto Rifle	5d10/d10x15	30 rounds	3(1)	I	D	98-00	8	600
12mm Bolt-Action Rifle	5d10	5 rounds	1	I	E	98-00	5	200
Musket	3d10	1 shot	1/3	I	C	91-00	2	150
Shotgun	d10x6	6 shells	2	I	C	98-00	5	200
Sawed-Off Shotgun	d10x6	2 shells	2	I	B	98-00	4	250
Short Bow	2d10	1 arrow	1	I	C	00	1	50
Long Bow	3d10	1 arrow	1	I	D	00	2	100
Crossbow	4d10	1 bolt	1/2	I	D	99-00	4	150

Range	Type	PB	Short	Medium	Long	Extreme
A	Thrown	0-5	6-10	11-15	16-20	20-25
B	Pistol	0-10	6-10	11-20	21-40	41-100
C	Bow	0-10	11-30	31-75	76-150	151-200
D	Rifle	0-10	11-40	41-100	101-150	151-300
E	Laser	0-10	11-40	41-100	101-200	201-400
F	Heavy	—	0-100	101-500	501-1km	1km-2km

- **Body Pistol**: A high-calibre derringer made of plastic, very small and invisible to most security scanners.
- **Shotgun**: Has +20 to hit at PB-S range. Can also chamber Slugs, which have no bonus, but do 8d10 damage instead.
- **Sawed-Off Shotgun**: More concealable, illegal in almost any civilized area.

Equipment

Ammunition

- Shotgun Shells, 20: 10 Cr
- Shotgun Slugs, 20: 20 Cr
- 5mm Pistol, 50: 10 Cr
- 10mm Pistol, 50: 15 Cr
- 12mm Pistol, 50: 20 Cr
- 5mm Rifle, 50: 15 Cr
- 10mm Rifle, 50: 20 Cr
- 12mm Rifle, 50: 25 Cr
- High Explosive: 2x cost, double damage to Skeinsuit/Inertia Screen, +d10 to unarmored.
- Gyrojet Smart Bullets: 2x cost, +10 at PB-S range, +20 at M-Ex range, except cannot hit Holo screen.

Power Supplies

- **Atomic Power Cells**: A standard-sized power cell, but containing a small amount of fissionables, wrapped in collapsium to prevent radiation leakage. A single cell will last 1 year before needing to be refilled (the old plutonium being removed and replaced with new). Recharges fully within 8 hours. Multiply standard cost by 10 and mass by 2.

Design Notes

The intent of these rules is to make Knight Hawks a more realistic game but still run almost as fast as the original rules. Note, for instance, that in the original game 1 ADF = 3G. Not only is that an incredibly high acceleration, completely impossible with the drives used in SF, but it would plaster the pilots of fast fighters into a thin paste, and that kind of acceleration in the larger ships would rip the superstructure into little metal splinters (useful as a suicide bomb or a planetkiller weapon, I guess...)

Scale

1 hex = 3333 km, 1 turn = 10 min, 1 ADF/turn = 1G, c = 54000 hexes/turn, jump speed = 600 hexes/turn.

Triple all listed weapon ranges (ie "1 hex" still equals 10,000 km, or 3 "new" hexes).

Sequence of Play

- A. Repeat each minute:
  1. Seeker missiles move & detonate
  2. Launch seeker missiles
  3. Declare rocket & torpedo fire
  4. Ships move if scheduled to do so
  5. Ships rotate & thrust
  6. Mines detonate
  7. Lay mines
  8. Fire weapons
  9. Resolve rocket & torpedo fire (from step A3)
- B. Movement due to gravity & orbits
- C. Electrical Fires
- D. Repairs

Movement

Vectored motion is used. To handle this, each ship must record its velocity in each direction. During each minute, check the speed chart for the ship's current velocity in each direction and move the ship in that direction by the number of hexes listed. If a ship has a speed of more than 20 in any direction, break the speed into as many twenties as possible, moving 2 for each 20, plus the movement listed for the remainder. (Example: A ship is moving at a speed of 63 hexes/turn. In minute 4, it moves (2+2+2+1=7) 7 hexes.)

Ships can rotate a number of hexsides during each minute equal to their MR/2 (round up), and can apply a 1 ADF thrust in the direction they are facing each minute, up to a maximum of their ADF times per turn.

Rate of Fire

Weapons listed as "Moving Player Only" can be fired at most every other minute. All other weapons can be fired once every minute.

Seeker Missiles

Seeker missiles are fired at specific targets, and are directly launched during step A2 of the sequence of play. When a seeker missile is fired, the firing ship secretly records which ship the missile is targeted at.

Seekers have an initial velocity of 4 relative to the firing ship in the direction the launch tube is mounted (almost always forward). They thereafter move as ships do, with 2 ADF and 2 MR, and enough fuel for 12 ADFs. The firing ship can move the seeker in any manner desired.

Seekers can be evaded by fighters and assault scouts, or can be destroyed by a successful weapons hit doing at least 4 HP damage (they have a reflective hull and a -15% penalty to be shot at due to their size). Naturally, ICMs can also be used against seekers.

Interstellar Armory (Dr 115):

- **Stealth**: aka Masking Screen, cost = (50,000 + 5,000 * HS) Cr, volume = 50 m^3.
- **Laser Piston**: volume = 20 m^3.
- **Light Armored Hull**: combo of light armor plating + reinforced hull, MHS 3, cost = (1,500 * HS) Cr, volume = 10% of all available, adds 25% to HP.
- **Heavy Armored Hull**: combo of heavy armor plating + reinforced hull, MHS 6, cost = (3,000 * HS) Cr, volume = 15% of all available, adds 50% to HP.
- None of the other systems in this article are allowed.

Ship Construction:

- **Hull Size 1**: Length/Diam = 15/2 (The original Size 1 Hull is not large enough to support even the minimum equipment for a fighter)
- **All Hull Sizes**: # of Engines = "# Hatches". Any ship can have a number of hatches equal to its HS.
- **Atomic Drives** (atomic fission powered): ADF & MR as listed for HS, minus one point from one or the other (alternating) for each drive less than the maximum the ship has. If the ship's ADF or MR are reduced below zero, it needs more engines - it does not get a guaranteed 1 ADF & MR.
- **Ion Drives** (battery/magnetic powered): Calculate ADF & MR as for an Atomic Drive, then halve the ship's ADF and devote 10% of internal volume to batteries. Fuel is stored externally.
- **Chemical Drives**: Calculate ADF & MR as for an Atomic Drive, then divide the ship's ADF by 4. (The entire concept of Chemical Drives needs to be completely re-written to take into account increasing acceleration as fuel is burned, but making that simple and playable is not a trivial task).
- **Life Support**: Replace "mass" with "volume" and "kg" with "m^3". This is apparently a typo. I can't imagine that they really meant this.
- **Assault Rockets**: Usably by any ships regardless of MR.
- **Defensive Systems**: Swap the cost/volume/MHS stats for Proton and Stasis Screens.
- **Limits**: Total the Minimum Hull Sizes of all offensive and defensive systems on a ship. If this total is less than or equal to twice the Hull Size of the ship, all is well. If it is greater than twice the Hull Size of the ship, remove some systems. This limit is in addition to the limits of internal volume. There is no difference between military and civilian ship designs.

Speed Chart

min	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
1	2	1	1	1	1	1	1	1	1	1	1	–	–	–	–	–	–	–	–	–
2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	–	–	–	–
3	2	2	2	2	1	1	2	1	1	1	1	1	1	1	–	–	1	–	–	–
4	2	2	2	1	2	2	1	2	1	1	1	1	1	–	1	1	–	1	–	–
5	2	2	2	2	2	1	2	1	2	1	1	1	1	1	1	–	1	–	1	–
6	2	2	1	2	1	2	1	1	1	1	1	1	–	1	–	1	–	–	–	–
7	2	2	2	1	2	1	1	2	1	1	1	1	1	–	1	–	–	1	–	–
8	2	2	2	2	1	2	2	1	1	1	1	1	1	1	–	1	1	–	–	–
9	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	–	–	–	–	–
10	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1

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