

FEDERATION DATA :

FLEET DATABASE :

Gargarin Redesign Project

Introduction

Welcome, what you have in front of you is a bit I drummed up when I was watching Star Trek 3. It's to do with the under designed Gargarin or Glenn class cruiser.

You've been given the job of redesigning the ship, adding your own ideas to improve the vessel.

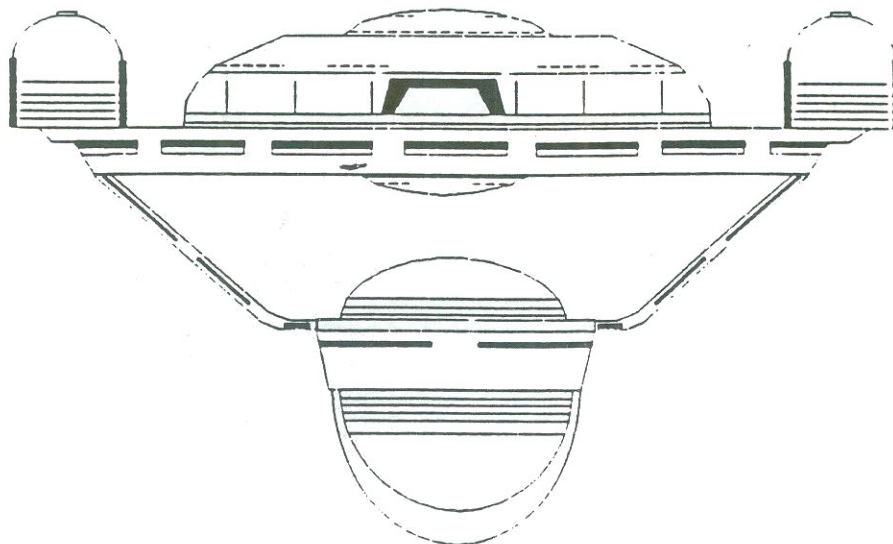
When you have finished, please send it back to me so I can have a look. This project is no test, it's just a piece of inter-departmental fun. If you have any problems, please contact me. I'll leave you now to get on with it. I hope this project gives you the fell of being an engineer on the finest ship in the fleet. Until I hear from you, live long and prosper.

LTCMDR J. Hickinbotham
Chief Engineer
U.S.S. Illustrious

I'll start at the top of the list with the ships more likely to enter Federation space and attack a Gargarin class vessel. Then I'll work my way down to the few unlikely cases but still the off chance of combat.

Any ship fitted with a cloaking device has always been a problem for ships like the Gargarin class due to their ability to perform covert operations within Federation space. The Gargarin's main task is to explore deep within our space, away from front line enemy ships. Thus the reason Starfleet never gave the class much combat equipment.

Due to the fact that Starfleet has their own type of cloaking device which is now being fitted to light/heavy vessels, sensors designed to detect cloaked vessels have now been fully tested and installed on front line destroyers. With the new sensors and cloaking device, it is now a case of fighting fire with fire. (All the ships listed below are fitted with cloaking devices).



Project Briefing

If you saw Star Trek III you will know how easily the USS Grissom was destroyed by a D'Gavama 'Bird of Prey' class scout. The project is concerned with how you can improve/upgrade the defensive and offensive capability of the ship without increasing its weight above 50,000 MT. I will give you the weight of the ship without its offensive systems. I will also give you; 1. A list of phaser types, their weight, and the damage the weapon can inflict, 2. the same for missile weapons, and 3. the shield generator types that are within the computer limits of the class and the maximum generated shield power.

Remember, this class of ships are research vessels and not battleships so let your choices be logical. Every single metric ton over the limit is research space lost and you don't want a screaming scientist after you screaming about lack of space.

When choosing you weapons there is a limit which is called the 'Weapon Damage Factor'. This is based on the computer requirements for that weapon.

Example:

The M-1 Computer has a WDF of 30. Let us assume you have the following:

Phasers

WDF

1 x FH-6	2.3
1 x FH-11	10.7

Missiles

1 x FP-5	9.5
1 x FP-2	.9
Total	23.4

The WDF figure of 23.4 is acceptable because it is below the computer maximum of 30. If the total was another 7.6 the total would be 31, exceeding the computer limit. Not a good thing to do.

The equipment mass is but one factor. There is a structure requirement. Each piece of equipment needs internal bracing to be effective and this figure will be under the heading of S Req (Structure weight required).

Superstructure strength is another factor in determining weight. When the shields go down in combat it is the superstructure that will take the damage. The stronger the superstructure the longer it will last in combat, but the heavier it will become. Superstructure is based in points with one point equating to 1500 Metric Tons. If you upgrade the superstructure by 13 points that is 13 times 1500 MT or 19,500 MT. Add that to the S Req (at 1500 MT per point also) and the mass of the equipment and the total weight builds rapidly.

Shield Generators

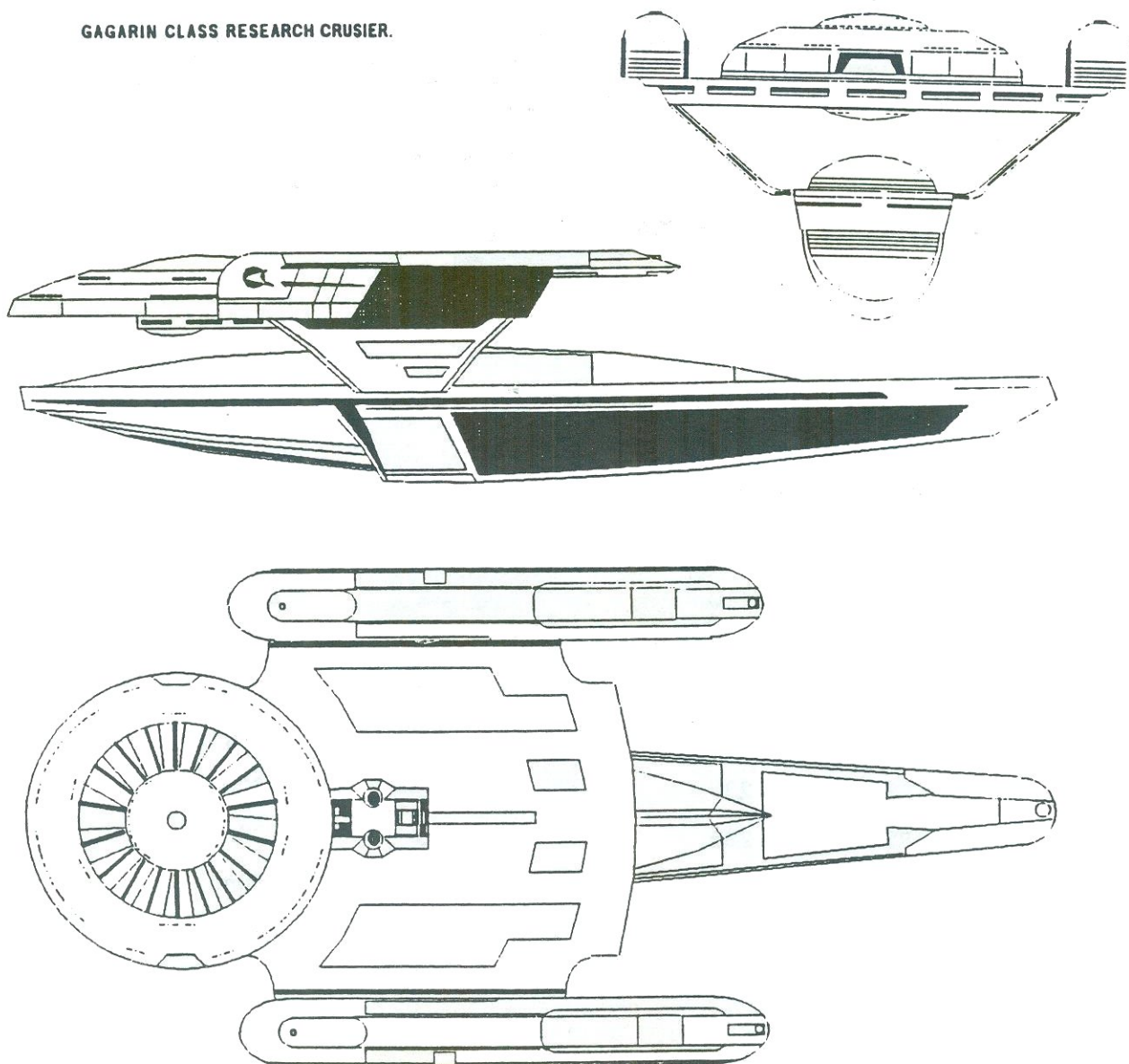
Type	Mass	S.E.R.	S Req	M.S.P.
FSA	110	1	.2	80mj
FSB	140	2	.9	60mj
FSC	160	1	.2	90mj
FSD	175	2	1.0	80mj
FSF	235	2	1.8	120mj
FSG	265	1	.6	120mj
FSH	305	2	1.9	140mj
FSJ	300	1	1.1	130mj

Missile Types

Type	Mass	W.D.F.	S Req	Damage
FP-2	200	4.4	1.3	100 mj
FP-2	120	2.0	.9	60 mj
FP-3	100	1.2	.8	60 mj
FP-4	240	12.5	2.0	200 mj
FP-5	200	9.5	1.8	160 mj
FP-6	160	6.7	1.8	120 mj
FP-7	210	4.8	2.4	80 mj

10 million joules can destroy 1,500mt.

GAGARIN CLASS RESEARCH CRUISER.



Klingon K'TEREMENY Class Destroyer

Length: 251.2m
 Width: 174.9m
 Height: 38.9m
 Weight: 111,000mt

Warp engine: KWE
 Power Output: 400mw
 Impulse Engine: KID
 Power Output: 60mw
 Total Power Output: 460mw

Disrupter: KD-8
 Max. Beam Power at 10,000km: 100mw
 Max. Beam Power at 240,000km: 80mw
 Photon Torpedo: KP-6
 Max. Damage: 200mj

Deflector Shield: KSO
 Max. Shield Power: 150mj

Phaser Types

<u>Type</u>	<u>Mass</u>	<u>W.D.F.</u>	<u>S Req</u>	<u>M.P.B.</u>
FH-1	250	.5	.5/.8	20 mw
FH-2	375	1.3	.6/.9	30 mw
FH-3	625	5.8	.8/1.2	50 mw
FH-4	375	2.6	.7/1.1	30 mw
FH-5	500	3.1	.8/1.2	40 mw
FH-6	300	2.3	1.2/1.8	30 mw
FH-7	400	3.2	1.4/2.1	40 mw
FH-8	500	4.3	1.6/2.4	50 mw
FH-9	600	6.0	1.7/2.5	60 mw
FH-10	420	9.7	2.0/3.0	70 mw
FH-11	600	10.7	2.2/3.2	100 mw
FH-12	360	4.9	1.0/1.5	60 mw
FH-13	620	6.5	1.8/2.7	80 mw

10 megawatts can destroy 1,500mt.

where;

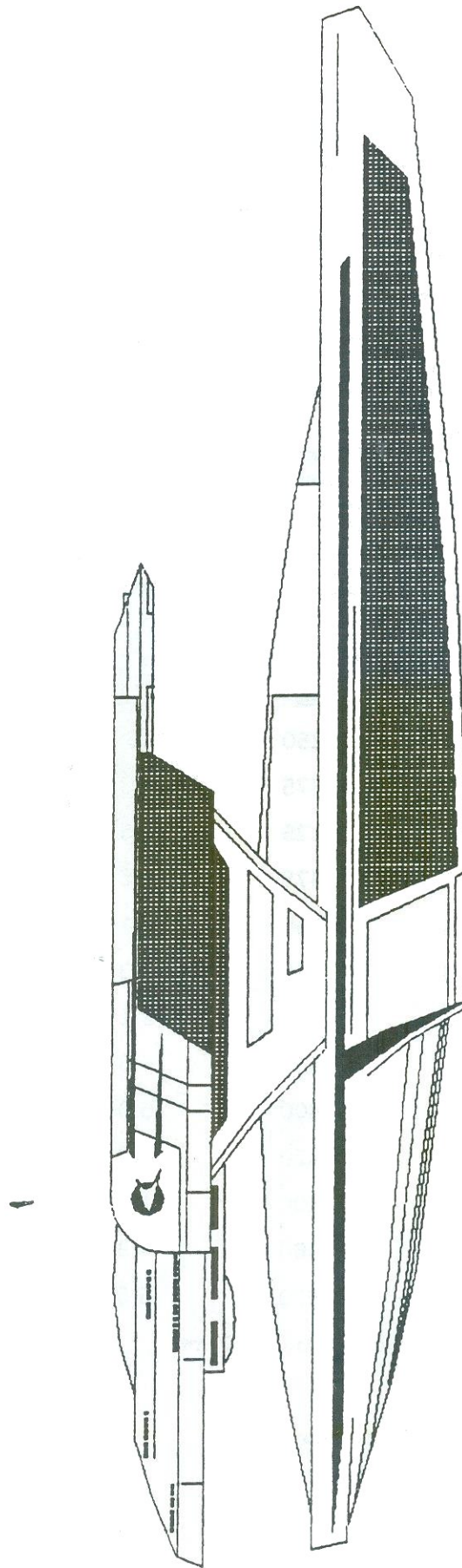
S = Single

B = Bank

M.B.P. = Maximum Beam Power



GAGARIN CLASS RESEARCH CRUISER.
PROFILE.



Klingon K-22 D'GAVAMA Bird of Prey Class Scout

Length: 88 m
 Width: 130 m
 Height: 16 m
 Weight: 38,000 mt

Warp engine: KWC
 Power Output: 220 mw
 Impulse Engine: KIB
 Power Output: 30 mw
 Total Power Output: 250 mw

Disrupter: KD-8
 Max. Damage Power at 10,000km: 100 mw
 Damage Power at 200,000km: 80 mw
 Photon Torpedo: KP-5
 Max. Damage: 100 mj

Romulan V-8 Bird of Prey Light Cruiser

Warp Engine: RWC
 Power Output: 240 mw
 Impulse Engine: RIB
 Power Output: 20 mw
 Total Power Output: 260 mw

Beam Weapon: RB-4
 Max. Damage Power at 10,000km: 90 mw
 Damage Power at 100,00km: 70 mw
 Plasma Weapon: RPL-2
 Max. Damage Power at 10,000km: 160 mw
 Damage Power at 140,000: 40 mw

Deflector Shield: RSE
 Max. Shield Power: 80mj

Klingon D-7M K'T'INGA Light Cruiser

Length: 214.3 m
 Width: 152.4 m
 Height: 57.3 m
 Weight: 120,000 mt

Warp engine: KWE
 Power Output: 400 mw
 Impulse Engine: KIC
 Power Output: 40 mw
 Total Power Output: 440 mw

Disrupter: KD-8
 Max. Damage Power at 10,000km: 100 mw
 Damage Power at 240,000km: 80 mw
 Photon Torpedo: KP-3
 Max. Damage: 150 mj

Deflector Shield: KSK
 Max. Shield Power: 120 mj

Klingon D-7A Light Cruiser

Warp engine: KWD
 Power Output: 360 mw
 Impulse Engine: KIC
 Power Output: 40 mw
 Total Power Output: 400 mw

Disrupter: KD-6
 Max. Damage Power at 10,000km
 to 180,000km: 80mw

Deflector Shield: KSC
 Max. Shield Power: 80mj



GAGARIN CLASS RESEARCH CRUISER.

