BEYOND PROTOCOL

INSTALLING THE GAME:

SPECIFIC REQUIREMENTS INCLUDE:
» 128 MB Video Card
» Direct X 9.0c or better compliant Video Card
» 1 GB RAM (2GB Vista)
» Active Internet Connection

TO INSTALL BEYOND PROTOCOL:
1. Close all programs and stop any background tasks.
2. Insert Beyond Protocol CD.
3. Click install on the auto run menu. Follow on-screen instructions to complete the install.

TO START BEYOND PROTOCOL:
1. Close all programs and stop any background tasks.
2. For Windows XP or Windows Vista, click "Start" on the Windows Taskbar.
3. Select All Programs > Beyond Protocol > Beyond Protocol.

How to Create Desktop Shortcut
1. Click Start
2. Click My Computer
3. Click C drive or where ever your Beyond Protocol fold is located
5. Locate Dark Sky Entertainment folder and double click it to open
6. Double click on Beyond protocol
7. Find BPClient
8. Right click and select Create Shortcut
9. Move new shortcut to desktop

For specific system requirements go to **http://www.CanYouRunIt.com** and select Beyond Protocol™

Table Of Contents

Keep in mind when reading this guide that it is advised that you read the user guide and run through the in-game tutorial before reading further. This is best read on a widescreen monitor viewing two pages simultaneously and show cover page during two-up.

1. Login with the User Name and Password you created through the web site. A window will open titled "Player Initial Setup".

2. Complete the fields in the Player Initial Setup window:
• GENDER: Choose male or female
• E-MAIL ALERTS: Provide the e-mail address to which Beyond Protocol™ should send in-game alerts when you are offline. You have the option to adjust the number and type of messages that you will receive.
• DESIGN YOUR ICON: This is the creation of your empire flag. Choose the background color and then use the next two options for graphics (the middle option places your desired design below the third option design).

CAMERA CONTROLS:
• Pan the camera with the arrow keys or by holding the cursor near the edge of the screen.
• To pan: use the arrow keys
• To rotate: right click and move the mouse
• To zoom: scroll the mouse or hit the Z key and use the arrow keys.
• Pressing Alt with a unit selected will show the radar range wherever your mouse hovers.

CHAT CONTROLS: "/HELP" IN GAME OR USE THE CHAT ICON IN THE COMMAND BAR

Syntax	Description
/pm <playername> <msg> OR /t <msg>	Send a private message to a player.
/r <msg>	Reply to the last private message you received.
/create <channelname>	Creates a new channel with the specified name.
/join <channelname> <password (optional)>	Join a channel.
/admin <channelname> <playername>	Set an admin for a channel.
/setpassword <channelname> <password>	Sets the password for your channel. Requires Admin.
/kick <playername> <channelname>	Kicks a player from your channel. Requires Admin.
/invite <playername> <channelname>	Invites a player to your channel.
/leave <channelname>	Leaves the channel.
/alias <msg>	Sends a message to all players aliased to you.
/<channelname> <msg>	Sends a message to the specified channel.
/keymap	Shows a list of keymaps.
/who <channelname>	Shows who is currently in the channel.
/played	Shows the amount of time you have played.

HOTKEY LIST: "/KEYMAP" IN GAME

Ctrl + E	Selects your next Utility Vehicle
Ctrl + F	Selects next facility
Ctrl + I	Selects next idle unit
Ctrl + N	Selects next unit or facility
Ctrl + P	Selects next unpowered facility in the environment
Ctrl + S	Selects all objects similar to the currently selected object.
Ctrl + U	Selects next unit
Ctrl + (0-9)	Assigns selected objects to Control Group selections, clears the current selection

Basics

UNIT MOVEMENT AND ORDERS:

To select a unit to move, left click on it or hold left mouse button, drag a box over it and release the button. Alternately, you can use the Keyboard Controls as listed in the previous section.

Once a unit is selected, right click anywhere in the current environment to issue a move order. To move units into space press backspace once, then right click in space. To move units from space to a planet, left click on the planet once then right click anywhere on the map.

Engineer hulls have the ability to repair and dismantle. This option is located to the right of the Orders tab. To repair a unit's engine, left click on the wrench symbol, and right click on the target unit. To dismantle, left click the dynamite symbol, and then right click on the target you want to dismantle.

Units also have an Orders tab that shows the different Artificial Intelligence (AI) settings for units and a button that goes to the Route window. The AI orders allow you to set up targeting preferences, engagement patterns, combat tactics, and allows fighters to target components.

SETTING UP CHAT TABS

1. Hit the plus sign in the upper right corner of the chat window.
2. A window will open which says "New Tab" double click on that field.
3. Rename the tab to a name of your choice, for instance Guild or Private Messages.
4. Check the filters you would like to receive messages from.
5. In the channel messages box type the channel name for the channel you want (Ex: Guild).
6. In the default message pre-fix box type the command you want to default to, for instance /guild would allow you to send messages to the guild when typing into the command prompt with no prefix.

Aliasing

Aliasing is a powerful tool only found in Beyond Protocol™. This tool can allow two or more people to control one account at the same time. You will find this system speeds up not only base development, but also military scenarios. With this tool and the right amount of units, you can battle on multiple fronts at the same time. You have control of how much access to your account is granted to an alias. This helps ensure only the most trustworthy of people get everything.

To set up an Alias:

1.Open your Control menu by pressing ESC
2.Click on the "Create Alias" button
3.In the User Name section type in the player's in-game name as it is shown in your diplomacy window
4.Choose the rights you want to give this player. Give as little or as much as you want.
5.Save the settings. An in-game e-mail will be sent to them letting them know that they now have an alias for your account.

Adding Your Own Music

Adding your own music to the game client's playlist is very simple, simply take your MP3 files and do the following:

There are three folders in the Beyond Protocol directory which contain music files: Excite, Intro, and Lull. Any files in the Intro directory will be played on the login screen and only then. Any files in the Excite directory will be played during combat. Any files in Lull will be played when the previous two conditions are not met.

To add your own files to the game's playlist, you simply copy the music file into either the Excite, Lull, or Into directories, which can be found in the Audio directory in your Beyond Protocol folder (the default install directory is "C:\Program Files\Dark Sky Entertainment\Beyond Protocol\Audio\").

A step-by-step guide:
1. Navigate to the Audio directory, which is located in the Beyond Protocol directory.
2. Right-click the file you wish to copy into either the Excite, Lull, or Intro directory and select "Copy".
3. Right-click the Excite, Lull, or Intro directory and select "Paste".
4. The next time your game runs, the client will select a file from the appropriate directory and your music files will play.

SMS Messaging		
E-mail Received	**Possible Response**	**Description**
Out bid on a mineral	SET BID XX	XX is the new bid
Automatic rebuild started	CANCEL	Cancels the rebuild AI
Low resources	BUILD XX	XX is quantity of the low item to build
Relationship changed	MATCH RELATIONS	Sets the target score to the same score that was set to you
	SET RELATIONS XX SET RELATIONS TO XX SET RELATIONSHIP XX SET RELATIONSHIP TO XX	Sets the target score to the score indicated
	RAISE FULL INVULNERABILITY	Raises the full invulnerability field
Under Attack	ATTACK USING XX	XX can be Half, All or a Battlegroup name
	RAISE FULL INVULNERABILITY	Raises the full invulnerability field
	LAUNCH TO ATTACK	Launches units in the environment being attacked

SETTINGS

To open the settings window press escape.

Escape Menu	
Windowed	Toggle Windowed Mode / Full Screen
Resolution	Select the resolution for full screen mode.
Vertex Processing	Hardware: Processing done by dedicated video card. Mixed: Processing done by on board ram and video card. Software: Processing done primarily on board ram.
Entity Clip Plane	Adjusts how far away from the camera to end rendering.
Triple Buffer	Increases refresh times if vertical sync is on.
Vertical Sync	Reduces vertical tearing by synchronizing refresh times.
Terrain Resolution	Select the level of detail for terrain.
Fog Of War Resolution	Select the level of detail for fog of war.
Smooth Fog-of-War	Feathers fog of war edge.
Hi-Res Planet Textures	Offers increased detail and resolution for terrain.
Render Deep Cosmos	Toggles nebulae and galactic glow rendering in space.
Quality	Select the unit texture's level of detail.
Illumination Maps	Select the unit illumination map's level of detail.
Glow FX Intensity	Adjusts global softening of hard edges on models.
Render Player Custom Colors	Shows the custom colors you have selected.
Bump Map Terrain	Toggles high quality rendering of terrain maps.
Bump Map Planet Models	Toggles high quality rendering of planet models in space.
Illuminate Planet Terrain	Toggles illumination effects on planet city creep.
Show Mini Map	Toggles display of the mini-map tool.
Draw Grid In Space	Toggles display of a tactical grid in space.
Render Mineral Caches	Toggles display of mineral caches on planets.
Show Intro	Toggles display of intro sequence on the login page.
Show Target Boxes	Toggles display of target indicators.
Filter Bad Words	Toggles the offensive language filter.
Show Hitpoint Bars Above Units	Toggles display of hitpoint representations above units.
Engine FX	Quantity and quality of unit engine emissions.
Burn FX	Quantity and quality of unit and facility burn damage.
Planet FX	Quantity and quality of lava and acid particles.
Render Shield FX	Toggle if shield effects show.
Starfield Density (Space)	Adjust number of stars in the space background.
Starfield Density (Planet)	Adjust number of stars in the planet sky.
Water Render Method	Normal: Plain water no frills Shader 2.0: Waves and rendered water.
Water Texture Resolution	Sets resolution of the texture used for shader 2.0 water.

☑ Windowed

Fullscreen Resolution: [1280 x 800 at 60 Hz ▼]

Vertex Processing: [Mixed ▼]

Entity Clip Plane: [◄] [▢] [►]

☐ Triple Buffer

☐ Vertical Sync

Terrain Resolution: [Medium ▼]

Fog of War Resolution: [Normal Resolution ▼]

☑ Smooth Fog-of-War

☑ Hi-Res Planet Textures

☑ Render Deep Cosmos

Quality: [Medium Quality ▼]

Illumination Maps: [Normal Resolution ▼]

Glow FX Intensity: [◄] [▢] [►]

☑ Render Player Custom Colors

☐ Bump Map Terrain

☐ Bump Map Planet Models

☐ Illuminate Planet Terrain

☑ Show Mini Map

☐ Draw Grid in Space

☑ Render Mineral Caches

☑ Show Intro

☑ Show Target Boxes

☐ Filter Bad Words

☑ Show Hitpoint Bars Above Units

Engine FX: [Low ▼]

Burn FX: [Low ▼]

Planet FX: [Low ▼]

☑ Render Shield FX

Starfield Density (Space): [◄] [▢] [►]

Starfield Density (Planet): [◄] [▢] [►]

Water Render Method: [Shader 2.0 ▼]

Water Texture Resolution: [Medium Resolution ▼]

Mineral Cache Colors (DIAGRAM 1): These allow you to set different display colors for mineral caches on different planets, allowing you to more easily spot them. The default color is grey.

Chat Message Colors (DIAGRAM 2): These allow you to set different display colors for each type of chat message you receive in order to easily identify their source.

Player Identification Colors (DIAGRAM 3): These allow you set the colors you will see, both on the unit and in your mini-map and strategic views, for each player type including your own.

Interface Customization (DIAGRAM 4): This allows you customize the colors of your user interface.

Audio and Scroll Settings	
Zoom Rate	Adjusts the speed of zooming in all views.
Scroll Rate (Galaxy)	Adjusts the speed of side scrolling in the Galaxy View.
Scroll Rate (System)	Adjusts the speed of side scrolling in the System View.
Scroll Rate (Planet)	Adjusts the speed of side scrolling in the Planet View.
Notification Delay	Adjusts the time that the tab window remains visible.
Scroll Edge Area	Adjusts the width of the screen edge allowing scrolling.
Audio Enabled	Toggles if game sounds are played.
Music Enabled	Toggles if game music is played.
Master Volume	Adjusts the volume of all game sound simultaneously.
Music Volume	Adjusts the volume of the music.
Combat Volume	Adjusts the volume of combat related sounds.
Entity Sound	Adjusts the volume of unit or facility related sounds.
Environment Volume	Adjusts the volume of weather and background sounds.
UI Volume	Adjusts the volume of user interface button clicks.
Unit Speech	Adjusts the volume of unit acknowledgments.
Game Voice	Adjusts the volume of voice aspects within the game.
Tutorial Voice	Adjusts the volume of voice aspects within the tutorial.

Audio Settings

☑ Audio Enabled
☑ Music Enabled

Volume Settings

Master:

Music:

Combat:

Entity Sound: Unit Speech:

Environment: Game Voice:

UI: Tutorial Voice:

Acid Planets	Set
Adaptable Planets	Set
Barren Planets	Set
Desert Planets	Set
Ice Planets	Set
Lava Planets	Set
Terran Planets	Set
Waterworld Planets	Set

Diagram 1 Mineral Cache Colors

Default Color	Set
Alert Color	Set
Status/MOTD Color	Set
Local Color	Set
Guild Color	Set
Senate Color	Set
Private Message Color	Set
Channel Color	Set

Diagram 2 Chat Message Colors

Neutral Color	Set
Player Color	Set
Enemy Color	Set
Ally Color	Set
Guild Color	Set

Diagram 3 Player Identification Colors

Border Color	Set
Fill Color	Set
Textbox Text Color	Set
Textbox Back Color	Set
Button Color	Set

Diagram 4 Interface Customization

Zoom Rate: ◄   ►

Scroll Rate (Galaxy): ◄   ►

Scroll Rate (System): ◄   ►

Scroll Rate (Planet): ◄   ►

Notification Delay: ◄   ►
5 seconds

Scroll Edge Area: ◄   ►

☑ Ctrl+Q Exits Game

User Interface

Mini-Map: This displays the mini-map of your current environment, the cone displays the direction you are currently viewing and you can zoom in and out using the buttons (not shown), or by clicking on it and then using the mouse wheel. Units and structures appear on the mini-map with the display colors you have set in your options.

Chat Interface: The chat interface is split into various tabs which the user can create and define. Each tab only receives certain messages and sends messages by default to a certain channel, which again is user defined. You can type /help and /keymaps to get a list of commands.

Environment Info: This displays some basic information about your current environment. The name is in the top left, to the right of that the top number is your current/max command points. Directly beneath that is your current/max facility points. Beneath that is your current credits and your current cash flow in the environment.

Command Bar: The command bar displays the majority of the available sub screens in the game, for your convenience most objects on the command bar have been mapped to the F-Keys.

[F1] Help	The in-game help system.
[F2] E-mail	The in-game e-mail system.
[F3] Battlegroups	Create and order battlegroups.
[F4] Trade	Check and set-up trade agreements.
[F5] Diplomacy	View contacts and factions, declare war, set title.
[F6] Colony Information	View detailed information on a colony.
[F7] Budget	View detailed budget information on all colonies.
[F8] Mining	View the mining interface for your current environment.
[F9] Agents	View agents and set up missions.
[F10] Formations	Create and manage unit formations.
Colony Research	View and queue research colony-wide.
Available Resources	View all available resource in an environment.
Command Window	View all facilities and units in the environment.
[F11] Guild Window (No Icon)	View and edit the guild menu.
[F12] Issue Tracker (No Icon)	Opens a browser to the issue tracker, to report problems.
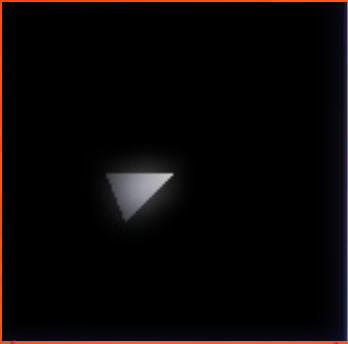
HELP
???

Testers   Loc/Private   Guild   ? + X

Etamin | 60/800
0/160

Credits: 1,859,532,248 / -82,432

Logdmo | 0/300
0/60

Credits: 3,052,955,756 / +40,52
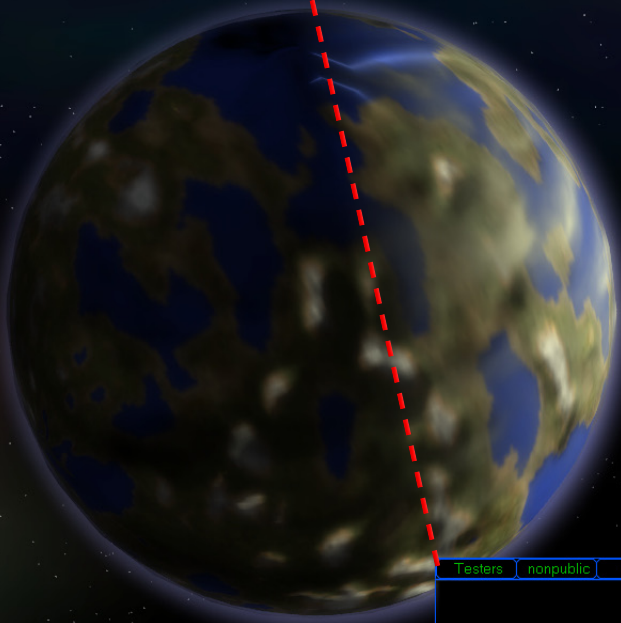
Testers   nonpublic   Guild

Order Management

The orders management page can be reached by selecting a unit or structure and clicking on the orders button located in the bottom-left corner of the screen. This allows you to manage the units AI. The Route configuration page allows you to add waypoints for a unit which it will run depending on how you set its AI.

Targeting Preference	
Name	**Description**
Fighter	Any aerial or space-bourne unit that has a hull size less than or equal to 300
Armed	Has at least 1 weapon on-board. Mutually exclusive with Unarmed
Escort	Any unit that has a hull size greater than 300 but less than 30,000
Unarmed	No weapons on-board. Mutually exclusive with Armed
Carrier	Any entity that has a third of its hull configured for hangar bay
Cargo	Any entity that has a third of its hull configured for cargo bay
Facility	Facilities and Space Stations
Ground Assault	Land-based assets such as tanks and AT Jeeps

Engagement Pattern	
Name	**Description**
Hold Fire	Will not change behavior upon engagement and will not fight back
Stand Ground	Will fight back but will not change current destination or activity
Pursue	Does not move unless target attempts to escape
Evade	Will attempt to avoid conflict by moving away
Engage	Will openly move and follow targets of opportunity
Dock With Target	Will attempt to dock with the specified target (if target still exists)

Route Configuration

Destination Name	Waypoint Action
+	

Clear   Force Next   Run Once   Unpause   Begin Route

Combat Tactic	
Name	**Description**
Minimize Damage	Attempt to face the target with this object's most defended side and keep optimal range
Normal	Will do as much damage as possible from the side that gives a good defense
Maximize Damage	Do as much damage as possible to target with no regard to self-preservation
Maneuver	When checked, object will attempt to 'dance' around the target to avoid being hit
Launch All Units	When checked, attempts to launch all objects in hangar upon engagement
Stay Docked During Battle	When checked, will remain docked in facilities until the hostile alert in the budget window is overridden

Orders Management

Routes ▼

Targeting Preference
- ☐ Fighter
- ☐ Armed
- ☐ Escort
- ☐ Troops
- ☐ Unarmed
- ☐ Carrier
- ☐ Cargo
- ☐ Facility
- ☐ Ground Assault

Engagement Pattern
- ○ Hold Fire
- ◉ Stand Ground
- ○ Pursue
- ○ Evade
- ○ Engage
- ◇ Dock With Target

Combat Tactic
- ○ Minimize Damage
- ◉ Normal
- ○ Maximize Damage

- ☐ Maneuver
- ☐ Launch All Units
- ☐ Stay Docked During Battle

Target Subsystem
- ◉ None
- ○ Engines
- ○ Hangars
- ○ Radar
- ○ Shields
- ○ Weapons

The transfer page allows you to view the contents of the units cargo bay and hangar, transfer objects and set how carried units will launch. Here is a break down of each button:

Name	Description
Launch	Adds the currently selected unit to the undock queue
Launch All	Adds all docked units in the currently selected unit/facility to the undock queue
Launch to Reinforce	Will cause this unit/facility to launch its units to replace lost units in the selected battlegroup
Switch to Cargo	Changes the window to display cargo contents rather than the hangar contents
Transfer	Allows moving materials between docked units, the facility and the colony
Repair	Allows repairs to be ordered on docked units

The build window allows you to select the building you wish to construct, all building costs will appear in the window to the right.
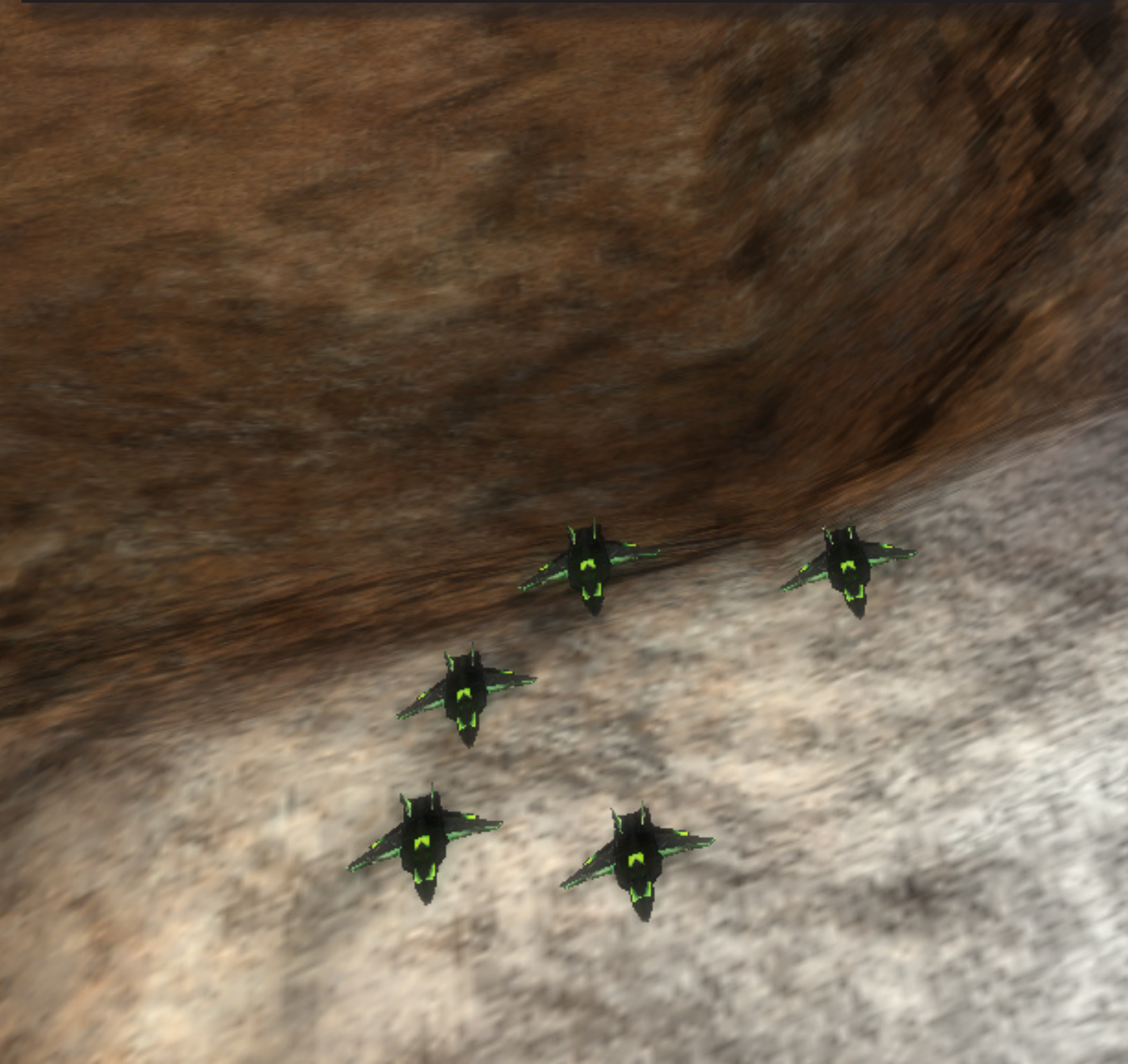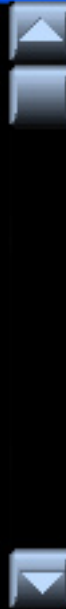
Buildable Items

☑ Filter Archived

Item Details

- &Research
- 30K Power
- Adv. Factory
- Adv. Mining
- Adv. Res
- Adv. Spaceport II
- Alloy Builder
- Barracks
- Factory
- Low-Tech Turret
- Mineral Storage
- Mining Facility
- Officers Training
- Power Generator
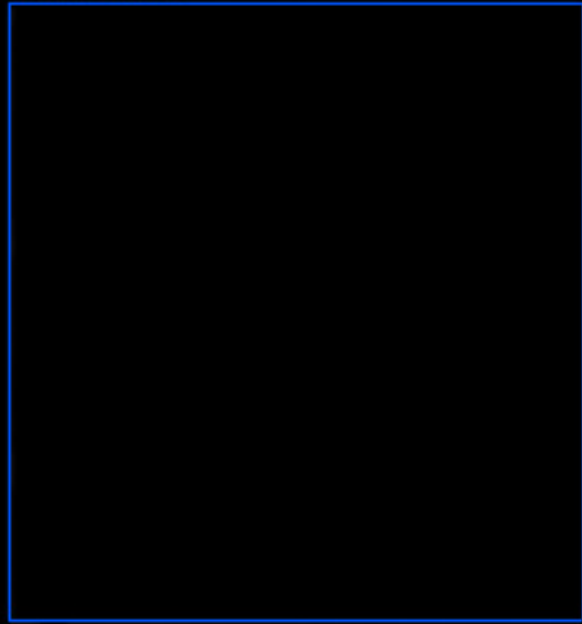
Transfer | **Repair**

Hangar Contents   0/0

Vis: 39.67
Det: 9.92

| Launch | Launch to Reinforce |
| Launch All | Switch to Cargo |

[F1] Help

The F1 Help system is an in game menu which is populated with various folders, each of which contains helpful information about the game. The files are in .xml and are located in your Beyond Protocol/Help folder, but they can be reached and viewed in game by pressing F1. ***The best part about the system is that you can download user created tutorials or create your own and upload them***. So not only do you have access to the tutorials created by Dark Sky Entertainment, but you can have a guild or faction specific folder as well. You can find all kinds of helpful information here, and more is added whenever we find an unanswered question. If you get stuck or don't understand something check here first, chances are we have an answer waiting for you.

Quick Help Table of Contents

- ▶ Aide de Beyond Protocol (Francais)
- ▼ Beyond Protocol Help
  - ▶ Agents
  - ▶ Colony Management
  - ▶ Combat/Strategy
  - ▶ Facilities
  - ▶ Getting Started
  - ▼ Guilds
    - Create A Guild
    - Search or Join A Guild
    - Create A Guild
  - ▶ Interfaces
  - ▶ Research
  - ▶ Trade
  - ▶ Units

Display   Close

[F2] E-mail

The In-game E-mail system can be reached through the command window or by pressing F2. This allows you receive and send e-mail to any player in the game. ***You can attach waypoints to e-mail by clicking the add current location button***. Waypoints allow a player to view any area you want them to. The E-mail system allows you to adjust what messages you receive, both in game and via SMS/E-mail in the options menu. You can create new folders, move mail between folders and delete mail as needed. The contacts button displays all players you have discovered in game. The purge button deletes all e-mail in the current folder.

TO:

BCC:

Subject:

Attached Waypoints

Add Current Location

Delete Selected Item

Save Draft

Send

Cancel

[F3] BATTLEGROUPS

The Battlegroup window is used to manage your units into a control group which can be sent between environments while maintaining command structure, you can apply formations, set a factory, star port, or space station to automatically re-enforce the battlegroup. The maximum size of a battlegroup is dependent upon the special tech you have researched, as is the total number of battlegroups. Your current maximums can be seen below (2 max groups) and (20 max elements per group).

To create a new battlegroup simply select all the units you would like in the battlegroup, press F3 to open the Battlegroup Management window (pictured) and click the create new button.

You can re-name your battlegroup using the text box, the disband button will remove the battlegroup from the list. The formation drop-down menu will allow you to apply a stock formation or a custom one you have created previously in the formation creation window.

The add current selection button will add any currently selected units to the battlegroup. The orders button allows you to give orders to the battlegroup from any environment. The remove selected button allows you to remove any currently selected units from the battlegroup.

The remove reinforcements button allows you to remove a facility from the re-enforcement list. To add a facility you select the facility and click launch to re-enforce then select your battlegroup.

Battlegroups are required to build a Space Station, and send units between systems without using a wormhole.

Battlegroup Management

? ✕

Select a Battlegroup (2 max)

Create New

| 1st Fleet | Deployed In Etamin (system) |

Battlegroup Name

| 1st Fleet | **Rename** | **Disband** |

Elements: (20 max)   **Formation:**   ▼   ...

Space Engineer I	Etamin
Space Engineer I	Etamin
Space Engineer I	Etamin
Space Engineer I	Etamin
Space Engineer I	Etamin
Space Engineer I	Etamin

Add Current Selection   **Orders**   **Remove Selected**

Reinforcing Facilities

Remove Reinforcer

[F4] Trade

There is a drop down menu in the Trade window that lists every tradepost you currently own in your empire. If you are using the Trade window from an environment where you do not have a tradepost, you will have to select one in the drop down box before any trading can begin.

There are five sub categories found in the trade window - Buy, Sell, Direct Trade, Order History, and Progress.

Buy Window
Purchase anything from minerals to units that another player has created. You cannot purchase exact designs from other players.

Sell Window
Sell anything you want. The rules are the same as for buying.

Direct Trade Window
Purchase or sell privately to other players. In addition, you are allowed to trade credits without having to trade anything else. Direct trades incur no Galactic Trade Commission taxes.

History Window
See trades like receipts for the past three plus months with detail of what was bought and sold and by whom.

Progress Window
How long you have to wait until your purchased merchandise arrives. In addition, it shows how long the receiver of a direct trade must wait before acquiring their items.

GALACTIC TRADE INTE

BUY   **SELL**

Market List

COMPONENTS
- Armor
- Beam (Pulse)
- Beam (Solid)
- Engine
- Missile
- Projectile
- Radar
- Shield
- Specials

MATERIALS
- Minerals
- Alloys

PLAYER INTEL
- Player Stats
- Component Design Specs
- Colony Locations

UNITS
- Land-Based
- Aerial
- Space-Based

DIRECT | BUY ORDER | HISTORY | IN PROGRESS

Current Prices

Item Name	Price	Quantity
Aludroese	2	299,000
Aludroese	15	50
Aludroese	15	50
Chromurn	21	185
Copper	850	99,000
Calctassur	1,000	49,000
Oxyidgen	1,000	40,000
Sulfnesium	1,000	119,000
Heltanese	1,000	60,000
Titanium	1,100	2,000,000
Nitidous	1,250	100,000
Helylous	2,000	7,861
Berganur	2,000	1,675
Chrominese	2,000	10,425
Calcnesur	2,000	27,586
Platinine	2,500	100,000
Nitnesese	2,500	100,000

Refresh

Mineral Properties
Chemical Reactance: 1
Boiling Point: 5
Compressibility: 0
Combustiveness: 7
Density: 8
Electrical Resistance: 5
Hardness: 1
Magnetic Production: 7
Magnetic Reactance: 7
Malleable: 2

Route Type: Intra-System
Est. Delivery Time: 13m 34s
Seller: Aurelium Pirates
Score: 2280

Purchase Quantity: 0

Purchase Price: 0

Purchase

[F5] DIPLOMACY

The diplomacy window is the heart of Beyond Protocol, from here you will have access to a wide variety of information.

The Diplomacy Window is used to *declare war, set allies, set factions, see the threat level of all discovered empires, check your planetary control, set custom tiles, see senate votes, and view your own current score.*

It can also be used to contact any empire you have discovered via private message or e-mail.

Foreign Policy for Overseer Havoc

Baron Vimes
Guild: The Imperium of Man
PM | | Senate Title: Baron
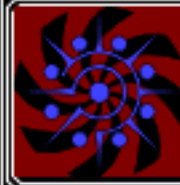
Magistrate Volgrand
Guild: The Imperium of Man
PM | | Senate Title: Magistrate

Magistrate warparty
Guild: Traders Consortium
PM | | Senate Title: Magistrate

Magistrate willpotter
Not In A Guild/Alliance
PM | | Senate Title: Magistrate

Player Details
Threat Scores

Technology:	Unknown
Diplomacy:	Unknown
Military:	Unknown
Population:	Unknown
Production:	Unknown
Wealth:	Unknown

Total Score: 16,395

Relationship Standings

Towards You:	NEUTRAL (60)
Towards Them:	NEUTRAL (60)
Target Score:	NEUTRAL (60)

◄ | | ►►

Set | 60 | Reset

This box is for player details and will show the different threat scores and total score of a selected player. All threat scores start as unknown and can be revealed with the use of agent missions. The Diplomacy Window is also where you set the title others will see. Titles range from Explorer and Governor to Emperor and Diplomat. *This is where you declare war.*

?

Homeworld: Unknown   Threat: ████████

Relationship:

Homeworld: Unknown   Threat: ██████

Relationship:

Homeworld: Unknown   Threat: ██████████

Relationship:

Homeworld: Unknown   Threat: ██

Relationship:

Personal Diplomatic Details

Scores
Technology: 11,633
Diplomacy: 17,920
Military: 2,848
Population: 3,510
Production: 2,419
Wealth: 1,808
Total: 6,452

Factions

Title: Overseer
Next Title: Duke
Planet Control

Etamin VI: 55%
Etamin XVI: 1%

Custom Title: [   ] ▼

Set   **List**

The Personal Diplomatic Details box shows all your threat scores and your total score. You can see the box below it shows your current title and the next title. By hovering your cursor over the next title, you can reveal what requirements are needed to achieve that rank. Also located in the diplomacy window is a button that says Factions which opens up the Faction's window. I*n the Planet Control box, you can see which planets you have colonized and what percentage of the planet population belongs to you.*

Factions

The Factions window, reached through the Diplomacy Window, provides a way for players to help one another. To include someone in your faction they must be a lower rank than you. For you to participate in someone else's faction you must have a lower rank than the faction leader. As you advance in rank, you can be in fewer factions, but this also means you have more players who can join yours. The faction window shows your bonus from people in your faction, being in other people's factions, and the total bonus at the very bottom. While in a faction, *you enjoy tremendously reduced research times*. Having people in your faction can also reduce your research times by a smaller percentage. To add someone to your faction select one of the drop down menus and click on their name. This sends them an e-mail notification that prompts them to open their faction window. At the bottom of their window, your name will appear and they can chose to click the Accept or Decline button.

Faction Management   ?   X

Your Current Title: Overseer

Faction Slots	Their Title	Status	
tut1384 ▼	Governor	War Not Joined	Remove
tut1395 ▼	Governor	Accepted	Remove
tut1387 ▼	Governor	Unaccepted	Remove
▼		Unassigned/Unused	
▼		Unassigned/Unused	

Your Faction Bonus: 1%

You are currently in 1 factions:

tut1381	Accepted	Remove

Bonuses from other factions: 50%

Current Research Time Reduction: 50,5%   Max Reduction: 88,1%

[F6] Colony Window

To see the Colony window and use it to **manage your colony**, you must be on a planet or have a Space Station selected.

Starting at the top you can see the name of the colony **(you can change the name at any time)**, the population, jobs, unemployment, intelligence, and efficiency information.

Under that is the housing breakdown showing powered, unpowered, and total residential capacity.

Morale and growth indicators are here also, and are very important for colony management.

Next is a text box showing the current **tax rate which you can edit**. To initiate the new rate click the Set button.

After the tax rate is the number of Enlisted and Officers currently available in the colony to be used for components and prototypes.

Finally, you have the power requirements for the colony including the current power generated, the power needed, and the total power for all buildings under your control in the colony.

Etamin XVI

Population: 99,973
Jobs: 181,866
Unemployment: 0%
Intelligence: 115
Efficiency: 55%

Colony Housing
Powered: 91,106
Unpowered: 0
Total: 91,106

Morale: 19
Growth: +5

Tax Rate: 80%   Set

Enlisted: 0
Officers: 0

Power Gen: 74,000
Power Need: 47,425
Total Need: 47,425

Close

[F7] Budget

The Budget window shows all the costs involved with maintaining your empire. At the top left is the Budget Summary box showing total revenue, total expenses, and cash flow. Cash flow is your revenue minus your expenses - a negative cash flow means you are losing credits. Also at the top in the middle is your **Death Budget box**. You can see the current balance, your maximum allowed and you have a deposit text field to use if you want to deposit money to this account. This should be considered as basic "life insurance" for your empire. **Should you happen to die it provides 24 hours of instant building or until the deposited money runs out**. Budget Details By Location shows how much you are spending or receiving in each environment. Double clicking on any name will allow you to immediately jump to that environment. You can also set the tax rate of all your colonies using the buttons on the right. The selected environment's detailed budget information is displayed below if you find it necessary to know the detailed specifics of any one colony you own, so just read away. **The Off-Line Invulnerability Button** in the bottom right corner will allow you to change your offline-invulnerabilty shield to any one planet you choose... use it wisely!

Budget Report for tut138

Budget Summary

Revenue :

Expense :

Cashflow:

Budget Details By Location

Type Environment Name

newstationdeluxe

Phaet IX

Phaet V

Phaet

Phaet XIII

Line Item Specifics

Revenue Sources

Colony Tax Income:
Mining Income:

Set   Off-Line Invulnerabi

1

49 627
479 284

−429 657

Death Budget
Balance: 0

Maximum: 149 331 600

| 0 | **Deposit** |

Agent Budget

Total:	413 698
Lucky Hill:	8 019
Mali Mcintyre:	4 456
Malory Thompson:	14 058
Lathron Sutherland:	4 375

Colony Name	Revenue	Expense	Control	Tax Rate	
Phaet	1 830	36		40%	Set
Phaet IX	250	22 641	98%	0%	Set
Phaet V	250	6 024	11%	0%	Set
No Colony		8 986			
No Colony		434			

Expenses Details

250
0

COLONY COSTS:	
Population Upkeep:	3 120
Research Facilities:	2 734
Factories:	174
Spaceports:	13 310
Defenses:	100
Excess Storage:	0
Other Facilities:	1 389
Unemployment:	0
Mining Bids:	0

ility: Phaet IX   **Abandon Colony**

Trade Income

tutl400:	255
tutl384:	943
tutl397:	84

[F8] Mining

This is where all the active mines in an environment will be displayed. The numbers tell you where you are ranked with the bidding for the mine. In order to access the bid window you simply select any mine and the screen below will appear for all your bidding needs. All minerals are obtained through bidding, the mine owner will receive a larger share of minerals if there are not four bidders and will also receive a percentage of each bid on his mines. Owning a mine does not guarantee you a supply of minerals from it.

Unknown Mineral (10 / 1,309,201   X
Current High Bid: 0
Production: 1 affected by morale
Last Bid Results:

Minimum Bid: 6

Your Bid: 6   Quantity: 1309201

Submit   Withdraw

Once opened, the bidding window displays information about the mine in question. If there are any active bids they are displayed in the four rows in the table. Your rank is indicated by your position from the top of the table and the minimum bid is located below the table displaying the current mine status.

Place your bid by inputting the amount you wish to bid on the minerals per tick in the "Your Bid" window and the window will update with your bid where it should be in the list. The quantity of minerals you wish to purchase can also be chosen using the "Quantity" window, it is left at the capacity of the mine by default.

Mining Facilities in Current Environment

- 🟢 Mining Facility - Unknown Mineral (84 / 1,266,727)
- 🟢 Mining Facility - Unknown Mineral (77 / 1,087,878)
- 🟢 Mining Facility - Unknown Mineral (87 / 632,914)
- 🟢 Mining Facility - Unknown Mineral (71 / 1,709,209)
- 🟢 Mining Facility - Unknown Mineral (4 / 861,673)
- 🟢 Mining Facility - Unknown Mineral (83 / 577,709)
- 🟢 Mining Facility - Unknown Mineral (45 / 462,506)
- 🟢 Mining Facility - Unknown Mineral (28 / 584,667)

Agent and Mission Management

◉ **Current Missions**   ◉ **Effects Imposed On Others By Your Agents**

Mission	Target	Status
Assassinate Governor	zelik	In Pla
Bad Publicity	zelik	In Pla
Find Mineral	Aluminium	In Pla
Get Tech List	zelik	In Pla
Locate Wormholes	zelik	In Pla
Steal Cargo	zelik	In Pla

[F9] AGENTS

The Agent and Mission Management window has a large box at the top showing the missions you have completed, are in the process of running, or are have in the planning stage. Use one of the two buttons in the bottom right corner of this box to either Create Mission or View Details.

Name: Lyre Cook
Location: Classified
Status: Waiting
Time With Agency: 62d 21h 37m 54s
[?] [X]

Proficiencies
✎ Dagger: 59
💼 Infiltration: 45
💡 Resourcefulness: 78
👁 Suspicion: 0

Skills
Naturally Talented   95

Infiltration Status
Current Infiltration Settings
Type: General
Target: Not Infiltrated
Report Frequency: per half hour

New Infiltration Settings
Type: General ▾
Target: ME (Counter) ▾
Report: Per Half Hour ▾

Agents are an important aspect of any well run empire. Agents can *Assassinate Governors, Steal Technology*, and are the only way to lower a players off-line invulnerability shield, among other things. Also, they are the only defense against other players doing this to you.
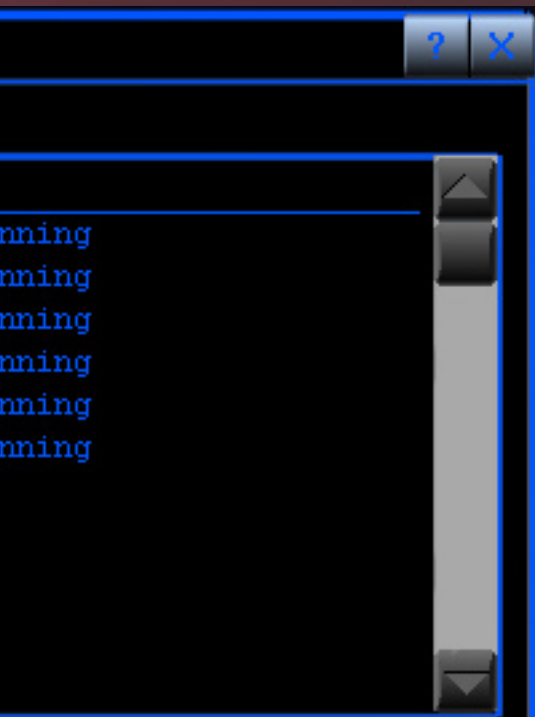
Intelligence Reports for   [All Player Intel ▼]

COLONY	
Unknown	Unknown
ENGINE	
Small Power Gen	Unknown

☑ Filter Archived   [View Report]

This box shows information about technology you have stolen. Click "View Report" to see a breakdown of the component.

Agents

Agent Name	Status
→ǀ Kaelyn Murphy	Counter Agent
→ǀ Lala Anderson	Counter Agent
Laurie Scholz	Waiting
Laverne Mercier	Waiting
→ǀ Lorie Barker	Counter Agent
Lyre Cook	Waiting
→ǀ Maddock Clement	Counter Agent
→ǀ Martinez Mcintosh	Counter Agent
Mirra Schafer	Waiting
Rosemary Olszewski	Waiting
Sheryl Fantauzzo	Waiting
→ǀ Stephan Vincent	Counter Agent
→ǀ Valentina Ortega	Counter Agent
→ǀ Willard Davidson	Counter Agent

Show   [My Agents]   [Dismiss]   [View Agent]

This box shows all your current agents and their current infiltration status.

Highlight one of your agents and click the "View Agent" button to set their infiltration status. Click the button "My Agents" to see the enemy agents you have captured. Choose one and click the "View Agent" button to interrogate them.

[F10] Formations

The Formation window is where you create custom formations to be used by groups of units. At the top you will see a drop-down menu with a list of saved formations, and the buttons "Add New", "Copy" and "Delete". The text box below is for the name of the formation you are creating. There are also drop down menus to order units to organize in certain ways , and a box to check for defaults. To the right of the grid are lists of options that allow you to manipulate your formation.

The top box is for choosing the number of units that will be in the formation – and the radio buttons allow you to apply the number as an insert, a replacement or as the number of units to remove from the formation. Next is the cell size, which determines how many optimum radar spaces are between one unit and the next. The actual grid is where you click to apply your currently selected option to the formation layout.

Formation Manager

Formations: Ship   Add New   Copy   Delete

Name: Ship   Based On: Radar Range   ☐ Default

Total Slots: 39

Next Slot:

40

◉ Insert
◉ Replace
○ Remove

Cell Size:

50

Clear   Save

COLONY RESEARCH

The colony research window simplifies the researching process. The Researchable Projects box shows all projects that can currently be researched. Below these boxes is the Colonial Research Queue showing the researches currently in queue. The Project Costs box shows the cost/time required for the currently selected project.

In the Facilities to Assign text box you can input the number of facilities to add/remove from the research. In the Research Facilities box at the bottom, you can see how many research facilities you have at the current environment, and what they are researching. Turning the green button to red cancels the research at that facility.

Colonial Research Management   ☒

Researchable Projects   Project Costs

300 dps test	Weapon
asdbeam	Weapon
BC Pulse II Test	Weapon
Beam BS	Weapon
Beam Cruiser	Weapon
Beam Destroyer	Weapon
Beam Escort	Weapon

Colonial Research Queue

Facilities to Assign

`1`

Queue

Remove

Research Facilities

&Research	Unassigned	766
&Research	Unassigned	766
&Research	Unassigned	766
&Research	Unassigned	766
&Research	Unassigned	766
&Research	Unassigned	766
&Research	Unassigned	766

AVAILABLE RESOURCES

The available resources window shows all the materials located in your current environment. When you open it up click the "Refresh" button to populate the list. Then you will see items like the Total Capacity of your colony and how much cargo space you have left. All the components and materials you have in the colony are listed as well. This is very useful when trying to track down your various stockpiles of minerals.

Available Resources

Total Capacity: 1 032 305 744
Available: 1 001 192 231

COMPONENTS:
 1EstRadarAlloy: 50
 1EstSheildAlloy: 50
 1PulseEscortAlloy: 99
 1estEngineAlloy: 550
 Beginning Power Eng: 15
 Corvette Engine: 1
MATERIALS:
 Aluganon: 233270
 Aluminium: 200355

Refresh

Command Management

◉ Facilities   ○ Units

▸ **Factories (7)**
▸ **Mining Facilites (9)**
▸ **Personnel (5)**
▸ **Power Generators (352)**
▸ **Refineries (32)**
▸ **Research Labs (15)**
▸ **Residences (44)**
▸ **Spaceports (1)**
▸ **Warehouses (17)**
Low-Tech Turret
Low-Tech Turret
Low-Tech Turret
Low-Tech Turret
Low-Tech Turret
Low-Tech Turret
Low-Tech Turret
Low-Tech Turret
Low-Tech Turret
Low-Tech Turret
Low-Tech Turret
Low-Tech Turret
Low-Tech Turret
Low-Tech Turret
Low-Tech Turret
Low-Tech Turret

COMMAND MANAGEMENT

The Command Management window shows all the things you own in the current environment. There are two buttons at the top that filter between facilities and units. The items are then listed first by hull type, and then all the units of that particular hull type.

[F11] Guilds

The guild window is used to manage and maintain a guild in Beyond Protocol™. The Guild window is broken into various tabs suitable for all guild functions. This is where the nuts and bolts of your guild will be that displays your Guild Charter, Monetary Assets, Scheduled Events, Membership List, Vote History, Relationships, and Rank Structure.
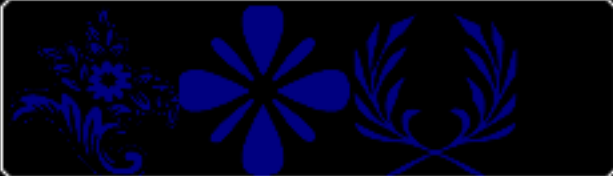
Guild Initial Setup

Guild Name: [_____]

Rules | Ranks

Check Availability

Design Your Icon
- ○ Back
- ● Middle
- ○ Front

Initial Rules

Vote Weight Based On: [_____▼]

Tax Interval: [_____▼]

Tax Day: 30   Tax Month: 1

- ☐ Require Peace Between Members
- ☐ Automatic Trade Between Members
- ☐ Share Unit/Facility Vision

- ☐ Demote Member By Vote Only
- ☐ Accept Member By Vote Only
- ☐ Promote Member By Vote Only
- ☐ Remove Member By Vote Only
- ☐ Create Rank By Vote Only
- ☐ Delete Rank By Vote Only
- ☐ Change Voting Weight By Vote Only

Update Rules

Four Other Players Must Accept
Player Name

[_____] **Invite** ☐
[_____] **Invite** ☐
[_____] **Invite** ☐
[_____] **Invite** ☐

Submit   **Cancel**

UNITS AND STRUCTURES

Structure	Description
Command Center	Without a real, fully functioning Command Center, the colony suffers a -30 moral penalty. Command Center is required to produce engineers and will give you the ability to manipulate tax rate and you can build as many of this type of Command Centers as you like. A Command Center of basic design will supply 5,000 jobs and 10,000 residences.
Mining Facility	Mining facilities open the possibility of mining from mineral caches. With a mining facility built on a mineral cache, anyone with a colony on the same planet as the mining facility can use it. Extraction rates are determined by concentration of mineral cache, morale, efficiency, and production ability of the hull. The beginning mining facility has a 47 production rating.
Other Facilities	Any hull listed under this category is a facility that doesn't fall under a different category. Here you will find defense turrets for planets and space, a small warehouse hull, the guild headquarters, and the agent headquarters. The guild and agent HQ hulls do not do anything as of yet.
Personnel Facilities	Personnel buildings produce Enlisted and Officers which can be used to build components and proto-types. Every batch of enlisted costs 20 colonists while every batch of officers costs 20 enlisted. When training officers, there is a chance that one of them will qualify to be an agent in your empire which you can hire through the agent window. The beginning barracks has 228 production ability, creates 1142 jobs, and uses 150 power. The beginning officers facility has 189 production ability, creates 2025 jobs, and uses 400 power.
Power Generators	A power generator hull is used for power generating engines primarily because the hulls get 300% and 200% bonuses to power generation For every base unit of power generated by an engine on the hull, 1 job is produced. So a 10,000 power engine will produce 10,000 jobs and depending on the hull you will get 20,000 or 30,000 power. The beginning power generator produces 2000 power and creates 500 jobs.
Production Facilities	Production facilities are used to create all the planetary units made for ground and naval combat as well as most of the aerial units. These facilities are also used to build components you have created for your empire. The three types of production facilities involve building ground, naval, and aerial units. These hulls are some of the largest buildings you can produce. The starting factory has a 528 production ability, creates 20540 jobs, and uses 6000 power which is almost the same as the starting spaceport.
Refineries	Refineries are used primarily to build the alloys you have created. Refineries produce alloys at a faster rate than any other building. The beginning refinery is good for early mineral storage but not much else. The beginning refinery has 200 production ability, creates 1200 jobs, and uses 220 power.
Research Facilities	Research facilities are used for all the researching done in your empire. Here you can discover miner-als, create alloys, design components, make hull layouts, and create prototypes. Research facilities also have the ability to do special research which unlocks new things for your empire. The starting research facility has 92 research ability, creates 9250 jobs, and uses 1500 power.
Residence	Residential facilities are used to create space for new colonists. The beginning residential facility has 10046 housing, creates 251 jobs and uses 3500 power.
Space Stations	Space station hulls can only be built in space and their primary function is to build the largest aerial units and all the space only units starting from high end frigates all the way to battleships. You do not start with any space station designs so they must be designed entirely by you.
Tradeposts	The tradepost hull is the largest ground based hull and only one can be built per colony at a time. The tradepost is used to trade minerals, alloys, components, units, facilities, stolen information, colonists, enlisted, officers, agents, and credits. The beginning tradepost has 10,000 jobs and takes 4,555 power.

| Unit	Description
Battle Cruisers	Battle Cruiser hulls are a subtype of the Capital class. These ships are very slow but capable of huge amounts of damage. The hull sizes range from 110,000-253,173.
Battleships	Battleship hulls are a subtype of the Capital class. These ships are the largest available and the slowest. These ships can carry the largest guns possible which can decimate entire fleets of lesser ships if built properly. The hull sizes range from 400,000-1,100,000.
Corvettes	Corvette hulls are a subtype of the Escort class. These ships are versatile due to their fairly high maneuverability and decent damage output. The hull sizes from 4,500-12,500.
Cruisers	Cruiser hulls are a subtype of the Escort class. These ships are the ultimate escorts capable of great damage but with less than average speed. The hull sizes range from 57,000-110,000.
Destroyers	Destroyer hulls are a subtype of the Escort class. These ships excel as jamming or PD type ships. The hull sizes range from 32,000-44,000.
Escorts	Escort hulls are a subtype of the Escort class. These ships are the smallest of their class and have the highest maneuverability of their class. The hull sizes range from 1,200-2,700.
Fighters	Fighter hulls are the only units that get the ability to target components. The sub types are Small, Medium, and Heavy fighters. The hull sizes range from 40-300.
Frigates	Frigate hulls are a subtype of the Escort class. These ships are the only ones that can use bombardment on planets. The hull sizes range from 5,000-28,000.
Small Vehicles	Small vehicles come equipped with all-arcs and are very inexpensive. The only subtype available is Quad. The hull sizes range from 75-130.
Tank	Tanks cannot take critical hits during battle. The subtypes are hover, track, and half-track but the last two are not implemented yet. The hull sizes range from 250-620.
Transports	Transport hulls are primarily used to transport other units and resources since they use utility components, which make them fairly cheap to build. The sub types are Cargo, Supply, and Unit transports. The hull sizes range from 30,000-36,500.
Utility	Utility hulls are used to build facilities and space stations. The subtypes are land based engineers, space based engineers, cargo trucks, and mining trucks. The hull sizes range from 300-700.

The core of your empire, these builders will allow you research and produce everything you need to create weapons of war in this modern era of space combat. They can all be accessed from any powered research facility in your empire.

Shields Builder: This builder allows the creation of shields that can absorb damage meant for your units.

Engine Builder: This builder allows the creation of the engines required to move your units and power your colonies.
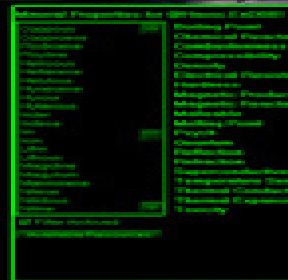
Armor Builder: This builder is where you will design and create armor for your units and structures.

Hull Builder- This builder is the blueprint of a ship showing how much space will be allotted for each component.

Specials Builder: This is where you will research new technology for your empire. Some of these include more command/build points, advanced tech for other builders, and spatial anomalies.
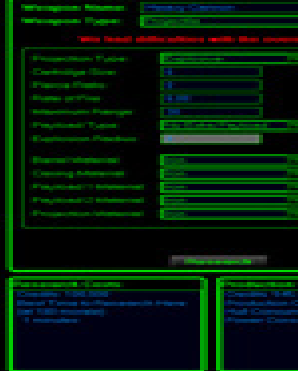
Prototype Builder: This builder takes researched blueprints from the hull designer and allows you to place each component that will fit on the ship. Once completed and researched you will be able to build this new prototype.
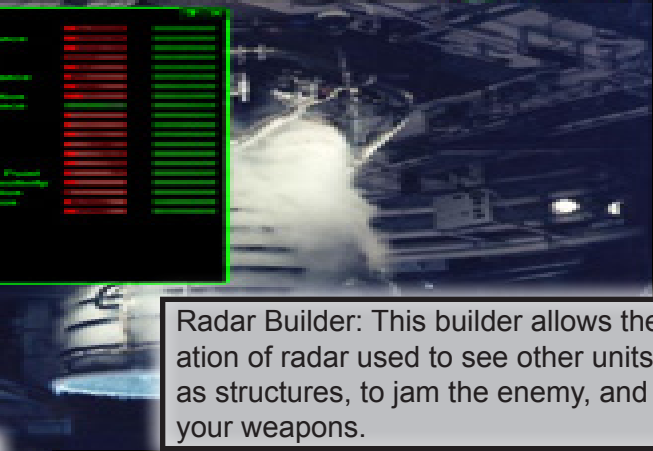
Radar Builder: This builder allows the creation of radar used to see other units as well as structures, to jam the enemy, and to shoot your weapons.
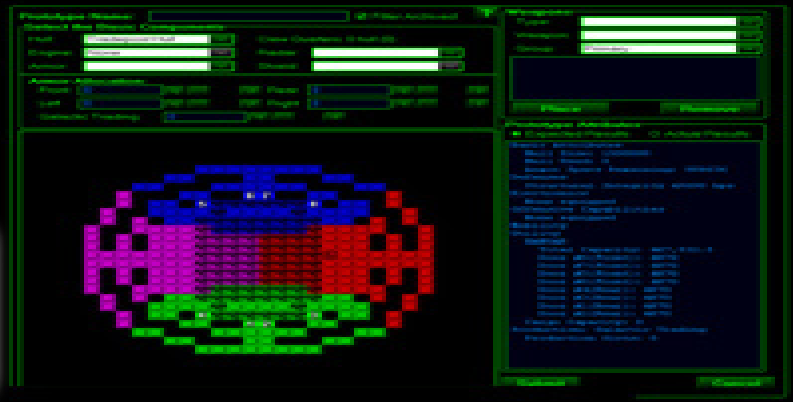
Weapons Builder: This builder allows the creation of the different types of weapons in the game, which include Bombs, Missiles, Projectiles, Pulse Beams, and Solid Beams.

Material Builders: Discover and research any unknown materials your empire comes upon. The Alloy Designer is used to create your own minerals, called Alloys, by mixing two or more minerals or alloys together.

BEYOND PROTOCOL

I
PROLOGUE

"We kill so others don't have to. We stalk the condemed so they don't find you. We are not your protectors, we simply enjoy taking out the trash." ~ Apocalypse Imperium

BEYOND PROTOCOL

So, you're the one I hear is fool enough to take the seat? Well, as long as you don't get us all killed, I guess we'll be better off than we are today. Look, I'm not saying you can't do it, but I am saying this isn't gonna be an easy role to fill. There'll be so many choices and tough decisions, but remember, if you give up, we're all doomed. We're all countin on you now. But there's one more thing before the ceremony… The elders have requested that you read a collection of journals from our clan's archives. I know, I know, you learned all about things like Earth, the Galactic Wars, and the founding of the Galactic Senate in what they pass off as an academy these days, but the elders believe these specific journals give the story a "human touch" and they think a leader needs a personal "connection" with the past. I think they're all old whack jobs, but they might just have a point. Anyways, here's the first one, I'll go dig out the next one while you read that.

THE LAST PAGES FROM THE JOURNAL OF DOUGLAS SCHAEFFER:

APRIL 22ND, 2147

Well it was a pretty dull day. Most of what I did today was to fix some bugs in the decryption algorithm we're using to communicate with Solaris base. Even though it's been 4 years in planning, I still can't believe we managed to put a manned observation satellite in orbit around the sun!

April 23rd, 2147

Yesterday was dull but today was amazing! The Solaris crew was able to pull an enormous amount of data from a series of flares. If the world only knew how close we are to controlled fusion, maybe they'd stop all this infighting. Humanity could be so much more, united and exploring space... There was one odd moment today. When the flare activity died down and Solaris sent us the telemetry, we played it back from the beginning just to sit and watch, and I swear, just moments before the flares start, there's something tiny impacting the site of the flares. The guys all told me I was crazy and that it's just interference but I know what I saw. Matt, the guy from spectroscopy, told me they'd run a more detailed analysis once they got done with the "important stuff". Matt's a good guy, but when it comes to his job, he's pretty stuck up...

April 27th, 2147

    I've been so busy, I haven't had time for this, but I decided I had to make time to record it. The sun has begun a chain reaction which will cause it to go supernova. We lost Solaris station yesterday, but it's hard to morn the loss of 20 scientists when 23 billion are probably going to die on Earth, and another billion on Mars base. We're evacuating as fast as we can, like it's going to help... They estimate we only have about a year before the planet becomes unlivable and maybe 5 before the supernova occurs. Even with our fastest shuttles at max capacity we might only be able to get 5% of the population to Pluto base. I talked briefly with one of the scientists doing these calculations, a German who's been here maybe 4 years, first name Henrich. He's a short, funny guy who still manages to keep a sense of humor. He says they think anything on the dark side of Pluto will survive, but that what's left of the already tiny planet will loose its orbit. So those who can get there have a chance, but anything caught in space will almost certainly be obliterated. The other option is Neptune, but there's no developed base there, and the winds have proved to make colonization troublesome. It would most likely be a haven at best, but some of the bigger, slower shuttles can make it there inside the given envelope.

After all this, there's no way I can say "I told you so", but when they reviewed the tape again, and took the new readings, Matt said there was definitely something that hit the site of the flares just prior. It was only there for a single frame before impact, and there was nothing on radar, so either it was traveling almost at the speed of light, or it was cloaked somehow. The only thing that could have caused this type of a reaction is an extremely heavy element. Who would do this, more importantly, who could do this? The nations of Earth may still be at each other's throats, but no one seems prepared for this, at all, and I doubt they would sacrifice the earth to end this war... Mars is pretty peaceful and populated mostly with pacifists, so I couldn't believe they would have anything to do with this, they might be closer to Pluto base, but they're loosing just as much as we are. I've also been told that it would take several times our total stockpile of the heaviest man-made element. At the risk of sounding crazy, the thought has crossed my mind... We've always thought we were alone in the galaxy, maybe we were wrong...

December 26th, 2153

I haven't had the heart to touch this book for nearly six years. Every time I look at it, all I feel is sadness for what's been lost... I've decided to make one last entry for posterity. We didn't make it to Pluto. One of our main thrusters overloaded and had to be jettisoned, so we took refuge on Neptune. It's cold, windy, and barren, but for a while, it'll have to be our home. Most of the 700 million survivors that made it here are mostly still getting over the loss of Earth, but those who have moved on are already talking about exploration of other systems. One thing's for sure, we don't have the resources we need yet, hopefully our new home can provide us with what we need. Today we watched in horror as our scopes recorded the Earth burning away, I thought this as good a time as any to finish this journal. The shock wave will hit Neptune and then Pluto soon but what's left of the old research crew, Matt, Ben, Henrich and myself, have concluded that the intensity will be diminished enough so that both planets will at least survive.

They tell me that yesterday would have been Christmas on Earth, but living through this tragedy for the past few years in space and now on this enormous planet, I just don't know any more. For that reason, there's talk of doing away with the old calendar, it's nostalgic for those of us who survived, but the new generation isn't going to understand it.

If we live through this, I'm going to need to put the past behind me and be strong for those now in my care. So, this is the final entry of Douglas Schaeffer. If you are reading this, then at least someone survived, good luck to you.

-Schaeffer

EXCERPTS FROM THE PERSONAL LOG OF CAPTAIN HALIDAES JONES

OCTOBER 29TH, 362 TE

WE HAVE ABOUT 49 HOURS BEFORE WE REACH ORBIT ABOVE THIS PLANET WE ARE ALL EAGER TO CALL OUR NEW HOME. I FIND I'M RELIVING MANY OLD MEMORIES. SOME LOST IN TIME, SOME SUPPRESSED, AND OTHERS TORN AWAY BY THE STRUGGLES OF LIFE IN SPACE. NOW, WITH THE POSSIBILITY OF LIFE ON SOLID GROUND, TO SEE THINGS I HAVE ONLY DREAMED ABOUT, LIKE OCEANS AND SUNSETS, IT IS AS IF MY LIFE UNTIL NOW HAS ONLY BEEN A PRETENSE TO THIS MOMENT. EVEN SOMETHING AS SIMPLE AS WRITING THE DATE CONJURES MEMORIES, MEMORIES OF MY CHILDHOOD AND MY GREAT GRANDFATHER.
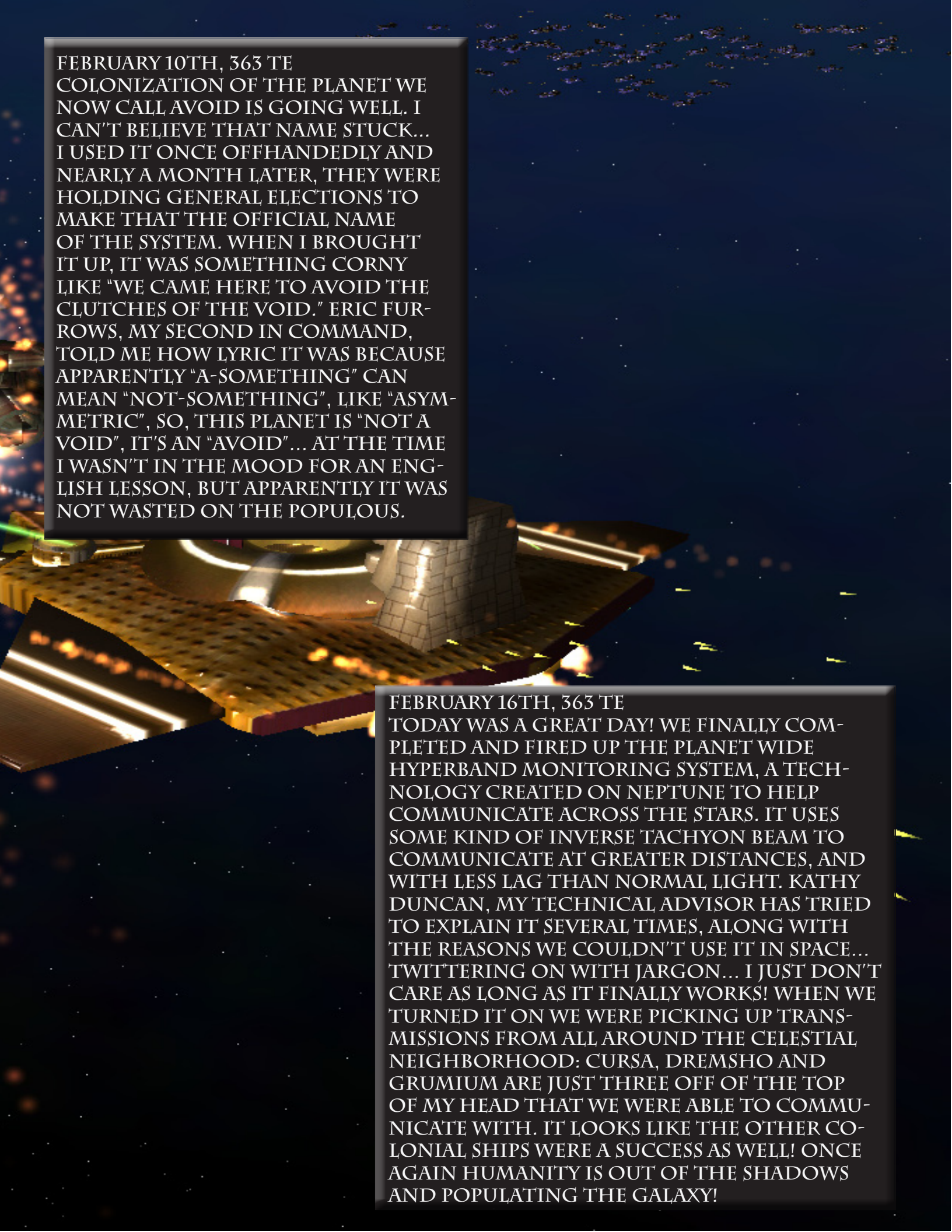
I COULDN'T HAVE BEEN MUCH MORE THAN A 6 YEAR OLD TWIG OF A GIRL SITTING BESIDE HER OLDEST LIVING RELATIVE. I CALLED HIM "GREATPA" BUT EVERYONE ELSE CALLED HIM "ADMIRAL." I DIDN'T KNOW UNTIL MUCH LATER WHAT THAT MEANT. HE WAS A STOUT AND SILENT MAN, BUT IT SEEMED AS THOUGH HIS EYES COULD SEE BEYOND THE STARS, AND KNOW WHAT WAS WAITING FOR US OUT THERE. I HAD JUST LEARNED ABOUT THE CALENDAR AND HOW TO WRITE THE DATE, MY TEACHER TOLD ME THAT "TE" HAD BEEN DECIDED ON GENERATIONS AGO. SO I ASKED THE ADMIRAL WHAT IT MEANT. HE TOLD ME ABOUT WHAT HAD HAPPENED TO EARTH, AND HOW THOSE THAT COULD, LEFT, AND THEN HUMANITY WAS SCATTERED TO SPACE. THERE WAS SOME KIND OF MEETING ON NEPTUNE ABOUT A NEW CALENDAR, AND HE SAT IN AS A CADET. THEY COINED THE PHRASE "TERRA EXEUNT", LOOSELY MEANING "WHEN THEY LEFT EARTH" BUT DECIDED TO KEEP THE OLD MONTHLY CALENDAR AS A REMINDER. I COULDN'T FATHOM ALL THAT HE TOLD ME, THE MAGNITUDE, THE TRAGEDY AND THE NEED TO PRESS ON, BUT LOOKING AT IT FROM A DISTANCE, THIS NEW WORLD; SOMEHOW IT FEELS AS THOUGH WE'RE PUTTING AN END TO THE PAST AND CARVING A NEW FUTURE.

NOVEMBER 1ST, 362 TE

WE HAVE FINALLY LANDED! HERE WE ARE ON THIS BEAUTIFUL AND UNTOUCHED PLANET. I COULDN'T HELP BUT BE COMPLETELY AWESTRUCK AS THE FIRST FEW COLONIAL BUILDINGS WENT UP. HOURS LATER, THE CONSTRUCTION AND EXPEDITIONARY TEAMS WERE BATHED IN A GORGEOUS SUNSET OVER AN ENORMOUS BLUE OCEAN, THE LIKES OF WHICH, NOT EVEN MY DREAMS COULD RIVAL. THE REACTION SEEMED TO BE THE SAME FOR ALL THAT SAW IT. MANY OF US ARE THE FIFTH GENERATION OF OUR FAMILY ON THAT SHIP, PUTTING US SEVEN OR EIGHT GENERATIONS FROM THE SURVIVORS OF EARTH. I DON'T THINK THAT ANY OF US BELIEVED OUR ELDERS STORIES OF EARTH, AND I DON'T THINK WE COULD HAVE!

THERE ARE, AS WAS EXPECTED, SOME WHO REFUSE TO LEAVE THE SHIP FOR NOW, BUT I DON'T THINK THEIR LOVED ONES WILL ALLOW THEM TO PLAY THE RECLUSE FOR MUCH LONGER. WE HAVE MONTHS OF LONG RANGE DATA, BUT AFTER ONLY TWO DAYS ON THIS PLANET, I FEEL LIKE I'VE EXPERIENCED AN ENTIRELY NEW LIFE, SEPARATE FROM THE COLD GENERATIONAL SHIP THAT BROUGHT ME HERE. MOST WILL WANT TO SHARE THIS EXPERIENCE WITH THEIR WHOLE FAMILY. MAYBE IT'S JUST BECAUSE I'M THE CAPTAIN, BUT I FEEL LIKE ALL OF THE FIVE THOUSAND PLUS SOULS ON BOARD THAT SHIP ARE MY FAMILY, AND ONCE THE SURVEYS AND EXPEDITIONARY TEAMS ARE DONE, I'LL MAKE EVERY EFFORT TO GET EVERYONE OFF OF THAT DARK AND CRAMPED SHIP!

FEBRUARY 10TH, 363 TE
COLONIZATION OF THE PLANET WE NOW CALL AVOID IS GOING WELL. I CAN'T BELIEVE THAT NAME STUCK... I USED IT ONCE OFFHANDEDLY AND NEARLY A MONTH LATER, THEY WERE HOLDING GENERAL ELECTIONS TO MAKE THAT THE OFFICIAL NAME OF THE SYSTEM. WHEN I BROUGHT IT UP, IT WAS SOMETHING CORNY LIKE "WE CAME HERE TO AVOID THE CLUTCHES OF THE VOID." ERIC FURROWS, MY SECOND IN COMMAND, TOLD ME HOW LYRIC IT WAS BECAUSE APPARENTLY "A-SOMETHING" CAN MEAN "NOT-SOMETHING", LIKE "ASYMMETRIC", SO, THIS PLANET IS "NOT A VOID", IT'S AN "AVOID"... AT THE TIME I WASN'T IN THE MOOD FOR AN ENGLISH LESSON, BUT APPARENTLY IT WAS NOT WASTED ON THE POPULOUS.
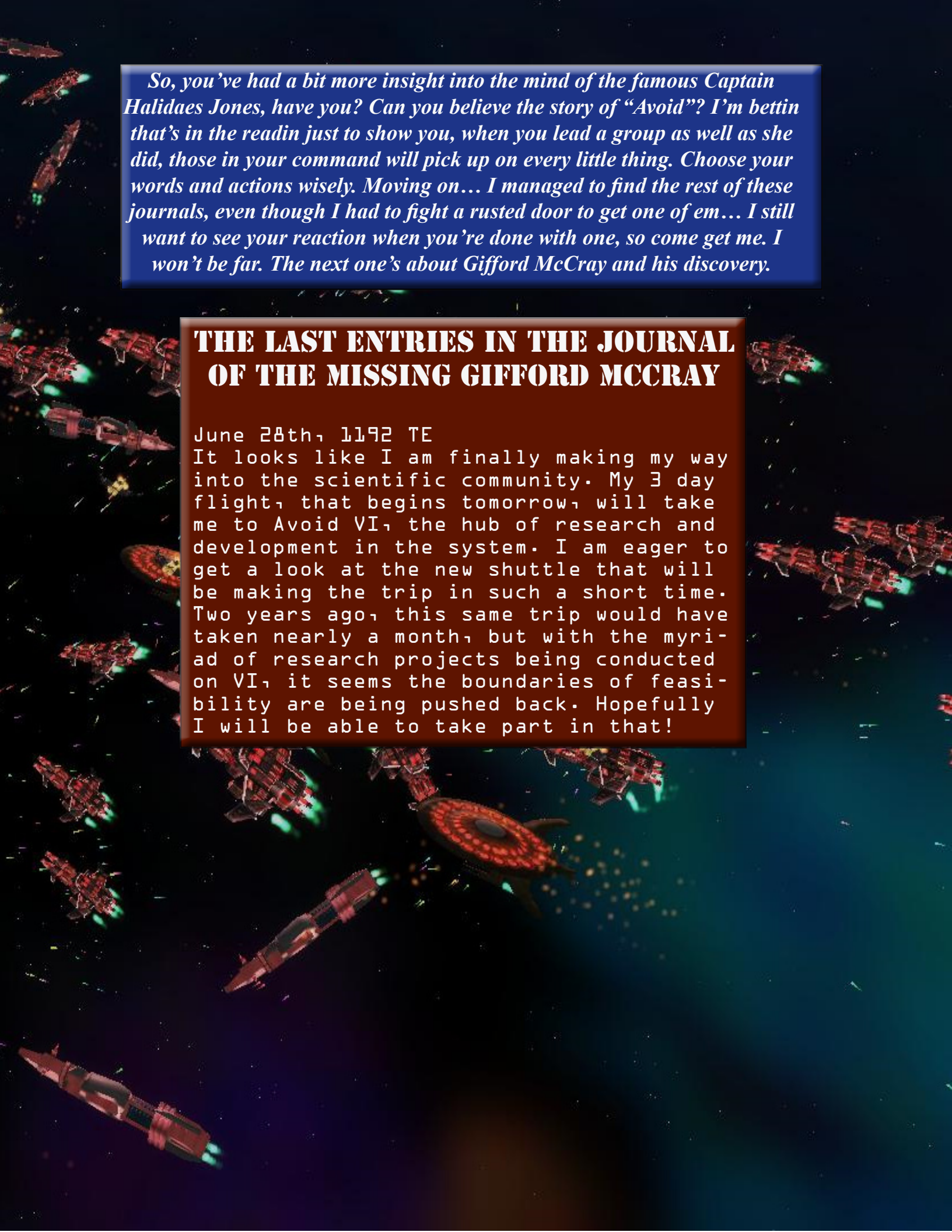
FEBRUARY 16TH, 363 TE
TODAY WAS A GREAT DAY! WE FINALLY COMPLETED AND FIRED UP THE PLANET WIDE HYPERBAND MONITORING SYSTEM, A TECHNOLOGY CREATED ON NEPTUNE TO HELP COMMUNICATE ACROSS THE STARS. IT USES SOME KIND OF INVERSE TACHYON BEAM TO COMMUNICATE AT GREATER DISTANCES, AND WITH LESS LAG THAN NORMAL LIGHT. KATHY DUNCAN, MY TECHNICAL ADVISOR HAS TRIED TO EXPLAIN IT SEVERAL TIMES, ALONG WITH THE REASONS WE COULDN'T USE IT IN SPACE... TWITTERING ON WITH JARGON... I JUST DON'T CARE AS LONG AS IT FINALLY WORKS! WHEN WE TURNED IT ON WE WERE PICKING UP TRANSMISSIONS FROM ALL AROUND THE CELESTIAL NEIGHBORHOOD: CURSA, DREMSHO AND GRUMIUM ARE JUST THREE OFF OF THE TOP OF MY HEAD THAT WE WERE ABLE TO COMMUNICATE WITH. IT LOOKS LIKE THE OTHER COLONIAL SHIPS WERE A SUCCESS AS WELL! ONCE AGAIN HUMANITY IS OUT OF THE SHADOWS AND POPULATING THE GALAXY!

MAY 27TH, 363 TE

I SUPPOSE I'VE BEEN TOO EXCITED TO NOTICE IT UNTIL NOW, BUT AP-
PARENTLY FOR THE PAST FEW MONTHS, THERE HAVE BEEN RUMORS
FLYING ABOUT PLUTO. IT'S COMMON KNOWLEDGE THAT IT LEFT OR-
BIT CENTURIES AGO, BUT WHAT I HAVEN'T HEARD UNTIL RECENTLY
IS THAT THE ASTRONOMERS AND SCIENTISTS SAY IT'S NOT WHERE IT
SHOULD BE, BASED ON ALL OF THE DATA COLLECTED AFTER THE NOVA.
CHATTER ON THE HYPERBANDS AND LOCAL NEWS STATIONS TEND
TO BE VARIATIONS OF THREE SCENARIOS. SOME SAY THE TINY PLANET
WAS COMPLETELY DESTROYED SOMEHOW. I'VE HEARD: BY A COMET,
ANOTHER PLANET, OR THE INHABITANTS. OTHERS SAY THAT IT WENT
TOO FAR INTO DEEP SPACE FOR ANY OF OUR INSTRUMENTS TO PICK IT
UP, BUT THAT'S A LACKLUSTER STORY THAT I ONLY GET FROM THE SCI-
ENTISTS AND SKEPTICS. AND LAST, MY FAVORITE VERSION, SOME SAY
IT'S NOW A GIANT SHIP, TECHNOLOGICALLY SUPERIOR TO THE REST OF
HUMANITY, BUT WHETHER IT'S A PARADISE, OR A SLAVE COLONY IS UP
TO THE STORY TELLER. AS FAR AS I'M CONCERNED, THESE ARE ALL JUST
UNFOUNDED RUMORS AND I'M JUST HOPING FOR PEACE AND UNITY
FOR THE TIME BEING!

-HALIDAES JONES, 301 - 406 TE
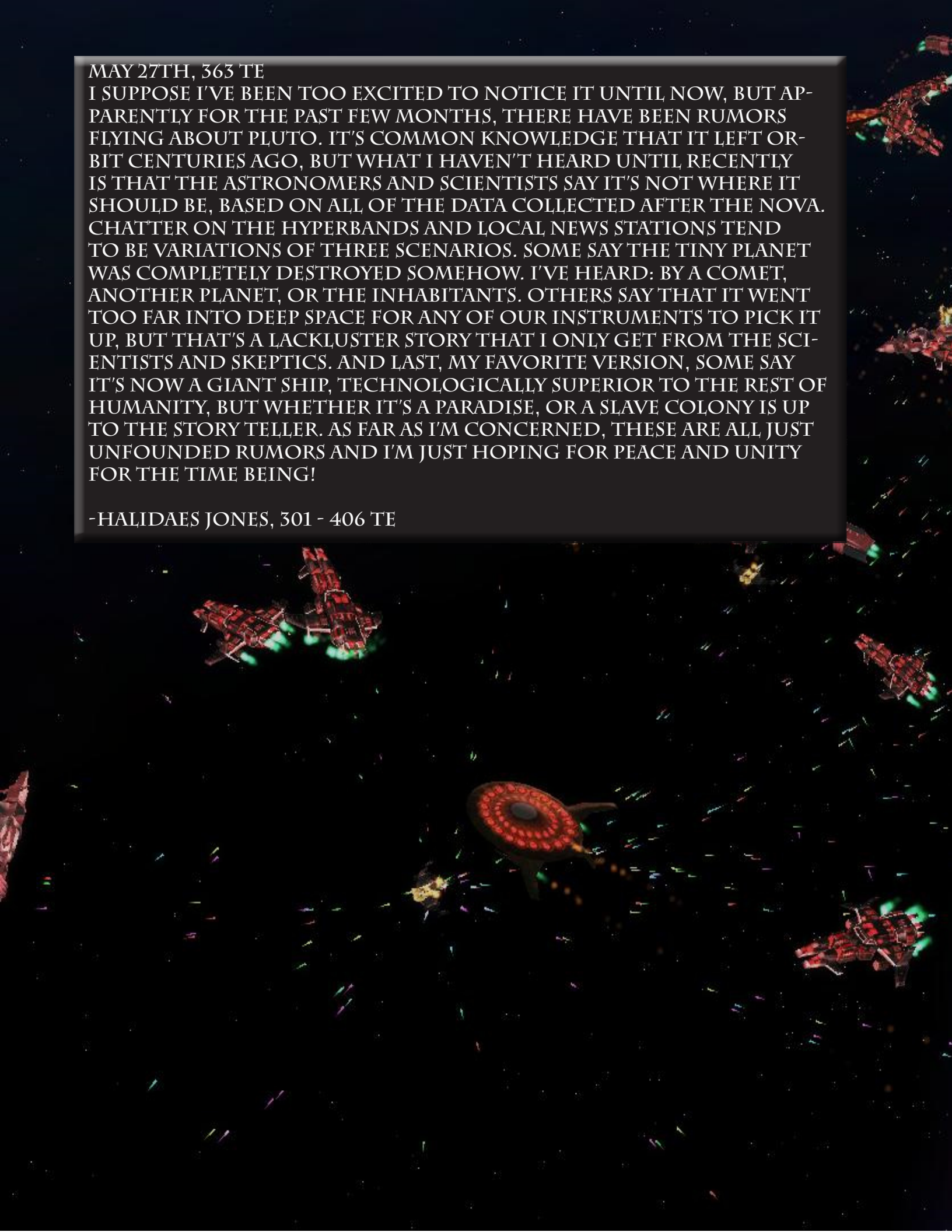
So, you've had a bit more insight into the mind of the famous Captain Halidaes Jones, have you? Can you believe the story of "Avoid"? I'm bettin that's in the readin just to show you, when you lead a group as well as she did, those in your command will pick up on every little thing. Choose your words and actions wisely. Moving on… I managed to find the rest of these journals, even though I had to fight a rusted door to get one of em… I still want to see your reaction when you're done with one, so come get me. I won't be far. The next one's about Gifford McCray and his discovery.

THE LAST ENTRIES IN THE JOURNAL OF THE MISSING GIFFORD MCCRAY

June 28th, 1192 TE
It looks like I am finally making my way into the scientific community. My 3 day flight, that begins tomorrow, will take me to Avoid VI, the hub of research and development in the system. I am eager to get a look at the new shuttle that will be making the trip in such a short time. Two years ago, this same trip would have taken nearly a month, but with the myriad of research projects being conducted on VI, it seems the boundaries of feasibility are being pushed back. Hopefully I will be able to take part in that!

June 29th, 1192 TE
This craft is amazing,
and comfortable! I find
I can refine my thesis
in peace while I re-
cline. I know the pod
is for my safety, be-
cause of the high ve-
locity, but I prefer
it to the cramped and
noisy setting of public
transportation I have
used previously! They
even give you a selec-
tion of monitors to see
the stars as we travel.
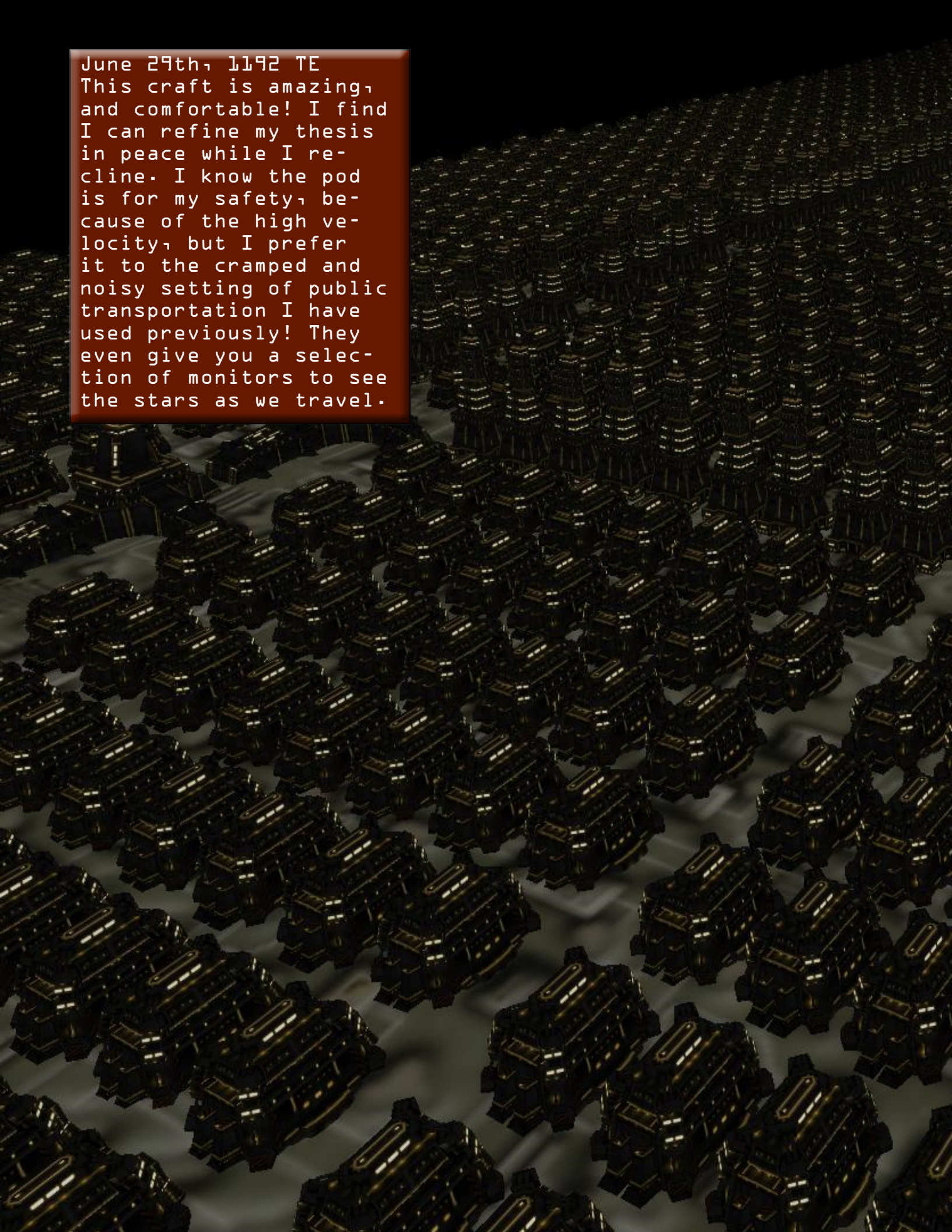
June 30th, 1192 TE
This is incredible! I took a short
break to just sit and ponder, and as
we were flying, I noticed something
much brighter than a star on one of
the monitors. When I checked the in-
cluded "Guide to Celestial Bodies" pam-
phlet, there was nothing in that direc-
tion relative to our current heading. I
talked to the hostess, and she said she
would mention it to the pilot. I also
told her that I was a scientist and
why I was headed to VI. She laughed,
and said "Ok…." like most women do
when I tell them that, but twenty min-
utes later, she opened my pod and told
me to come to the control room! Ap-
parently, what I saw has not been ob-
served to date. When the shuttle crew
tried probing it with their basic sen-
sors, they could barely get any read-
ings. What readings they did manage to
take were extremely anomalous. I had
a look at them and it almost seemed as
though there were a hole at that point
in space. I am hoping they let me have
a more detailed look when we arrive at
our destination.

July 18th, 1192 TE
After determining the bounds of the anomaly, we have been sitting just beyond the edge of it for some time now. The readings we are receiving have brought us to the conclusion that it is indeed a tear in normal space. Tomorrow we are going to start sending objects through and see how they interact. I was told we are starting with a piece of debris, then an automated probe, and if those are successful, we'll send in a probe with some live cultures on it to see how they handle the strain.

July 19th, 1192 TE
This is absolutely amazing. The anomaly, now undoubtedly known as a "Worm Hole", seems to be in a constant and stable state, regardless of whether something passes through it or not, and things certainly do pass through it, just like a door. The debris, the probe, and the cultures, all reached the other side completely unchanged, and the probes were able to return without a problem. Part of the routine that the first automated probe was designed to run had it take a star map. When our astronomer plotted that against our star map, he found that the tear leads to a neighboring system that has yet to be colonized. At least we assume so. We are not able to send or receive electromagnetic signals through the worm hole, mostly due to interference, but for the short time that the probes were on the other side, neither picked up any radio chatter. The rest of the team wants to stay here and conduct more tests, but I want to get out there and see for myself where this takes us!

July 21st, 1192 TE
I can't believe it, they docked us! Apparently the scientific counsel thinks we need months of testing and cooperation with the military to actually send people through! When I heard that, something snapped. I've lived my life by the book until now, but I just can't take it anymore. Regulation, bureaucracy, and blanket procedures, they're all just in my way. I need to do something about this now!

July 25th, 1192 TE
I've been talking with some of the staff here, including a few of the military guys they sent with us on the last run. In total about 15 people said they're in. We think we can grab one of those nice new shuttles, and get off of the base before anyone notices. It's funny the type of information you can get just by asking the right people nicely. The plan goes down tomorrow.

July 28th, 1192 TE
My group and I can now say that we've been through a worm
hole! I was amazed at how easily we took this ship, and now
we've confirmed that the anomaly causes no immediate side ef-
fects. However, we don't want to risk returning with our find-
ings just yet. We are now on the other side and we seem to be
picking up some extremely intermittent and encrypted transmis-
sions. As a whole, the team is split on what to do, but we've
all agreed that if we go back, we'll never get a chance like
this again. I think we're going to investigate… I've decided
to jettison this journal for now, along with some letters from
the rest of the crew, so that if we don't make it back, some-
one will know what happened to us. I've set the pod to emit a
signal beacon after 20 days. My plan is to pick it up before
then, but if you're reading this, apparently things did not go
according to plan… In which case:
This has been the journal of Gifford McCray. Whether you be
friend or foe, I have done all of this in the pursuit of sci-
ence, and, no matter the outcome, I would do it all again!

-Gifford McCray 1168 TE - ?

The missing Gifford McCray and wormholes, huh? Isn't that something…? Oh, I bet I forgot to mention, that one was classified. The elders don't like anyone readin that one unless they're gonna do what you're gonna do, and of course doin what I do, I need to have read it. They never did find out what happened to him and his rouge crew, and that might have been for the best. After that little incident, the officials of the time became real careful about who knew about wormholes at all. This next one's a bit different than the rest. It's not from some scientist, or ship captain, it's the entire journal of a factory manager, but don't worry it's only 7 entries! His name was Tom Angus, and he wrote this at the time of the first Galactic War.

THE JOURNAL OF TOM ANGUS

March 1st, 3550 TE

Alright, I'll start off by saying, this was not my idea. My therapist told me it might help with my stress level… Honestly, I think it might help more if the whole system wasn't getting attacked every few days! What's worse is that the enemy seems to be in the habit of leaving no survivors, so we don't have any idea where they are or how to stop em. Because of all this, the factory has been in constant production of weapons and armor. The team is overworked and the equipment is dated and in need of replacing. So, sure, writing in a little book might help me vent, but if all these other problems went away, that would probably help more!
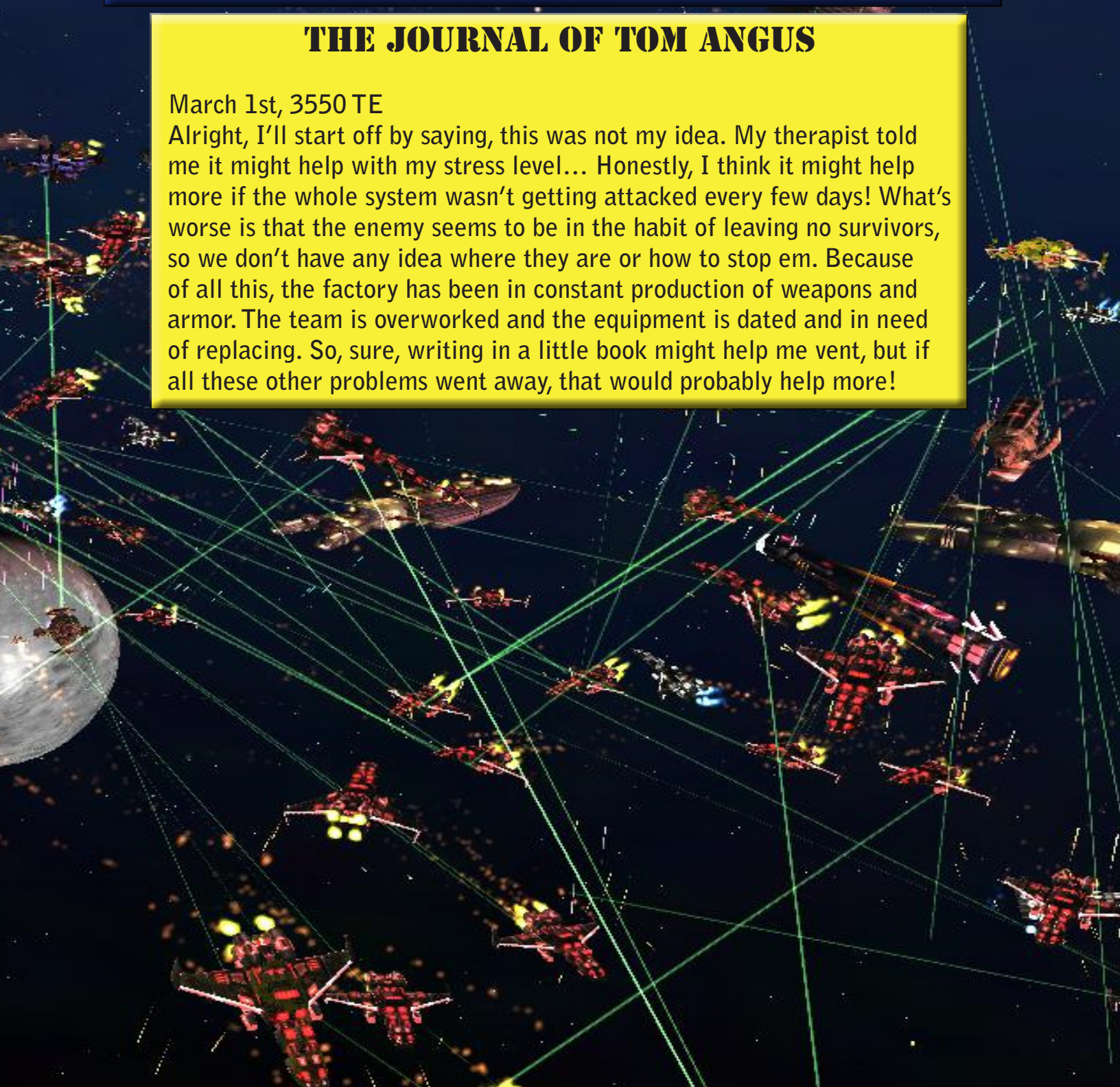
March 8th, 3550 TE

I heard yesterday that two more systems came under attack, Alathfar and Yvelad, and it fit the same mo as what's going on here. Those systems are both clear across the known galaxy in different directions! Whoever or whatever these guys are, they've got reach…

Well, there was one good thing that happened this week. The factory got an overhaul and now we've got more power, more production capacity, and a little extra storage. I think that'll just mean we'll have a higher daily quota, but with the increased capacity, we're hiring some more operators, and the team is fairly happy about that. Anything to raise moral!

March 15th, 3550 TE

Another slew of colonies have been leveled, this time it was in Fadlar. Something has to be done. The divided nations spread in various corners of the galaxy are starting to realize that this problem won't just go away. The news channels have reported a few meetings discussing a giant alliance, if for nothing else then just to put a stop to these monsters. I really hope that's the case, there's no point in remaining independent nations if we all end up dying… We could use some technologic influence as well. I'm seeing what we're sending out to the battlefield and it's the same old stuff we've been making for years.

March 22nd, 3550 TE
The news channels have been squawking non stop for the past few days. On Tuesday, all feed went dead for about 30 seconds and suddenly a robed representative, looking very much like a religious zealot, claimed to represent a group called The Four Horsemen. He claimed they were from Cursa originally and that they were responsible for these unknown attacks and called for the surrender of the entire galaxy! That would explain a few things, first, Cursa and the near by Sargas went silent centuries ago without any sign of why. Expedition-ary teams recently went to repopulate those worlds, and all they found was rubble. Sec-ond, it seems their entire civilization is wholly geared towards conquest and destruction, so their knack for leaving no survivors is a form of devotion, not simply a battle tactic. Of course this was enough to get the politicians to agree, finally, that they had to do something. On Thursday, the Galactic Alliance was announced, with the sole intent of ridding the galaxy of this threat. They stated their confidence in be-ing a larger force than that of the 4H, which is the charming abbreviation now used by the media… Along with this announcement they said that, with a name to pursue, spies were successful in locating several 4H bases around the galaxy. I'm not entirely convinced that they can, but I certainly hope they will bring these malevolent psychopaths to justice!
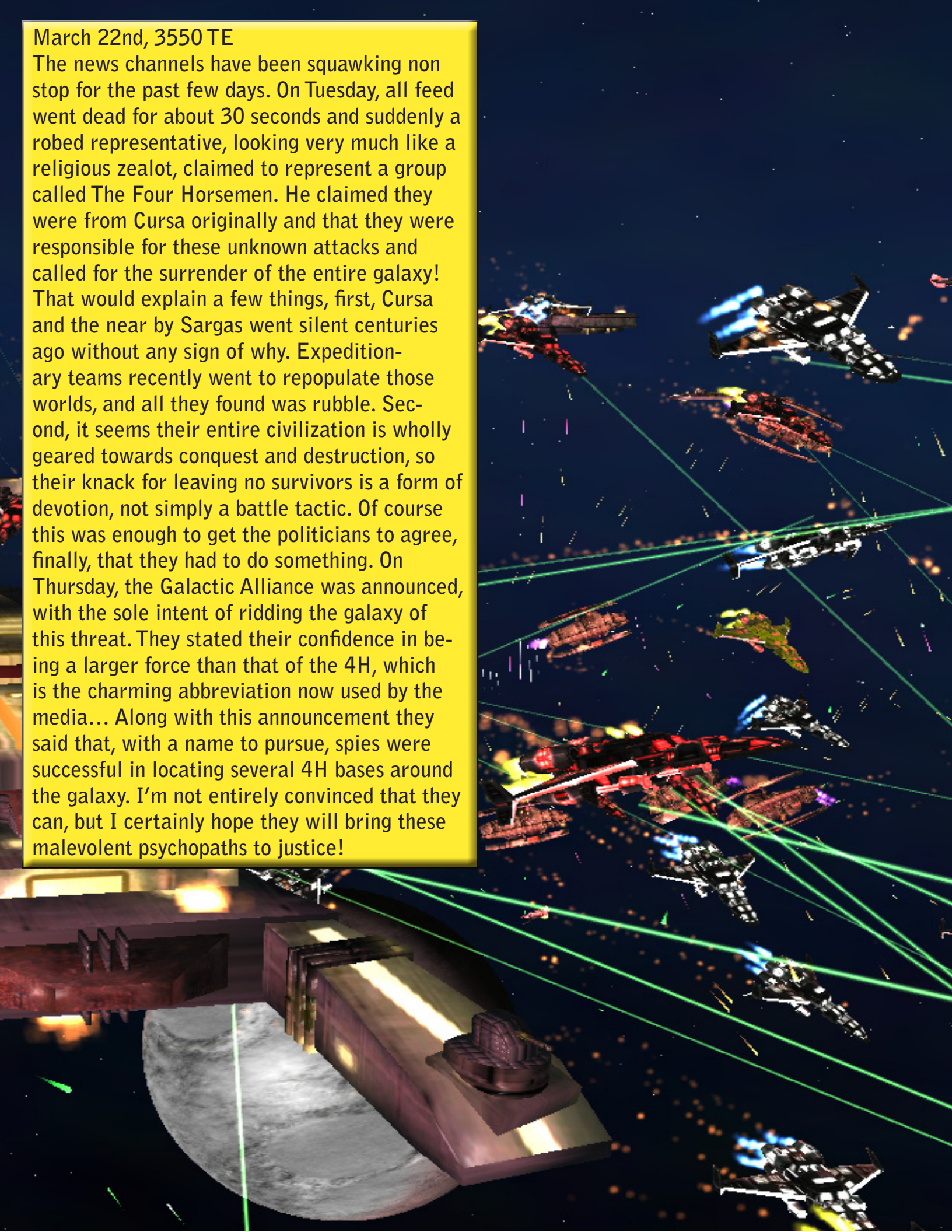
March 29th, 3550 TE
After nearly a week of constant engagements, and a near doubling of our quota at the factory, no end seems to be in sight of this conflict. I have a good friend who works in central intelligence, who probably shouldn't have told me this; Jamie is the only name I feel comfortable writing down. He says, for every five of our ships, we manage to bring down one of theirs. He did say though, that they don't seem to be producing new ships. So it's possible that once we grind them down enough, they won't be able to keep up with our production. I'm thinking of telling my crew that, I think it would really help raise spirits, but I need to do that without telling them how I know… I wouldn't want to get Jamie in trouble. He's got a wife and kids…

April 5th, 3550 TE
Unbelievable! Apparently the information Jamie gave me was dead on. The Galactic Alliance hit a bunch of production facilities and 4H was forced to retreat. That is the problem though, they only retreated, but that means we've had 3 days without an attack. A year ago, that might not be so unbelievable, but we've been under constant attack ever since these guys showed up. Maybe that means they're really gone! Production around here hasn't slowed at all though. I think everyone wants to be sure we're prepared if they do come back. On the other hand, moral is high! I can already feel the stress peeling away. If this keeps up, I won't need to vent to a book!
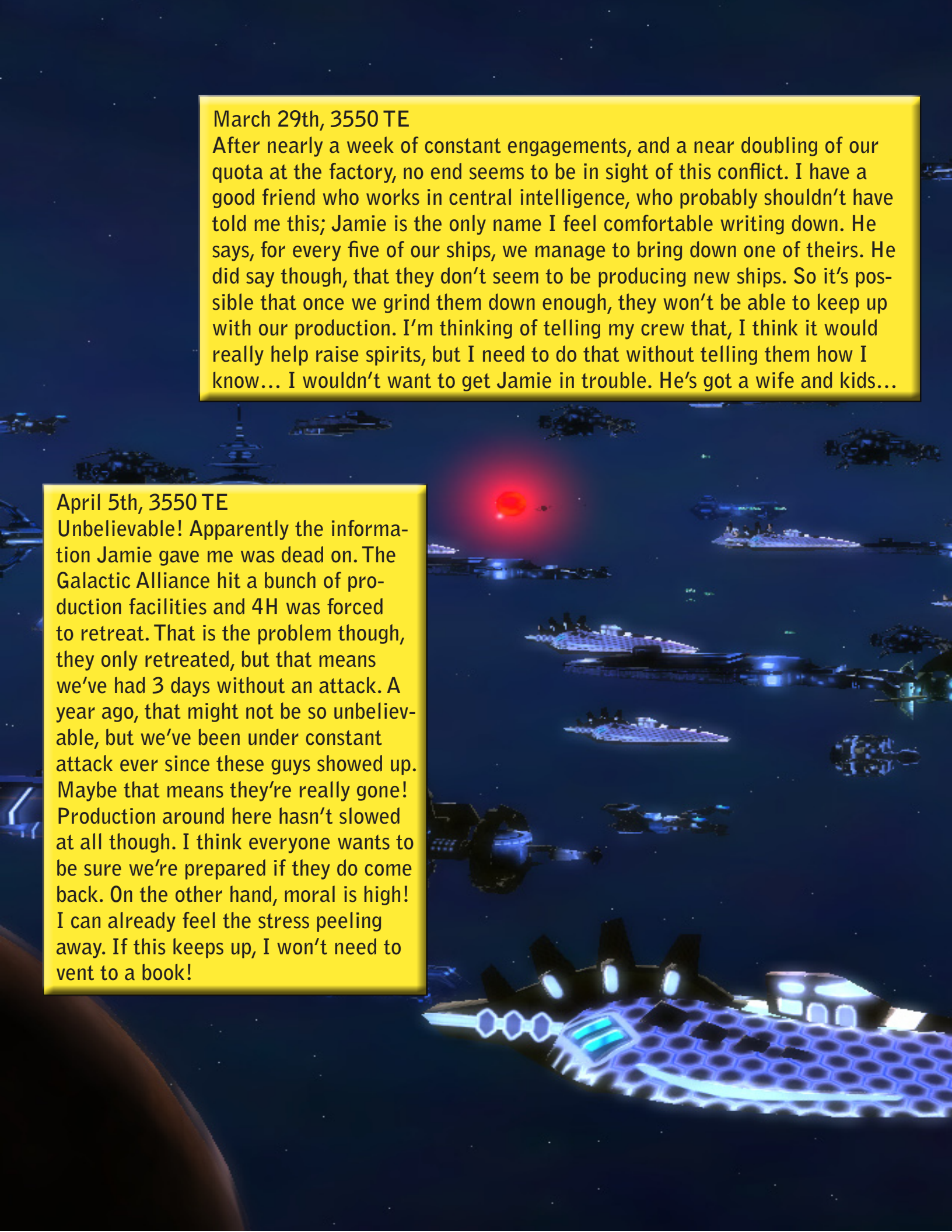
April 12th, 3550 TE
Well, it has been a week, and production has been cut back to prewar levels and everyone's pretty happy again. The 4H must have returned to whatever hole that they crawled out of. The news casters, Jamie as well, are pretty convinced that they didn't go back to Cursa. All sorts of rumors are flying as to the origins and even the embodiment of the four. Some people, and a few of the broadcasters, seem convinced that they came to Cursa from the fabled Pluto colony. The common theory is that Pluto is a utopia, as we have been told by the occasional, "I've been to Pluto!" nuts. However, with the latest events, I think opinion is starting to swing towards the possibility that the isolationists went crazy…

I've also heard a few of my workers say they don't think that the 4H leaders were human, only their followers. I tend not to buy into theories about aliens, humanity has been flying around the galaxy for almost two millennia now and has yet to see anything non human capable of little more than making a nest. I'd believe they're no longer human, some sort of mechanical or "elevated" human… but I'm not going to tell anyone that… Maybe I should erase that last line…

All of that aside, I'm feeling much better, so I'm going to tell the shrink to take a hike! Ha, that makes me feel a lot better! Unless the 4H come back, I think this'll be my last entry here.

- Tom Angus, 3504 - 3587 TE

Well, you've had some insight into the first Galactic War? That's good. What's crucial to remember here is although the "War" only lasted half a month, the price was enormous. Some historians put the total casualties around 2 billion. Many of those happened when the committee was just sittin around talkin. However, we know the carnage didn't end there. So, get yourself ready for round two from a slightly different perspective, Silas Stark's view from the deck of a battleship.

Selections from the log of Bridge Commander Silas Stark, in command of the Halberd
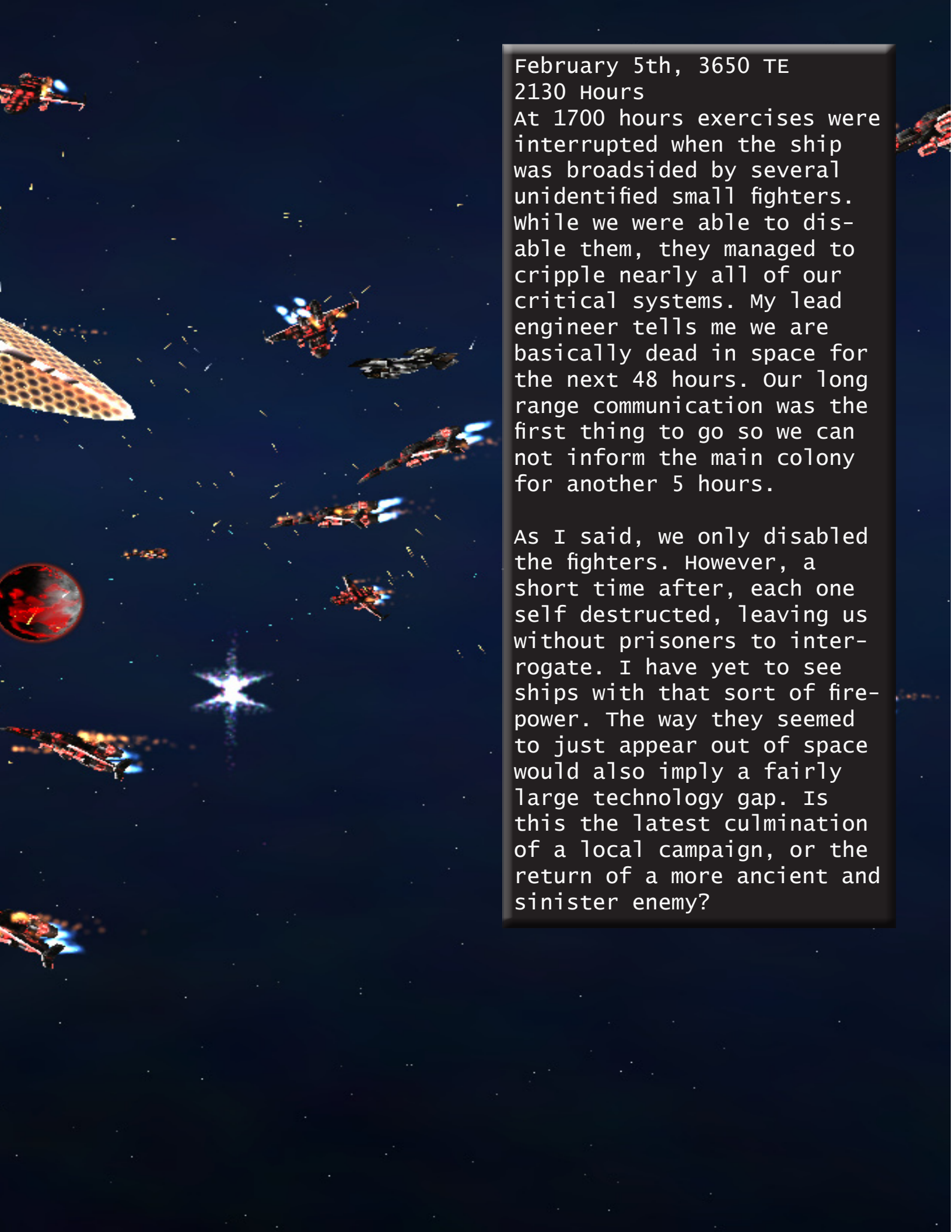
January 20th, 3650 TE
1200 Hours
The ship's inaugural ceremony was an excellent send off. The crew seems eager to be in space guarding one of our nation's largest populated planets. There have been minor skirmishes in the sector, but nothing major. It seems that, while there is tension between several of the various peoples of this system, they are reluctant to enter into a drawn out conflict. Even so, the port controller, Scott Newman, an acquaintance of mine, assures me, he and his family feel safer each time they see another ship go up. I used that in a speech I gave to the crew, and many seemed to have taken it to heart. However, William Lockheed, my helmsman, seems to have taken the defense of the entire planet onto his shoulders. With a little more experience, and some mentoring, I think he'll make a fine officer. He just needs to relax a little.

We are currently headed out to the dark side of the third moon, where we will be stationed in advanced guard for the next few months. I'm anticipating a good deal of down time, in which I hope to have the, mostly green, crew do an assortment of exercises. I'll have them all either promoted or begging to resign by the end of this station!

February 5th, 3650 TE
2130 Hours
At 1700 hours exercises were interrupted when the ship was broadsided by several unidentified small fighters. While we were able to dis-able them, they managed to cripple nearly all of our critical systems. My lead engineer tells me we are basically dead in space for the next 48 hours. Our long range communication was the first thing to go so we can not inform the main colony for another 5 hours.

As I said, we only disabled the fighters. However, a short time after, each one self destructed, leaving us without prisoners to inter-rogate. I have yet to see ships with that sort of fire-power. The way they seemed to just appear out of space would also imply a fairly large technology gap. Is this the latest culmination of a local campaign, or the return of a more ancient and sinister enemy?

February 6th, 3650 TE
0420 Hours
Communications were restored, and we are proceed-
ing back to the planet at half of our maximum
speed due to irreparable damage of our engines.

When Command was contacted, they notified us that
rather than being attacked by the enormous fleet
that appeared over the planet, they were hailed.
This is in fact a return of the dreaded Four
Horsemen, but they seem to have changed in de-
meanor. This time, rather than an unnamed on-
slaught, like history records during their last
public crusade, the commanders were told that our
people would be spared in return for our pacifism.
While it may have been nearly a century since
their last appearance, every child still hears
stories of the 4H. Most of the commanders' par-
ents were themselves only children when they sur-
vived the initial attacks. So, they took the only
conceivable action when outnumbered and faced
with such deep seeded fear, they complied. Within
minutes the entire fleet was gone again. They are
either using some sort of cloaking generators, or
are capable of traveling faster than light. We
were then ordered to return immediately for re-
pairs and redeployment.

Dissention over the decision is obvious, but
without unity and a battle plan, it is baseless.
Just as every child fears the 4H, they also know
that they were only defeated when humanity unified
against them. I imagine they will call the war
something heroic like, the Second Galactic War.

February 21st, 3650 TE
2000 Hours
For nearly two weeks since repairs were completed, the Halberd has again encountered zero opposition while on patrol. The crew is still on edge.

It seems discussions within our nation have stalled as to how to deal with the return of The Four Horsemen. At the moment, only military production has been increased, they rushed 4 more battleships to space, moving their project plans ahead by months. I am not convinced of their space worthiness… More have ships have begun construction in their place.

The majority of our commanders want to attack, but the reality is that our nation has suffered no casualties as a direct result of the war. Therefore it is most likely that we will remain out of the fight as long as possible. However, several of the key nations still flying the flag of the Galactic Alliance are taking heavy losses from, what seems to be, a vastly superior force than the one encountered 100 years ago. I have also heard rumors of local nations actually aiding The Four Horsemen, overtly and covertly. I am not at all sure of the validity, but just the thought is unnerving. Could this group actually become an established force with more staying power than the nightmares that they create?
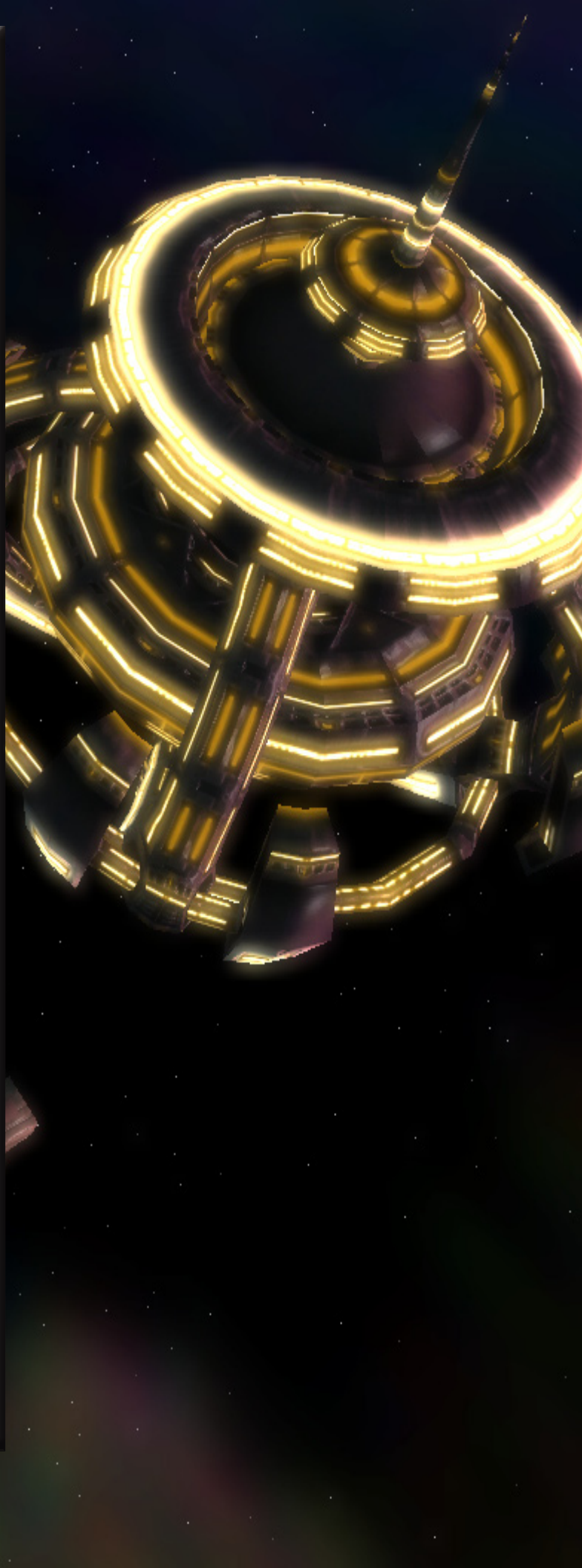
March 18th, 3650 TE
1800 Hours
Command informed me several days ago that
communications with two of the corner-
stone members of the Galactic Alliance
have gone silent. Today, The Four Horse-
men made a mass communication announcing
that hostilities with the public at large
would no longer be their way, but that the
inhabitants of Fadlar and Rutal, includ-
ing its sub systems, should be evacuated.
They also announced a new name for them-
selves, the "Apocalypse Imperium", letting
the leaders of nations know that service
to them would lead to freedom from oppres-
sion. It seems as though they have been
recruiting…

March 30th, 3650 TE
1430 Hours
In all of my years, I have never been as
confused as I am now. Just as the Apocalypse
Imperium seemed to have the upper hand in
every conceivable aspect, they left; with-
out warning and without struggle. Several of
their fleets, and many of the nations that
served them remain, but the organization as
a whole seems to have dissolved. I can only
imagine what this will mean for the future
of mankind, and if, or rather when, the Im-
perium will return…

- Silas Stark, TE

TWO SELECTIONS FROM THE JOURNAL OF GALAXY DAILY NEWS REPORTER, BRANDON BACHNER

December 15th, 3659 TE

I don't believe it! This is my big break. With the establishment of the Galactic Senate and unveiling of the Galactic Wars memorial in less than four months, I finally got hired at the Daily Galaxy paper. It's not quite the Galactic News, but it's a start! They also told me that if my first couple of stories go well, I'll be part of the team covering the Senate's inauguration! With all the fighting in the past few centuries, including galactic wars one and two (GWI and GWII), this is an incredible step to prosperity. Finally there will be a forum where the powers of space can talk about their opinions and concerns rather than just going to war.

I did some research and it seems that the method they chose for deciding on legislature will be similar to the method they used on Earth to elect leaders, almost four millennia ago. Apparently, some of our ancestors divided their land into states, the states would vote. Based on the population and size of the state, the winner would get a certain number of "electoral votes" and whoever got the most of those votes was elected. The new system is going to replace states with star systems. Each planet will be like a vote, decided by the inhabitants and their governments. Those votes will determine the winner of that star system. The winner of that star system gets a number of votes equal to the number of planets in the system, like electoral votes. I'm told that in the end it's simpler to understand. I think it's more fun to think about, but simpler isn't the word I'd use.

I still need to impress them if they're going to let me go, so I'll have to work really hard for the next few months!

March 30th, 3660 TE

The Senate is finally a reality, and I was there to record it! It has been ten years exactly since the departure of the mysterious Apocalypse Imperium. "Civilized humanity is once more united with the intent of never again allowing such tyranny and oppression to trouble the people." I've interviewed several of the new Senators, and most of them stated that line nearly verbatim. Then I got a chance to talk with one of the delegates from what was Rutal at the time of the Imperium's disappearance, Jason Spinowski, was his name. He said that he would be using the position he was appointed to, on behalf of all those wishing to follow the teachings of "The 4". He would not state any further what 4 he was referring to, but most of the time when that comes up in political speak, it means they are remnants, or new followers of, the Apocalypse Imperium. Additionally, I, along with a mob of other reporters covered the arrival of the delegates from: Traders Consortium, The Black Hand, and the Qua'Sha Conclave, as well as Jeffery Gordon, the private owner of over 30 space stations. The word is that he doesn't actually qualify to be a delegate, but that he already has a few in his pocket…

After giving each press member a thorough scan and search, as well as a tamper proof tracking chip, they brought us inside the enormous Senate building, intended to house hundreds of thousands of representatives from all over the galaxy. This building also contains one of the largest and most complete libraries in existence, as well as an entertainment and culinary wing. It's completely amazing! It is essentially an entire city under one roof. Then, of course there are the Senate Floor and the Emperor's Chambers, each much larger than any arena I've ever been to.

After the tour, the guide told us to sample their restaurants.
I was astounded at the selections, there were three dinners that
I saw from systems I wasn't even aware existed before today, and
even a local chain from my home planet! I grabbed my usual, a
four cheese pizza with avoid anchovies. That turned out to be
not such a good idea when I was sitting in the Senate Floor for
the next 5 hours…

The inauguration ceremony was inspiring, and it seemed almost
as if there was a delegate or two from each planet within 100
light years! The available data on each delegate was impressive,
and entirely optional, as some had no public information avail-
able at all. After the ceremony, there was a mock debate about
the color of Earth's sky, demonstrating to the public the pro-
cess that the senate would take. The original proposals took
place in the Emperor's chambers, and were grey, green, purple
and red. They announced that it was in fact blue for historic
purposes, but encouraged the delegates to play along with one
of the four. Only the most powerful of delegates were permitted
to engage publicly in this discussion. The final proposal ended
up being red. The discussion then moved to the Senate Floor. The
transition and intermission were made fairly quickly, due to the
multilevel rapid transit system between the two debate centers.
Once on the Senate Floor the general discussion took place, it
was half hearted at best, but served its purpose. The voting en-
sued and the proposal was rejected, although it was only reject-
ed by a 50/20 ratio. I'm guessing not all of the delegates were
amused.

Tomorrow, after some much needed sleep, I'm off to see the memo-
rial and comment on that.

What a day!

-Brandon Bachner, 3637 - 3744

*Well, there you have it. The history of space travel as we know it from the perspective of
six of the poor fools that lived through it. I'll take their versions over the text books any
day! If I had any better advice, I'd give it to you now, but I don't. So I'll just say this. It's
your turn to be writin the history. Remember those that got you here and that we're all
countin on you. Now, get out there and make somethin of this ragged bunch!*

BEYOND PROTOCOL

II
DIPLOMACY

"Order through chaos that is diplomacy's true face." ~ Rakura

DEALING WITH FACTIONS

For the longest time, as nations continued to grow and new ones were founded, a fundamental problem arose in the Galactic Senate. The problem was how to preserve new empires long enough to permit them time to establish themselves in their own little piece of the galaxy without being immediately "squashed" by larger, existing empires. The intended goal was a forced system of checks and balances, factions if you will, forcing empires to align with and challenge others.

Arguments ensued, wars were fought, and every party in the galaxy stood by anxiously as they struggled to find a solution. Heavy penalties by the Galactic Senate and other governmental bodies for attacking weaker empires proved ineffective, the benefits and the thrill of destruction far outweighed any potential downsides of their reckless brand of diplomacy.

Such mindless destruction of new empires led to a meeting of the greatest minds in the galaxy and they struggled to find yet another solution. After countless months of debate, they hit upon a solution which they could both support and enforce. They created what would become known as the Faction System. All empires have come to understand and respect the system for its ability to bring about a positive relationship between the weak and strong empires throughout the galaxy.

The system is simple and benefits all parties involved in some way, making it almost essential for an empire to participate in some form or another. The newest empires, with their limited territory, wealth, and power, join the factions of the more powerful empires, and a mutual benefit is shared. These powers are determined by the rank held by the leader of the empire in question, and each rank is given a total point value by the Galactic Senate. This determines how much of a benefit they can receive and whether they can be allowed to join a particular faction. If not, they have to seek out other, lower-ranked players to join with their faction.

These benefits are extraordinary. Researchers of both empires receive substantial research bonuses based on how many nations are in their factions or how many factions they are themselves a part of due to the Sharing of Information Pact associated with joining a Faction.

The most obvious benefit is found in the **effect of research speed**. Another important accomplishment of the Faction system was the elimination of the Galactic Trade Commission's fees on trades between members of a common Faction. This took a lot of careful negotiation and numerous pieces of legislation on the part of many influential powers in the galaxy. Deals were made, opposition was squashed, bureaucrats were fired (or hired as the case may be), but eventually a Galactic Trade Commission was formed which was willing to tolerate not having absolute regulatory power and taking their traditional "cut" from a mutual exchange of material from members of the same factions.

Simply put, all empires who participate in a faction according to the Galactic Senate's rules will reap some benefit from this interaction. As such, it is essential for new empires and old ones alike to do their absolute best to ensure they fill their faction slots as quickly and efficiently as possible. With this information at your disposal, you will find the faction system to be an extremely useful aspect of your burgeoning empire both in its youth and in its elder years.

Tip
Ranks are given numbers from one to seven, with Magistrates being a one and moving progressively upwards to the highest rank of Emperor who has a rank of seven. As long as your total power rating is not above nine you can be in a faction and gain the unique benefits associated with it.

Fun With Math
So, if I'm a King that means I'm rank 6. If I want to faction a Duke (Rank 5) then I add

5 + 6 = 11, 11 is greater than 9.

So I cannot faction a Duke, but an Overseer is Rank 3.

3 + 6 = 9, 9 is not greater than 9.

So this is an acceptable faction.

Tip
See the charts at the end of this chapter for in-depth information on each rank, its benefits, and requirements.

Summary
Being in a faction will greatly increase your research speed and remove the fee's associated with trading to all members of your faction.

Building an Effective Faction Tree

Factions are one of the most useful possibilities available to governments in Beyond Protocol. These are essentially sub-categories of guilds. **Everyone in a faction gets tax free trade** between members and gets research time reductions.

In Beyond Protocol, each level of the political tree has a number associated with it. For instance, the lowest mark on the tree is the Magistrate, the starting title, and is number one. At the other end of the spectrum, the highest title you can hold is Emperor, which is represented by the number seven.

Within your diplomacy window, there is a screen devoted to your factions. Here you will see there is a group with five slots and another with three slots. The top five slots hold invitations sent for other empires to join your faction. The bottom three slots hold invitations received from other empires for you to join their faction.

The first rule for asking an empire to join your faction is that their rank number and yours must equal nine or less when added together. The second rule states you have to be of a higher rank than the leader you've invited. This means a Magistrate cannot be in a Magistrate's faction.

Along with trading, factions fight together in a war, however, if you are a Magistrate and in an Emperor's faction, you do not have to join them in a war to get all the benefits, but if you go to war, the Emperor must join in your cause to gain benefits.

Everyone can fill the five top slots for creating their factions. In the charts at the end of the chapter you can see an outline of Rank, Faction Building Limits (your three bottom slots), Research Reduction benefits from faction membership, and finally, the faction membership required to gain the Research Reduction benefits. Remember, all levels enjoy tax-free trading with everyone in the faction.

Faction Management   ? X

Your Current Title: Overseer

Faction Slots	Their Title	Status	
tut1384 ▼	Governor	War Not Joined	Remove
tut1395 ▼	Governor	Accepted	Remove
tut1387 ▼	Governor	Unaccepted	Remove
▼		Unassigned/Unused	
▼		Unassigned/Unused	

Your Faction Bonus: 1%

You are currently in 1 factions:

tut1361	Accepted	Remove

Bonuses from other factions: 50%

Current Research Time Reduction: 50,5%   Max Reduction: 88,1%

The Benefits Of An Alliance

Diplomacy in Beyond Protocol can be one of the hardest things to judge, especially when deciding whether to take the leap from peace to ally. This may seem like a click of the slider bar or signing your name on a new deal, but it is so much more. By deciding to ally yourself with another empire, you open your doors to many bonuses as well as a lot of potential heartache, if you are unprepared.

When another empire decides to become an ally, you gain several things. The first thing you will notice is that your diplomacy score has increased by a percentage of your new ally's score. You also **gain a percentage of your ally's income**. This is roughly ten percent and may not seem like a lot, however, if an empire is making one million credits a tick, you gain a credit bonus of 100,000 credits per tick. If you decide to ally them back they will receive the same ten percent bonus. This can be a negative but we'll discuss this later.

Finally, if someone allies you or your ally them you will share information on where all your colonies are located. This can be a serious negative or a great positive. For example, if they need help reinforcing certain colonies you can check which ones for yourself without spending valuable time asking. This is especially helpful during combat.

The Downsides Of An Alliance

However, there are potential downsides, some players will attempt to ally you for the sole purpose of getting your empires information and using it against you to further their own expansion.

Frequently someone will ally you and you ally him or her not paying much attention. They will write down all your colony locations and either sell the information or use it for their own gain. If you are quick and they have allied you as well you can get their information too before they set you back to neutral. One can always tell an inexperienced empire from a mature empire with this tactic.

Personalities can come into a negative context concerning playing styles. It has been seen many times where one empire will attack another with reckless abandon, expecting an ally to bail them out if they get in over their head. You should strongly consider this before making a final ally decision. **Entire empires have fallen based on one conflict** another empire was not ready to help support. Again, you can tell a younger empire from a more mature empire with the amount of allies they have and how many of those allies are ready to help defend that empire.

Finally, covert networks can find out a lot about your empire just by looking it up through your ally's database. Often a larger empire will use a small empire as a way to infiltrate another empire (yours in this scenario) and get much need information. If one of your smaller allies gets used in this manner there is almost nothing you can do except pray or cancel the alliance altogether to prevent further damage.

Tip
If you are making one million credits a tick and John Doe's empire is only making 200,000 then you are trading your 100,000 for their 20,000 - hardly a fair trade to say the least. However, this can be offset if they are supplying you components or materials. In the end, you must judge whether this is a fair deal or not.

Tactics
Set your off-line invulnerability on a different colony so they think that is your home world. This is useful when you are spread among different systems because they might send their fleets to the wrong system.

Keeping SECRETS
- Your Home World.
- Your Research Colonies.
- Your Mineral Requirements.

Summary
Allies give you approximately 10% of their credits per tick in trade income.

Blood allies do the same but also share information on where all your colonies are located.

What Not to Tell Your Allies or Anyone Else

Secrets are the lifeblood of diplomacy. If someone knows all your secrets, they have the heart of your empire in their fist. I hope that this will impart some wisdom on the how and whys of keeping secrets from anyone and everyone.

Be aware that there are agents out there that will do anything in their power to ferret out your secrets. If these agents cannot easily find what they are looking for, they might resort to despicable means, such as infiltrating your allies. If the only thing keeping your empire alive is your secret space station or a hidden fleet, then you have some things you cannot tell anyone.

One thing to try to keep secret as long as possible is your home world. Once found, the enemy can ruin a lot of hard work. If you have allies you can truly trust, you can share the location, allowing them to help defend you if needed. There are steps you can take to defend yourself. For instance, the use of dummy buildings, the best dummy buildings will have the same names as real ones so no one can differentiate between them. They will also have guns on them to help kill the enemy should they attack.

Use this tactic for is the command center since losing it can cause high morale penalties. You can make a dummy command center with guns, then sprinkle twenty or more of them around the map so the enemy will have a hard time locating the real one. You can do the same for mineral storage facilities, command centers, tradeposts, and research facilities.

Try to keep your most powerful components secret. If there are major engagements going on you do not want the enemy to find out the numbers behind your shield designs, the stats of your radars, how much damage your weapons do and how many you have on each ship.

The enemy can guess at your capabilities based on observations in combat, what they cannot do is be certain of what you really have. Case in point, they notice your shields are so good they cannot hurt them so they re-design their weapons to do more damage, but if they don't know the specifics of your shield design the new gun may still not be powerful enough to penetrate the shield. This wastes their time and resources, which gives you more time to eliminate them.

Another component that must remain secret from your enemies is the radar. Never let the enemy know your jamming capabilities. It is good to use a mix of all the jamming abilities on different ships because if the enemy finds out which ship is primarily a jamming ship you will have a problem. One way to avoid this is to give the ship a couple of light cannons and to use the same hull as your other ships. You must also be sure to use the same engine if you can because a different engine color or speed will be a beacon that says, "I am different!" to your enemies.

If the enemy knows which jamming type you are using they can set their radars to be immune to that type. Telling your allies your jamming capabilities can be a good thing because then they can invest in a different jamming type, then your fleets do different things making them more efficient when working together. Another statistic to keep secret is your disruption resist, if they don't know this number they may go through five or more generations of jamming radars to get the proper strength to counter them.

Your armor resistance is another secret you need to hold near and dear to your heart. You do not want the enemy to know the properties of your armor in terms of high resistance to impact, pierce, and beam (the most common damage types). Trouble figuring out which resistances you have could cause them to go through twenty different guns before they get the right one. If you do not trust someone with your life, do not trust them with your armor specifications.

Likewise, tell nobody about your weapons. Knowing the damage-per- second of your weapons means the enemy can design shields to counter them. Knowing the damage types of your large weapons means the enemy could design armor to counter most of the damage they may deal. Sharing weapon designs with your allies is a good thing and should be encouraged, just not in all cases. The designs you are currently using should be off limits except to your closest of confidants and even then you might want to consider if there is a damage radius or not. You do not necessarily have to tell them how large it is, but it would be bad manners not to tell someone on your side that your ships might hurt theirs in close quarters.

Research colonies are one of your most important secrets. They can represent a lot of money and time depending on how far along and the type of research. There is no surefire way for the enemy to find your research colonies unless they subvert one of your allies, but if they do find one you will suffer for it. If you have five or six research labs on each planet you own it will make it harder for the enemy to differentiate between what is making money and what is researching. You do not have to keep those facilities powered but you should because they generate more income than factory jobs. These colonies should remain secret and not be shared with your allies under any circumstances.

Fleet movements should always be confidential, your allies only have a need to know during times of war. It is not necessary to tell them where you are moving ships at any other time. These movements, crucial for coordinating with your allies could let the enemy know where you are going and could lead to big nasty surprises. You also want your whereabouts kept secret if you send a fleet to rest in the middle of nowhere while you are logged off. Telling your allies where these are might tempt them to fly into your parked units to involve them in a fight to save themselves from an enemy. That could be disastrous if your units are set to "Hold position" and "Hold fire", or if they are set to "Pursue Enemy", they could be scattered and picked off in singles and small groups.

Never share with anyone where you have your space stations. These represent minerals, money, and in some cases ships, which could be a catastrophic loss should the enemy blow up a shipyard space station. If your space station is a shipyard, you may have irreplaceable components sitting in the cargo hold. Space stations are so vulnerable because they cannot move unless you have very rare research and even then, they cannot move very fast. There are some space stations built for defense and they are usually located in high traffic positions like wormholes or near planets, but even in those cases do not tell the enemy where they can be found. Let them be surprised when they discover them and hope they are not prepared.

Unfortunately, the enemy can use agents to locate your space stations as well as the galactic news service, so it would be wise to put up a few decoys here and there at the same time you put up the real ones so they do not know which one is the valuable station.

You might end up with many colonies and letting the enemy know where they are is not a good idea. If you set someone to ally, it reveals all your colony locations to him or her on the budget window, which can also be an indicator of colony size. Once you have allied with someone they will know where all your colonies are so choose your allies with care.

To confuse even your allies try to keep a few small colonies scattered around so they cannot pinpoint your home world or your main research colony, should they turn on you. Usually the main research colony will have a tax rate of zero or one so the money it generates for your allies will be tiny. Letting the enemy find out which colonies are making you the most money can be a problem because they can use those against you. Destroying particular facilities will change that big money maker to a big money drainer and can hurt your economy.

Always keep in mind that your secrets are your life: The life of your economy, your fleet, your citizens, your friends, and your empire. Never tell your secrets unless you can afford the pay the price of others learning them – but always keep an ear out for the secrets of your enemies. Every secret has its power and it is up to you to find them and use them. The best empires will be those who are the best at keeping and finding secrets. The best alliances will be those best at keeping and finding secrets.

Rank and Factions

Title	Requirements To Earn Rank	Bonus	Invitable Ranks	Joinable Ranks
Emperor/ Empress	Control of all planets in one system and control of one other planet.	Receives a 15% research bonus per filled slot in their faction.	Magistrates Governors	None
King / Queen	Control of majority of planets in one system.	Receives a 24% research bonus per filled slot in their faction.	Magistrates Governors Overseers	None
Baron / Baroness	Control of 2 planets and a colony on one other planet	Receives a 19% research bonus per filled slot in their faction.	Magistrates Governors Overseers Dukes	None
Duke / Duchess Can join 1 faction	Control of 1 planet and a colony on one other planet.	Receives a 4% research bonus per filled slot in their faction. In addition they receive a 50% bonus from a joined faction.	Magistrates Governors Overseer	Baron
Overseer Can join 1 faction	500,000+ total population empire wide.	Receives a 1% research bonus per filled slot in their faction. In addition they receive a 50% bonus from a joined faction.	Magistrates Governors	Baron Duke
Governor / Governess Can join 2 factions	200,000+ total population empire wide.	Receives a 1% research bonus per filled slot in their faction. In addition they receive a 50% bonus per joined faction.	Magistrates	Emperor King Baron Duke Overseer
Magistrate Can join 3 factions	Starting rank	Receives a 50% bonus from each faction joined.	None	Emperor King Baron Duke Overseer Governor

Title	Max Research Bonus
Emperor / Empress	55.6 %
King / Queen	74.6 %
Baron / Baroness	65.1%
Duke / Duchess	59.2%
Overseer	52.4%
Governor / Governess	76.2%
Magistrate	87.5%

Title Requirements

CONQUEST

Emperor/Empress - 75% Control of all planets within a star system and 75% control of a planet in another star system
King/Queen - 75% Control of a majority of planets within a star system
Baron/Baroness - 75% Control of 2 of the planets within a star system
Duke/Duchess - 75% Control of 1 planet within a star system
Overseer - 500,000 or more population
Governor/Governess - 300,000 or more population
Magistrate - possesses one colony

TRADE

Commerce Czar/Czarina - Trade posts on every planet of 3 systems with 5 sell orders in each.
Master Merchant - Trade posts on every planet of 1 system with 5 sell orders in each.
Chief Broker - 20 sell orders of 10 market types within the same tradepost
Trade Lord/Lady - 10 concurrent sell orders of 10 market types within the same tradepost
Overseer - 10 concurrent sell orders of 5 market types
Merchant - 5 tradeposts in the same system
Magistrate - A tradepost outside of the tutorial

SCIENCE

Transcendent - 5 of each Component Type that exceeds starting techs and 50 special projects researched.
Preeminence- 2 of each component type that exceeds starting techs and 20 Special Projects Researched.
Chief Scientist - Researching a Single Technology on a massive scale
Inquisitor - 1 of each component type that exceeds the starting techs
Master Scientist - 2 High production research labs, 30 minerals discovered, 1 alloy designed and researched
Scientist - 2 Research Labs and 10 minerals discovered
Explorer - Research Lab outside the tutorial

DIPLOMACY

Supreme Chancellor - Non Guilded Blood Allies combined control 5 systems.
Chancellor- Non Guilded Blood Allies combined control of one system.
High Senator - Your senate proposal is passed
Senator - Endorse 20 legislations in the Emperor's chamber
Counselor - A full faction member list
Arbiter/Arbitress - 5 allies and 1 blood ally. All of which are not guild mates
Diplomat - First Ally Relationship or better with a non-guild mate

Custom Title Management			
CONQUEST	TRADE	SCIENCE	DIPLOMACY
Empress	Commerce Czarina	Transcendent	Supreme Chancellor
Queen	Master Merchant	Preeminence	Chancellor
Baroness	Chief Broker	Chief Scientist	High Senator
Duchess	Trade Lady	Inquisitor	Senator
Overseer	Broker	Master Scientist	Counselor
Governess	Merchant	Scientist	Arbitress
Magistrate	Trader	Explorer	Diplomat

Guild Options

Accept Applicant	Authorizes the member to accept new members into the guild.
Accept Events	Authorizes the member to approve of new guild events.
Change Message of the Day	Authorizes the member to change the Message of the Day displayed in the Guild (F1) window.
Change Rank Names	Authorizes the member to change the names of ranks within the guild.
Change Rank Permissions	Authorizes the member to change the permissions of the ranks in the guild.
Change Rank Voting Weights	Authorizes the member to change the amount each guild rank's vote is worth.
Change Recruitment	Authorizes the member to change whether recruiting is active or inactive.
Create Events	Authorizes the member to create new events for the guild.
Create/Move Ranks	Authorizes the member to create new ranks, or move existing ranks up or down the rank list.
Delete Events	Authorizes the member to delete guild events.
Delete Ranks	Authorizes the member to delete guild ranks.
Demote Member Rank	Authorizes the member to demote members of the guild.
Invite Players to Join	Authorizes the member to invite new members into the guild.
Modify Guild Relationships	Authorizes the member to change the guild's diplomatic standings towards other guilds.
Promote Member Rank	Authorizes the member to increase the rank of a member.
Propose New Votes	Authorizes the member to put new proposals up for voting.
Reject Applicent	Authorizes the member to reject applications by prospective members.
Remove Member From Guild	Authorizes the member to boot members from the guild.
View Events	Authorizes the member to view upcoming guild events.
View Event Attachments	Allows the member to see attachments assocaited with guild events.
View Guild Treasury	Authorizes the member to view the contents of the guild's treasury.
View Vote History	Authorizes the member to see the record of votes on past proposals.
View Votes In Progress	Authorizes the member to see the votes on currently active proposals.
Withdraw Guild Treasury	Authorizes the member to withdraw from the guild's treasury.

Diplomacy Settings

Range	Name	Effects
1-10 (Between 1 and 2)	Blood War	All out war.
11-40 (Between 2 and 3)	War	Your military units will fire on your enemy's units and buildings
41-60 (Between 3 and 4)	Neutral	60 is the default setting. It doesn't have any effects.
61-80 (Between 4 and 5)	Peace	
81-100 (Between 5 and 6)	Ally	You give trade income to your ally.
100-255 (Between 6 and 7)	Blood Ally	Blood Allies above 150 are allowed to see your player scores, as well as receiving all the bonuses from Ally.

SENATE

9
Cisdga

5
Domita

VOTE

Name	Votes	Pass/Fail
Cisdga	Nine	Pass
Domita	Five	Pass
Elti	Seven	Fail
Cedspa	Eleven	Fail

14 FOR   18 AGAINST

VOTING

7

Elti

11

Cedspa

FAILS

The Senate system in Beyond Protocol works much like the Electoral College System of the U.S.A. Each planet can be controlled by multiple players and each player has a vote. When a planet votes, whichever side has the most population wins the vote for that planet. Then you check the system votes, whichever side gets the most planets wins the system and gets a number of votes equal to the total number of planets in it, regardless of how they individually voted. Across the galaxy whoever has the most votes wins.

BARREN

Barren planets resemble Earth's old moon in that they are grey, desolate places with little to offer settlers beyond land. They do, however provide some advantages that would make them worthwhile places on which to set up an outpost.

Racial Homeworld Advantage	Maneuver Bonus +5
Racial Homeworld Disadvantage	-20 morale on Adaptable
Planetary Advantage	No weather patterns
Planetary Disadvantage	No mineral concentration
	Growth Rate Max Limit

FROZEN

Frozen planets are the frigid worlds on which little exists beyond ice and mineral deposits. They are cold, but bountiful in their resources for the enterprising colonial leader.

Racial Homeworld Advantage	Beam Power Costs Reduced by 10%
Racial Homeworld Disadvantage	-20 morale on lava and desert
Planetary Advantage	None known
Planetary Disadvantage	Blizzards and snowstorms

Lava

Not many species of creature can survive the intense heat that Lava planets emit. Their surfaces are composed of harsh, gray rock and oceans of boiling hot magma, though they have been found to be exceptional sources of various minerals as well. Perhaps that alone is enough to lure you to their inhospitable surface...

Racial Homeworld Advantage	Armor Heat Resist is 100% and does not calculate (when building armors)
Racial Homeworld Disadvantage	-20 morale on ice and ocean
Planetary Advantage	Higher initial mineral cache Concentration and Quantities
Planetary Disadvantage	Frequent volcanic eruptions

Terran

The most similar terrestrial bodies to our former home, Earth, Terran planets display the various characteristics of all other planet types in small microcosms.

Racial Homeworld Advantage	+5 Growth rate
Racial Homeworld Disadvantage	-20 morale on lava worlds
Planetary Advantage	Facility stealth
Planetary Disadvantage	Display all weather phenomena that can be found in the galaxy; very unpredictable climate.

Desert

Desert planets provide little shelter from their frequent sand storms, but do provide a very unique advantage to any empire that has the misfortune of landing there.

Racial Homeworld Advantage	+5 Morale on any non-desert planet
Racial Homeworld Disadvantage	-20 morale on water worlds
Planetary Advantage	Infantry stealth
Planetary Disadvantage	Sandstorms

Adaptable

The locations tend to change their qualities over time to meet the needs of their inhabitants, but that change comes at a price: the damaging hailstorms that frequent these planets. If you can weather these meteorological battles, however, the speed at which you'll be able to harvest resources will be worth the price of admission.

Racial Homeworld Advantage	None
Racial Homeworld Disadvantage	None
Planetary Advantage	Increased mineral concentrations - not quantity
Planetary Disadvantage	Hailstorms
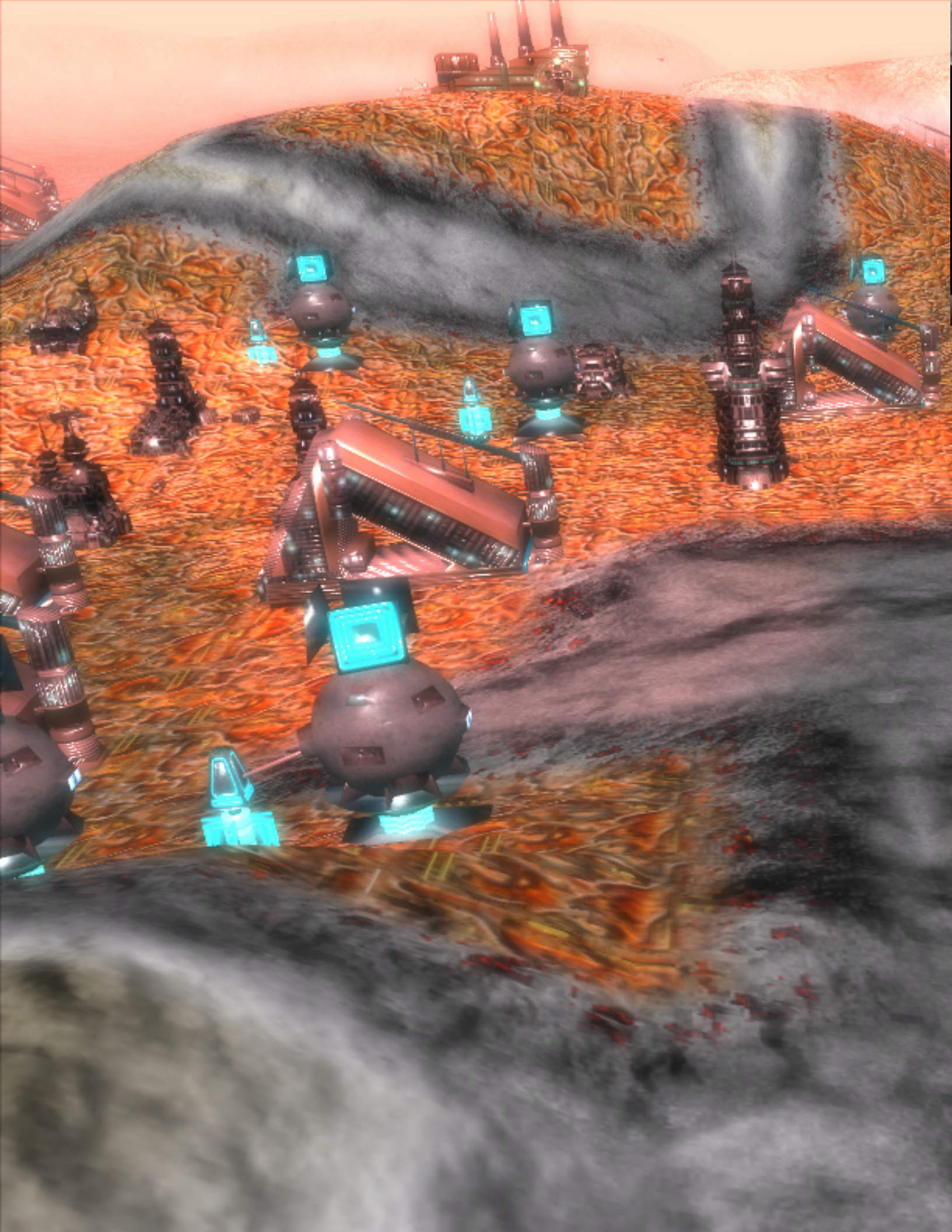
BEYOND PROTOCOL

III
COMMERCE

"This is an Automated message from the GTC: We apologize for the delay in your destruction there was a mix-up in the delivery addresses for your enemy's fleet."
*~ Galactic Trade Commission*

SETTING UP SUPPLY LINES

In order to get your mining operation running decide on the final destination for the minerals. If you are bringing them to a planet, build a Space Station over the planet as a drop point for the Haulers. Set a route starting at the drop point and include the pickup points for all minerals, then select the planet as their destination.

Next, build a Space Station over the planet where the mining will take place. First set the starting waypoint from where the hauler will pickup the resources and then leave to go to space. Once in space, set the next waypoint to the Space Station. Remember, if you use all the routes, all the time, you will be overwhelmed with minerals faster than you can use them or build warehouses for their storage. Once the Space Station starts to fill up with minerals, you are ready to set up the Hauler to move them from this Space Station to the drop off point. Set the first waypoint to the Space Station doing the mining and pickup all minerals. Set the second waypoint to the drop off point and unload - then begin the route. If your minerals are coming in too fast, consider adding more Haulers to move them to the drop off point faster. (Refer to Diagram A)

With your routes complete, the minerals will continue to flow back to your planet of choice until the mines are exhausted or the Space Stations are full. Check on both the Space Stations and mines frequently to keep your empire running smooth.

Space Station A

Route 2

Route 1
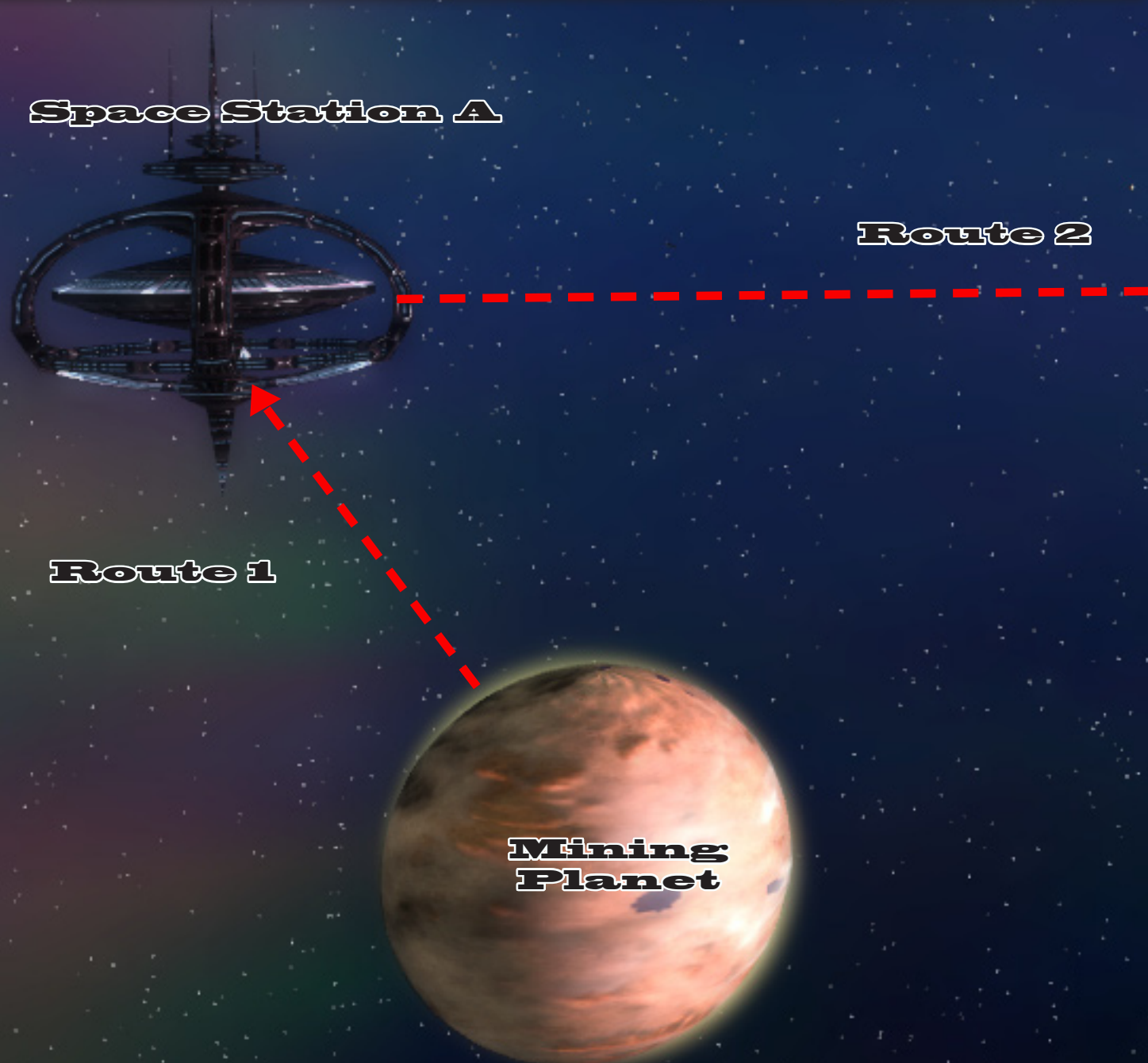
Mining
Planet

How To Build A Trade Station

1. Select the Outpost I Hull
2. Allocate 50% Cargo, 25% Hangar, and bay doors equal to the hull size of your Cargo Hauler.
3. Allocate the remaining hull space to engines.
4. Research and prototype.

Tip

If your routes are being attacked by piracy, consider some relay points with some small Space Stations armed to handle attacks, and add some patrol or escort crafts to your routes.

How To Build A Cargo Hauler

1. Select the Assaulter Hull Type.
2. Allocate maximum cargo, only leave space for your engine and crew.
3. Build an Engine with max speed, minimum maneuverability, and enough power to meet cargo requirements.
4. Research your hull and engine then build your prototype.

Space Station B

Route 3

Production Planet

Staying Out of Debt

Ever wonder why when you log in, or even while you are in game, your economy does not go up, but goes down? This may be due to a singular problem or several factors in combination, which are allowed to go on for too long. Let's look at some potential issues and how to correct them.

Command points
Your base command points are initially three hundred and will improve as your empire develops. If this number gets too high, specifically more than 1.5 times your base command points, your society could be heavily impacted. If this is happening, your Command Points will turn orange and then red in color.

Colony Storage
This is a problem and has caused the death of some empires. In the scenario, you accept a trade, it arrives and you don't have adequate storage or your storage facilities do not meet the automatic transfer requirements thus the storage goes negative.

Morale
Morale is essentially the question "How happy are your people?" The higher the morale of the colony the better, as all job related activities are affected by Morale. This includes the speed of your building production, the mining of your minerals and the speed of your research. While not the best, forty is sufficient to continue to accomplish tasks. Anything less and you should consider making some adjustments. How do you know what aspect you need to address? Ask yourself these questions: Is my population higher then my available jobs? Are my taxes set too high? Do I have enough housing for my population?

Population Vs. Jobs
If your population is higher than your available jobs, consider building facilities with high job content (Factories or Star Ports). While time consuming to build they can eventually help restore morale. If you have the opposite issue - your number of jobs is greater than your population, your research will not progress as quickly, so a research colony would be wise to keep the population to jobs ratio almost the same. A production colony would do well to have population below maximum job level. A cash colony, kept in check, is not affected, however production is affected because there are not enough people to fill the jobs.

Taxes
Be realistic! Would you pay 100% of your paycheck to the government for taxes? Beyond Protocol, colonists are smart. After a while, they will start practicing tax evasion, allowing your expenses to get out of control. Production and research will grind to a halt if taxes are not being paid. In the end, colonists will begin to leave and allow the colony to destroy itself.

Housing Vs. Population
To see if you have housing needs minimize your colony window and mouse over the person icon. It will display your population number and the number of homeless colonists (you can also do this by hovering over the tax/morale section). The homeless are part of your expense report and they cost your economy dearly because they are not working and paying our taxes. Plus you pay welfare to keep them alive. The simple fix to this problem is to build additional residential facilities.

Budget Report for tut1381   ? ×

Budget Summary
Revenue:	49 627
Expense:	179 284
Cashflow:	**−429 657**

Death Budget
Balance: 0

Maximum: 149 331 600

| 0 | Deposit |

Agent Budget
Total:	413 698
Lucky Hill:	8 019
Mali McIntyre:	4 456
Malory Thompson:	14 058
Lathrop Sutherland:	4 325

Budget Details By Location

Type	Environment Name	▲Colony Name	Revenue	Expense	Control	Tax Rate	
	newstationdeluxe	Phaet	1 830	36		40%	Set
	Phaet V	Phaet V	250	6 024	11%	0%	Set
	Phaet VII	Phaet VII	4 250	5 641	84%	10%	Set
	Phaet IX	Phaet IX	250	22 641	98%	0%	Set
	Phaet	No Colony		8 986			

Line Item Specifics

Revenue Sources
Colony Tax Income:	250
Mining Income:	0

Expenses Details
COLONY COSTS:	
Population Upkeep:	3 120
Research Facilities:	2 734
Factories:	174
Spaceports:	13 310
Defenses:	100
Excess Storage:	0
Other Facilities:	1 389
Unemployment:	0
Mining Bids:	0

Trade Income
tut1400:	255
tut1384:	943
tut1397:	84

| Set | Off-Line Invulnerability: Phaet IX | Abandon Colony |

Working With The Warmonger

Warmongers don't take lip and in most cases are considered Nukers, or Predators with a Nuker disposition. These empires can range from one planet to system wide dominance and beyond. This section is meant to give you information on how to deal with this threat when trading.

The first step is to establish just how many warmongers you have in your system. If there is just one, your situation is a little easier to cope with. In the end, either you pay them off or you kill them. If you want to work with them, find out what they want. This includes components, minerals, cash and more. Usually, if you can get on their good side early, they may help you should you find yourself in a bad situation, but don't count on it.

If you know they want something, it is wise to setup direct trade relations. Of course, this helps keep the warmonger happy, since no taxes will be applied to the trade. This keeps you happy because you get to stay alive and make some money. It is important not to mark up your items too much. If you usually sell at 15% mark up, you'll probably want to go for something like 10% and in some cases 5%. In extreme situations, you may even sell at cost. **Remember death is not bad, but it is unwanted.**

When it comes to minerals, you're better off to either sell it all or hide the quantities you don't want to share. Some warmongers have killed entire colonies for a specific mineral. The more caches of minerals you can snatch up the better. If you have to take out another player, so be it. Remember it's you or them - the better the hand you deal yourself for survival the better. If you have gotten in good with your monger you might be able to sway them to take out your competition allowing you better access. Usually they will give an "OK" quickly, since you probably give them the best deals in town and they know this.

Components are usually going to be a tougher call than minerals. A warmonger is in the position they are in, by staying ahead of the game in terms of technology in some category. The best thing you can do is one up this if possible, or provide a means by which they can improve upon their designs. You might be able to tempt them with alloys. While not considered true components, they are important for larger weapons and other products used in building military units. However, if they are not a true techie then supplying them with something that meets their fancy is never a bad idea, even if it is a one or two time deal. Overall, you have to impress them with components - don't overdo it or they may suddenly see you as a threat.
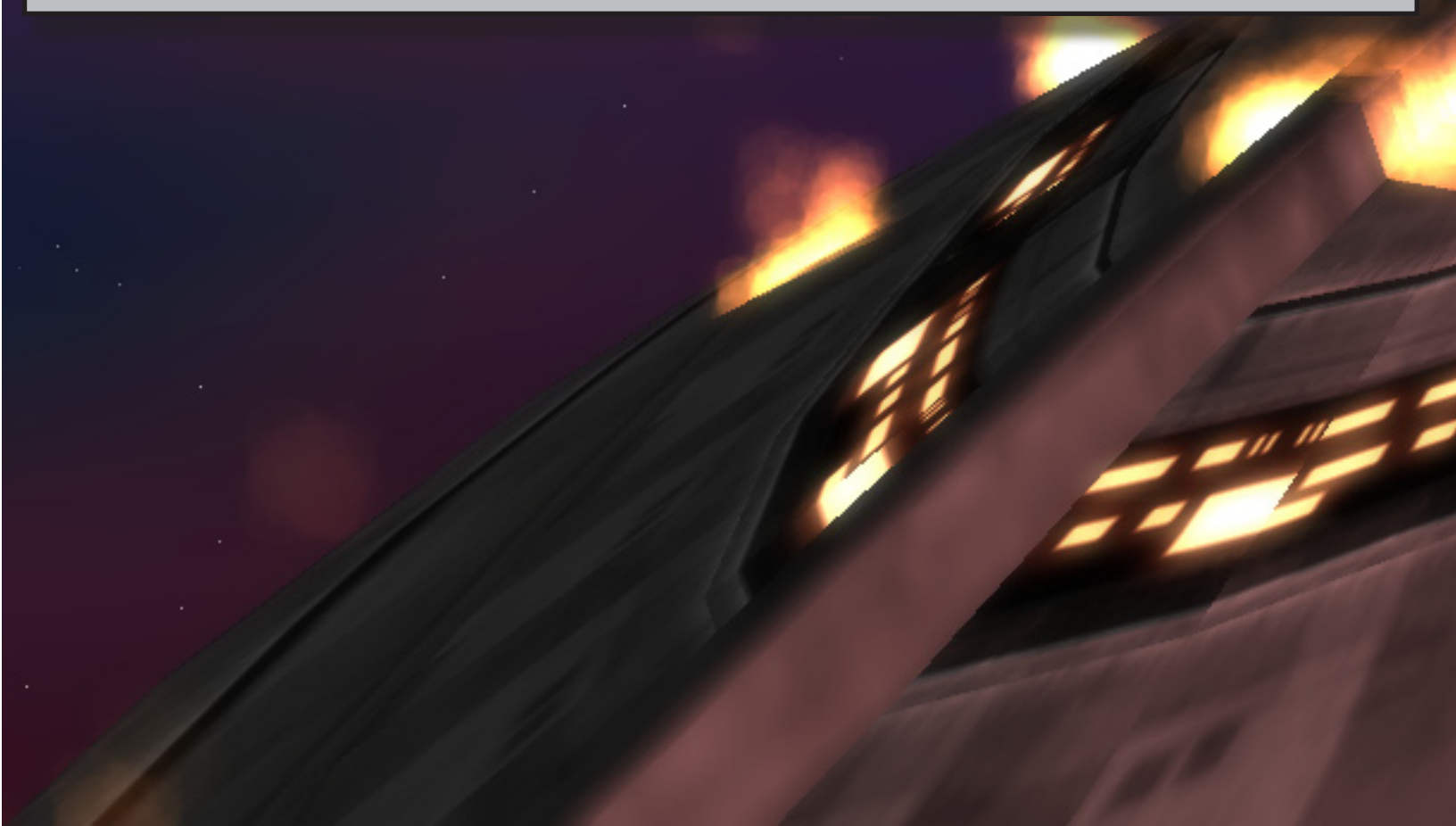
Summary

If your style of play leans towards commerce, then it is important that you align yourself with one or more war-minded players. Offer them better deals than you offer their enemies, and try to keep them pacified until you can play one against the other.
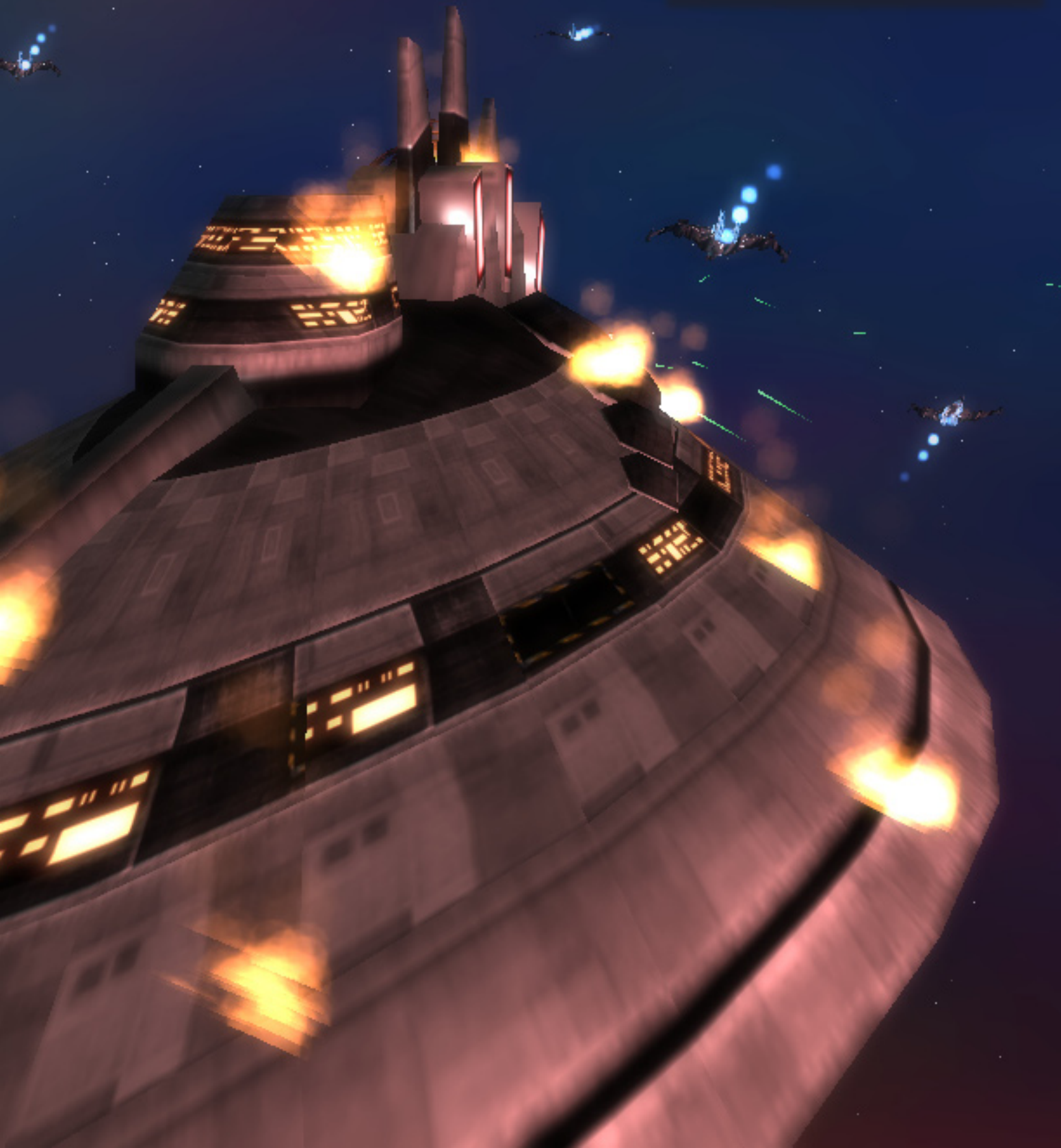
Calculating The Value Of Components

In the world of trade, anything is possible. Component traders come in many different forms. You have the techie, who can create the best black market deals around. The scavenger who loves his battlefields, and the wholesaler whose prices and quantities are as unbeatable as their quality is questionable. All traders fit into these three categories or, in the case of the crafter, are a mixture of more than one. When calculating the value of components it's important to recognize the personality of the seller, this will help you avoid being scammed and give you an idea of how much they are willing to pay.

The Wholesaler

The friend to all and none, the wholesaler is a unique trader. They believe in low prices and large quantities - anything to free up storage space. These types of traders have daily, if not hourly, liquidation sales. If you need something cheap and now, this type of trader is very handy. It should be recognized that while cheap and in large quantities the quality will usually be rather low, so don't expect anything revolutionary. However, if you need something pronto or a band-aid fix for a while, they're your trader. The purpose of the wholesaler is to get their markets started and make a quick name for themselves. They enjoy helping out the younger empires and do not mind taking a possible and likely economic hit. They are the networking traders who, aside from the scavengers, can usually give you some Intel that you would normally have to steal. They are usually very social and try to make friends of everyone just like a scavenger would. However, wholesalers are short-term traders. With their low prices, they can upset whole economies and essentially are run out of town until the economy is stable - if not permanently.

The Scavenger

The scavenger can be your best friend or your worst nightmare. This trader roams the battlefields waiting to see stuff go boom. If there is a battle - there is a scavenger! Prices vary with the scavenger because they are based on what they deem is good at the moment. The scavenger has also been called the Universal Pawner. Since the scavenger posts only what they have collected, it is unnecessary to do any heavy direct trading. However, if you manage to get on one of these trader's good sides you can be assured they will let you know of their latest haul before the public. Scavengers can also be free agents, if bought off correctly. Since they collect everything, you may just find yourself looking at what the enemy used against you. This also can be the case if you left something on the battlefield you don't want others to know about. Overall, the scavenger is usually fair in their pricing, but they have been known to be outrageous on more than one occasion. Remember, they may not have a lot in terms of resources, but wit and brains are something they do not fall short of in most cases.

The Techie

The techie is a quiet trader; they allow their work to speak for them. It's not known what the goals are for this type of person, aside from possible economical gain. It should be noted that the price does not always match the quality of work. However, it is wise to think about how the component being sold could be used against you if you decide to pass on it. This type of trader is also known to put up one and only one of a particular item up for sale, which then allows a more private real trade to occur. This type of advertising helps promote the under the table deals that the techie so enjoys. The techie has not allies or enemies and deals to anyone who's willing to pay. They have been known to show up to hot zones to help one or even both sides of the conflict. If you should come across this type of trader, it is advised to cultivate good relations. It may not prevent you from ever being over the barrel with Techie, but it might prevent how often.

The Crafter

The crafter is by far the "master" of the traders. If you find one of these, count yourself extremely lucky. They are comprised of elements of all the other traders. You will see elements of the Techie in terms of their quietness and what abilities they possess. A highly skilled one will show you an element of the Scavenger when they reproduce what an actual scavenger has found and offer it for a better price. Finally, the crafter can mimic the Wholesaler by creating large quantities of the required component and sell it all for a very good price. These types of traders are by far the best friends of everyone. Each job is custom and confidential in most cases. This being said, you may have a Crafter among you and not even know it.

How To Avoid Being Scammed

One of the hardest things to accomplish in the Beyond Protocol universe is getting the best price for the best product. For this section to help you get the edge, you'll need to get in on the market. For this, we will use our friends the Techie, Scavenger, Wholesaler, and Crafter.

The best thing to do before "heading into town" is to decide on what exactly you want and how much it is truly worth to you. Most buyers make the mistake of not setting a limit on themselves and highly skilled sellers will take advantage of this, namely the Crafter and Techie. They can manipulate you into thinking you need to pay more than you really do. They know you need them, otherwise why would your empire bother tracking them down and they know they can give you exactly what you want, for a price.

The Scavenger is usually not able to play the game as well as the Techie or Crafter but can still scam those not paying attention. The Scavenger loves to play the one time deal or one of a kind card. Sometimes this is true, other times they are baiting you. Overall, the Scavenger's tactic depends on the carnage in the area. When trying to decide a price for things, ask around and get your facts straight. Remember the Scavenger has only limited amounts of products. This means they want to sell them quickly, so they can go out hunting again. In some cases, speed selling is necessary so another empire doesn't try to stop the Scavenger's sale. In these instances you can talk the Scavenger into a deal.

The Wholesaler is by far your best friend when it comes to most products. If you need large quantities, they are your go to people and their prices are unbeatable. Finding one can be tricky sometimes because every other merchant despises them. They can be as rare as a Crafter. If you do manage to track one down, stay in contact with them as much as possible. These relations are good to have especially in a crisis. They can be talked down, but usually this is unnecessary.

In the end, it's smart to start with how much you are willing to spend in mind and how much you truly need. Even a Wholesaler will take advantage of you if you do not keep those two concepts in mind. Aside from that, as long as you keep your eye open for deals, you should be well on your way.
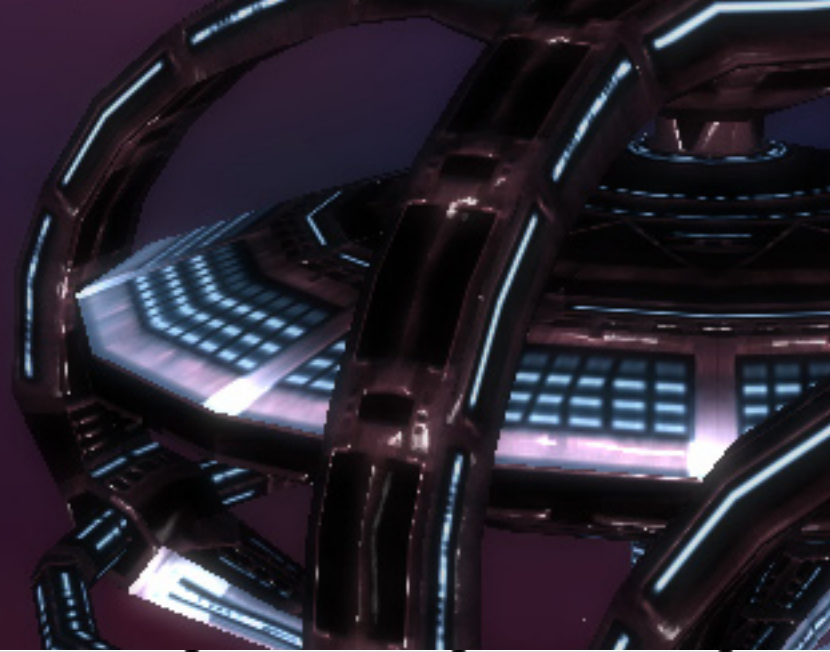
Negotiation Tactics For Driving Down Material

The markets of the Beyond Protocol universe can be cruel or divine depending on the side you are on at the time. Sometimes, prices are just so unbelievably high there is a need to bring them down to a sane level, either by one player or with a concentrated effort by multiple parties. The Wholesaler is a great example of a type of trader whose mission is to accumulate mass quantities of material to different empires at affordable prices. They do not make big profits, but usually when they are under attack, they are able to get the backup they need from others. However, not everyone is a Wholesaler, so what can your empire do to help stabilize the market?

Be patient and start with becoming aware of the trends in the market. There are thousands of trades daily, if not hourly, so do not be surprised if one day you see something and the next day you do not. Furthermore, it is wise to start asking around for what some people believe to be a fair price. This can help speed things up especially if you are working on a single solar system trade basis.

Once a consensus is reached, the next step is to determine the factors causing the high prices. Those factors may include, but are not limited to, a larger, greedy empire, only a few mineral caches in the system, or simply an empire selling a material without knowing its true value. If it is a larger empire that is just being greedy you may have to collectively take the empire out and then re-establish trade lines once they have been eliminated.

If there are only a few mineral caches of the item in question then chances are the price will not be driven down. Most often times than not it's a case of an empire selling an item without knowing its value. To counter this, release the same product for less in small doses for a couple of days. Allow the market to see there is a cheaper price available. When contacted by buyers, let them know they need to get in contact with the other sellers and ask them to drop their prices. The current sellers will likely say no. When this happens, gradually increase the amount you are selling. Set your price to make a profit, but keep it under the higher priced sellers. Hopefully, after a few days, they will re-list their product for cheaper.

First, you need to understand the types of skills you need, then you need to know that any attempt to cheat a Techie or Crafter in any manner is pointless and could prove deadly. The Galactic Trade Commission has had reports of deals going south and entire colonies being wiped off a planet.

Many empires are hunting down the same types of people or empires at the same time. Once they are found, it is common for empires to enter into bidding wars for the finding agents' wares. Do not fear if you cannot purchase the cream of the crop products. Remember, these empires thrive and support themselves on what they know. If you are outbid, see if you can negotiate for smaller items of slightly lesser value.

It is also good to keep in mind that just because another empire out bid you, does not mean they are getting the best product. Refer back to the previous mentioned respect rule. There are times where the Techie or Crafter will simply take the money and ship an inferior product or even a lower quantity of a product. They may hand you the better of the two products or more of a product for a cheaper price, simply because you had shown them more respect.

Diplomacy is everything - most of the time! When dealing with these types of empires, it is everything all the time.

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ces

	Price	Quantity
	1,234	100
e facility	2,346	100
	2,346	100
PG	2,456	100
	2,472	100
	3,456	100
	5,623	100
	5,674	100
ooy	6,724	100
Power Eng	6,732	23
	24,572	100
ILITY	45,643	50
1.0	5,000,000	30
ank Engine	10,000,000	6
	50,000,000	9
r Gen	50,000,000	10
	175,000,000	31

Refresh

Route Type: Planetary
Est. Delivery Time: 0s
Seller: rakura
Score: 0

0

duction: 30000
red: 90000
r a Facility

Purchase Quantity: 31

Purchase Price: 6,238,749,696

Purchase

Trading For Information

How do you figure out whether something is worth your time and credits? When attempting to discover secrets about other players the first thing you need to do is find a reliable person from which to buy your information. The Galactic Trade Commission officially sanctions the sale of information, taxing exchanges done through the open market. In fact, they guarantee the anonymity of the seller in these delicate exchanges to preserve the nature of their activities. Since both the buyer and seller are anonymous, the seller has no way of judging how valuable their information is to you. They may consider it of little worth and consequently set the price low.

To determine if you are being offered a good deal look at the type and number of agents required to get the information. For example, getting a score will generally take one agent about thirty minutes, this information should cost a lot less than a list of special projects, as that takes a significantly larger agent team and more time to accomplish. The amount of time and resources they invested must be repaid if you intend to keep buying from them. If they feel cheated, they might turn their espionage assets against you and start selling your information on the market.

Reach out to sellers of information, offer them services like military protection or economic aid. This will help protect their identity should other empires wish to uncover who is selling information about them. If they discover that it's an established trader, they may hesitate before attacking.

Tip

The best way to get reliable information at negotiated prices is to seek out a constant source of information. Every espionage-oriented player is going to be lacking in some other category since they tend to roam the galaxy gathering Intel. This provides you with the chance to strike an alliance offering your special services in exchange for theirs.

Tip

Players' scores are considered perishable products and as such have a timer attached to let potential buyers know how old it is. The most successful sellers of perishable data will always have agents on missions, constantly updating the Intel to have the freshest product available on the markets.

Fun With Math

A players wealth score is (Wealth / 3) ^ (1 / .3)
1. Divide 1 by .3.
2. Press Memory Add.
3. Divide Wealth by 3.
4. Hit Equals
5. Press the exponent button.
6. Press Memory Recall.
7. Hit Equals
8. Profit.

So, if a players wealth score is 20,000. Then at the time their score was retrieved they had around 55 Trillion (55,000,000,000,000 Credits).

Buying Information

The best way to buy information is via direct trade with an agent oriented player. The problem with that is that you have to find them first, and most of them will not want to be found. The best way to find one is to think about what an agent oriented player would buy, if you see a player buying those things then you have something to go on.

If you do discover one, try to make a deal with them where they direct trade you information which you then sell on the open market, this helps eliminate the risk of their identity being discovered should another empire uncover who was selling the information. This also gives you another product and an important ally. If your trade with that empire goes sour, you hold a trump card to neutralize any bad feeling they may have towards your empire, their identity.

Selling Information

The most important thing to consider is what each player wants and how to make sure they buy from you. Let's start by looking at the types of intelligence one can acquire and actively trade amongst other players.

To begin, we have player scores. While seemingly a small and irrelevant detail, this can prove quite useful. While some players talk a big game, in reality, they actually have very little to offer. A great example of this is the diplomacy score. If you ally everyone without discretion, you will artificially inflate your diplomacy and total score. Technology works the same way, someone with lots of killer designs will raise their technology score through the roof, even if they haven't implemented any of their designs. Remember, no matter how irrelevant the information may seem to you, someone will be interested in it.

All players have a total score that is visible to everyone who has discovered them, but their individual scores in Technology, Diplomacy, Military, Population, Production, and Wealth are invisible to other players, unless you infiltrate or ally that player. As the holder of this information, you have to figure out which players would want what scores and why.

Odds are, when people go to war with other players they will make their intentions known in one way or another publicly, whether through an increased military presence, a sudden spike in their overall score, or just general banter. As someone who is interested in profiting from other people's conflicts, you must pay close attention to these details. When possible, acquire scores from any players of interest in that conflict. As a seller of information your identity will remain anonymous so long as your agents aren't captured.

If you have another player's wealth score, you can translate that into the amount of credits the player had when the score was acquired. Having intelligence like that can fetch a very high price so long as you make people aware of its use. As a seller of perishable information, do everything in your power to make sure you remain the most reliable source of updated information. Selling information that expires is good for repeat business.

Here are some general assumptions you can make about who might be interested in what information:

Player Type	Information To Sell
War	Military and Diplomacy scores, so they know who they can easily destroy.
Trade	Wealth and Tech Scores, so they can see how much money their fellow trade partners can afford.
Tech	Technology Scores allow them to see how advanced they are in comparison to other empires.
Espionage	Everything, try to stay ahead of them using assassination and counter agents.

Sell Orders

What do you do when you have excess stuff you don't need? Sell it of course. Wheeling and dealing. However, before you can start making the money, the transactions, or the deals of champions, you have to know how it works. So let's get started. To go any further, ensure that your tradepost is built. If it is not come back to this section once it's ready for use.

The first step in selling things is deciding on what you want to sell. You can sell what you value or what you just want to get rid of so you have room for valuable stuff. My personal choice is minerals and old components I don't use anymore.

Take the item you want to sell out of your colony and into the tradepost storage. Click the Contents button to open your Hangar and Cargo menu. Click the Transfer tab, which opens the Colony Storage Window. Now you are ready to start putting things up for sale. Select the item by clicking on it with your mouse and enter the quantity you want to sell. By default, the quantity will always be the max value of the item. Click Tradepost on the left side of the window and click Transfer from Colony. Remember, after completing this step you are being charged one credit for every piece of that item until it is officially up for sale.

Now go back to the initial tab where Contents is located. Click the Trade button. You can also access the Trade window by pressing the F4 key or clicking the scales icon at any time. Once the Trade window is open, click the Sell tab. You should see your item listed and the quantity you chose. Click on it to select it. New pieces of the window will now become available. In the bottom right you will see the item's details and to the right of that you will see your sell order quantity selection and your price per item selection.

The final step is to select how much you want to sell and for what price. By default, the quantity chosen of the item will be the maximum available. The price you will enter is for each piece of the item and not the total quantity.

For example:
Say I have 100,000 Iron I want to sell. In the quantity section, I would enter 100,000. The price I want to sell at is 100 credits. Those 100 credits are for one Iron not the full 100,000.

Once you have the price entered click the place order button. Then click it again to confirm. Congratulations! You have completed your first sale. Trades remain up until someone buys them. If you plan to sell more of the same or different items just repeat as necessary.

GALACTIC TRADE INT

| BUY | SELL |

Trade with Player:

Tradeables

Silurum (121893)
Structural Meld - A (7931)
Structure frame (7931)
Titanium (148380)
TradeMyselfAlloy (100)
Uranium (1349949)

PERSONNEL
Colonists (3700695)
Enlisted (108602)
Officers (2108)

PLAYER STATS INTEL
malinko Scores
RavenWolf Scores
zelik Scores

COMPONENT DESIGN IN
Small Power Gen

COLONY LOCATION INTE
Unknown (Vimes)

UNITS
AT Jeep
Small Fighter
Small Fighter
Small Fighter
Small Fighter
Small Fighter
Small Fighter
Cargo 1

Quantity: 1

Benefits of Direct Trade
- Direct Trade has a flat tax rate.
- Direct Trades are private.
- Direct Trades take place between two specific tradeposts.
- Direct Trades take significantly longer than normal trades.

ERFACE   Select a Tradepost: Tradepost II (Long Name Of Doom)   ?   X

DIRECT   BUY ORDER   HISTORY   IN PROGRESS

☐ Accept This Agreement   ☐   Their Acceptance

You Are Offering:

Small Power Gen Intel

Item Details:

Detailed Schematics for Small Power
Gen belonging to malinko.

Component Type: Engine

Remove

Messages For You:

TEL

EL

They Are Offering:

Messages For Them:

Add   Submit   Reject
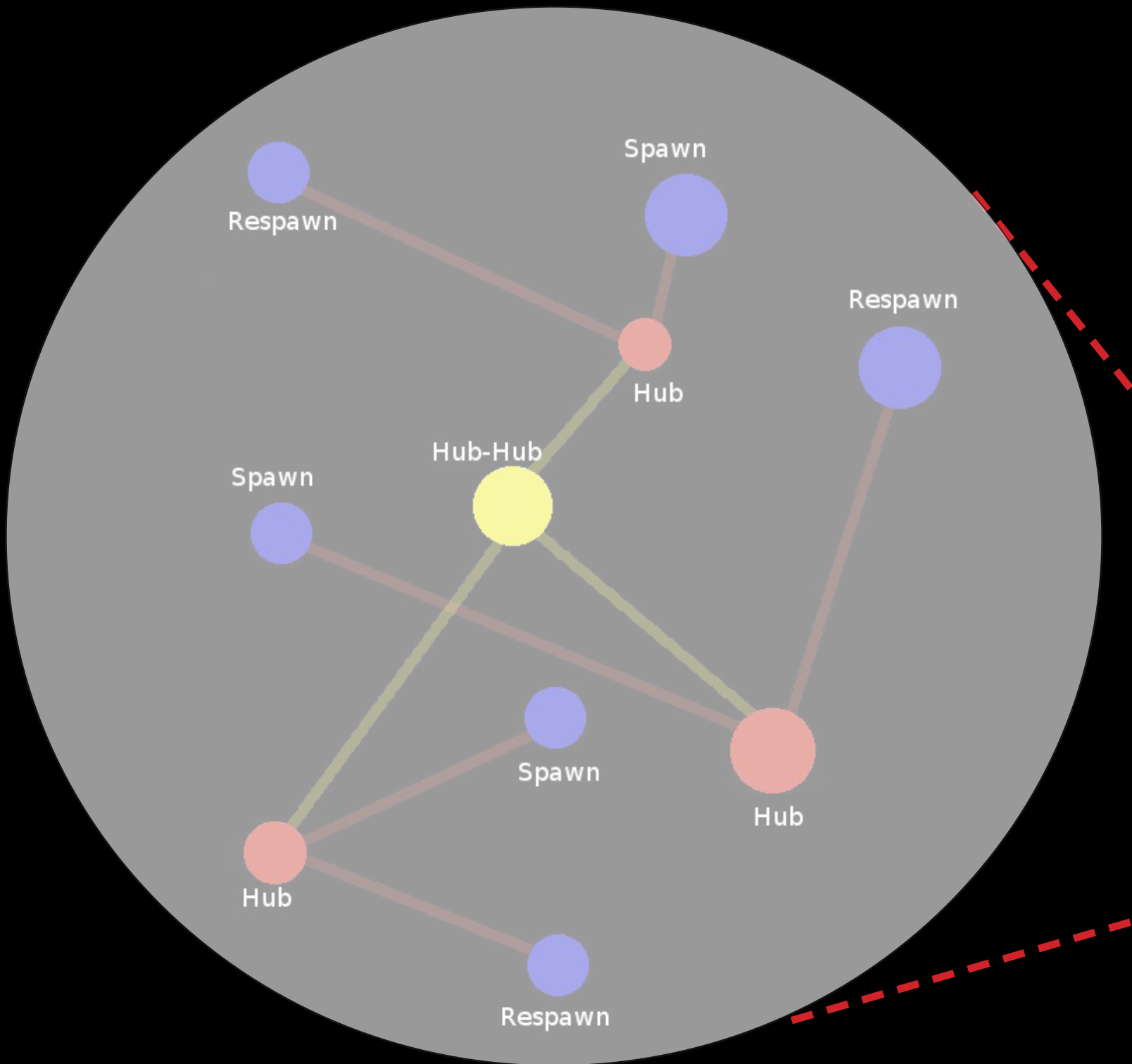
The illustration above demonstrates the wormhole system. There are three types of solar systems, and they are defined by the types of wormholes that connect them to other systems.

The first system a player will encounter is a spawn system. When a player first exits the tutorial, they spawn into a spawn system. This system has only one wormhole in it, connects to a hub system, and the wormhole does not become active until a ship in the spawn system passes through it from the spawn system's side. This means that until a player in a spawn system chooses to pass through the wormhole and conect to a hub system,
A hub system is a system that spawn systems are connected to, and conect to hub-hub systems. The same principle that affects spawn system wormholes affects hub-to-hub-hub wormholes; a wormhole to a hub-hub will only become active once a ship in the hub system enters it.

The hub-hub systems are connected to hub systems, and to other hub-hub systems. All the hub-hub systems in the galaxy are chained together linearly; the newest hub-hub system connects directly to the second-newest, and so on. Hub-hubs will be important strategic points, because each system is a chokepoint for travel and commerce across the galaxy.
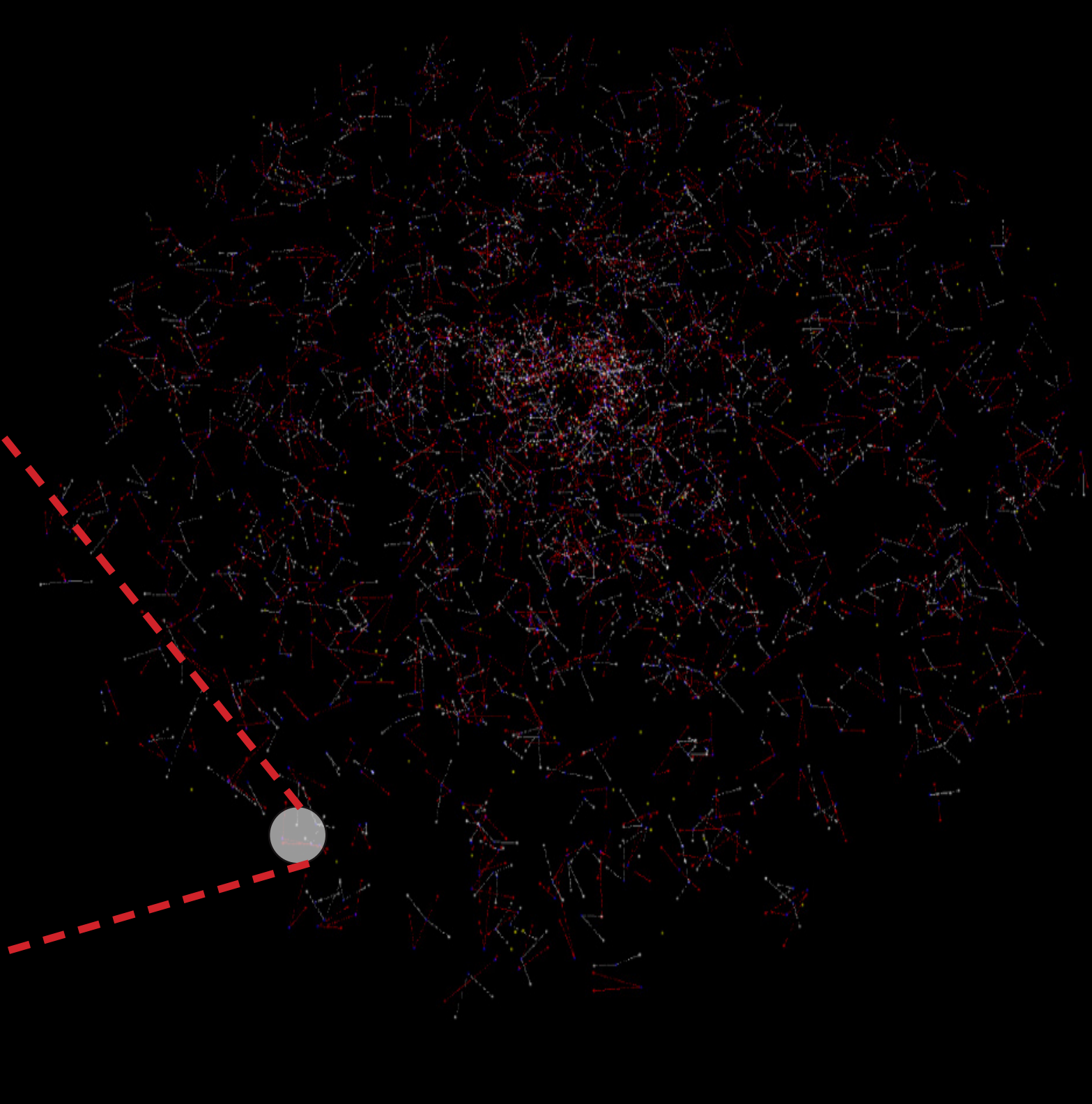
HubHub System	Contains wormhole connections to 3 neighborhoods and 2 other HubHub systems.
Neighborhood	Contains 2 Hub systems, 2 Spawn systems and 2 Respawn systems.
Hub System	Contains wormhole connections to 1 Spawn system,1 Respawn system the other Hub system in the same neighborhood and one HubHub system.
Spawn System	Where new players begin. Contains 1 wormhole to a Hub system.
Respawn System	Where dead players get placed. Contains 1 wormhole to a Hub system.

Tax Chart

Population	Suggested Tax Rate
0 - 100,000 colonist	60 - 80%
100,000 - 200,000 colonist	40 - 50%
200,000 - 300,000 colonist	35- 40%
300,000 - 400,000 colonist	30 - 35%
400,000 - 500,000 colonist	30 - 35%
500,000 - 600,000 colonist	30 - 35%
600,000 - 700,000 colonist	29 - 30%
700,000 - 800,000 colonist	25 - 30%
800,000 - 900,000 colonist	25 - 28%
900,000 - 1,000,000 colonist	20 - 25%
1,000,000 - 2,000,000 colonist	20 - 21%
2,000,000 or Higher colonist	0 - 20%

Introduction To Agents

It is important to emphasize the random nature of the agent system. As both you and your opponents have random agent skills, the crux of building your network is being able to identify what your agents will be good at and how to utilize them to the best of their potential.

As a player, you cannot sit around waiting on an agent with that one rare skill to perform a special mission. If you have many agents with Seduction and Charisma, you should focus your efforts on missions requiring those skills, instead of waiting for the ultimate agent to drop in your lap. You must learn to utilize the agent skills you have available to develop a network which can accomplish any mission they are assigned.

Pay close attention to the description for each skill when you are trying to figure out where you might use your agent in your existing espionage empire. These little tips will give you valuable clues for using a skill that you may not have realized. Armed with this knowledge, you should be able to employ your agents' skills for maximum effectiveness more quickly than those who will rush to set up their system without understanding what each skill does. Look for opportunities to manipulate these players because you spent a little time reading something that something they thought was meaningless.

Being a successful agent mastermind will require a different thought process from most other games, Many people who are successful in this game have little idea about the potential of the agent system because of its supposed complexity, but you can master it with a little patience and attention to detail.

You will find the true power of the system is in its hidden simplicity, and the skill system is a great example of this. There are so many different skills that the system can appear daunting but the key is to only concern yourself with the skills you need to accomplish your goals. First decide what it is you want to do, then use the charts in this chapter to find out the best way to do that and work from there. As you now know, every agent has a purpose, if you are able to quickly look over an agent's skill list and immediately realize their uses, you will have a distinct advantage over your enemies as you begin to form your espionage empire.

Have you ever heard the saying, "modern intelligence services are nothing more than media services"? Say "Hello" to the Galactic News Service (GNS). The GNS is the absolute best library for obtaining data on potential adversaries. Don't know where your target is settled in the universe? Well I'm sure the news service has broadcast it at sometime; just check the archives! They will give you a list of all player locations.

Mission Skills

Skill	Description
Accounting	The understanding of accounting, bookkeeping, money transactions and processing.
Acquisition	Art of acquiring corporations and moving up the corporate ladder.
Athletics/Climbing	Ability to scale buildings, move fast, reflexes and other athletic activities.
Battle Language	Understanding of Combat Language.
Bluff	Ability to bluff and improvisation.
Bribery	Ability to create and manipulate bribes.
Business	Knowledge of business, running a business, business practices, the workplace and all that governs normal business operation.
Cartography	Ability to make maps and understand terrain characteristics.
Charismatic	An innate leadership quality that causes a desire to like this person.
Chemistry	Knowledge of chemical composition, chemical analysis, testing practices and other general chemistry concepts
Computers	Generalized skill at computers, hacking and programming.
Criminal Talents	An impeccable ability to demolish stuff, stir negative emotions and generally, be criminal.
Cryptography	Understanding of encryption and decryption techniques.
Data Analysis	Ability to analyze, interpret and understand data.
Deductive Reasoning	Excellent analytical prowess in reducing options so that only one option remains.
Demolitions	Skill in using explosive devices as well as disarming them.
Diplomacy	Knowledge in politics and fundamentals of government.
Disguises	Skill at using disguises to mask one's identity.
Economics	Knowledge of economical studies, fluctuations, practices and attributes.
Electronics	Understanding of electronics and electronic devices.
Endurance	Agent is more resilient to interrogations.
Engineering	Knowledge of mechanical operation, repair and maintenance. Also able to identify mechanical components and represents a general understanding of mechanical processes.
Escape Artist	The agent is more likely to avoid capture.
Etiquette (Colony)	Aids in infiltration of colonial government targets.
Etiquette (Federal)	Aids in infiltration of federal/empire-level government targets.
Etiquette (General)	Aids in infiltration of general targets.
Etiquette (Military)	Aids in infiltration of military targets.
Etiquette (Worker)	Aids in infiltration of production-based targets.
Forced Entry	Skill at gaining access to areas not easily gotten to our secured.
Forger	Agent is skilled at forging documents and duplicating signatures or handwriting.
Gather Info	Ability to gather, process and store information for later use or recitation.
Geology	The study and understanding of planetary rock formations, minerals and crystals. Expert knowledge of resources
Government	A General understanding of government policy.
Honor	Represents how resistant the agent is to doing treacherous activities.
Interrogation	Bonus to interrogation tests.
Law	An understanding of laws of different societies.

Skill	Description
Law	An understanding of laws of different societies.
Leadership	Gives a bonus to Team Management and affects agents within the same team if this agent is leader.
Legitimate Cover	Represents a legitimate reason for the agent to travel to other empires and aids in infiltration.
Master Lock Pick	Agent is able to pick locks, electronic key pads, and other locking systems.
Medical	Represents a knowledge for medical abilities. Allows this agent to revive or rescue an agent in the same mission ONCE per mission.
Naturally Talented	The agent can substitute this skill for any other skill when doing skill tests.
Navigation	Ability to navigate, read maps and understands landmarks.
Negotiation	Art of negotiating to get an apparent fair circumstance to be acceptable by all parties involved.
Paranoid	Agent questions everything and fears 'the worse'. Especially useful for counter-agents.
Perceptive	Attention to detail and ability to find things not obvious to others.
Persuasive	Ability to persuade others to do what the agent wants.
Philosophy	An Understanding of the school of Philosophy.
Physics	Knowledge in the school of Physics.
Pick Pockets	Ability to 'acquire' photo ID's, access cards, anything and everything.
Pilot	Represents the ability to pilot a ship or vehicle and modifies infiltration times.
Poisons	Skill at identifying, understanding, treating and creating poisons.
Politics	A very basic understanding of politics.
Psychology	Knowledge in the school of Psychology.
Reconnaissance	Ability to scout and determine important pieces of information for a given situation.
Safe Houses	Ability to find, make, keep and dismantle good safe houses, which grants bonuses during the Preparation and Re-infiltration phases.
Science	Represents a generalized scientific understanding of all science schools.
Security	The Agent excels at being a Cover Agent.
Seductive	The seductive qualities of the agent and the ability to seduce others.
Sense of Direction	Represents an innate ability of direction which provides a bonus to Navigation and Cartography tests.
Spy Games	The agent enjoys being a spy and seeing how deep into the web they can lodge themselves which aids in Infiltration tests.
Stealth	Ability to move around unnoticed.
Survival	Indicates survival technique understanding and general ability to survive on bare necessity.
Tactics	The understanding of group/squad tactics. Also, if this agent is not filling multiple roles, agents working with this agent can fill multiple roles simultaneously.
Tiny Electronics	Ability to create eavesdropping devices and other small electronic components.
Torture	The skill of inflicting intense pain without fatality.
Tracking	Skill at tracking down creatures or other people. Grants a bonus to discovering enemy agents when agent is a counter-agent.
Tradesman	Ability to find and acquire items for low prices and sell items for high prices. Very useful for getting materials on a mission.
Treachery	Understands devious natures and what causes people to begin to conflict with what they would otherwise believe.
Weapons Specialist	Ability to use a large assortment of weaponry including sniping rifles and silenced weaponry.

Officers, Barracks, and Agents

Acquiring agents can be a somewhat difficult process, as only the best of the best are considered as potential agent trainees. To begin, your agents will go through basic training in the Barracks. You produce ten enlisted each time you send one batch of recruits through boot camp. The Officer's Academy only gives you ten officers for every thirty enlisted. As the rates of production between the barracks and the officer's facility are relatively similar, it becomes clear you will quickly run out of enlisted from which to recruit your officers, so you must find a way to balance the rates of production.

From your trained officers come your agents and there is only a small chance you will ever get access to any potential agent recruits. Being limited to fifty agents for your entire empire, your agency will only want the best possible recruits. This job requires men and women who can do everything a normal officer is capable of and then some. Only the best need apply and, more often than not, even the best just are not good enough.

Remember your agent recruitment pool, unlike your individual officers and enlisted pools is empire-wide, to having your officers and enlisted training in a variety of environments is no different than if you were training them in the same environment.

The general rule here is to maintain around a two to one ratio between barracks and officer's academies. This will ensure you are always producing enough enlisted for your empire to continue to produce competent officers, and in turn provide more potential agent recruits from which to draw your agent network.

When recruiting agents, regardless of whether or not you have hired them, until you dismiss them entirely they still count towards your fifty-agent limit. This makes it important to actually go through your potential recruits and dismiss those that are of no interest to your empire. Continue recruiting agents at a regular pace so that you can eventually acquire the super spies that every empire desires to call their own.

If you dismiss an agent you have already hired, they will remain in your agent list for a period of about twenty four hours before they are removed from your list entirely. During this period they will remain part of your fifty-agent limit which could prevent you from running another type of mission until they are truly gone from your records. In other words, timing is everything. The delay is a result of the time it takes an empire to completely eliminate any record or paper trail of an agent's existence and activities, so your empire can truly say the agent never existed.
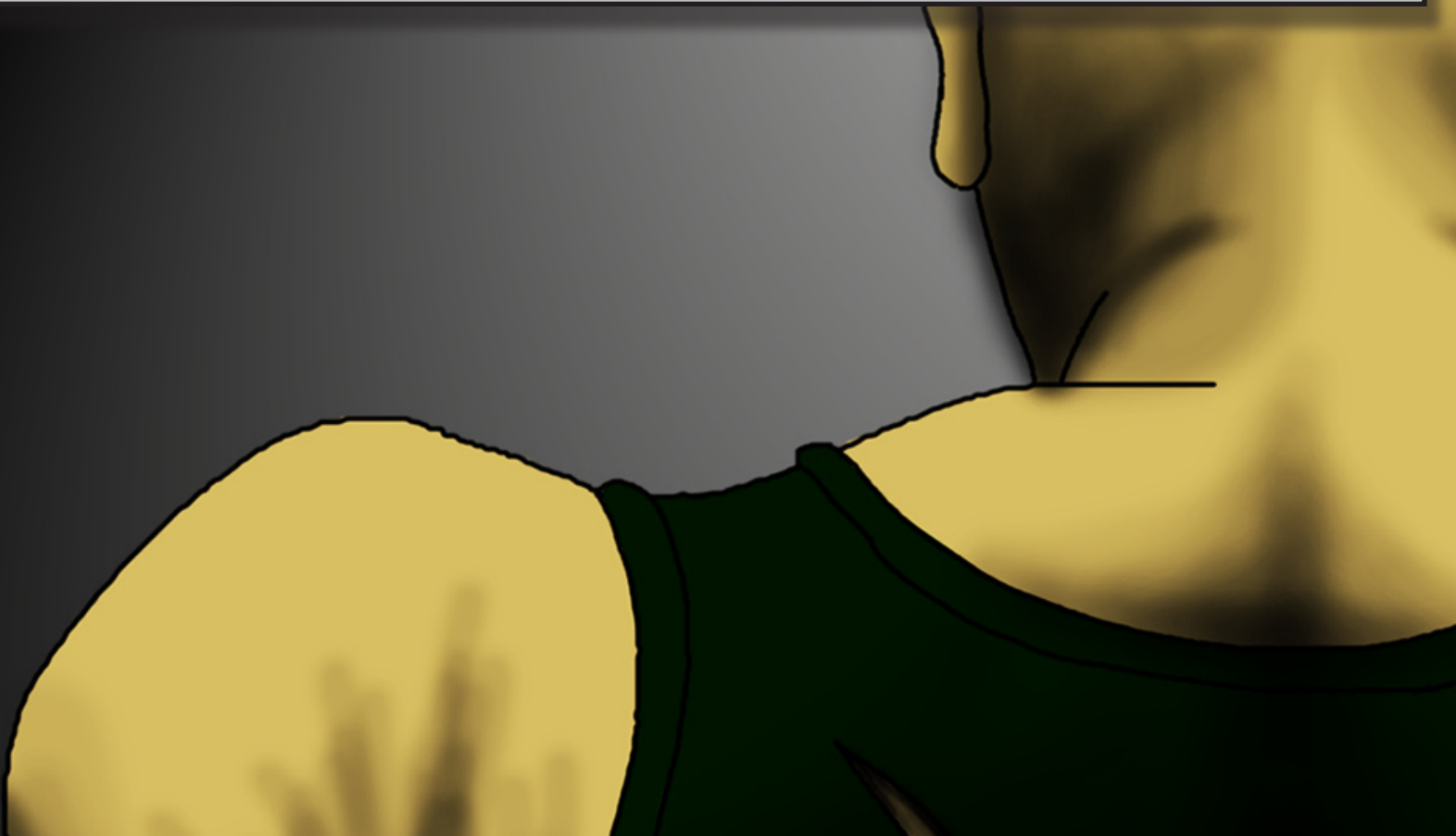
Summary
Agents become available for recruitment depending on the number of officers you are training across your empire.

There are three main methods to obtain information or conduct an action against a target: Brute Force, Seductive, or Solo Agent. Some missions also have other methods specific to their unique tasks, for instance the "Locate Wormholes" mission which has the option to pay off a member in the GTC for the information you need, but the three main types dominate most of the agent missions.

Mission Name	Description
Brute Force	These are direct action missions and largely count on the ability of your team's athletic and military skills. It's always wise to have a pre-determined Brute Force team ready to act as speed of setting up missions is critical.
Breaking and Entering	Or B&E. This agent is going to aggressively break down the barriers preventing entrance or exit. This one is likely to increase your agent's suspicion levels on entrance or exit. Criminal Talents and Forced Entry are the main skills needed, and are generally available on most agents.
Circumstantial Meeting	Your agents meet the target completely on accident, or at least the target thinks so. It's critical that the agent has a very high Bluff skill so he/she can play off the accidental meeting.
Briefcase Rampage	This trick involves the agent smashing briefcases with the target. The briefcase opens and both parties' documents are spread all over the office. The agent is now able to go through the targets data with plausible deniability and take that data out of the facility, on accident of course. The agent team must be educated on Data Analysis and Gather Info.
Create Relationship	Your team has found a target that can be exploited by a love interest. The agency makes the moment where the target will meet his/her potential love mate. All of these skills must have a high Seductive level.
Auditor Visit	Nobody's sexier than an accountant that's auditing you! This relies on your agent having good Accounting skills.
Perfect Replacement	The agent team becomes the perfect worker and takes the right opportunity to gain access to the target and exploit their weakness for another opportunity. The agent team must have a high ability in Persuasiveness.
Retrieve Data	The agency team has exploited the relationship with a well placed target. Now the team must take the data and get out.
Gaining Access/Exiting Compound	Of course, you want your agent to get in to and out of the target as it makes no sense to have an agent that can't get in or get out. Key skills for your agents very on the infiltration/exfiltration mission they are conducting.
Road Trip	This is the ability to run a swift pass by the target and gain an understanding of the weaknesses and availability of the target. This skill relies heavily on Deductive Reasoning (Critical) of the agent and Gather Info. Survey and Recon: This is an analytical process for obtaining intelligence on the target. Gather Info and Perceptive are critical elements for this skill set.
Smoke and Mirrors	A difficult mission to complete but worth the attempt. You convince a target of your trustworthiness, and what a great person your agent is. They get close to their target and are able to get the access code or key to enter/exit the facility. Must have high skills in Pick Pocket (Critical) and Seductive (Critical).
Past Experience	This is reconnaissance through remembered incidents of the past involving the target. Kind of like when you go to see an old friend. To travel to his or her house you plan your directions on what you remember from the past. This skill relies on Criminal Talents and Gather Info.
HR Mishap	Human Relations mishaps. The agent feigns investigation of a human relations incident while creating a relationship with the target. Your agent needs to have skills in Data Analysis.

Mission Name	Description
Recon	This is a military term for exploring the target and gathering critical information for exploitation. This skill relies on Reconnaissance.
Scale and Crawl	Why go through the door when you can go over it? Athletics/Climbing and Criminal Talents needed for completion.
Tap, Tap, Tap,	This is stealing data through specialization in special devices. Using the agent's position as a love interest to get close and place a surveillance data. The agent team should be specialized in Tiny electronics.
Getting the Design	Varies depending on the type of mission you are attempting to execute.
Solo Agent	One "super" agent who is superb in all the skills conducts these missions. Although it is riskier to use one agent, a Spy master can conduct more missions. The skills required for each skill set are relatively similar. Very useful when you want to conduct an "Intel" campaign against another empire – here's what I would do.
Seductive	Agents have employed this method since the beginning of human conflict. Mata Hari is the perfect example of someone who employed Seductiveness to get information and obtain her goals. This is also known as the "Honey Trap". During the execution of this method, the agent makes the target feel like they are in love. The agent then exploits that love for their goals. Yes, it's cruel but that's the spy business.
Search the Books	It's always in the money trail. Everything costs money and this is the best way to uncover secrets. Agents should specialize in Accounting and Gather Info.
Hostile Meeting	Agents must have high values in Acquisition and Seductive.
Heat of the Moment	The target and agent are passionately enjoying each other's company, and while the target is unaware, the agent poisons the target, thus allowing the agent to steal the data at his/her own leisure. High knowledge of poisons is mandatory.
Master Hands	The master infiltrator who can get access to a facility by picking the lock - be it electronic or iron. This mission will cause some suspicion but not nearly as much as B&E. Electronics and Master Lock Pick are must haves for the completion of this mission.
Target Reconnaissance	Before a mission can be executed effectively, your agents need a detailed understanding of the target. The Spy master can choose one of five skill sets to employ to put his best capabilities against the required skill sets. The skills that are going to be important are Criminal Talents, Gather Info, Reconnaissance, Deductive Reasoning, and Perceptive.
Intercepting Mix-Up	This is a sneaky way of gaining access and is like the agent teams you see in movies. With authorized access to the facility, they pass close to a target and "pick his pocket". Your agent team of two must have high qualities in Disguises (Critical) and Pick Pocket (Critical).
Identify Target	Which is the most exploitable target? The only mission available for this stage is "The Lucky One". Your team will collect data on several targets and then track the most available target, until the next stage. The Agent team is going to need a superior level in Gather Info and an adequate level in Tracking.

Building an Effective Agency

When I'm reviewing potential spies, I measure the agent on 4 different skills; dagger, infiltration, resourcefulness, and suspicion, on a scale of 0-100. You need to review each of these qualities for each agent. Just because one rating is really low doesn't mean the agent can't be good at something else. If you have an agent with a 0 infiltration, but a 98 dagger he will be a great counter Intel agent. Also pay close attention to the talents they specialize in, an agent with perfect proficiencies and no skills might not be your best choice.

So now you have a bunch of eager qualified agents. First thing you need to do is build an effective counter Intel network. Take a look at the intelligence missions that you are able to conduct, look closely where the agent needs to infiltrate. Then you take your best qualified "dagger" agents, and infiltrate them into your network. I always put some of my best in Colonial, General, and Research, acting as counter agents. The trick is to understand the spy's mind. When the enemy agent accomplishes a mission, he is going to have to infiltrate twice. The first time with relatively low suspicion, the second time, if your agents doing his job, with much higher suspicion. Higher suspicion severely hampers the enemy from doing their espionage successfully.

If your agent arrests an enemy agent, they will place him/her in solitary confinement. Your agents are not going to know much about his/her position, or even name. That's when the fun comes in. You need to find an agent with a high "dagger" score and a talent in interrogation or torture. By the way, the term torture is not used much, in the business we refer to it as "creative questioning, with incentives for cooperation." You have to balance two issues here: your need for information, and the agent's health. You don't want to kill them. If you keep them alive the enemy agency can no longer replace his position with a free agent. If you eliminate him, the enemy is able to hire a new agent.

It's important to get as much info as possible. If you can figure who they were from and what their mission was for, you can adjust your network accordingly, and conduct a counter attack. It's also possible to do prisoner swaps later for one of your agents, or your ally's agents.

Proficiencies
- Dagger: 59
- Infiltration: 45
- Resourcefulness:
- Suspicion: 0

Skills

Naturally Talented

Dismiss

Name: Lyre Cook

Location: Classified

Status: Waiting

Time With Agency: 62d 21h 37m 54s

78

95

Infiltration Status

Current Infiltration Settings

Type: General

Target: Not Infiltrated

Report Frequency: per half hour

New Infiltration Settings

Type: General

Target: ME (Counter)

Report: Per Half Hour

Deinfiltrate   **Set Settings**

History

Dagger: refers to the agent's ability to conduct counter-espionage or black operations. These measure the agent's ability to conduct kinetic action against an enemy espionage/counter-espionage network. In simple terms: How to kill or arrest an enemy agent. A 100 rating indicates that this ole agent likes to crawl in the mud, eat snakes, and do all of this without being noticed. A zero rating, well you ever see the guys that lie in bed all day and yell for their coke to be brought for them, that's a zero rating dagger. For counter intelligence missions and black ops missions, the higher number the better.

Infiltration: This is the ability to covertly enter and EXIT the targets infrastructure, without being noticed. Keep this number as high as possible. An agent with a one hundred Infiltration rating is most likely James Bond. If you notice all your important files were missing from your highly alarmed office….this guy probably did it. A zero rating, well, let's just say this guy had a hard time making the interview, he's probably still at the front door, pushing on the pull door.

Resourcefulness: This is how much ingenuity your agent is going to be able to generate when he runs into trouble. A good score is the difference between your agent making a pulse laser out of a paperclip and a rubber band; and a bad score where he's using his pulse laser as a hammer.

Suspicion: This is the only rating that is going to change when your agents are on a mission, and the only rating that goes above 100. As the spy master, you need to keep an eye on it. If your agent's suspicion level gets to high, it's time to start pulling your agents out of the territory. When your agent has a suspicion level of 0, things are going great and the enemy doesn't know him from Adam. When it starts getting above 100, everyone knows what he/she is doing and you need to consider pulling him/her out. Now keep in mind this is the perception of the agent, not the reality, so it's the agent's perception that the suspicion is at 100, and it really could be at 0. I will tell you more secrets for keeping the perception level down later.

Buying and Selling Agents

If you have a client who wants you to run a mission and you are missing the necessary agents to execute it, you should consider agent trading.

The Galactic Trade Commission was unsure how to regulate the sale of such services and for a long time it prohibited their sale entirely in the interests of "economic stability". As time passed, the Galactic Trade Commission relented on this position and concluded the trading of agents is a transaction that should be conducted between empires directly and privately. This allowed them to retain their unbiased position as the galaxy's chief regulator on economic and aid matters. A good strategy is to limit your dealings to empires with which you have previously had a positive trade experience. This will minimize your risk of exposing your potential agent's needs.

For those who are less concerned with actually keeping the acquired agents for their own means and more concerned with making as much money as possible, the agent trade can be a lucrative business. Recognizing what skills are valuable to the various espionage empires out there, can make you a valuable conduit for the trade of these agents and their unique skills. If you choose to go this route, spend time letting people know that you are interested in selling off agents to other empires so that buyers will know where to go looking when they are trying to find agent retailers.

This area of trade will easily be one of high demand long as you can maintain a variety of different skills to sell. This will force players to either come to you or try their luck on the random agent recruitment system; odds are in favor of their impatience and desire to accomplish certain missions winning out over their stubbornness at being forced to buy from you.

Counter-Intelligence

One very important thing to note about preventing agent attacks, if you capture an enemy agent inside your empire try your hardest to find out exactly what he was doing and where he infiltrated. Odds are if they were on any sort of mission, you can reallocate your resources inside that sector and end up capturing quite a few more enemy agents that you might have missed.

When you are not directly under attack make sure you have counter agents infiltrated into each and every section of your empire. This will at least give you a chance of disrupting, if not outright capturing or killing enemy agents that attempt to infiltrate you. You never know what areas of your empire your opponents might think are important.

Tip

Agents with high Dagger and Resourcefulness skills make the most successful counter agents. There are a few other skills, such as Paranoid, that also help counter agents in their mission to track down enemy agents hidden within your empire.

Mission Types

Mission Name	Description	Infiltration
Acquire Design Data	The prerequisite for this mission is the "Get Technology List" mission. You will not have any actual targets until after you have acquired the entire list of designs of your opposing empire. Once you have managed to pull off this mission, you have to take a careful look at the designs that interest you. The reason for carefully analyzing the names of the designs is simple - this mission can only be executed on one design at a time. If you don't pick a design that is actually valuable to someone, then you're simply wasting time and resources on a wild goose chase. You only have two options for your network here, Brute Force and Solo Agent. Brute Force is quicker, but riskier and requires more agents. Solo Agent requires a single skilled agent, but is slower and safer. The results of this mission could easily fetch a high price from interested parties if you find valuable information on an enemy's empire, such as the resistances on their armor.	Research
Analyze Budget	Upon successful completion of your Analyze Budget mission, an in-game e-mail sent to you will have all the information contained in the targets F7 Budget Window. This gives you details on how much money he spends and on what, if the planet has a command center, the tax rate, the trade income, if there are any researchers, money spent on defenses, aerial support, and spaceports. This is the FOUNDATION OF ALL OTHER AGENT MISSIONS. Do this for all the colonies on which he is located to have a way to prioritize your missions. As usual, you have access to the three standard trees with which to complete your mission: Solo Agent, Seductive, and Brute Force. Solo Agents will only need two to three different skills for this mission and this is appealing for those who wish to minimize their agent involvement. The shorter time Brute Force takes is always a factor in utilizing this option, but time is not necessarily an issue with this mission.	Agency
Assassinate Governor	Colony Governors enjoy all the benefits of their populace and they are of supreme importance to the colony's production, morale, and income. The best way to put a planet's colony at risk is to kill their governor. Not only does the target empire's colony receive hits to its morale, production, and income ratings, they can do nothing to stop it once accomplished. This mission is accomplished via Brute Force or Seduction, depending on your agents' skills. Seduction missions require fewer agents but need to have high infiltration skills. The goal time line is about 2 hr and 15 minutes. Brute Force is a hefty mission requiring many agents with high dagger skills, and its goal completion time is about 1 day, 6 hours and 42 minutes. Combine this tactic with your conventional military forces. Obtain the appropriate intelligence, analyze the budget on the colony you want to affect and complete a targeted governor assassination.	Colonial

Mission Name	Description	Infiltration
Bad Publicity	This is an attack on the colonial economy. The galactic community is fickle - ask an ambassador and they will prove my point. What you stand up for today will definitely be used against you in the future. With the advent of popular government, governments tend to be subject to the popular will. Empires that are considered as going against the popular will of the galactic community will no doubt draw the ire of the galactic community. This mission plants questionable evidence in the target empire's trade depot and offends the galactic community. The community will respond by delaying all trade transactions with your target empire. This mission is relatively harmless by itself, however when used in combination with an overall attack campaign this could be very harmful, gradually bringing down their economy.	Trade
Capture Agent	This allows you to capture and enemy agent. The enemy will not have any idea who captured their agent or why - just a notification their agent has gone missing. Of course, you will not know whom you captured until you have done some 'creative questioning.' Here you have a couple of options: you can interrogate the agents and execute them, interrogate them and keep them in holding, or simply release them. There are big differences between these choices and you need to have a plan before you do any interrogation since this generally shortens the enemy agents' life span. Carefully choose agents with good skill of Interrogation or Torture, and always monitor life signs. If you can keep the agent alive but in captivity, you prevent the enemy agency from being allowed to field a replacement. You are also denying them of a specialist agent, possibly preventing them from completing other missions. If the agent is particularly skillful, you may want to consider executing them. Yes, they will eventually be able to recruit a replacement, but it will take time and you eliminate the risk of a rescue attempt. Then again, if you think the agent is valuable, you could notify the enemy agency that you would consider releasing them for the right number of credits.	General
Clutter Cargo Bay	This espionage mission is not meant to be executed singularly, but rather as a part of an offensive. Use it against an enemy empire mobilizing its forces for war. This mission disorganizes an empires storage facility. By reducing the total capacity of the target empires cargo bay, the colony's storage bay is a logistical nightmare. When the storage facility fills up, factories stop producing, miners stop gathering resources, and trades stay in the tradepost, ensuring they get charged a hefty trade port fee.	General
Destroy Facility	This mission can be done using either Deception or Brute Force. This will destroy the target facility, which also has the effect of destroying any production or research currently being done in the facility. The mission requires that you run the "Get Facility List" mission prior to running it. Destroying certain kinds of facility can cause lower morale in that environment and will also destroy any cargo in the building.	General
Find Mineral	There are over one hundred minerals in the game, these minerals are found in varying locations and when a play runs short on their supply of key minerals, those which are used in their most important components, they will want to find the same minerals. This makes the Find Mineral mission a powerful tool for commerce, as well as your own uses. Use it to locate minerals which are important to you, or use the information to sell minerals or their location to other players.	Solar System

Mission Name	Description	Infiltration
Get Ally List	In the agent and diplomacy business, knowing whom is aligned with whom can determine the fate of an issue. It is imperative to know who your target allies are. Allies determine how much of their income and support will come knocking on your door if you attack.	Federal
Get Facility List	This mission is a pre-requisite for certain missions. In a successful agent mission your team will covertly report on what facilities they have discovered on a target planet. If your agents are caught on this mission it will greatly slow down your espionage as other players recognize this as a gateway mission.	General
Get Mineral List	This mission, when successfully completed, will enable your agents to acquire a list of all the known minerals of another empire. By filling in the blanks of your own mineral list and knowing where to track down the ones you are missing, you can quickly and efficiently design things, or sell the information to someone else. The traditional three methods that are available for this mission are Solo Agent, Seduction, and Brute Force. For the Solo Agent method you need an agent exceptionally talented in a wide variety of areas in order to successfully accomplish your mission, but if you have that agent it is the best route. Brute Force and Seduction are the about equal so use whichever you have the best skill set for.	Research
Get Trade Treaties	This mission reveals the number of allies and the beneficial trade income that comes with that type of relationship amongst empires. The added benefit to this mission, is the wide variety of methods that can be used to accomplish your goals. Tactics range from Brute Force, Solo Agent, Seductive, and the very unique GTC (Galactic Trade Commission) Payoffs method. Brute Force is much like other missions where results are provided faster, but riskier. Seductive is your hybrid option. The Solo Agent has the option of sneaking in alone, but with a larger time aspect associated with it.	Trade
IFF Sabotage	IFF stands for "Interrogator: Friend or Foe". The agent team can go to the target unit and destroy this little black box, this will cause the unit to fire on friendly targets.	
Incite Unemployment Unrest	The tactic of "Inciting Unemployment Unrest" requires careful consideration before execution. This mission is most effective during wartime while the enemy is preoccupied. This will cause the citizens of your opponent's empire to become increasingly angered at their jobless situation, decreasing morale. Your team of agents for this mission will be much like the ones that are used for the "Incite Tax Unrest" mission, as the same skill sets are required to accomplish either mission. To ensure this tactic is successful, keep a close eye on your agents to avoid capture and make sure your opponent is sufficiently involved with your own or some other players' army.	Colonial
Incite Tax Unrest	This mission increases the unrest caused by taxes, which lowers morale. It is often used in conjunction with other morale lowering missions to cause extreme unrest in the target colony. You can do this one of three ways, through Persuasion, a Tradeshow, or a Sponsored Event. Tradeshow and Sponsored Events are by far the easier ways to grab people's attention as they give people a legitimate reason to get out and go somewhere. The Tradeshow option requires a skilled tradesman and a Sponsored event requires one of your best forgers to make the event appear legitimate without arousing the suspicions of the opposing empire's authorities. Since it only requires three agents, this mission can do substantial damage to an unsuspecting player.	Colonial

Mission Name	Description	Infiltration
Production Espionage	The Production Espionage allows you to acquire a list of what the infiltrated facility is currently producing. This is helpful in both accomplishing other missions and planning a war. There are three ways to accomplish this mission. The Solo Agent tree employs the usual methods of acquiring a worker's pass from the appropriate authorities, but requires a substantial effort by one talented agent. This mission is by far one of the better ones for a solo agent to undertake if you have the skills. The Brute force tree is faster, but more dangerous and uses more agents. The Seductive tree is somewhere between the two in terms of speed and safety. The real objective is acquiring the data in the best manner that your network can. Once you have the information, either sell it off quickly to an opponent of that empire, or proceed to run another mission using this intelligence.	Production
Rescue Agent	The Rescue Agent mission is one of the single most important missions you can run! If your agent is captured, the enemy's empire will imprison him/her and then begin their interrogation, while he is captured he cannot be dismissed this and can also lead to the enemy getting information about who sent the agent. The goal time for this mission is approximately 1 hour and 12 minutes, and your only attack choice is Brute Force missions. Since this mission is very similar to an assassinate agent mission, your core team can be used to rescue an agent. The difference is the daring escape portion; this will require demolitions, tactics, and a weapons specialist. It is rare to get a high skill weapons specialist, so make sure you keep that in mind when screening potential recruits. The best thing about this mission is that you do not have to infiltrate an empire to rescue an agent, just a solar system. A wise spy master will have his rescue team already infiltrated into the system. A wise leader will also infiltrate agents into his home system to prevent an escape.	General
Sabotage Production	Prior to running this mission you must first complete a "Get Facility List" mission, so you can acquire a direct target for your agents. Furthermore you should also run the "Production Espionage" mission to find out exactly what the target facility is building, this will increase your chances of success and ensure that your target is worthwhile. This mission attempts to undermine the production queue of the targeted production facility and, upon successful completion, destroy everything that was being produced in that facility. If your opponent is building a capital ship on their space station you can infiltrate a couple of agents and successful completion of this mission will not only cause the production of the capital ship to be canceled, but all components produced as part of the construction will also be destroyed.	General
Siphon Trade Income	The owner of a mining facility receives a royalty payment from all the minerals bought into the facility, if an empire has many mines, and many empires are using those mines, the owning empire makes some money each time a hauler from another empire claims some minerals at the owned facility. The Siphon Trade Income mission takes a portion of that income and gives it to you, this mission is difficult to detect due to it's spread out nature.	

Mission Name	Description	Infiltrate
Slow Docking	Since any good player has reinforcements inside facilities in locations that are valuable to them, the slow docking mission allows you to reduce the rate at which those reinforcements appear during your attack. You want to run "Analyze Budget" mission to make sure that your opponents have assets docked inside their facilities. Keep in mind this mission is only useful in conjunction with a military attack. This mission allows you to use either Deception or Brute Force. Brute Force is faster but also involves more risk. Deception takes longer, but is less resource intensive and less risky.	General
Slow Factory Production	Completion of this mission will allow you to slow the production of your opponent's facilities by 10%, just enough to cause a delay, but not so much that it becomes obvious. Unless they pay very close attention to what's going on, they'll never pick up on the subtle but significant difference. The pre-requisite for this mission is the "Get Facility List" mission. It is recommended that you also run a "Production Espionage" mission to help you decide whether or not a particular facility is worth targeting, but that it is not required to be effective. You have a choice between Brute Force, Deception, or Solo Agent methods. For this mission to be truly effective you want to affect as many facilities as possible so it would be wise to assemble teams of agents capable of executing this mission using all three skill trees – this way you can quickly and efficiently disable the enemies' ability to build their units as quickly as you can build your own.	Production
Steal Cargo	The "Steal Cargo" mission requires that you first run the "Get Facility List" mission to acquire the locations of the enemy's production and storage structures. You might also wish to run the "Get Technology List" mission if you are capable of it, but that is a much more difficult mission. Deception and Brute Force are the options for the "Steal Cargo" mission. Deception takes significantly more time to accomplish, but the risk is much lower. Brute Force is faster but has higher risks.	General

BEYOND PROTOCOL

V
COMBAT

"War is the science of destruction."
~ John Abbott

Combat Basics

Beyond Protocol can be very hostile at times, and you will discover there is one or more aggressor in every system. Some are easily dealt with and others make you wonder how it could get any worse. Here, we will discuss how to get around, or even annihilate, this problem. Let us first analyze this threat.

The Virus

This empire only cares about two things: economic gain and expansion. They will seek out and take over every planet in a system, continuing to expand until something or someone kills them. They come in two known types.
The first is the Nuker Virus and the other is the Diplomatic Virus (Dip Virus). The Nuker Virus is the more deadly of the two, moving into systems and annihilating to take full control. They care nothing about other players' survival and feel that the entire universe should be theirs to control. While the Galactic Senate has tried to eliminate them with new embargoes and other legislation, they are still a live threat. The Dip Virus seeks to expand and colonize very rapidly for economic growth while remaining on good terms with the general populace, but they are nightmares if they become enemies. Overall Virus players are excellent allies if you can get them and more of a nuisance than a bully unless they are not watched closely to prevent them from turning into a plague.

When taking on any type of virus player, the best form of attack is either with allies or with blockades. Since this player expands heavily, the more fronts you can get the player to fight on, the better. This is a good time to use the aliasing system when possible as this above all else can help bring a virus player down. The blockade will help to track or prevent further expansion.

The Trasher

You will probably encounter this type more often than others. This empire likes to talk a lot, usually they either have nothing or have something they have no idea how to use properly. The easiest way to deal with this nuisance is to scout them out. When you find nothing or something of little value, you have a few options. You can leave the situation alone and let them continue to "run their mouth" (realize they will do this in game as well as in the forums probably), or call their bluff and deal with the situation fully and completely. If you do not have the military means for a confrontation, agents are always an excellent alternative.

The Predator

This empire talks a big game and can usually back up their claims. They may even be able to trick you into thinking they have something they don't based simply on past history with other empires. Since they usually stick to taking out Trashers or other types of bullies, they provide balance in the game and it is wise to get them on your side. You can simply pay them off by allowing them to set you to "peace" and you set them to "ally". This gives them a percentage of your income that you will never even notice being taken. Another thing you could do is to help them with their mineral needs, or anything else that will be viewed as help by them. No matter what you do to help them, remember they are not your ally. If you get in a jam do not expect them to bail you out – but then again they might surprise you! If you plan to take one of these players down, bear in mind this is a huge undertaking in itself. These players are like Spartans. You must either kill them or they will kill you – they will not surrender. For this type of fight you may want to bring some allies or alias an account for better odds. If you defeat one by yourself, you will have their respect, but if you fail or have the aid of allies, they will hunt you and your allies down until you and/or your allies beg for forgiveness.

The Nuker

They are the most easily recognized because they rule by total annihilation. If one of your empire's colonies gets blown to kingdom come without any warning, it is safe to assume you have a "Nuker" coming at you. Once they start, you are at extreme risk of them wiping you out. Your first course of action should be to check the distances of the planets you own. If they are fairly far apart you should use what time you have to install static defenses. Then, try to anticipate their next moves and send reinforcement fleets where appropriate. This is obviously easier to do when you own fewer colonies. Think about a contingency plan depending upon how quickly your initial colony was destroyed. Remember, death is good, just unwanted.

COMMAND POINT MANAGEMENT

Managing your Command Points in the heat of battle or even before is potentially, if not the most crucial aspect to master in this game. The way you control this aspect will make or break you in most combat or peacetime situations. The reason it is so crucial is because it can be turned against you or put into your favor in so many different ways. However, lets look at what Command Points are. Command Points or CP as they are commonly known are your unit control points. These points determine how many units you can control on the field while maintaining order in your colony or while in the heat of battle. In most RTS games you have seen them before, they could be referenced in other games as your food limit. However, unlike other RTS games you can break this limit infinitely if you are willing to pay the price to keep it going. Remember that this game has no hard limits and your CP is no exception.

Before we get started let us discuss the penalties and what they can do to you. The first type of penalty you may be given is if you build more than your colony can handle. You will be notified of this by a flashing red message and your CP bar will be a crimson red. The second type of penalty is if you declare war on a lower ranked empire. For example, an Emperor declaring on a Magistrate will result in a CP penalty. If you get one of these penalties you will be hit economically until and potentially you will see friendly fire among your military until the incident is corrected.

300 CP Limit

At the start of your empire building you will want to keep a very good eye on your CP. This is because you only have 300 to start with and since each unit costs 10 it is very easy to break. The key to controlling it at this level is balance. You do have a little running room but it is tight. You can bend your limit to 450 and not incur any penalties. Once you go above that you either have to leave it to your economy or dock units in any building with hangar space until you get back to a safe level. Overall it is recommended at this stage of the game to not try to mine every mineral cache you see and instead stick to only the ones you will need to help defend yourself. Remember mining facilities are public and you can most often always go back once you raise your CP limit when attempting to expand your empire. However, at the 300 starting point it is advised that you build up your defenses and starter army instead of trying to strip the planet.

Also at this stage in the game you do not have many options for decreasing your CP. However, you have a friend and that is the veteran system and it is the best ally you could ever have. As your units gain combat experience they will acquire bonuses and one of these bonuses is a decreased CP cost. Once elited a unit will cost 1 CP instead of 10, allowing for more units to be produced. Potentially, if you had all of your units elited in a 300 CP situation you could effectively have 300 units continuously on the board and for a starting player that is a huge advantage! Aside from ranking your units up the only other alternative you have at this point is dock your units until they are needed. However, remember for every unit you keep docked in your facilities you will be charged a small fee.

500 CP Limit

Once you get to the 500 CP limit things start to get easier and despite having to still keep tabs on your CP you will find yourself not having to do it quite so often. Also your CP bending limit has increased to 750. By now we will assume you at least have Escort class ships if not higher in your arsenal or at least fighters of some sort. At this stage you will probably start using tanks more as an invasion defense rather than an invasion force. This is simply because it is assumed you do not have the capability to build a decent transport fleet. In turn at this CP level it is now safe to start expanding to other minerals that could be useful for advanced research such as new weapons, etc. As for your new army you now have access to advanced options of control. Since most likely your fleet mainly comprises of aerial units you can now send them into space and start to use that CP. Keep in mind that Space CP is universal to a solar system, and therefore must be kept in check if you own more then one planet.

800 CP Limit

When you finally get to the 800 CP level you will probably look back and wonder how you survived at 300 CP. At this level you will finally be able to stretch and relax a bit. We will assume you have at least three to four colonies and various planets and that you have moved onto something bigger than an Escort class ship. Also it might be safe to assume you have a space station or two built. From here on out it will come down to what your situation of play has been like. If you have had to fight for your life this entire time then this is part of the guide you have been waiting for. If you have had nothing but good will shown to you, take these next steps as a back up plan. If you have noticed each planet has its own CP and to help increase your chances of survival we will need to take full advantage of this. The best thing you can do is provide a nice balance to your colonies to the point where you have enough defenses that your fleets can be mobile should the situation call for it. The worst thing you can do is have your CP setup in a way that you cannot be mobile and adjust to different battle scenarios. This especially becomes clear when you are in a situation and realize that it will take hours for reinforcements when you only have minutes. Also figure out what your empire can handle if you should need to break your CP. Remember there are no hard limits to this system and it can be bent without penalty and broken if necessary. Situations will come up and you will be thankful the system works this way. It should be noted that despite there being an invulnerability curtain when you log off on your homeworld. The downside is that the shield takes an hour to charge and therefore your homeworld is vulnerable for that duration. In turn it is recommended that your homeworld be defended the heaviest with not only stationary units but also with a portion of your total fleet. This should be common sense, however, there have been too many good players that thought stationary defenses alone would save them when in actuality a fleet in combination with those defenses was called for.

Overall, at this level of command points you need to start thinking of how you are going to manage and control your fleets. For at this level you will be seen as a possible threat to numerous smaller empires, or a threat to a larger empire. At the 800 limit you have more freedom but you also have more eyes watching you.

1000 CP Limit

You have made it the top of the food chain, 1000 Command Points. This obviously has its advantages and its disadvantages. It should be noted that you have power in flaunting this and hiding this from other players. On the one hand if you are in a very peaceful community and you absolutely hate it, you now have the ability to make a for sure run at changing things. However, if you are in a warmongering society then it might be wise to speak softly and keep that big stick for back up. One major disadvantage at this level of Command Points, which started at the 800 level but has become even more noticeable at this level, is the ability to hide your growing fleet. Most people will not notice small increases on a few planets. However, if certain empires find that there are the same number of ships on every planet and they cannot count them on a single or even ten hands. They may become alarmed and start to talk. Now at this point it all comes down to what path you chose. If you chose to flaunt it then the talk will only aid in your goals. However, if you wanted it a secret, well you going to have to either play a very big diplomacy card or hope you can silence the gossip before it spreads to "larger" ears that might become an even bigger threat. With all that aside at this point you have made your choices and will follow them. Thus, depending on the choice will depend on which section you will pay attention to. I will try to break them down by classification to make reading and looking up faster.

Trade Empire

The trade empire is almost as CP conscious as the warmonger empire only in a different light. Furthermore, if you do not have the time to devote to managing this type of CP intensive empire do not attempt it. The key to a good trade empire is to maintain high market value. One way to do this is to mine everything you see. Which in turn requires lots of CP. This is only furthered if you decide to set up a system wide trade system. Overall, your main focus will be managing your CP, which is taken up by your haulers. Just like the Warmonger you must be careful with your space CP and not expand it to quickly. While ships are docking and un-docking you will get a slight break however, if you set up to many that are in transit for too long it can become quite problematic. Ways to fix these will be discussed in another section. In addition you will want to build a military to help guard your empire because lets face it to even get this off the ground you will need some good allies to help you out. This you will find is the most successful but hardest to run. One reason is because of the Warmonger and Agent empires. Once again, if you don't have the time to devote to managing this type of CP intensive empire do not attempt it.

Agent Empire

The Agent Empire is as always a mysterious empire and what they do with their CP is no less. Overall with this empire you will want to focus on what can make you money to keep your agents hired. Thus your CP should be focused less in terms of frontal military units and more so into trade oriented, money making vehicles. Also you may want to look into keeping more engineers around to further your income and thus taking up CP that way. Furthermore, if you plan to be in a warmonger area or find yourself in one. It is advised that you keep at least a defensive style military on hand. Overall the agent empire is one of high risk and your CP management will also be as such.
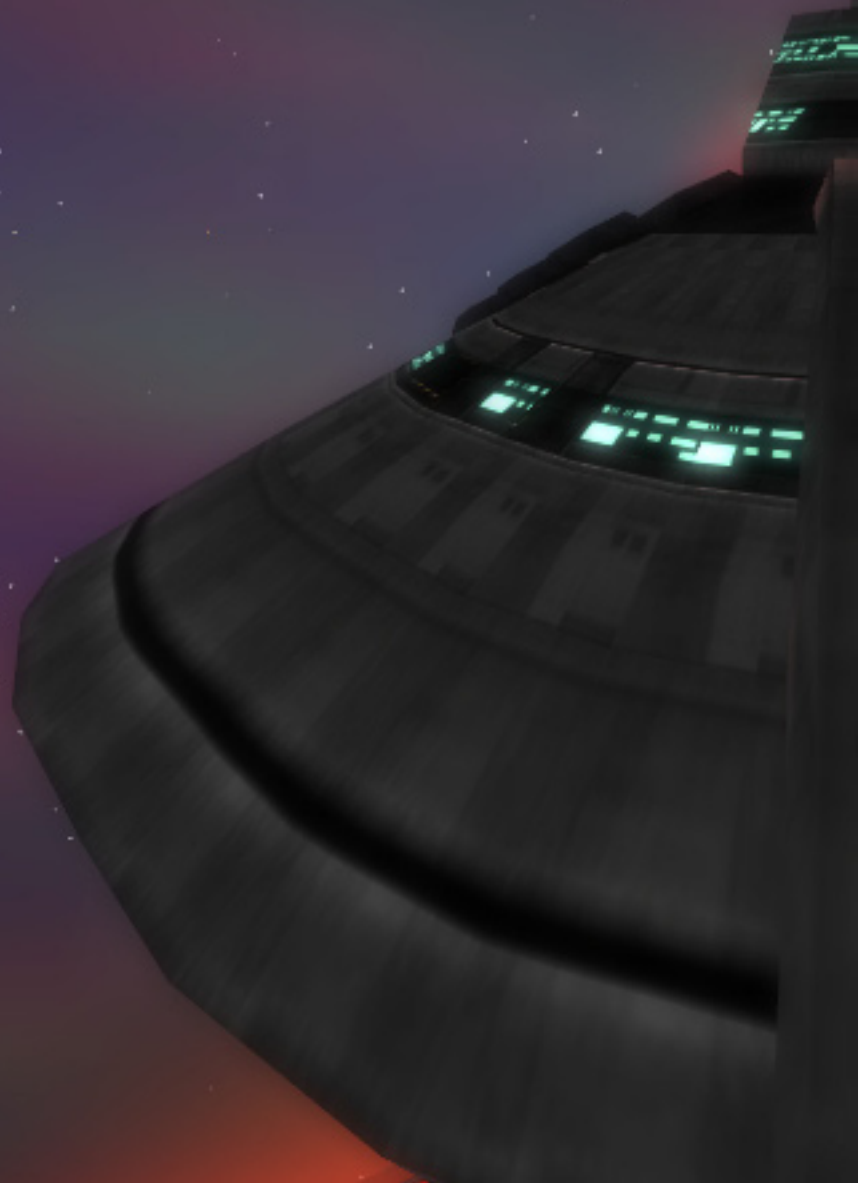
Research Empire

The research empire probably comes in second only to the trade empire in terms of difficulty. The reason for this is because this empire relies soley on its technical advantage. There is obviously multiple ways to use this empire's CP. The first would be to use your technology defensively while continuing to amass your knowledge of the universe. This would ease the stress on your allies of course, but is not very economical at times. The other version is to fill your CP like you would in a trade empire and allow your allies to defend your colonies. This route would allow for the economic gains that will be needed later for some researches. Furthermore, along with the second option you may want to exchange haulers for construction style vehicles instead so that you may further your defense. With this empire speed and wit are the name of the game.

Warmonger Empire

Unlike the Agent Empire you will be very focused on your Command Point management. This is your life line and if it breaks you have nothing. On planets that you deem necessary for survival you will probably keep more engineers or builders of some sort handy than most. Also your Command Point limit will probably be bent more often then some of the other empires. Keep in mind it is fine to bend but do not break unless you want a quick kill. Overall the veteran system will be your friend and you will need to pay close attention to it in order to help better manage your CP and know when you can continue production on your war machine. You will also have to be weary of where you stash your fleet for breaking your Command Point limit will probably become common place if you don't keep tabs. Remember space is univer-sal CP and thus this is what must be watched closely.
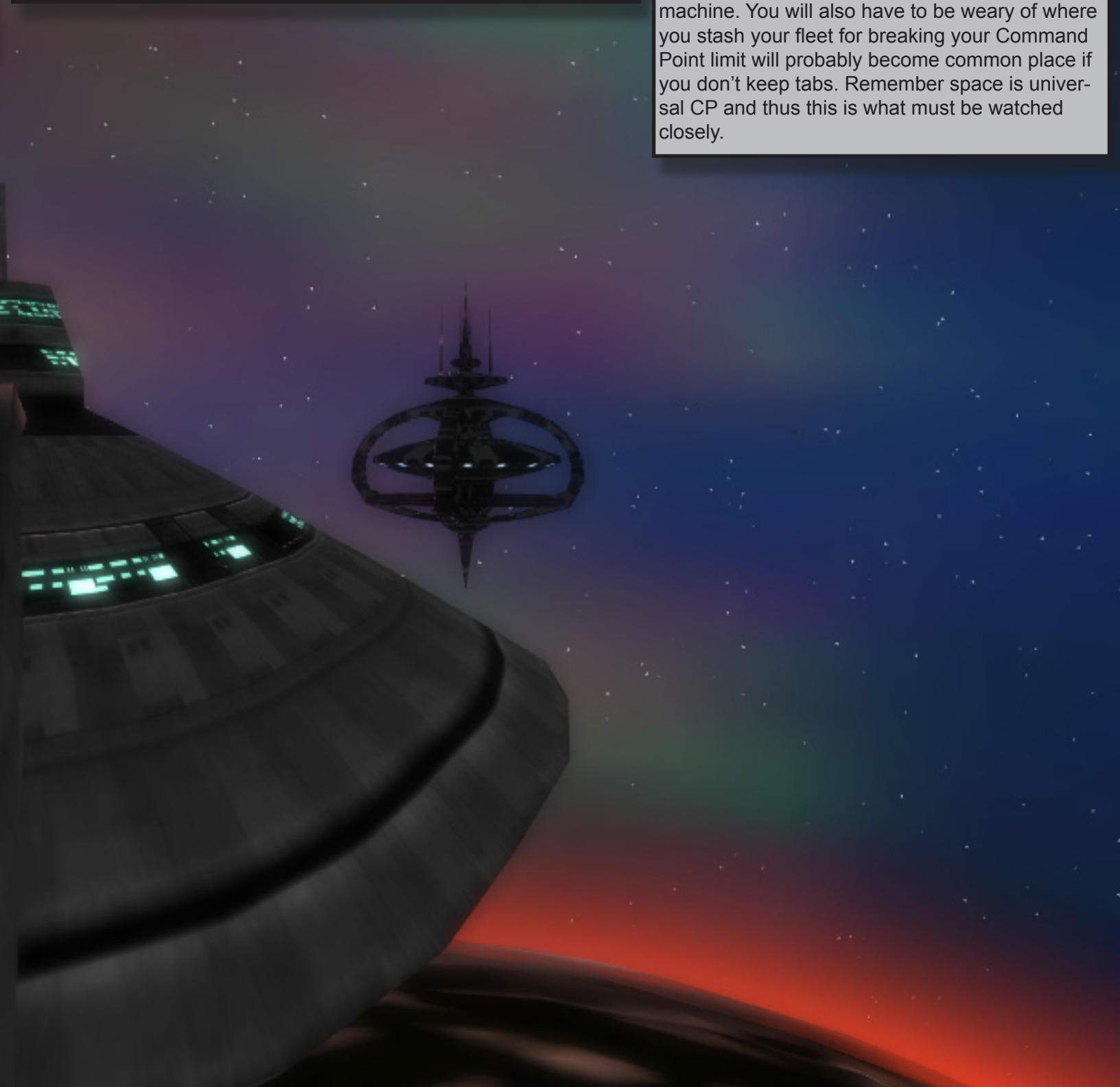
Building and Using Battle Groups

Contrary to the name, battle groups can be utilized for many non-hostile actions. While "Project: BATTLEGROUP" is a system developed and used most often by military commanders, it can be very useful to any leader. Accessible by pressing F3, "Project: BATTLEGROUP" can be used to organize fleets, locate assets, discover new lands and build space stations.

The first and most important thing that should be known about battle groups is their ability to cross the vast reaches between stars without the need to find or study wormholes. Individual units are not capable of such journeys because of the need for special oversight in deep space. In the early days of interstellar travel, cryogenic freezing in conjunction with a navigational computer was the standard. However, after entering the blackness of deep space, many ships equipped in this manner arrived at their destinations filled only with skeletons; some did not arrive at all. It turns out that even the best navigational computers available were not advanced enough to compensate for micro asteroids and spatial anomalies.

In addition, the unthawing process was not quick enough to waken the crew when such an event arose and, often, they awoke only to find flames sucking away what little oxygen was left in the ship. It was then determined that in order to travel safely between solar systems, special command oversight, initially labeled "Project: BATTLEGROUP," was required. This oversight came in the form of sophisticated telemetry gathered from sympathetic colonies.

Another feature of battle groups is the ability to be reinforced by units with hangar space. The command to initiate this is found in any unit's contents window, and is activated with the "Launch to Reinforce" button. When a unit is lost within the battle group, a replacement will be launched from this building. Of course, the "Remove Reinforcer" removes these relationships, if that is your intention.

The final use of battle groups for any nation is their ability to build Space Stations. The coordination necessary to build such a facility requires the oversight of a battle group, without which things may go awry. In order to utilize this aspect of a battle group, place your building unit and any cargo units necessary in a battle group. All required minerals and components must be in the same environment as the builder; meaning your cargo units. As teleportation of livestock is ill advised for nations not very far advanced in this technology, personnel required for the space station must be loaded on the builder before construction.
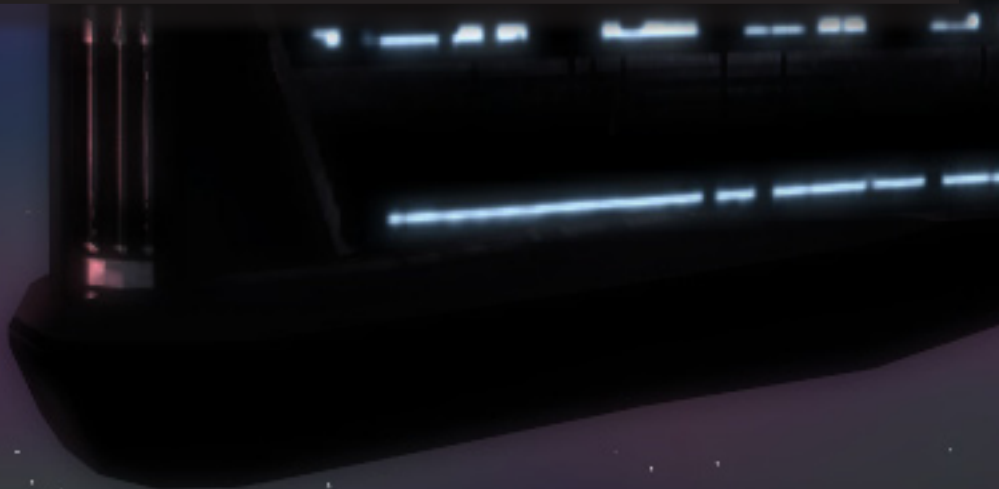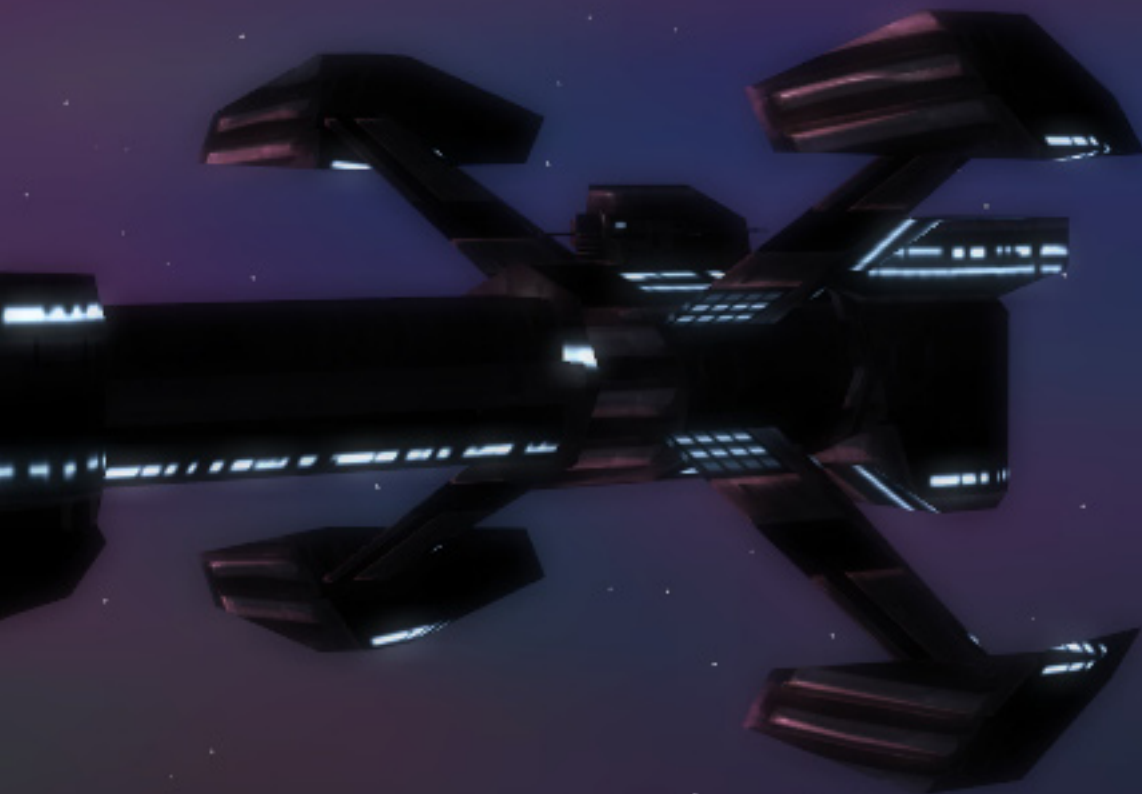
Battlegroup Benefits
-Interstellar travel
-Faster fleet readiness times
-Unit location tracking
-Sustained fleet size
-Enhanced diversity maintenance.

Formations

Formations are, and always have been, very useful for gaining a tactical advantage over your opponent. In Beyond Protocol you have unprecedented control over the shape, spacing and ordering of these formations. Press F10 to bring up the Formation Creation window. The blue icon with four little triangles on the quick bar also opens this window.

When you first open the window, it is difficult to see the full potential this tool offers you, but it is enormous! The green grid represents the placement of units. The cross hairs of the highlighted boxes represent the location of a move order. In other words, to order the formation to move, the square you click in becomes the center or hub for the units and they will position themselves relative to that location.

The value in the "Cell Size" box represents the spacing between two adjacent units, another factor of cell size is the "safe zone" - the space the unit will keep between it and the closest ship to prevent a collision between units. To accurately create your formations, adjust the cell size to be larger than the largest unit's safe zone. Depending on the exact size of your units, this may be 5-10 as with fighters, or it may be closer to 50 as with battleships. A little trial and error may be required, and should not be feared.

To the right side of the window you will see the "Slot" configuration toggle. Occasionally it will be necessary to use each of these options while placing slots in the grid. The tool automatically increases the number of the slot you are placing, so you can use these to make corrections. The highest numbered entry always has the "D" designation (the last slot in the formation builder).

The final piece of the interface is the "Based On" drop-down window. This attribute determines how ships will order themselves with respect to the numbers. Most unit attributes are available in this window, from cargo space, to armor on the front arc, to radar range, and more. Since formations are editable on the fly you can use the trial and error method.

Now that you are better acquainted with the interface you should think about strategy. One common strategy for battle formations is the tanking tactic (see Diagram 1 and fun with math). In an RTS game the strategy works as follows: create a ship with an enormous amount of hit points on the front arc, your "tank". When designing the formation, place at least one line of units ahead of the rest to be occupied by your "tanks", then allocate the rearward ranks to the higher damage ships you'd rather not loose. Of course, set the "Based On" entry to armor on the front arc. As long as the enemy does not outflank you, this tactic preserves your more important/valuable ships.
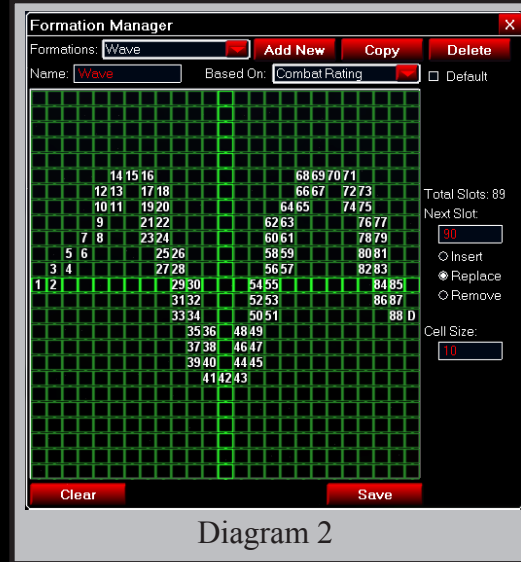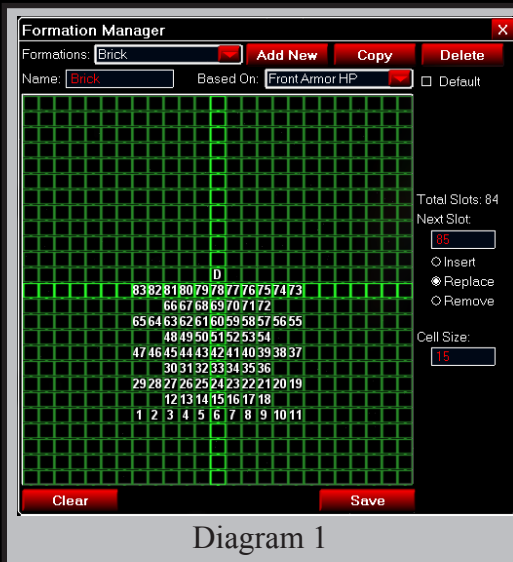
If you find yourself hunting and pecking at an enemy's colony, the radar spread is a great tactic for revealing large portions of the map at once. As was explained above, this is fairly easy when you know the optimum/maximum radar range of the units you are using. There are, however, two different versions of this formation. The first should only be used when you only have a few units - at most twenty-five. This is the method above of using double the radar range in the "Cell Size" box, then fill up the horizontal portion of the cross hairs in the formation window.

In order to use this formation effectively with a smaller number of units, it recommended to designate the middle box as #1, the box right of that #2, left of the center #3, so on and so forth. This effectively creates a line of sight that can be moved up and down the map to "sweep" for enemy units. The second version is much more thorough. Instead of a line, a square or circular pattern can be used. (See Diagram 2)

Again, it is recommended to start the numbering at the center and work outward. The major difference with this method is the calculation for cell size. To actually reveal ALL of the area covered by this formation, the number you need is no longer what is between units left, right, up or down from each other, but rather diagonally. To find this take a look at More Fun With Math and Diagram 3.

Once you have this net formation under which you can see everything going on which is particularly effective when you have an enemy building engineers or buildings and you need to "track" them! (See Diagram 4)

A tactic for escorting a convoy would be to place the high cargo hold units at the center with a majority of extra slots at the front and rear. To utilize the wedge formation made popular by medieval knights, put your most defended units at the point and sides of a triangular configuration. For separating a number of units/relative attribute value from a group, set a number of those units on one side of the grid and place the "D" square at the other side. (See Diagram 5)
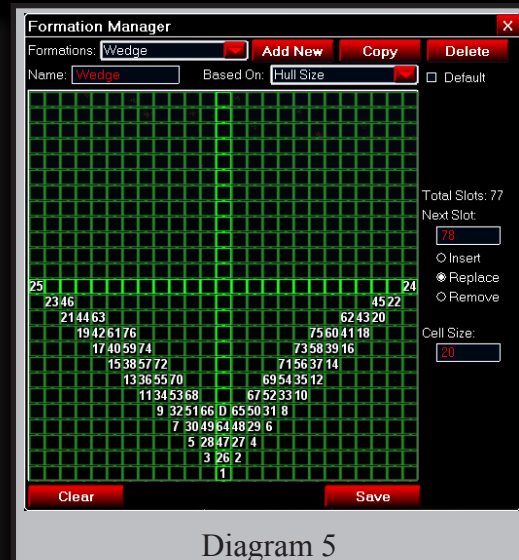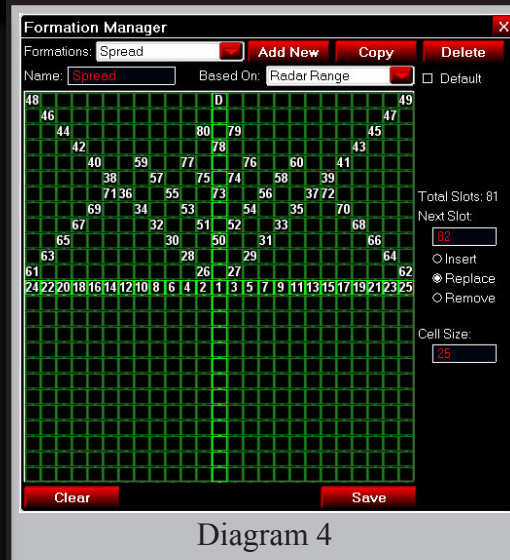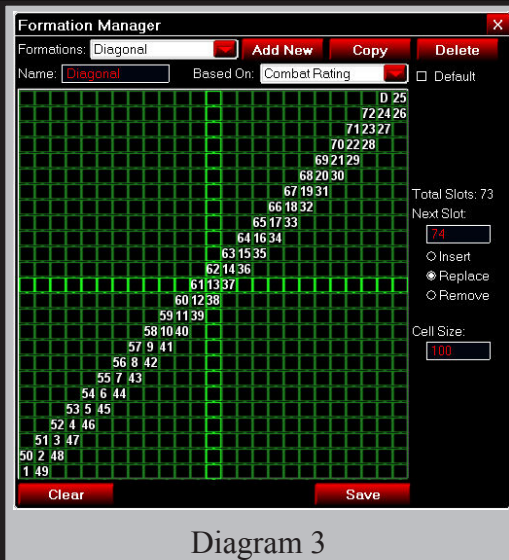
Diagram 1 — Formation Manager

Formations: Brick | Add New | Copy | Delete
Name: Brick | Based On: Front Armor HP | ☐ Default

Total Slots: 84
Next Slot: 85
○ Insert
◉ Replace
○ Remove
Cell Size: 15

```
                    D
            83 82 81 80 79 78 77 76 75 74 73
              66 67 68 69 70 71 72
            65 64 63 62 61 60 59 58 57 56 55
              48 49 50 51 52 53 54
            47 46 45 44 43 42 41 40 39 38 37
              30 31 32 33 34 35 36
            29 28 27 26 25 24 23 22 21 20 19
              12 13 14 15 16 17 18
            1  2  3  4  5  6  7  8  9 10 11
```
Clear | Save

Diagram 2 — Formation Manager

Formations: Wave | Add New | Copy | Delete
Name: Wave | Based On: Combat Rating | ☐ Default

Total Slots: 89
Next Slot: 90
○ Insert
◉ Replace
○ Remove
Cell Size: 10

```
        14 15 16              68 69 70 71
      12 13   17 18          66 67   72 73
      10 11     19 20          64 65   74 75
        9       21 22          62 63     76 77
      7  8       23 24          60 61     78 79
      5  6         25 26          58 59     80 81
      3  4         27 28          56 57     82 83
   1  2             29 30       54 55           84 85
                   31 32       52 53           86 87
                   33 34       50 51              88 D
                 35 36     48 49
                 37 38     46 47
                 39 40   44 45
                   41 42 43
```
Clear | Save

Fun With Math

If your goal is to create a formation of beginning fighters that maximize their radar range for scouting purposes, you will want to set the value to be "2*50=100". In fact, that tactic is also very useful when utilizing maximum radar, however, in that case the calculation would be "8*MaxRadarRange". The 8 accounts for the two units' radar range AND the fact that maximum radar range is in a measurement equal to four times that of optimum radar range.

More Fun With Math

What you are trying to accomplish here is to make the radar of two diagonally positioned ships just barely touch to keep from having holes in your "net". That value is double your radar range, as before, however, the "Cell Size" entry is now equal to ((2*RadarRange)2/2)1/2. In other words, your radar range times two, squared, divided by two, then find the square root. To get a rough figure you can multiply your radar range by 1.3 – while this is simpler it will be slightly less effective.

Diagram 3 — Formation Manager

Formations: Diagonal | Add New | Copy | Delete
Name: Diagonal | Based On: Combat Rating | ☐ Default

Total Slots: 73
Next Slot: 74
○ Insert
◉ Replace
○ Remove
Cell Size: 100

```
                        D 25
                      72 24 26
                      71 23 27
                      70 22 28
                      69 21 29
                    68 20 30
                    67 19 31
                  66 18 32
                  65 17 33
                64 16 34
                63 15 35
              62 14 36
              61 13 37
            60 12 38
            59 11 39
          58 10 40
          57  9  41
        56  8  42
        55  7  43
      54  6  44
      53  5  45
    52  4  46
    51  3  47
  50  2  48
  1  49
```
Clear | Save

Diagram 4 — Formation Manager

Formations: Spread | Add New | Copy | Delete
Name: Spread | Based On: Radar Range | ☐ Default

Total Slots: 81
Next Slot: 82
○ Insert
◉ Replace
○ Remove
Cell Size: 25

```
48                    D                      49
   46                                      47
      44              80  79              45
         42              78              43
         40    59    77    76    60    41
         38    57    75    74    58    39
       71 36    55    73    54    37 72
         69    34    53        56    70
         67       32   51  52   33        68
            65       30   50   31        66
            63          28   29          64
         61          26   27          62
         24 22 20 18 16 14 12 10 8 6 4 2 1 3 5 7 9 11 13 15 17 19 21 23 25
```
Clear | Save

Diagram 5 — Formation Manager

Formations: Wedge | Add New | Copy | Delete
Name: Wedge | Based On: Hull Size | ☐ Default

Total Slots: 77
Next Slot: 78
○ Insert
◉ Replace
○ Remove
Cell Size: 20

```
   25                                        24
      23 46                            45 22
         21 44 63                75 60 41 18
            19 42 61 76        73 58 39 16
               17 40 59 74
               15 38 57 72    71 56 37 14
                  13 36 55 70
                     11 34 53 68
                     9  32 51 66  D  65 50 31 8
                        7  30 49 64 48 29 6
                           5  28 47 27 4
                              3  26 2
                                 1
```
Clear | Save

Using Units In Formations

There are two general classes of formation, fleet and engagement. Fleet utilizes a formation representing the best placement of many unit classes and designs in order to make the entire group function stronger as a whole. Engagement is the name given to a formation comprised of a small group, about five to twenty units, of one to three unit designs not too different from each other. Engagement formations are typically useful in hitting a specific target quickly rather than an entire group over time. Fleet formations accomplish the latter.

A well-mixed fleet formation will generally contain units from all of the ship classes: Fighters, Escorts, Corvettes, frigates, and capital class ships. Each plays a specific role that will be useful at certain stages of a conflict. Fighters are best used at the beginning and middle of a conflict, in waves. Their ability to knock out components can render large ships useless for the entire battle. However, Fighter ranks will most likely dwindle far faster than any other class, so reserve extra waves for opportune moments later in the clash.

The main purpose of Escorts is as a countering force to Fighters. They are larger and pack more punch while retaining maneuverability, but cannot target components. Corvettes are useful against larger targets in greater number. They have the ability to be very maneuverable in relation to the firepower they can possess at the same time. Frigates often serve as auxiliary units. Their weapon count is not as high as other classes of the same hull size, so it is advisable to use them as either carriers or weapons platforms for very large weapon systems, both of which could make the ship vulnerable.

Auxiliary units should be used throughout the conflict but should never directly engage a target. Capital ships can serve both in an auxiliary capacity and in direct fire roles. They possess the size and weapon mounts to contain large and numerous weapons while having the armor or hanger space to defend or launch reinforcements.

Neither the unit-designing process nor the Formation Builder is designed for use in the heat of battle. To maximize their benefit to the fullest, be sure to consider these things before the fighting commences.

In a fleet type formation, it is advised to place Corvettes at the front and sides to both scout and deal with surprise attacks. They should possess the armor to withstand some beating and the maneuverability to escape danger, should that be necessary. The next layer of your formation should be heavily armored Destroyers and battleships. Keep purely auxiliary units well protected at the center of the formation. If you can, leave Fighters and Escorts in the hangers of auxiliary and capital ships until engagement. Creating complex formations like this can be made easier by using the name sorting option in the formation builder. This is described in more detail in a topic on "Using Name in the Formation Sort".
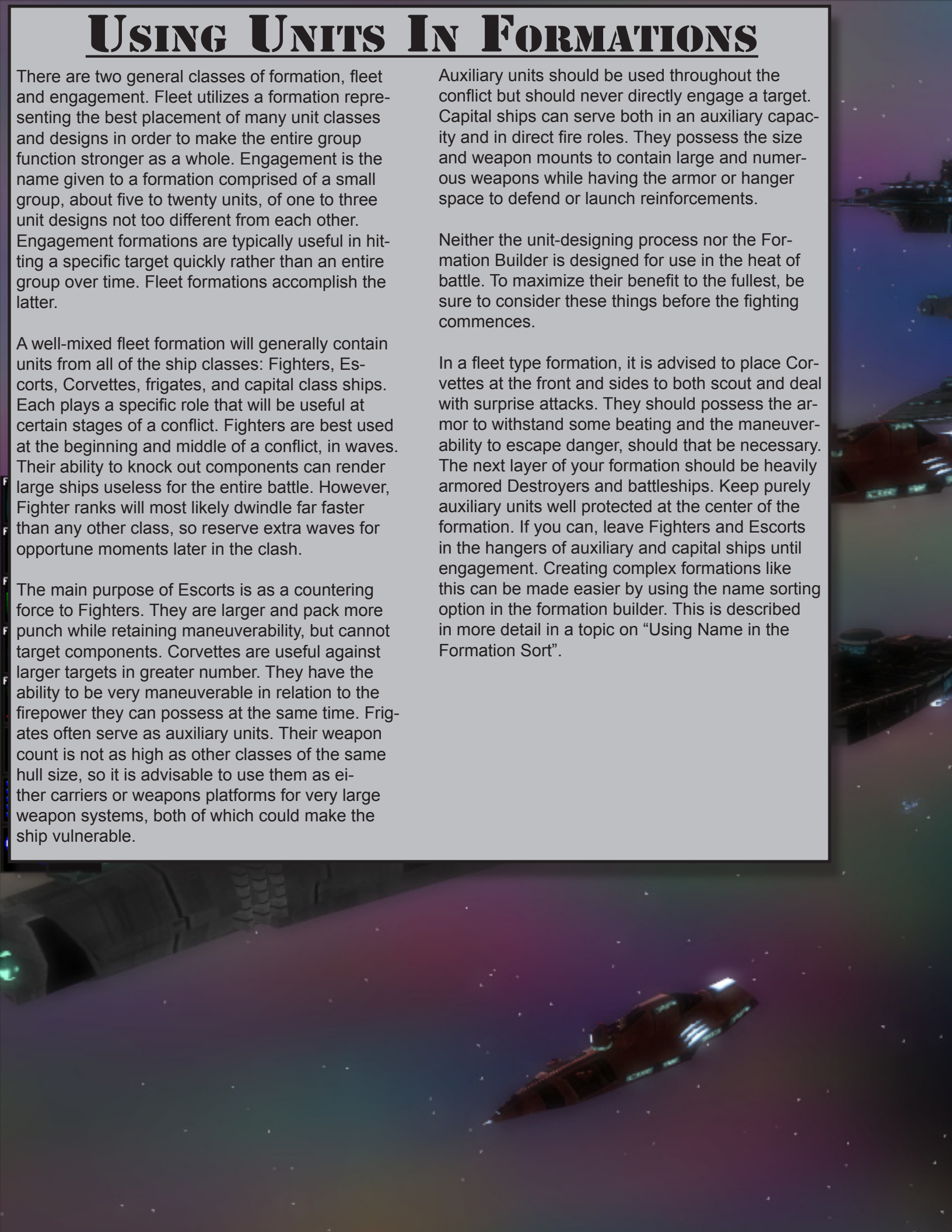
Formation Naming Conventions

Each unit can be individually renamed, so if you already have a fleet you can still use this method. To change a unit's name, select the unit, look at the unit information window, and click the name of that unit. You should now be able to change the name. Be sure to press enter when finished, to complete the renaming action. With "Name" as the sort type in a formation, you can do very complicated things.

The most obvious thing which name sorting a formation can do for you is to sort out different versions of the same hull type. Using Ctrl+S will select ALL units of the same hull type. For instance, if you have used the Angel hull to make two different versions of a combat escort, Ctrl+S will select both of them at the same time. A move order will arrange all of those units randomly without respect to design variances. Should you set up a formation, you can use a difference in name to separate them. Once done, simply go through the neat line/square/columns you have created while designing the formation, then find where one version ends and the next begins.

Name sort can also be useful in combat situations. Escorting vessels may not necessarily differ in design compared to the rest of your ships. Let's assume you created a group of fifty identical ships to crush the fleet of another empire. Your fleet met your enemy's forces in a hostile section of space, but your fleet prevailed. However, during the fight, ten of your ships lost entire arcs of armor. Barely escaping destruction, you managed to move them out of the fray to safety. Now, behind enemy lines and with a fifth of your fleet crippled and vulnerable, you would prefer to get these ships back to your empire intact. You have concluded that the best way to do this is to surround the damaged ships with the relatively undamaged ones.

In this case, you need a way to sort out the damaged ships. Simply rename those that you feel are more vulnerable with a character you know will supersede that of any of the other ship. Now, create a formation which places the first ten slots in the formation at the center with the outer layer somewhat spaced out and removed from the center.

Tip
The ideal formation contains several different unit designs in order to maximize efficiency, through specialization.

Formations Using High Maneuver

For the purpose of this guide, assume that "High Maneuver" refers to a maneuver of at least twenty-five. Thus, this includes the beginning Fighter and anything that can out-maneuver it. These formations are god for group scouting, hit-and-run, or entrapment of a moving target.

Scouting: Group scouting simply means using more than one unit to scout something. Often scouts need to be maneuverable if you want them to survive potential initial contact. Formations for scouting can take many forms.

The first and most utilitarian is simply a straight line where each unit is just far enough away from the next to overlap radar range. This creates a large wave which temporarily reveals anything in its path. The second formation that accomplishes the same thing, with a bit more tact, is a pair of parallel staggered lines. This type of formation puts fewer scouts at risk because the first line may report encountered fire in time for you to order the retreat of the second line before it falls victim.

The final common scouting formation is the web or net. Generally, this entails a grid full of units with overlapping radar. The purpose is to reveal an entire area of land at the same time. Often, the group starts at one point and spreads out into the formation. Use this formation if you need the full picture of an area, colony or planet. In this case, it is most likely that there will be parts of the formation which will be at their designated place in the net while waiting for the rest of the group to set up. If it is your intention to lose as few scouts as possible, consider using the Maneuver and Evade settings in the "Orders" menu.

Should you actually encounter hostile forces, you have two options. Try to scout the rest of whatever you have discovered, or retreat. Obviously, the first option puts your scouts in danger and you may end up losing most or all of them. Regardless of your choice, High Maneuver will help you execute that decision. In order to reduce casualties, constantly change your formation's heading slightly, just enough to avoid slow tracking weaponry. If you are retreating, you may consider consolidating, or further expanding your formation. You will need to have already considered this and have alternate formations beforehand for it to be of use. If you find all of your scouts have crossed enemy lines, consolidate. You want as few guns firing at you as possible.

However, beware of Area of Effect (AoE) weapons. A lightly armored, tightly packed group will not last long against AoE. Should you find yourself up against one of these weapons, or you find half or more of your scouts are not at danger, expand. The further apart each ship is from the next, the less likely that both will be taking damage from the same source. You may push your scouts into another enemy base, neutral or allied territory, or, more likely, unoccupied land all together. Overall, the odds that anything will shoot back at you out there are less than flying into a base you know will fire on you.

Hit-and Run: Hit-and-run is very common tactic which requires maneuverability. Hit-and-run tactics are typically used for one of two reasons. The first is that you believe your units will deal more damage in a short amount of time than those of your enemy. This may be due to damage per second, slow fire but high damage weapons, or component damage. The second reason is distraction. A sudden force of units, meant to do little but take fire, can give you the time you need for reinforcing your fleet, completing an evacuation, or developing a winning strategy.

In either case, hit-and-run formations can take several different shapes. The first is the wedge. It's a triangle, with the point towards the target and sacrifices the lead unit for the welfare of the rest of the group. A single wave of units in a line tends to have the shortest engagement time of all formations, while generally distributing damage across the entire group. A solid formation, like a rectangle or circle, will typically concentrate enemy fire at the outsides of the form but will concentrate your own fire more effectively.

When going for a distracting type formation, use a solid formation and increase the "Cell Size" value. This may divide enemy fire between your units, allowing them to hold the distraction longer. Checking the Maneuver box in the "Orders" menu also helps as they may manage to break target locks and further disperse damage across the group.

The following is one example of complex formation creation using the name sort type. This example is designed to help you create your own unique strategy as this one is taught to all young military commanders. For this to work easily, you must have given this system some thought beforehand while designing your units. If you design your scout ships with names like:

• Something, your high armor low firepower ships
• Something, your high firepower but relatively vulnerable ships
• Something and your auxiliary units
• Something, you can create a formation which cares nothing about the individual characteristics of the ships.

However, to do this perfectly you must know how many of each ship you will have in each category. Suppose that you are using twenty of each:

Formation designations 1-20, the scouts, would be placed spaced out ahead of and on the sides of the bulk of the force.

21-40, the damage sinks, would be placed closely as the outer layer of the force.

41-60, the direct fire ships, would comprise the center forward half of the force, while

61-80, the support ships, would remain at the back half of the center of the formation.

If you give this enough thought before engaging an enemy force when units are lost (most likely the scouts), the defenders move outward to attempt to draw the main fire of any distant targets while the direct fire units also spread out and avoid being hit by AoE (area of effect) damage. Then the auxiliary units move up to try to provide better support. I hope you have grasped the basics present here; now you are ready to give it some more thought and improve on this.

Protecting Mines

Each mining facility is public access. This means any nation can bid on the extraction rights to that mine. Of course this is not free, and the base price varies by the mineral type being extracted. Prices can be effected by multiple player bids. The top bidder receives the most per minute, but may end up paying a fortune for a rare mineral. Of that extraction cost, 20% goes to the builder of the mine, 20% goes to the owner of the planet, and the rest goes to the GTC. So, if you plan to mine something, especially if you plan to mine a lot of it, or if you know other people around you need a particular resource, it is recommended it be your mines) on those deposits). Do whatever you must!

Although the mines are public buildings, this does not mean they cannot be armed. In fact, arming a mining facility is highly recommended, especially if the resource is valuable to you. While you are in the process of putting weapons on your facility, it is also recommended that you take the opportunity to increase production capacity, structural integrity, add in a few point defense weapons, and increase the overall armor protecting the building. This is most often done at the expense of production capacity. Remember, in general, the more production capacity you have, the faster the mine will extract. So, while adding armaments may protect the mine, that will also decrease its overall effectiveness. AoE (area of effect) is generally not recommended, as they tend to do more harm than good to the base as well as to small friendly vessels.

Another way of protecting your (generally fragile) mines is to place hangars equipped with their own weapons around the building. Their main purpose would be to house Fighters or Corvettes. Fighters are capable of targeting components, so they can knock out the engines of an enemy miner, whereas Corvettes are potentially the most deadly unit on a planet, so their purpose would simply be to seek and destroy. You could settle for simply building a large amount of dangerous buildings, but remember, the mine you have will be depleted eventually, so those buildings will no longer serve a purpose. When using hangars and units, the hangars may be useless, but the main defensive force, the units, can be made use of at the next site of interest.

Finally, it should be mentioned that any warehouses containing the mined minerals, should be afforded the same protection as your newly fortified mining facilities. If your warehouse is destroyed, there is only a chance that a fraction of the amount inside will drop to the ground. Also, keep in mind that dropped goods do not avoid the attention of scavengers for long, so pick up anything dropped right away. It is of course better this not happen at all, so do what you can to prevent it.
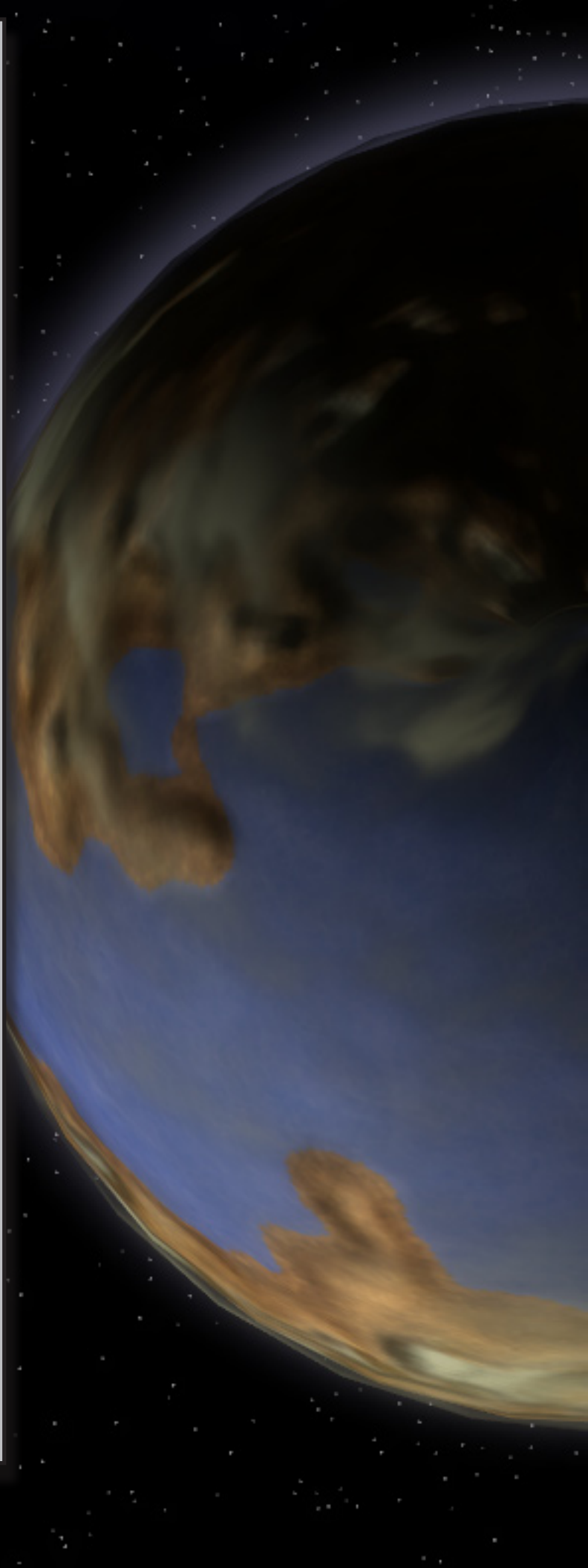
AIR SUPERIORITY

The enhanced speed, maneuverability, scouting power, and component targeting capability of the Fighter make it a very strong choice for defense. Coupled with their ability to be quickly produced, you have practically an infinitely reinforceable air force that can wreak havoc on any enemy fleets as they attempt to destroy your own structures.

You will have the advantage of increased visibility of your planet and complete knowledge of the location of critical assets you may have there, whereas your opponent will not. Since your structures will almost certainly have some form of radar, you can use them as another way to scout out any potential intrusions into your own territory and react to them as quickly as possible.

Remember your attacking opponent will probably be limited in the amount of forces they can field since odds are they are not coming from the same planet. Disabling whatever ships they have sent will be an invaluable move for you. This will also put them with Command Points frozen in an environment. Eventually run out of reinforcements and you will have won the day as far as air superiority is concerned.

If you are attacking and attempting to gain air superiority, make sure you know where EVERYTHING your opponent has is located. Scouting out critical assets, structures or units, is essential for air superiority. It is also in your best interest as an attacker to keep your forces busy in as many locations as possible to prevent your opponent from easily predicting what your next move might be.

It would be highly recommended by any battlefield commander that air superiority be attained before going down to the planet. Once this is done, set up your forces so that you have scouts who can go down and maneuver around very quickly. Use some of your units in orbit to bombard key locations throughout the environment as you uncover them. This can force the defender to have to divert his units above the surface of his planet to deal with the threat. Make sure some of your stronger units are up there to deal with whatever your opponent might throw at you from his atmospheric ship fleet. If you can guarantee you have ships which can take care of any annoying Fighters they might deploy, your atmospheric ships can continue to do as much damage as possible on the planet itself.

Setting Up Patrols

When given a route, a unit will follow the waypoints given indefinitely. With a patrol you can use a few units to constantly scan an entire planet, enforce a large border around an asset, escort your cargo routes or even break up a carelessly assembled strike force.

Continually scouting a planet is one effective use of the patrol system. On large and huge class planets, building or stationing enough radar equipped entities to reveal the entire planet is often too time consuming. Setting up several units to circle the planet regularly using patrols is probably a better choice.

Colony defense is another job for which patrols are useful. If you order a unit to a patrol and set the unit to "Pursue" or "Engage", it will break its patrol to act accordingly. When finished, the unit will return to its patrol. In this way, strategic patrols can be used to cover multiple fronts, or points of interest within your base. If there is an attack at a location along the patrol, the patrollers will stop there to aid in the defense. Conversely, if you are attacking a base with a patrol, start with distracting their patrolling units before carrying out your true goal, whatever that may be.

The third patrol type is the escort route. These types of patrols are used to protect defenseless transport vehicles from those who would interrupt their normal operations. In general, you would not want to devote a large number of defenders to each cargo route because of the limiting effect on the rest of the environment. Instead, consider the importance of each route and how best to make it safe.

The final patrol strategy you may find useful is the erratic border patrol. Vehicles that are nimble and heavily armored are set to random paths outside of your base and may aid in doing two things. First, and most likely, they will provide advanced warning of an attack. If the path is far enough outside your base, you may have enough time between the scout's report and the arrival of the enemy ships to mount a more effective defensive strategy than if you had zero warning. Second, if conditions are right, is the dispersal of the enemy force. If the scout is fast and well enough armored to escape the initial engagement, an unorganized or poorly lead enemy may split up to engage the scout. Typically, this will make the force overall less powerful and give you an opportunity to strike preemptively and more effectively.
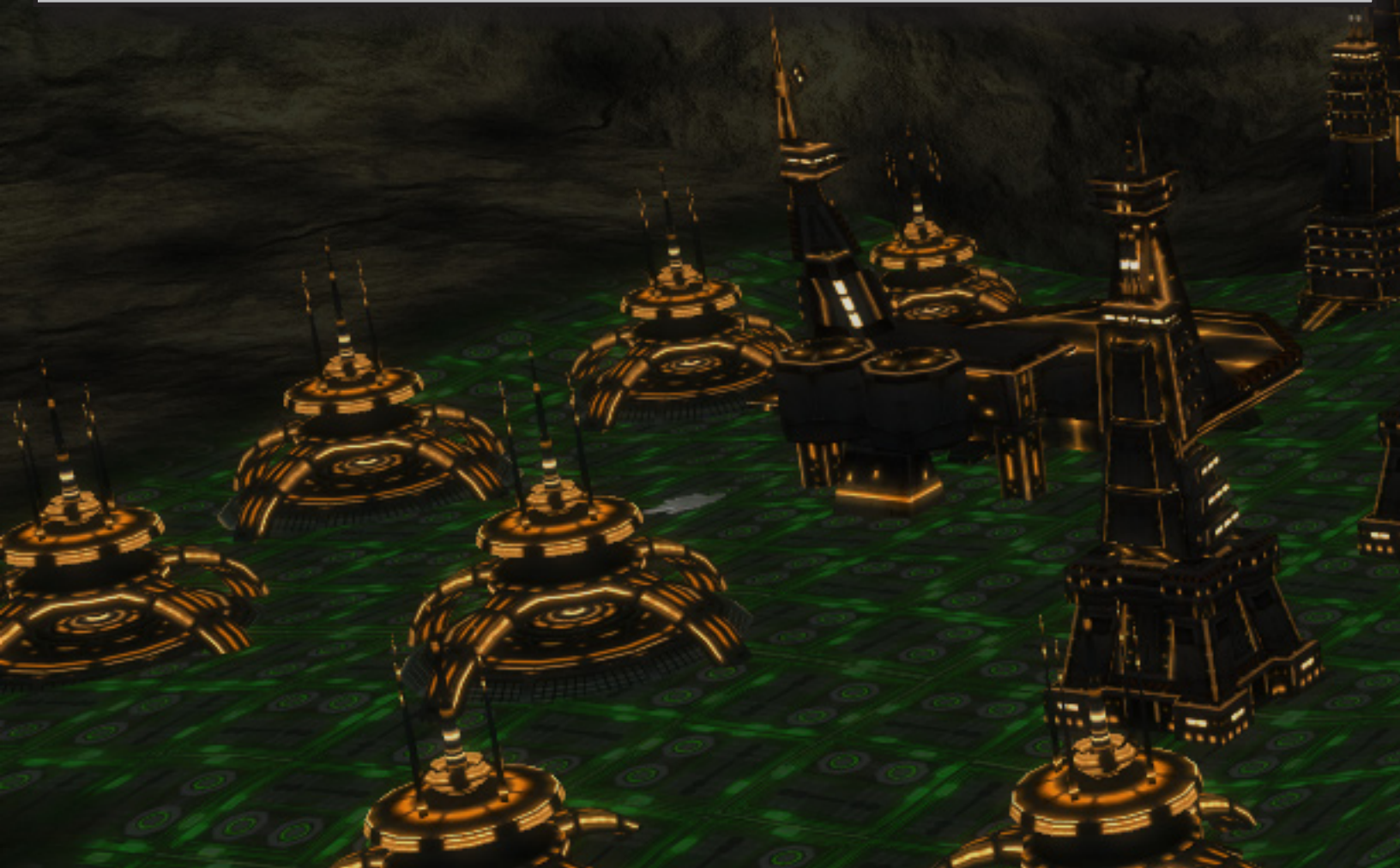
Setting Up Blockades

Blockade usage can be an effective tool in starving or containing an enemy. Space is vast and planets can prove difficult to properly blockade on the surface. Be aware that no blockade is completely impenetrable. Superior speed, armor and weapons can all be used individually or collectively to circumvent your fortifications. With that said, you can learn how to create blockades that will be effective against technology comparable to your own.

Since an enemy under "offline protection" cannot be attacked until they come back online, you can use a blockade to prevent movement to and from protected colonies. If your enemy has cargo routes going between planets and systems, use blockades to deny material transfer. You are notified when enemy units are in range of yours, so blockades are also useful in monitoring/stopping wormhole passage and planet fall. Blockading your own planets increases your security while making it difficult for enemy empires to colonize there. Finally, if you need to change the mind of another ruler with respect to a Galactic Senate vote or allegiance purposes, blockades are handy options.

The easiest blockade to construct is massive one, maximize your CP with the highest Armor/Damage ship you have and amass them at the point of interest. It is a good idea to set most, if not all, blockade ships to "Stand Ground". If they are set to "Pursue" or "Engage" they will chase units trying to escape, which weakens the blockade's overall strength. In addition unit AI will automatically "Tether" allowing commanding officers of the fleet to recall ships after a battle to the last targeted position set by the player. Therefore, even though your units engage in battle they will not leave your targeted zone.

To blockade with a bit more strategy, consider tactics that utilize the "Launch Children" and "Target Components" options. Fighters are able to destroy components through armor and shields. If you combine that capability with the objective of restricting movement, your most important component to target is the engines – stopping the ship's movements entirely. "Launch Children" is useful for preserving your Fighters past the initial engagement. If you leave your Fighters exposed, they could be destroyed very easily, taking with them the chance to cripple your enemy.

Another successful blockade fleet tactic is to vary the damage types within the fleet. If your enemy discovers you favor a particular damage type, they can run the blockade easier by knowing what armor to use to resist that damage. When creating a blockade fleet, equip every ship with a shield. Shields are "field replenishable" protection, meaning in minor skirmishes the ships will take less damage and be able to hold an effective blockade longer. Lastly, if you leave your blockade in place while you are offline, recognize that it may not be there when you come back. If you want to keep this fleet available to you, move it about thirty to sixty seconds away from the site of blockade in a random direction before going offline. This way, your ships are ready to quickly resume the blockade when you return.

Protecting Space Trade Posts

You can direct trade to a space tradepost, the advantage of this is that you can easily reinforce yourself if your trade post is out in the middle of space. It does involve a little luck, when doing so, but it might just save your situation. The disadvantages are that it involves a little luck and if the delivery time is longer than anticipated it might not help.

You can also use the hangar space in it to store ships on board to launch when under attack. However, this will limit the amount of available hanger space for sellable goods. Another option is to place a fleet around it. The downside is you will use valuable command points that could be spent elsewhere.

You could also simply arm the trade post with enough weapons to keep the enemy at bay until reinforcements can arrive. It is recommended you put a combination of weapons on this structure to allow for close and long range fighting. It is wise to store extra weapons, radar, and engines onboard.

Finally, you could choose to build up other space stations or space defenses around it and let them do the fighting for your trade post. Most empires have chosen this option as it allows them to focus on other aspects of their business. Some empires have even had a mixture of Carrier, and Battle Station type Space Stations for different scenarios. Note - this is a very expensive undertaking and you may want to look at your economy before deciding to choose it. Also realize that, whether you intend to use a full size station or a space defense station, you are limited across that entire expansive environment by your facility points. Space defense stations will use up this total much more slowly, but they are also many times smaller.

This structure is an investment and should be looked at as such. If you feel you do not have the resources or time to invest into a station then wait and do not build one right now. Remember, this structure is not necessary for survival, but it will make life easier if you can maintain it.

Protecting Your Assets with a Space Station as Storage

A great way to keep your minerals safe is to hide them in an armed Space Station. A large Space Station whose location is secret, paired with a hangar full of Fighters is a floating warehouse that can hold millions of minerals. A Battle Station with millions of armored plates and some of your biggest guns, can hold over ten million minerals with plenty of room for hangar bays, residential, and more. Be sure to spread your valuables among a few stations to avoid the risk of having all your eggs in one basket.

Space Defense Turrets

These turrets of the stars can be used in one of three ways. The first is the most common and basic of the three setups, the Defense Ring. This setup consists of between eight and ten of these turrets in a ring formation around your planet to add maximum exposure to the targets. The turrets will be armed with between one and four weapons. You may add additional weapons as deemed necessary. This setup also comes with two variations offensive and defensive.

The defensive version is there to defend your home world or potentially a very valuable group of space stations. The offensive scenario is one of a blockade strategy. This takes a little more effort. The overall plan is to have a fleet of cargo ships with the appropriate amount of resources in a battle group with eight to ten engineers. This will allow you to build the ring in one go and if the enemy finds out it also allows you to have back up to help finish the job. It is advised to have an escort of some kind just in case.

The second, is the Four corner approach. This setup allows for numerous planets to be covered in one solar system, but also takes some skill in placement. The skill comes into play because the placement must be at the detection range of the turret while at the same time the turrets must be angled in a way that they can help protect each other. While it is important for the previous set up as well, in this version it is crucial. Furthermore, for this setup it is recommended to use weapons that have area of effect damage to maximize damage output. However, with this being said it is also advised that if you do use area of effect damage to reduce your visible radar range by at least five in order to avoid hitting your other turrets.

The third setup is unique and if done correctly can definitely put your enemy in a bind. This setup is known as the Hornet's Nest. This strategy replaces the stationary weapons with fighters. Ensure when using this strategy that you set all turrets to "launch all children" in the orders menu for the structure, otherwise the outcome will be disastrous. This strategy has multiple variations of execution and really it comes down to the empire's willingness to experiment to find out which ones are the most useful.

Another variation is an IED setup. This setup is to destroy convoys of resources. Essentially to use this variation effectively you need to scout your solar system fairly well. Simply put a few turrets along the route and set the orders and forget it. Now the question some will ask is why not just park the fighters there? Well two reasons this is a better way to go. First, you are not wasting Command Points because they will be docked. Secondly, your fighters will be more secure from an initial attack, or in general if you decide to change the orders, due to the armor bonus.

USING FIGHTERS

The Fighter class is the smallest set of units in the game. The different classes of Fighters give a wide selection of size, appearance, and strategy to the player. A result of their tiny size is a lack of armor and structural integrity. Do not expect a single stationary Fighter to last against a Corvette, much less a Destroyer, for very long. Many weapons mounted on the likes of a Destroyer are easily capable of disintegrating a Fighter with one or two hits. However, the maximum maneuverability is much higher with a Fighter than any other class of ship, giving them a lower chance of being hit by such weapons when in flight. This means they can be very useful in diverting the more deadly weapons of a larger ship away from your more vulnerable capital ships.

Their small size makes them easy to load into a carrier ship. While Command Points limit the amount of ships active in an environment, carriers full of Fighters allow you be ready to join the fight at a moment's notice. In addition, their small size makes production costs low compared to those of larger ships. Therefore, producing hundreds or thousands of these is not a problem for most empires. Fighters are also the only units capable of targeting components, this allows them to disable enemy ships in a variety of ways (see table below). Remember that you must be on the side of the target in which the component is located in order to disable it.

Target	Effect
Engines	Stops target from moving, units in a planets atmosphere will be destroyed.
Hangars	The hangar and all units inside it are destroyed.
Radars	Weapons will be unable to fire, and their radar range will be reduced to 1.
Shields	Shield HP is reduced to 0 and becomes unable to recharge.
Weapons	Weapons in that arc are destroyed and unable to fire.

Finally, the most important reason to use Fighters is their special ability of targeting specific components on an enemy ship. This allows them to score critical hits against components even through armor and shields. If you think about what happens to a ship in an atmosphere without engines, or a ship floating alone in space without a radar, this becomes a very valuable weapon against a fleet that may outnumber or out-tech yours. In the behavioral window, you can set them to target engines. When attacking a fleet, radar or weapons may be your objective. When raiding a cargo convoy, the cargo bay may be a prime target. If you spot a carrier ship, target the hangar to disable the doors and prevent reinforcements. This will only destroy the doors and not the ships inside, but without those ships to join the fight, that carrier is probably an easy target.

While the damage per second, or total armor, may not be as high as those found on Corvettes, Destroyers, or battleships, when used correctly Fighters can be just as dangerous.

Light Class
The "Light" class is best suited for scouting or fodder roles. At a range of 40-90 hull size, these little units are not suited for combat. If used for combat a great deal of Command Points are occupied to inflict a relatively low amount of damage.

Medium Class
The "Medium" class Fighter ranges from 70-140 hull size and can be used for swarm and dogfight tactics. These units have enough space to be decent in combat and can still be loaded quite easily into a carrier.

Heavy Class
The "Heavy" Fighter class. They are the biggest variety, with a range of 135-300 hull size. On the negative side, they are the hardest to research effectively and designing an engine for this size ship can be tricky, or take a large amount of time. If you are looking for a quick replacement to the beginning Fighter, this is probably not it, but if you are looking to make the Fighter that will turn the tide of a fight, your research begins here! This cast has the only Fighter hull with an all arc - a tactical plus. It is also the cast most capable of surviving the direct weapons fire of bigger ships.

Utilizing Launch All Units

In general, there are two different circumstances in which this tactic could save your life, or the lives of those under your command. The first is during base defense. Placing multiple hangars around the outskirts of your base works best to protect the entire base. Placing them at the center aids in concentrating your forces and will help them work together. What is not recommended is building a single hangar to house all of your reinforcements. Should the enemy notice this, or just get extremely lucky, you could end up losing all of your units very quickly. Remember, when a ship or building is destroyed, all those inside can be counted among the dead.

The most common unit used with the LAU protocol is the Fighter. When using them in this manner, it is important to remember they are capable of targeting components. Any behavioral settings given before they are docked, are retained, so be sure to set those before placing the units in their hangars. In this case, it is most useful to set the target component to engines.

Likewise, to use the LAU protocol in space, often as part of a blockade or an ambush, continue targeting engines. This is still important because using this properly prevents enemy escape and blockade bypass. However, if you have knocked out the engines, you now potentially have an angry capitol ship at the center of your fleet. For this reason, it is advised to have separate divisions also target radar and weapons.

Of course, LAU protocol does not need to be limited to Fighters. This method could be used to launch capitol ships from space stations, or Corvettes from very large carriers. In this way, the fleet guarding a point of interest could be many times larger than Command Points allow, just not all at once. There is also the possibility of launching larger ships, which in turn launch smaller ships. Even if every launched unit only launches one more unit, you still have a force that multiplies after launch, which decreases the amount of time it takes to replenish lost units.

Using Re-enforcing Units

As a fight continues, your CP will go down both from losing units and gaining veterans. One of the best ways to fill those gaps is fighters or tanks. Since the enemy has no way of knowing what is inside your ships, structures, or Space Stations, the best way to surprise them is to have units ready to be deployed as the first wave of your fleet is being destroyed. If you're lucky, your opponents will not be prepared for this maneuver. Imagine their shock when suddenly you have a completely fresh group of units that are ready to destroy your opponents' fleets with renewed furor.

For instance, a Carrier filled with fighters can be parked just out of the battle. Then, when your CP drops to 200 points, launch 20 Fighters. On the ground, you can modify this tactic to dropping ships full of Tanks. Having your own reinforcements ready if needed can quickly change the tide of the war. Pay close attention when utilizing this tactic. If you are not careful when reinforcing you may quickly find that you have overwhelmed your allowable CP to the point where your own units will start firing on themselves.

Ground Warfare and Tank Tactics

As an attacker your mission could be anything from destroying an enemy economy, to completely wiping out the colony. When you are targeting their economy, you are trying to hurt their empire on a whole, not just taking this particular planet from them. A large colony in economic strife could cost an empire millions of credits a cycle, but here we will be targeting a smaller planet for complete destruction.

Tanks are one of your most useful ground warfare combat units. Their heavy armor and design make them able to ignore critical strikes, this means fighters cannot destroy their components. While small, they can still pack a great punch. The first step is to clear a landing spot for your drop ships containing your Tanks. Nothing is worse than losing a hundred Tanks and never getting to fire back even once. One good way to do this is to send down a group of Small Fighters to scout out a landing spot. Once found, you can orbital bombard this if you like. Another alternative is to send down a strike force to open up an area. This tactic is good for diverse planets containing numerous civilizations.

Once you have made a safe landing zone, bring in the drop ships. If the enemy has no Fighters, then proceed to make landfall with the ships capable of doing so. Unload your Tanks and begin rolling up on the colony. Remember, when on offence they should poise the firepower to destroy enemy colonies while maintaining enough armor to survive when they meet heavy resistance from buildings. If your Tanks are not able to survive the attack, fall back and cripple the buildings with orbital bombardments or Fighters with 'target subcomponent radar' selected.

As a defender much of your defense is going to be static, coming from the buildings. The two main units you should focus on using are Fighters and Tanks. Paired up, they will limit the impact of the offense. Other than heavily armored buildings with big guns, you also have the advantage of being able to replenish your numbers fast if you have a good infrastructure built up. Where the attacker has to plan what he will bring, the defender has the advantage of building on the spot. If they show up Fighter-heavy, build more Tanks. The main thing you have to worry about is orbital bombardment. If left unchallenged, it can level areas of your colony.

A good Tank should hold lots of armor and plenty of guns with a long range. Speed and maneuverability, while nice, are not as important as the large turrets – build them to be able to fire at any target in range without turning. If possible it is recommended to put a shield on your Tanks to help protect them from orbital bombardment and small caliber weapons fire, especially from Fighters.

If you are attacking a carrier, be prepared to deal with whatever may be launched. Hopefully you can bring it down before it can launch all hands. When taking on a jammer, keep in mind your weapons will most likely be much less accurate, but the more fire, the more chance to hit. In both of these cases, AoE damage could be helpful. With a carrier, you may destroy any units launched just because of splash damage, and while you may be missing a jammer directly, the splash could make up the difference. However, remember that your units are basically firing in a circle. If you can keep the target at the center of that circle, out of range of any friendly AoE, you should be in good shape.

Dealing with a WMD requires special attention. The attributes it exhibits determines your method of attack. However, everything discussed below assumes your ships are faster and more maneuverable than the target. Upon encountering a WMD, with a weapon that fires once in long intervals without AoE, your formation should be comprised of about fifty percent Fighters. Target weapons and hope that if the main weapon fires, it hits a Fighter instead of a battleship.

Once the weapon has fired and is reloading, bring the rest of the formation back and re-initiate the attack. A counter to this strategy would be to order the WMD to hold fire, so beware as reload time and damage radius may be difficult to judge.

Colony Raid Strategies

Attacking on multiple fronts works best when your forces are augmented by those of another, or you recruit sub-commanders through Aliasing for your own forces. This forces your enemy to focus on many locations, each of which could be vital parts to the survival of this colony. Tactics such as Feigning, Misdirection, and Divide-and-Conquer are effective at reducing the number of defenders. If allies or sympathetic leaders are not available, this can be done alone.

A second attack style that is effective at wreaking havoc is the Command Center strike. If the location of this building is known, destroying it as soon as is possible is recommended. Without a command center, the colony will suffer a negative thirty morale penalty which affects all of its operations.

Your opponent will be able to rebuild the command center much faster than you can destroy it, so this should not be the only strategy you use. In addition, it is possible to construct fake command centers. These buildings can be armed and even stronger than the original, but when done correctly, a fake is difficult to differentiate from the real thing. However, should you find and destroy the original this will still inflict the penalty. If you find yourself wondering which command center is real, stop! Most likely, you are wasting valuable time, as the defender intended. Use another tactic until the command centers are more manageable by themselves.

When dealing with a heavily fortified base, you may consider bombarding the areas where you would take the most losses rather than facing them head on. With the ships and weapons to make bombarding effective, this option can save you lives and time. Conversely, when facing a base with proper defenses, there will probably be an enemy blockade directly above the planet preventing bombardment, so either destroy it or choose another strategy. This strategy may also be made ineffective by planetary defense weapons, which in most cases will concentrate fire from all over the planet to one spot, and be disastrous. When deciding on this option, consider the difference between space and planet side battles. In an atmosphere, maximum ship size is small compared to building size. In space, ships can rival the size and firepower of a space station. On the ground, a critical hit to the engine of a flying unit means the end of that unit. In space they can be repaired, or serve as a weapons platform. Against stationary units, slow, heavily armed, long range units have the advantage, while against mobile targets, speedy, maneuverable, rapid firing technology is generally advantageous.

Entrapping

Entrapping a target is useful when the mobile target has to be destroyed. Use this against a full carrier, jammer or a ship equipped with a Weapon of Mass Destruction (WMD). In each case, you do not want to loose track of this unit. Doing so could cause your defeat. However, to entrap a unit successfully, you will need three ingredients. The first tracks with the rest of this discussion, I.e., Maneuverability higher than that of your target. The second is maneuver's closest relative, Speed greater than your target. Third is the Firepower enough to destroy an often dangerous target quickly.

BOMBARDMENT

Whether you are looking to make a lucky strike on a rogue engineer or trying to soften up a force too strong to meet head on, bombardment should be your attack of choice. Bombarding is simple: park at least one ship directly over a planet with bombs, go down to the surface of the planet, pick your target, and initiate bombardment!

One of the first things you will notice when exploring the bombardment window is the different fire support types (top right): Blanket Fire, Normal Fire, Precision Fire and Cease Fire. You can mouse over each option to see a brief description. Before discussing the details and uses for each of these, there are several concepts you need to have a grasp on with this tool.

First and most important is to know that bombardment only affects players which you are at war with. Therefore, if a covert strike is what you are attempting, bombardment is probably not the best option. That is unless the targeted player is at war with many players, otherwise there is a short list of people that could be responsible. Agents would be advisable for covert strikes.

Another thing to note if you have not used bombardment before, this attack technique is more "area of effect" than it is "targeted destruction". The weapons fire will land within the targeted zone, at random, possibly affecting multiple buildings/units at the same time. This increases the chance that the falling weapons fire will strike something - the bigger the AoE, the better that chance!

However, as with every tactical decision, there are subtleties.Weapons must be placed under the bomb type in order to bombard. This means they will not fire at normal targets. So, while you may have a ship capable of cleaning the planet below, without the proper diversity or support, this ship could be easy prey to any other armed vessel.

Cease Fire simply does what it states. Press the button and firing stops.

Now you know what you can do with bombardment, but what can you do when an opponent uses bombardment against you? The simplest method of protection against bombardment is a planetary blockade above your planets with important assets. For starters, this prevents ships from being able to take up a bombardment position. Unfortunately, if the player doing the bombardment was not an enemy but hit your base, war is automatically declared and your blockade units will attack. This forces your now enemy to choose between a space fight or, if possible, a direct planet attack. A second, less obvious form of protection, is planetary defense guns. Alternatively, if you catch an enemy in the process of bombarding your assets, you can always send a welcoming party up to "greet" their ships. This could lead to a direct conflict or scare off the attackers completely as they may have been bombarding you because they feared to face you head on. The final method of protection is the iron curtain. If your offline invulnerability is engaged for that planet, bombardment will not affect anything there.

Bombarding is all fun and games until someone looses a base… Then it's a blast!
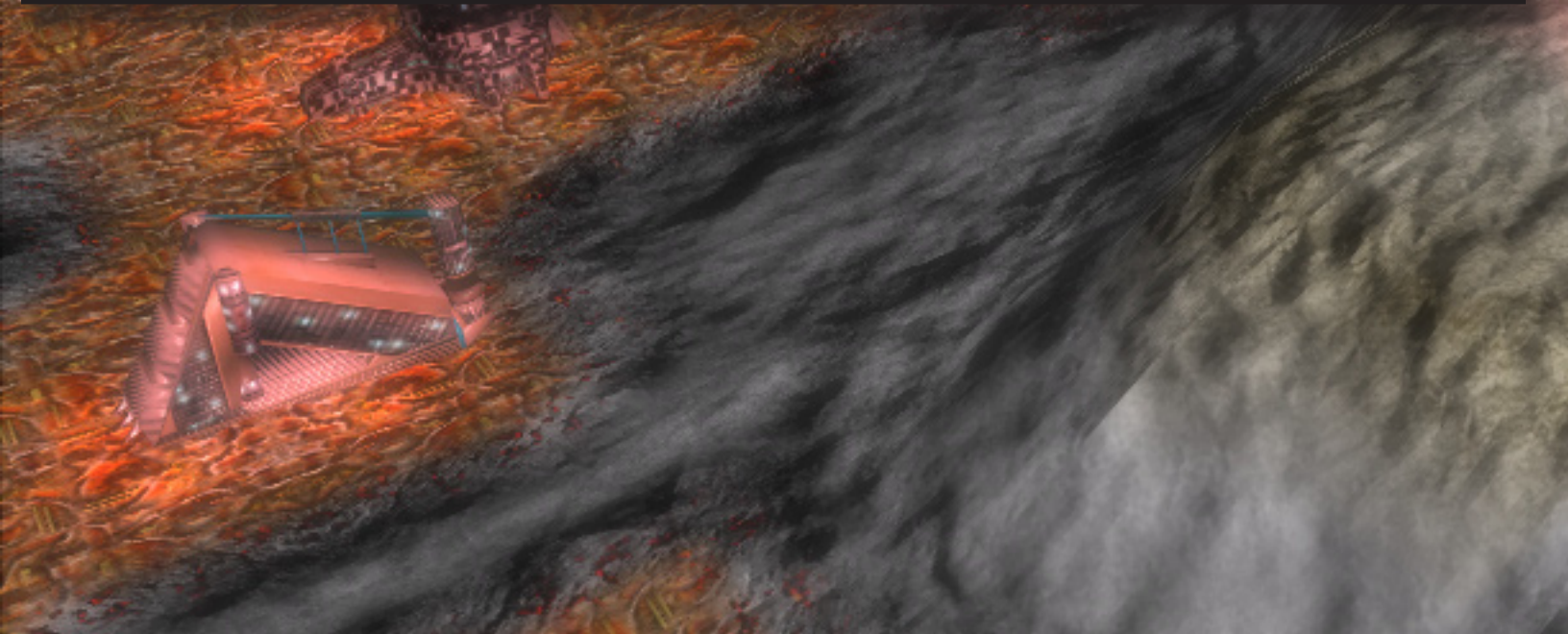
Blanket Fire
Blanket Fire covers an entire portion of the map. When on a tiny planet, this might as well be the entire planet. The weapons on bombarding ships fire at their normal rate with this option, but the damage is so spread out that it may not appear to be the same. This option has several purposes: to slowly damage an entire base at once, to panic or provoke the leaders) of the colony/colonies below, and to wreak havoc on infrastructure by destroying engineers and cargo trucks over a large area at random. In general, because of the extremely diluted nature of the weapons fire, it is not the most recommended option for destroying a planet based colony or fleet. It would only be time effective if many ships were used, each dealing large amounts of damage.

Normal Fire
Normal Fire concentrates the fire to a smaller area, but reduces the fire rate of the ships in orbit to 60% of their maximum amount. Therefore, if a unit normally fired once every 10 seconds, it would now fire once every 16.7 seconds. With a limited amount of ships and/or firepower, this method is much more capable of destroying buildings in a medium size area. It is also effective in hurting the infrastructure of one area of a map without disturbing another. If there are "friendlies" on the ground, that you would like to keep that way, this is probably a decent option.

Precision Fire
Precision Fire reduces the affected area, while considerably reducing the fire rate to forty percent of maximum. Or, if the same ten second rate of fire is used, it would now only fire once every twenty-five seconds. This offers a near pinpoint tool which can be used to take out strategic areas of interest without affecting the surroundings. If you have found the enemy command center, and just want to hit it to force negotiations, or if it is a small fleet you would rather not go down to the surface to fight, order down a precision fire. Remember, what falls to the planet is the same the ship normally uses, meaning if the weapon has enough AoE damage, it could possibly spread outside of the targeted zone. When done correctly and in conjunction with decent scouting, this option can be used to cripple your enemy while seeing little to no retaliation.
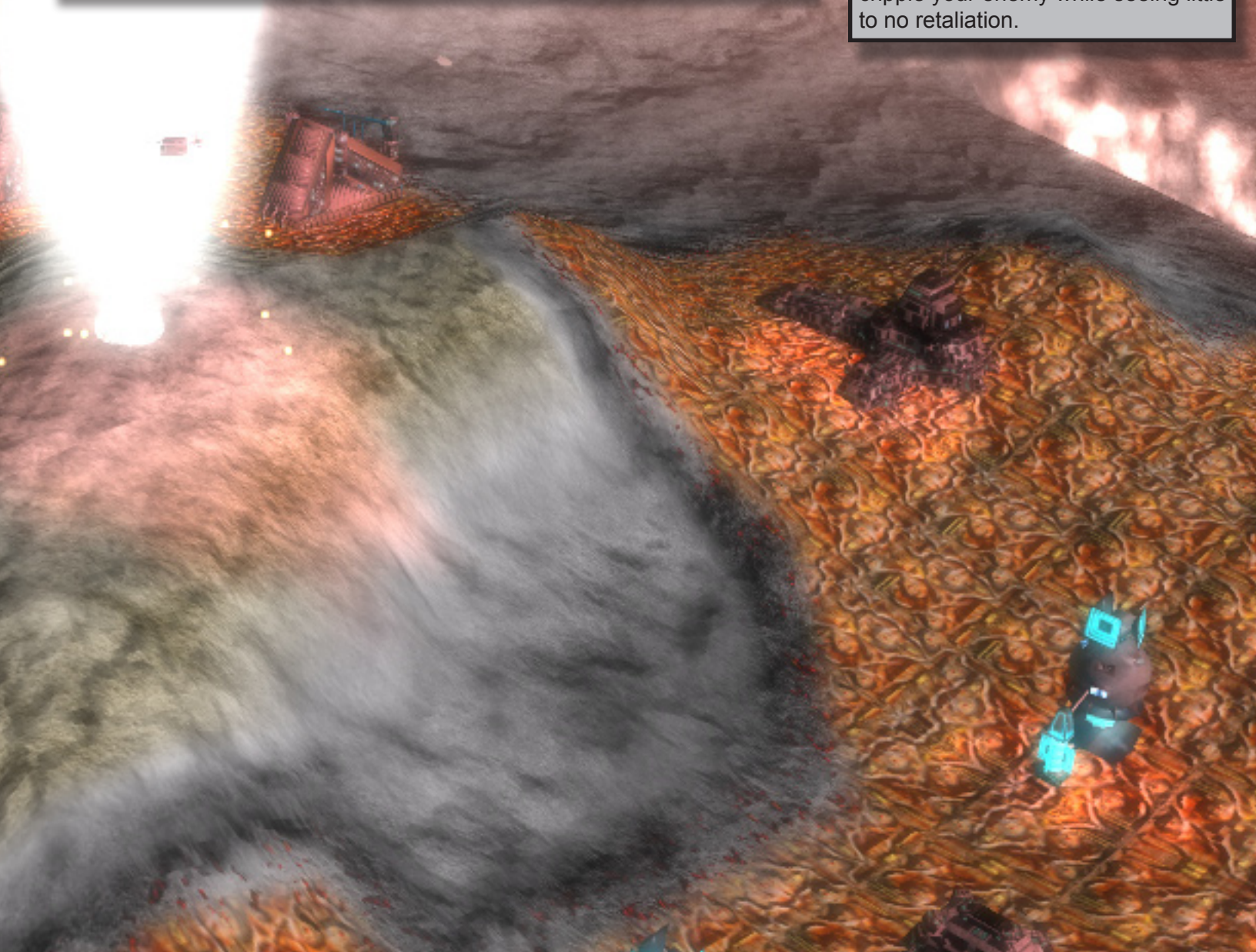
Escorts

The Escort and Corvette classes are the smaller of the fleet units. While their size may cause them to be overlooked, any leader who wants to fully capitalize on their fleet would be wise to take notice.

Escorts are quite a few times larger than Fighters, but much smaller than Corvettes. Their hull sizes range from 1,200 to 2,700. They are small enough to utilize almost as much maneuverability as a Fighter, but are large enough to carry weaponry that is more powerful. As their name implies, these units are often just the right size for escorting cargo routes or scouting parties. They are more than adequate when armed. An Escort with far-reaching radar, a large cargo bay and better-than-Fighter class weapons, can reduce overall Command Points by filling multiple roles at the same time.

You will find Escorts easy to build, requiring fewer resources and less research time than larger ships. They are small enough to be loaded into a carrier vessel in a fair enough quantity. While these vessels are meant to be maneuverable enough to outmaneuver larger weapon's fire they do not possess the staying power to take multiple direct hits from larger class ships. Ordinarily, the key to designing an effective Escort is to go heavy on speed and maneuverability, while including enough firepower and armor to tackle smaller units. If used against larger vessels, do not generally expect the Escort to be capable of doing much more than harassing the enemy.

Corvettes

Corvettes are a staple in any well-assembled fleet. They are the balance between armor, firepower, and maneuverability. While they possess a significant number of weapon mounts compared to other ships their size, they are also small enough to maintain maneuverability in sufficient quantity to respond quickly in dogfights or surprise attack situations. A typical Corvette design balances firepower and maneuverability while filling any free space with armor. They can take a considerable amount of fire from a Destroyer before yielding.

The greatest quality of the Corvette is that they are the largest class of combat ship capable of planet fall. While there are several frigates and transports not adversely affected by an atmosphere, they do not possess the sheer destructive potential of the Corvette class. However, the downside to any larger ship is its docking capability. Corvettes, and larger ships, require custom Star Ports and carriers with doors large enough to accommodate them – an important specification to keep in mind when designing/building a star port or space station. In addition, their size makes it difficult to amass many of these units in the same hangar, meaning that unless you have access to very large ships or you use a large hangar building, the Command Point cost of a Corvette fleet is difficult to reduce through docking.

Using Destroyers

The Destroyer class represents the space commander's smallest capital class ship. They are the best way to bulk up a fleet without investing huge amounts of minerals and time. The Destroyer is also a symbol of higher development, because it is only available to more advanced civilizations. However, utilizing the raw size of these ships, compared to beginning units, comes at a price.

Destroyers can range from 32,000 to 44,000 hull size. The engines for these ships can be somewhat mineral intensive, but compared to the rest of the capital ships, Destroyers are the most economic of them all. In general, the Destroyer engine should be rather high in power and rather low in maneuverability. Remember, you are designing a battle platform, not a sports car. There are several options for hulls in this class that include the all arc, allowing you to compensate for the Destroyer's low maneuverability by mounting appropriate weapons capable of neutralizing agile targets.

As you can guess by the name, Destroyers are meant to possess an awesome capability of destroying things! They are capable of mounting as many weapons as a planet side building, while having plenty of room left over for armor. They are therefore very dangerous when designed correctly. Taking advantage of these units has a price that is twofold. The first may already have been paid depending on your situation as an empire. In order to build vessels of this magnitude, you must first have a space station capable of building them, which can be a large undertaking in time, credits and resources itself. (Remember, when building a space station, inevitably, GNS will gain word of its approximate location). The second price to pay is that of being restricted to space combat. Destroyers, and all ships larger than this class, are so massive that they cannot function properly inside the gravitational field of a planet.

Besides their use as an attack vessel, Destroyers bring with them the size to function effectively as a carrier vessel. If you will be using them in this manner, it is advisable to choose a model with an all arc to minimize any defensive weaponry. Also be aware, as these ships cannot go planet side, any units within would first need to enter the space environment and then go down to the planet. Therefore, take appropriate precautions.

The last topic in this lesson is that of utilizing other mid-class hulls available to you. Frigates and transports fall in this category, as quite a few of them are larger than a Corvette. The frigates have a significantly reduced amount of weapon mounts versus Destroyers because of their intended use as auxiliary-only type vessels. In addition, they are smaller in overall hull size than a Destroyer is, so they will not match one head on. However, transports only posses a fraction of the weapon mounts found on a Destroyer. Frigates hold bombs—if used in battle at all, they should only be used strategically.

Obviously, both frigates and transports will serve you more effectively as carrier ships. The transport vessels are especially suited for this because they are the largest vessels capable of making planetfall, thereby allowing them to drop Tanks and other atmospheric-only units. Without regard for combat, a great deal of what has been said about Destroyers applies to frigates and transports. As they do not possess an affinity for maneuverability, their creation may be somewhat more expensive than that of a Corvette, and most of the larger models must be built in a space station.

Battle Stations

A Battle Station possesses two levels of defense. One as a carrier for a warrior fleet and the other for the weapons it can bring to a battle. To make them effective when carrying Fighters, they must be able to sortie quickly. I would recommend at least twenty small doors and one large one. The small doors main goal is to launch waves of twenty Fighters ships at a time and quickly.

As a gun ship, your power generator will determine the overall firepower possible for the station so make it a big one. Properly equipped a Battle Station can put out more firepower than any other unit in the universe. You will also want to put your best radar for this ship to ensure you have the best advantage for spotting the enemy. As for the guns, I would keep them mixed using some of everything available to you. If the enemy is strong against beam and all you have are beam weapons this fight will not go well for you.

Remember, while Fighters may not be able to destroy your station they can cripple it - keep a few anti-Fighter weapons on hand for them. Armor is one of the most expensive parts of your station. Both the mineral cost and the credit cost will be the highest of all the parts. Put as much armor on as you can to lengthen your ships life.

Battle Stations are the primary means of defending your vital positions in space. These behemoths are best used around wormholes, planets, and other important space stations like your trade station, a shipyard, or a mining station with large stockpiles of resources. The greatest asset to defending your empire can end up being a Battle Station if you manage to place it in the right spot.

The Battle Station hull in this game has a hull size of eleven million, making it the largest hull in the game. It can have the most structural hit points and the most hit points per arc. The biggest challenge you will face building a Battle Station is making a power generator large enough to power the largest guns. Another issue could be coming up with the minerals to armor it completely; it is very likely that you will not use up all the armor space available.
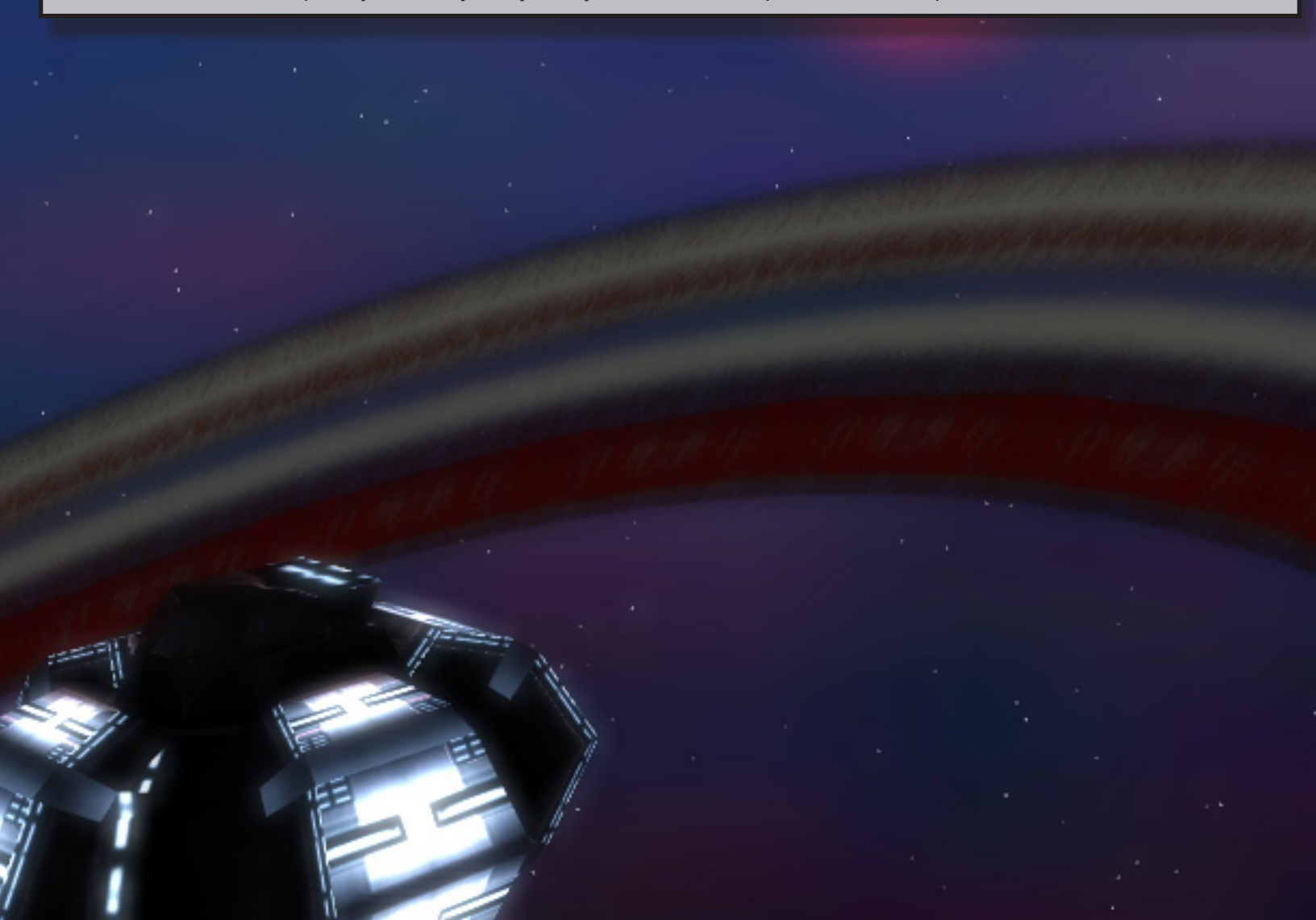
CHARTS

Weapon Damage Types

Weapon	Damage Type					
	Beam	**Pierce**	**Flame**	**Impact**	**Chemical**	**Magnetic**
Beam (Cutting)	Yes	Yes	No	No	No	No
Beam (Thermal)	Yes	No	Yes	No	No	No
Missile (Chemical)	No	No	No	Yes	Yes	No
Missile (Explosive)	No	No	Yes	Yes	No	No
Projectile (Explosive)	No	Yes	Yes	Yes	No	No
Projectile (Magnetic)	No	Yes	Yes	Yes	No	Yes
Pulse Beam	Yes	No	No	Yes	No	No

Radar Jamming Types

Jamming Type	Description
System Degradation	Reduces Visible Range and Detection Range by half
System Interference	Reduces PD Accuracy and Disruption Resistance by half
System Clutter	Reduces Weapon Accuracy by half
Anti-Jamming	Reduces Jamming Strength by half

Experience Levels

Icon	Rank	Bonus
○	Green	10 CP Used
●	Trained	+5 To-Hit Bonus, 9 CP Used
●●	Experienced	+8 To-Hit Bonus, 8 CP Used
●●●	Adept	+8 To-Hit Bonus, +1 Speed, 7 CP Used
●●●●	Veteran	+8 To-Hit Bonus, +1 Speed, +1 Maneuver, 6 CP Used
≫	Ace	+10 To-Hit Bonus, +1 Speed, +1 Maneuver, 5 CP Used
≫≫	Top Ace	+10 To-Hit Bonus, +1 Speed, +1 Maneuver, +5% Damage, 4 CP Used
●	Distinguished	+10 To-Hit Bonus, +3 Speed, +1 Maneuver, +5% Damage, 3 CP Used
☰	Revered	+10 To-Hit Bonus, +4 Speed, +2 Maneuver, +5% Damage, 2 CP Used
☰	Elite	+13 To-Hit Bonus, +5 Speed, +3 Maneuver, +10% Damage, 1 CP Used

BEYOND PROTOCOL

VI
RESEARCH

"Creativity follows its own rules."
~ Norma Cenva unpublished laboratory notes
(The Butlerian Jihad)

Building a Solid and Defendable Colony

Every colony needs jobs, residences, and power. However, colonies are most effective when specialized in a particular area of expertise. The three main types of colonies are Commerce, Research, and Population.

The Commerce Colony, also known as the 100k colony supports no more than one hundred thousand colonists. The primary purpose of constructing a colony like this is to produce tax revenue for your empire. The recipe for these colonies is simple, 100k jobs, 100k residences and enough power for both. Set the tax rate to 80% and let it stand for a day or two. It is possible to set the tax rate as high as 89%; however, this can be dangerous because any negative effect on moral can cause the loss of the colony. Remember, colonies go unprotected by invulnerability unless you set them and you can only have one at a time, therefore, it is wise to keep the costs of outlying colonies down and simply use them for income and harvesting. One last thing to know about the 100k colony is the job type that should be used when creating one. While factories are effective at bolstering income, they are not as efficient as research facilities. Presumably, researchers are paid more than factory workers are, so revenue is higher.

The second colony type is the long-term research colony. As the name implies, these colonies are intended to carry out your long-term research meaning special research and designs that take a significant amount of time to complete. With these colonies, you need a large population to sustain the many advanced research centers. The total population needed is determined by the number of projects you want to be able to run at the same time which in turn determines the number of research facilities you will need. Adding additional research facilities to a project will decrease research time however the decrease is not linear. The first research facility assigned to a job contributes all of its production capacity to the job; the second contributes half, the third a quarter, the fourth an eighth, and so on. It is common practice to put at least four facilities on a relatively long project. The drawback is that initiating the research on a new facility requires the full credits and minerals each time. Once the number of research facilities is determined, the total population can be calculated. When there are more jobs than colonists, the efficiency of every producing entity in that environment is decreased - the higher the gap, the larger the decrease. Therefore, to have your researches progress at their maximum rate, the population must equal to or exceed the available jobs. Using a tax rate of 0% for the colony will offer much better overall production.

Second, a large population supported mostly by factories will yield a higher intelligence. (The ratio of research jobs vs. factory jobs is inversely related to the intelligence. In other words, with a constant population, as the amount of research jobs decreases the intelligence goes up). Therefore, if this colony has a very large amount of factory jobs you can have more research centers without hurting your overall intelligence. Thus, the capitol colony becomes the place to create designs. A result of also having this colony as your production colony is that the most used resources in your empire are readily available for research.

Lastly, a large population gives your allowed death fund a boost as this number is based on the total amount of colonists in your empire. In order to maximize this death fund you will need multiple colonies of large size to increase your population enough to reach the cap without violating Building Point limits to a point that will put you into massive debt.

One common strategy, often adopted when using the beginning technology, is the mass build method. This strategy relies on sheer numbers of simple buildings to amass enough colony capacity to fit your needs. There are pros and cons to this strategy.

The first pro is the lack of required resources/components. The buildings available to you require only colonists, enlisted and officers to build, thus these colonies can be built just about anywhere. The second pro is the blanketing effect these bases often have on a planet. Large colonies made in this fashion reveal a large amount of the map and prevent other players from building there at the same time. On the other hand, the starter buildings are very easily dispatched. They have a relatively low amount of hit points and are easily destroyed by advanced technology. Not to mention the relative inefficiency associated with these buildings and the associated facility point limit. If you are not utilizing larger structures then you will not be able to attain the same population levels as those empires that are using more efficient and larger structures that rely on already mined minerals.

Beyond this initial strategy is that of designing new buildings. Ones with greater capacity and staying power that require recreating the actual hull of the building. This means two things: higher hit points and mineral cost. Beginning buildings have severely limited hit points but use no minerals when being constructed, therefore if you start using minerals to build your buildings, the structural integrity of those buildings increases significantly.

One thing to know when designing a prototype is how power works with buildings. When designing a building the power generated does not need to be more than that of the power used. Extra power goes into the colonies grid. A building with no power generated inside of it, will pull from the grid.

You can place a small generator in your buildings or use a few large power generators in power facilities to supply your entire base. You can place several guns on every building, or concentrate your defenses by fully arming several key buildings. You can build near coastlines so that the large naval vessels can protect your colony and serve as a mobile ground defense, or you can focus your efforts in the mountains leaving tanks unable to assault you. The enemy wants what you have and unless you want them to have it, you need to put up a good defense. From ancient civilizations to modern societies, defense of the empire has always been the highest priority.

A smart attacker will find key areas to destroy and let your population find a reason to leave on their own. So don't put all of the same buildings in the same area. Put a certain number of power generators, housing, factories, and spaceports in each sector. This way, if one sector is destroyed, the others can take up the slack. It's also important to realize that once you lose your command center and all your residential facilities that it's game over for your colony. While smart opponents would rather leave your colony to die a slow and unemployed death to attempt to paralyze your economy, there are those who prefer to just quickly eliminate your colony through ruthless destruction of its populace. Keeping that in mind make sure to give special attention to your residential structures as without them your colony will be gone in an instant.

Now that we have our colony sectors built correctly, it is time to concentrate on planetary defenses. To begin, design and build a variety of turrets around each sector. If you build just one type of turret, they may be able to nullify it by matching the correct armor to yor damage type, or by matching their shield to your DPS.

Next, when you are redesigning your buildings, arm everything. Put a weapon or two on each arc of the structure utilizing point defenses and your best point defense radar on everything you redesign. The point defense weapons will handle most of the missiles coming in to hit the building, tailor your armor for the buildings to resist some of the other damage types seen such as magnetic, impact, and beam damage. Also, consider using your turrets as jammers. If the Enemy cannot use their radar to lock targets, and you are able to target them, you are already ahead in the battle. Every building is capable of having a hangar. Design a building with a hangar door large enough to launch some ships into battle. When placing the facility, open the orders and set the Launch Children order so that if that facility comes under attack, it will launch the ships it has to defend the structure. The AI will automatically return those units back to the structure when combat ceases. The defense planner needs to have a reserve of offensive ships to be able to come to the rescue and stop the siege. Your hope lies in forcing the enemy to come to the surface and continue the attack or move the fleet out of orbit.

Building A Warehouse and Power Generator

The beginning power generator only produces two thousand units of power, has only fifteen thousand hit points, and has two hundred hit points in armor with fifty on each arc. While the beginning power generator takes no materials to build, is fairly cheap, and can be built on a brand new colony right from the start, they are weak and do not produce much in the way of power. You can build much bigger power generating engines and at the same time do more with your power generator hull. By optimizing your design to fill multiple purposes you will make wise use of your build space by constructing a multi-purpose power generator.

To start, go to the hull designer and find the power generator hull. Now make a power generator that will double as a warehouse. The warehouse hull only allows for one hundred and thirty thousand hull space while the power generator hull allows for two hundred thousand. This makes it easier to get more hit points. Put in two hundred thousand for the hull and hit points. Your next decision is which mineral you will use. Since you will probably build many of these power generators, it would be best if you used an easily made alloy with high hardness that will make your design cheaper.

Put in enough space to house whatever power generator you want to use. To begin, using the simple Beginning Power Generator will yield a great result (2000 power x 300% = 6000 power). Once you have created space for the engine, you add cargo space. This lets you store components and minerals inside your power generator and acts like a warehouse. Do not forget to use armor. You can use beginning armor and upgrade to resist armor later. Complete the research and you now have two buildings in one.

Using Multiple Research Facilities

What do you do when you have multiple research missions that need to be done and another colony might not be able to handle the job? Build more research centers of course. However, if it were that simple there would not need to be a section in this guide to talk about it.

Beyond Protocol allows for multiple research centers and allows them to do multiple researches simultaneously. This has great potential when you need a job rushed, and do not have time to wait for things like hot combat zones to get results.

Let's go through a sample of how to breakdown the time reduction vs. costs. The research you need done costs 100 credits and if done by one facility will take five days. It imperative research and you really would like to cut down your wait time. Here is one choice you could make… add the research to five facilities – remember you have to pay the 100 credits to each facility you add to the research. For this example, your cost will be 500 credits. Research costs also involve minerals as well. If this research cost 500 copper in minerals, each time you added it to a facility 500 copper was deducted from your available resources. Obviously, this can get expensive depending on the research you are trying to accomplish, however the money spent might save you precious time.

Here is another consideration to take into account in analyzing your options. If you put your research in one facility, it takes the entire predicted time for the research to take place. However, with the power of using multiple facilities you can shorten the process. One facility by itself runs at only 50% of its full capabilities. When you attach a second facility onto the research it runs 50%, however, it raises the first facility to 100% output. Your time of completion has now dropped to five two and a half days instead of the original ten. After the second facility is added the percentage of time reduction decreases by half, in other words a third facility added would cut 25% more off the completion time, a fourth cuts 12.5% and so forth. This reduction can also be boosted by several other factors such as better research facilities that produce more points, factions and guilds, which will be discussed later.

Research Facilities

Your mineral sector is where all your minerals are discovered. As time goes on you will get special promotions for this sector which will allow you to hire more geologists. Next to the mineral branch is the alloy sector. This sector works closely with the factories and refineries of your colony to help create and manufacture fusions of minerals. As time goes on, this sector will get technology advancements that will allow better fusions to occur.

The engine sector is where all of your engines, both structural and unit power, are designed. As technology becomes available, this sector will be able to increase the power output for structural and increase the speed, maneuver and thrust capabilities of your units. The shield development sector and the hull design sector, as well as the engine sector, talk with each other constantly to keep up to date on the latest advancements.

The shield sector at times may get ahead of the engine or hull sector, so don't give up hope if a breakthrough occurs and you cannot yet implement it. It should be noted that the hull and prototype sectors of the research facility are in constant communication with not only each other but with the rest of the sectors. They are the supplier of all of the designs and physical models.

The weapon sector, is the largest sector of the research facility. The advancements offered might be determined by what type of weapons you have called for most often. Radar and navigation systems are probably the hardest to advance in terms of fine-tuning due to the many variations of radar.

Now that we have discussed the different sectors of the research facility, let's focus on how intelligence works. You may have noticed on your colony window (F6) an entry that says Intelligence. You may be wondering why your intelligence goes up or down when research facilities are added or turned off. The reason is because not every colonist has the ability to be a researcher.

If you have an abundance of jobs for research, the research facilities will acquire whatever talent they can until they have enough warm bodies doing the work of the facility. If the research facility hires too many people, they will be required to lower their standards because the supply of the smartest people is finite. This is how intelligence is actually calculated. To counter this you need to offset and introduce a separation effect – namely build factories or other job supporting facilities to help sort out your rocket scientists, while sending your unqualified population to other various jobs. Your base intelligence starts at 100 and will max out at 160. The goal is to provide enough "normal" jobs so scientists, and only scientists, can be introduced into the facilities. This is hampered when numerous research facilities are added at one given time. However, by doing this you may increase the speed of the research, which was discussed in an earlier section. Also you can raise your starting intelligence potentially by redesigning a new research facility.

Naming Conventions

As you research, you will find that while your first design was good you will probably come up with a better one. For this purpose, it is very important that you employ and keep an orderly naming system.

A personal favorite is numbering the versions in one of many of fashions. Using your initials with sequential numbers (i.e. Mk1, Mk2, and Mk3) is one or basic numbering (1, 2, 3, and so on). If you decide to use full blown names keep them to ones you will be able to recognize and that are descriptive. If you see "Power Gen 10K Mk2", you can be fairly sure this is an engine used to generate ten thousand power by MK, version 2. Remember, it is never a good idea to use the exact same name twice. While this tactic is great for fooling the enemy spies it will also confuse you.

As you move on to your better designs, it's a good idea to archive the old ones. Renaming the files in a common manner will keep your list clean and easier to navigate – for example: "old_Power Gen 10K Mk2". This also enables you to resurrect old designs if you find you have a need for them.

Building Ships

It is hard to rely on only one arc in your designs and still maintain armor to protect precious components, such as engines. Still, placing a component across multiple arcs is not advised due to the increased chance that the component will be destroyed. For those times when it is necessary due to the size of your components, ensure every arc has a balanced armor distribution. However, if you have good maneuverability this may not be necessary.

To demonstrate, let us say you have a Cruiser with a hull size of 100,000. Your engine for this ship is 26,000. If you were to put this engine in the rear arc, you might be able to get 1,000 plates worth of armor on this arc - which sounds great until you realize you can get 5,000 plates on every other arc. Once the enemy realizes your rear is weak, they will focus on it until your ship is out of commission. Now take that same ship and spread the engine out across the left and right arcs. By doing this we can give the rear more armor and only minimally reduce the protection on the side arcs.

The more arcs you have with that same component, the more likely it is to be damaged. If you have it in one arc the chance is one in four should the armor be wiped out. If you have the component in two arcs the chances are raised to two in four. This process continues until you have all four arcs filled. It is advised never to stretch anything to more than three arcs unless it just cannot be fitted otherwise. If all four arcs are required, you should adjust your design for better efficiency.

Tip

If you set your hit points to be twenty-five percent over the hull size, your design will be about a one-day research. A one-day research is not as long as it sounds if you maximize your research ability paying to use multiple facilities. Hit points of thirty percent will put you around three days, thirty-five around seven, and forty percent puts you at about seventeen days. Any larger number will really start to drive up costs and research times. Depending on the size of your hull, the twenty-five percent more hit points will multiply your cost in credits by about three with the smallest of ships and around forty with the largest of ships.

Tip

There is a section in the appendix of this guide with design worksheets to help you keep track of your design as you create it. Also, there is an in game notepad which you can use to write down your stats.

Design Check List

1. Choose a ship type you wish to design

2. Open the engine builder and select the ship type you have chosen and record the default power given for that ship type

3. Close the engine designer

4. During the following steps keep this power in mind as all components will need to take about this amount of power total

5. Design a radar for the ship type you have selected

6. Record the power and hull required for the radar

7. Design a weapon for the ship type you have selected

8. Record the power and hull required for the weapon

9. Repeat step 7 and 8 until you have all the weapons you disire for your ship

10. Optional: Design a shield for the ship type you have selected

11. Note: Shields take lots of power, the shield is not always possible to fit on your design.

12. Design an armor with 10 hit points per plate and 150 total resitances. Any resistances you wish are ok.

13. Sum Hull of all components (Ensure you add the weapon hull cost multiple times if you intend to add more than one to the hull)

14. Find a hull of the right class with greater hull than the number you got in step 12 Remember the maximum hull allowance for that hull.

15. Sum power requirements of all components (Ensure you add the weapon hull cost multiple times if you intend to add more than one to the hull)

16. Open the engine designer

17. Select the class of ship you wish to make in the type dropdown

18. Enter the number from step 13 as the thrust

19. Enter the number from step 14 as the power generated

20. The rest of the engine options are your choice, whatever you can get to work.

21. Complete the design of the engine

22. Make a hull with enough hull allocated for each component you wish to add.

23. Make a prototype using all the components you designed.

ESCORT

Strong Vs	Fighters, Frigates
Weak Vs	Destroyers, Cruisers, Battlecruisers, Battleships
Cost	Low
Production Time	Low
Speed	Fast
Maneuverability	Medium
Non - Combat	Scout, Early resource transport
Notes	For a starter fleet these are a wise choice. They are cheaper both in time and resources to build compared to Corvettes. Additonally, they have a longer life span then fighters.

CORVETTE

Strong Vs	Colonies
Weak Vs	Cruisers, Battlecruisers, Battleships
Cost	Medium
Production Time	Medium
Speed	Average
Maneuverability	Medium
Non - Combat	Early resource transport, Light carrier
Notes	What they lack in speed they make up for in firepower capability. These will be the backbone of your fleet in terms of planetside raiding.

FRIGATES

Strong Vs	Colonies
Weak Vs	Escorts, Cruisers, Battlecruisers, Battleships
Cost	Medium
Production Time	Medium
Speed	Average
Maneuverability	Medium
Non - Combat	Intrastellar resource transport
Notes	The only ship that can bombard colonies using either bombs or lasers. Death from above never held so true. Just ensure you have back up.

DESTROYER

Strong Vs	Escorts
Weak Vs	Battlecruisers, Battleships
Cost	Medium
Production Time	High
Speed	Average
Maneuverability	Low
Non - Combat	Intrasystem resource transport, Light Carrier
Notes	Destroyers are the first completely non atmospheric additions to your fleet. They are also the first ship recommended for sniper style weapon usage.

CRUISER

Strong Vs	Escorts, Corvettes, Frigates,
Weak Vs	Battlecruisers, Battleships
Cost	High
Production Time	High
Speed	Average
Maneuverability	Low
Non - Combat	Intrasystem resource transport, Carrier
Notes	While Destroyers start out being the backbone of your space only fleets, the Cruiser will be your choice for the long haul. This is also the first class of ship that you can start to make a good carrier fleet out of. Class may also be used to create Medium Sniper Weapons.

BATTLECRUISER

Strong Vs	Escorts, Corvettes, Frigates, Destroyers, Cruisers
Weak Vs	Fighters
Cost	High
Production Time	High
Speed	Slow
Maneuverability	Low
Non - Combat	Intrasystem resource transport, Heavy Carrier
Notes	First stage to truly showing your empires resources and military might. Class may be used to create Heavy Sniper Weapons.

BATTLESHIPS

Strong Vs	Escorts, Corvettes, Frigates, Destroyers, Cruisers
Weak Vs	Fighters
Cost	Very High
Production Time	Very High
Speed	Slow
Maneuverability	Low
Non - Combat	Super Carrier, Super Transport
Notes	These are an ultimate show of your empire's might. These behemoths cost huge amounts of resources and time for development. Furthermore, they can carry up to Corvette class ships in their massive hangars. In addition they can be equipped with Omega Sniper Weapons.
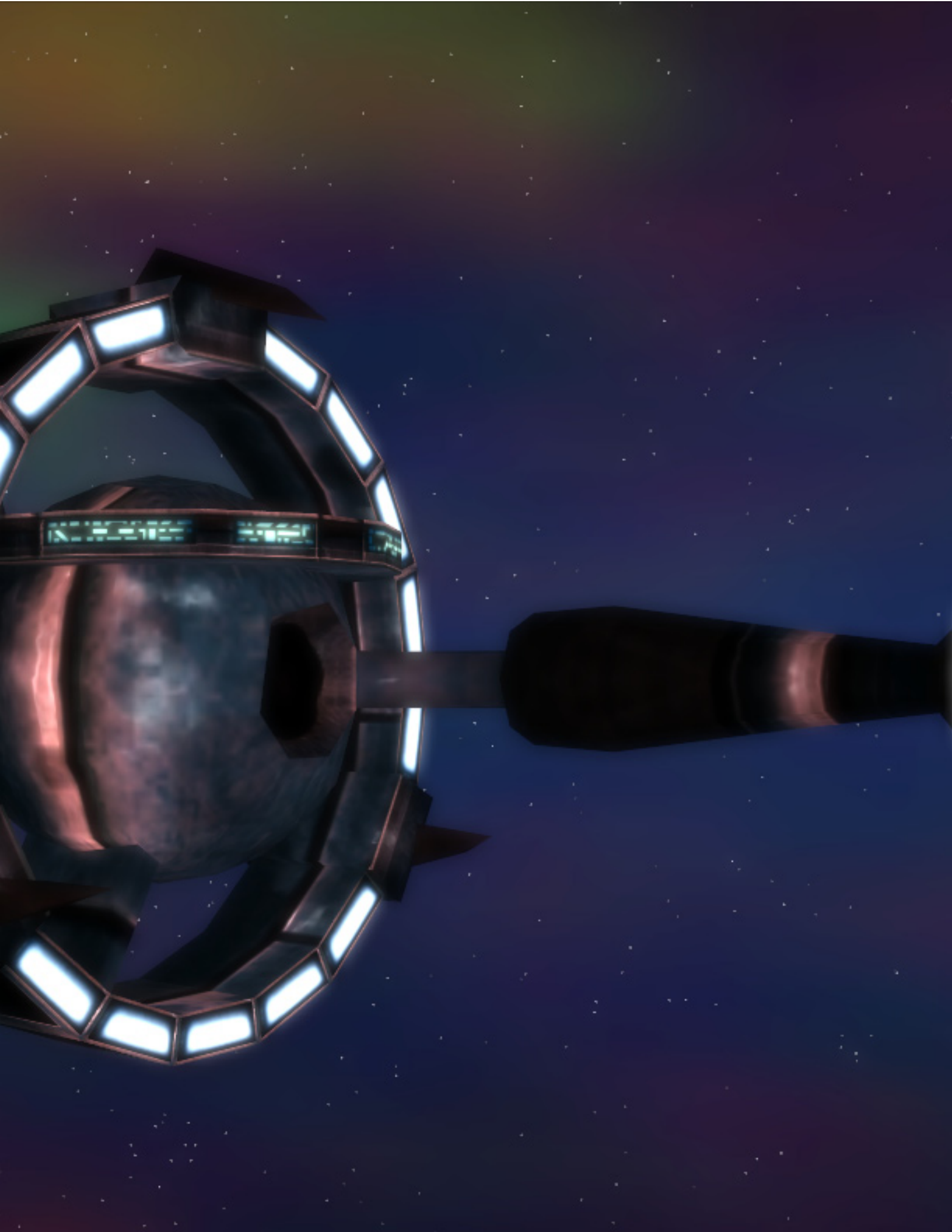
Building Your First Space Station

Space stations can be built in a variety of ways, they are essentially colonies which you build in space. Once built, each space station can create modules, there is a module equivalent of most planetary facilities (see chart below). space stations can be specialized to do anything a colony can, but remember each space station takes 50 facility points.

When designing a space station it is important to remember that they are meant to be investments, which also makes them strategic targets. You require a space-engineer and cargo ships in a battlegroup carrying all the materials you will need to build the station, including components and minerals.

While designing the station, keep in mind that any weapons you plan to add, along with storage and even hangar space, will require a certain amount of power. Your ability to supply power greatly impacts how large of a station you choose or what capabilities you will implement. It may be necessary to upgrade your power engines for the first time or simply get a little more from them to meet your stations' requirements. Power for the stations buildable components, such as facilities, does not have to be taken into account as you can build power plants once the structure is finalized. Remember however, that if you use the power module, it counts towards the module count for the station.

Once your power requirements are under control, you need to decide if you want to add radar to your space station. It is not necessary, but doing so will give you several advantages. For instance, you will be able to add weapons to help prevent the loss of a colony or damage from invasion. You would also be able to use the station for scouting, making it an early detection system.

Your Space Station will have hanger space and bay doors – how many depends on what you plan to do with the station upon completion. Some hangar space and at least one bay door are required to allow the construction crew ample access for building now and repairs later. For most space stations, you will need at least a bay door and hangar size of between 500 and 700, depending on your engineer. If you are planning to set up a trade system using this station, it is wise to have many doors and large hanger bays to accommodate the numerous ships with which you will be dealing.

You can add cargo to your station if you like. While cargo does take power to keep operational, its uses are sometimes necessary. Cargo space can be added to a station to act as a storage center or aid in the production of new fleet additions. Also, you can carry spare parts in your cargo bays for quick fixes without the risk of additional loss.
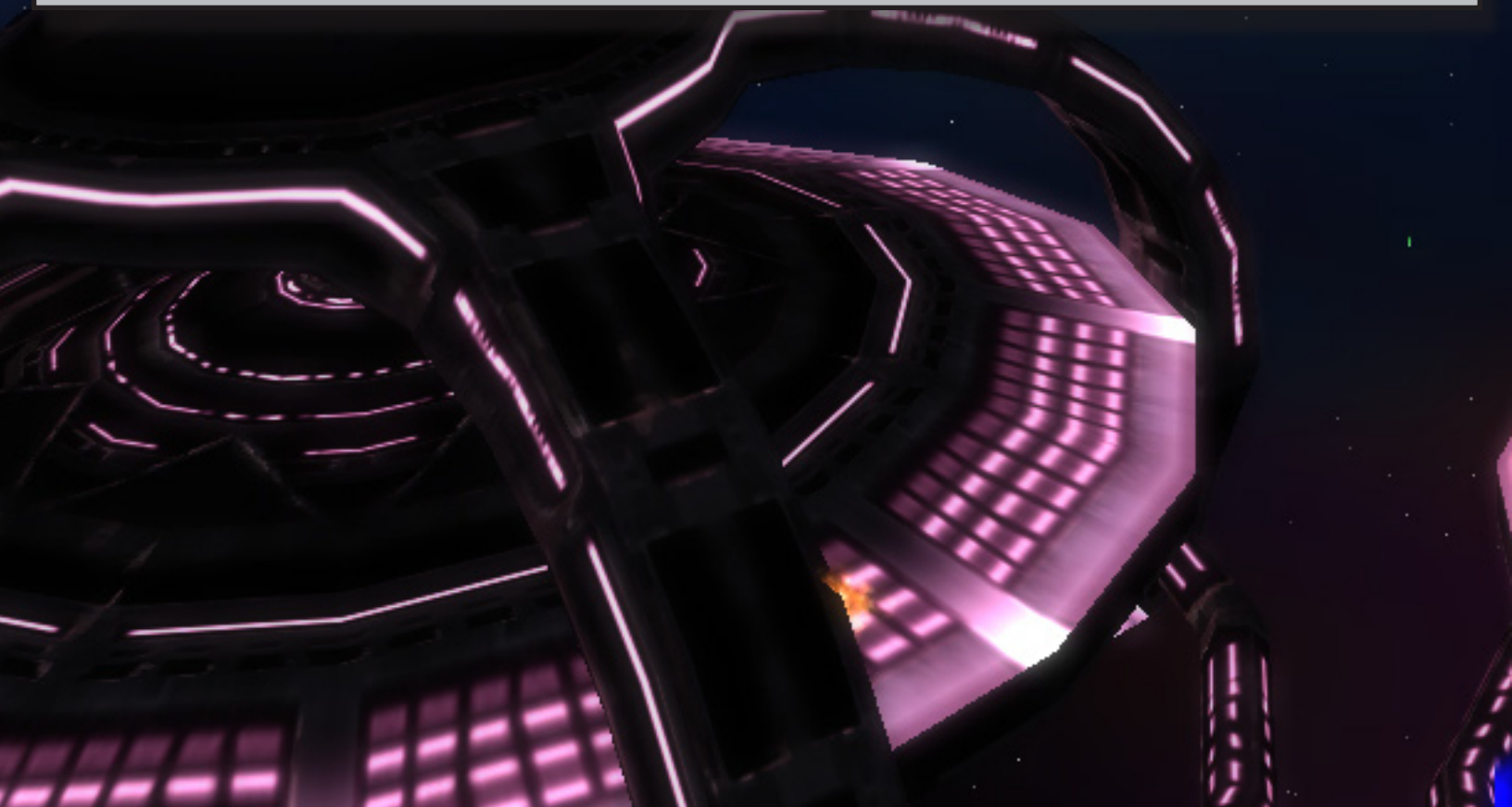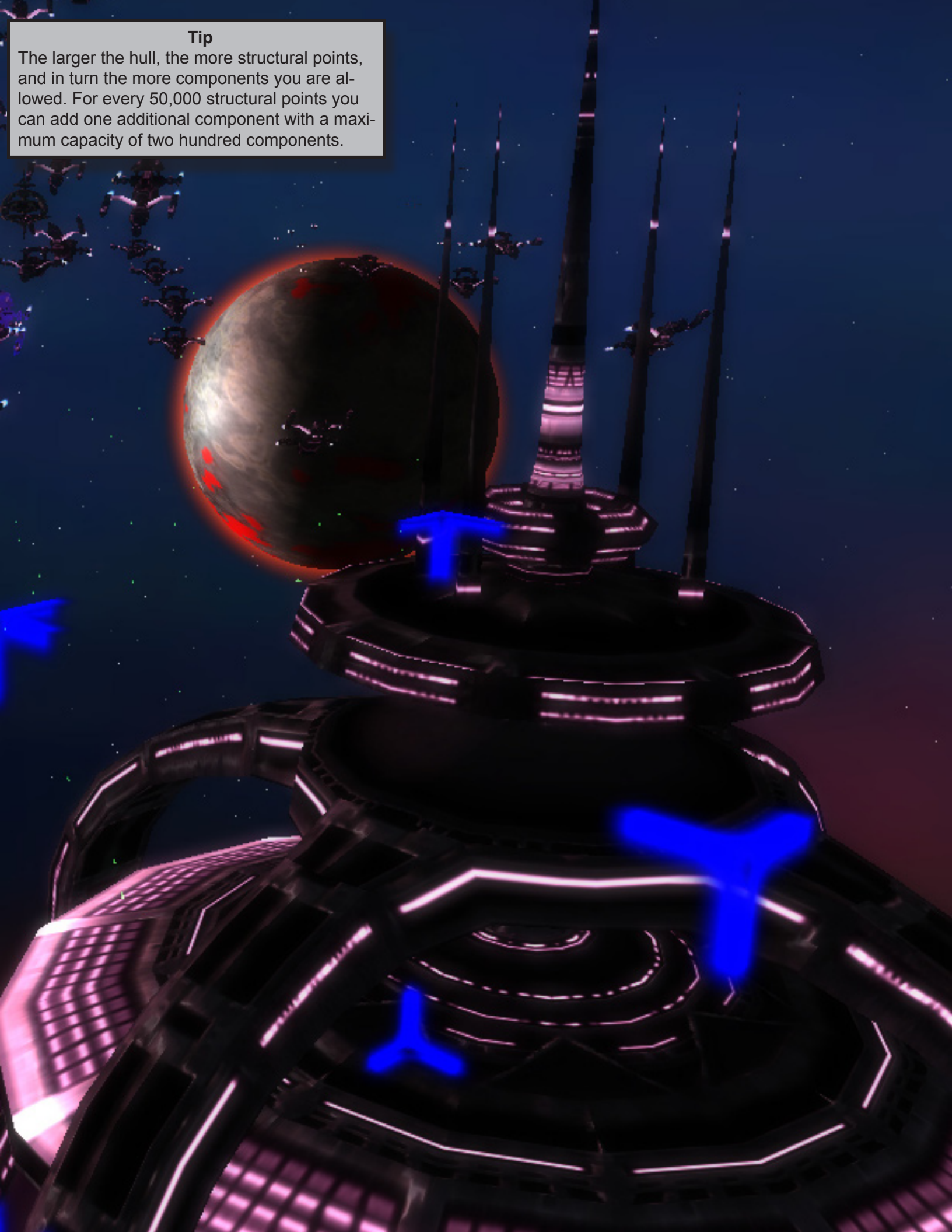
Utilization of All-Arcs

The all arc on a ship is represented by the yellow tiles on the hull builder, and are often placed in the center of a ship's layout. This arc, not found on all ships, gives models with an all arc a unique role in a fleet. A weapon placed on this arc, is capable of firing in any direction, while the other arcs are limited to about ninety degrees of firing rotation. However, to achieve multidirectional fire, it is necessary that the weapons assigned here are contained entirely inside the all arc. It is impossible to place a weapon partly in the all arc and partly in another arc and retain this capability. The disadvantage of the all arc is the small size when compared to the rest of the ship, meaning this portion of a hull needs special consideration when drawing up new designs.

The main purpose of the all arc is to track fast moving objects which the ship itself cannot out maneuver. A weapon capable of tracking such a fast object must in general be smaller and thus more mobile. For maximum effectiveness it is recommended to design a smaller weapon to accommodate the specific slot you wish to use. Whether you fit one or multiple weapons on that area is a matter of strategy. A single weapon that deals large amounts of damage in every hit is effective against larger ships but against Fighters and missiles it could be a waste of damage per second - several lower damage weapons are more effective in that case. If Fighters or missiles are your problem, "Area of Effect" (AoE) on the all arc is the way to go. Bear in mind that AoE damages everything inside that area, even your own units. This can be harmful to a friendly fleet, or even a lone ship, so the key is moderation. Used correctly, AoE can bring down entire squadrons of Fighters or waves of missiles at once.

A second use for the all arc comes to light when equipping fast and maneuverable ships which normally do not have the proper arc facing the enemy long enough to use it. These include Fighters, Escorts and some Corvettes. Several frigates would qualify, but the entire frigate class is completely without the all arc feature. When placing the main gun on the all arc of a ship, chances are the overall power output of the engine will be low while the maneuverability will be high. In general, there will also be more room for shields or armor and either is a plus. As for strategy, in this case it is best to use these ships on a target without an all arc, then strafing the target while avoiding the side that fires back the most!

All arcs are useful, but they are not what makes or breaks a ship. Use them with respect and your pilots will thank you.

Design Rules

Research Result	Definition
Production Cost cannot be less than one hundredth of the Research Cost	The Production Cost is too low. (Raise Production Cost or Lower Research Cost)
Research Cost cannot be less than one hundredth of the Production Cost	The Research Cost is too low. (Raise Research Cost or Low Production Cost)
Production Time cannot be less than one thousandth of the Research Time	The Production Time is too low. (Raise Production Time or Lower Research Time)
Research Time cannot be less than one thousandth of the Production Time	The Research Time is too low. (Raise Research Time or Lower Production Time)
The sum of the Mineral values can not be less than the Hull value	We need minerals to make this thing as large as the hull requirements specify. (Raise Minerals or Lower Hull)
Hull percentage + Power percentage must exceed 10%	Unable to produce this design with the hull and power constraints placed on them. (Raise Hull or Power Required)
Hull percentage + sum of Mineral percentages must exceed 15%	The hull size and minerals are insufficient to fit all of the capabilities we need from this component. (Raise Hull or Minerals)
Research Time percentage + Production Time percentage must exceed 10%	Our scientists cannot get the design completed with the specified time constraints. (Increase Production or Research Time)
Research Time percentage + Production Time percentage cannot exceed 90%	The time it will take to do this is not going to serve us well. We need to reduce some of these times.
Research Cost percentage + Production Cost percentage can not be less than 5%	The budgetary limitations make this design impossible. (Raise Production or Research Cost)
Research Cost percentage + Production Cost percentage can not be greater than 50%	Our budget analysis is showing that the empire accountants are not going to be happy with this result. (Lower Costs)
Hull value must equal or exceed the sum of Colonists, Enlisted and Officers	All these people for such a small component. Let's get rid of some of these people. (Reduce Crew)
Enlsited + Officers must exceed or equal Colonists	We are not building a family cruise vessel. We need more qualified personnel. (Raise Enlisted/Officers or Reduce Colonists)
Enlisted cannot exceed Officers x 5	Not having enough officers will make the enlisted unruly. (Raise Officers or Reduce Enlisted)
The Hull used by the sum of Colonists, Enlisted and Officers cannot exceed the Hull value of the design*	We are wasting far too much space on the crew given the hull required for this component. (Reduce Crew or Raise Hull)
No individual percentage can exceed 80%	All of your scientists have a look of disbelief on their face as they gaze upon a seemingly insane ruler.
The quantity of any one mineral can not be less than 15% of the sum of all the minerals used	Unable to get the Structural Body that low.
Locked values can not be 0 except the Crew values for escorts, fighters and tanks	Your scientists cannot reduce the XXXX that low.
At least one cost-based property MUST be unlocked	This design is impossible to comprehend. Your scientists must use costs somewhere.
Sum of all percentages cannot exceed 100%	Total of all percentages cannot exceed 100%. Reduce some cost-related values to balance out.
*Hull per personnel is determined by special techs. This rule does not apply to tanks, fighters and small vehicles.	

Shields

If you are able to find shields, they are usually worth the price. Remember, shields are very difficult to make and so usually very pricey - even for something that seems small. This only becomes truer as you search for increasing projection sizes.

"Buyer Beware", as cheap shields may be cheap for a reason. It could possibly go back to the noise that certain components produce so keep this in mind when buying or selling. It may seem like a good deal because of the shield attributes, but when you view the power consumption and hull usage, you may want to think twice.

The techie or crafter may be sought out in the end, but if you need quick shields, the scavenger is your best friend at times. The wholesaler can be as well but be cautious when buying from them.

Weapons

Weapons are the bread and butter of any empire… whether for defense or for assaults, you have to have weapons. While your best deal assortments will be found with the scavengers, remember quantities are a problem for this type of trader. However, in combination with a crafter you may end up with a dream deal. The techie will excel at high powered and high cost weapons, whereas the wholesaler will build mass assortments of weapons that may not deliver a head shot blow, but will at least deter an invasion force. Weapon shopping is very tedious if you're trying to get the most for your money. There are so many types focusing on ones that fit both your budget and your level of need. For example: solid beam lasers will never come cheap, however, their fear inducing properties can make them worth it.

Weapons combine everything talked about so far. You will see a large variety of weapons as you see in engines. You will be looking for the difficulty of a shield, the variables of armor, and the price fluctuation of radar. If you are looking for machine gun like projectiles, you will probably find these to be the cheapest. However, be weary of the tiny catches that may be thrown in such as power consumption or hull consumption. These types of weapons should not be huge for any reason. When looking for missiles, you must be wary about detonation times and longevity.

Engines

Engines are used by everything in the universe - whether a structure or unit. Engine size can range from a light Fighter all the way up to the biggest colony power planet. Thus, values are set depending on which style you find. When looking for an engine you must keep in mind what you want to do with it and how many you may need.

This is true for all components of course, however, with engines the quantities are slightly more life and death. The traders will know this and so price will be an issue here. As you would expect, the more awesome the engine is, then the higher the price. "Awesome" to most players would be 50,000 power generators, especially if you can find them in bulk.

Taking this mentality a step further, an engine that costs 10 billion and is only for a fighter may seem like crap to some, but awesome to others. Since power engines are more coveted, they will tend to be higher priced than vehicle engines. As the size of the unit increases, this generalization will vary.

Repair

Units can be repaired, however you should use discretion deciding which ones, and when this is cost effective for you and when it is better to dismantle the unit and salvage the parts.

In general, a green unit will probably cost more to repair than to rebuild, as they are the basic starter units. Engines can be repaired at no cost to you so you should consider this when possible. Elite units that you have spent time and money researching and building could be worth repairing back to full strength.

You can repair all the armor arcs and any missing components or broken doors on your units but you cannot repair facilities. Repairing armor arcs requires the plates to be available in your colony and costs many credits. Repairing the structural integrity takes some of the same mineral that was required to make the hull as well as credits. Repairing any components requires that component to be in your colony somewhere.

For big battleships, it is advised to make a small hangar onboard. Here you can store a space engineer just in case you need one to come out and repair an engine after a battle. If you have cargo ships loaded with replacement components and minerals hidden away in a far off system where you are fighting, you could send that same engineer down to a planet, pop up a little base, repair your units or build new ones, and continue with your fighting.

Radar

While not as essential as engines, these components are important. The number of different prices equals the number of different variations of radar. When buying radar, keep in mind the jamming effect -the radar is more pricey than normal types. The same goes for the resolution style radar, simply due to the work involved in manufacturing a good one. In the end, radar is usually worth the price paid, but you should bargain hunt before making a final decision.

Armor

Armor is useful and is a moneymaker for the wholesaler. Armor is in high demand, just like engines, however it can be produced very quickly and in large quantities if necessary. When looking for good armor to buy look at the details carefully – again, there may be a reason it is so cheap or in such a large quantity. When a unit or structure fails, it's usually the armor that's the first to go.

SP wholesalers (and scavengers alike in some cases) love to sell in bulk. Keep in mind, just because it has high resistances or hit points, does not mean it is a good piece of armor. The techies or crafters are good traders to look for when shopping for armor, but you may be shocked by the prices at times.

PROJECTILE WEAPONS

Projectiles have smaller power requirements and are cheaper than comparable beam and pulse beam weapons and also do not rely on special research for their damage output. The only unlockable abilities for projectile weaponry are different damage types, larger explosion radius, and longer range. Projectiles have seven fields you can manipulate and five material slots. You are also able to change the color of the projectiles to red, yellow, gray, white, or orange.

The cartridge size is used to determine the damage of your gun. Increasing the cartridge size will affect the overall stats of the gun. The bigger the gun gets the more hull, power, complexity, cost, and personnel it will take to make one. **There are certain break points in designing projectiles that cause the numbers to jump up** between one number and the next and we will discuss those later on. The third field that can be manipulated is the pierce ratio which determines the shape of your bullet and splits the damage between impact and pierce. The higher the pierce ratio the more pointed the projectile which gives it more piercing damage and less impact damage. When making an all-purpose projectile try to keep this at fifty to split the overall damage between the two damage types. This allows for any armor that might have high resist for one and little or no resist for the other.

The fourth field is the rate of fire and that determines how often the gun will shoot. Right from the start the highest rate of fire for a projectile is half a second. **Having the lowest rate of fire on a weapon means you will do almost continuous damage and have more chances to score critical hits**. The lowest rate of fire possible which is one thousand and ninety two seconds means you can do more damage because the weapons production numbers are derived from damage per second. The fifth field is the maximum range and starting off you will have a maximum of fifty. Range does not change too much on your weapon and it is always nice to have a longer range weapon.

The next two fields work hand in hand, the payload and explosion radius. Projectile weapons can end up with three different damage types on one weapon which makes them really good to have against opponents with resistance armor. The first and only payload type you have in the beginning is the explosive payload which adds flame damage to the gun. Once you have a payload type selected you can change **the explosion radius field which determines the area of effect and can drastically change the size of your weapon**.

There are many different ways to make a projectile and we will go into the basic concepts right now. The first type of projectile is the rapid fire kind. These will usually have the half second rate of fire on them so that they will do their damage really fast. These can be very good against shielded enemies that have a small recharge interval. Also these guns give you more chances to score critical hits which can be very useful for fighters that are trying to target components.

To give you a basic gun that is fairly small you will pick a projection type and then use six cartridge size, fifty pierce ratio, half a second for rate of fire, fifty range, and an explosive payload with zero radius. This allows us to split half the damage into flame and a quarter of the remaining damage goes to pierce and impact giving three damage types. You should end up with a gun that does zero to three flame damage and zero to two for pierce and impact. Another type of projectile is one that has a large explosive radius. These are good for hitting enemies that group up together but be careful because you will hit your own ships and allies if they are too close to the enemy. These guns are nice to have against fighters since they tend to group up fairly close due to their small hull sizes. Projectiles that have a large explosive radius will find it hard to achieve high damage but if you should ever get a gun that has both you will devastate your enemies. First pick your projection type then put in a cartridge size of ten, pierce ratio of fifty, rate of fire of one, range of fifty, and an explosive payload with five explosion radius. You should end up with a gun that does ten damage every second to its target as well as anything within the explosion radius.

BEAM WEAPONS

The first type is the **pierce laser**. This variety is thin and fires like a sword being unsheathed by a samurai, quick and effortlessly. The pierce laser was designed to gash armor and allow for other weapons eat at the structure. While not as capable as other weapons to destroy a ship's hull it can still get the job done.

The second type is the **thermal laser**. This version is about ten times as thick as a pierce laser. Also when fired you will notice it stays active about ten times longer as well. Unlike the pierce laser, the thermal laser was designed to rip any hull within its reach to pieces. Entire battalions of tanks have been reported destroyed by a single thermal laser. While not adept at removing armor it will break it down. If nothing else this laser makes for a good intimidation weapon if for nothing else than its look when fired.

Let us switch gears and discuss what goes into making the beam laser. Well talk about the calibration of the laser first and then the component breakdown last. When designing a beam laser its destructive capabilities are determined by how much input energy you set for it. This will determine how much destruction you can cause with a single shot. Next you must determine how far you want to shoot this weapon. Keep in mind that **the longer the range the bigger the size**. This is due to the amount of power needed to focus and maintain the stream. The rate of fire can also go hand in hand with the range and also in the cooldown and recharge time of the weapon. Finally, your target alignment, without this you might as well be throwing rocks at your enemies. This should be adjusted to the highest possible setting if at all possible.

Next, lets discuss the elements that go into the components required. First the coil, this part of the laser is where the energy is stored until it is released. It is important to keep in mind that materials with a high superconductive point and magnetic reactance are needed. Also the material used must have a low magnetic production. For example, Iron would be a horrible choice due to its magnetic tendencies. It was found through various experiments that if any magnetized elements were present the energy in the laser would not properly discharge and in turn led to disaster on more then one occasion.

The coupler is where the power is transferred from a generator of some sort to the laser coil. It is important to note that the material used must not be temperature sensitive and must allow for a lot of thermal expansion. Lasers especially beam lasers generate a lot of heat and in most cases the reason a laser fails is because of a bad coupler design. Remember no power means no laser, which is good news for your targets but a nightmare for you.

A laser's casing is probably one of the more important but non-technical items on the laser. The casing protects the operators from harm and ensures that any heat overflow is not transferred to the rest of the ship in turn potentially causing damage. With this in mind a material with a low temperature sensitivity would be best. Also it would be good to have a material that is not malleable so that warping does not occur.

The focuser of the laser is basically a prism or mirror type component within the laser. This is where the light is bent and sent to the medium for the actual firing. This piece is also where the alignment takes place. A poorly aligned focuser can spell disaster for a unit in trouble. It should be noted that you will be looking for the same temperature sensitivity and thermal expansion as you would for the coupler. However, unlike the coupler you are wanting to refract instead of reflect the beam. Keep this in mind when choosing materials for construction.

Finally, the medium of the laser. This is the component where the laser actually exits the weapon. It used to be this material that gave the lasers they're color. However, with modern technology you are now be able to select the color of your laser. To create a good medium you will need to use a material with a high boiling point and low refraction and reflection. The boiling point is to prevent evaporation under stress and allow the material to be reused more often or if the case may be put more energy through it then would normally be possible. The refraction and reflection properties should be kept low for the reason of allowing the light to pass with no interruption or conflict. This also helps with recoil of the weapon.

PULSE WEAPONS AND MISSILES

Pulse beams are effectively a burst of pure energy from a focused power source. These lasers come in a variety of sizes and strengths. Essentially the pulse laser was developed to fill the role that a beam laser could not. As you know beam lasers take tremendous amounts of energy not only to power them but also to cool them.

As with the beam lasers well break down the pulse lasers in the same manner and discuss what goes into the laser first, and then end with what properties will be required to get the most out of your laser. As always special research will unlock and further your capabilities of each. Input energy is the amount of energy you would like to store in the weapon before it is fired. **Compression factor** is how concentrated you want the beam to be when it is fired. Obviously, the higher the concentration the more powerful the laser. The optimum range is how far the weapon will shoot accurately. The rate of fire for which the weapon was designed for is how fast the weapon can be successfully fired without over heating or breaking down entirely. Finally, the **scatter radius, this is unique to the pulse laser**. When a normal pulse weapon is fired it hits the target and the energy is absorbed into the target. However, when a scatter effect is added instead of the energy being fully absorbed it is discharged to the surrounding area. This in turn causes surrounding units or structures to be effected.

The coil material functions the same as it would in a beam laser. This is the part of the weapon where the energy is stored until it released. Materials for this component should be low in magnetic production as well magnetic reactance to help maximize energy transfer once it is released. The accelerator acts like a beam laser's coupler. However, unlike the coupler it is designed to speed up the releasing energy not just transfer it. In turn you will want materials to be low in magnetic production but high in magnetic reactance. The reason for this is while the accelerator should not produce a magnetic charge; it does use the natural formation of one to help the transfer speed of the energy to the focuser. The focuser acts much in the same way as it does in a beam laser.

The only difference is instead of passing the energy in a stream; it will be focused in more of compressed bullet type format. Overall the same style materials should be used that would be used in a solid beam laser. Low temperature sensitivity and thermal expansion work best due to heat related reasons. The casing is obviously where the weapon will housed. While the casing in design does not have to be as drastic due to the way a pulse laser is fired. It should be noted that it is still recommended that you find materials that are low in temperature sensitivity and malleable for heat related reasons.

Finally, the chamber material, this is where the weapon is actually fired just like the medium with a beam laser. However, since this laser pulses the way this part of the weapon is used is different. The chamber is where the energy is stored right before the weapon is fired. Once the weapon has been fired more energy is let into the chamber. Since the weapon will most likely be fired frequently and have little cooldown time this puts the chamber under tremendous stress. Furthermore, the energy being passed through it has suction like effect at times as it leaves. This is why you see comet like tails form after firing has been completed. Since this occurs so often it is highly recommended and at times deemed necessary to have materials that cannot be compressed and have almost no malleability. These properties are to help offset what was previously discussed.

Missiles compared when compared to the other weapons in Beyond Protocol almost seem to build more like a ship than a weapon. Thus, this guide will take a unique approach and describe it as if you were building a ship.

The **maximum damage** for the missile is how much damage the warhead will do upon impact. The missile size is like the hull size on a ship. In this case the more damage you attempt to add the bigger the "hull" needs to be. Agility is the speed and maneuverability of the missile. This part of the weapon is like an engine on a standard ship. Next the range which is how far the missile will go once fired.

The **rate of fire** is how quickly the pod will reload upon firing the first volley. The minimum rate of fire for a missile is 30 seconds. It was determined after many launcher jams, pre-mature detonations and loss of crew that this was most efficient minimum time in between volleys.

Guidance is how accurate the missile will be. If you just want area of effect rockets then set the guidance to zero. If you want classic dogfight type missile then set the guidance to maximum, which is 255. The explosion radius is how large of an area of effect range of damage you want. The maximum range of exposure for this weapon is 255.

Finally, the **structural hitpoints**, this part of the weapon is unique to missiles and acts like structural hitpoints for a ship. The most hitpoints you can allocate to a missile is 30. The reason it is important to pay attention to this number when designing is that missile's can be shot down with point defense guns. With this in mind it is essential that you plan ahead. Keep in mind just because you can design a one shot kill all missile, does not mean it will happen if you opponent has designed adequate defenses.

SHIELDS AND ENGINES

Moving on to the material breakdown and sections of a missile. The first is the body; this material is majority section of the missile. For the best results you will need a material that is low in density, high in hardness and malleable. The nose section, which will house the warhead, requires a material that is easily compressed but very hard. Next the flaps, this material is important since the flaps help control the maneuver of the missile. A material that dense and not effected by heat is recommended.

A good fuel material is essential since it helps determine the range of the missile. You will find that a material that is dense, highly chemically reactive and with a high boiling point are encouraged. Finally the payload, this material is what your warhead will be made of. The best choice of material is dependent on what type of missile you are making. Chemical warheads require materials that are very chemically reactive. However, explosive warheads require materials that are highly combustive.

This next area is top secret but you have been cleared to take a look around. This is the shield section of our research facility and you will get the full tour while you are here. Shields are meant to be a supplement to defense not the primary method of it. Shields have two configurations which you will most likely use a lot and which one you use will depend on the size of ship it is for. Shields depend heavily on the special research you have available. W will look at basic configuration and look into some of the basic design principles.

Shields have five fields that you can manipulate and they are the hit points, the recharge rate, the recharge interval, the hull size, and at the bottom it has the shield color. The hit points determine how much damage the shield can soak up. The recharge rate and **recharge interval** go hand in hand. **Recharge rate** determines how many hit points you can recharge for every recharge tic. The recharge interval determines how long it takes between each recharge tic. Essentially if you put the two numbers together you can come up with a recharge per second by dividing the rate by the interval. So three hundred rate and one second interval means you can counter three hundred damage per second before you ever have to worry about the total hit points on your shield dropping. Finally we have the **hull size** of the shield which determines how large a ship it can cover. A three thousand hull shield can be used on any ship that has a size lower than three thousand but can not be used on any ship above three thousand. Also the max hit points allowed before you start taking large penalties on your design is twenty percent of the hull size, anything over that and the design nears impossible. Once you have picked out your initial numbers you can move on to the three mineral slots which are the Coil, Accelerator and Casing slots. Finally you have the shield color with seven colors to choose from: Teal,

white, yellow, orange, blue, red and purple. Every time the shield takes damage a hollow sphere will surround your ship in the color you chose.

The first thing we will talk about is **maximizing the recharge per second**. This is heavily dependant on the size of the shield and the research available. Dividing your hull size by four hundred gives you the optimal number for research time versus power consumption so you will not always use this but it is a nice thing to know. That number is not as important for smaller shields but the larger you get the closer to that number you will have to be. You are able to maximize the fighter hull right off the bat so you can follow the steps below to make one as an example. This is a good general shield to have in the beginning because it gives you an edge over any unshielded ship of comparable firepower. You will be able to improve this design concept later as you unlock more research. You can never have a rate that exceeds the maximum hit points so always keep that in mind. The whole point is to have your interval as low as you can get it then raise your rate as high as you can before the design becomes flawed. Once numbers start jumping into the impossible range you know you have gone too far. At this point you will match your hit points to the rate and you have the best numbers for that recharge per second. So for the fighter set your projection size to three hundred, your rate and hit points to 60 and your interval at eight seconds.

Welcome to the **engine** room, Commander. Engines are the driving force behind everything in this game. You are here to learn the basics of engine design and the uses the engines have. First of all, the engine designer has four properties that can be manipulated and they are Power Generation, Thrust Generation, Maximum Speed, and Maneuverability. **Power** determines the overall power of your engine. **Thrust generation** determines the amount of used hull your engine can move. **Maximum speed** determines the top speed of your engine and **Maneuverability** determines how fast you can achieve your maximum speed. Next we have the six material slots required to build our engine: The Structural Body, Frame, and Meld as well as the Drive Body, Frame, and Meld. Finally we have the engine color which will be talked about a little further down. Our first stop is the power generator room where we make all the power generating engines. Everything that is built in the colony is going to require power which you will get from your power generating engines. The beginning power generator uses the beginning power engine which produces two-thousand units of power. Straight power engines are the only ones that can be

placed on buildings. Engines with thrust, speed, and maneuverability can not be placed on buildings as those properties are meant for units. One of the first things you will want to do is to build a five-thousand power generation engine. This will help in the building of your colonies and can be placed in any building you create. All you need to do is set the Desired Power Generation to five thousand and leave the other three properties at zero. Now you need to put in the best minerals you have for each of the material slots. The engine color has no meaning for buildings so do not worry about that. You are now ready to make your first power engine.

Engines designed for units are a science all their own. There are many different unit concepts that require different types of engines. **For a fast moving unit** you will have very low power generation but can achieve a much higher speed and maneuverability than ships that require a lot of power. Thrust generation is the largest determining factor in how much hull consumption your engine will have. Let me show you to the fighter engine room where our scientists are going to show you a basic fighter engine. First set your thrust to two hundred and the speed and maneuverability as high as you are technologically able to so in the very beginning that should be thirty for both properties. We can fit four guns on the heavy fighters so let us assume we are going to be using light cannons which take eight units of power and the beginning radar which takes nineteen units of power. Put fifty-one in for power generation and hit design. The most important material in designing engines meant for units is the structural body material because it is the one that affects your hull consumption. The smaller the hull consumption of an engine meant for units the better. The property we did not talk about earlier now comes into play and that is Engine Color. When your flying units are moving the flames that come out of them can be colored as you please. The current selections are light blue, blue, dark blue, bright green, dark green, orange, purple, yellow and red. Just between you and me, I use different engine colors to help me determine the difference between units of the same hull that have completely different components.

These are the very basic and general uses for the engine. There are some more advanced concepts out there but these are here to get you started in the right direction. You can make the engines to fit whatever you want. Relatively speaking, the faster your ship the lower its firepower. It is possible to have some fast fighters that can dish out twenty thousand damage each shot but that is only because they shoot once every seventeen minutes. So really you are only getting nineteen damage per second. If that fighter does not kill whatever it is shooting at in its first shot then

it has to rely on its speed to get away. Speed is very important for travel times but when it comes to fighting then maneuverability plays a huge role. If your ships can turn on a dime while the enemy ships take a bit longer, you can be going in the opposite direction and leave them in the dust. You can effectively lead them around while you change directions all over the place to destroy their base or units.

The **large ships require a lot more thrust** and therefore are a lot bigger. Usually an engine will take up twenty to twenty-five percent of the thrust. The guns you will be putting on the larger ships will most likely take a lot of power which will make the ships slow because the higher your power generation the lower your maneuverability and speed. There are two ways you can go with large power hungry units. You can have high speed with very low maneuverability or you can have mid to low speed and maintain a little better maneuverability. Either way it will take a long time for your biggest ships to get to the fight but when they do you can expect some major damage output depending on what you have. If your guns are not on the all-arc then it would probably be best to cut back on the speed to increase your maneuverability otherwise it will not be able to use its full potential in battle because a faster ship can always stick to the rear and try to avoid your main guns.

Cargo and carrier ship engines require enough thrust to carry the hull used by the ship itself as well as any cargo it might end up carrying. Let us say you have a ship that only uses up three thousand hull by itself so you made an engine with only three thousand thrust. Now that same ship also has twenty-seven thousand hull reserved for a cargo bay or hangar. While empty there would not be a problem but soon as you start filling that space you will start to notice your ship going slower and slower until it becomes so overloaded it can not move. It is important to put enough thrust to cover the maximum hull of the ship so that it can move without impairment whether it is empty or not.

Using the Colony Research Interface

The Colony Research Interface is the scientist's best friend. To open this window, click the icon on the quick bar that looks like an orange flask. With this handy window you can communicate with your lead researchers in one colony simultaneously. While, the window displays several things to help you find what you are looking for, there are several things left out, so it is up to you, emperor, to know your projects well.

In **the top two windows**, you see several important things. The name in the top left is very important, along with the type of research being done. Select the name of the research you want to start. The cost of starting that particular research should now show in the top right hand window. An entry that has already been started shows another piece of valuable information, the count of research facilities already working on the project. These may all be visible from each research center, but having access to all of your facilities saves you time!

The **middle section** gives you the ability to add centers to a project and manipulate the queue. The bottom portion of the window includes two things you won't see on an individual research facility window - the research facility's production capacity and a Cancel button. The production capacity determines how fast that facility researches projects. The higher the number, the more often it is used by the research interface. When there are queued researches waiting, and a number of inactive research facilities with different capacities, the highest value facility takes the first item in the queue.

The **bottom window** also displays the progress of the research centers in that colony in block bar format. This feature is a relative gauge between projects and should not be used to judge the exact progress of your various researches. The two critical pieces of information missing from this interface that you will need to remember are Research Time and Production Costs. To initialize any special projects or ambiguously named designs at a research center in order accurately track your costs. Once you know your way around, feel free to use the Colony Research Interface all you like.

When you find a research you want to queue up, decide how many centers you want on the project, now or as they become available, select that research, add your number to the "Facilities to Assign" window, and click "Queue". Should you decide to remove something that is queued up, select that item in the "Colonial Research Queue", and click the "Remove" button. If you discover a research center doing something you don't want it to be doing, click the green button next to that entry in the "Research Facilities" window to clear that research and make the research center available for new projects.

Wormhole Concepts

Wormholes are a marvel to behold. They will change your view of the universe instantly opening doors to new trade partners and new enemies. There are many theories as to where they come from. Some believe they're from rips in time and space. Others believe they were created by a higher intelligence. There have even been reports of wormholes popping up in areas of high tension and stress.

Simply, **Wormholes are tunnels that link points in space**. You can travel at speeds faster than light, allowing fleets to go between systems instantly. Wormholes can only be traveled in one direction until traversed, which rips a hole on the other side allowing two-way travel.

When you find a wormhole, guard this information well, as it is the doorway to your system. The opening points usually appear on a pathway between two planets, while the exit can appear anywhere.

Wormhole infrastructure starts at a Super Nexus then branches out to other nexus systems. These branches continue out until they reach an ending system. While ending systems rarely contain more than one wormhole, a nexus can contain many wormholes.

Some believe a Super Nexus is the center of the universe. While physically this may not be the case, it holds true for trade and commerce. Nexus systems have fewer planets then other systems and typically harbor more rare resources then end systems.

When you find a wormhole you should guard it well. Remember, there is no better defense than information and the lack of it could be your downfall.

Space Station Statistics

Name	Hull Sizes Possible	Max Bay Door Size
Outpost I	1,500,000 - 1,650,000	15277.8
Military Base I	4,000,000 - 4,200,000	246,296.3
Colony Hub I	6,900,000 - 7,300,000	65,963.9
Battlestation I	10,000,000 - 11,000,000	542,763.2
Tradepost I	3,750,000 - 4,150,000	1,164,024.0
Starbase I	4,300,000 - 5,000,000	79,787.2
Military Base II	5,500,000 - 6,250,000	1,293,103.0
Mining Base I	3,000,000 - 3,250,000	177,734.4
Mining Base II	3,100,000 - 3,400,000	46,363.6
Colony Hub II	4,150,000 - 4,600,000	40,000.0
Space Station II	4,350,000 - 4,800,000	30,769.2

Space Station Module	Description
Barracks	Allows colonists to be trained into Enlisted
Factory	Allows production of components and small space worthy units
Hangar	Increases space station's total hangar space
Officers	Allows Enlisted to be trained into Officers
Power 1	Increases power produced in the space station by 2000
Power 2	Increases power produced in the space station by 2800
Refinery	Allows production of alloys
Research	Allows design and research projects to be produced
Residential	Increases the total housing in the space station
Warehouse	Increases the total cargo capacity of the space station

How To Build A Space Station Capable Of Launching Any Ship

1. Open you research window
2. Select the hull builder
3. Select Facility in the first frame window
4. Select Space station in the second frame window
5. Select Military Base II for the third window
6. In the Rear arc allocate enough engine space for your engine
7. Allocate enough cargo space for you components and minerals
8. Secret: Door Allocation
9. Depending on how you want it to allocate it you can either go up or down. However, your starting place will be either the right or left arc. Starting from the mid-line input door allocation until you have a half moon. In all you should have a little more then 1.1 million. You may choose to do this so that you have 2 half moons, which will allow you to launch 2 battleships at the same time. However, for defense purposes this is not recommended unless you are sure you can defend it a fleet.
10. Hangar allocation is fairly simple just draw a line from the left arc to the right arc so that it is a double line.
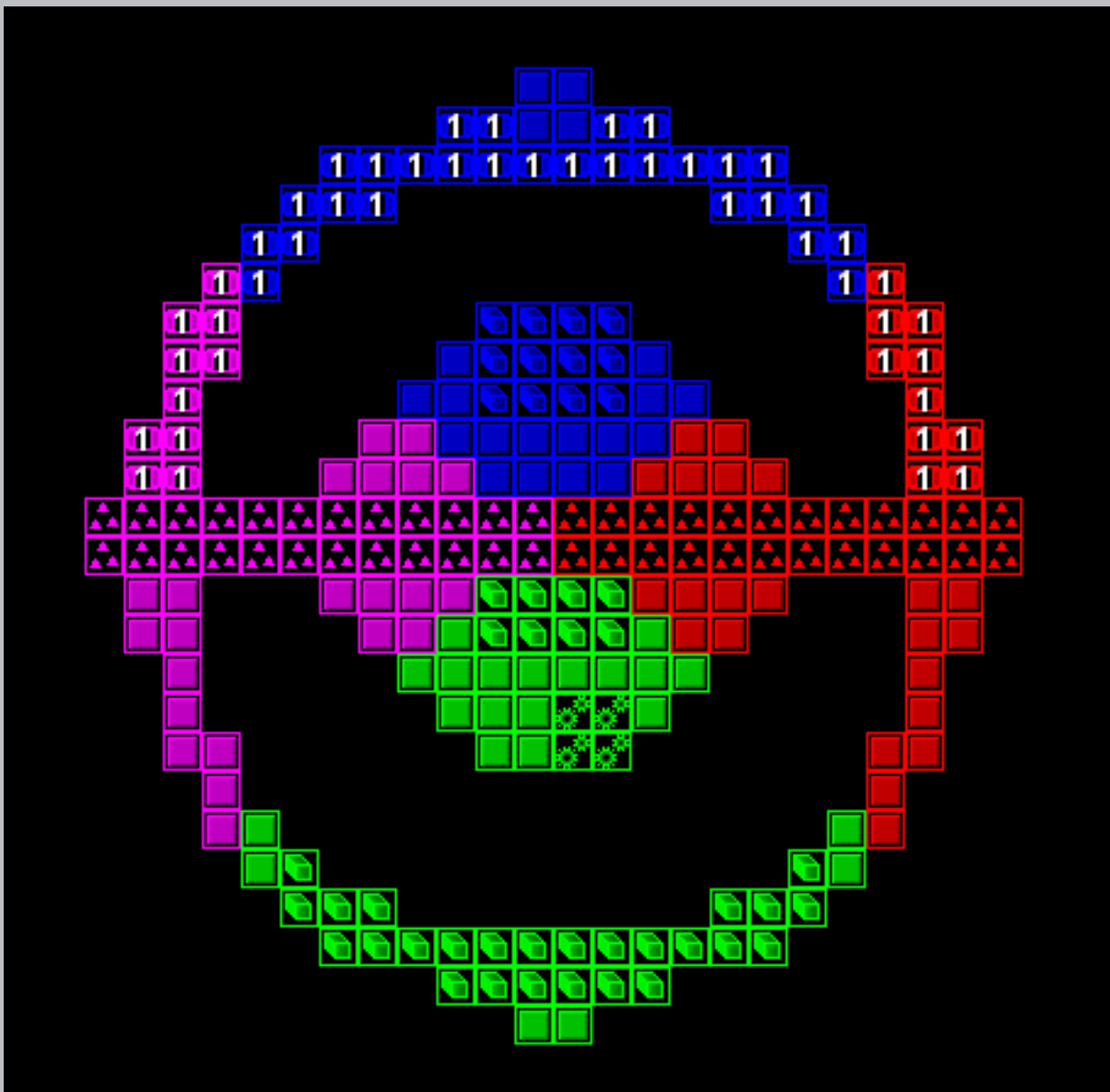
ALLOY MANIPULATIONS

Technology	Effect	Description	Rarity
Enhanced Geostudies	Grants ability to manipulate Chemical Reactance mineral properties in Alloys	The empires leading chemist wrote a paper on the theory of changing the chemical reactance in alloys and it turns out he was on to something.	Common
Advanced Instable Reactions	Grants ability to manipulate Combustiveness mineral properties in Alloys.	An accidental explosion led to the discovery of combustive manipulation in alloys.	Common
Atomic Displacement Theories	Grants ability to manipulate Compressibility mineral properties in Alloys.	Forcing atoms around will allow us to compress our alloys any way we want.	Common
Magnetic Geostudies	Grants ability to manipulate Magnetic Production and Magnetic Reactance mineral properties in Alloys.	Experiments with magnetic fields have yielded the ability to manipulate the magnetic properties in our alloys.	Common
Electrical Geostudies	Grants ability to manipulate Electrical Resistance mineral properties in Alloys.	Playing with electrical currents in the lab led one scientist to discover a way to manipulate the electrical resistance in an alloy.	Common
Psychological Geostudies	Grants ability to manipulate Psych mineral properties in Alloys.	Studying real psychics and using them to study minerals has evolved a process that allows changing psych properties in alloys.	Common
Quantum Geostudies	Grants ability to manipulate Quantum mineral properties in Alloys.	Quantum physics has been rediscovered allowing the manipulation of quantum properties in alloys.	Common
Geostudies Reflection	Grants ability to manipulate Reflection mineral properties in Alloys.	Through the study of mirrors and light our scientists are now able to manipulation the reflection properties of our alloys.	Common
Geostudies Refraction	Grants ability to manipulate Refraction mineral properties in Alloys.	Watching how light changes when it passes through certain minerals led to the discovery of manipulating the refraction in our alloys.	Common

Technology	Effect	Description	Rarity
Electrified Combinatorial Theory	Grants ability to manipulate Superconductive Point mineral properties in Alloys.	Finding similarities between super-conductors and minerals has uncovered a way for scientists to change the super-conductive properties of alloys.	Common
Advanced Molecular Processes	Grants ability to manipulate Temperature Sensitivity	Thermal Conductance and Thermal Expansion mineral properties in Alloys,With molecular science we can now change temperature properties in alloys.	Common
Biosynthetics	Grants ability to manipulate Toxic mineral properties in Alloys	A new fabrication process will allow us to manipulate the toxic effects of minerals when we make new alloys.	Common

ALLOY RESEARCH LEVELS

Technology	Effect	Description	Rarity
Revolutionary Accelerated Chemistry	Grants access to Revolutionary level improvements in the alloy builder providing increased range of change to mineral properties.		Rare
Epic Alchemical Practices	Grants access to Epic level improvements in the alloy builder providing increased range of change to mineral properties.		Rare
Empire-Defining Alchemy	Grants access to Empire level improvements in the alloy builder providing increased range of change to mineral properties.		Rare

ENGINES

THRUST LIMITS / POWER LIMITS

Technology	Effect	Description	Rarity
Improved Force Compensation	Engine Power/Thrust Limit 30000	Improving on our old generator design, we now have the ability to build up to thirty thousand power and produce thirty thousand thrust. This should enable us to utilize larger ships.	Common
Induced Force Compensation	Engine Power/Thrust Limit 40000	Forcing our generators into overdrive has increased what we could do with them before. We can now maintain numbers up to forty thousand in power and thrust. This should open new doors in hull design.	Common
Advanced Force Compensation	Engine Power/Thrust Limit 50000	Building sophisticated sensors to monitor our generators should allow us to get a little more power out of them. Once they are in place we will be able to use larger ships.	Common
Reflected Force Compensation	Engine Power/Thrust Limit 60000	An engineer has found a way to bounce power off a node he designed that will increase the power and reflect is back to the engine. Surely with this technology we can build some bigger hulls.	Common
Imposed Force Compensation	Engine Power/Thrust Limit 70000	Asking the engineers for more power has never been easy because they always complain about red lines and core breaches. You no longer ask for more power, you demand it.	Common
Agitated Force Compensation	Engine Power/Thrust Limit 80000	Forcing the current generators to their absolute limit has yielded a little bit more power than before. Going beyond this will be impossible because the engines will explode.	Common
Massive Force Propulsion	Engine Power/Thrust Limit 100000	Ion propulsion systems have been developed that are more efficient and produce more power than any generator before it.	Common
Remedied Force Compensation	Engine Power/Thrust Limit 120000	The engineers are given free reign of the new system and have fixed a power leak found in the ion drive. We should see a large boost in power with this fix.	Common
Engaged Force Compensation	Engine Power/Thrust Limit 140000	Building the ion drive directly into the hull will allow us to make it bigger than before. The plans have been drawn up to accommodate all ship classes.	Common

Technology	Effect	Description	Rarity
Evolved Force Compensation	Engine Power/Thrust Limit 160000	Mixing in fusion generators with the ion drives will produce more power together than either one by itself. Its a jury rigged system that was thrown together in combat but it works!	Common
Stablized Force Compensation	Engine Power/Thrust Limit 180000	We have streamlined the system that tied the fusion generators and ion drives together. We should be able to get more power out of it now.	Common
Induced Force Propulsion	Engine Power/Thrust Limit 200000	Pushing the ion-fusion drives into the red zone will get us a bit more power than before but anymore could cause a meltdown.	Common
Evolved Force Impulse Systems	Engine Power/Thrust Limit 250000	Adding nuclear reactors to our ion-fusion drives will increase the power produced by massive amounts. This new design will allow us to use some larger ships.	Common
Adaptive Force Impulse Systems	Engine Power/Thrust Limit Unlimited	The very best in bio-engineering has found a way to harness the power of the sun by studying plants and pho-tosynthesis. These new liquid-light drives are able to achieve unlimited power.	Uncommon

SPEED INCREASES

Technology	Effect	Description	Rarity
Velocity Patterns	Engine Max Speed 50	Adding a different kind of fuel allows our ships to go faster than before. With this we will surely outrun our opponents.	Common
Enabled Velocity Patterns	Engine Max Speed 60	With a few more generators in place we can achieve faster speeds giving us much faster travel times.	Common
Enhanced Velocity Patterns	Engine Max Speed 80	New fuel injectors give our engines more efficiency and allow us to crank out some more speed.	Common
Modified Velocity Patterns	Engine Max Speed 95	New coolants allow the engine to achieve much higher speeds without problems.	Common
Advanced Velocity Patterns	Engine Max Speed 110	New automation in the engine has been added which gives us the ability to achieve higher speeds.	Common
Induced Velocity Patterns	Engine Max Speed 125	The compression chamber has been rede-signed allowing speeds higher than ever before.	
Predictive Velocity Patterns	Engine Max Speed 140	Nuclear generators will allow much higher speeds than the previous fuel-intake gen-erators.	
Reactive Velocity Patterns	Engine Max Speed 150	Microcontrollers have been added to the generator to allow higher speeds to be achieved.	
Neural Velocity Patterns	Engine Max Speed 170	Nanocontrollers allow even higher speeds our of the engine designs.	
Implied Velocity Patterns	Engine Max Speed 190	Pulse propulsion is much more efficient and will allow greater speeds.	
Integrated Velocity Patterns	Engine Max Speed 200	With fission generators we can now achieve speeds up to two hundred.	
Neural Velocity Control	Engine Max Speed 210	Refined power relays unlock faster speeds for our engines.	
Reactive Velocity Control	Engine Max Speed 220	Fusion generators give us a boost in speed.	

Technology	Effect	Description	Rarity
Modifying Velocity Control	Engine Max Speed 230	Ion propulsion has given our engines a further increase in speed.	Common
Neural Velocity Control	Engine Max Speed 240	Utilizing anti-matter lets the engines reach extremely high speeds.	Common
Neural Velocity Control	Engine Max Speed 255	New inertial compensators allow us to reach speeds never imagined before.	Common

MANEUVER INCREASES

Technology	Effect	Description	Rarity
Improved Counter-Inertia	Maneuver Limit 50	Improving our counter-inertia systems has resulted in the ability to achieve more maneuverability.	Common
Theories in Counter-Inertia	Maneuver Limit 60	There have been theories floating around about using different methods for counter-inertia and it turns out that one of them was better than our old system.	Common
Advanced Counter-Inertia Theories	Maneuver Limit 70	We have upgraded our inertial compensators and can now reach higher maneuverability speeds.	Common
Reactive Inertial Compensating Theories	Maneuver Limit 80	Programs that react to sudden changes in direction help keep our inertial compensators in tip-top shape.	Common
Advanced Counter-Inertia	Maneuver Limit 90	Making smaller more sophisticated inertial compensators gives our engines the ability to achieve a higher maneuverability.	Common
Predictive Inertia Theories	Maneuver Limit 100	What if our compensators could predict what a pilot will do next? One scientist asked the question and decided to make one that could.	Common
Neural Inertial Theories	Maneuver Limit 110	If we used limited AI to control our inertial compensators we should have no problem reaching higher maneuverability.	Common
Improved Counter-Inertia Concepts	Maneuver Limit 130	Upgrading the sensors our limited AI uses to control our engines should yield a little more maneuverability.	Common
Reactive Inertial Compensators	Maneuver Limit 140	Inertial compensators designed to instantly react to changes in direction means our maneuverability can go ever higher.	Common
Advanced Counter-Inertia Concepts	Maneuver Limit 150	Putting the theories to the test our scientists have created an engine that can increase the maneuverability of our engines.,,	Common
Reactive Inertial Compensation Concepts	Maneuver Limit 160	The concepts of reactive inertial compensation have been debated and tested in the lab and a new engine has come as a result of those tests that allows for a higher maneuverability.,,	Common
Predictive Inertial Compensation Concepts	Maneuver Limit 170	The theories behind compensators that can predict what a pilot will do next have been researched and tested in numerous trial runs. Our newest engines will come equiped with an upgraded system that can better predict what a pilot will do next.,,	Common
Neural Inertial Compensation Concepts	Maneuver Limit 180	Giving our limited AI the ability to change the power going into the intertial compensators allows us to overload them at any time.,,	Common

Technology	Effect	Description	Rarity
Predictive Inertial Compensators	Maneuver Limit 190	Saving the maneuvering data from our ships and storing it away helps our engineers to see what kind of stress high speed maneuvering puts on the engine. Following this information allowed them to build an engine which could maintain a higher maneuverability than before.	Common
Improved Counter-Inertia Patterns	Maneuver Limit 200	Studying how ships change directions while moving should give us a better idea of how to maneuver them.	Common
Advanced Counter-Inertia Patterns	Maneuver Limit 210	Studying the movement patterns of out pilots allows us to predict and compensate for a quick change in direction.	Common
Induced Reactive Inertial Compensators	Maneuver Limit 220	Compensators now come equiped with software and hardware that can easily handle the most common maneuvers used by our pilots allowing for more maneuverability.	Common
Induced Predictive Inertial Compensators	Maneuver Limit 230	The newest inertial compensators come equiped with software that knows every move a pilot will make before he makes it allowing for a more responsive engine.	Common
Induced Neural Inertial Compensators	Maneuver Limit 240	Forcing our compensators to their limits yields a slight increase in maneuverability.	Common
Neural Inertial Compensators	Maneuver Limit 255	Inertial compensators that think for themselves allow us to reach the highest maneuverability possible.?	Common

ADVANCED ENGINE SPECIALS
POWER

Technology	Effect	Description	Rarity
Engine Overload Control	Engine Power Bonus 3%	An AI system has been put into place that will monitor the engine power overloading process. Should anything go wrong it will be able to fix it immediately.	Rare
Controlled Power Overload	Engine Power Bonus 4%	The AI system in the engine room has been patched to control the overloading process and can better judge the volatile conditions.	Rare
Efficient Power Theories	Engine Power Bonus 7%	New power leads should make our generators more efficient since the old ones were ancient and needed to be replaced.	Rare

SPEED

Technology	Effect	Description	Rarity
Propulsion Overloading Theory	Max Speed Bonus 2	With a few extra jumpers our engines are able to squeeze out a little extra speed. Any new design with the jumpers will benefit from the speed increase.	Rare
Advanced Propulsion Over-loading	Max Speed Bonus 5	A new method of wiring the engine relays has allowed a larger increase in speed. Any new design will use the new method and get a nice boost.	Rare
Aggressive Propulsion Overloading	Max Speed Bonus 10	A new sensor suite has been developed allowing better temperature control in the engine. With the sensors we will be able to redline our drives and be warned of any problems before they happen.	Rare
Controlled Singularity	Warp Drive	We can now create our own wormholes to create a series of jumps to any known place in space.	Rare
Hyperspace	Hyperspace	Traveling between systems has never been faster for our battlegroups with our newest invention, the hyperspace drive. What used to take days will only take hours at the most.	Rare
Fold Space Travel	Fold Space	Folding space has always been theoretical and in some cases a figment of someones imagination. Well the scientist who designed our fold space drive has brought a dream into reality. We can now fold space in any direction and to any place in the galaxy. Nothing can stop us from exploring our galaxy in record time.	Ultra- rare

MANEUVER

Technology	Effect	Description	Rarity
Advanced Pilot Training	Maneuver Bonus 1	New training exercises for pilots teaches them to get more out of their machines when it comes to maneuvering their craft.	Rare
Advanced Pilot Interfaces	Maneuver Bonus 2	New controls allow better flexibility when maneuvering any vehicle.	Rare
Predictive Pilot Theories	Maneuver Bonus 3	If pilots think about all the possibilities ahead of them, they should be prepared for anything allowing for instant response times when maneuvering.	Rare
Predictive Pilot Training	Maneuver Bonus 4	Training our pilots to think through every possible action has given them an edge when performing combat maneuvers.	Rare
Predictive Pilot Interface	Maneuver Bonus 5	A new AI interface has been installed in our vehicles that give the most probable course of action to take when maneuvering.,,	Rare
Neural Pilot Interface	Maneuver Bonus 10	The AI has been integrated with the pilot so they always know which move to make. No one can outmaneuver them now.,,	Rare

PROJECTILES

RANGE

Technology	Effect	Description	Rarity
Improved Trajectory Algorithms	Projectile Max Range 100	A new algorithm for calculating trajectory allows us to increase the effective range of our projectiles.	Common
Enhanced Trajectory Algorithms	Projectile Max Range 150	A new algorithm will be used to calculate the ballstic coefficient of all our rounds to better determine which ones shoot the furthest.	Common
Advanced Trajectory Algorithms	Projectile Max Range 200	Every new projectile should be able to fire at hypervelocity speeds which will give them tremendous range.	Common
Neural Trajectory Algorithms	Projectile Max Range Unlimited	An AI has been created that can calculate trajectories helping us achieve a near unlimited range.	Uncommon

EXPLOSION RADIUS

Technology	Effect	Description	Rarity
Chaotic Reactions Theories	Projectile Explosion Radius 30	Using black powder in our projectiles will allow our weapons a larger explosion radius.,,	Common
Chaotic Reactions Principals	Projectile Explosion Radius 40	Our scientists have determined that flash powder will create a larger explosion in our projectiles.	Common
Improved Chaotic Principals	Projectile Explosion Radius 50	A new explosive will be used in our projectiles called ammonal that should create a bigger explosion.	Common
Improved Chaotic Reactions	Projectile Explosion Radius 60	Using ANFO in our explosive projectiles means they will have a superior explosion radius.	Common
Enhanced Chaotic Principals	Projectile Explosion Radius 70	Our newest projectiles with an explosive payload will start using cheddite to make the explosion radius larger than before.	Common
Advanced Chaotic Principals	Projectile Explosion Radius 80	Our scientists have created a new explosive material called oxiliquit that should increase the explosion radius of our weapons.,,	Common
Enhanced Chaotic Reactions	Projectile Explosion Radius 90	A new explosive compound called panclastites might enable our weapons to have a huge explosion radius.	Common
Predictive Chaotic Principals	Projectile Explosion Radius 100	Nitroglycerin is a highly volatile explosive that will be used in our newest projectiles and hopefully have a larger explosion radius.	Common

Technology	Effect	Description	Rarity
Biogenic Chaotic Principals	Projectile Explosion Radius 110	Our scientists think they can get a larger explosion radius if they switch to acetone peroxide.	
Advanced Chaotic Reactions	Projectile Explosion Radius 120	Studies show that TNT is easy to make and yields large explosions so from now on we will use TNT in our projectile weapons.	Common
Unbridled Chaotic Principals	Projectile Explosion Radius 130	Nitrocellulose is a compound that the scientists think will increase the explosion radius of our weapons.	
Chaotic Reaction Stabilizations	Projectile Explosion Radius 140	If we pack C4 into our projectiles we will be able to get much larger explosions.	
Predictive Chaotic Reactions	Projectile Explosion Radius 150	Our scientists think we should start using Octol in our explosive projectiles to yield a bigger explosion radius.	Common
Improved Chaotic Stabilizations	Projectile Explosion Radius 160	Using cyclotol for the explosive compound in our projectiles means we should be able to get a much larger explosion radius.	
Enhanced Chaotic Algorithms	Projectile Explosion Radius 170	Hexanite will now be used as the payload in all our new projectiles because it produces a larger explosion.	
Advanced Chaotic Algorithms	Projectile Explosion Radius 180	Using minol as our payload material will increase the size of the explosions for our weapons.	
Biogenic Chaotic Reactions	Projectile Explosion Radius 200	Scientists say that Amatol will work much better as an explosive material for our projectiles.	Common
Predictive Chaotic Generators	Projectile Explosion Radius 220	Our scientists think we should use semtex from now on to get a larger explosion radius.	
Biogenic Chaotic Generators	Projectile Explosion Radius 240	Adding tovex into our projectiles will give us a larger explosion radius.	
Unbridled Chaotic Generators	Projectile Explosion Radius 250	Deploying a sensor web in space during a battle will help us target the enemy during battle.	
Unbridled Chaotic Reactions	Projectile Explosion Radius 255	Splitting the atom will allow our projectiles to have the largest damage radius available.	Common

PAYLOAD

Technology	Effect	Description	Rarity
Chaotic Chemical Reactance	Payload Type Available 2	An accident in the lab led to the first experiment in using a different payload for our warheads. After some study we have found a way to utilize other materials in our weapons.	Rare
Magnetic Field Eruptions	Payload Type Available 3	With further study of the many different weapons at our disposal, a team of scientists has created a new warhead which can hold a new payload.	Rare

PULSE BEAMS

INPUT ENERGY

Technology	Effect	Description	Rarity
Pulse Dynamics	Pulse Beam Input Energy Max 50	Knowing the dynamics involved with pulse beams will allow our scientists to increase the input energy.	Common
Pulse Dynamics Principles	Pulse Beam Input Energy Max 75	A new principle for pulse dynamics has revealed a method to further increase the amount of input energy.	Common
Improved Pulse Dynamics	Pulse Beam Input Energy Max 100	Improving on the formulas involved with pulse dynamics used in our weapon systems should yield a higher input energy.	Common
Improved Pulse Dynamics Concepts	Pulse Beam Input Energy Max 125	The concept of improved pulse dynamics has been taken to the next level and allows a higher input energy.	Common
Advanced Pulse Dynamics Concepts	Pulse Beam Input Energy Max 150	Our scientists are trying to define their concept of advanced pulse dynamics and so far have come up with a way to increase the input energy higher than ever.	Common
Predictive Pulse Dynamics Concepts	Pulse Beam Input Energy Max 175	Our scientists are trying to figure out how to create an AI that will predict everything involved with pulse dyanamics. So far they have a few programs available that can help increase the input energy.	Common
Advanced Pulse Dynamics	Pulse Beam Input Energy Max 200	An advanced method for determining pulse dynamics has been finished that lets us use more input energy than before.	Common
Predictive Pulse Dynamics	Pulse Beam Input Energy Max Unlimited	An AI has been created that will predict everything involved with pulse dynamics and allow us to use any input energy.	Uncommon

COMPRESSION FACTOR

Technology	Effect	Description	Rarity
Energy Compression Theories	Pulse Beam Compress Factor Max 3	If we were to compress the energy used in pulse beams then we could theoretically increase the damage they do.	Common
Energy Compression Concepts	Pulse Beam Compress Factor Max 4	By compressing the pulse beam energy our weapons will do more damage.	Common
Improved Energy Compression	Pulse Beam Compress Factor Max 6	Improving the compression methods of the pulse beams will allow us to do more damage than before.	Common
Aggregated Energy Compression	Pulse Beam Compress Factor Max 8	Aggregating the energy used in the compression chamber will enable our pulse beams to inflict more damage.	Common
Amplified Energy Compression	Pulse Beam Compress Factor Max 9	Amplifying the compressed energy in out pulse beams will enable them to do much more damage.	Common
Advanced Energy Compression	Pulse Beam Compress Factor Max 10	An advanced energy compression method has been created that further increases the damage output of pulse beams.	Common
Precise Energy Compression	Pulse Beam Compress Factor Max 15	With the most precise energy compression available our scientists can create pulse beams that can do a lot more damage than before.	Common
Perfected Energy Compression	Pulse Beam Compress Factor Max Unlimited	Our scientists have perfected the methods of energy compression and turned them into an art form. Our weapons can now do unimaginable damage.	Uncommon

RATE OF FIRE

Technology	Effect	Description	Rarity
Predictive Precision Focusing	Pulse Beam Wpn ROF 0.3 second Minimum	An entire AI has been created and dedicated to the firing mechanism in pulse beams allowing the fastest rate of fire possible.	Common
Predictive Precision Focusing Concepts	Pulse Beam Wpn ROF 0.8 second Minimum	A method of predicting how many shots to be fired and where might allow us to shoot faster than ever any still maintain our accuracy. At the moment the concepts behind this have yielded small programs that help increase the rate of fire by a small amount.	Common
Advanced Precision Focusing	Pulse Beam Wpn ROF 1 second Minimum	Your scientists have created an advanced method for precision focusing that will make our pulse beams fire even faster.	Common
Improved Precision Focusing	Pulse Beam Wpn ROF 2 seconds Minimum	A team of scientists took the concepts involved with precision focusing and improved them up to a point that will increase the rate of fire for pulse beam weapons.	Common
Precision Focus Principles	Pulse Beam Wpn ROF 3 seconds Minimum	Defining the principles behind precision focusing has caught a few errors here and there that when fixed showed a way to further increase the rate of fire for pulse beams.	Common
Advanced Precision Focusing Concepts	Pulse Beam Wpn ROF 4 second Minimum	The science team involved with precision focusing as published their Advanced Concepts manual which should allow a faster rate of fire.	Common
Improved Precision Focusing Concepts	Pulse Beam Wpn ROF 5 seconds Minimum	The concepts behind precision focusing have been improved to a point that enables our pulse beams to shoot a little faster than before.	Common
Precision Focus Theories	Pulse Beam Wpn ROF 6 seconds Minimum	Our theories involved with precision focusing might allow us to maintain accuracy at a faster rate of fire with pulse beams.	Common
Dual Focus Chambers	Pulse Beam ROF Improve 2	Adding a second focus chamber to the pulse beam will increase the damage by a small amount.	Rare
Triple Focus Chambers	Pulse Beam ROF Improve 5	Adding a third focus chamber to pulse beams should further increase the damage output.	Rare
Quad Focus Chambers	Pulse Beam ROF Improve 10	A fourth focus chamber will increase the damage of pulse beams by a large percentage.	Rare

RANGE

Technology	Effect	Description	Rarity
Pulse Wave Projection Theory	Pulse Beam Visible Range 50	The theory behind pulse wave projection should enable our pulse beams to shoot further than before.	Common
Pulse Wave Projection Concepts	Pulse Beam Visible Range 60	Scientists have studied the concepts behind pulse wave projection and found a way to increase the range of pulse beams.	Common
Dynamic Pulse Wave Projection Theory	Pulse Beam Visible Range 80	A theory for dynamic pulse wave projection has been published by a renowned scientist in your empire that explains how to increase the range of pulse weapons.	Common
Dynamic Pulse Wave Projection	Pulse Beam Visible Range 100	Our scientists have created a device that allows dynamic pulse wave projections which has greatly increased the range of our pulse beams.	Common
Super Frequency Pulse Projection Theory	Pulse Beam Visible Range 125	A theory for super frequency pulse projection was tested and the initial results have produced a pulse beam with the longest range yet.	Common
Super Frequency Pulse Projection	Pulse Beam Visible Range 150	Every pulse beam will come equiped with two super frequency generating antennas mounted on them that will increase their range quite a bit.	Common
High Energy Desaturation Concepts	Pulse Beam Visible Range 175	By desaturating our high energy pulse beams we should be able to stretch the energy out and make them shoot farther.	Common
High Energy Desaturation Theory	Pulse Beam Visible Range 200	Every pulse beam will come with a desaturation chamber which will increase the range of your weapons.	Common
Pulse Anti-Dissipation Theory	Pulse Beam Visible Range 225	The newest pulse beams in your arsenal will come with an anti-dissipation device that should help keep the energy from bleeding away.	Common
Pulse Anti-Dissipation Systems	Pulse Beam Visible Range Unlimited	With the introduction of a new system that is able to develop an energy matrix that will allow pulse beams to achieve a nearly unlimited range, your scientists are hailed around the galaxy as masterminds.	Uncommon
Pulse Integrity Theories	Pulse Beam Visible Rng Improve 2	If we were to increase the integrity of the pulse used for our beams then we could increase the range by a small amount.	Rare
Improved Pulse Integrity	Pulse Beam Visible Rng Improve 5	By improving the integrity of our pulse beams we have increased their maximum range by 5%.	Rare

ADVANCE PULSE BEAM SPECIALS

MINIMUM / MAXIMUM DAMAGE

Technology	Effect	Description	Rarity
Compression Chamber Efficiency	Pulse Beam Max Dmg Improve 2	Making the compression chambers more efficient has increased the maximum damage of our pulse beams.	Rare
Improved Compression Chamber Efficiency	Pulse Beam Max Dmg Improve 5	Improving the efficiency of the compression chamber even futher has give the maximum damage of pulse weapons a nice boost.	Rare
Advanced Compression Chamber Efficiency	Pulse Beam Max Dmg Improve 10	An advanced method for improving compression chamber efficiency has been developed which gives a large boost to the maximum damage.	Rare
Improved Input Energizers	Pulse Beam Min Dmg Improve 2	An improved input energizer has been created that will increase the minimum damage of our pulse beams by a small percentage.	Rare
Advanced Input Energizers	Pulse Beam Min Dmg Improve 5	An advanced input energizer was designed by a team of under graduates that will allow our pulse beams a higher minimum damage.	Rare
Overloaded Input Energizers	Pulse Beam Min Dmg Improve 10	Overloading the input energizers will enable our pulse beams to have a 10% boost to their minimum damage.	Rare

POWER REDUCTION

Technology	Effect	Description	Rarity
Improved Pulse Generators	Pulse Beam Power Reduced 2%	An improved pulse generator reduces the power required for all new pulse beams.,,	Rare
Enhanced Pulse Generators	Pulse Beam Power Reduced 5%	Enhancing the pulse generators even further will reduce the power requirements for new pulse beams.,,	Rare
Advanced Pulse Generators	Pulse Beam Power Reduced 10%	An advanced pulse generator has been created which will greatly reduce the power needed for pulse beams.,,	Rare

SOLID BEAM

DAMAGE

Technology	Effect	Description	Rarity
Improved Beam Medium Theories	Solid Beam Wpn Max Dmg 50	The theories for improving the beam medium have allowed a slightly higher maximum damage.	Common
Improved Beam Medium Applications	Solid Beam Wpn Max Dmg 60	Improving the lenses that focus our solid beams will increase the damage they can do.	Common
Enhanced Beam Medium Applications	Solid Beam Wpn Max Dmg 80	Enhancing our old beam generators will give us more power to use on our beams.	Common
Enhanced Beam Medium Theories	Solid Beam Wpn Max Dmg 100	Enhancements in medium focusing methods have enabled us to increase the maximum damage of our solid beam lasers.	Common
Advanced Beam Medium Applications	Solid Beam Wpn Max Dmg 110	Using advanced beam medium materials will yield higher damage with our solid beams.	Common
Flux-State Beam Medium Applications	Solid Beam Wpn Max Dmg 130	A slightly volatile material might be better to use for increasing the damage of our beams.	Common
Improved Beam Medium Integrations	Solid Beam Wpn Max Dmg 160	Improvements in medium casings have allowed us to create solid beams with higher damage than before.	Common
Enhanced Beam Medium Integrations	Solid Beam Wpn Max Dmg 190	Enhancing the chamber that holds the beam medium will allow better materials to be used and increase the damage output.	Common
Advanced Beam Medium Theories	Solid Beam Wpn Max Dmg 200	Theories have led to a new, highly advanced beam medium that could do a lot more damage than before. The first product only increases our damage by a small amount.	Common
Advanced Beam Medium Integrations	Solid Beam Wpn Max Dmg 220	Our team of scientists has finalized the advanced beam medium that allows our beam weapons to a lot of damage.	Common
Flux-State Beam Medium Integration	Solid Beam Wpn Max Dmg 235	Integrating a new system to support a medium in constant flux has allowed our beams to get more out of the materials they already use which further increases their damage output.	Common
Flux-State Beam Mediums	Solid Beam Wpn Max Dmg Unlimited	A beam medium in constant flux allows our beams to do unlimited damage if we so choose.	Uncommon
Perfect Crystals	Perfect Crystals (2x beam dmg)	The lenses used in our beam technology are being replaced with specially refined crystals which will magnify the power to double what it was before. Any new design with these crystals will be very deadly.,,	Rare

Technology	Effect	Description	Rarity
Quantum-State Beam Mediums	Solid Beam Max Dmg Bonus 2	New quantum state beam mediums will enable our weapons to do more damage than before.	Rare
Focuser Transfer Theories	Solid Beam Max Dmg Bonus 5	Theories for a different method of transfering energy through the focuser have resulted in a basic prototype method that will allow a moderate increase in damage.	Rare
Quantum-State Focusers	Solid Beam Max Dmg Bonus 10	Improving on the previous design your scientists have come up with a quantum-state focuser that will allow a large increase in solid beam damage output.,,	Rare
Dual Medium Chambers	Solid Beam Min Dmg Bonus 2	Adding a second medium chamber to the beam weapon will increase the damage of your beam weapons by a small amount.	Rare
Triple Medium Chambers	Solid Beam Min Dmg Bonus 5	Adding a third medium chamber to your beam weapons should further increase the damage output of your solid beams.	Rare
Quad Medium Chambers	Solid Beam Min Dmg Bonus 10	With a fourth medium chamber in place your beam weapons will have a large boost in input energy allowing for more damage.	Rare

RANGE

Technology	Effect	Description	Rarity
Efficient Coupler Systems	Solid Beam Visible Range 50	We have upgraded our beam couplers to use high quality mirrors which should give them a little more range.	Common
Visibleimized Beam Systems	Solid Beam Visible Range 70	Using different Visibleical coatings in our lasers will increase the range of our lasers.	Common
Improved Beam Systems	Solid Beam Visible Range 90	By stabilizing the beam resonating chamber we should be able to achieve a longer range with out solid beams.	Common
Improved Coupler Systems	Solid Beam Visible Range 100	We have improved our couplers by adding in extra mirrors to help our beam weapons achieve longer ranges.	Common
Enhanced Beam Systems	Solid Beam Visible Range 125	Switching to infrared beam systems might help them shoot at longer ranges.	Common
Enhanced Coupler Systems	Solid Beam Visible Range 150	All our couplers will be enhanced so that they no longer lose threshold so that we can fire them at longer ranges.	Common
Advanced Beam Systems	Solid Beam Visible Range 175	Perhaps if we were to use ultraviolet beam systems we could fire our beams further than before.	Common
Advanced Coupler Systems	Solid Beam Visible Range 200	By reducing absorption in our couplers we retain 50% of our power when firing beam weapons; this will increase the range of our beam weapons.	Common
Flux-State Beams	Solid Beam Visible Range 225	Our scientists have decided that using gamma ray lasers will give us the more range than ever before with solid beams.	Common
Flux-State Couplers	Solid Beam Visible Range Unlimited	Utilizing flux state couplers allows our solid beam weapons to shoot into infinity because the beam no longer bleeds energy as it travels. It can hit targets on the other side of a solar system with full force.	Uncommon
Predictive Dissipation Algorithms	Solid Beam Visible Range Bonus 2	Building basic predictive algorithms to measure the dissipation of our beam weapons will allow us to better know the Visible range of our beam weapons.	Rare
Neural Dissipation Controls	Solid Beam Visible Range Bonus 5	Researchers have designed and built a new computer system devoted solely for dissipation measurements that will control the targeting system of our beams.	Rare
AI-Assisted Neural Dissipation Controls	Solid Beam Visible Range Bonus 10	A new artificial intelligence has been created to control the dissipation computers used on our beam weapons which will allow a much longer Visible range.	Rare

RATE OF FIRE

Technology	Effect	Description	Rarity
Self-Cooling Beam Casing Systems	Solid Beam Weapon Rate of Fire Minimum 3 Seconds	A new sub system for beams has been installed that will allow the weapon to cool itself whenever its needed meaning we can fire at rapid speeds.	Common
Advanced Beam System Coolant	Solid Beam Weapon Rate of Fire Minimum 5 Seconds	Harnessing the power of absolute zero your scientists are now able to fire beam weapons much faster than before.	Common
Improved Beam System Coolant	Solid Beam Wpn ROF Minimum 6 seconds	We have improved the coolant used in our beam weapons which should allow us to shoot faster without going critical.	Common
Beam System Coolant Flush	Solid Beam Wpn ROF Minimum 7 seconds	Designing a new coolant flush system for our beam weapons has been a top priority for our science teams which should allow us to shoot the weapon more often.	Common
Biogenic Coils	Solid Beam Power Reduced 10	Your scientists have created a biogenic coil system that replenishes itself and will greatly reduce the power requirement of future beam weapons.	Rare
Sub-Particle Immobilization	Solid Beam ROF Decrease 2	Scientists theorize that freezing certain sub particles in place should allow our beams to fire a little faster than usual.	Rare
Quantum-level Immobilization	Solid Beam ROF Decrease 5	A science team has come up with a way to try and achieve a zero-point energy system and if they succeed all our beams will fire faster.	Rare
Near Zero Systems	Solid Beam ROF Decrease 10	Your scientists have found a method to achieve near absolute zero temperatures for coolant which allows a 10% increase in ROF.	Rare

WEAPON ACCURACY

Technology	Effect	Description	Rarity
Automated Alignment System	Solid Beam Weapon Accuracy 50	An automated alignment system lets our weapon crews worry about getting solid target locks instead of trying to align the weapons themselves.	Common
Automated Beam Accuracy	Solid Beam Weapon Accuracy 60	A new program that calculates accuracy for beam weapons will allow our guns to hit their targets more often.	Common
Direct-Feed Target Accuracy	Solid Beam Weapon Accuracy 80	A direct feed has been set up for our weapons teams that will give them a better idea at what theyre shooting at.	Common
Direct-Feed Target Alignment	Solid Beam Weapon Accuracy 100	Another direct feed has been hooked up that will let the gunners know when the weapon alignment system is in place which should improve accuracy whenever they shoot.	Common
AI-Assisted Target Accuracy	Solid Beam Weapon Accuracy 120	A limited AI has been created to handle all the targeting for our new systems which increases the accuracy of our beam weapons.	Common
Neural Target Alignment Accuracy	Solid Beam Weapon Accuracy 135	Hooking up our gunners to the system will allow them to better target the enemy.	Common
AI-Assisted Target Alignment	Solid Beam Weapon Accuracy 150	A limited AI was created to manage the alignment system in our beam weapons which should increase the accuracy of our weapons.	Common
Automated Alignment Accuracy	Solid Beam Weapon Accuracy 175	An automated system for calculating the alignment and accuracy has been created that further increases the accuracy of beam weapons.	Common
Direct-Feed Target Generation	Solid Beam Weapon Accuracy 200	A new direct feed shows all the calculations required for our gunners to fire the perfect shots.	Common
AI-Assisted Target Generation	Solid Beam Weapon Accuracy 220	A new AI was created that is able to generate all targets and any position they might conceivably be allows for near perfect accuracy.	Common
Neural Target Alignment Generation	Solid Beam Weapon Accuracy 240	A neural link will allow our gunners to control the alignment of the beam systems with their minds which should create a much higher beam accuracy.	Common
Neural Target Alignment Interface	Solid Beam Weapon Accuracy 255	An interface that will allow one person to control the entire firing mechanism for beam weapons with perfect accuracy has been created.	Common

POWER REDUCTION

Technology	Effect	Description	Rarity
Efficient Coils	Solid Beam Power Reduced 2	With newer and more efficient coils in place our beam weapons shouldnt use up as much power as before.	Rare
Molecular Coils	Solid Beam Power Reduced 5	Using a molecular coil system in our beam weapons should allow us to decrease the power requirement of our beam weapons.	Rare
Biogenic Coils	Solid Beam Power Reduced 10	Your scientists have created a biogenic coil system that replenishes itself and will greatly reduce the power requirement of future beam weapons.	Rare

MISSILES

Technology	Effect	Description	Rarity
Impact Point Reaction Concepts	Missile Explosion Radius Bonus 1	The idea of putting in aerodynamic shrapnel might just increase the effective explosion radius of our missiles.,,	Uncommon
Impact Point Reaction Theories	Missile Explosion Radius Bonus 2	New fins have been installed on the shrapnel that will allow them to sail further than before hitting targets further out.,,	Uncommon
Predictive Impact Point Concepts	Missile Explosion Radius Bonus 3	Targeting certain geologically proven volatile hotspots should allow us to increase the destructive radius of our weapons.,,	Uncommon
Predictive Impact Point Theories	Missile Explosion Radius Bonus 5	Our missiles are now designed to lock on and target any stockpile of explosive materials which results in much larger explosions.,,	Uncommon
Chaotic Impact Point Concepts	Missile Explosion Radius Bonus 7	Nuclear devices in the kiloton range will allow our missiles to increase their blast radius by seven percent!,,	Uncommon
Chaotic Impact Point Algorithms	Missile Explosion Radius Bonus 10	Our nuclear devices have been programmed to achieve maximum effectiveness putting our nukes into the megaton range which gives us a ten percent increase in the blast radius.,,	Uncommon
Missile Miniaturization	Missile Hull Size Improve 2%	Using less moving parts in our missiles will shrink the size of the missiles by two percent.,,	Uncommon
Improved Missile Miniaturization	Missile Hull Size Improve 5%	Using smaller circuit boards the size of a ruler will allow us to make smaller missile hulls and save five percent of their normal space.,,	Uncommon
Advanced Missile Miniaturization	Missile Hull Size Improve 10%	Using molecular circuit boards will save ten percent more room than normal circuit boards enabling us to shrink our missiles even more.,,	Uncommon
Target Prediction Algorithms	Missile Maneuver Bonus 2	Computer programs for predicting movement patterns of the enemy allows our missiles better maneuvering capabilities.,,	Uncommon
Advanced Target Prediction Algorithms	Missile Maneuver Bonus 5	Loading AI targeting systems on our missiles gives them a huge boost in outmaneuvering enemy targets.,,	Uncommon
Payload Compression Theories	Missile Max Dmg Bonus 5	Compressing the missile payloads lets us fit more materials in the same place allowing for a five percent bonus to destructive power.,,	Uncommon
Improved Miniature Propulsion	Missile Max Speed Improve 2	Shrinking the generators on our missile engines let us squeeze in one more node giving a two percent bonus to missile speed.,,	Uncommon
Advanced Miniature Propulsion	Missile Max Speed Improve 5	Using atom manipulation allows our engineers to create much smaller power nodes allowing a few more to be placed on our missiles.,,	Uncommon
Overloaded Miniature Propulsion	Missile Max Speed Improve 10	Overloading the power nodes on our missiles allows for a ten percent increase in the normal speed of our missiles.,,	Uncommon

Technology	Effect	Description	Rarity
Advanced Compact Fuel Cells	Missile Range Bonus 10	Further shrinking our fuel cells and finding the slowest burning fuels has enabled our missiles to travel ten percent further than they normally would have.,,	Uncommon
Biogenic Fuel Cell Theories	Missile Range Bonus 12	If we were to create a slow burning fuel for our missiles that took up very little space and burned for a long time, we could really increase the range of our missiles.,	Uncommon
Biogenic Fuel Cells	Missile Range Bonus 20	Scientists have just finished creating the perfect rocket fuel allowing our missiles to go twenty percent further than before.,,	Uncommon
Compact Fuel Cell Theories	Missile Range Bonus 3	Loading fuel cells on our missiles should save more space than our previous storage devices which means we can carry more fuel on our missiles.,,	Uncommon
Compact Fuel Cells	Missile Range Bonus 5	The fuel cells have been further miniaturized allowing more cells to be used on each rocket, we now have a five percent bonus to flight time.,	Uncommon
Advanced Compact Fuel Cell Theories	Missile Range Bonus 8	Using slow burning fuels should further increase the range of our missiles and the first cells are now available.,,	Uncommon
Precision Missiles - Power	Precision Missiles 1	Targeting the power emissions on an engine allows our missiles to home in on the power generators.,,	Rare
Precision Missiles - Radar	Precision Missiles 2	Missiles can now come with an electronic tracking device that pinpoints and targets enemy radar.,,	Rare
Precision Missiles - Shields	Precision Missiles 3	Shield generators give off a special radiation that these new missiles will be able to identify and target specifically.,,	Rare

RADAR
WEAPON ACCURACY

Technology	Effect	Description	Rarity
Pattern Recognition Theory	Radar Wpn Acc 70	Our scientists have used a very basic method for determining the most basic fighting patterns. They used model airplanes and toy tanks on paper drawn terrain.	Common
Improved Pattern Recognition Theory	Radar Wpn Acc 80	The newest pattern recognition systems are based off of recorded footage taken from previous battles.	Common
Advanced Pattern Recognition Theory	Radar Wpn Acc 90	Observing our enemies from afar as they run through their training exercises will help us better determine their moves made in combat.	Common
Improved Targeting Systems	Radar Wpn Acc 100	Our targetting systems now have a crosshair overlayed on them to help our shooters determine what theyre shooting at.	Common
Neural Pattern Recognition Theory	Radar Wpn Acc 110	Recognizing how certain empires think when fighting will help us determine what maneuvers they are likely to use and increase our accuracy against them.	Common
Improved Targeting Systems Theory	Radar Wpn Acc 120	We could improve our targetting systems by having readouts on enemy movement speeds.	Common
Enhanced Targeting Systems Theory	Radar Wpn Acc 130	To enhance our targeting systems we should add more readouts for the maneuverability of their ships.	Common
Advanced Targeting Systems Theory	Radar Wpn Acc 140	We can make more advanced targeting systems if we add sensors that will identify the small telltale signs involved with changing directions.	Common
Enhanced Targeting Systems	Radar Wpn Acc 150	Our new enhanced targetting systems will project some possible routes the enemy might take when under fire.	Common
Neural Targeting Systems Theory	Radar Wpn Acc 160	Our scientists have compiled a list of all the maneuvers that can be made with each ship class which will improve our accuracy a lot.	Common
Pattern Recognition Concepts	Radar Wpn Acc 170	If we used new algorithms in our pattern recognition software we could probably increase the accuracy of our targetting systems.	Common
Improved Pattern Concepts	Radar Wpn Acc 180	Using a vector map will help our analysts determine target priorities and improve accuracy of our firing systems.	Common
Advanced Pattern Concepts	Radar Wpn Acc 190	Incorporating spatial queries into our targetting systems should help to get better target locks on the enemy.	Common
Advanced Targeting Systems	Radar Wpn Acc 200	The latest targetting systems will show all the possible routes an enemy will take.	Common

Technology	Effect	Description	Rarity
Neural Pattern Concepts	Radar Wpn Acc 210	We have created a program that will list the most likely maneuvers the enemy will use.	Common
Improved Targeting Concepts	Radar Wpn Acc 220	Using a new laser targetting system would probably increase the accuracy of our weapons a lot.	Common
Enhanced Targeting Concepts	Radar Wpn Acc 230	Deploying a sensor web in space during a battle will help us target the enemy during battle.	Common
Advanced Targeting Concepts	Radar Wpn Acc 240	We have upgraded our sensor network to use FTL transmissions which are a huge advantage in battle.	Common
Neural Targeting Concepts	Radar Wpn Acc 250	We have developed scans that can pick up the maneuvers an enemy pilot might make, it doesnÆt work all the time but when it does it really helps to target the enemy.	Common
Neural Targeting Systems	Radar Wpn Acc 255	We have a neural targeting system that can hack into an enemies brain and will tell you what theyre going to do before they ever do it. You can follow their every move with perfect accuracy.	Common
Biogenic Targeting	Radar Wpn Acc Bonus 2	Bio-mechanical sensors allow our weapons to better acquire their targets increasing our weapon accuracy.	Rare
Neural Targeting Interfacing	Radar Wpn Acc Bonus 5	Implanting machines to help our analysts acquire targets increases our weapon accuracy bonuses by a small margin.	Rare
AI-Assisted Neural Targeting Systems	Radar Wpn Acc Bonus 10	Using an AI targetting system gives our radars a huge bonus to weapon accuracy.	Rare

POINT DEFENSE ACCURACY

Technology	Effect	Description	Rarity
Pattern Recognition Systems	Point Defense Accuracy 100	We have created a program that lets us better recognize scan patterns.	Common
Improved Pattern Recognition	Point Defense Accuracy 150	Our pattern recognition program has received a massive update to 2.0 which improves it by 50%.	Common
Advanced Pattern Recognition	Point Defense Accuracy 200	The Pattern Recognition 3.0 software package has arrived which is 100% better than the first version.	Common
Neural Pattern Recognition	Point Defense Accuracy 255	We have dumped the pattern recognition software in favor of an AI that can recognize and identify anything and everything known to man.	Common
Improved Resolution Scanning	Point Defense Accuracy Bonus 2	Improving the resolution to 1024x768 on our scanners lets us see more detailed scans.	Rare
High Resolution Scanning	Point Defense Accuracy Bonus 5	Further improving the resolution of our scanners to 2560x1600 has given a large boost in scan detail.	Rare
Scanning Resolution Sub-Processors	Point Defense Accuracy Bonus 10	Our scanners have received new GPUs with multiple reprogrammable pipelines which gives our scan resolution a massive boost.	Rare

VISIBLE RANGE

Technology	Effect	Description	Rarity
Improved Collector Algorithms	Radar Visible Range 100	Our collector algorithms will now calculate parameterized complexityproblems allowing us to increase our Visible range.	Common
Improved Collector Principals	Radar Visible Range 125	The radar will now use radio waves for visualizations which will increase the Visible range of our radars.	Common
Enhanced Collector Algorithms	Radar Visible Range 150	Our newest radar algorithms come with an anti-scrambler that lets them refine data at longer ranges.	Common
Enhanced Collector Principals	Radar Visible Range 175	Our radars will now incorporate light detection and ranging for visualizations which increases our Visible range a great deal.	Common
Advanced Collector Algorithms	Radar Visible Range 200	We have created an algorithm that will interpret the data from a superheterodyne receiver which will increase our Visible range.	Common
Induced Collector Algorithms	Radar Visible Range 220	Our scientists created an algorithm that will allow our radar to use a demodulator which will further increase our Visible range.	Common
Neural Collector Concepts	Radar Visible Range 240	Using an artificial neural network for our radar will increase our Visible range by a lot.	Common
Neural Collector Algorithms	Radar Visible Range 255	Our scientists have created some algorithms to help interpret the data received by our neural network giving us a very large Visible range.	Common
Advanced Electronic Concepts	Enhanced Radar View In Space	There should be very little interference in space for our new radar systems so putting them at full power wont overload our systems but it will give us a much farther reach in space.	Common
Triangulated Collection Schemes	Radar Visible Range Bonus 2	Our collectors will now use a triangulation method with our radar will allow us to pinpoint objects a little further out than normal.	Rare
Multi-Source Collector Processing	Radar Visible Range Bonus 5	Using multiple collectors to scan with our radar gives a nice boost to the Visible range of our radar.	Rare
Neural Collector Processing	Radar Visible Range Bonus 10	An artificial intelligence has been created to handle all the collector processing andshould increase the Visible range by 10%.	Rare

DISRUPTION RESISTANCE

Technology	Effect	Description	Rarity
Improved Signal Processing	Radar Dis Res 75	Our scientists have made a radar with analog signal processing which lets us counter extremely weak jamming signals.	Common
Integrated Signal Processing	Radar Dis Res 85	Our analog devices should now have more resistors which can help counter slightly more complex jamming signals.	Common
Enhanced Signal Processing	Radar Dis Res 100	The number of resistors on our analog signal processors has been nearly tripled allowing us to resist stronger jamming signals.	Common
Evolved Signal Processing	Radar Dis Res 115	We have added quite a few more inductors to help our radars counter more complex jamming signals.	Common
Amplified Signal Processing	Radar Dis Res 130	Our newest radars should come with twenty times the transistors which will enable them to better counter certain jamming signals.	Common
Advanced Signal Processing	Radar Dis Res 150	Our scientists believe that using radar with digital signal processing would be much better to use against some of the more advanced jamming signals.	Common
AI-Driven Signal Filtering Concepts	Radar Dis Res 180	A small AI program has been created that will apply certain low pass filters to incoming signals to better protect against enemy jamming.	Common
AI-Driven Signal Filtering	Radar Dis Res 200	We have upgraded the power of our AI program to also utilize high-pass filters to better identify and counter jamming signals.	Common
Neural Signal Filtering Concepts	Radar Dis Res 225	Small programs meant to automatically counter certain jamming techniques would help us tremendously in the anti-jamming department.	Common
Neural Signal Filtering	Radar Dis Res 255	We now have programs set up for every conceivably jamming frequency that can counter them as needed.	Common

DETECTION RANGE

Technology	Effect	Description	Rarity
Improved Detection Algorithms	Detection Range 100	Improvements in detection algorithms will give our long range sensors the ability to detect objects at a longer range.	Common
Integrated Detection Algorithms	Detection Range 125	Our radar analysts no longer have to run the algorithms themselves, the radar systems will do it for them.	Common
Enhanced Detection Algorithms	Detection Range 150	New methods of signal sending and receiving have been created to allow us to detect objects very far away.	Common
Engaged Detection Algorithms	Detection Range 175	Our new algorithms incorporate an exponential heirarchy which will scan very long distances for potential targets.	Common
Advanced Detection Algorithms	Detection Range 200	Our newest algorithms will use an advanced method of cycle detection to pick up targets at longer ranges.	Common
Induced Detection Algorithms	Detection Range 225	Using combinatorial Visibleimization on our algorithms will allow our radar to pick up targets that are very far away.	Common
Reactive Detection Algorithms	Detection Range 240	By incorporating new signal stabalization methods we can now detect objects at extreme ranges.	Common
Neural Detection Algorithms	Detection Range 255	Our greatest invention in radar scanning yet will pick up any kind of signal by using a system modeled after the human brain.	Common
Spatial Hum Theories	Detection Range Bonus 2	Its been theorized that spatial hum would allow our max range radar to pick up targets a little further out.	Rare
Spatial Hum Practices	Detection Range Bonus 4	Putting the spatial hum theory into practice means we can achieve a larger max range than usual.	Rare
Spatial Hum Analysis	Detection Range Bonus 8	Further analzying spatial hum signatures should increase the max range of our radar by a large percentage.	Rare

JAMMING EFFECTS / IMMUNITY

Technology	Effect	Description	Rarity
Electronic Blocking Apparatus	Jamming Effect Available 2	A new technique for jamming the enemy has been developed that involves blocking their signals.	Common
Electronic Chaos Structures	Jamming Effect Available 3	With this new jamming ability it will be absolute chaos on their targeting screen as the number of targets multiplies right before their eyes.	Common
Electronic Control Apparatus	Jamming Effect Available 4	The fire control of enemy ships can now be jammed with a new method developed by radar specialists.	Common
Electronic Subversion	Jamming Effect Available 5	We can now disable any jamming they enemy has by jamming their jammers!	Common
Descrambling Algorithms	Jamming Immunity Available 2	With this research we should be able to descramble any signal blocking techniques the enemy may try to use.	Common
Electronic System Regulator Pattern	Jamming Immunity Available 3	By monitoring and tracking ships before they get into range, we can keep an eye on the real targets and ignore the fake ones.	Common
Jamming System Amplification	Jamming Immunity Available 4	Utilizing our jamming systems to help boost the fire control systems on our ships will render us immune to that type of jamming.	Common
Anti-Electronic Subversion	Jamming Immunity Available 5	With this new system in place no one can hack into our systems or jam our radars.	Common

JAMMING STRENGTH

Technology	Effect	Description	Rarity
Amplified Disruptive Patterns	Jamming Strength 75	We now have new signal patterns to give our jamming strength a little boost.	Common
Amplified Disruptive Theories	Jamming Strength 90	If we create even more signal patterns to use we will have some stronger jamming abilities.	Common
Amplified Disruptive Theories	Jamming Strength 100	By hooking up a power generator to help amplify the signal we have achieved a higher jamming strength.	Common
High Powered Disruptive Theories	Jamming Strength 125	If we were to hook up a lot of generators to our jamming suite we will have a lot stronger signal to send out.	Common
Enhanced Disruptive Patterns	Jamming Strength 150	Changing the jamming signal to never used-before patterns allows us to penetrate even deeper into enemy hulls.	Common
Enhanced Disruptive Theories	Jamming Strength 175	If we just press a bunch of random buttons maybe that will confuse the enemy!	Common
Adaptive Disruptive Patterns	Jamming Strength 200	An AI has generated some patterns that we have tested thoroughly and it seems they are better than anything we ever came up with ourselves.	Common

Technology	Effect	Description	Rarity
Adaptive Disruptive Theories	Jamming Strength 210	Putting an AI in charge of all our jamming capabilities will allow it to cycle through hundreds of signals in a blink of the eye.	Common
Neural Disruptive Theories	Jamming Strength 225	What if we had a jamming signal powerful enough to disrupt the signals in a human brain? These new possible patterns should render ship and crew useless.	Common
Neural Disruptive Patterns	Jamming Strength 255	Eureka! Our scientists and specialists have found jamming signals that can interfere with any known signal, including those of the human brain. When flipping the switch at maximum power nothing can stand in our way.	Common

JAMMING TARGETS

Technology	Effect	Description	Rarity
Oscillating Disruptive Targeting	Jamming Targets 3	Swinging our dish back and forth lets us jam two targets at once.	Common
Fast Oscillation Algorithms	Jamming Targets 2	By increasing the speed of oscillation we are able to jam up to three targets at once.	Common
Segmented Emitter Arrays	Jamming Targets 7	Using segmented emitters will allow each segment to jam a different target.	Common
Miniature Segmented Emitters	Jamming Targets 10	We have miniaturized our segmented emitters and can now place even more of them on our radars.	Common
Oscillating Disruptive Target Mechanisms	Jamming Targets 20	Switching targets very quickly allows us to have them all jammed at the same time.	Common
Fast Oscillation Technologies	Jamming Targets 30	Increasing the speed at which we change targets allows us to jam even more targets.	Common
Segmented Emitter Matrices	Jamming Targets 40	Producing a jamming matrix is made possible by our new segmented emitters, we can now jam up to eight targets in any given area.	Common
Miniature Segmented Matrices	Jamming Targets 50	Shrinking the new jamming emitters has enabled us to put more emitters on our radar which increases the number of targets we can jam in our matrix.	Common
Adaptive Segmentation Matrices	Jamming Targets 75	Increasing the size of our matrix and the power of our jamming facilities allows us to jam up to ten targets.	Common
Adaptive Segmentation Emitters	Jamming Targets 100	Using computer programs developed to execute the jamming effects of our radars allows us to jam up to a eleven targets.	Common
Neural Segmentation Matrices	Jamming Targets 150	An AI has been developed to handle the jamming matrix which allows a large number of targets to be jammed at once.	Common
Neural Segmentation Emitters	Jamming Targets 255	Allowing the AI to control all the emitters as well as the matrix means we can jam up to 255 targets without a problem.	Common
Omnidirectional Chaos Transmitters	Area Effect Jamming	Through the hard work of our scientists we have achieved a jamming technique that allows us to jam an unlimited amount of targets within the Visible radar range.	Rare

SHIELDS

MAXIMUM HITPOINTS

Technology	Effect	Description	Rarity
Improved Power Projection Systems	Shield Max HP 100	We have converted an old movie projector into a shield projector that has a very limited amount of hitpoints on it.	Common
Enhanced Power Projection Systems	Shield Max HP 1000	We have upgraded the old movie projector with a new built in power generator that lets it generate a stronger shield.	Common
Advanced Power Projection Systems	Shield Max HP 2000	Our scientists have created a new shield projector that is twice as good as the old one.	Common
Multi-Level Power Regulators	Shield Max HP 4000	New power regulators have been added to our shield projector that doubles the strength of our shields.	Common
Improved Shields	Shield Max HP 8000	Our shield projector has received a small nuclear power generator that lets it maintain a large amount of hitpoints on its shield.	Common
Enhanced Shields	Shield Max HP 10000	The nuclear generator on our shield projector has a new coolant system that lets is produce more power.	Common
Advanced Shields	Shield Max HP 15000	Our shield projectors nuclear generator now has a better moderator material allowing it to increase the strength of the shield by 50%.	Common
Multi-Level Shields	Shield Max HP 20000	Our newest shields will use two of the old enhanced shields together which really increases the amount of hits a shielded hull can take.	Common
AI-Controlled Shields	Shield Max HP 25000	A limited AI will now help balance the power used by the two projectors which will better manage the power it uses. This shoud allow us to have a shield with more hitpoints.	Common
Improved Power Projection Shields	Shield Max HP 30000	Shield projection systems have been improved by adding fuel cells that can store power in them to be used later when under attack.	Common
Enhanced Power Projection Shields	Shield Max HP 40000	The number of fuel cells hooked up to our shield projector has been doubled allowing us to further increase the power of our shields.	Common
Advanced Power Projection Shields	Shield Max HP 50000	The shield projectors now have a direct power feed to the engine that lets it increase the power it can use tremendously.	Common
Multi-Level Power Shields	Shield Max HP 60000	Our scientists have decided that adding more projectors is easier and cheaper than further developing shield technology to enhance one by itself.	Common

Technology	Effect	Description	Rarity
AI-Controlled Power Shields	Shield Max HP 70000	A new generator for shields that is powered by a simple AI can produce massive amounts of power which is determined by how fast the program can run its generation cycles.	Common
AI-Controlled Power Regulators	Shield Max HP Unlimited	Our scientists have created an AI that can run an infinite amount of generation cycles in mere nanoseconds which lets us achieve an unlimited amount of power on our shields.	Uncommon
Advanced Power Heat Dissipation	Shield Max HP Bonus 2%	New methods for heat dissipation will allow our shields to take more hits before they fail.	Rare
Self-Cooling Power Projectors	Shield Max HP Bonus 5%	A self cooling projector has been designed for our shields which will allow increase the number of hits they can deflect.	Rare
Cold-State Projection Systems	Shield Max HP Bonus 10%	A new projection system has been designed to always stay in a cold-state which allows us to increase the number of hits our shields can take by a large percentage.	Rare

RECHARGE RATE

Technology	Effect	Description	Rarity
Field Regeneration Theories	Shield Recharge Rate 100	Our scientists think that the key to powering up our shields is through field regeneration.	Common
Reinforced Field Modulators	Shield Recharge Rate 200	Reinforcing our modulators with uranium plating will allow us to recharge more energy at once.	Common
Wave-Amplified Field Modulators	Shield Recharge Rate 300	Amplifying the energy waves in the field modulators will allow our shields to recharge more energy.	Common
Improved Field Regeneration	Shield Recharge Rate 400	Our scientists have created a better quality magnet that is more powerful than the previous versions that will enable us to increase the recharge rate of shields.	Common
Enhanced Field Regeneration	Shield Recharge Rate 500	Our shields have received a new containment field generator that will allow a higher recharge rate.	Common
Advanced Field Regeneration	Shield Recharge Rate 1000	Using more magnets in our shields will let us recharge our shields in greater amounts.	Common
Field Regeneration Applications	Shield Recharge Rate 1500	A solid ring of magnets around the field generator can only regenerate a certain amount of energy per magnet but it should last us a while.	Common
Recharge Applications	Shield Recharge Rate 2000	Our newest shields are removing some of the magnets to have a small power injection pod capable of generating its own power and giving our shields a small boost in energy.	Common
Wave-Amplified Recharges	Shield Recharge Rate 2200	A team of scientists have come up with a way to use low powered frequencies to help recharge our shields, it doesnt do much but it helps.,	Common
Improved Field Recharges	Shield Recharge Rate 2400	To reach this level of recharge our scientists have replaced half the magnets with power injector pods.,,	Common
Enhanced Field Recharge	Shield Recharge Rate 2600	We have replaced all the magnets on our shields with power injector pods to achieve this high of a recharge rate.,,	Common
Advanced Field Recharge	Shield Recharge Rate 2800	Our scientists have found a way to upgrade the power injector pods with more sophisticated and higher yield power generators.,,	Common
Phasic Field Recharge	Shield Recharge Rate 3000	Our scientists are looking into a way to use neurotransmitters to recharge our shields, the first prototypes are available for use and far exceed our expectations.,	Common
Field Advanced Recharge	Shield Recharge Rate 3200	A new way to recharge our shields involves using bio-nano generators which will increase the power we can put into our shields every recharge cycle.,,	
Advanced Reinforced Shields	Shield Recharge Rate 3400	Reinforcing our shields by adding a backup recharge station will allow us to use the backup whenever we really need extra power put into the shields.,,	

Technology	Effect	Description	Rarity
Wave-Amplified Shields	Shield Recharge Rate 3600	To achieve a recharge rate this high we will have to use high powered super frequency energy waves to help recharge our shields.	Common
Improved Shields	Shield Recharge Rate 3800	We have improved the quality of our force field generators which lets us get a higher recharge rate.	Common
Enhanced Shields	Shield Recharge Rate 4000	Our shields have received some programs that will help manage the power they use which will increase the amount used for recharging our shields.	Common
Advanced Shields	Shield Recharge Rate 4500	A new AI was uploaded into our shield recharge stations that controls everything involved with the recharge stations and lets us get a much higher recharge rate.	Common
Phasic Shields	Shield Recharge Rate 5000	Using theoretical phasic field generators seems to give us a huge boost in power when recharging our shields.	Common
Phasic Field Regeneration Theories	Shield Recharge Rate Unlimited	A phasic field nexus can create a short burst of energy that can recharge an unlimited amount of power for our shields. With one of these we should have no problem powering up our largest shields.	Uncommon
Quantum-State Pulse Capacitors	Shield Recharge Rate Bonus 10%	Your leading scientist in quantum mechanics has developed a quantum state pulse capacitor that will give a large bonus to shield recharge rates on future designs.	Rare
Dense High Powered Burst Capacitors	Shield Recharge Rate Bonus 5%	A capacitor almost twice as dense as the previous has been created which should allow the recharge rate of your shields to be increase by a decent percentage.	Rare
High Powered Burst Capacitors	Shield Recharge Rate Bonus 2%	High powered burst capacitors will be implemented in all your new shields to increase the recharge rate by a small percentage.	Rare

Recharge Frequency

Technology	Effect	Description	Rarity
Cold-State Coil Systems	Shield Recharge Freq Low 1 second	An advanced system for coil heal dissipation will allow our shields to recharge much faster than before.,,	Common
Advanced Coil Heat Dissipation	Shield Recharge Freq Low 2 seconds	An improved version of the heat dissipation system should allow our shields to recharge faster.,,	Common
Improved Coil Heat Dissipation	Shield Recharge Freq Low 3 seconds	A new system for dissipating the heat involved with faster recharging has been created by a new team of scientists.,,	Common
Coil Heat Dissipation Systems	Shield Recharge Freq Low 4 seconds	Utilizing a new form of capacitance, we have achieved better capabilities for recharging our shields.,	Common
Dual Coil Chambers	Shield Recharge Freq Decrease 2%	Using a chamber with dual coils should allow our shields to recharge a little faster.,,	Rare
Coil Insulation Systems	Shield Recharge Freq Decrease 5%	Insulating the coil chambers will help stop power leaks and give a decent bonus to the recharge frequency.,,	Rare
Twisted Coil Meshes	Shield Recharge Freq Decrease 10%	Replacing the old coils with new twisted coil meshs will give our shields a huge bonus to their recharge frequencies.,,	Rare

PROJECTION SIZE

Technology	Effect	Description	Rarity
Efficient Accelerator Concepts	Shield Proj Size 1000	A concept was created that outlines a more efficient shield accelerator that will increase the size of our shields.	Common
Improved Accelerator Efficiency	Shield Proj Size 10000	A new accelerator design will allow our accelerators to be much more efficient than before.	Common
Enhanced Accelerator Efficiency	Shield Proj Size 20000	Enhancing our accelerator efficiency even further means we can put shields on larger hulls.	Common
Advanced Accelerator Efficiency	Shield Proj Size 30000	An advanced accelerator was created to allow shields to be placed on even larger hulls.	Common
AI-Controlled Accelerators	Shield Proj Size 40000	A limited AI has been made to control the accelerators of our shields so we can place them on bigger hulls.	Common
Biogenically Controlled Accelerators	Shield Proj Size 50000	A new shield accelerator that mimics a living organism will enable us to create larger shields.	Common
Efficient Accelerator Concepts	Shield Proj Size 60000	A team of scientists has outlined a new concept for more efficient accelerators.	Common
Improved Accelerator Efficiency	Shield Proj Size 70000	Adding extra power generators to the accelerator will allow it to increase the hull projection size.	Common
Enhanced Accelerator Efficiency	Shield Proj Size 80000	Rewiring everything with fiber-Visibleics and throwing away the old copper wires will allow our accelerators to achieved a larger hull projection.	Common
Advanced Accelerator Efficiency	Shield Proj Size 90000	By creating a plasma reactor for our shields we should be able to place shields on some of our larger ships.	Common
Dual Accelerator Technology	Shield Proj Size 100000	Using two of our smaller accelerators at once and hooking them together will enable us to put shields on even larger hulls than before.	Common
AI-Controlled Accelerators	Shield Proj Size 120000	An AI was created to help our dual accelerator system work together in a more stable manner which has allowed us to put shields on even larger hulls.	Common
Biogenically Controlled Accelerators	Shield Proj Size 140000	We have upgraded our shield accelerators with new biosphere power generators that lets us place them on our larger hulls.	Common
Dual Accelerator Technology	Shield Proj Size 160000	Our dual accelerators have been upgraded with storage rings that will allow them to form shields over extremely large hulls.	Common

Technology	Effect	Description	Rarity
Multiple Accelerator Systems	Shield Proj Size 180000	Seeing as how two accelerators got us larger projection sizes, our scientists have found a way to make three work together at one time.	Common
Multiple Accelerator Systems	Shield Proj Size 200000	The newest shield generator will place four smaller accelerators together to create a massive shield that will fit on most battle-cruiser hulls and maybe even some facilities.	Common
Dynamic Accelerator Systems	Shield Proj Size 250000	The science team working on shields has found that any more than five accelerators with their current knowledge would result in a catastrophic explosion but they are working on a fix for that.	Common
Dynamic Accelerator Systems	Shield Proj Size Unlimited	Your scientists have made a breakthrough discovery that will allow you to link as many accelerators as you want together without any negative results. You should now be able to place a shield on anything no matter how large it is.	Uncommon
Dual Coil-Accelerator Interface	Shield Proj Size Bonus 2%	A second coil-accelerator will be added to all new shields since researchers say that could increase the size of shields by a small amount for free.	Rare
Flux-State Accelerators	Shield Proj Size Bonus 5%	A new flux state accelerator can be added to all our shields to give them a decent boost to their projection size.	Rare
Quantum-State Accelerators	Shield Proj Size Bonus 10%	Designing a quantum-state accelerator was said to be impossible but your scientists have created one and its ready to be used. With these in place yoru shields will achieve a large boost to their projection size.,,	Rare
Enveloping Cloak Fields	Facility Cloaking 1	Experiments in cloaking have yielded large cloaking generators which can only be used on buildings.	Rare
Cloak Field Generators	Ground Unit Cloaking 1	Small cloaking generators have been developed to allow us to cloak certain hulls that can only be used on the ground. Because they require balancing the magnetic force of gravity to work we cannot place them on flying units unless we research a different way to do it.	Rare
Forceless Cloak Generators	Aerial Cloaking 1	We have devised a way to put cloaking generators on certain aerial only hulls. These units will be cloaked until they fire their weapons and which point they will become visible for a short time. Now we can truly sneak up on our enemies.	Rare
Energy Containment Concepts	Shields Allowed On Planets 2	Our scientists have theorized that large ship shields are hard to make because the generators must still fit on the ship but what about a planet? Surely with that much space available we can make a shield to encompass an entire planet.	Ultra - rare

ARMOR

IMPROVED PLATES

Technology	Effect	Description	Rarity
Armor Compression Techniques	Armor Cheaper HullToHP 1 to 12	New techniques have been developed that allow us to compress our plates smaller than before giving us more dense armor plates.	Rare
Adv. Armor Compression Techniques	Armor Cheaper HullToHP 1 to 13	The compression technique has been improved upon allowing super-dense plates to be made. We should be able to take more hits after designing some new armor.	Rare
Advanced Armor Compression	Armor Cheaper HullToHP 1 to 15	Molecular science has given us the ability to compress our armors by shoving the molecules together. The process allows our armor to achieve much higher hit points per plate.	Rare
Advanced Armor Molecular Compression	Armor Cheaper HullToHP 1 to 18	Breakthroughs in molecular compression enable us to stack the molecules one on top of the other making for the densest armor yet.	Rare
Intermediate Interpolated Armor Plating	Armor Cheaper HullToHP 1 to 19	Reaching into the unknown, our scientists have started manipulating the atoms that make up the armor plates allowing more hit points per plate.	Rare
Interpolated Armor Plating	Armor Cheaper HullToHP 1 to 20	The process of atomic manipulation has been perfected giving us the most hit points per plate possible.	Rare

IMPROVED RESISTANCES

Technology	Effect	Description	Rarity
Generated Energy Absorption Concepts	Beam Resist Improve 3	We have discovered the means to increase the beam resistance on new armor designs.	Uncommon
Focused Energy Absorption Concepts	Beam Resist Improve 5	Our scientists have run countless tests and are now able to get even more beam resist on new armor designs.	Uncommon
Generated Energy Transfer Patterns	Beam Resist Improve 7	Countless months of researching have enabled our scientists to get better beam resistance results on new armor designs.	Uncommon
Focused Energy Transfer Patterns	Beam Resist Improve 10	The science teams have exhausted all avenues of research and have come up with a way to further increase the beam resist of new armor designs.	Uncommon
Intermediate Interpolated Armor Plating	Armor Cheaper HullToHP 1 to 19	Reaching into the unknown, our scientists have started manipulating the atoms that make up the armor plates allowing more hit points per plate.	Uncommon
Interpolated Armor Plating	Armor Cheaper HullToHP 1 to 20	The process of atomic manipulation has been perfected giving us the most hit points per plate possible.	Uncommon

Technology	Effect	Description	Rarity
Increased Combustion Stabilization	Burn Resist Improve 3	We have discovered the means to increase the burn resistance on new armor designs.	Uncommon
Enhanced Combustion Stabilization	Burn Resist Improve 5	Our scientists have run countless tests and are now able to get even more burn resist on new armor designs.	Uncommon
Micro-Combustion Inhibitors	Burn Resist Improve 7	Countless months of researching have enabled our scientists to get better burn resistance results on new armor designs.	Uncommon
Nano-Combustion Inhibitors	Burn Resist Improve 10	The science teams have exhausted all avenues of research and have come up with a way to further increase the burn resist of new armor designs.	Uncommon
Molecular Stability	Chem Resist Improve 3	We have discovered the means to increase the chemical resistance on new armor designs.,,	Uncommon
Molecular Theory	Chem Resist Improve 5	Our scientists have run countless tests and are now able to get even more chemical resist on new armor designs.	Uncommon
Molecular Compositions	Chem Resist Improve 7	Countless months of researching have enabled our scientists to get better chemical resistance results on new armor designs.	Uncommon
Molecular Probabilities	Chem Resist Improve 10	The science teams have exhausted all avenues of research and have come up with a way to further increase the chemical resist of new armor designs.	Uncommon
Force Repulsion Theory	Impact Resist Improve 3	We have discovered the means to increase the impact resistance on new armor designs.	Uncommon
Force Repulsion Concepts	Impact Resist Improve 5	Our scientists have run countless tests and are now able to get even more impact resist on new armor designs.	Uncommon
Collapsed Force Theory	Impact Resist Improve 7	Countless months of researching have enabled our scientists to get better impact resistance results on new armor designs.	Uncommon
Collapsed Force Reduction	Impact Resist Improve 10	The science teams have exhausted all avenues of research and have come up with a way to further increase the impact resist of new armor designs.	Uncommon
Magnetic Polarity Transformations	Mag Resist Improve 3	We have discovered the means to increase the magnetic resistance on new armor designs.	Uncommon
Magnetic Polarity Shifting Theories	Mag Resist Improve 5	Our scientists have run countless tests and are now able to get even more magnetic resist on new armor designs.	Uncommon
Advanced Magnetic Polarity Transformations	Mag Resist Improve 7	Countless months of researching have enabled our scientists to get better magnetic resistance results on new armor designs.	Uncommon
Advanced Magnetic Polarity Shifting	Mag Resist Improve 10	The science teams have exhausted all avenues of research and have come up with a way to further increase the magnetic resist of new armor designs.	Uncommon

Technology	Effect	Description	Rarity
Dulling Material Theories	Pierce Resist Improve 5%	Our scientists have run countless tests and are now able to get even more pierce resist on new armor designs.	Uncommon
Enhanced Dulling Materials	Pierce Resist Improve 10%	The science teams have exhausted all avenues of research and have come up with a way to further increase the pierce resist of new armor designs.	Uncommon
Noise Induced Energy Absorption	No Beam at 2X Radar Resist 1	We have developed a new technique with radar resist that can double its effectiveness if there is no beam resistance present which disrupts our resistance technique.	Uncommon
Compressed Combustion Theory	No Burn at 2X Impact Resist 1	If we dont worry about flammable materials we should be able to double our resistance to high velocity impact weapons.	Uncommon
Combustive Chemical Stabilization	No Chem at 2X Burn Resist 1	Getting rid of the chemical resists on our armors enables us to double the effectiveness of our burn resistance.	Uncommon
Combustive Impact Reduction	No Impact at 2X Burn Resist 1	Doubling our burn resistance is possible by using a ton of flame-resistant materials, the only problem is that you will have no impact resistance at all.	Uncommon
Chemical Field Theory	No Mag at 2X Chem Resist 1	To enhance our chemical resistance we need to get rid of any magnetic resistance since it interferes with our special chemical retardant metals.	Uncommon
Dull Molecules	No Pierce at 2X Beam Resist 1	Arranging the molecules in our armor will render us defenseless against piercing attacks but any beam damage will be reduced by half.	Uncommon

COLONY

COMMAND POINT LIMIT

Technology	Effect	Description	Rarity
Regulated Command Studies	CP Limit 400	Our scientists have devised a better command structure enabling our empire to utilize more units at once.	Common
Command Principles	CP Limit 500	New procedures have been implemented to give our officers better command abilities in any situation.	Common
Intermediate Command Structures	CP Limit 600	A new rank structure has been created allowing our empire to delegate more tasks to our sub-officers, we can now command more units at one time.	Common
Advanced Command	CP Limit 800	A new officers training school will give our officers better proficiency in command. With these new graduates we can marshal larger forces with ease.	Common
Outlying Command Restructuring	CP Limit 900	With a reorganization of our command charts we have discovered a new way to give orders, we can now support more troops in any given environment.	Common
Core Command Restructuring	CP Limit 1000	Promoting certain generals and ousting the old has given us the opportunity to control more units at once. Our new generals have more combat experience than the older ones who grew up in peaceful times.	Common

COLONY BOOSTS

Technology	Effect	Description	Rarity
Applied Anatomy	All Colony Morale Boost 1	With the help of our empires leading biologist and sociologist, science teams have found a way to make our citizens happier.	Common
Advanced Ecological Engineering	All Colony Morale Boost 5	A pharmaceutical company has created a drug that will make people very happy. Government officials quickly bought the recipe and are now requiring all citizens to get their shots.	Common
Food Synthesis and Replication	Growth Rate Bonus 1	Food synthesizers have been created which virtually eliminate hunger in our empire, the population should start to climb quite rapidly.	Common
Biogenetics	Growth Rate Bonus 3	Genetic enhancements make our citizens live longer, meaning people can have more babies over time.	Common
Cloning Theories	Growth Rate Bonus 5	Cloning our most productive citizens should allow us to prosper even more!	Common
Socio-Economic Pattern Recognition	Controlled Morale	Controlling every aspect of our citizens lives would be very tedious so we have conditioned them to respond to money in certain ways. By controlling the money we control the population.	Ultra-rare

RESIDENTS PER HULL

Technology	Effect	Description	Rarity
Applied Sociology	Better Hull ratio for Residentials - 10 hull per resident instead of 12	The space required to keep our people happy is smaller than originally planned. Cutting back on their space allows us to clear up more room for other things.	Common
Advanced Residential Planning	Better Hull ratio for Residentials - residents per hull 9	Smaller and more comfortable beds have been created to save more room and allow us to fit more people in any given place.	Common
Regulated Residential Planning	Better Hull ratio for Residentials - residents per hull 8	Scientists figure that installing bunk beds will allow us to fit more people into less space.	Common
High-Density Living Quarters	Improved Cargo/ Colonist Size 1	It has been determined that we waste a lot of space because we do not stack things on top of each other so from now on we will start placing cargo crates on top of each other and requiring our citizens to use bunk beds whenever possible.	Rare

PERSONNEL

Technology	Effect	Description	Rarity
Trainer Training Programs	BaseEnlistedPer-Training - Enhanced Enlisted Production Rate 12	Giving each soldier a personal trainer will insure that more of them can pass the fitness exams which are the only bar to becoming an enlisted member of this empire.,,	Common
Advanced Training Programs	BaseEnlistedPer-Training - Enhanced Enlisted Production Rate 14	Designing a more sophisticated training facility will allow us to better train our recruits and yield a larger graduating class.	Common
Wargames Simulations	BaseOfficerPer-Trainer - Enhanced Officer Production Rate 6	With the introduction of war games to the officers school we now graduate more officers than before. This helps them grasp the concepts of battle when it comes time for finals.	Common
Advanced Tactical Studies	BaseOfficerPer-Trainer - Enhanced Officer Production Rate 7	Putting veteran commanders in the teachers chair will help teach and to inspire new officers to achieve more. We expect larger graduate classes in our officers school.	Common
Institutionalized Nationalism	Enlisted's Colonists Cost 10	Your citizens are born and bred to fight. Its not just required to join, its programmed into them.	Common
Military Draft	Enlisted's Colonists Cost 11	It is required of all your citizens to join the military and serve some time in service.	Common
Advanced Military Training	Enlisted's Colonists Cost 12	New courses in advanced tactics and weaponry draw more citizens into the service since they see the opportunity to use modern weapons in combat.	Common
Induced Military Training	Enlisted's Colonists Cost 13	Scholarships are being offered for any new recruit. Your citizens flock to the enlistment offices.	Common
Modified Military Training	Enlisted's Colonists Cost 14	Training has been updated and enhanced to allow more recruits to become enlisted.	Common
Enhanced Military Training	Enlisted's Colonists Cost 15	More military officers have been moved into training positions which helps encourage citizens to join up.	Common
Self-Aware Training Machines	EnlistedTraining-Factor - Enhanced Enlisted Production Rate 4	AI Droids are being used to help our new recruits. With these in place we can train more grunts than ever before.	Common
Nationalistic Command	Officer's Enlisted Cost 10	War heroes have been recruited to be the new teachers at the officer training facilities. With these heroes of your empire in place, anyone who signs up will be inspired to graduate and become officers themselves.,	Common
Advanced Command Training	Officer's Enlisted Cost 12	New simulators have been installed at the officers school but there are not enough to go around, so we only take twelve enlisted at a time now. Due to the excellent training these sims give our students, we graduate more than ever before.	Common
Enhanced Command Training	Officer's Enlisted Cost 15	New textbooks and field guides have been introduced to the officers school which allows more graduates. Class sizes have been reduced to accommodate a shortage of the new books.	Common

BATTLEGROUPS

Technology	Effect	Description	Rarity
Direct Command System	Max Battlegroups 5	Assigning one Admiral to each battlegroup should be enough to get us five battlegroups.,,	Common
Single Tier Hierarchy Command	Max Battlegroups 10	Placing two battlegroups under each Admiral then allowing them to designate their own commanders means we should have ten battlegroups going at once.,,	Common
Multi-Tier Heirarchy Command	Max Battlegroups 20	A Full Admiral and their general staff will be able to manage and maintain up to twenty battlegroups at once.,,	Common
Command Structuring	Max Battlegroup Units 20	A command structure for battlegroups would allow a flagship to control up to 20 units.	Common
Advanced Battlegroup Command	Max Battlegroup Units 30	Experienced officers will be able to handle more units than a newbie straight out of the academy.	Common
Applied Command Structuring	Max Battlegroup Units 40	Using captains instead of lieutenants for commanding battlegroups will allow us to command more units at once.	Common
Tactical Battlegroups	Max Battlegroup Units 50	Putting a Major in charge of the battlegroup will enable us to put more units under their command.	Common
Advanced Battlegroup Command Practices	Max Battlegroup Units 60	Placing a colonel in command of battlegroups should enable more units to be controlled at any given time.	Common
Engaged Tactical Battlegroups	Max Battlegroup Units 70	Colonels that have seen action are less likely to crack under pressure and should be able to handle a battlegroup command much easier than a newly promoted one.	Common
Engaged Strategic Battlegroups	Max Battlegroup Units 100	Admirals are the ranking officers in the space corps so its only right for them to assume command. They have more authority so its only fair.	Common
Strategic Battlegroups	Max Battlegroup Units 255	Assigning full admirals with their general staff to battlegroup command slots will enable your battlegroups to command as many people as they need.	Common

TRADE

Technology	Effect	Description	Rarity
Regional Trading Bureau	Trade Board Range 3	Our scientists have located and hacked into the GTC relay station network that will update us with information on trades outside our systems.	Rare
Galactic Trade Guild	Trade Board Range 4	After stealing the designs for the GTC relay stations, our scientists searched for a way to plant them in subspace to improve their range. They managed to make a prototype that far exceeded their wildest imaginations. We can now set up trade lanes anywhere in the galaxy.	Ultra-Rare
GTC Networked Route Membership	Trade Costs 5	Using our connections in the GTC we have applied for membership in the private GTC network. With a membership we would have access to the best lanes and the lowest rates possible.	Uncommon
GTC Trade Route Registration	Trade Costs 10	Our contacts in the GTC have notified us that it is possible to register for certain trade lanes which can significantly reduce the tax on our trades.	Uncommon
GTC Appropriations	Trade Costs 15	Our lawyers want to make a deal with the GTC that will end up lowering our trade tax across the board if we follow certain rules.	Rare
Improved GTC Connections	Trade GTC Speed 300	We have become very popular with certain GTC officials by offering them some money under the table. They have agreed to jump our places in the shipment queue lanes which will make our trades go faster.	Rare
GTC Membership Upgrade	Trade GTC Speed 500	Through our many connections we have found a way to get a spot in the GTC. With this position we will be able to negotiate trade deals much faster than before.	Rare
GTC Preferred Trader Status	Trade GTC Speed 800	Our empire has traded so much that the GTC feels obligated to give us a preferred status. Our shipments will receive the highest priority since they earn so much money from our taxes.	Rare
Point to Point Transporters	Transporters 1	Teleportation devices have been created that allow us to teleport anything between planets instantly.	Rare
Orbital Transporters	Transporters 2	We have improved the targeting systems in our teleporters to be able to target any object located in space that does not have its own gravity. We can now teleport whatever we want to any point in a solar system from any planet we choose.	Ultra-Rare
Mass Driver	Mass Driver	Super-accelerating our minerals and launching them to other planets will allow us to transport our materials much faster than conventional means. Be sure to build something capable of catching the incoming materials or you might end up severely damaging your target. Maybe we should think about using this as a weapon as well.	Ultra-Rare

Technology	Effect	Description	Rarity
Organized Trade Efficiencies	Buy/Sell Order Slots ENUM 1	Our bean counters have come up with a method of organizing our trading charts that allows us to sell and track more products at once.,,	Uncommon
Improved Trade Balances	Buy/Sell Order Slots ENUM 2	With new systems to help balance the work load of moving and selling our materials we should be able sell more things at once.,,	Uncommon
Automated Trading and Marketing	Buy/Sell Order Slots ENUM 3	Computer assisted trading allows us to manage our portfolios a lot better than before so we can sell more things at any given time.,,	Uncommon
Neural Trade Market Interface	Buy/Sell Order Slots ENUM 4	An AI has been created to keep track of all our inventory and what is currently on the market which enables us to do more trades simultaneously.,,	Uncommon

HOMELESS / UNEMPLOYMENT

Technology	Effect	Description	Rarity
Social Programs	Homeless Allowed Before Penalty 1%	Special homes have been erected for the homeless to take shelter in which makes them more content with their situation.	Rare
Social Program Reform	Homeless Allowed Before Penalty 2%	Larger bridges are being built to accommodate the homeless who shelter under them.	Rare
Efficient Social Programs	Homeless Allowed Before Penalty 3%	Food stamps are being handed out to the homeless to help keep them happy.	Rare
Adaptive Social Programs	Homeless Allowed Before Penalty 4%	A large welfare system has been put into place that helps to provide for the homeless and needy.	Rare
Social Growth Management	Adjustable Colonist Growth 1	Colony-wide birth control measures have been developed to help us control the growth of our colonies.	Ultra-Rare
Recreation Services	Unemployment Without Penalty 3%	City planners have devised a means to keep the jobless happy by installing free arcade games around all public buildings.	Rare
Advanced Recreation Services	Unemployment Without Penalty 4%	Our analysts have projected that giving everyone a free laptop with some games on them will keep people out of work in a better mood.	Rare
Holographic Simulators	Unemployment Without Penalty 5%	New holographic game systems are being erected in every building to help keep the jobless entertained. With so much fun stuff to do they wont worry about their lack of a job.	Rare
Regulated Community Services	Unemployment Upkeep Reduct 5%	A community service schedule has been drawn up to allow the unemployed to clean the city for tips.	Rare
Private Sector Social Policies	Unemployment Upkeep Reduct 10%	Colonies have new laws requiring all unemployed persons to help with cleaning the city any any money they find on the ground they can keep. This should aleviate some upkeep problems.	Rare

UPKEEP

Technology	Effect	Description	Rarity
Modified Aerial Maintenance Plans	Aerial Upkeep Reduction 1%	Switching around maintenance schedules has allowed us to save some money on upkeep. With enough extra credits, we might even start paying our engineers more.	Rare
Revised Aerial Maintenance Plans	Aerial Upkeep Reduction 2%	Firing some engineers and extending the work schedules of the rest should save us money on our maintenance costs.	Rare
Aerial Maintenance Corps	Aerial Upkeep Reduction 3%	New plans for a Corp of engineers devoted to fixing aerial units has been put into effect. All members of the Corp get paid the same low rate saving us a bunch of money!	Rare
Aerial Maintenance Corps	Aerial Upkeep Reduction 4%	The maintenance corps has grown to epic proportions so we decided to only keep the very best engineers. They do the same work only better and its not costing us as much.	Rare
Robotic Aerial Maintenance	Aerial Upkeep Reduction 5%	New repair drones have been created to replace the maintenance corps in the aerial unit field. Half the engineers were fired and the rest were kept to keep the drones in good shape.	Rare
Production Maintenance Concepts	Factory Upkeep Reduction 3%	If we capture enemy engineers and put them to work on our factories we should be able to save money on upkeep since we dont have to pay them.	Rare
Production Maintenance Schedule	Factory Upkeep Reduction 5%	Cutting back the hours of our highest paid employees and hiring a bunch of new ones at starting salary will get more work done and cost us less in the long run!	Rare
Proactive Production Maintenance	Factory Upkeep Reduction 7%	Keeping engineers on station 24/7 means no waiting till the next day for the fix. With this round the clock repairing we end up saving a lot of money.	Rare
Improved Production Maintenance	Factory Upkeep Reduction 10%	We have sent our engineers back to school to learn new methods of fixing the various parts in our factories. They should be much more efficient now.	Rare
Revised Vehicle Maintenance Plans	Non-Aerial Upkeep Reduction 2%	The maintenance plans and procedures have been updated for efficiency. The new procedures will end up saving us money in the long run.	Rare
Vehicle Maintenance Corps	Non-Aerial Upkeep Reduction 3%	An organization started by undergraduates at a prestigious academy in your empire have volunteered a create and maintain their own maintenance corps. We dont have to pay them or the people we had hired before to do the work. The cost for maintaining our units should start going down.	Rare
Robotic Vehicle Maintenance	Non-Aerial Upkeep Reduction 5%	Robotic repair drones have been assigned to all our ground units which should be able to fix any minor problems with no cost to us.	Rare

Technology	Effect	Description	Rarity
Social Cost Reduction	Population Upkeep Reduction 5%	With upgraded plumbing and water treatment plants we do not have to pay as much to keep our citizens healthy.	Rare
Advanced Social Cost Reduction	Population Upkeep Reduction 10%	State of the art equipment for trash disposal, schools, and cheaper gas means we pay even less for each citizen.	Rare
Improved Research Supply Planning	Research Fac Upkeep Reduction 5%	Planning ahead has always been hard for scientists so the government will start doing it for them and making sure they have what they need before they know they even need it. This should cut down on the costs of trying to buy everything at the last minute for a new project.	Rare
Self-Generated Research Supplies	Research Fac Upkeep Reduction 10%	All our research facilities now come equiped with a small machine that can generate any supplies they might need.	Rare
Improved Intra-Empire Trades	Spaceport Upkeep Reduction 5%	Taxing our colonists for using the spaceport trading systems should decrease the amount our government has to pay for spaceports.,,	Rare
Government-regulated Intra-Empire Trades	Spaceport Upkeep Reduction 10%	Government officials have been placed in all our spaceports to help regulate all the trade going through the spaceports. They will levy taxes on everyone to keep the upkeep costs down.,,	Rare
Aquatic Robotic Repair Units	Underwater Fac Upkeep Reduct 5%	Small andriods have been developed that can repair underwater facilities so we no longer have to hire huge teams of divers. This should free up some money in our colony.	Rare
Advanced Aquatic Maintenance	Underwater Fac Upkeep Reduct 10%	With the invention of small nanite repair submersibles it will cost us practically nothing for underwater facility upkeep.	Rare
Regulated Community Services	Unemployment Upkeep Reduct 5%	A community service schedule has been drawn up to allow the unemployed to clean the city for tips.,,	Rare
Private Sector Social Policies	Unemployment Upkeep Reduct 10%	Colonies have new laws requiring all unemployed persons to help with cleaning the city any any money they find on the ground they can keep. This should aleviate some upkeep problems.,,	Rare

TAXES

Technology	Effect	Description	Rarity
Patriotism	Tax Rate Without Penalty 3%	Our scientists have found a way to put subliminal messages in commercials to promote patriotism. If it works then our citizens wont mind paying a little higher taxes.	Rare
Nationalism	Tax Rate Without Penalty 5%	New subliminal messages have been put into commercials that should instill nationilism in our populance. Hopefully we can tax them even more before they become unhappy.	Rare
Social-Brainwash Practices	Tax Rate Without Penalty 8%	New teaching methods have been put into place to brainwash our citizens when they are children that taxes are good and the higher the better. So long as these new citizens can still buy food they should be happy with whatever taxes we charge.	Rare

MINING

Technology	Effect	Description	Rarity
Enhanced Material Reclamation	Automatic Mineral Movement 1	To improve the mineral mining operations around our empire we have started to require all employees to carry as many minerals as they can back to the refineries before their shift ends.	Rare
Civilian Material Reclamation Programs	Automatic Mineral Movement 2	We have hired idle civilians to make long lines between the mining facilities and the refineries to pass minerals from one to the other. The process is slow going but it works great!	Rare
Robotic Material Reclamation	Automatic Mineral Movement 3	Robotic drones will now start to carry minerals from the mines to the refineries without any assistance from humans. The only thing they need is occasional maintenance from the refinery crews.	Rare
Enhanced Material Reclamation	Automatic Mineral Movement 4	A UAV has been developed to haul minerals to the refineries and they are controlled by an AI. Every once in awhile they break down so we keep repair stations in our refineries.	Rare
Civilian Material Reclamation Programs	Automatic Mineral Movement 5	Small teleportation devices allow us to directly transfer minerals from the mines to our refineries. This greatly enhances our ability to stockpile minerals in our empire!	Ultra-Rare
Enhanced Mineral Extraction	Mineral Concentration Bonus 1	New drills allow us to mine more minerals than before.	Rare
Advanced Mineral Extraction	Mineral Concentration Bonus 2	New drilling techniques should yield more minerals when mining.	Rare
Efficient Mineral Extraction	Mineral Concentration Bonus 3	We have perfected our drilling techniques which means we can gather more minerals than ever before.	Rare
Orbital Mining Platform	Orbital Mining Platform	A brilliant scientist has redesigned a space station to become a massive mining platform. With this in place we will be able to mine minerals in space much faster than ever before.	Rare

AGENTS

Technology	Effect	Description	Rarity
Command Espionage	Intercept of Battle-group Info 1	Our agents have figured out a way to intercept information from enemy empires about their battlegroup movements.,,	Uncommon
Command Subversion	Intercept of Battle-group Info 2	Our agents have made more contacts and should now be able to get even more information out of battlegroup movements.,,	Uncommon
Advanced Command Subversion	Intercept of Battle-group Info 3	We have subverted and imported spies to infil-trate the bridge of enemy flagships. With these people in place we should know everywhere the enemy goes.,,	Uncommon
Construction Espionage	Intercept of Build-ings Built 1	Contacts and spies will now be able to report on enemy building information. We have set up a network to allow the flow of information to reach your ears.,,	Uncommon
Advanced Construction Espionage	Intercept of Build-ings Built 2	The Agency managed to get certain people hired on as construction workers. Now we should know before anyone else what is being built and where.,,	Uncommon
Research Espionage	Intercept of Tech-nologies 1	Our agents have penetrated the top secret secu-rity around enemy research facilities. We should now be able to find out some of their technologi-cal secrets.,,	Uncommon
Economic Espionage	Intercept of Trades 1	Our agents have found a way to intercept the trades of enemy empires. This will really hurt our enemies if we execute these flawlessly.,,	Uncommon
Diplomatic Espionage	Espionage Mission to See Contacts 1	The Agency has found a way to find out who other empires are in contact with. ,,	Common
Diplomatic Entrenchment	Espionage Mission to See Contacts 2	The Agency has discovered a way to plant moles into other empires to ferret out secrets about their contacts.,,	Uncommon

TOP SECRET TECHS

Technology	Effect	Description	Rarity
Singularity Observation	Wormholes Travers-able 4	The brightest minds in your empire have discov-ered a way to use and survive the passage of wormholes. We should now be able to spread to new systems.	Uncommon
Stargates	Stargates	Special gateways that can generate wormholes between eachother have been designed which should allow us to instantly travel anywhere in the galaxy so long as we set up a network to do so.	Ultra-rare
Space Elevator	Space Elevator	A space elevator has been designed that can transfer anything from the planet to a space sta-tion or unit directly above it. We no longer have to land on planets to move minerals into space.	Ultra-rare
Prescience	Prescience 1	Telepaths have been hooked up to a machine that allows it to use their abilities to search in the future for anything that might affect your empire.	Ultra-rare
Schools of Science	Opens Endless Possibilities	To compete against our rivals, we must better ourselves in all schools of science and train our-selves to broaden our ways of thought, our man-ner of exploration and indeed our very existence.	Common
Oceanography	Naval Availability 1	Scientists have come up with a brand new hull design which should allow us to build large sea-based ships. Finally we can set sail and destroy our enemies from the sea.,,	Uncommon
Aquatic Habitats	Naval Availability 2	After years of planning and research, scientists have come up with a way to build our structures underwater. Our enemies will never think to look underwater to find us! ,	Uncommon
Lightning Shields	Lightning Shields	A new system has been implemented in our shields allowing a burst of energy that uses up all the energy left in the shield and sends out a small blast which can damage anything in its ra-dius. Small ships that try to get in close to hit you ships will have a big surprise coming their way.	Rare
Multi-Linked Cybernetic Networks	Link Chance Bonus 1 in 3	With scientists sharing their brainstorming tech-niques across the galaxy-net the chances of making new breakthroughs should go through the roof.,,	Rare
Expansive Brainstorming Techniques	Link Chance Bonus 1 in 4	Brainstorming on whatever research your sci-entists are currently doing should lead them to breakthroughs down the same path.,,	Rare
Telepathy	Ability to see struc-ture ghosts? 1	Telepaths are now utilized to predict and find the places where buildings will be placed in the near future.	Ultra-Rare

BEYOND PROTOCOL

VII
APPENDIX

"Only the more rugged mortals should attempt to keep up with current literature"
~George Ade

Infiltration Settings		
Infiltration Type:		Infiltration Target:
Mission		
Mission Type:		
Target:	Sub-Target 1:	Sub-Target 2:
Method:		
Mission Goals		
Goal:	Create Safehouse	Goal Time:	8min 20sec
Risk Level:	LOW	Phase:	Execution
Skillset:	Slum Lords / Living Large		
Skill:	Safehouses	Agent:	
Skill:	Tradesman	Agent:	
Cover Agent:		Cover Agent:	
Cover Agent:		Cover Agent:	
Goal:		Goal Time:	
Risk Level:		Phase:	
Skillset:			
Skill:		Agent:	
Skill:		Agent:	
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Skill:		Agent:	
Skill:		Agent:	
Skill:		Agent:	
Cover Agent:		Cover Agent:	
Cover Agent:		Cover Agent:	
Goal:		Goal Time:	
Risk Level:		Phase:	
Skillset:			
Skill:		Agent:	
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Skill:		Agent:	
Cover Agent:		Cover Agent:	
Cover Agent:		Cover Agent:	

Mission Goals Continued				
Goal:		Goal Time:		
Risk Level:		Phase:		
Skillset:				
Skill:		Agent:		
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Skill:		Agent:		
Skill:		Agent:		
Skill:		Agent:		
Skill:		Agent:		
Cover Agent:		Cover Agent:		
Cover Agent:		Cover Agent:		
Goal:		Goal Time:		
Risk Level:		Phase:		
Skillset:				
Skill:		Agent:		
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Skill:		Agent:		
Cover Agent:		Cover Agent:		
Cover Agent:		Cover Agent:		
Goal:		Goal Time:		
Risk Level:		Phase:		
Skillset:				
Skill:		Agent:		
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Skill:		Agent:		
Skill:		Agent:		
Cover Agent:		Cover Agent:		
Cover Agent:		Cover Agent:		

Infiltration Settings			
Infiltration Type:	Solar System	Infiltration Target:	Merak (System)

Mission					
Mission Type:	Slow Factory Production (10%)				
Target:	TNalac	Sub-Target 1:	ANY	Sub-Target 2:	
Method:	Deception				

Mission Goals				
Goal:	Create Safehouse	Goal Time:	8min 20sec	
Risk Level:	LOW	Phase:	Execution	
Skillset:	Slum Lords / Living Large			
Skill:	Safehouses	Agent:	Abbie Young	68
Skill:	Tradesman	Agent:		
Cover Agent:	Bernard David	Cover Agent:		
Cover Agent:		Cover Agent:		
Goal:	Generate Paperwork	Goal Time:	2hrs 30min	
Risk Level:	MILD	Phase:	Preperation	
Skillset:	Hostile Takeover			
Skill:	Acquisition	Agent:	Greg Jasinski	92
Skill:	Forger	Agent:	Earlene Ortiz	45
Skill:		Agent:		
Skill:		Agent:		
Skill:		Agent:		
Skill:		Agent:		
Skill:		Agent:		
Skill:		Agent:		
Skill:		Agent:		
Cover Agent:	Bernard David	Cover Agent:		
Cover Agent:	LeAnne Mendoza	Cover Agent:		
Goal:	Presentation	Goal Time:	2hrs 30min	
Risk Level:	HIGH	Phase:	Execution	
Skillset:	Manipulator			
Skill:	Disguises	Agent:	Abbie Young	79
Skill:	Persuasive	Agent:	LeAnne Mendoza	88
Skill:		Agent:		
Skill:		Agent:		
Skill:		Agent:		
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Skill:		Agent:		
Skill:		Agent:		
Skill:		Agent:		
Cover Agent:	Bernard David	Cover Agent:		
Cover Agent:		Cover Agent:		

Name:

Description:		Age:
		Sex:
Bio:		

Proficiencies

Dagger:	
Infiltration:	
Resourcefulness:	
Suspicion:	

Notes:

Skills

Accounting:		Economics:		Navigation:		Torture:	
Acquisition:		Electronics:		Negotiation:		Tracking:	
Athletics/Climbing:		Engineering:		Philosophy:		Tradesman:	
Battle Language:		Escape Artist:		Physics:		Treachery:	
Bluff:		Etiquette (Colony):		Persuasive:		Weapon Specialist:	
Bribery:		Etiquette (Federal):		Pick Pocket:			
Business:		Etiquette (General):		Pilot:		Endurance:	
Cartography:		Etiquette (Military):		Poisons:		Honor:	
Charismatic:		Etiquette (Worker):		Politics:		Interrogation:	
Chemistry:		Forced Entry:		Psychology:		Leadership:	
Computers:		Forger:		Reconnaissance:		Legitimate Cover:	
Criminal Talents:		Gather Info:		Safehouses:		Paranoid:	
Cryptography:		Geology:		Science:		Perceptive:	
Data Analysis:		Government:		Seductive:		Security:	
Deductive Reasoning:		Law:		Stealth:		Sense of Direction:	
Demolitions:		Master Lock Pick:		Survival:		Spy Games:	
Diplomacy:		Medical:		Tiny Electronics:			
Disguises:		Naturally Talented:		Tactics:			

Engine Information

Engine Name			
Hull Type			
Power Generation			
Thrust Generation			
Maximum Speed			
Maneuverability			
Engine Color			
Credits			
Colonists			
Enlisted			
Officers			
Production Complexity			
Production Time			
Hull Consumption			
Mineral 1			
Mineral 2			
Mineral 3			
Mineral 4			
Mineral 5			
Mineral 6			

Missile Weapon Information

Weapon Name			
Hull Type			
Maximum Damage			
Missile Size			
Agility			
Range			
Rate of Fire			
Guidance			
Explosion Radius			
Structural Hitpoints			
Payload Type			
Weapon Color			
Damage Per Second			
Credits			
Colonists			
Enlisted			
Officers			
Production Complexity			
Production Time			
Hull Consumption			
Power Consumption			
Mineral 1			
Mineral 2			
Mineral 3			
Mineral 4			
Mineral 5			

Shield Information

Shield Name			
Hull Type			
Maximum Hitpoints			
Recharge Rate			
Recharge Interval			
Projection Size			
Mineral 1			
Mineral 2			
Mineral 3			
Shield Color			
Credits			
Colonists			
Enlisted			
Officers			
Production Complexity			
Production Time			
Hull Consumption			
Power Consumption			

Armor Information

Armor Name			
Beam Resist			
Impact Resist			
Piercing Resist			
Magnetic Resist			
Chemical Resist			
Burn Resist			
Hull Usage Per Plate			
Hit Points Per Plate			
Credits			
Production Complexity			
Production Time			
Mineral 1			
Mineral 2			
Mineral 3			

Hull Information

Hull Name			
Hull Size			
Hitpoints			
Hull Type 1			
Hull Type 2			
Texture Code			
Environment Types			
Suggested Crew			
Armor Space Front Side			
Armor Space Left Side			
Armor Space Right Side			
Armor Space Rear Side			
Bay Door 1 Space			
Bay Door 2 Space			
Bay Door 3 Space			
Bay Door 4 Space			
Bay Door 5 Space			
Cargo Space			
Engine Space			
Hangar Space			
Radar Space			
Shield Space			
Weapon Group 1 Space			
Weapon Group 2 Space			
Weapon Group 3 Space			
Weapon Group 4 Space			
Weapon Group 5 Space			
Weapon Group 6 Space			
Weapon Group 7 Space			
Weapon Group 8 Space			
Weapon Group 9 Space			
Weapon Group 10 Space			
Weapon Group 11 Space			
Weapon Group 12 Space			
Weapon Group 13 Space			
Special Trait			
Credits			
Production Complexity			
Production Time			
Power Consumption			
Minerals			

Projectile Weapon Information

Weapon Name			
Hull Type			
Projection Type			
Cartridge Size			
Pierce Ratio			
Rate of Fire			
Maximum Range			
Payload Type			
Explosion Radius			
Weapon Color			
Damage Per Second			
Credits			
Colonists			
Enlisted			
Officers			
Production Complexity			
Production Time			
Hull Consumption			
Power Consumption			
Mineral 1			
Mineral 2			
Mineral 3			
Mineral 4			
Mineral 5			

Bomb Weapon Information

Weapon Name			
Hull Type			
Payload			
Area of Effect			
Self Guidance			
Range			
Rate of Fire			
Payload Type			
Damage Per Second			
Credits			
Colonists			
Enlisted			
Officers			
Production Complexity			
Production Time			
Hull Consumption			
Power Consumption			
Mineral 1			
Mineral 2			
Mineral 3			

Prototype Information

Hull Used	
Engine Used	
Armor Used	
Radar Used	
Shield Used	
Crew Quarters	
Suggested Crew	
Hull Size	

Shield

Shield Strength	
Recharge Rate	
Recharge Per Second	

Armor

Resist Beam	
Resist Burn	
Resist Chemical	
Resist Impact	
Resist Magnetic	
Resist Piercing	
Integrity	
Forward Hitpoints	
Left Hitpoints	
Rear Hitpoints	
Structural Integrity HPs	

Radar

Targeting Accuracy	
Scan Resolution	
Optimum Range	
Maximum Range	
Disruption Resist	

Engine

Maneuver	
Max Speed	

Weapons

Name	
Arc	
Weapon Group	
Rate of Fire	
Minimum Damage	
Maximum Damage	
Damage Per Second	
Quantity	

Prototype Information Continued

More Weapons

Name	
Arc	
Weapon Group	
Rate of Fire	
Minimum Damage	
Maximum Damage	
Damage Per Second	
Quantity	
Name	
Arc	
Weapon Group	
Rate of Fire	
Minimum Damage	
Maximum Damage	
Damage Per Second	
Quantity	
Name	
Arc	
Weapon Group	
Rate of Fire	
Minimum Damage	
Maximum Damage	
Damage Per Second	
Quantity	
Name	
Arc	
Weapon Group	
Rate of Fire	
Minimum Damage	
Maximum Damage	
Damage Per Second	
Quantity	

Production Costs

Credits			
Colonists			
Enlisted			
Officers			
Production Complexity			
Production Time			
Power Consumption			
Mineral			
Engine Component			
Radar Component			
Shield Component			
Armor Component			
Weapon Components			

Pulse Weapon Information

Weapon Name	
Hull Type	
Input Energy	
Compression Factor	
Optimum Range	
Rate of Fire	
Scatter Radius	
Weapon Color	
Damage Per Second	
Credits	
Colonists	
Enlisted	
Officers	
Production Complexity	
Production Time	
Hull Consumption	
Power Consumption	
Mineral 1	
Mineral 2	
Mineral 3	
Mineral 4	
Mineral 5	

Solid Beam Weapon Information

Weapon Name	
Hull Type	
Maximum Damage	
Maximum Range	
Rate of Fire	
Accuracy	
Beam Damage Type	
Weapon Color	
Damage Per Second	
Credits	
Colonists	
Enlisted	
Officers	
Production Complexity	
Production Time	
Hull Consumption	
Power Consumption	
Mineral 1	
Mineral 2	
Mineral 3	

Radar Information

Radar Name	
Hull Type	
Weapon Accuracy	
Point Defense Accuracy	
Visible Range	
Detection Range	
Disruption Resist	
Jamming Immunity	
Jamming Effect	
Jamming Strength	
Jamming Targets	
Credits	
Colonists	
Enlisted	
Officers	
Production Complexity	
Production Time	
Hull Consumption	
Power Consumption	
Mineral 1	
Mineral 2	
Mineral 3	
Mineral 4	

Name	Size Range	Special Trait
Command Center	340,000 - 375,000	None
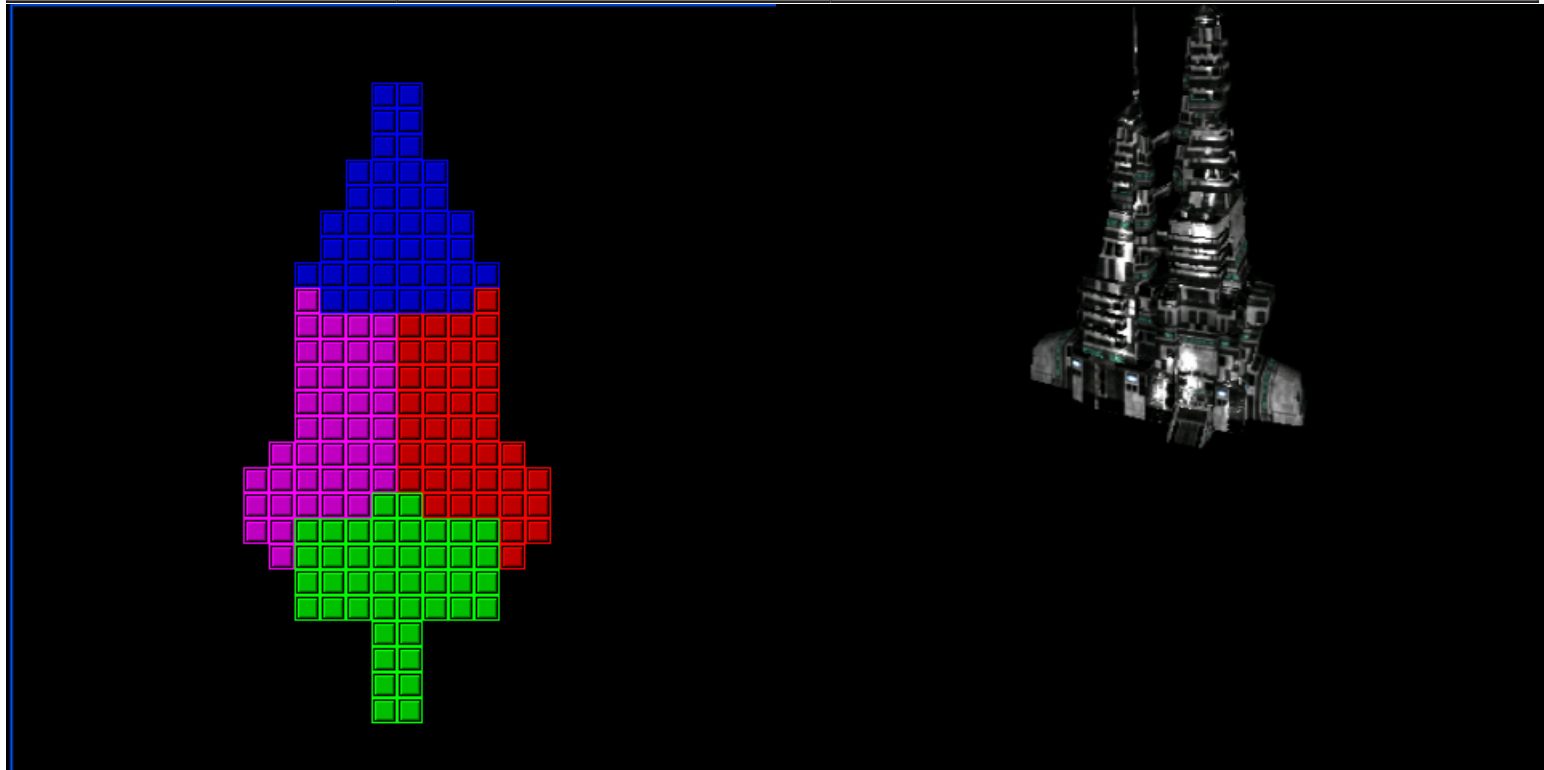
Name	Size Range	Special Trait
Mining Facility I	130,000 - 145,000	Cargo Capacity +5%
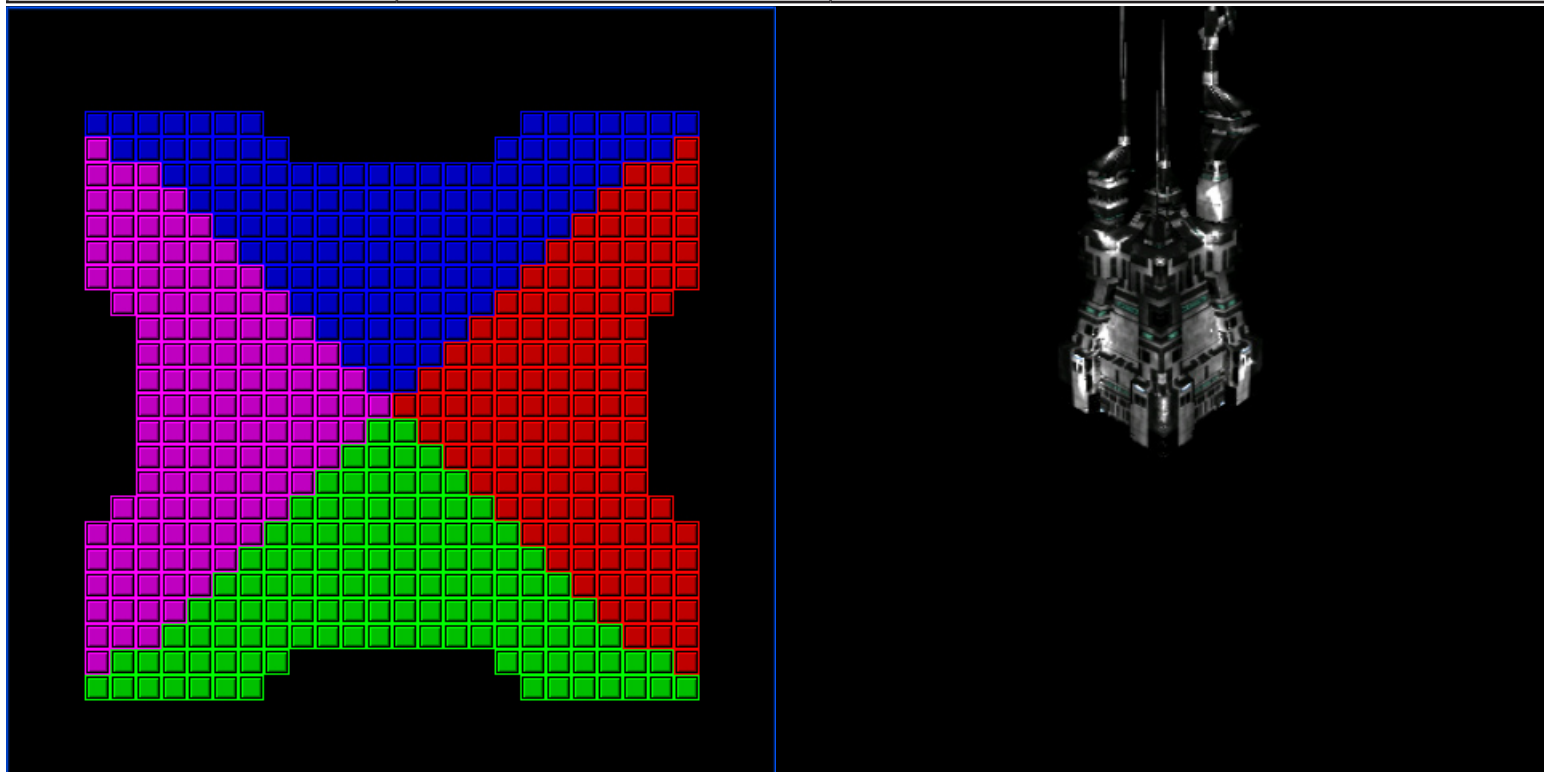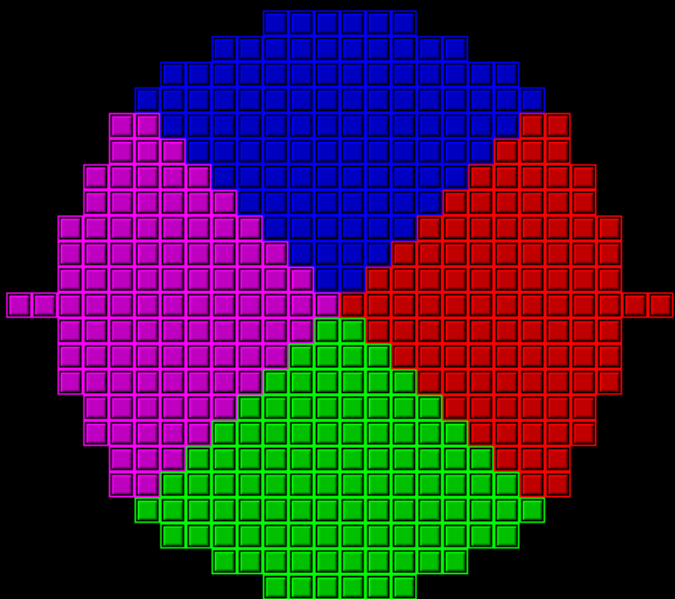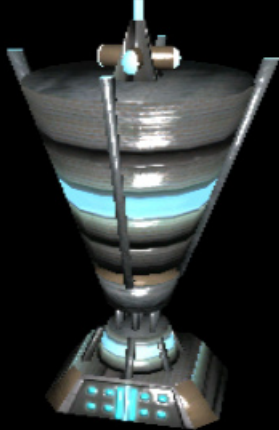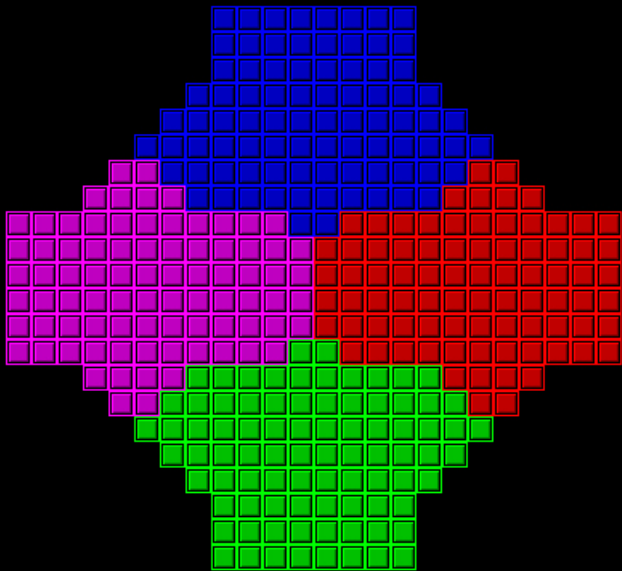
Name	Size Range	Special Trait
Mining Facility II	171,000 - 189,000	None
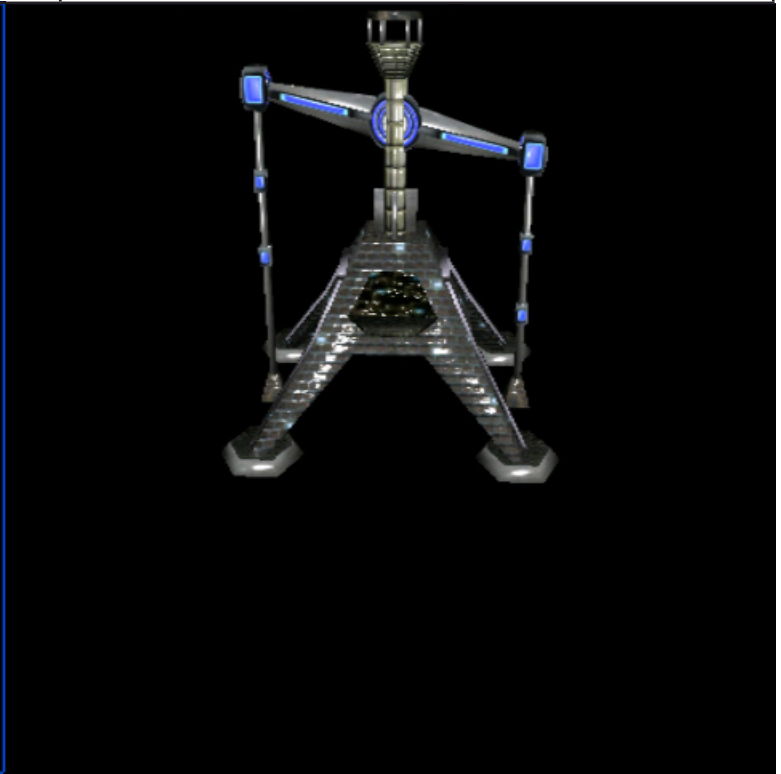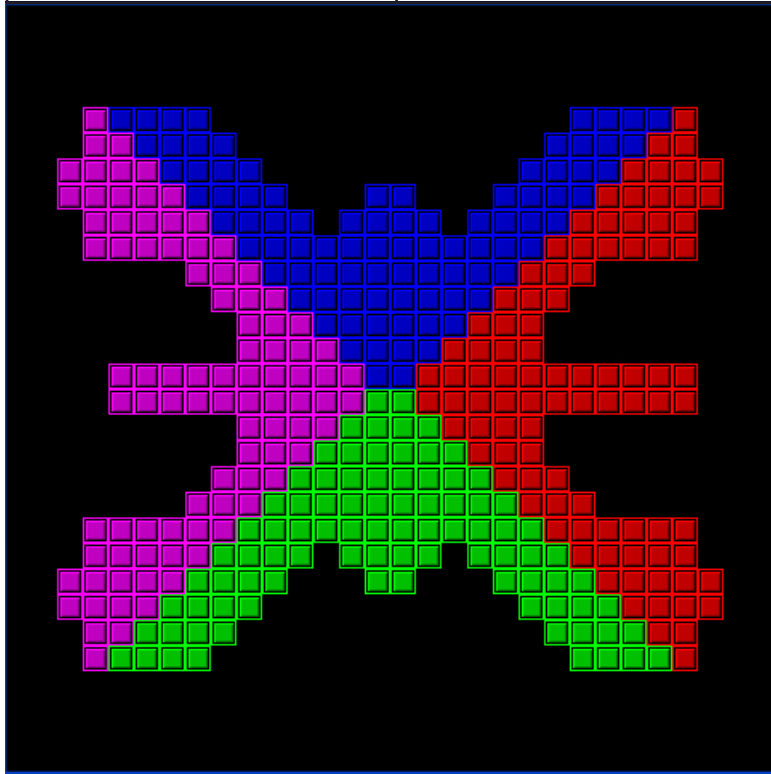
Name	Size Range	Special Trait
Mining Facility III	100,000 - 110,000	None
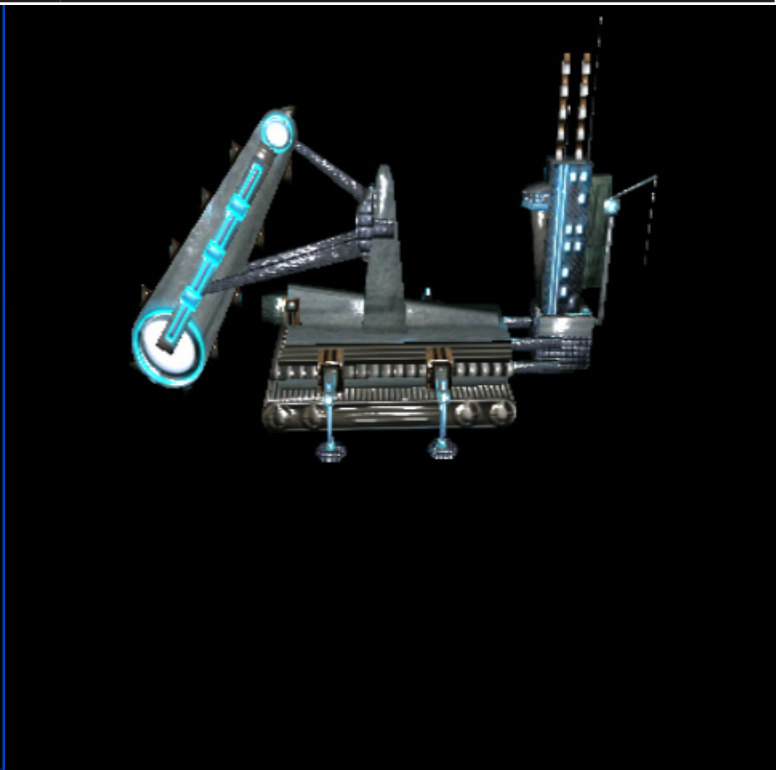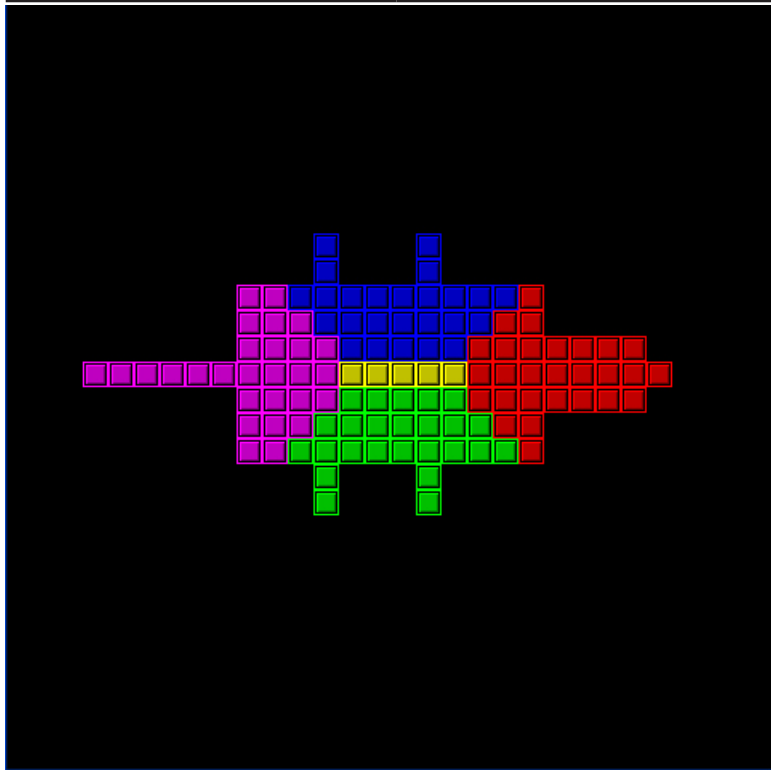
Name	Size Range	Special Trait
Agent Headquarters I	90,000 - 99,000	Hangar Capacity +10%

Name	Size Range	Special Trait
Defence I	1,600 - 2,700	Armor hitpoints +1000%

Name	Size Range	Special Trait
Guild Headquarters I	154,000 - 170,000	None
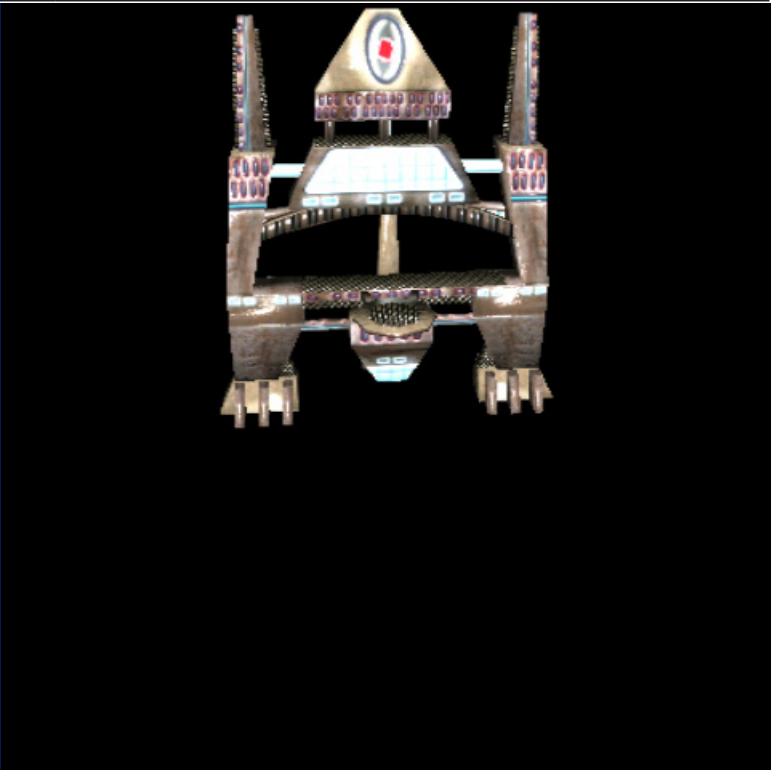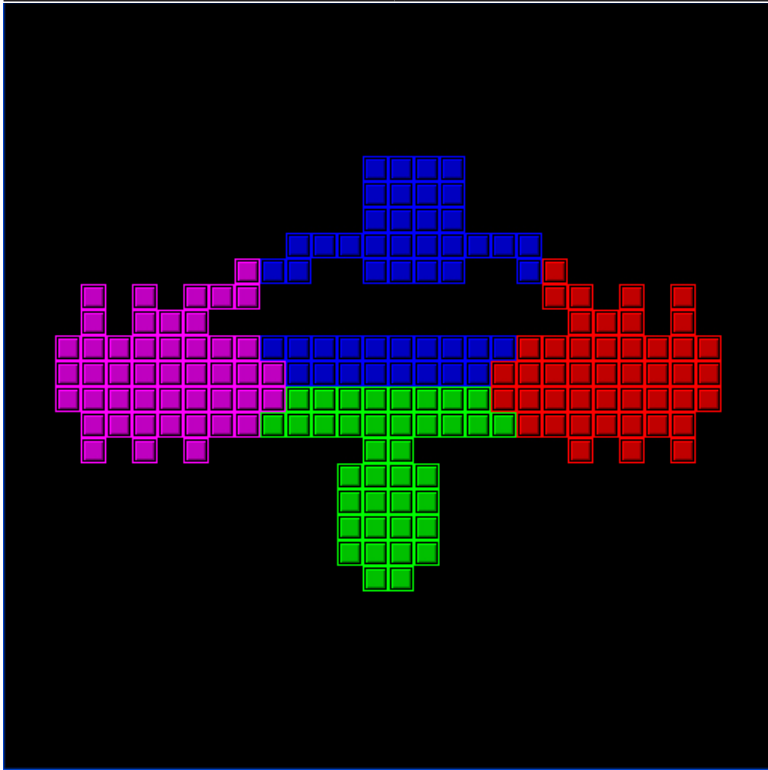
Name	Size Range	Special Trait
Space Defence I	9,800 - 11,200	Armor hitpoints +1000%
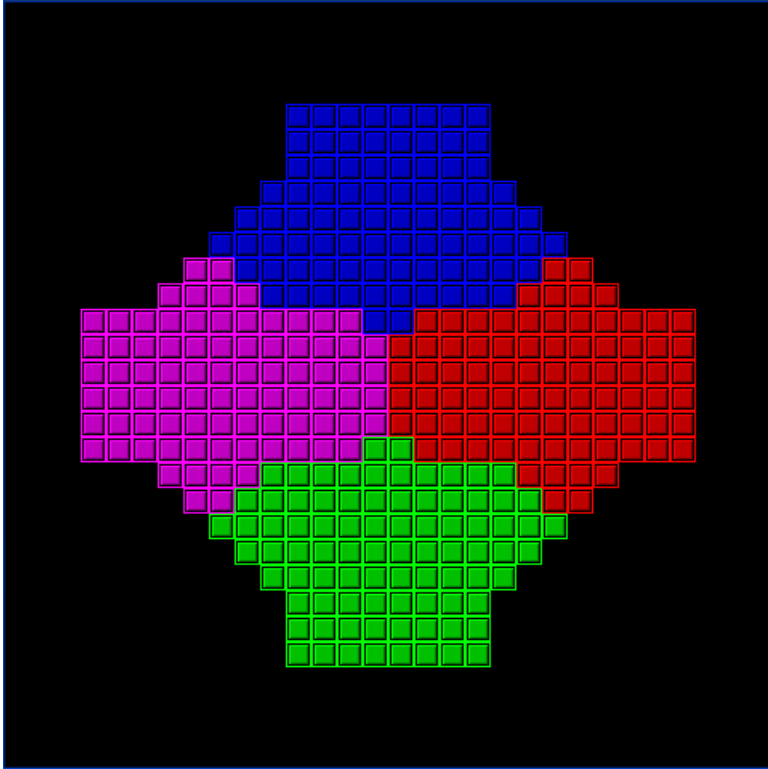
Name	Size Range	Special Trait
Warehouse I	210,000 - 230,000	None
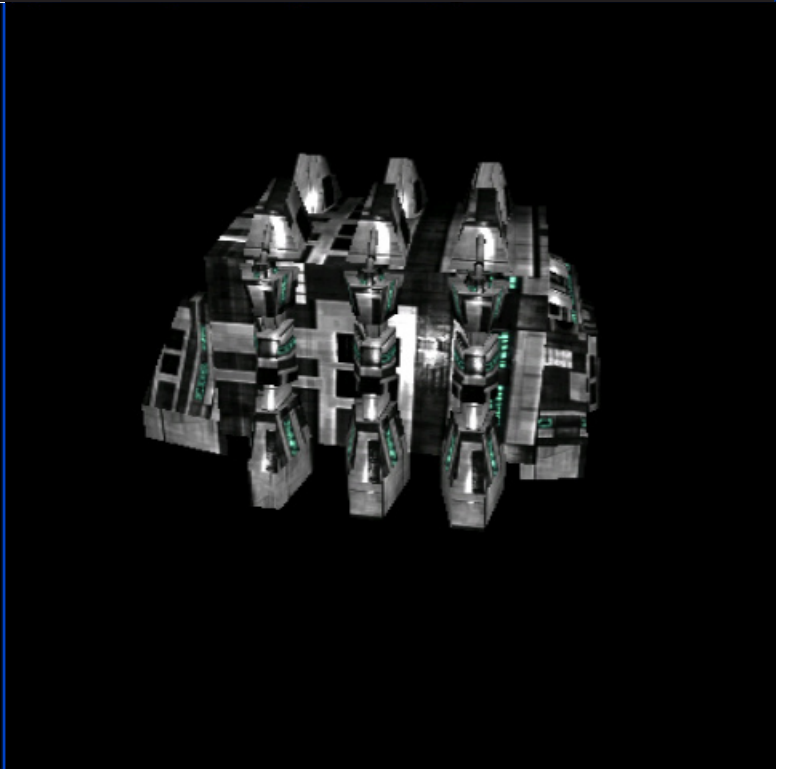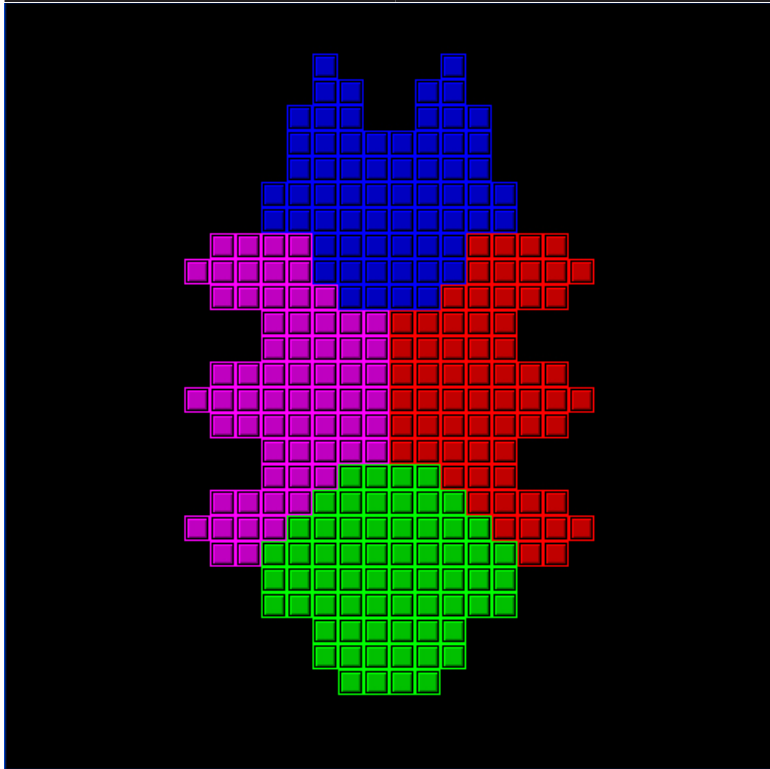
Name	Size Range	Special Trait
Barracks I	113,000 - 125,000	None
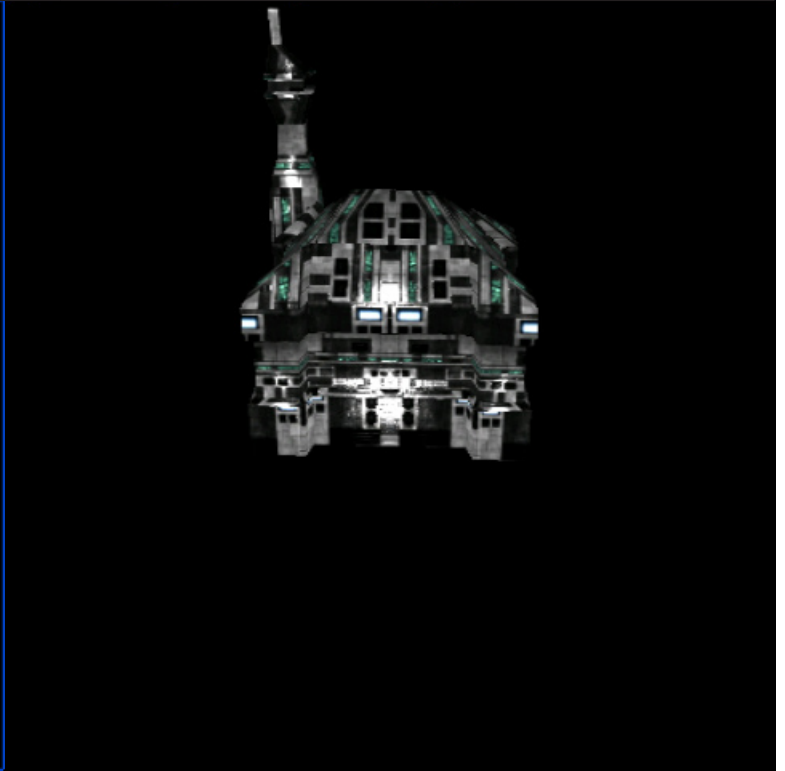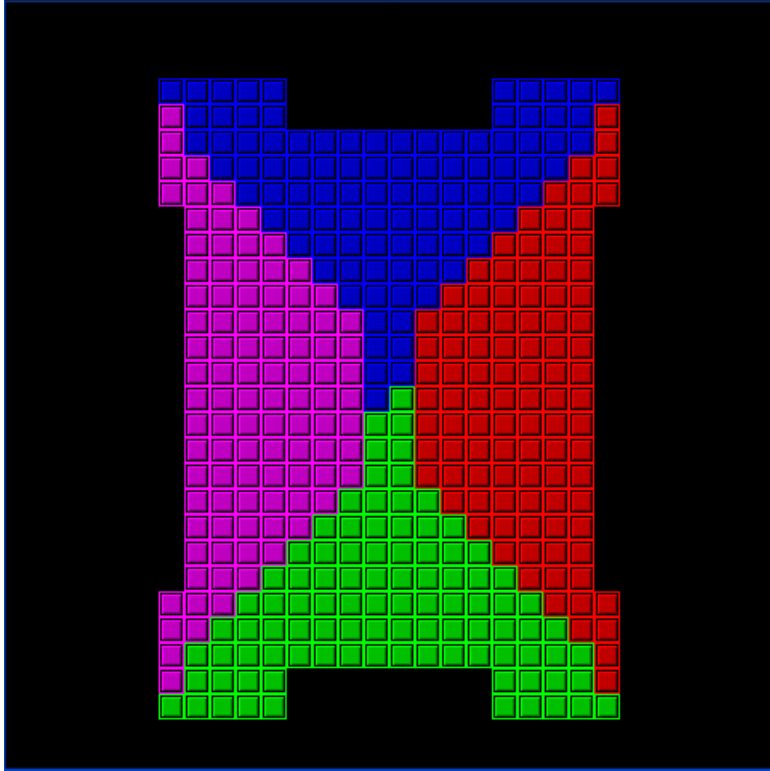
Name	Size Range	Special Trait
Officers Corps I	204,000 - 225,000	None
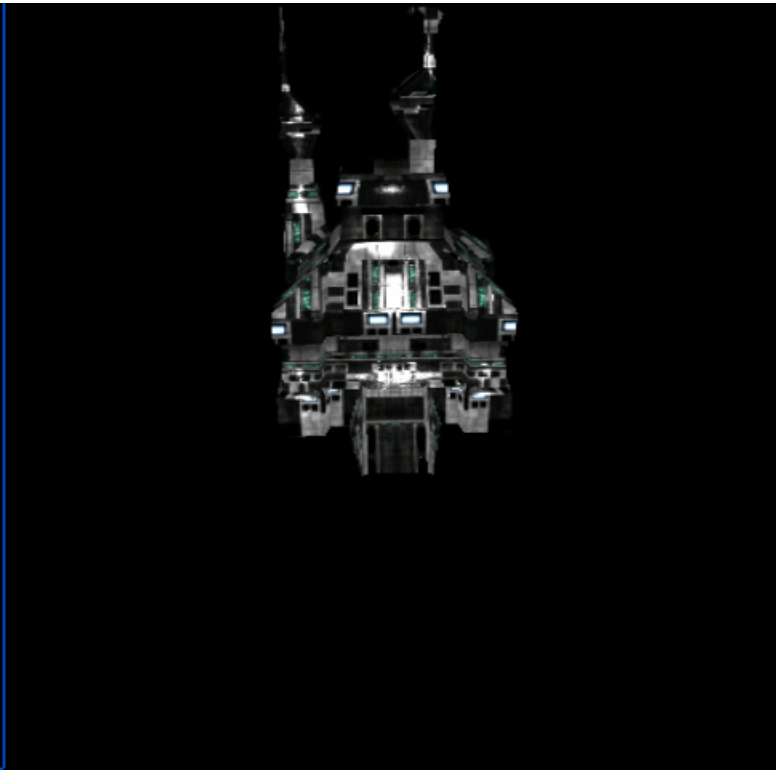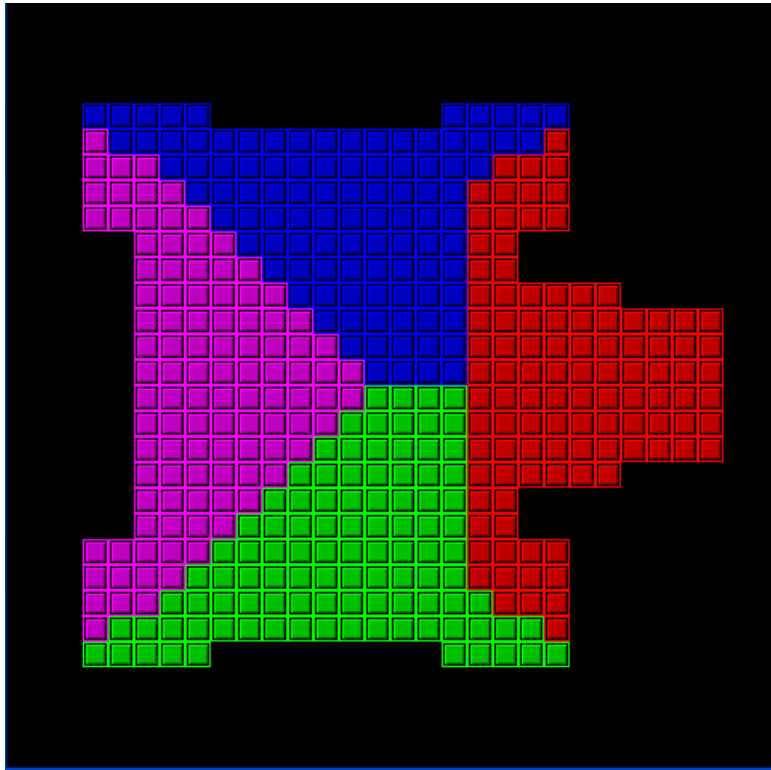
Name	Size Range	Special Trait
Power Gen Mk I	185,000 - 200,000	Engine Power Production is 300%
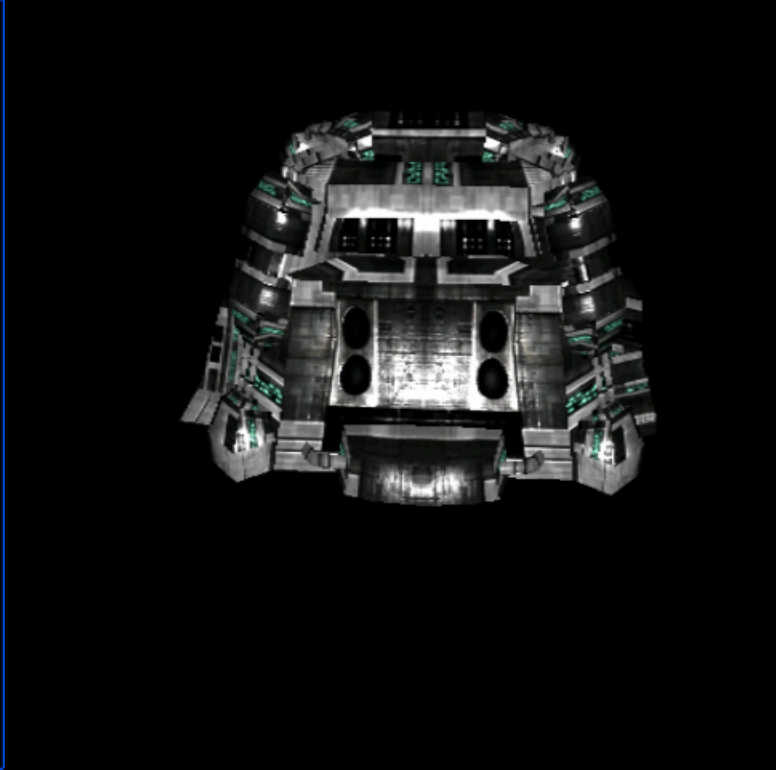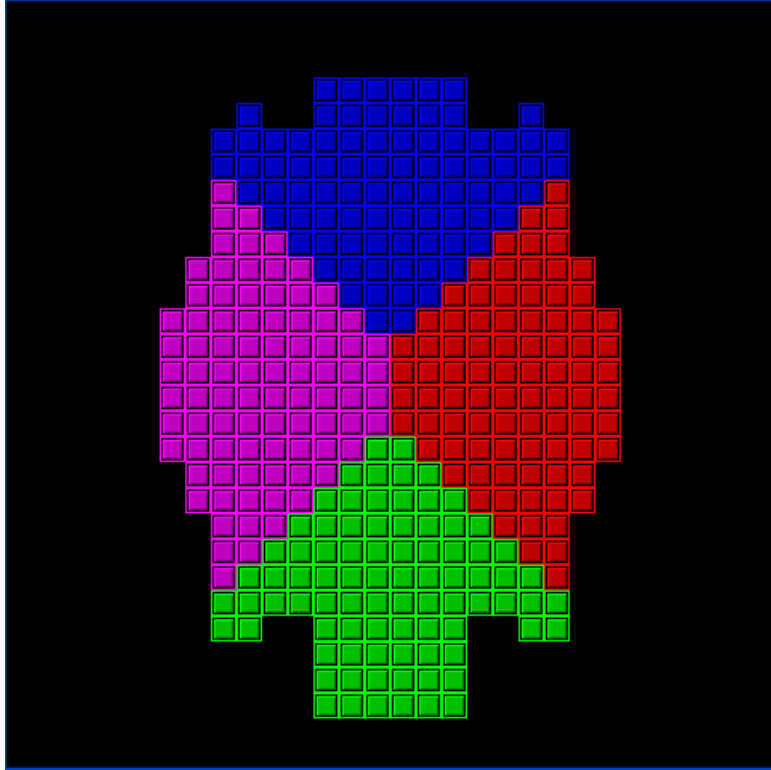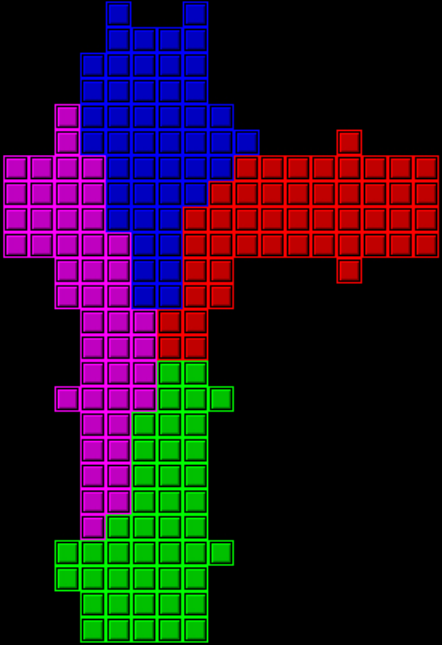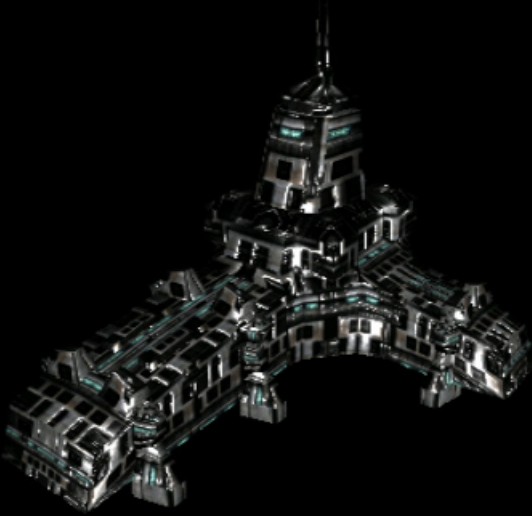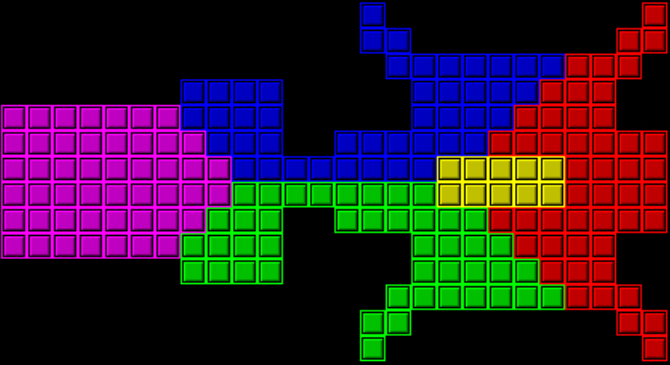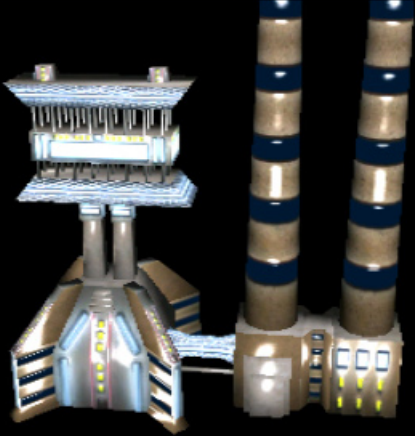
Name	Size Range	Special Trait
Power Gen Mk II	80,000 - 88,000	Engine Power Production is 300%
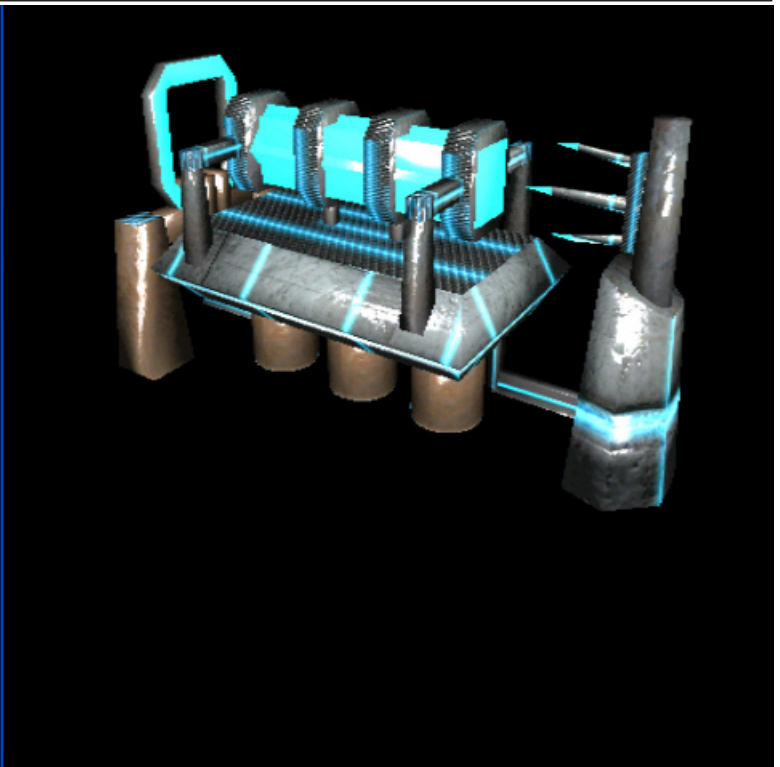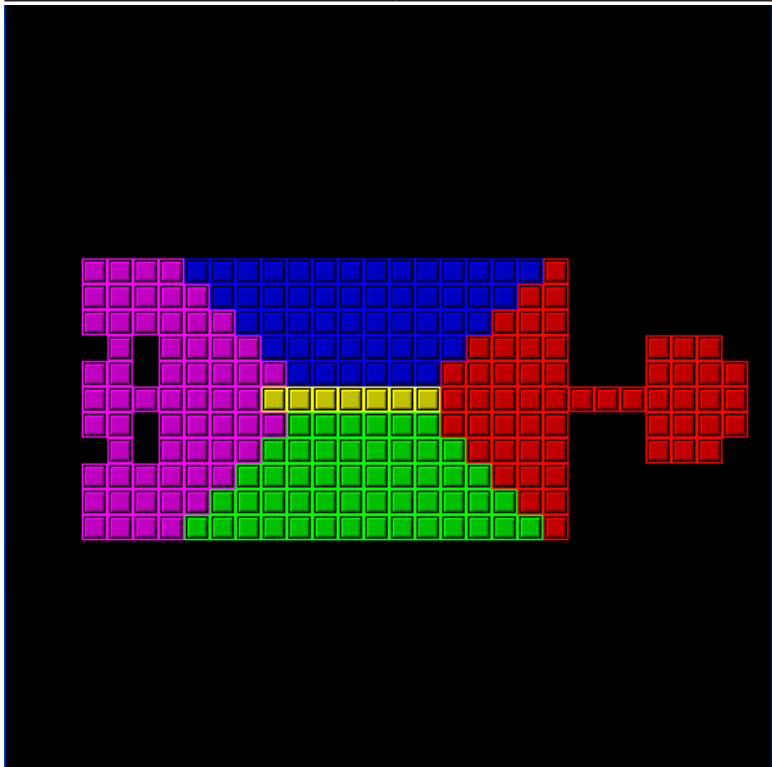
Name	Size Range	Special Trait
Power Gen Mk III	224,000 - 248,000	Engine Power Production is 200%
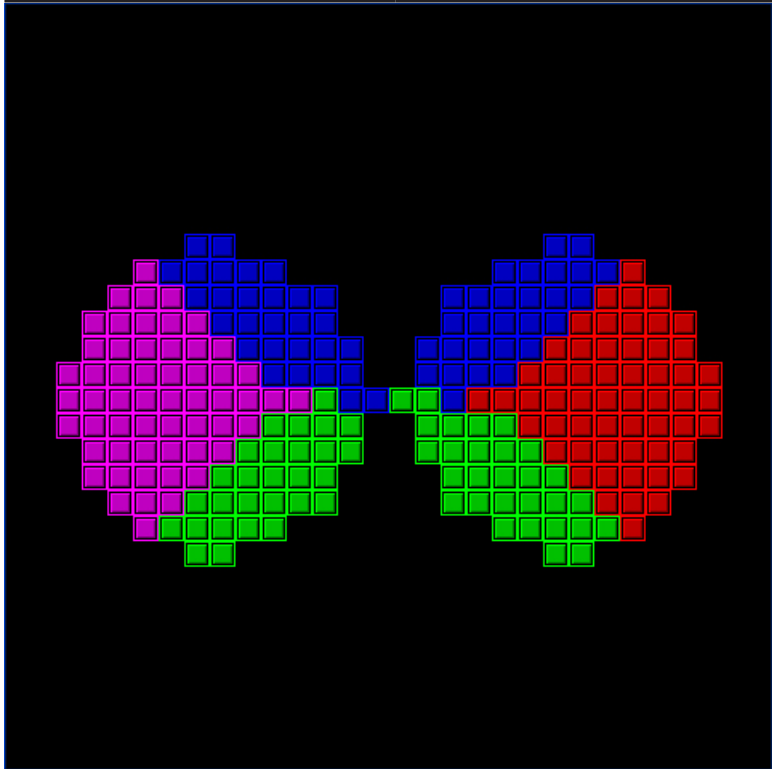
Name	Size Range	Special Trait
Factory I	950,000 - 1,000,000	None
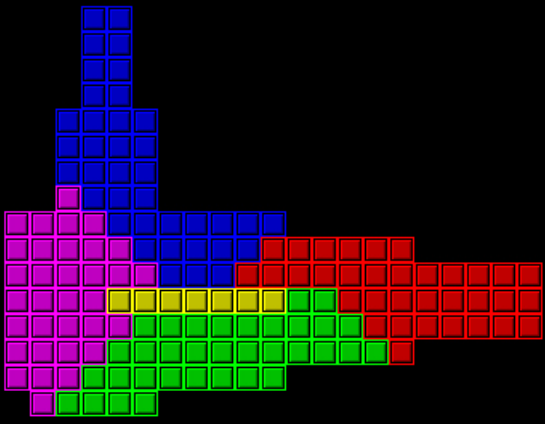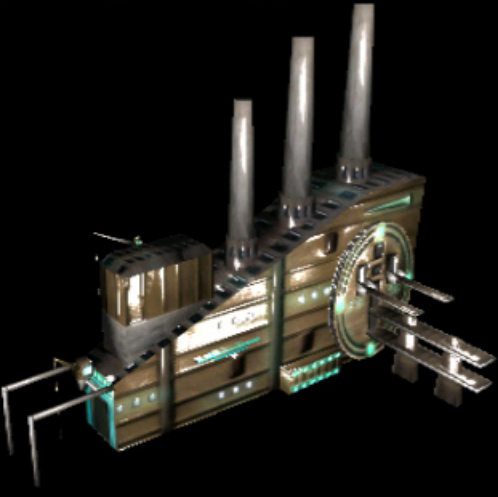
Name	Size Range	Special Trait
Factory II	830,000 - 917,000	None
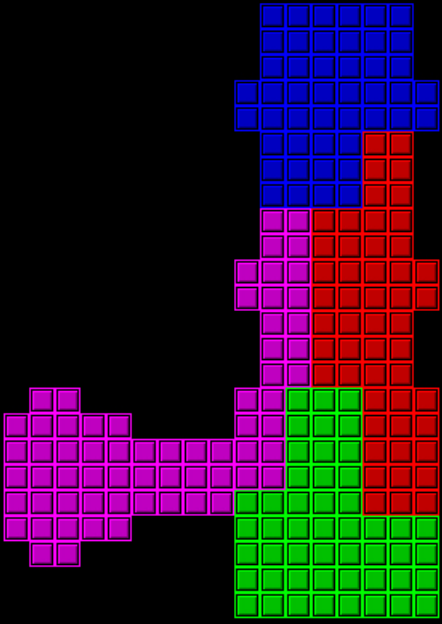
Name	Size Range	Special Trait
Shipyard I	1,050,000 - 1,105,000	None
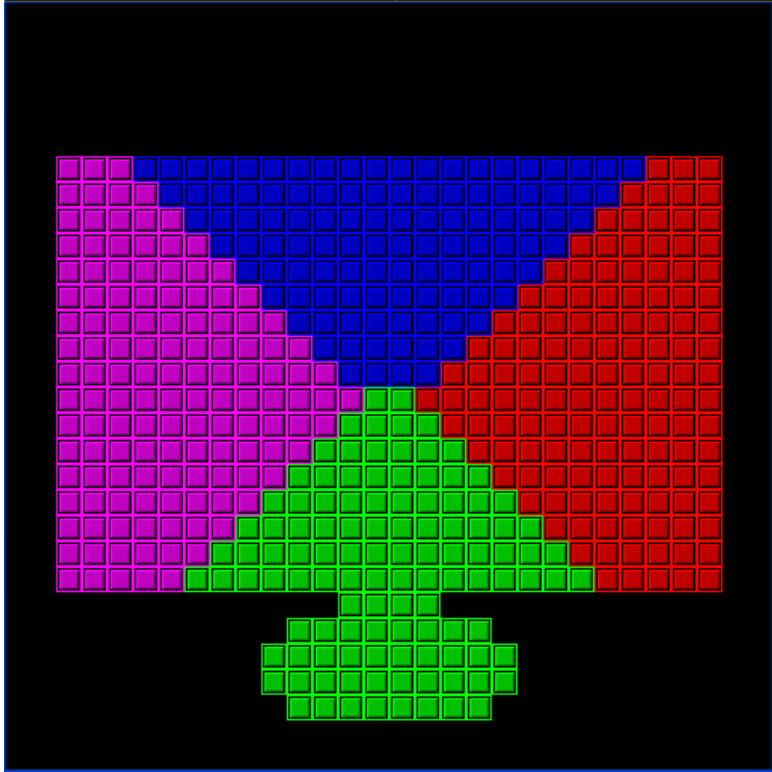
Name	Size Range	Special Trait
Spaceport I	1,000,000 - 1,100,000	None
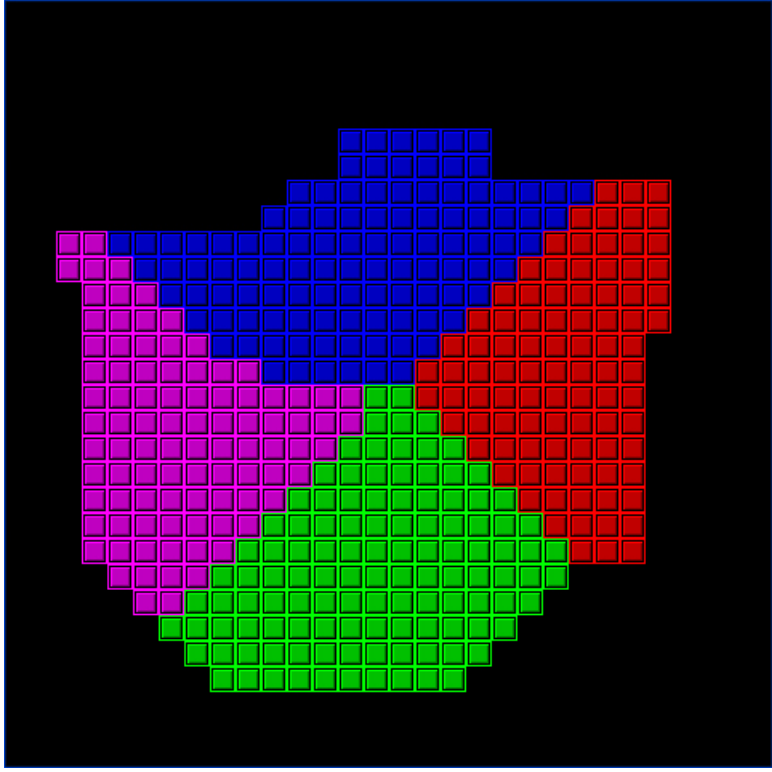
Name	Size Range	Special Trait
Spaceport II	955,000 - 1,056,000	None
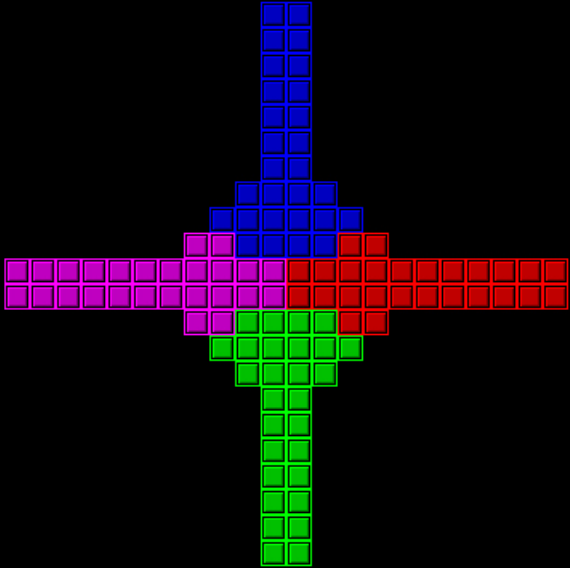
Name	Size Range	Special Trait
Refinery I	350,000 - 400,000	None
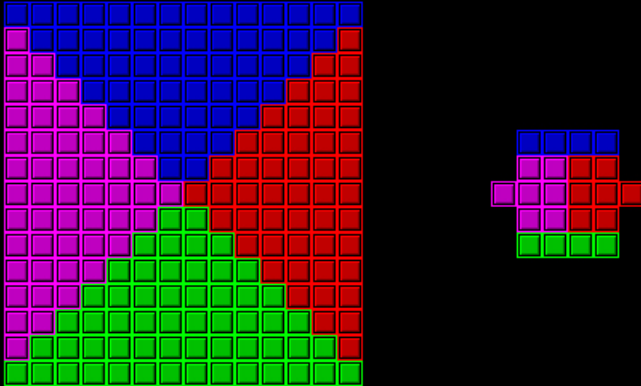
Name	Size Range	Special Trait
Refinery II	430,000 - 475,000	None
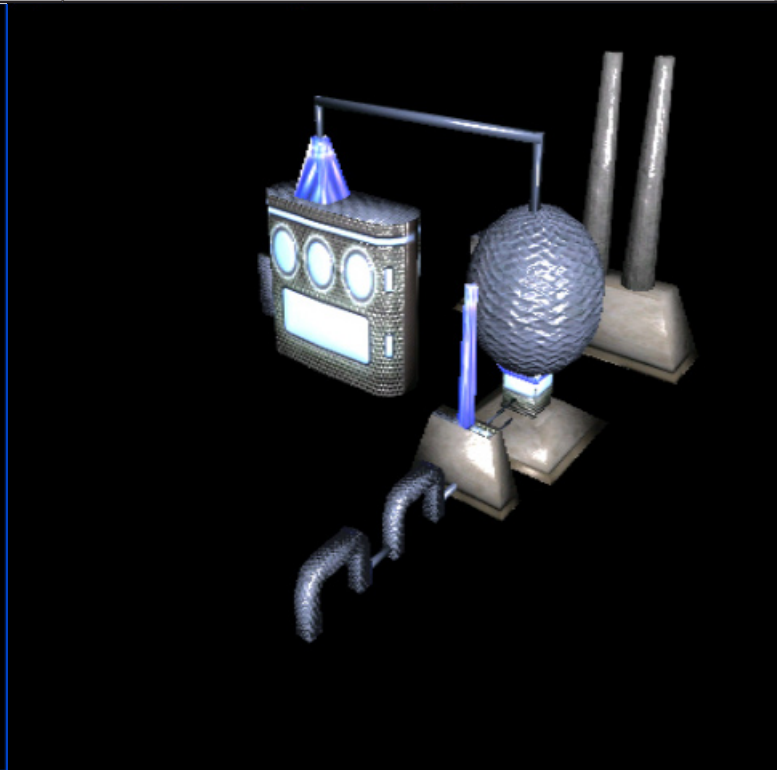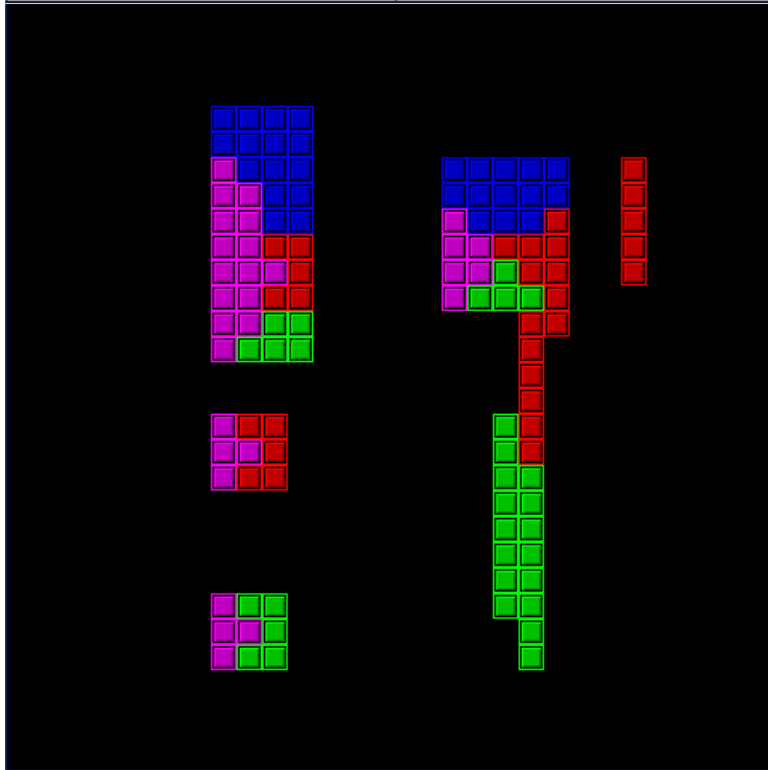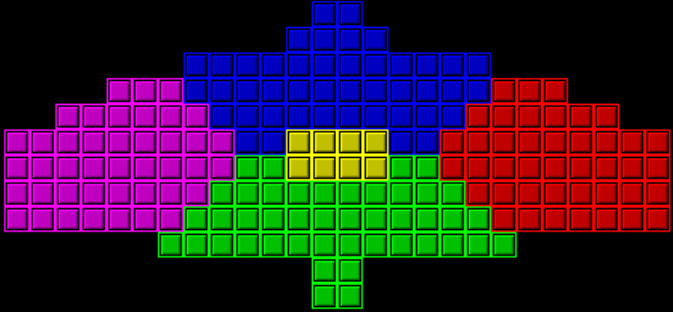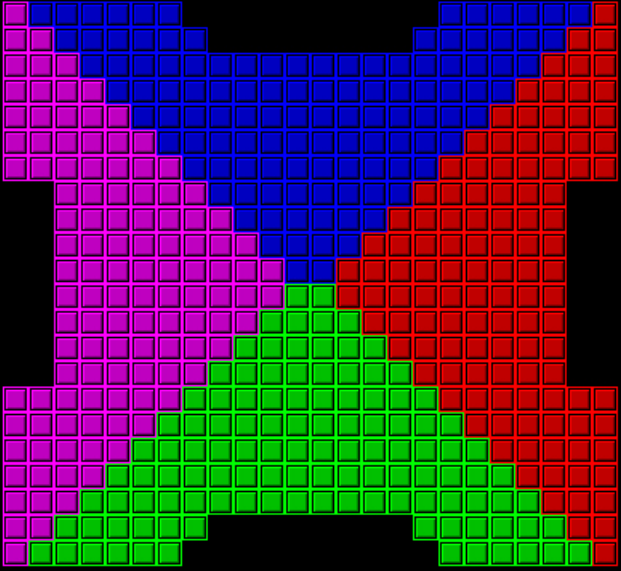
Name	Size Range	Special Trait
Refinery III	120,000 - 132,000	None
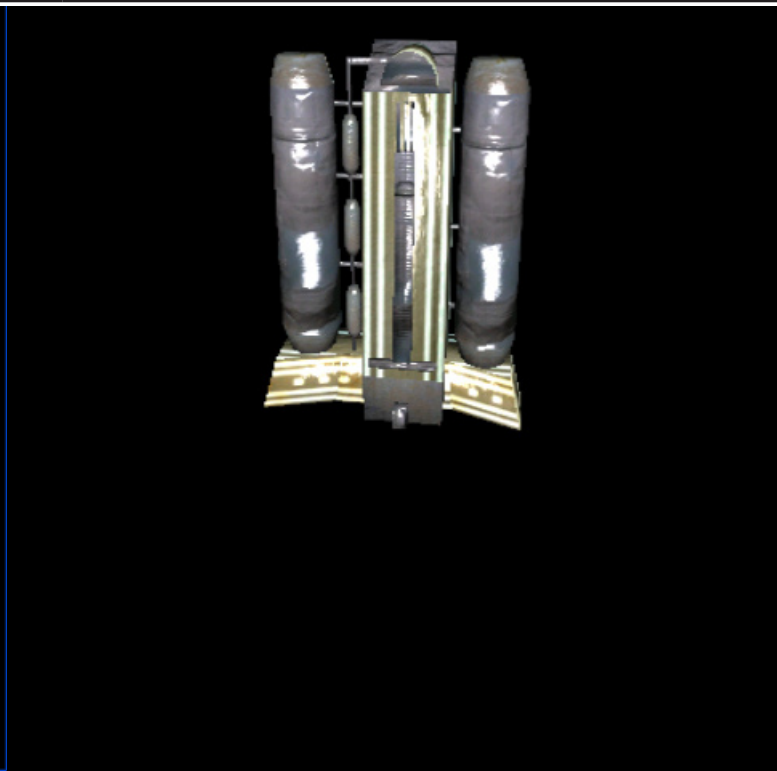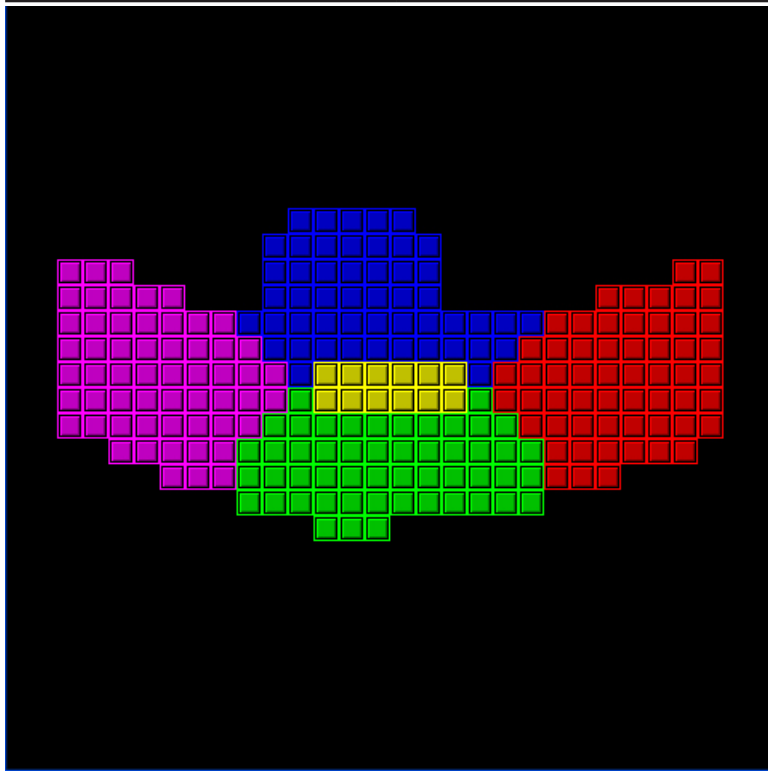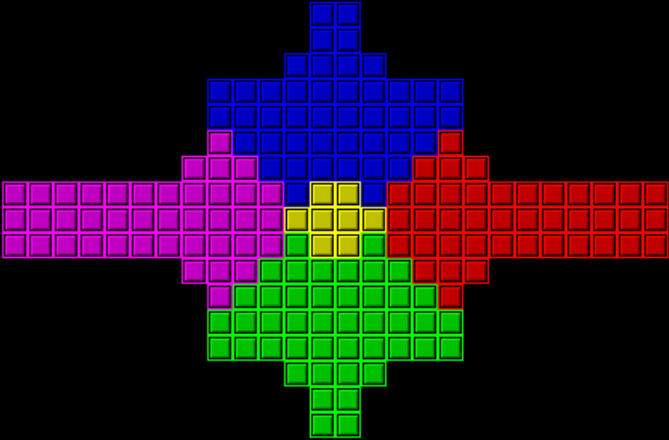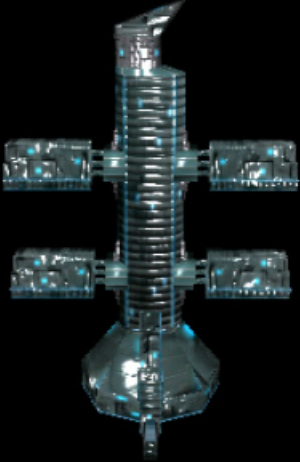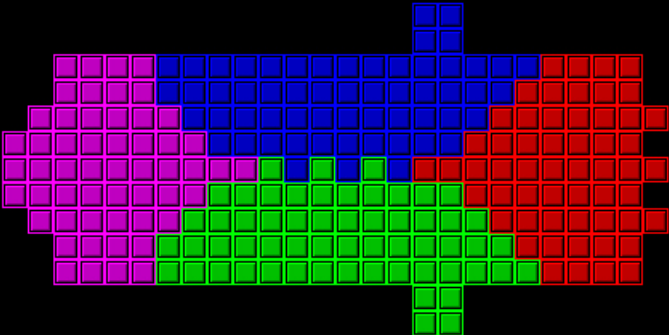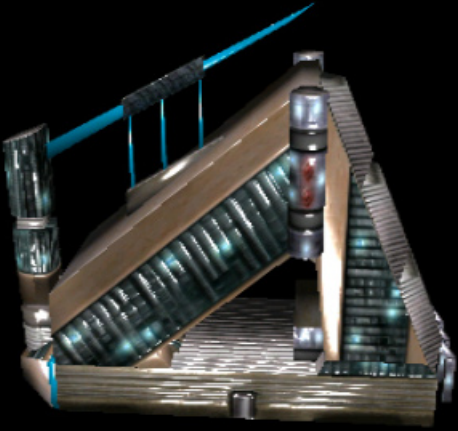
Name	Size Range	Special Trait
Research Lab I	125,000 - 140,000	None

Name	Size Range	Special Trait
Research Lab II	209,000 - 230,000	None

Name	Size Range	Special Trait
Research Lab III	122,000 - 135,000	None

Name	Size Range	Special Trait
Residential Facility I	450,000 - 475,000	None

Name	Size Range	Special Trait
Residential Facility II	170,000 - 188,000	None

Name	Size Range	Special Trait
Residential Facility III	725,000 - 802,000	None

Name	Size Range	Special Trait
Outpost I	1,500,000 - 1,650,000	20% Faster Hangar Launches
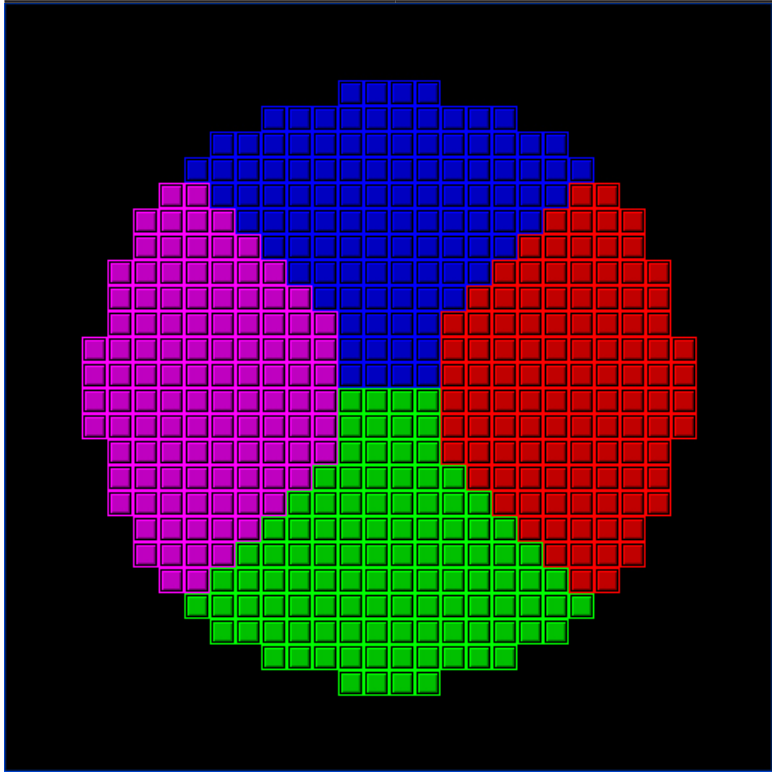
Name	Size Range	Special Trait
Military Base I	4,000,000 - 4,200,000	10% Faster Hangar Launches
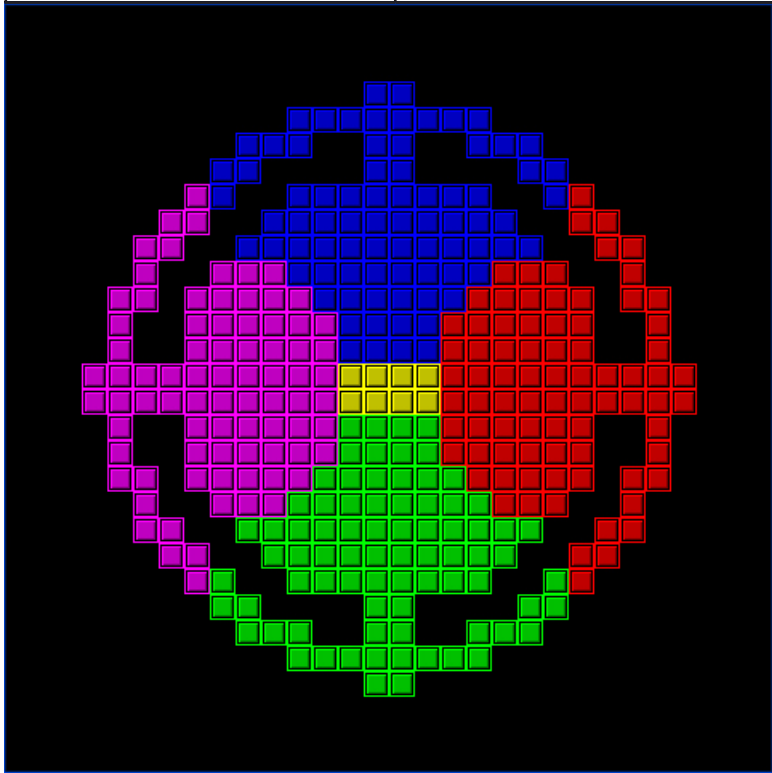
Name	Size Range	Special Trait
Colony Hub I	6,900,000 - 7,300,000	Produces 20% More Revenue
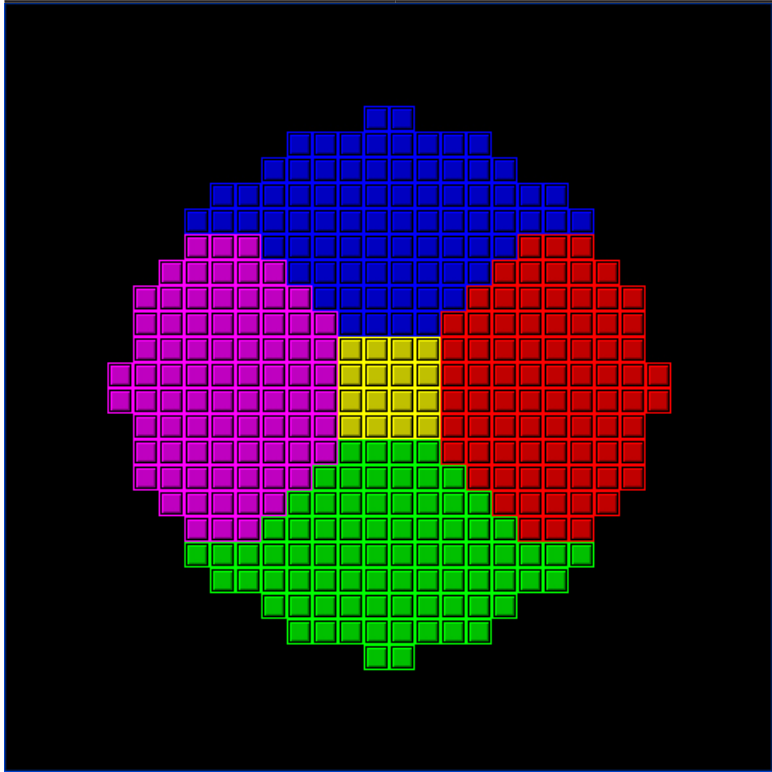
Name	Size Range	Special Trait
Battlestation I	10,000,000 - 11,000,000	None
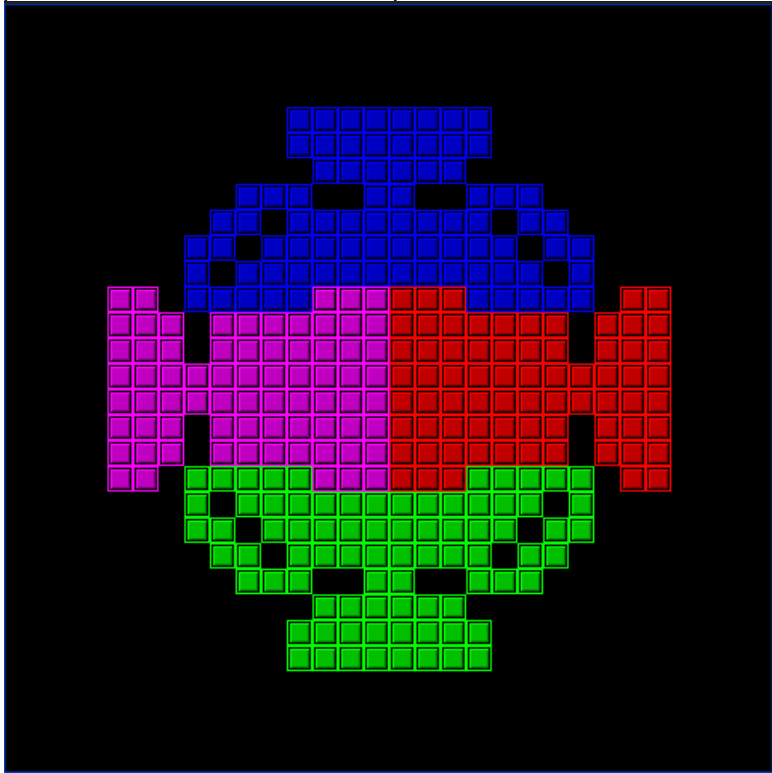
Name	Size Range	Special Trait
Tradepost I	3,750,000 - 4,150,000	None
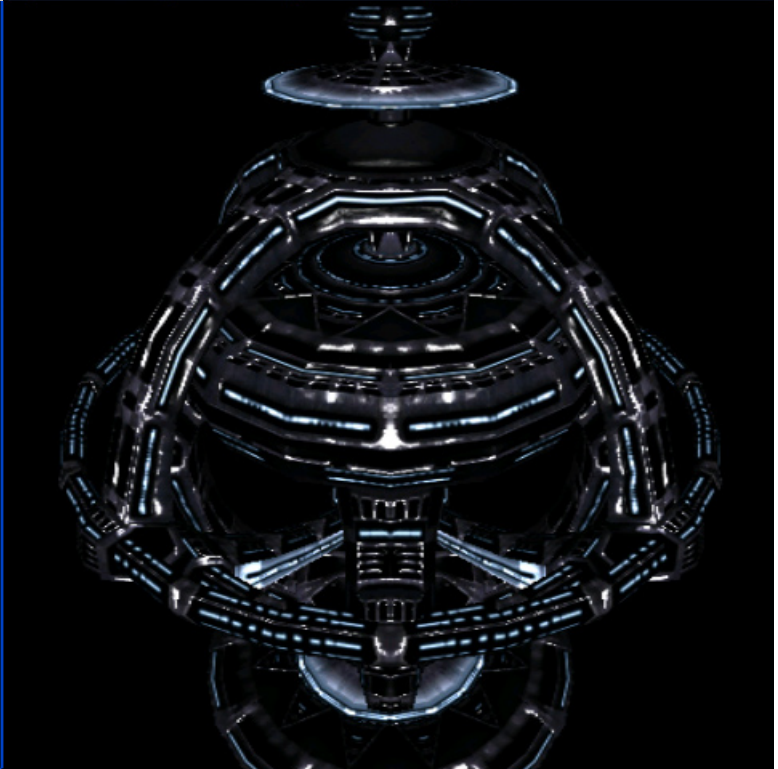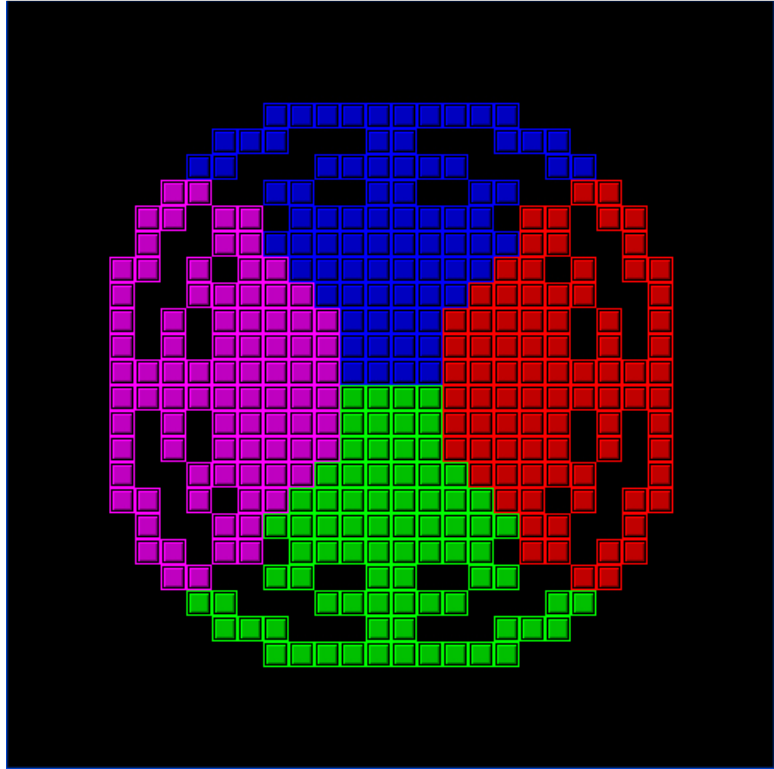
Name	Size Range	Special Trait
Starbase I	4,300,000 - 5,000,000	Radar Ranges +10
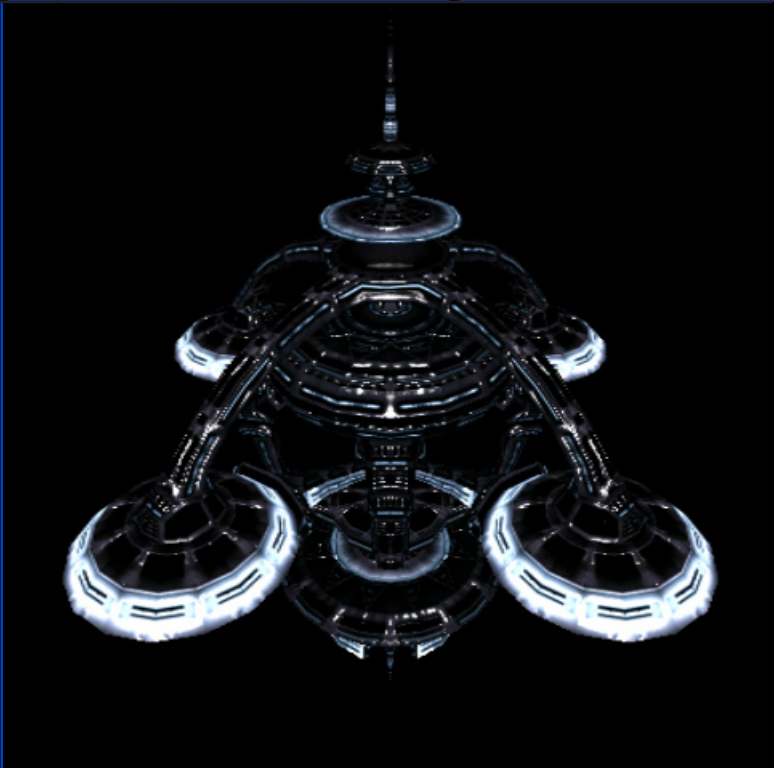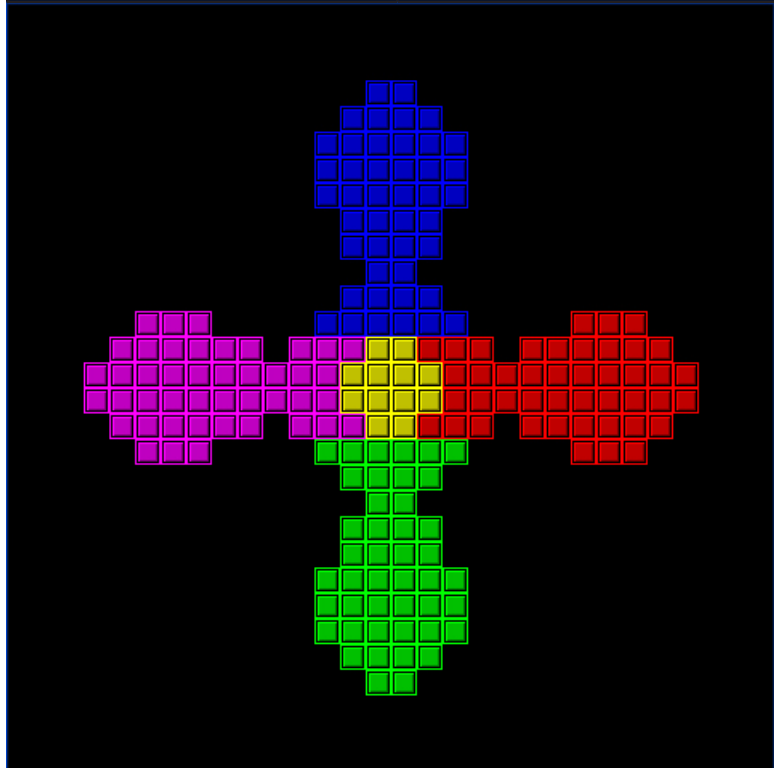
Name	Size Range	Special Trait
Military Base II	5,500,000 - 6,250,000	6% Faster Hangar Launches
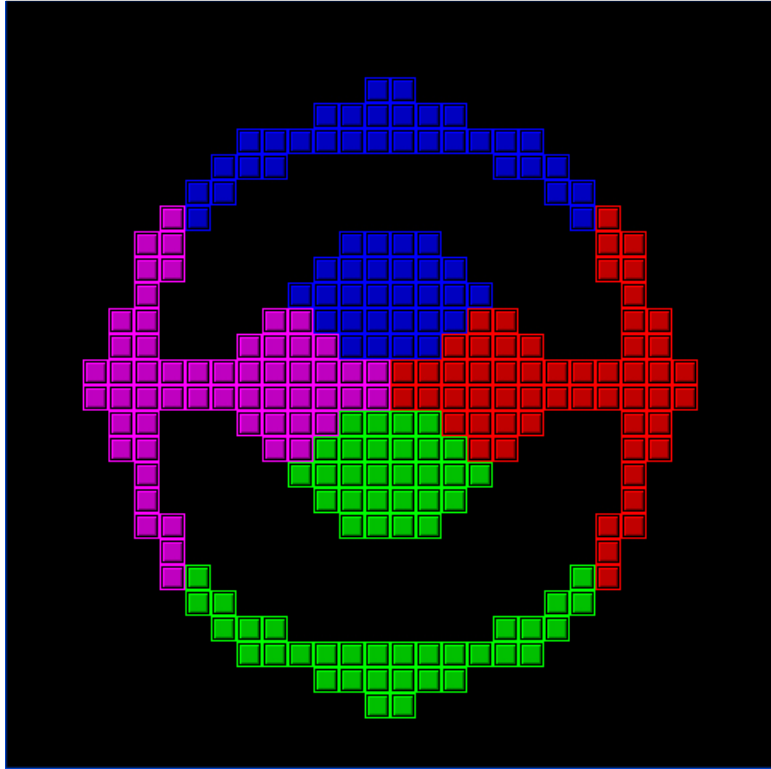
Name	Size Range	Special Trait
Mining Base I	3,000,000 - 3,250,000	Cargo Capacity +20%
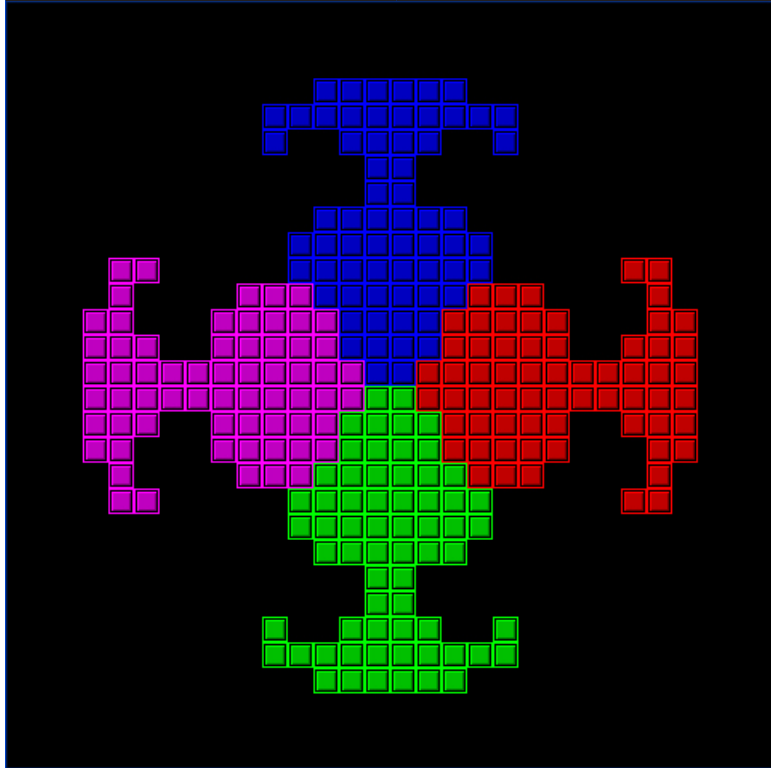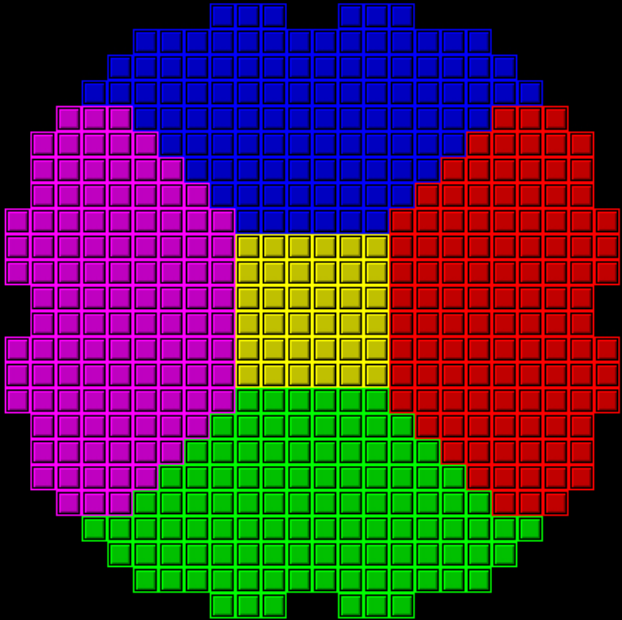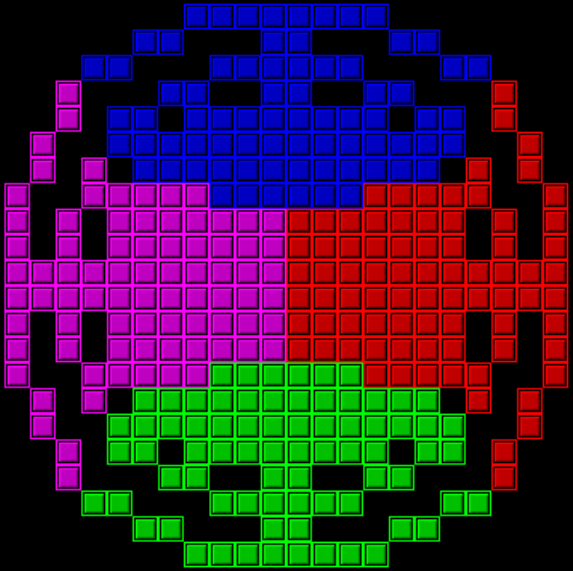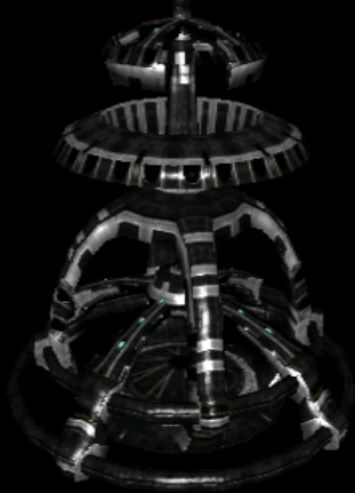
Name	Size Range	Special Trait
Mining Base II	3,100,000 - 3,400,000	Cargo Capacity +20%
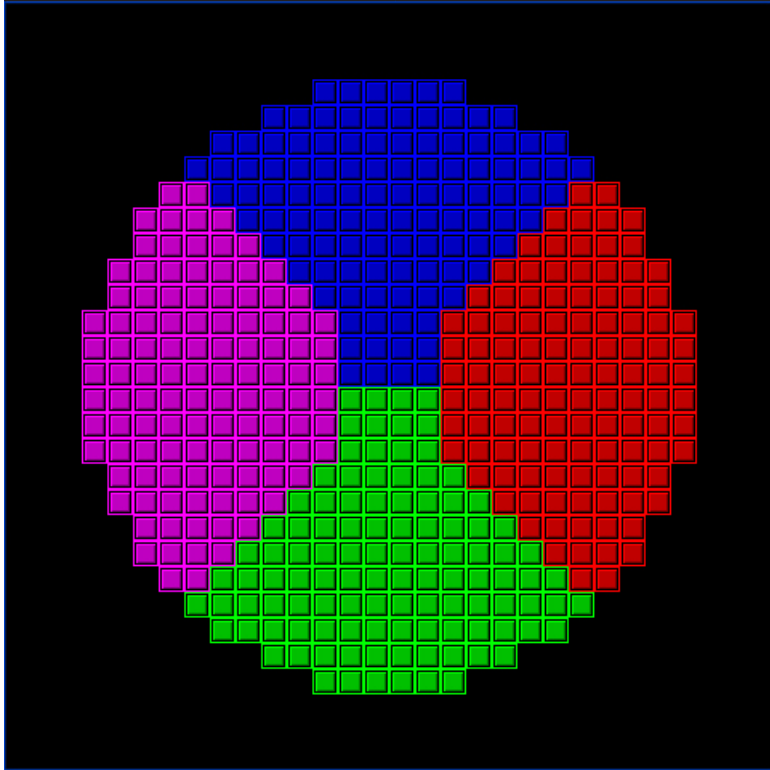
Name	Size Range	Special Trait
Colony Hub II	4,150,000 - 4,600,000	Produces 10% More Revenue
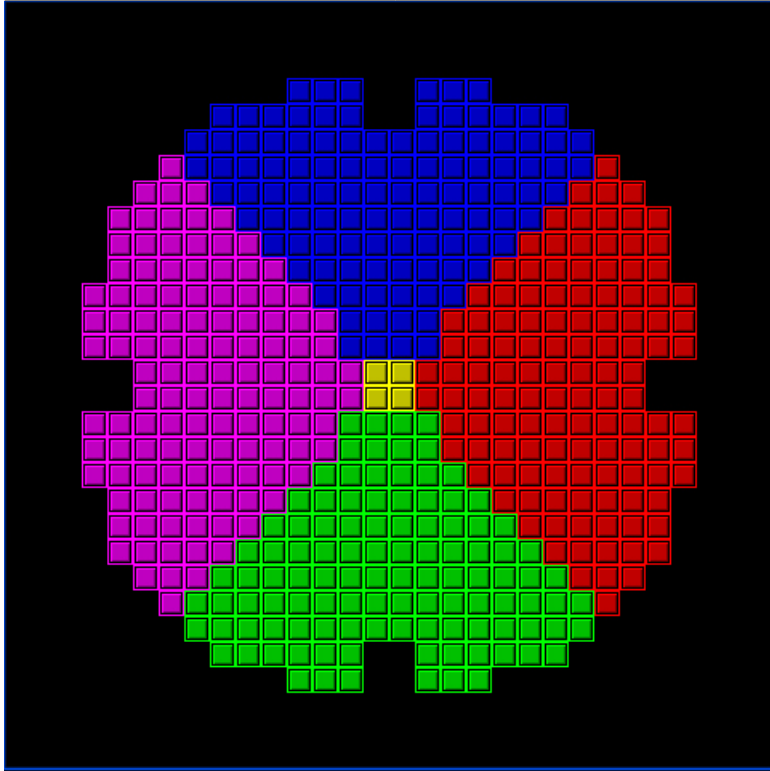
Name	Size Range	Special Trait
Space Station II	4,350,000 - 4,800,000	Radar Ranges +15

Name	Size Range	Special Trait
Tradepost I	1,500,000 - 1,750,000	None

Name	Size Range	Special Trait
Cicada	40 - 60	Maneuver +10 and +2% Critical Hit Chance
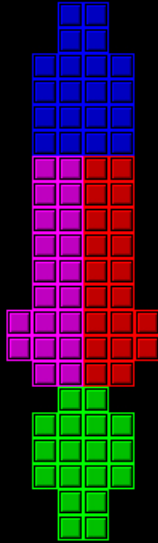
Name	Size Range	Special Trait
Gnat	60 - 90	+2% Critical Hit Chance
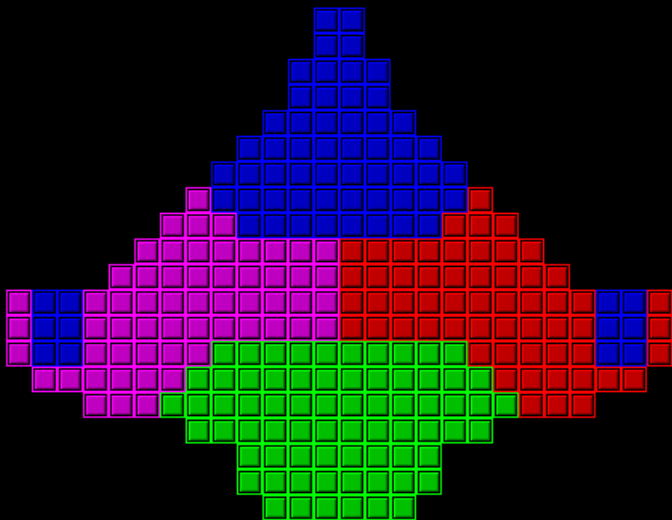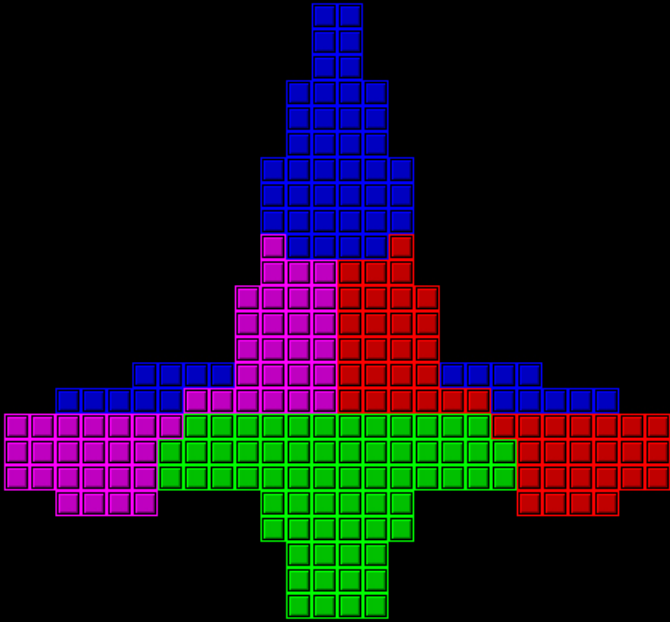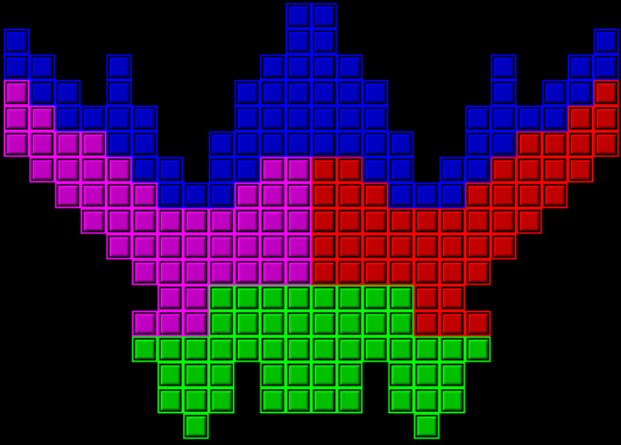
Name	Size Range	Special Trait
Interceptor I	54 - 90	+2% Critical Hit Chance
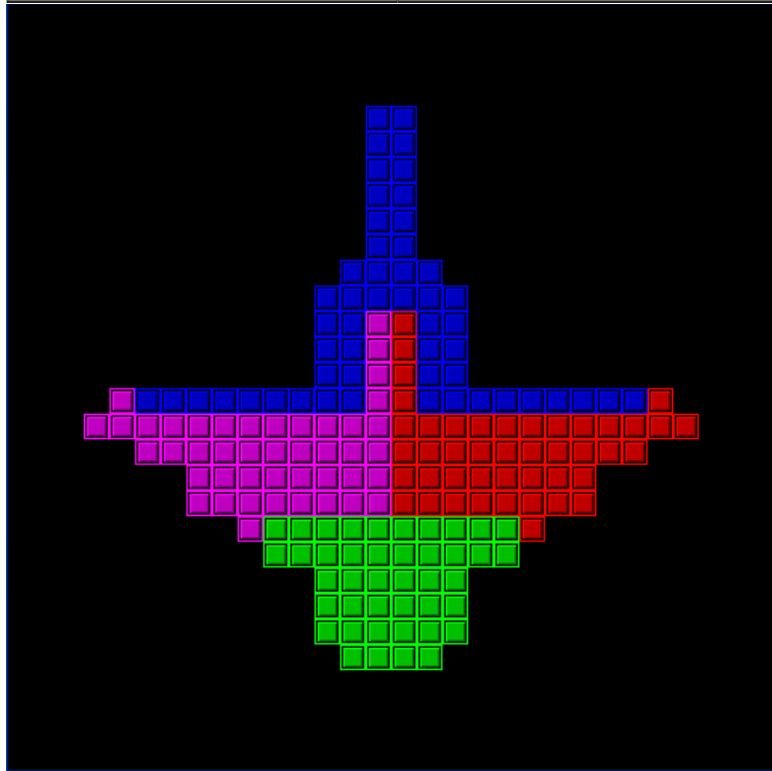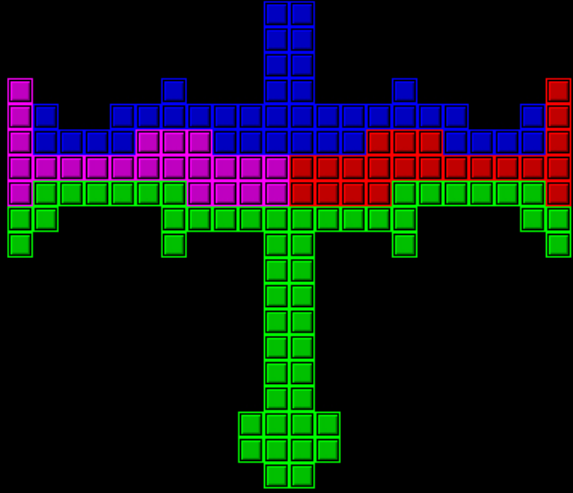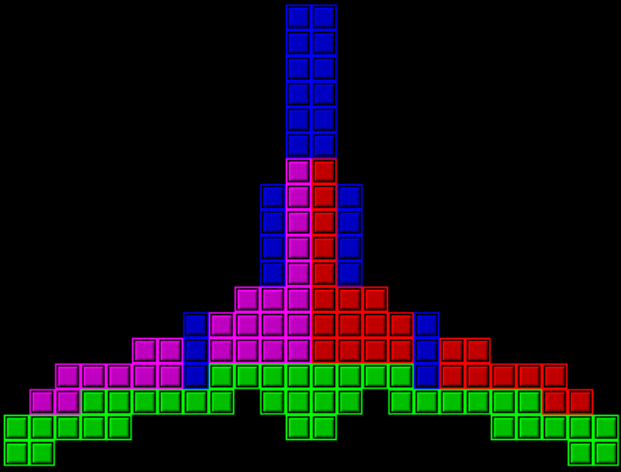
Name	Size Range	Special Trait
Moth	55 - 90	+2% Critical Hit Chance
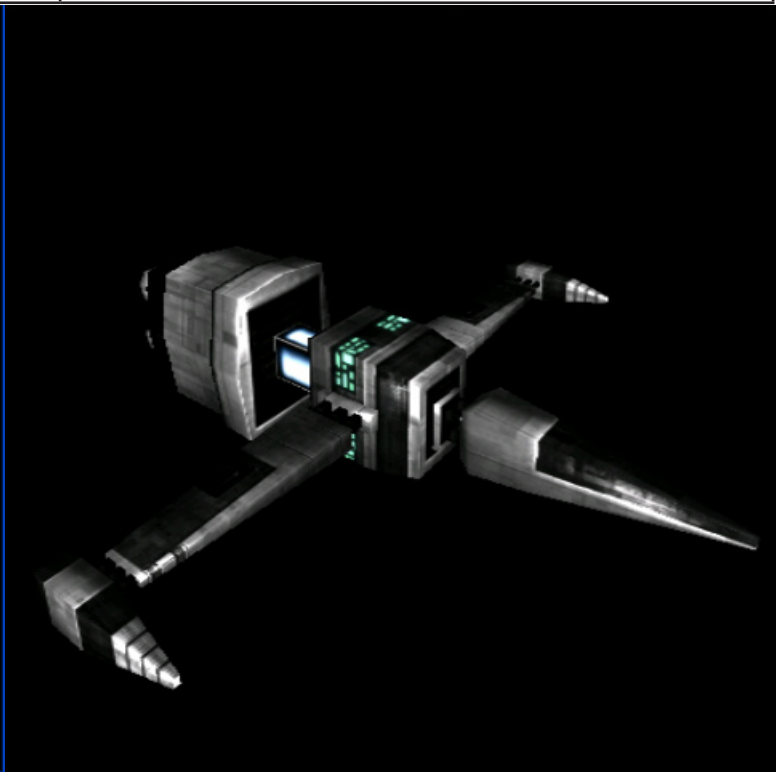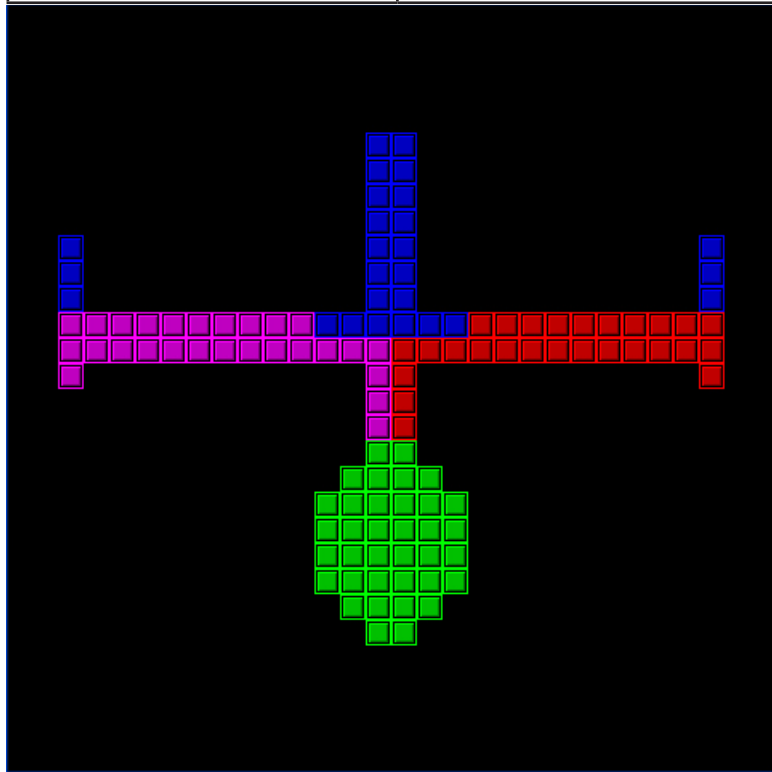
Name	Size Range	Special Trait
Tick	40 - 70	Maneuver +5 and +2% Critical Hit Chance

Name	Size Range	Special Trait
Crane	77 - 129	+1% Critical Hit Chance

Name	Size Range	Special Trait
Dragonfly	80 - 130	+1% Critical Hit Chance

Name	Size Range	Special Trait
Firefly	70 - 120	Maneuver +10 and +1% Critical Hit Chance

Name	Size Range	Special Trait
Flea	80 - 130	+1% Critical Hit Chance
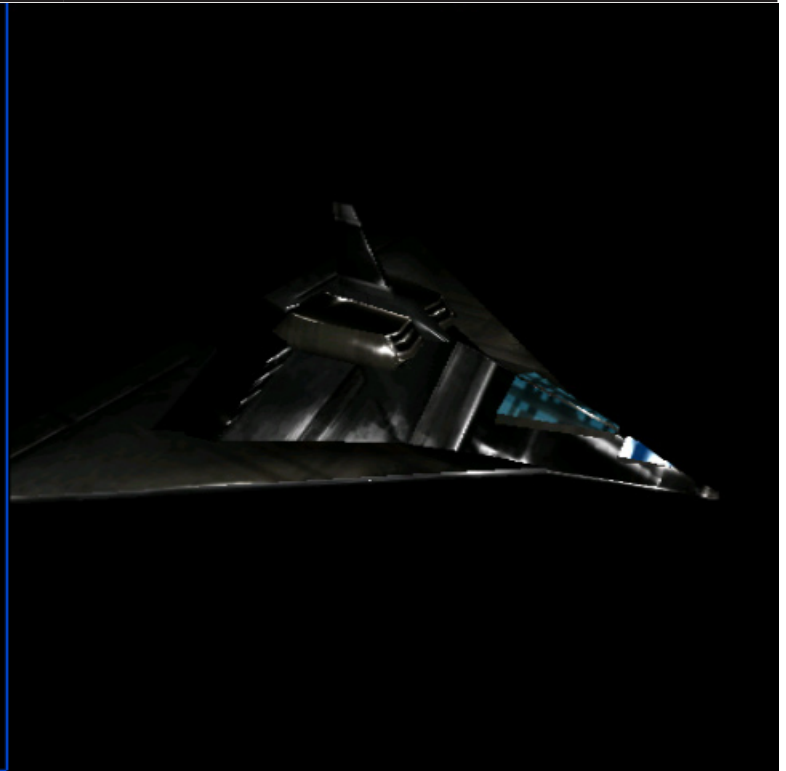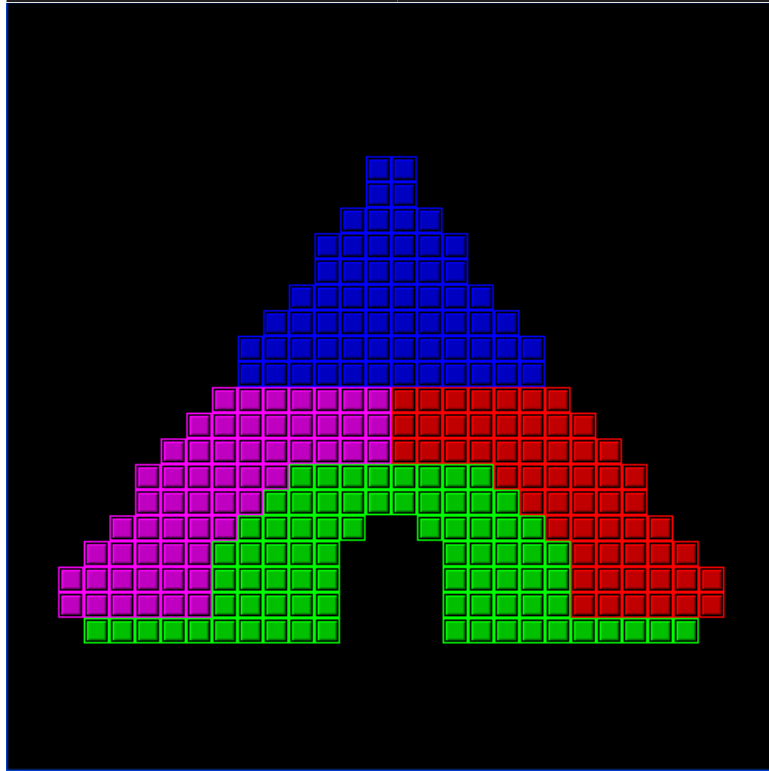
Name	Size Range	Special Trait
Hornet	90 - 140	+1% Critical Hit Chance
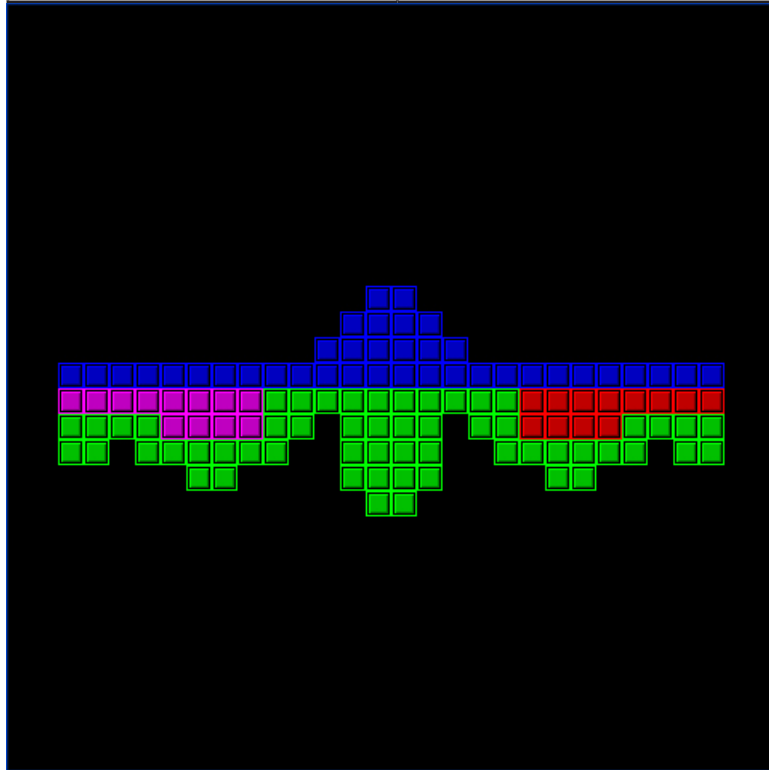
Name	Size Range	Special Trait
Wasp	70 - 115	Maneuver +10 and +1% Critical Hit Chance
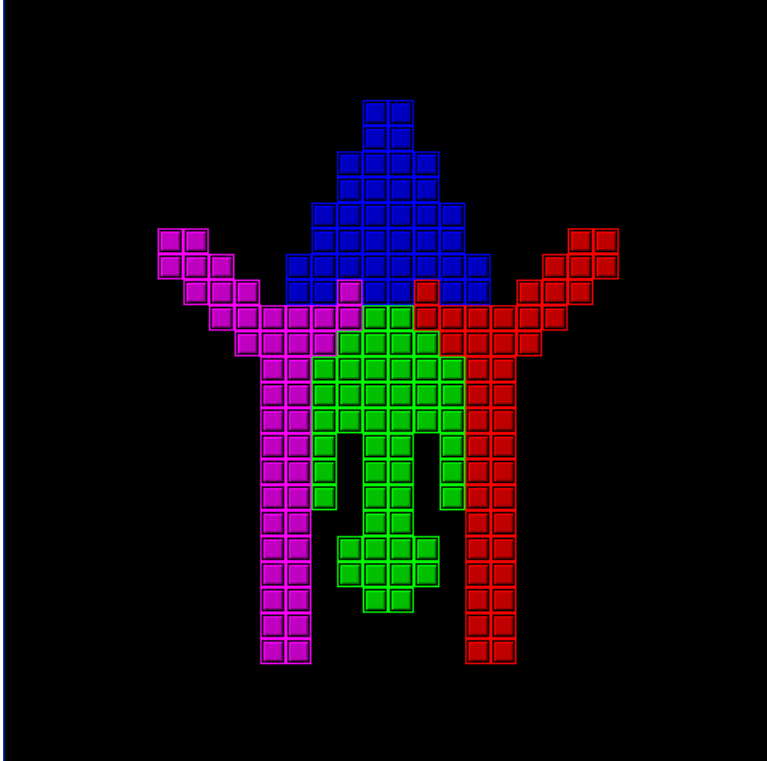
Name	Size Range	Special Trait
Fly	135 - 225	Maneuver +5
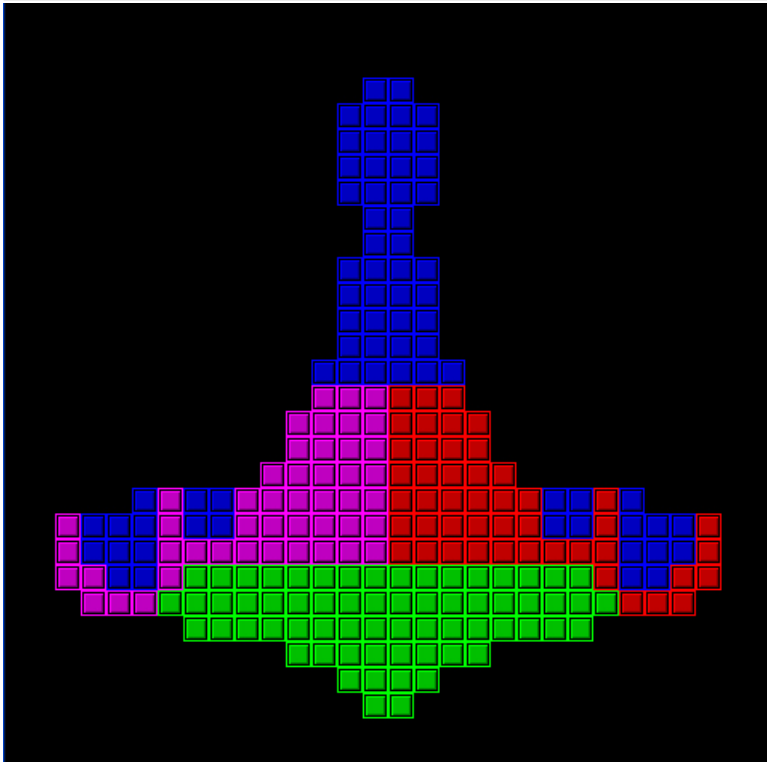
Name	Size Range	Special Trait
Mantis	195 - 300	None
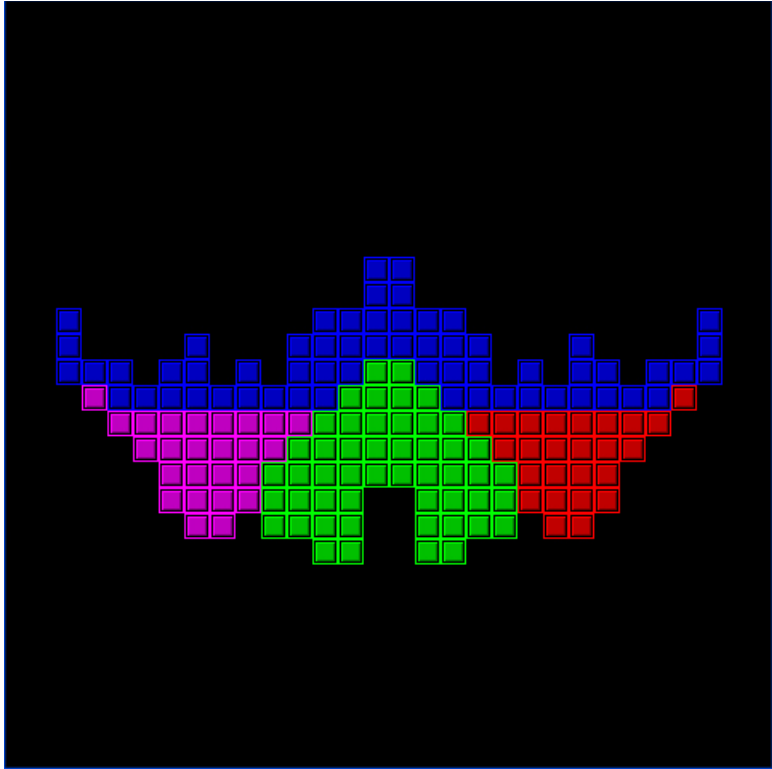
Name	Size Range	Special Trait
Roach	140 - 170	Maneuver +10
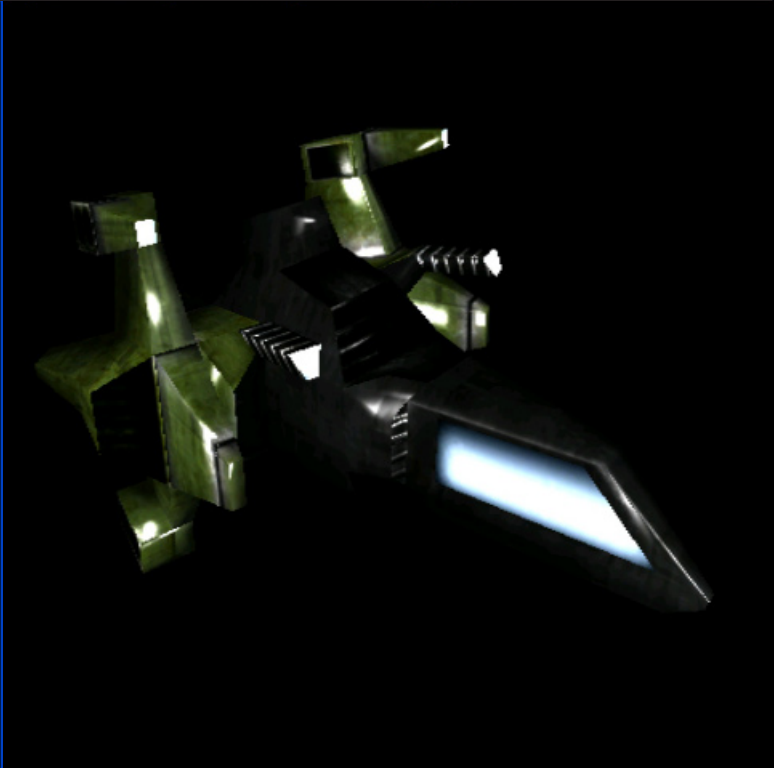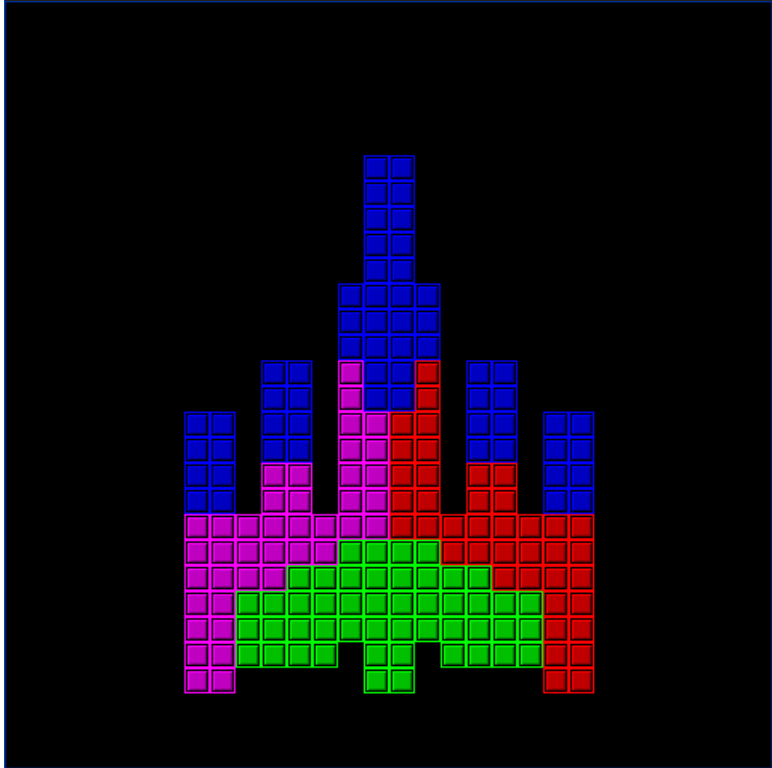
Name	Size Range	Special Trait
Spider	146 - 244	Maneuver +2
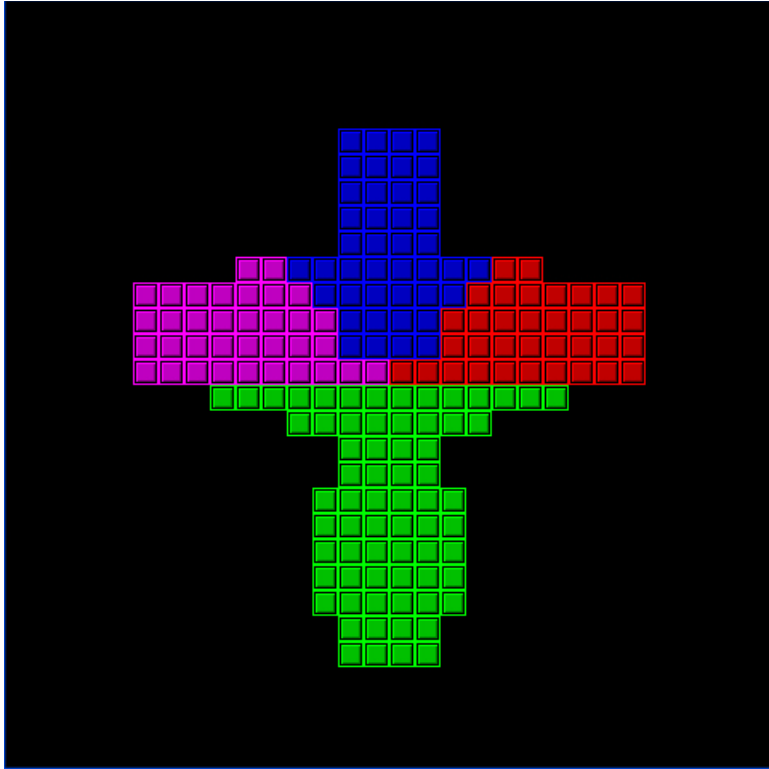
Name	Size Range	Special Trait
All-Terrain Vehicle I	78 - 130	Maneuver +30
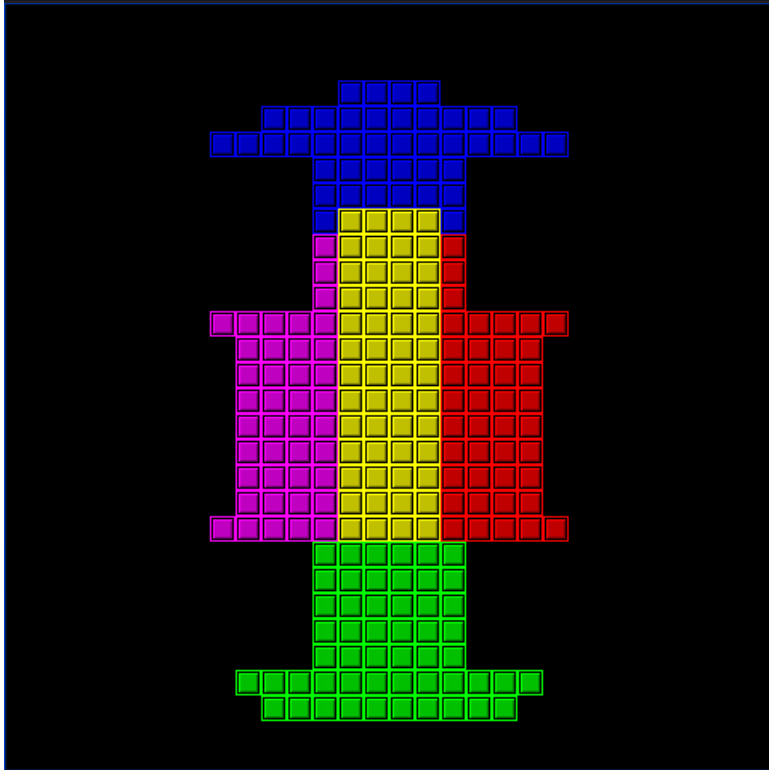
Name	Size Range	Special Trait
All-Terrain Vehicle II	75 - 130	Maneuver +30
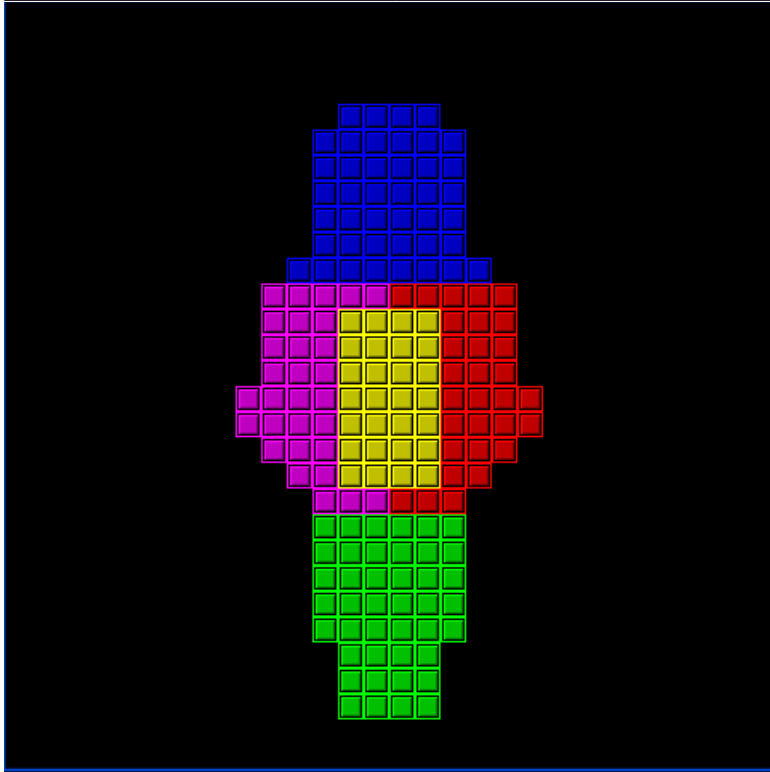
Name	Size Range	Special Trait
Brute	330 - 550	None
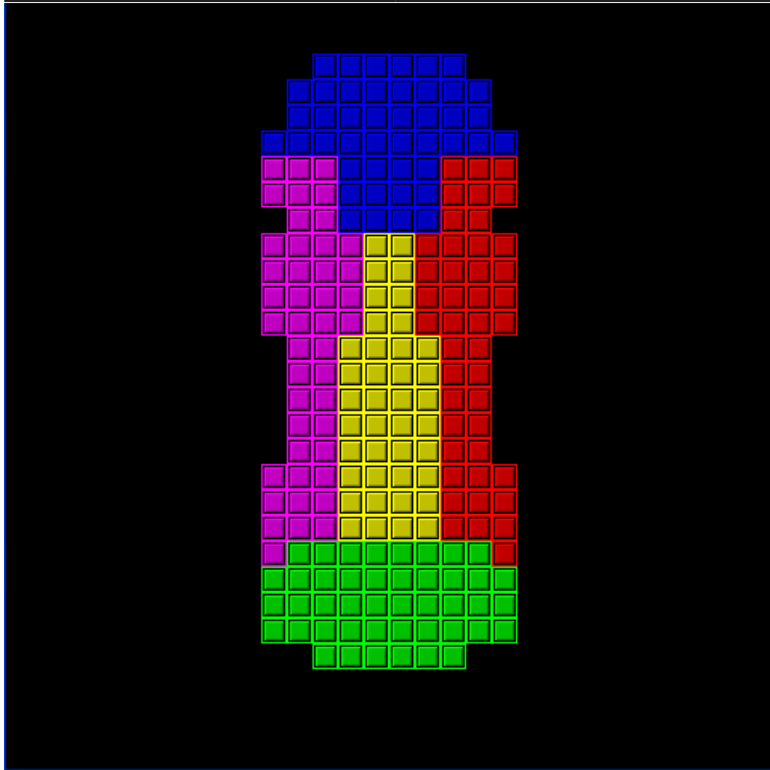
Name	Size Range	Special Trait
Crusher	300 - 480	Maneuver +5
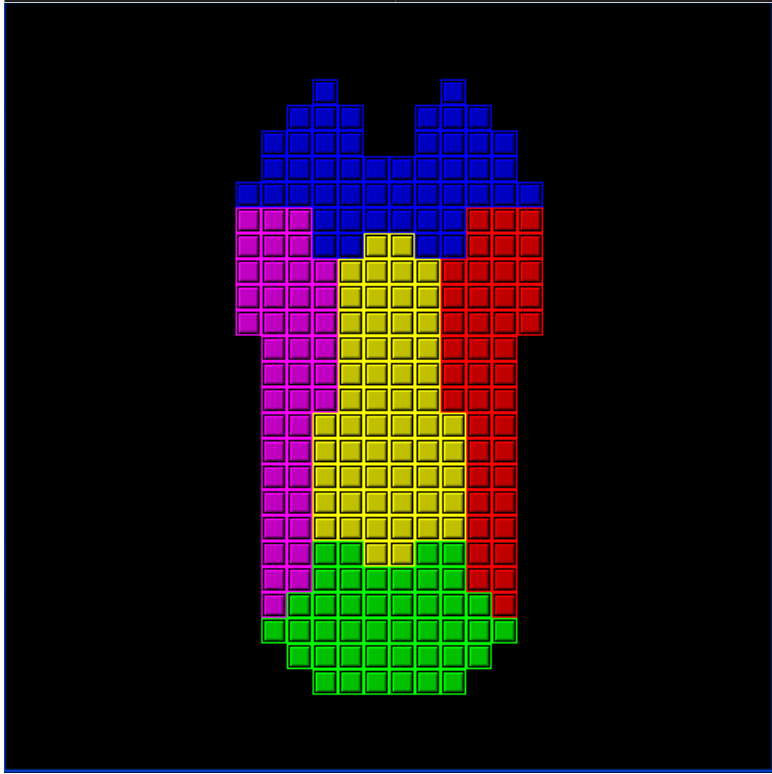
Name	Size Range	Special Trait
Sentinel	340 - 570	None
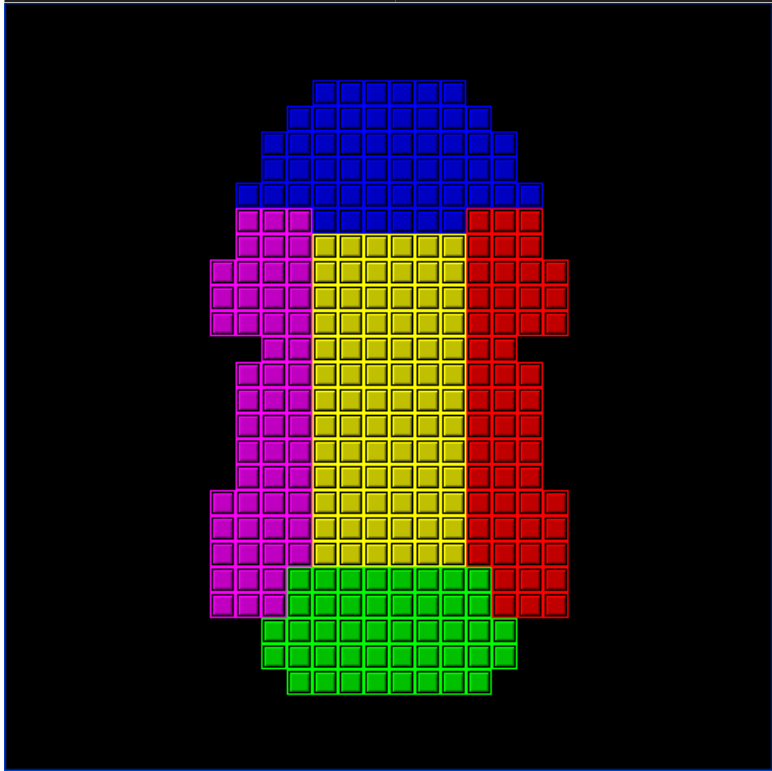
Name	Size Range	Special Trait
Sentinel II	325 - 500	Maneuver +5
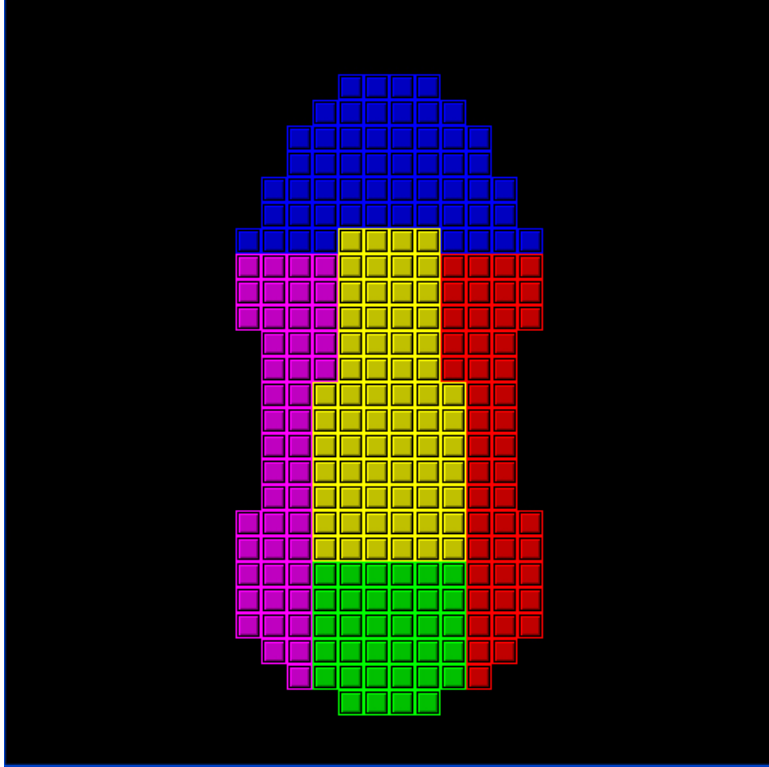
Name	Size Range	Special Trait
Storm	370 - 620	None
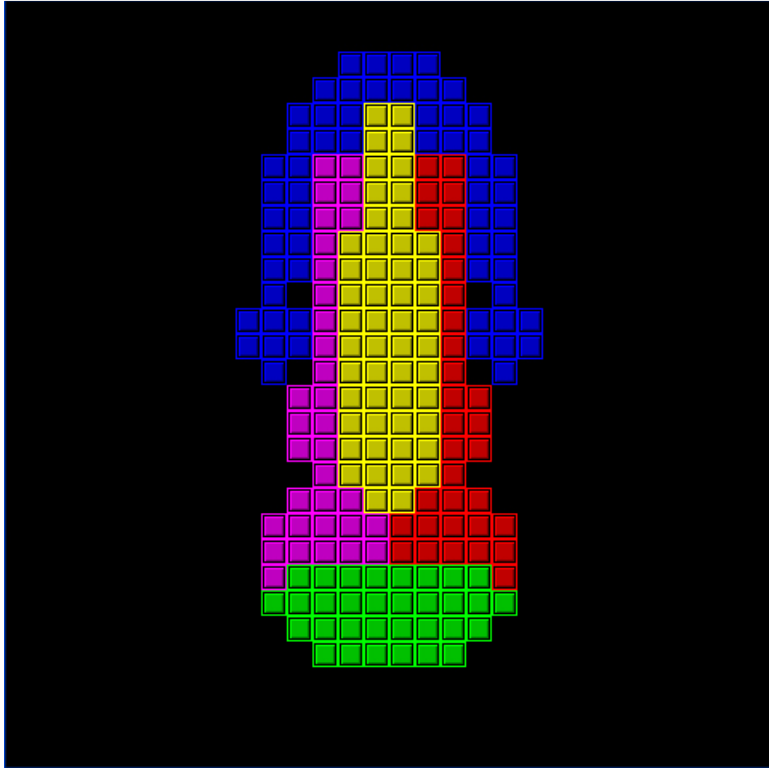
Name	Size Range	Special Trait
Storm II	325 - 540	Maneuver +2
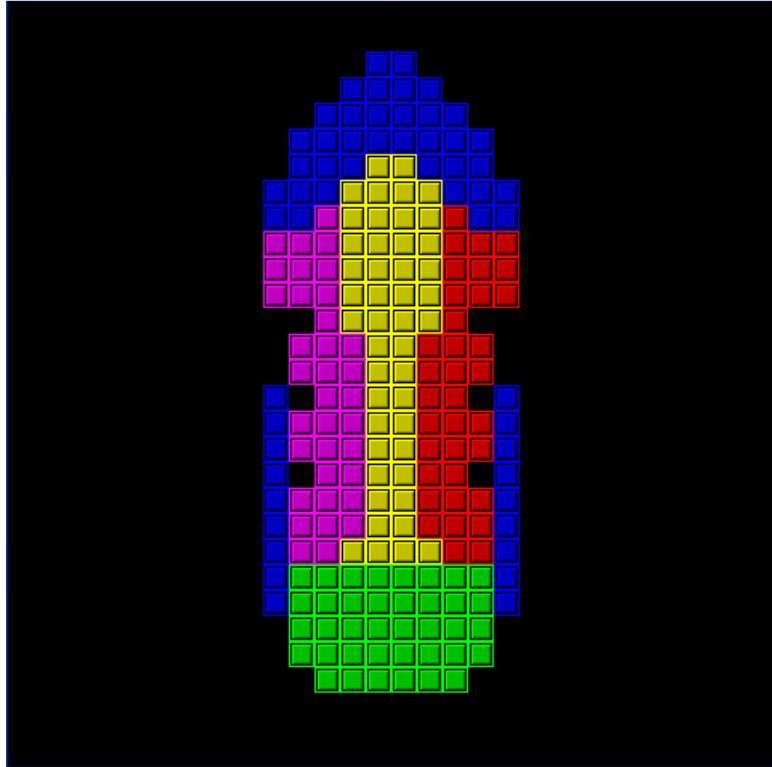
Name	Size Range	Special Trait
Striker	250 - 400	Maneuver +10
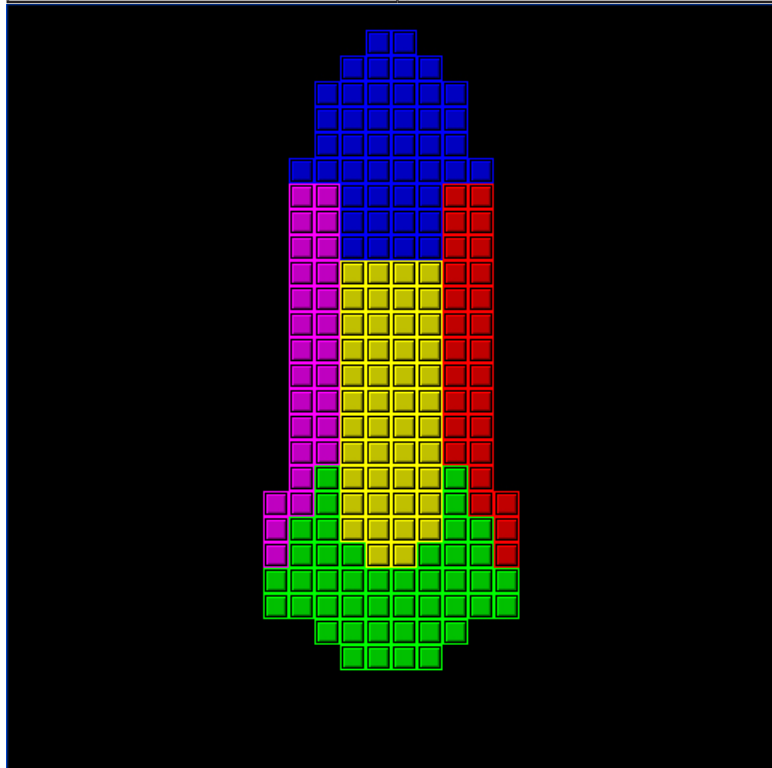
Name	Size Range	Special Trait
Cargo Transport I	33,000 - 36,500	None
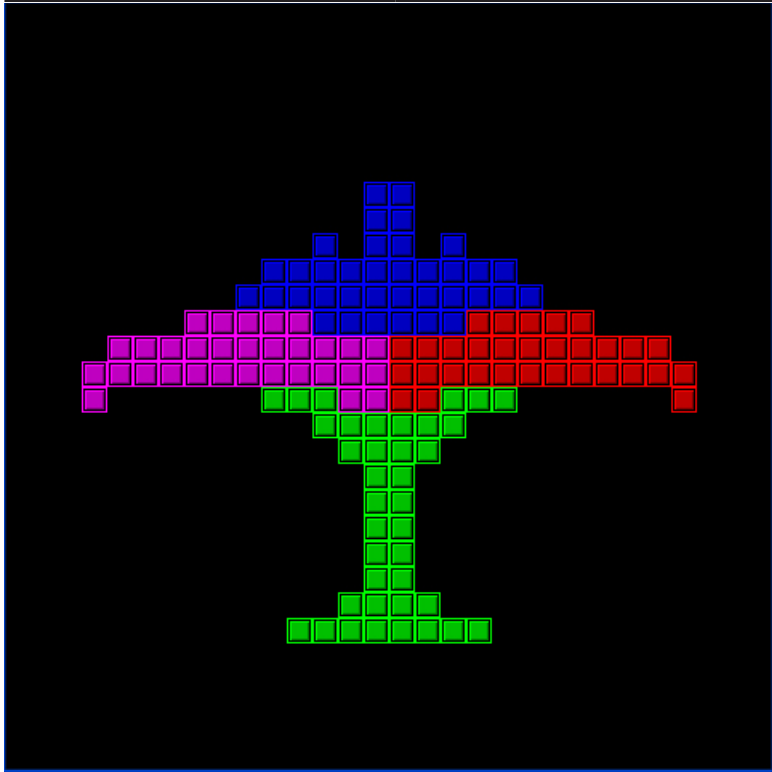
Name	Size Range	Special Trait
Combat Transport I	30,000 - 32,000	None
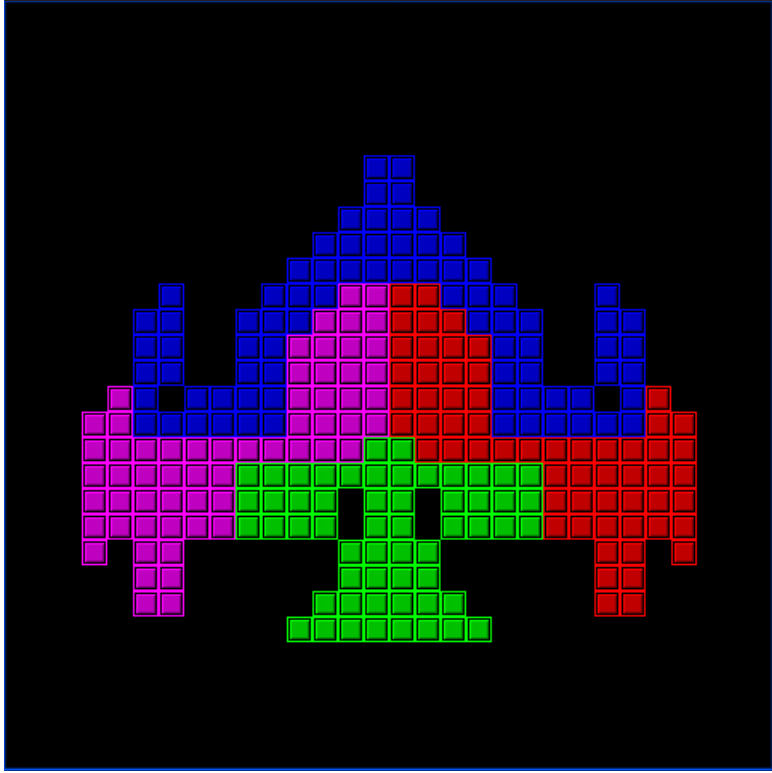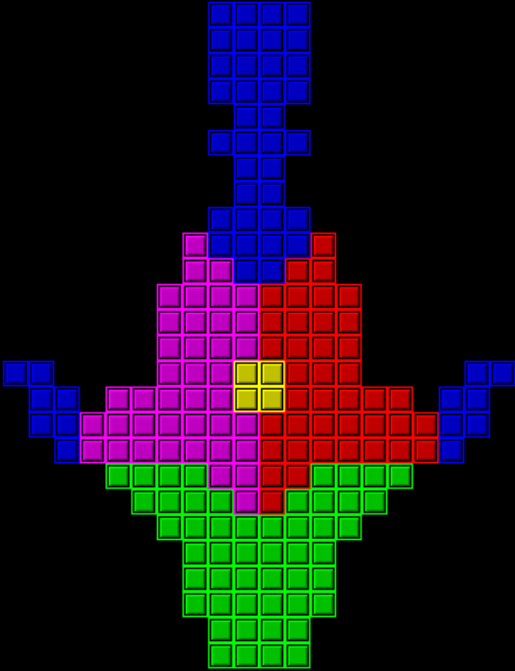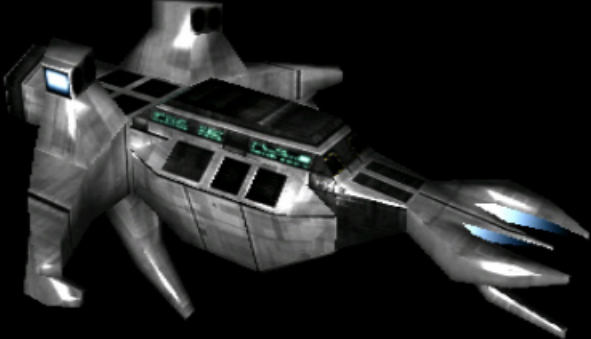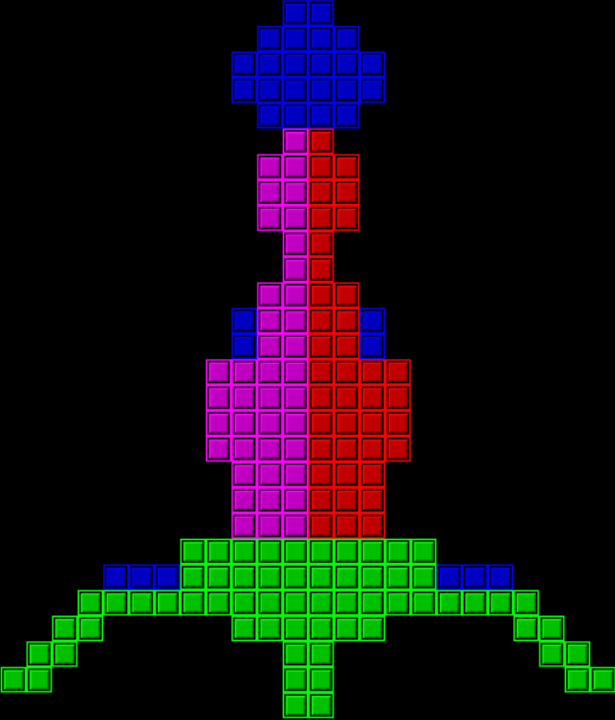
Name	Size Range	Special Trait
Bull Dozer I	300 - 500	Maneuver +10
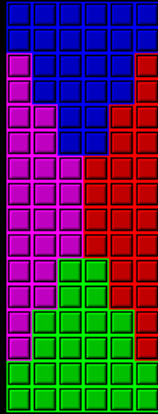
Name	Size Range	Special Trait
Space Engineer I	660 - 700	None
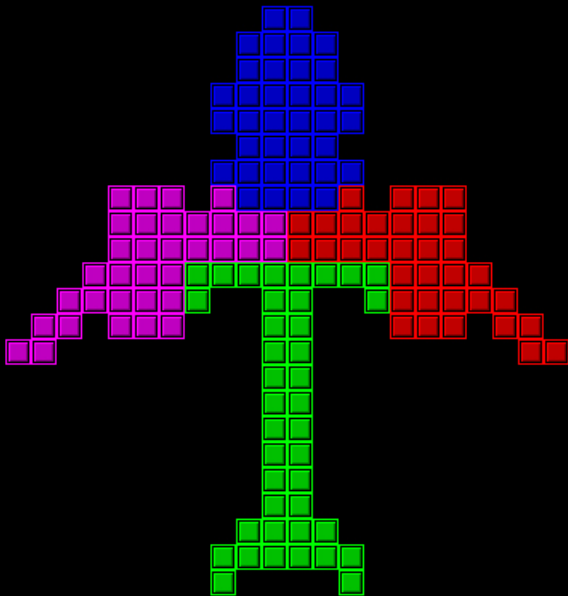
Name	Size Range	Special Trait
Bobcat	110,000 - 120,000	None

Name	Size Range	Special Trait
Cheetah	180,000 - 200,000	Cargo and Hangar Capacity +10%

Name	Size Range	Special Trait
Jackal	165,000 - 188,000	Maneuver +2
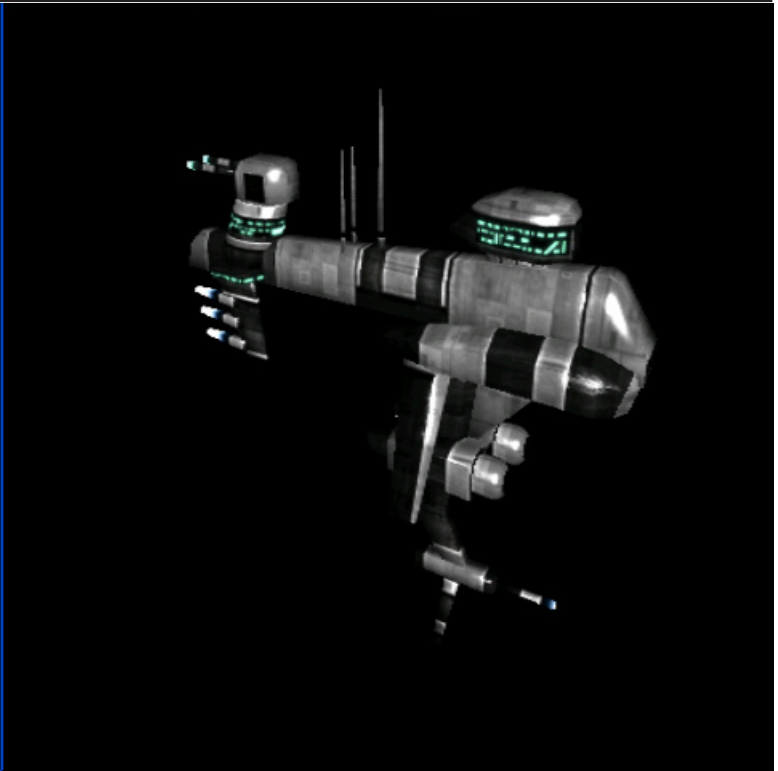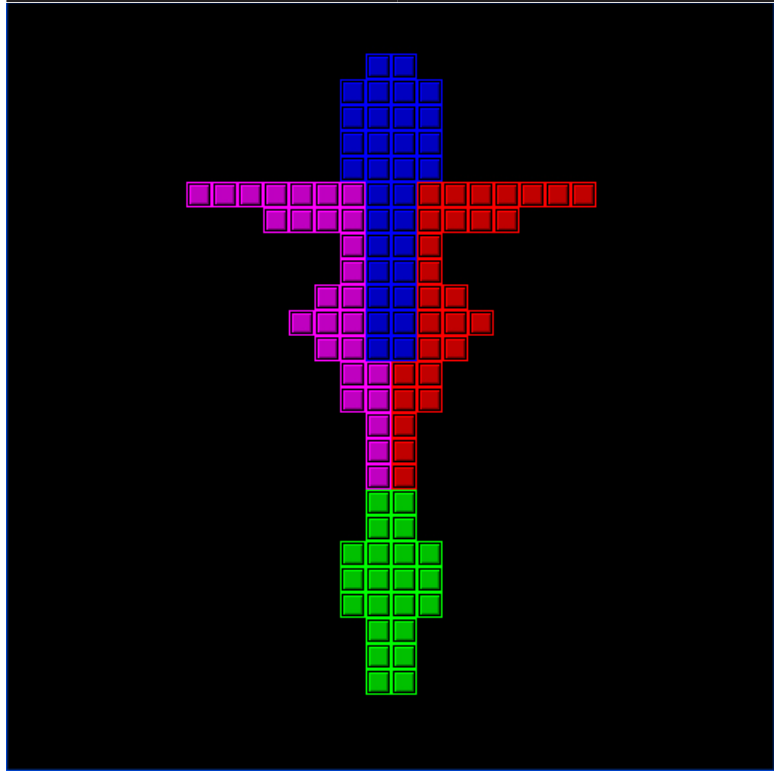
Name	Size Range	Special Trait
Lion	180,000 - 200,000	None
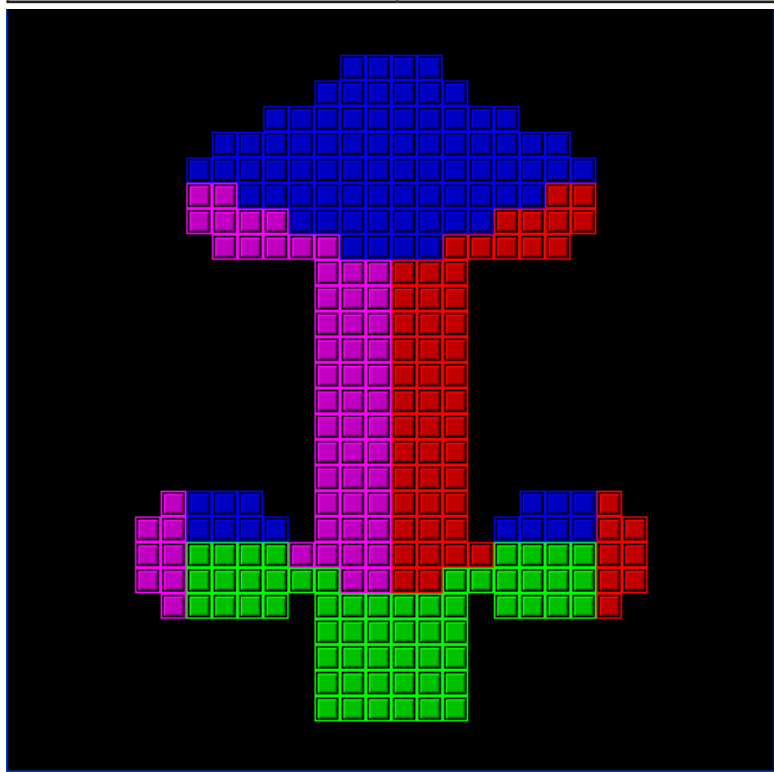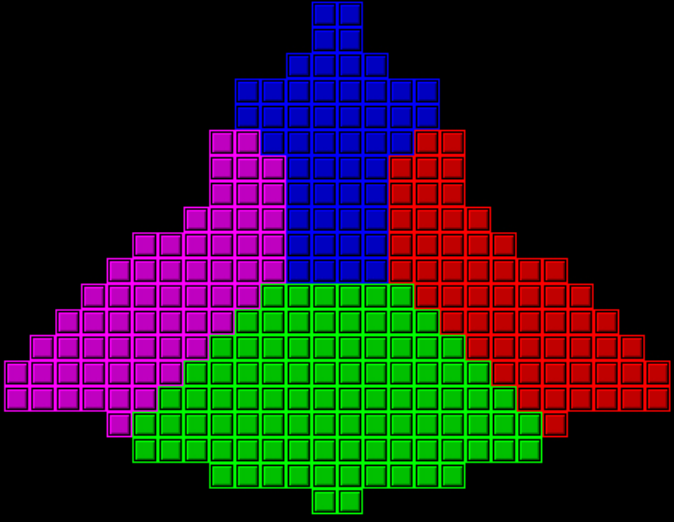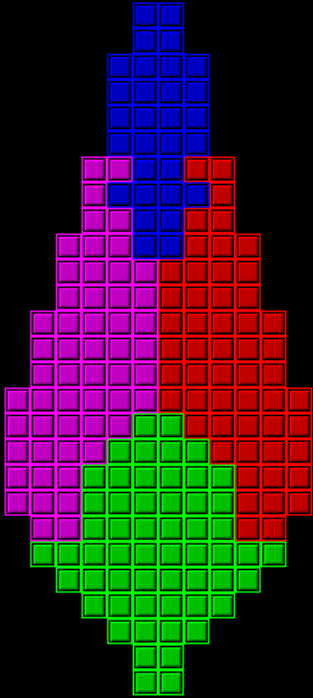
Name	Size Range	Special Trait
Sabertooth	229,061 - 253,173	None
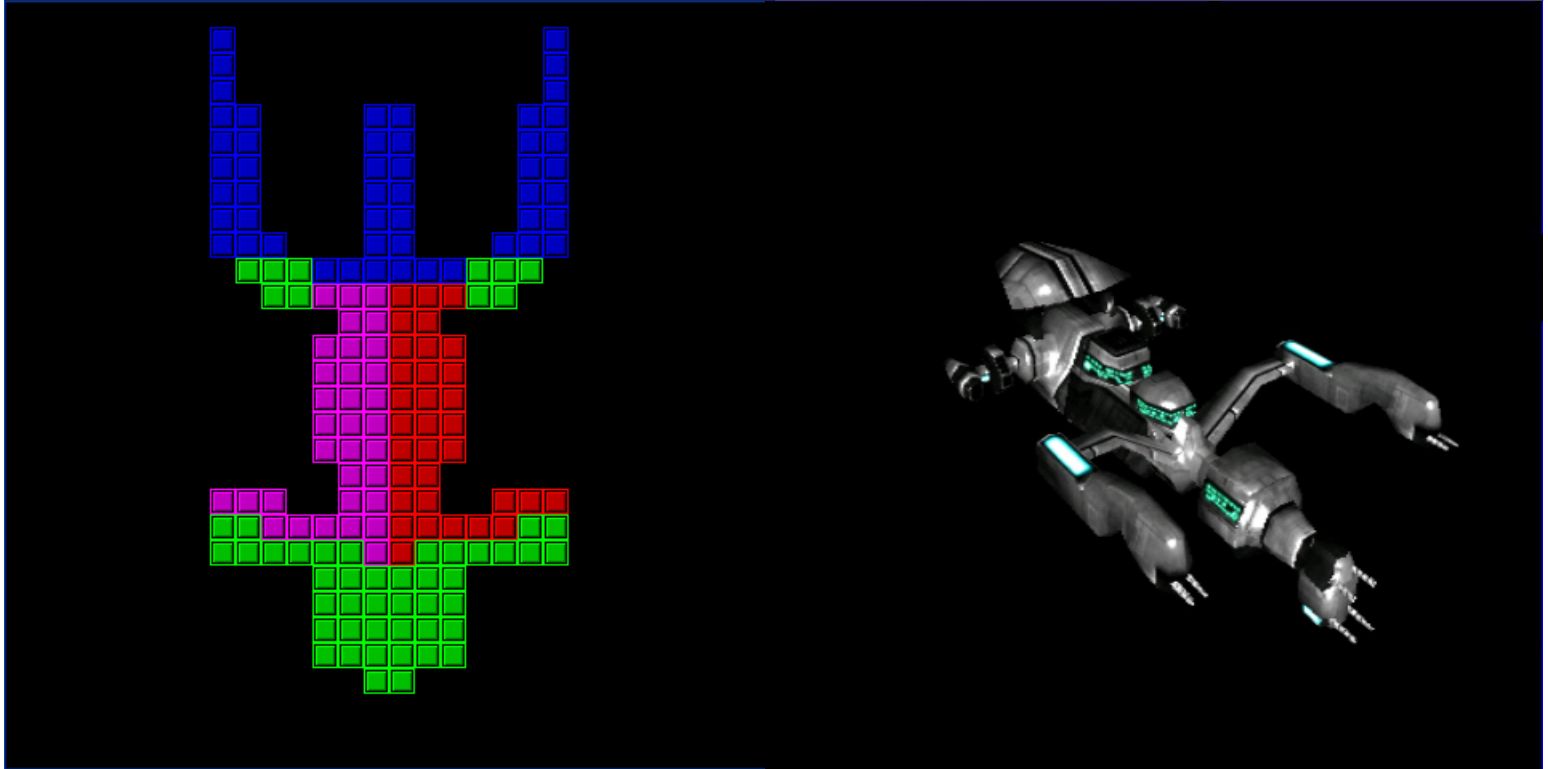
Name	Size Range	Special Trait
Tiger	200,000 - 220,000	None
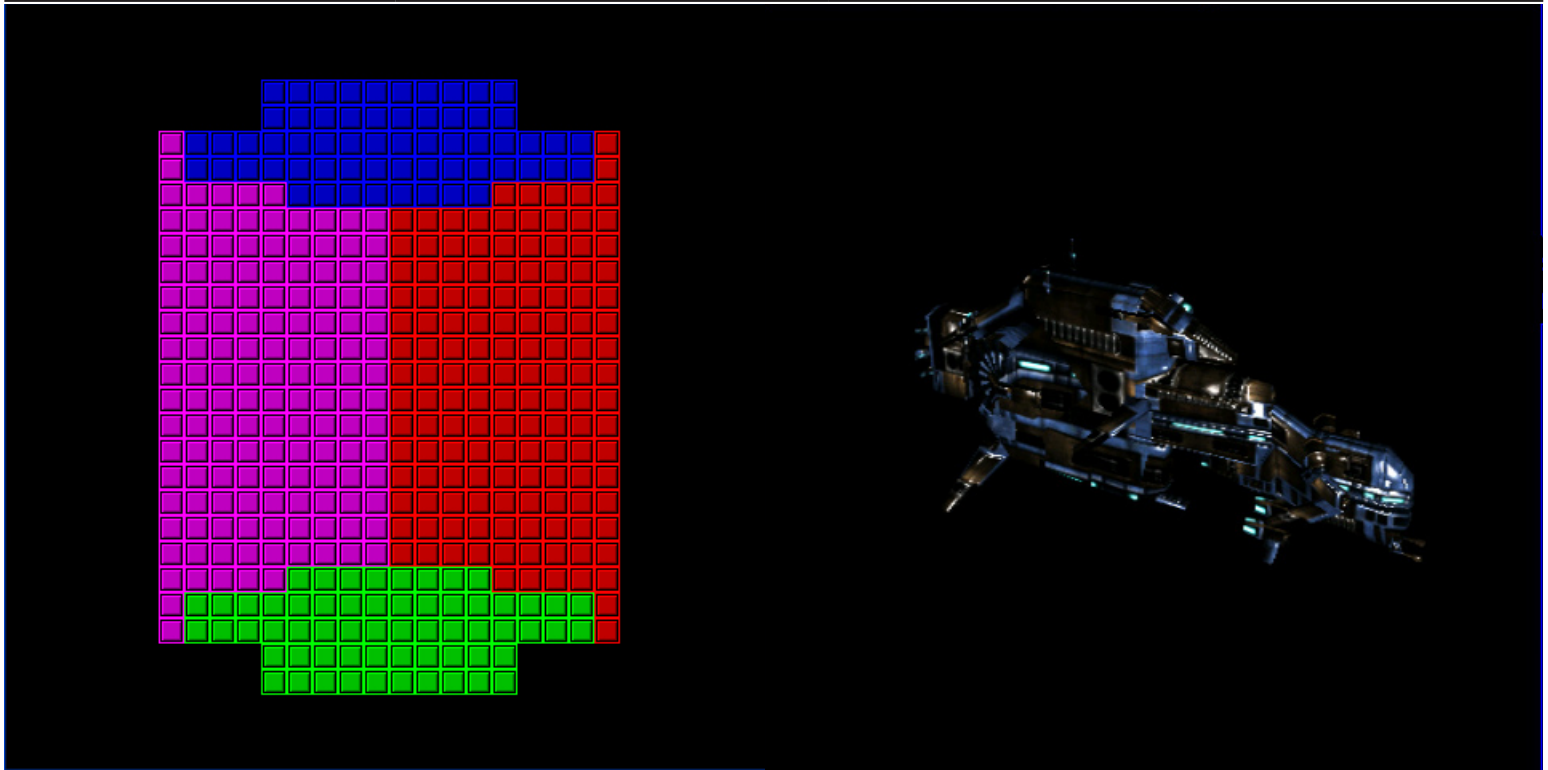
Name	Size Range	Special Trait
Anubis	1,000,000 - 1,100,000	No Jamming Radar Capability

Name	Size Range	Special Trait
Claw	600,000 - 660,000	Cargo and Hangar Capacity +10%

Name	Size Range	Special Trait
Bull	800,000 - 880,000	None
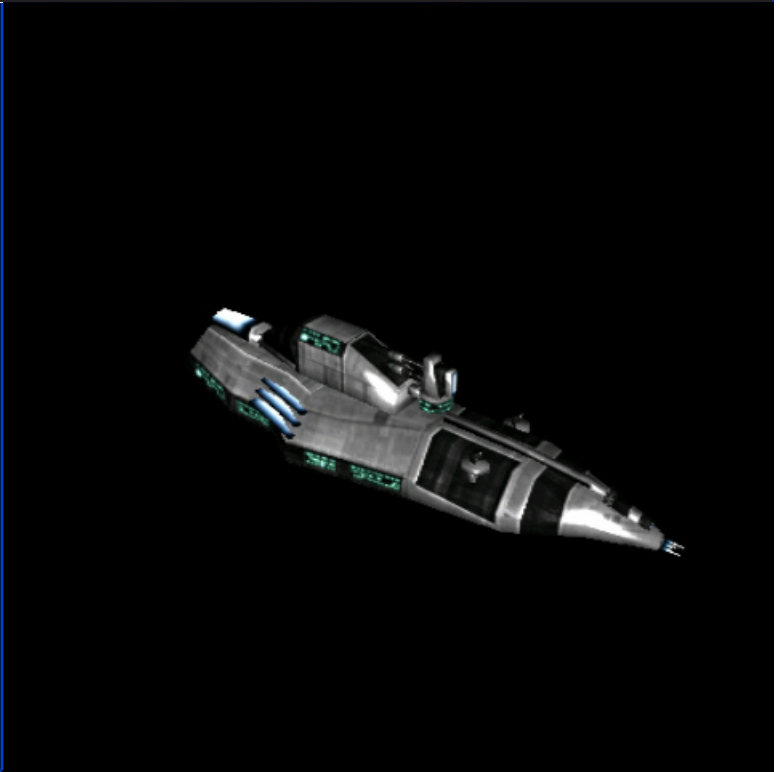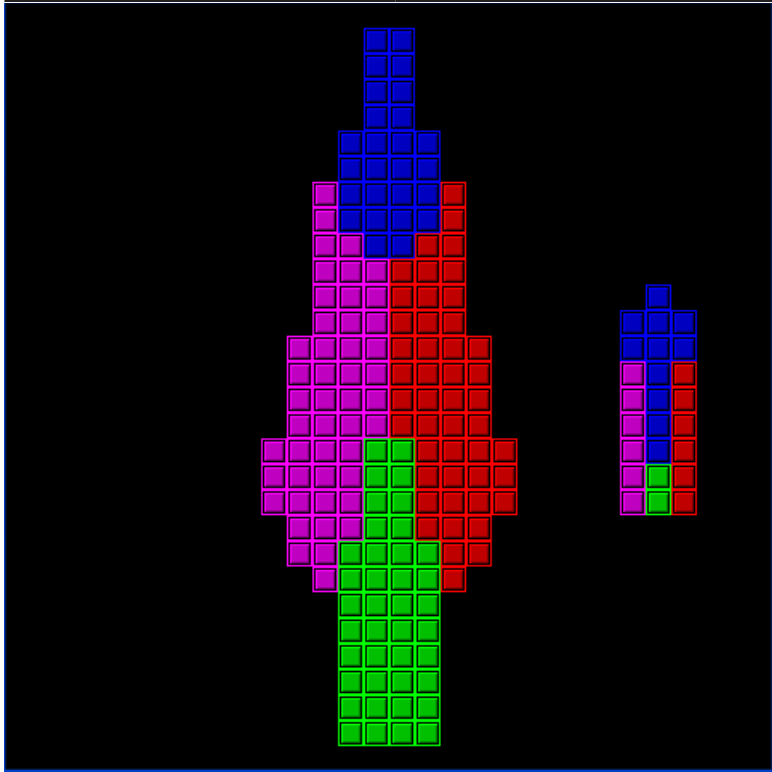
Name	Size Range	Special Trait
Elephant	700,000 - 775,000	None
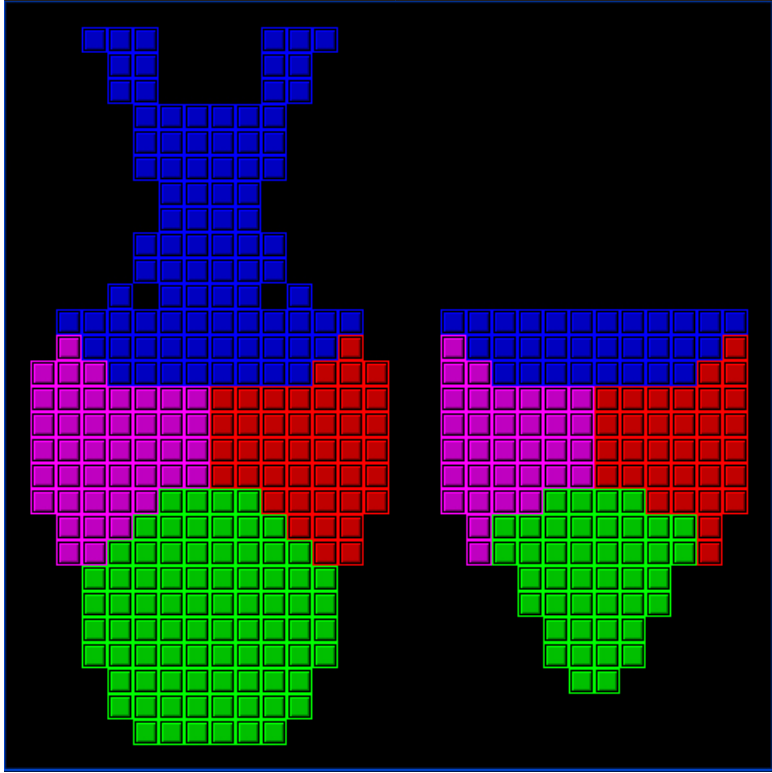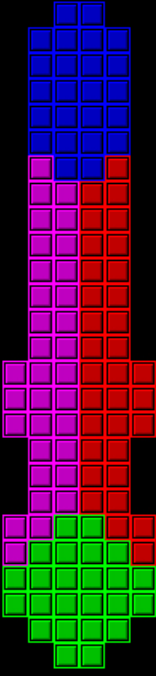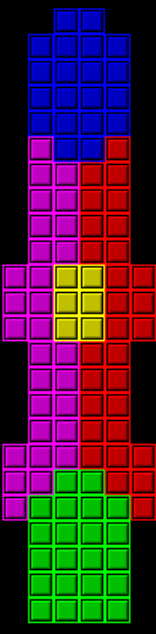
Name	Size Range	Special Trait
Octopus	550,000 - 610,000	Maneuver +2
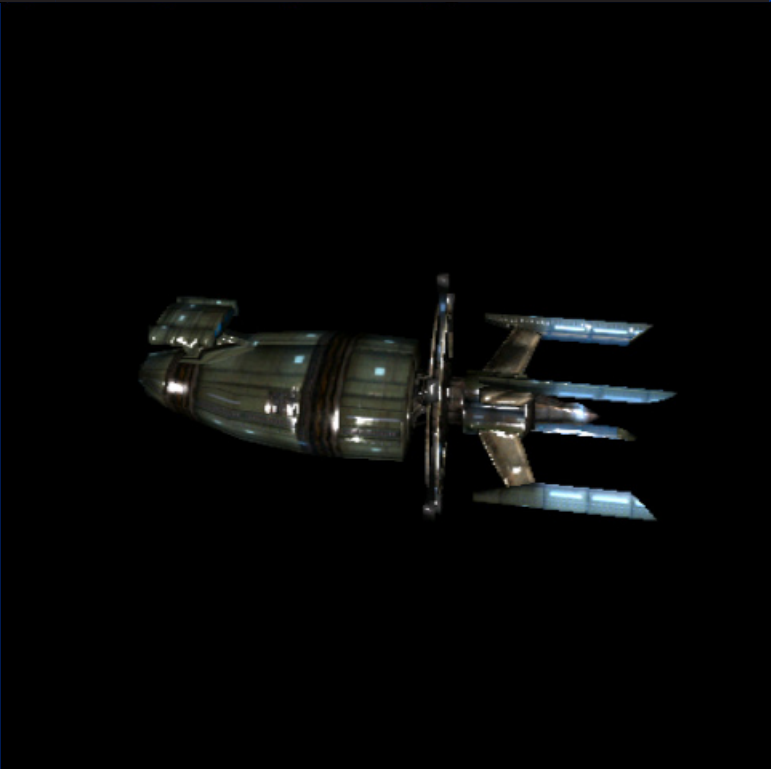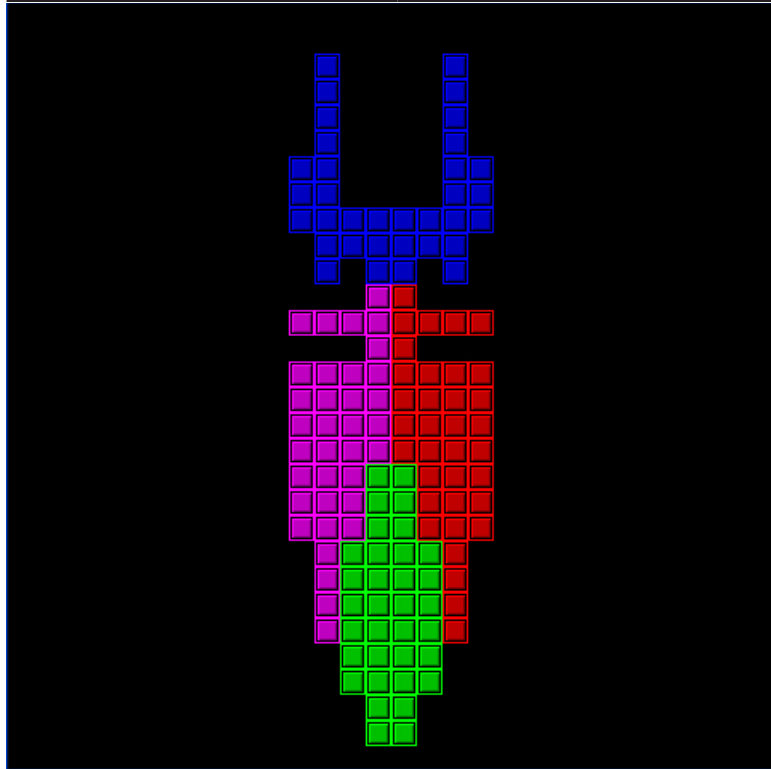
Name	Size Range	Special Trait
X-63	400,000 - 450,000	None
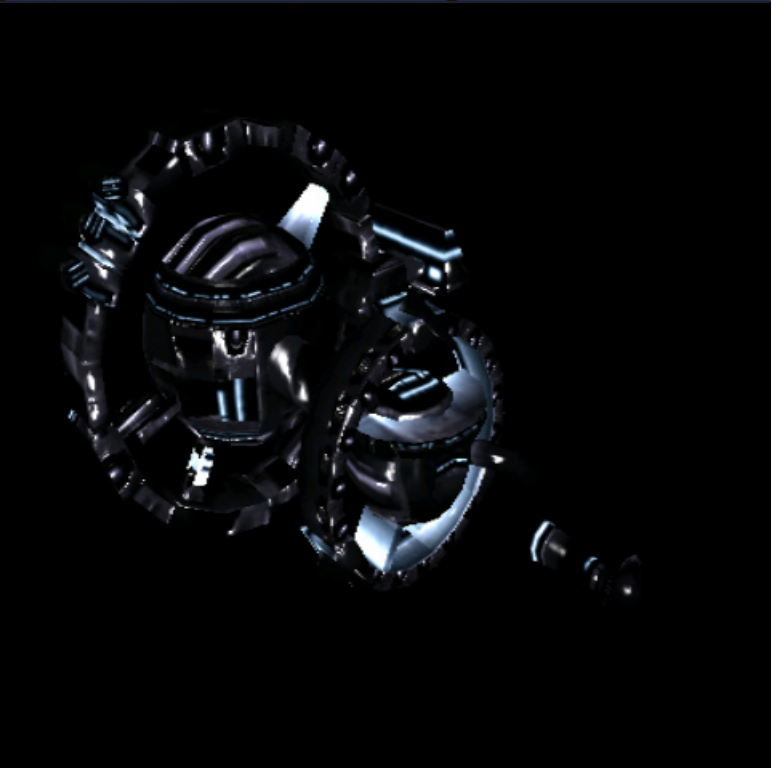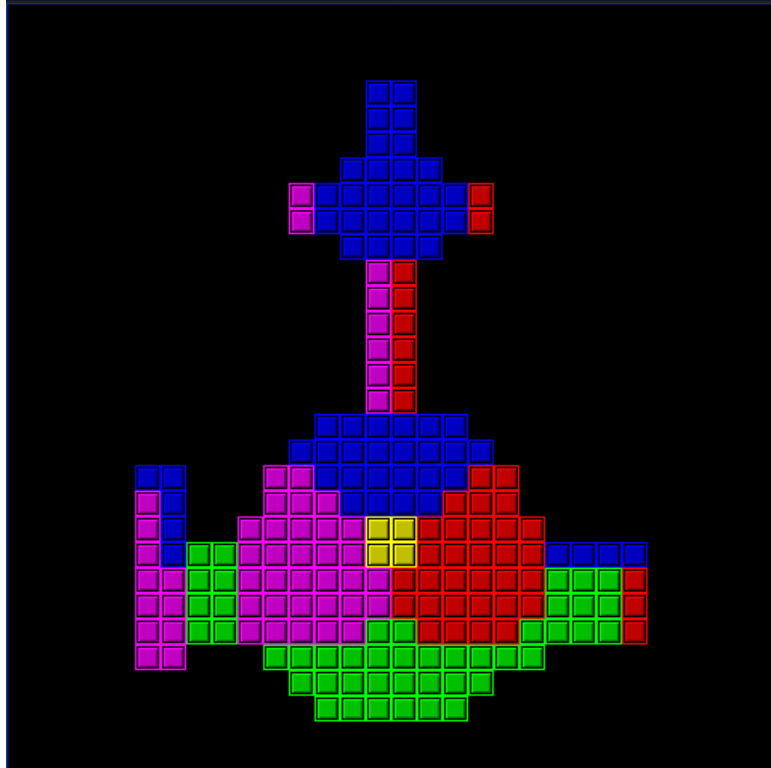
Name	Size Range	Special Trait
Cobra	217,000 - 240,000	None

Name	Size Range	Special Trait
Cottonmouth	184,000 - 203,000	None

Name	Size Range	Special Trait
Boa	181,000 - 200,000	None
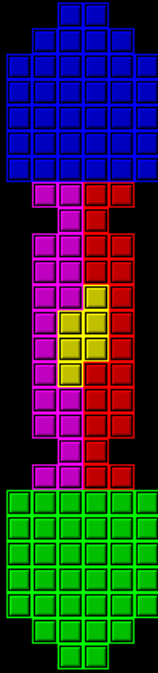
Name	Size Range	Special Trait
Python	230,000 - 255,000	None
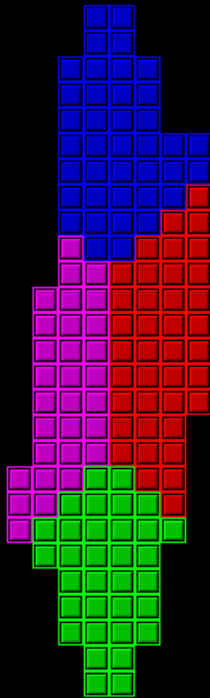
Name	Size Range	Special Trait
Asp	95,000 - 105,000	None
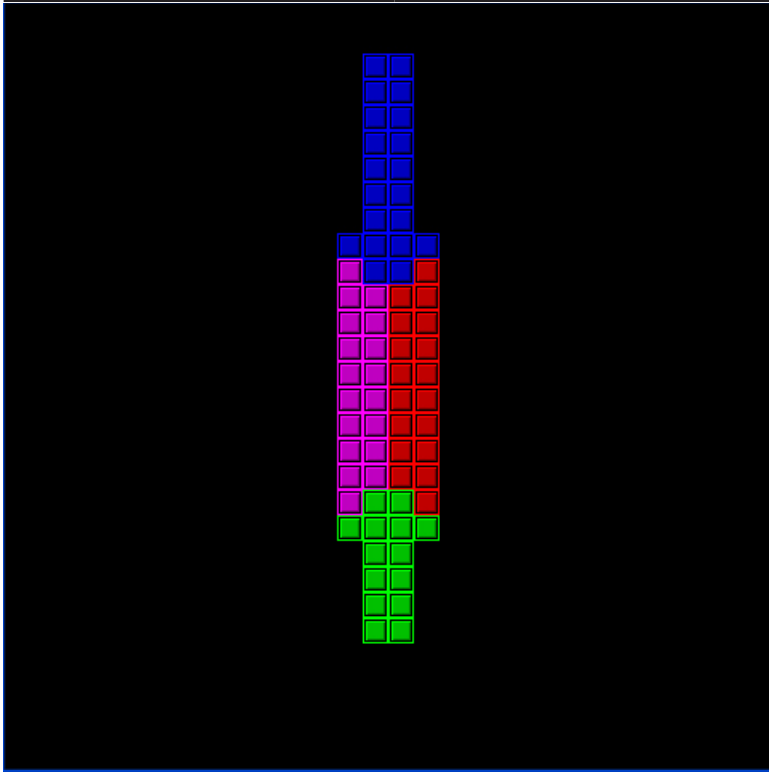
Name	Size Range	Special Trait
Copperhead	91,000 - 99,000	None
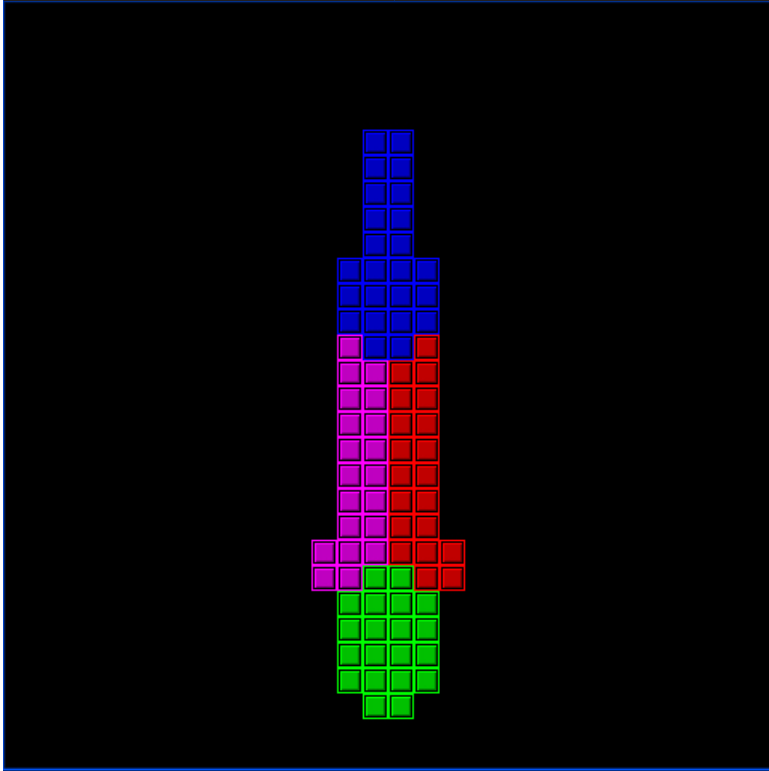
Name	Size Range	Special Trait
Viper	83,000 - 88,000	None
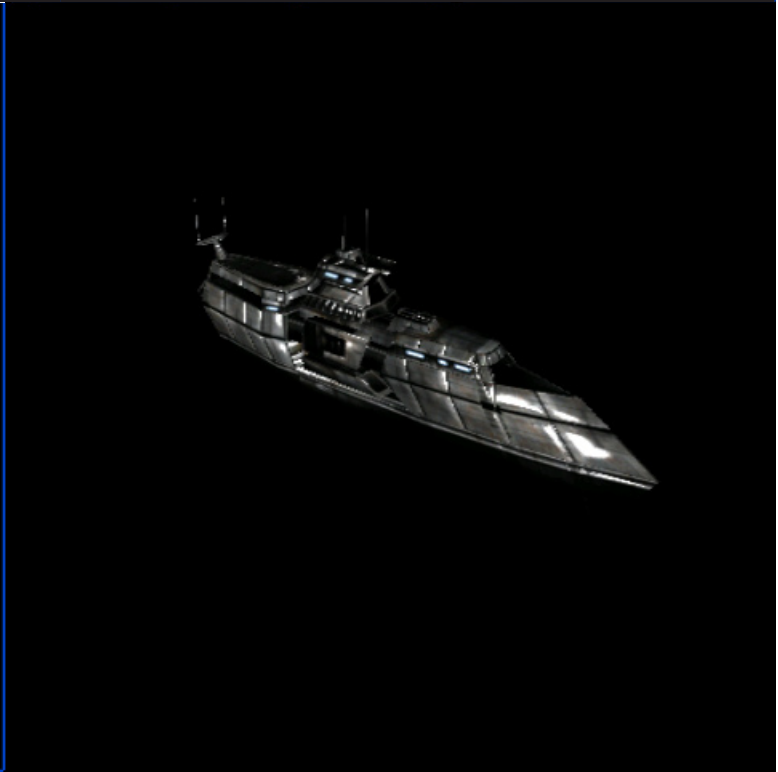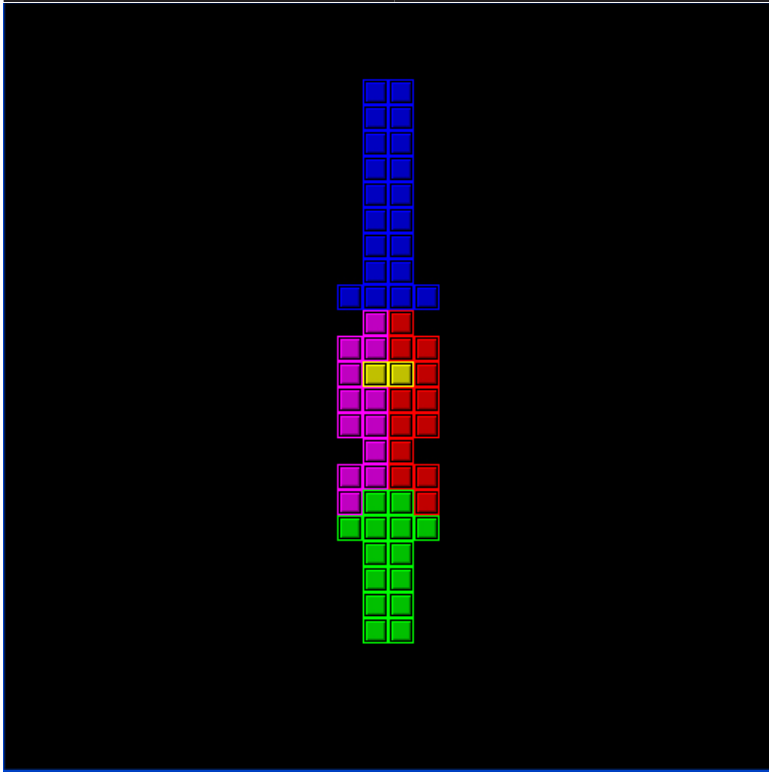
Name	Size Range	Special Trait
Bushmaster	31,000 - 36,000	None
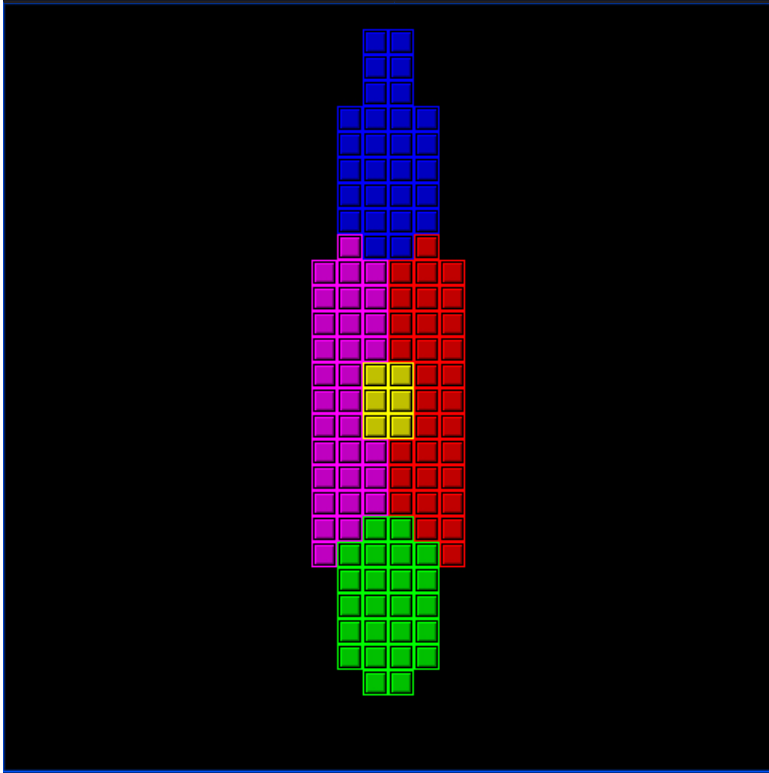
Name	Size Range	Special Trait
Mamba	45,000 - 50,000	None
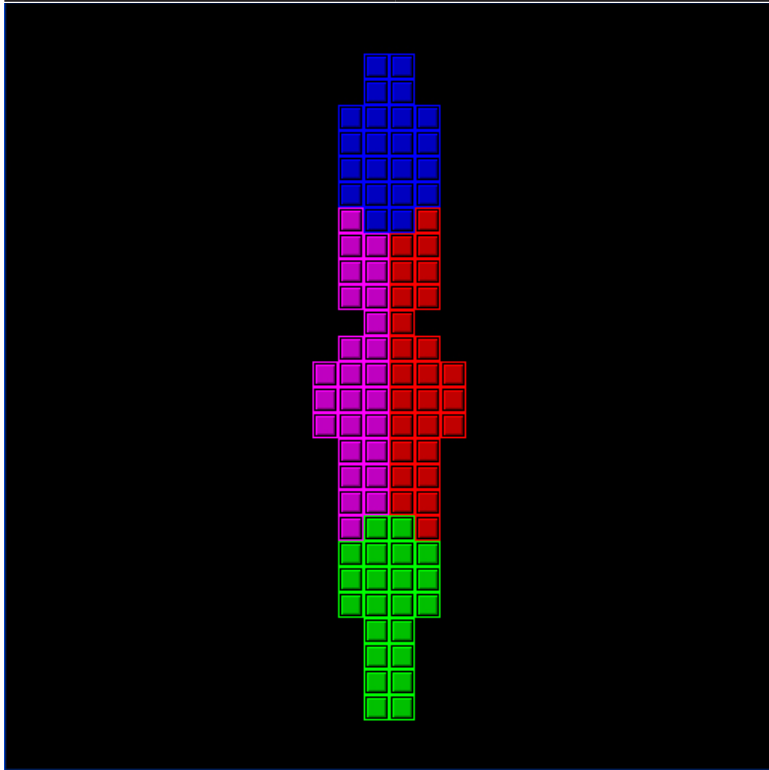
Name	Size Range	Special Trait
Rattler	37,000 - 43,000	Maneuver +2
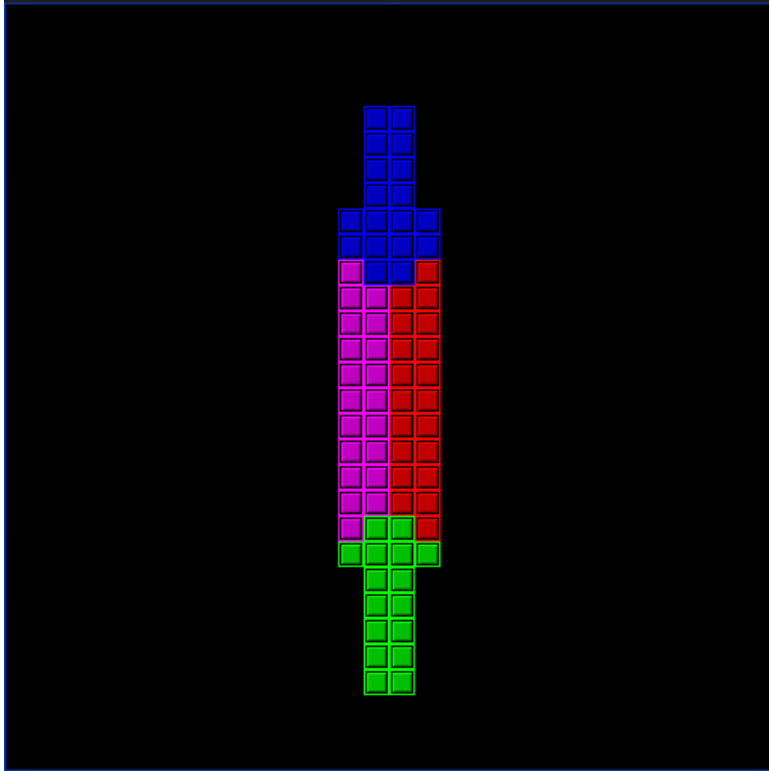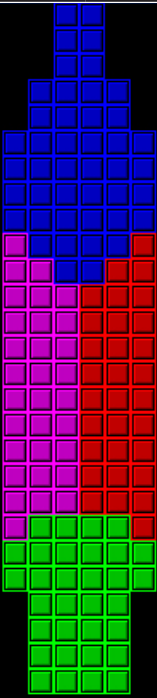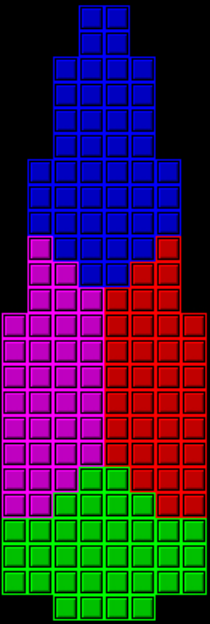
Name	Size Range	Special Trait
Adder	12,000 - 16,000	Maneuver +2
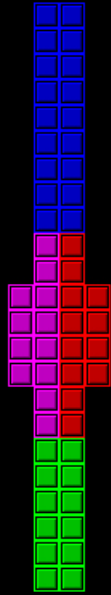
Name	Size Range	Special Trait
Coral	15,000 - 16,000	None
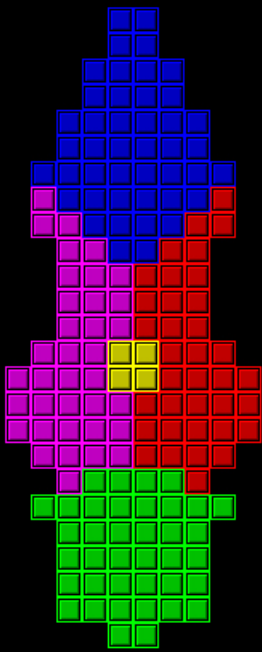
Name	Size Range	Special Trait
Krait	15,000 - 19,000	Speed + 2
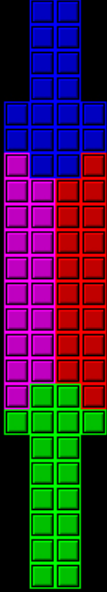
Name	Size Range	Special Trait
Sidewinder	17,000 - 20,000	None
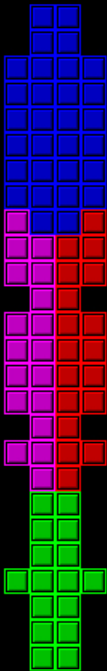
Name	Size Range	Special Trait
Barracuda	98,000 - 113,000	Speed + 1
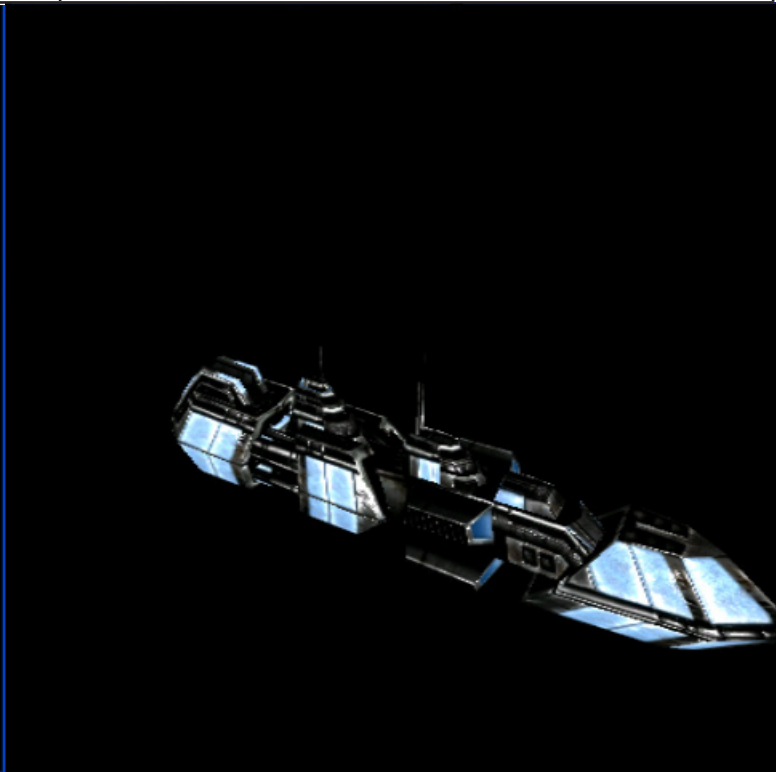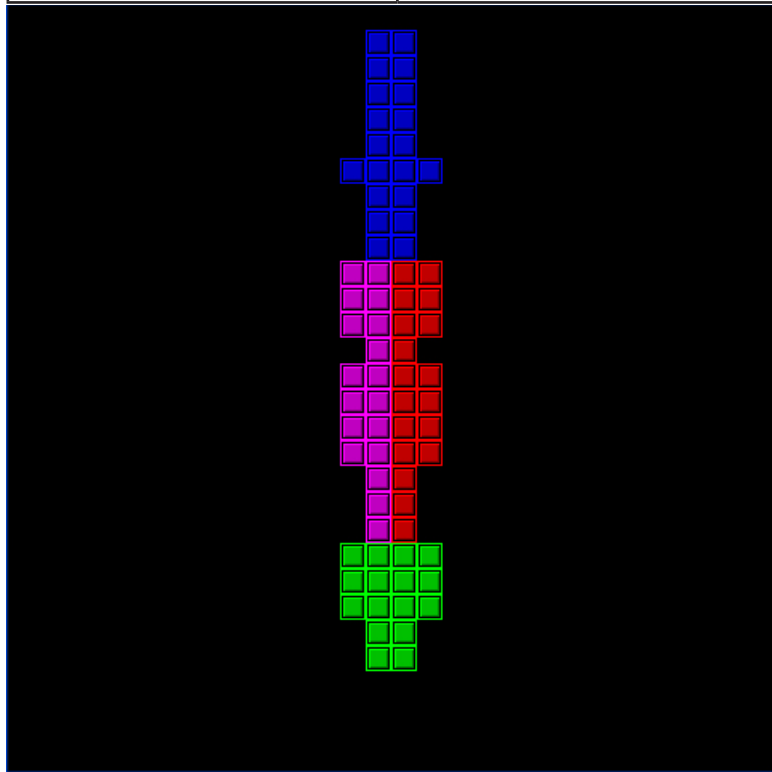
Name	Size Range	Special Trait
Gator	109,000 - 127,000	None
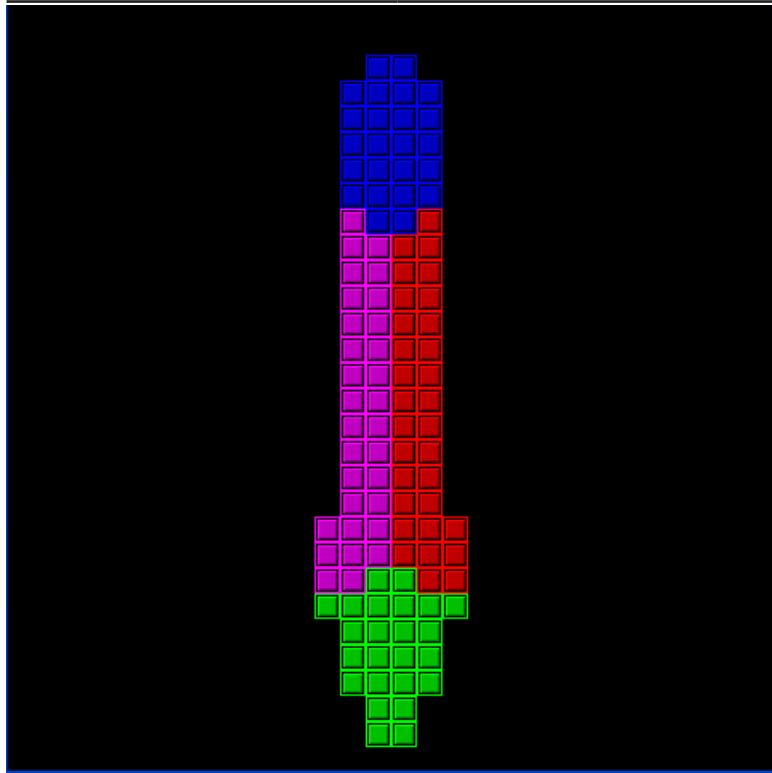
Name	Size Range	Special Trait
Leech	48,000 - 54,000	Maneuver + 2

Name	Size Range	Special Trait
Pirahna	83,000 - 97,000	Maneuver + 1

Name	Size Range	Special Trait
Turtle	42,000 - 49,000	Cargo Capacity + 10%
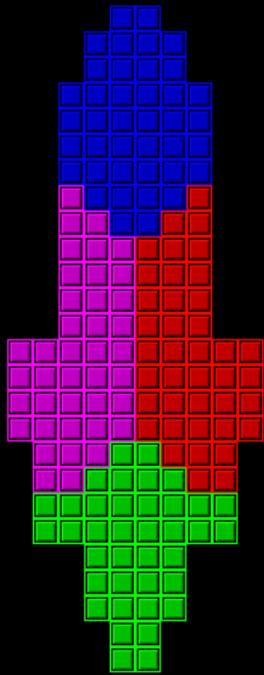
Name	Size Range	Special Trait
Hippo	368,000 - 407,000	None
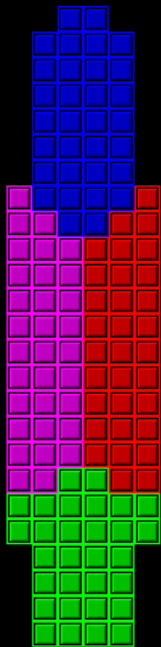
Name	Size Range	Special Trait
Naval Engineer	2,600 - 2,900	None
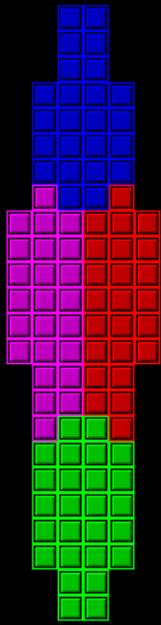
Name	Size Range	Special Trait
Angel	2,450 - 2,700	Maneuver +2
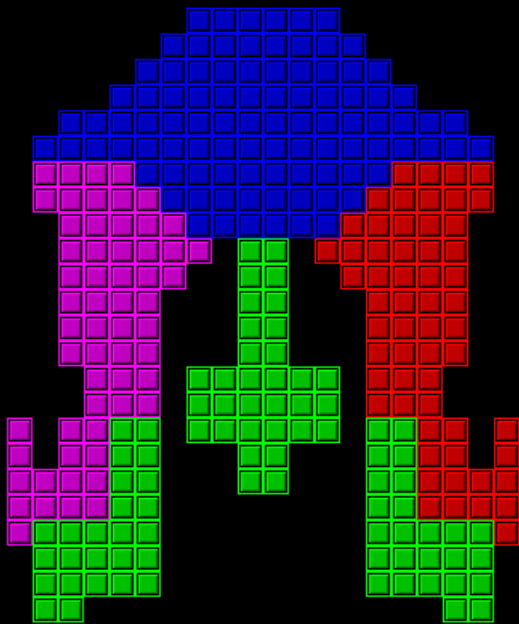
Name	Size Range	Special Trait
Bullet	2,000 - 2,200	Cargo and Hangar Capacity +10%
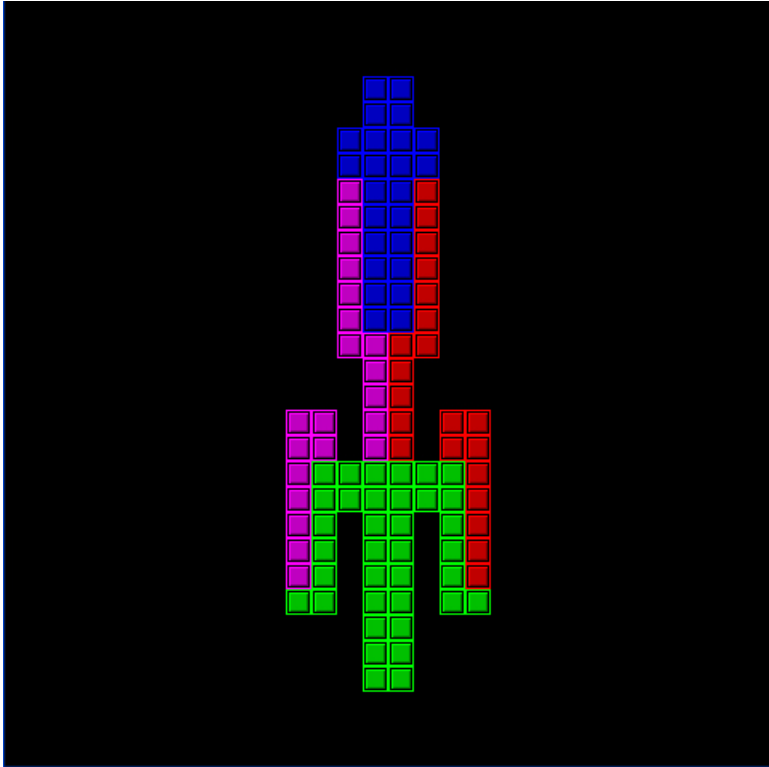
Name	Size Range	Special Trait
Interjector	1,800 - 2,000	Maneuver +4
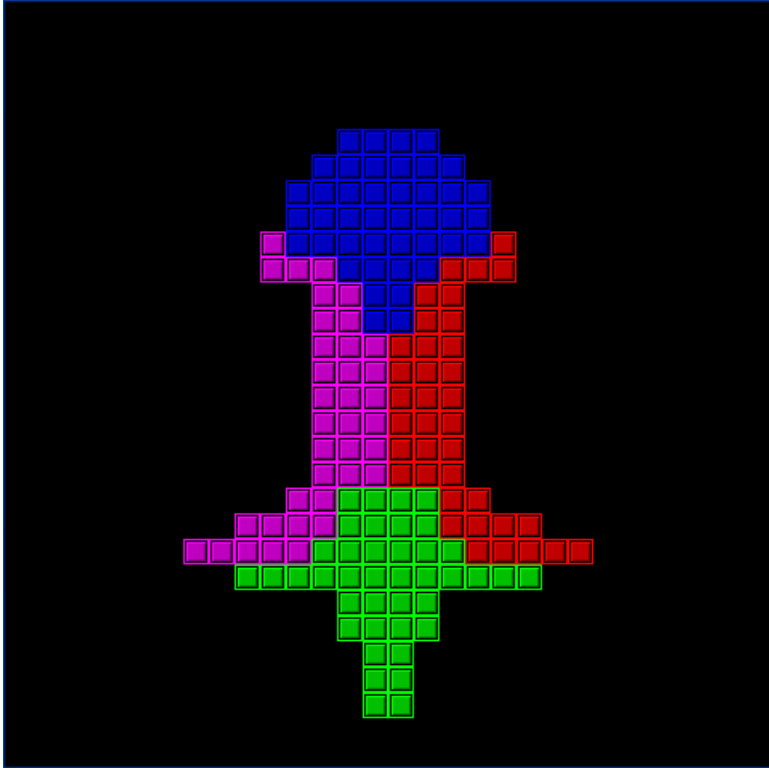
Name	Size Range	Special Trait
Minnow	1,200 - 1,300	None
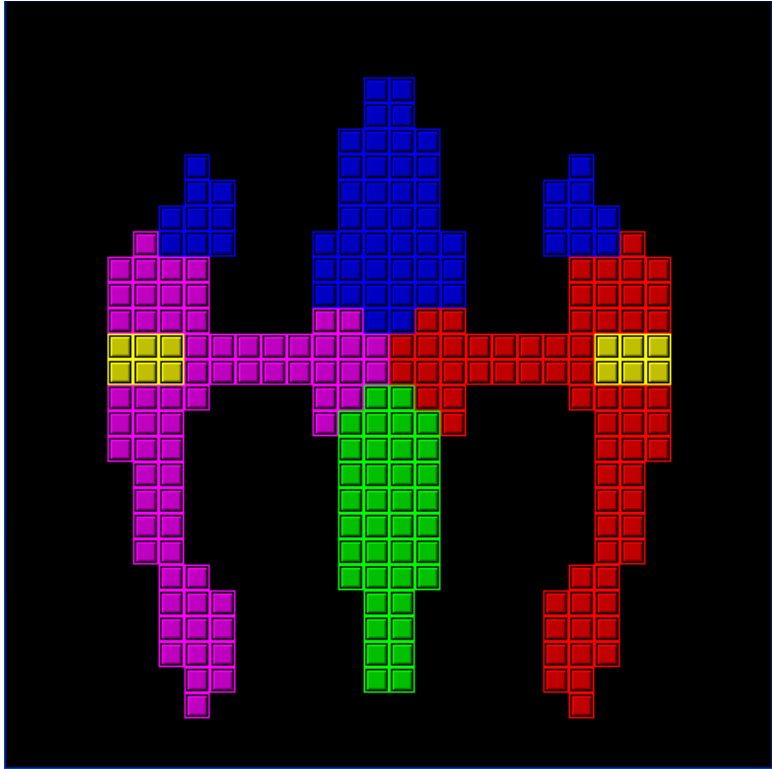
Name	Size Range	Special Trait
Penetrator	1,500 - 1,650	None
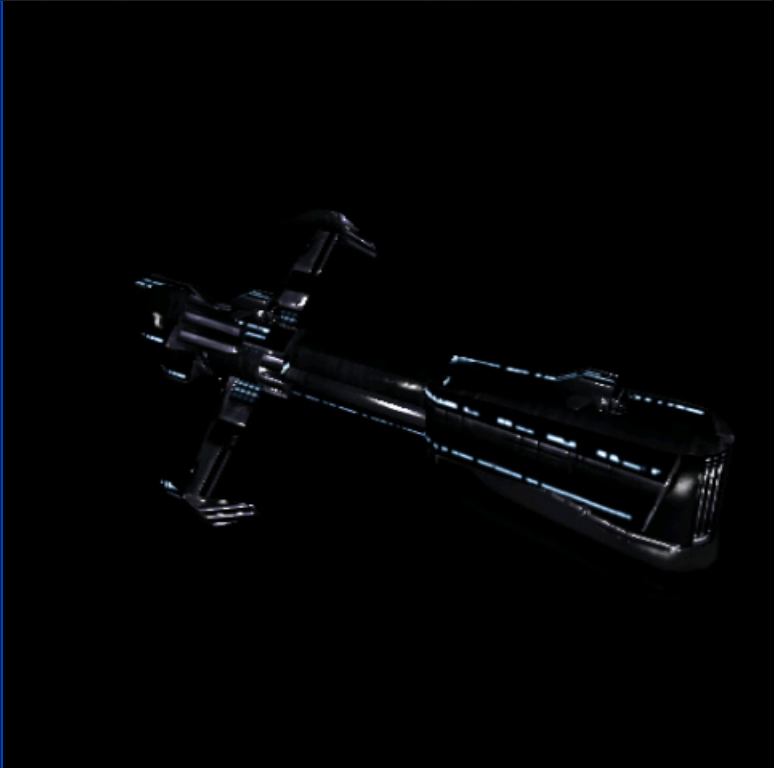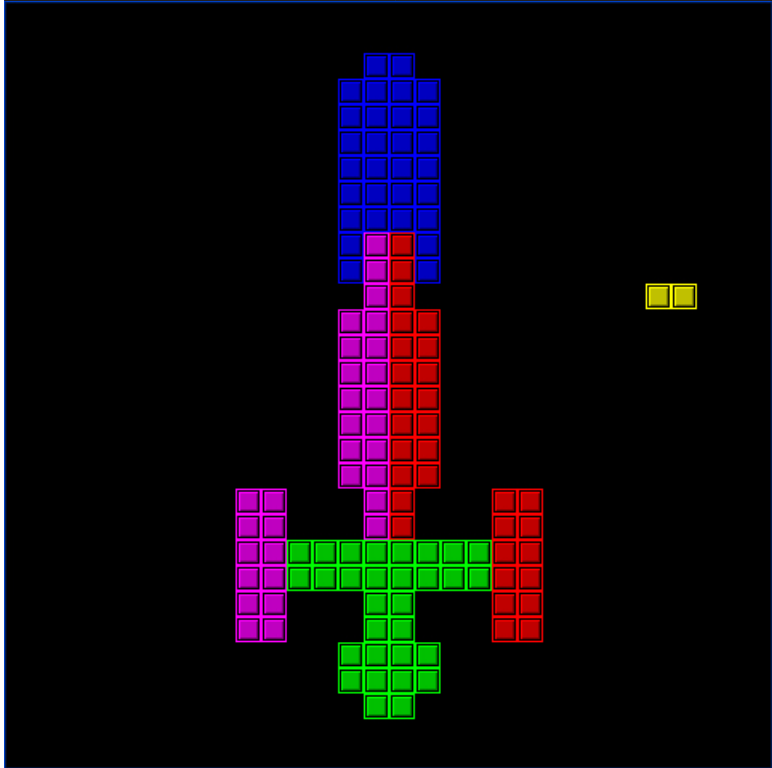
Name	Size Range	Special Trait
Raider	1,700 - 1,900	Maneuver +4
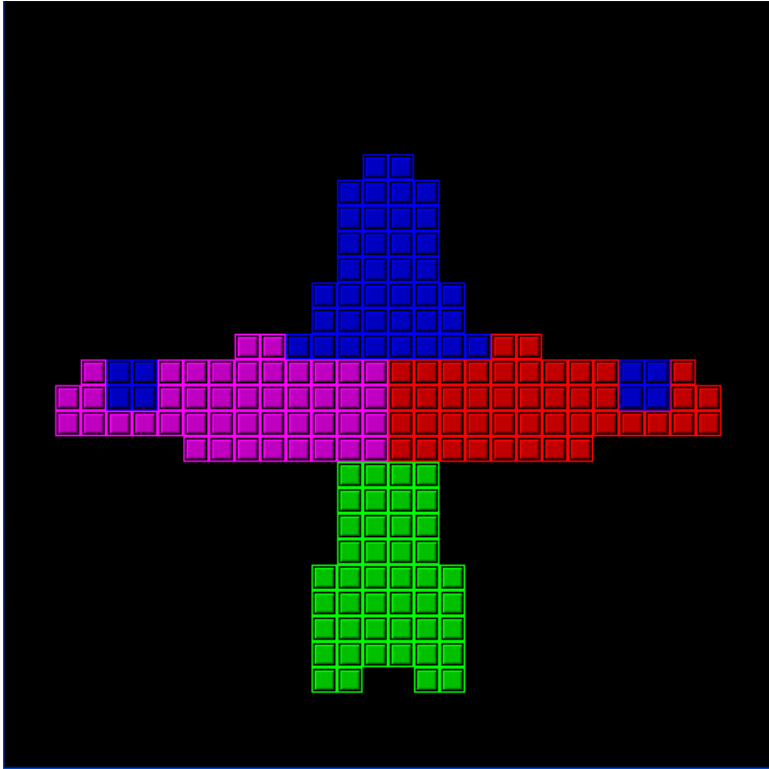
Name	Size Range	Special Trait
Assaultor	10,000 - 11,000	Maneuver +1
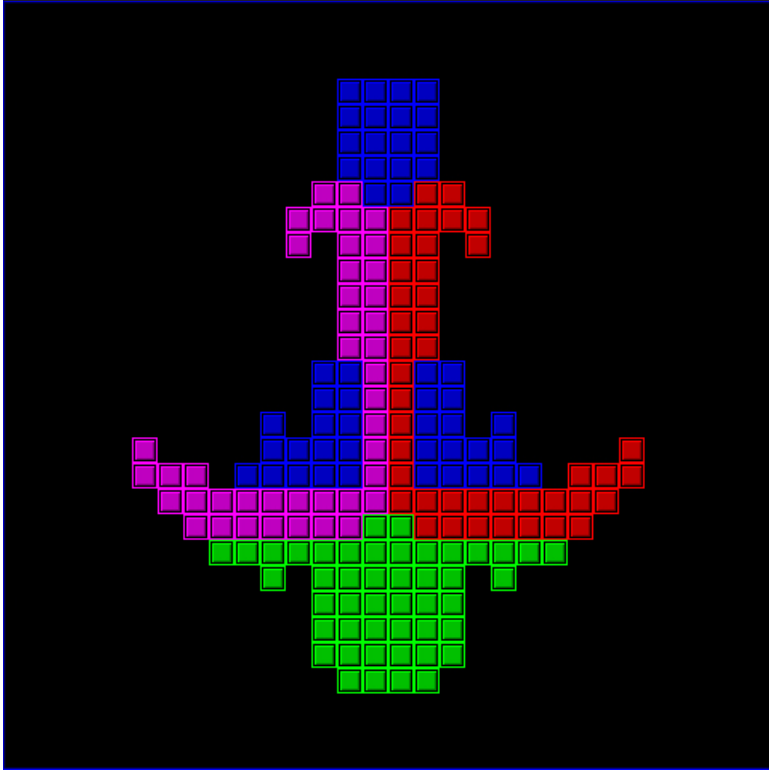
Name	Size Range	Special Trait
Blue	9,000 - 10,000	Cargo and Hangar Capacity +10%
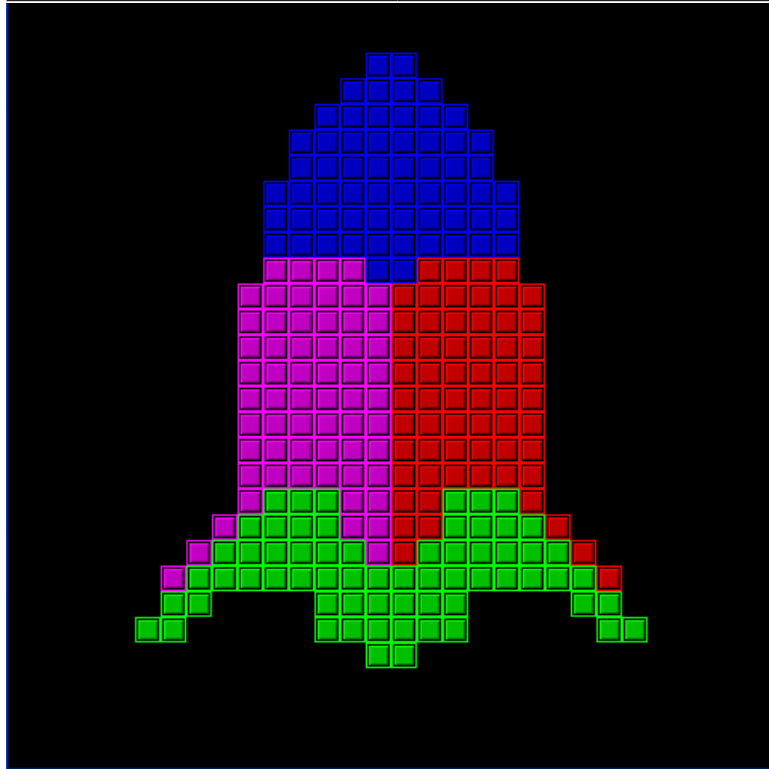
Name	Size Range	Special Trait
Bluntnose	11,000 - 12,500	None
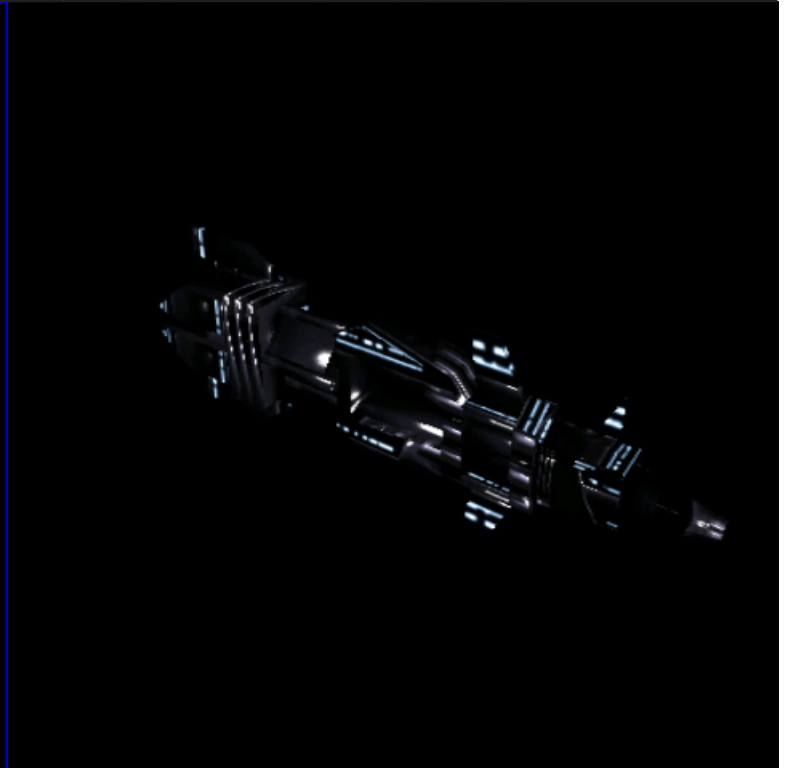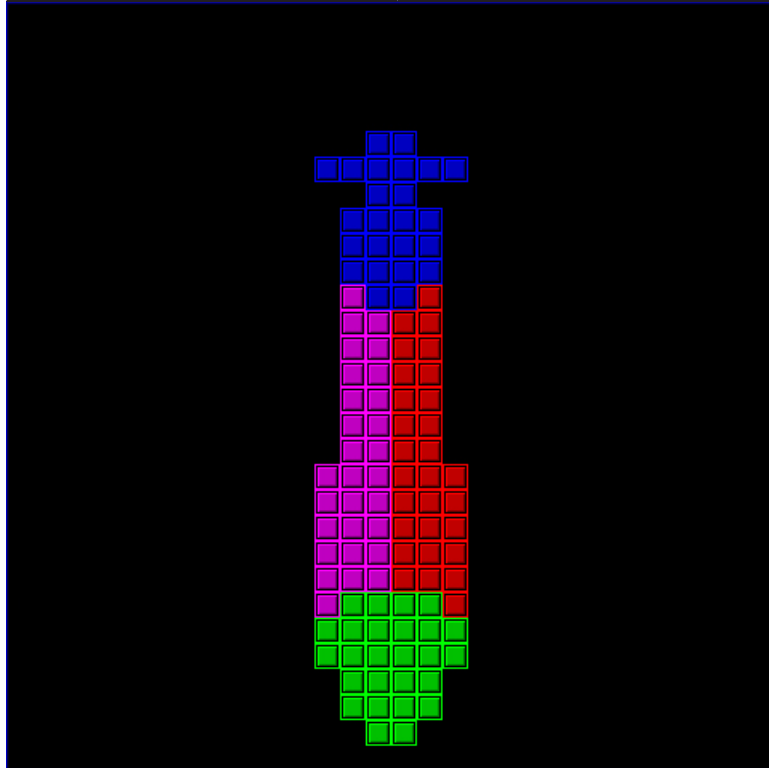
Name	Size Range	Special Trait
Great White	9,300 - 10,300	None
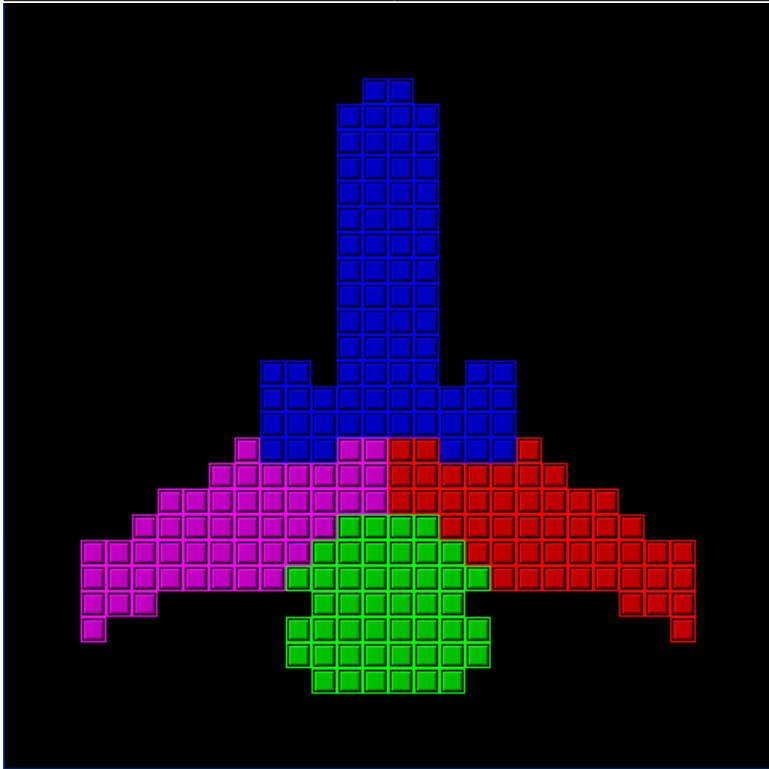
Name	Size Range	Special Trait
Hammerhead	5,000 - 5,525	Maneuver +4
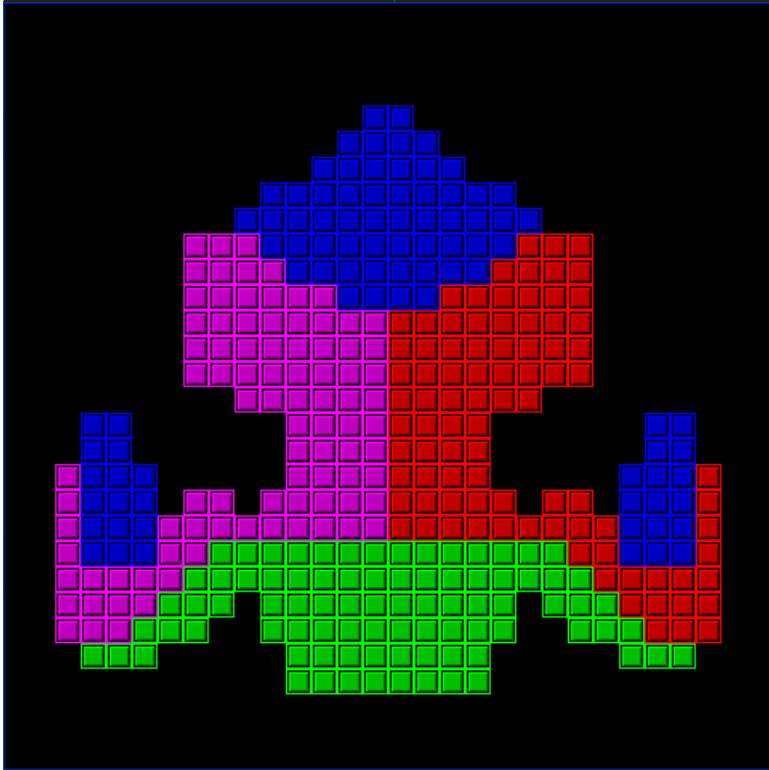
Name	Size Range	Special Trait
Mako	4,800 - 5,300	None
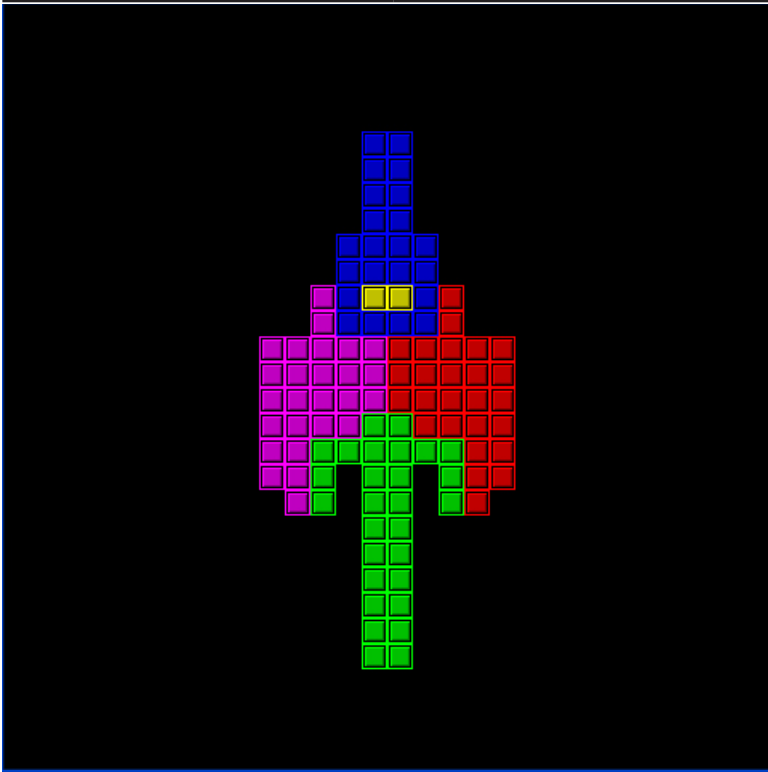
Name	Size Range	Special Trait
Shark	10,500 - 11,500	Cargo and Hangar Capacity +3%
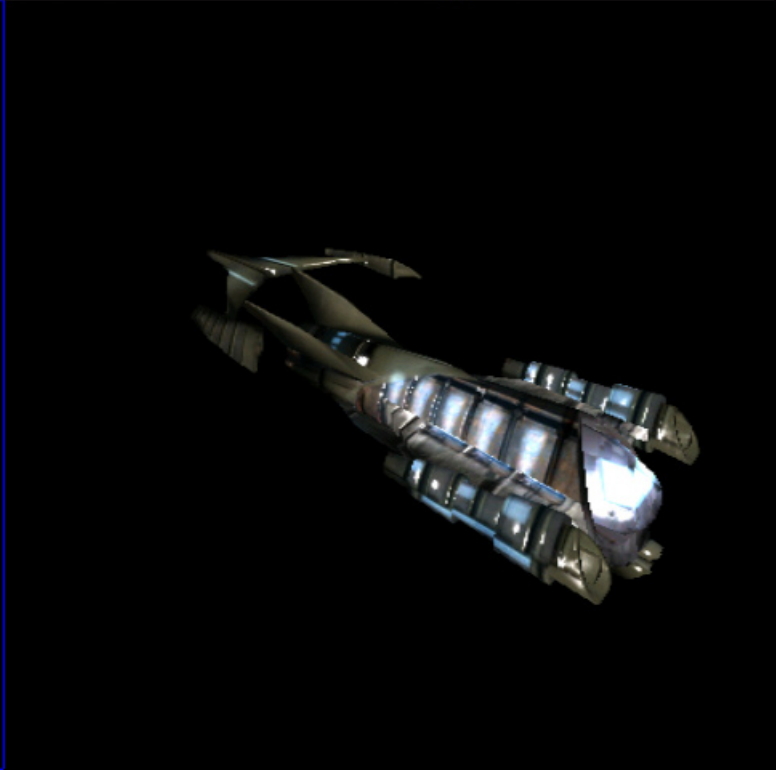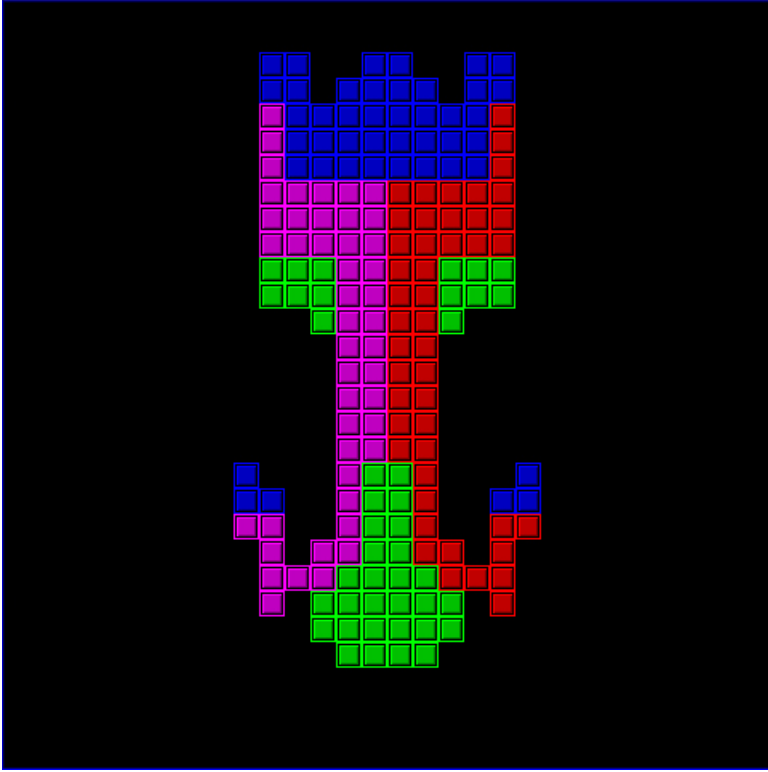
Name	Size Range	Special Trait
Thresher	4,500 - 5,000	None
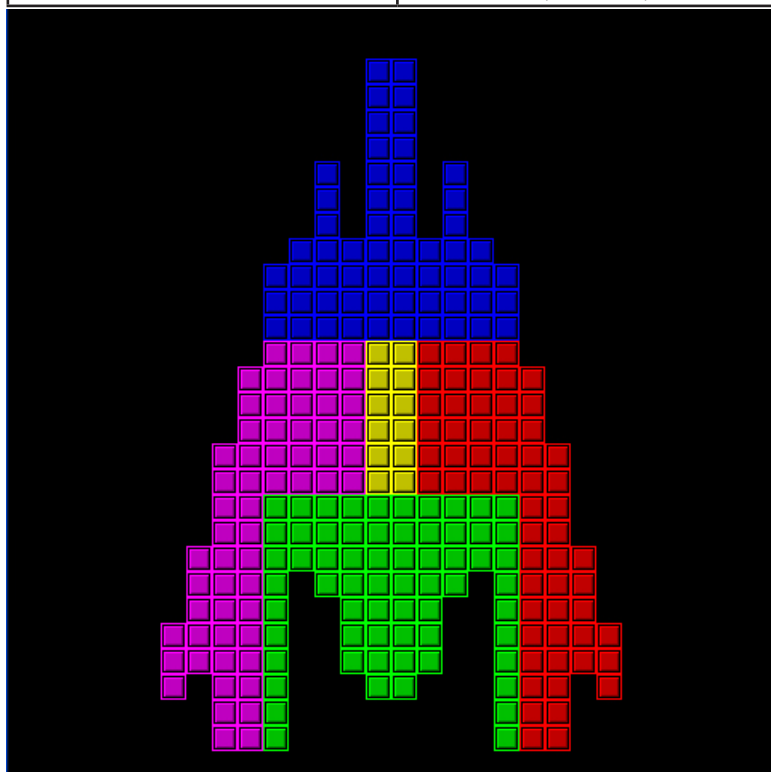
Name	Size Range	Special Trait
Vulture	7,000 - 7,700	Maneuver +2
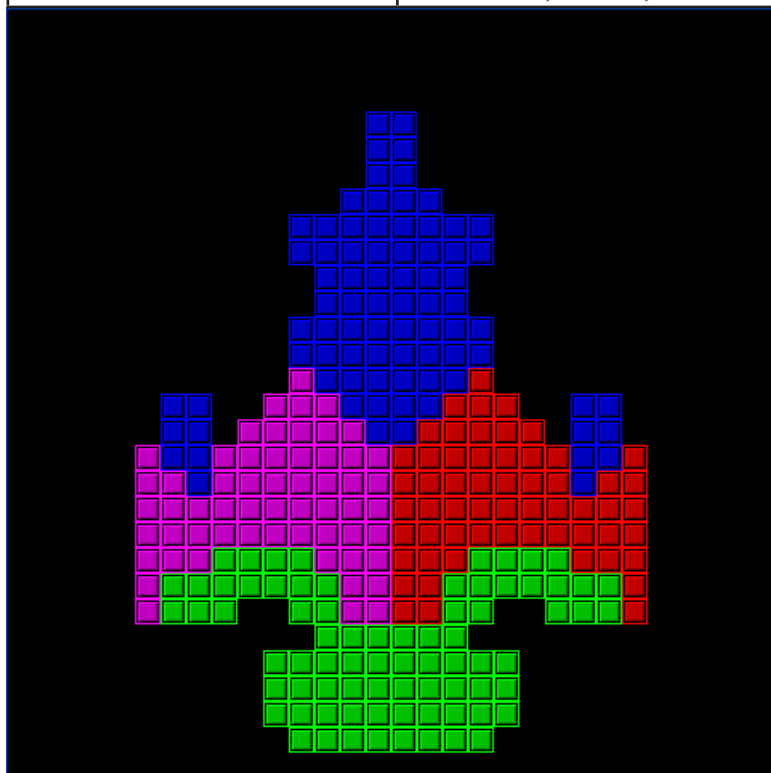
Name	Size Range	Special Trait
Albatross	5,000 - 5,800	Maneuver +5
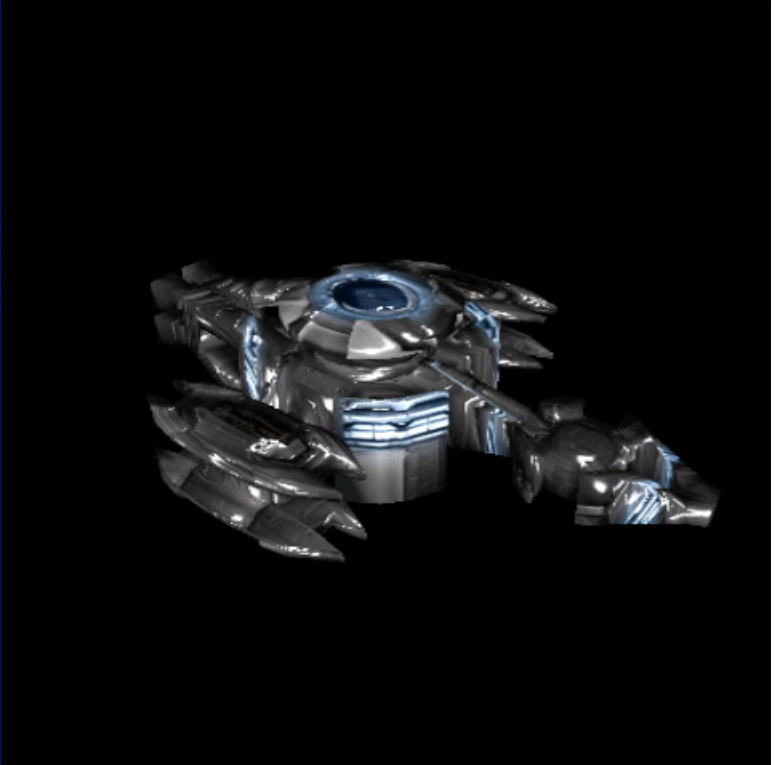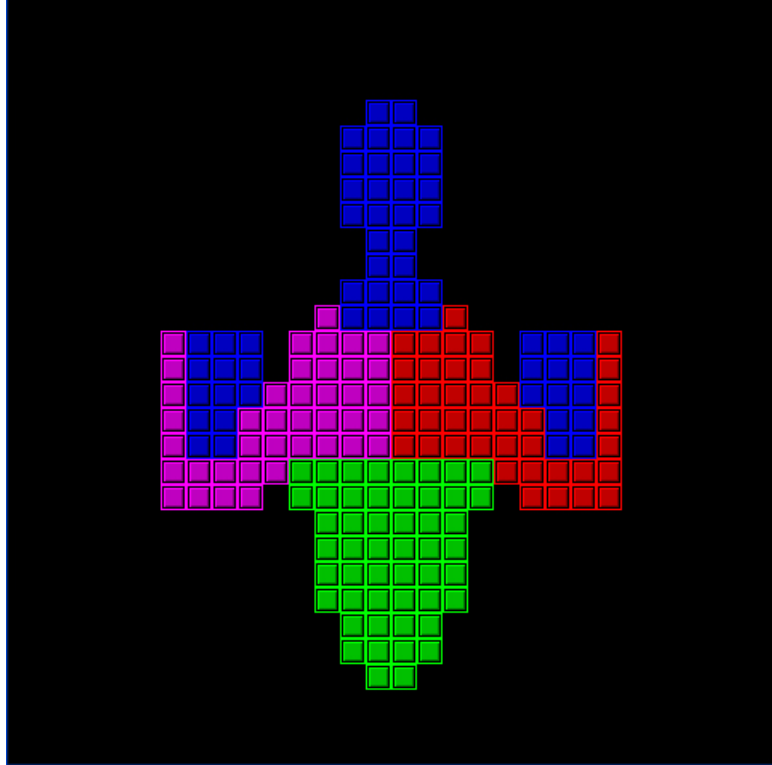
Name	Size Range	Special Trait
Armadillo	12,000 - 13,000	Cargo and Hangar Capacity +10%
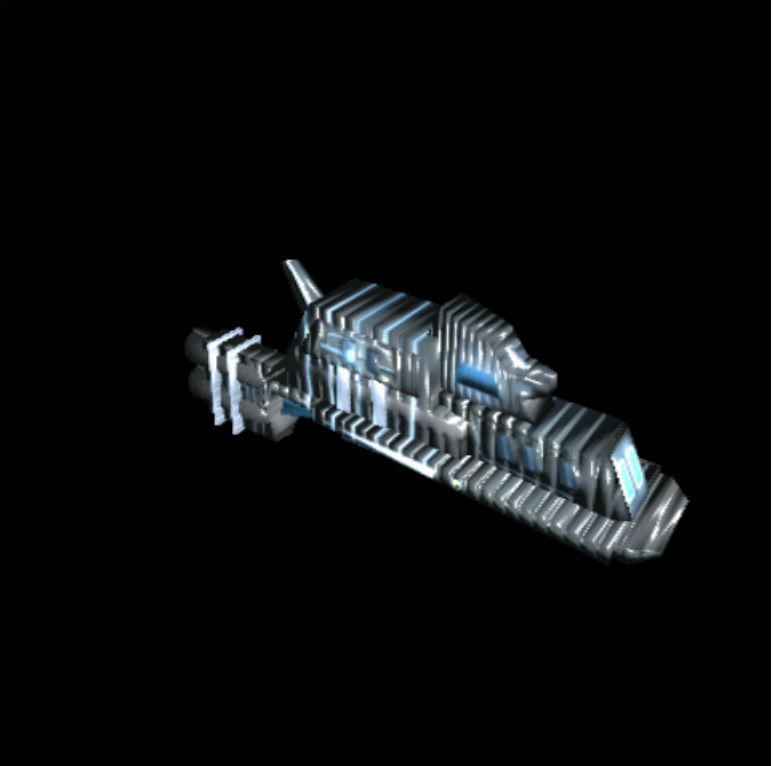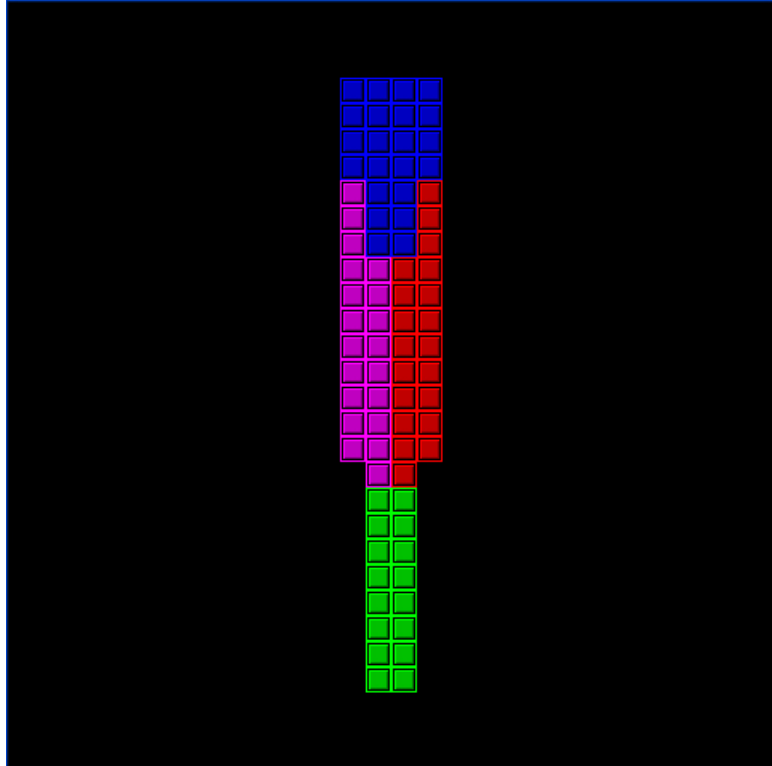
Name	Size Range	Special Trait
Avenger	18,000 - 19,900	Cargo Capacity +5%
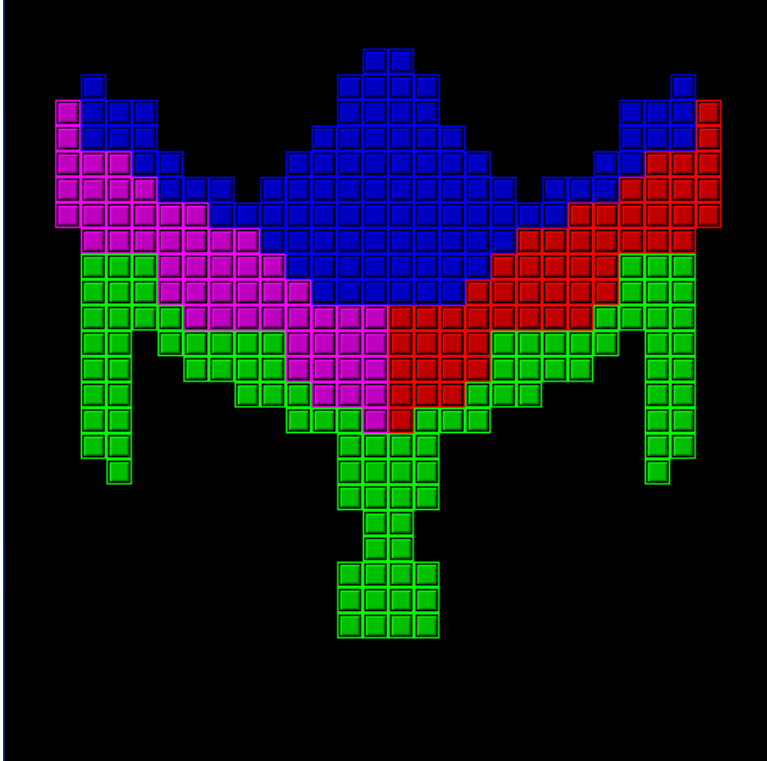
Name	Size Range	Special Trait
Block Runner	14,000 - 16,000	None

Name	Size Range	Special Trait
Crocodile	22,000 - 24,000	None
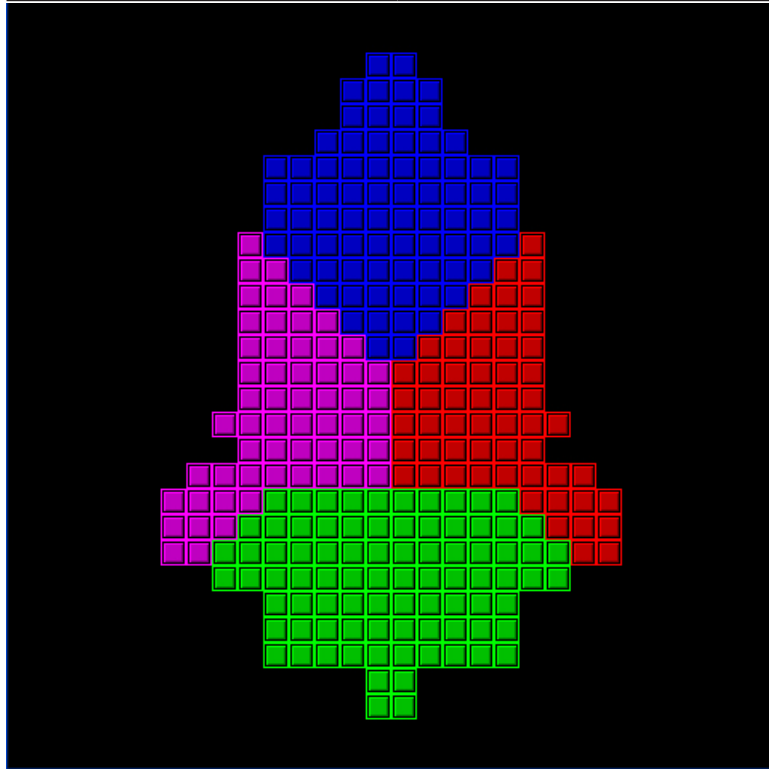
Name	Size Range	Special Trait
Hawk	18,000 - 19,000	Hangar Capacity +5%
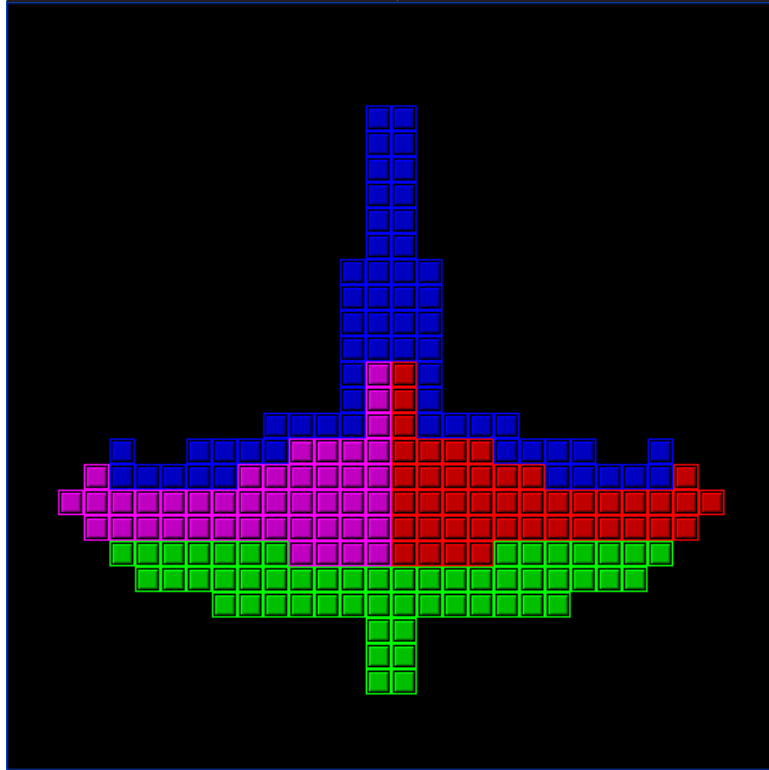
Name	Size Range	Special Trait
Crocodile	22,000 - 24,000	None
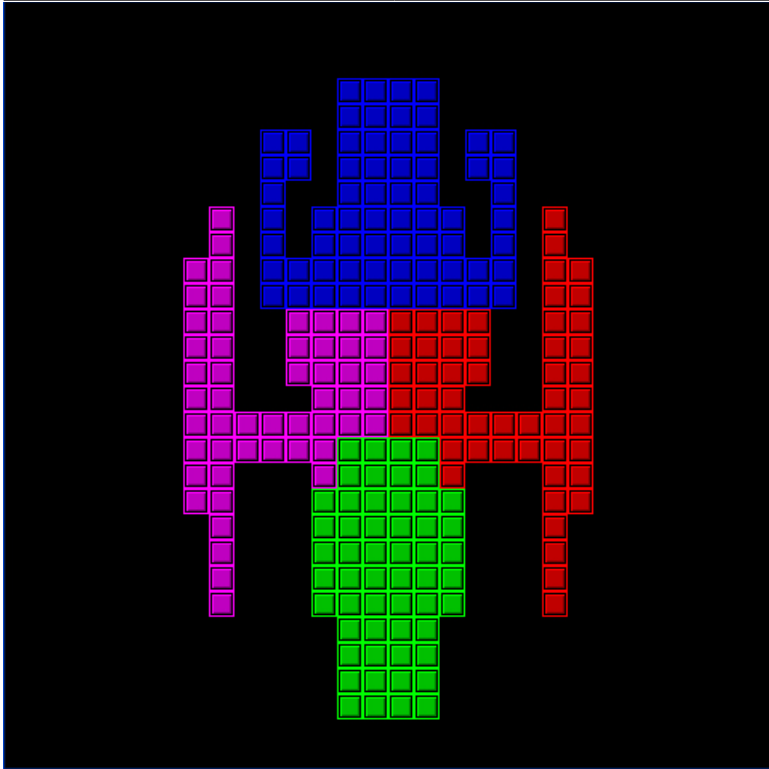
Name	Size Range	Special Trait
Hawk	18,000 - 19,000	Hangar Capacity +5%
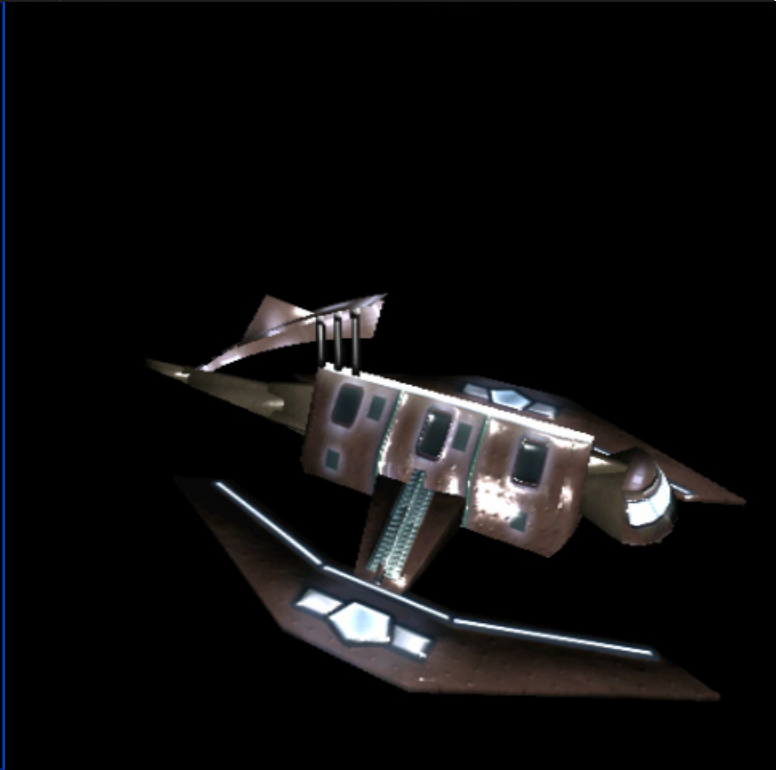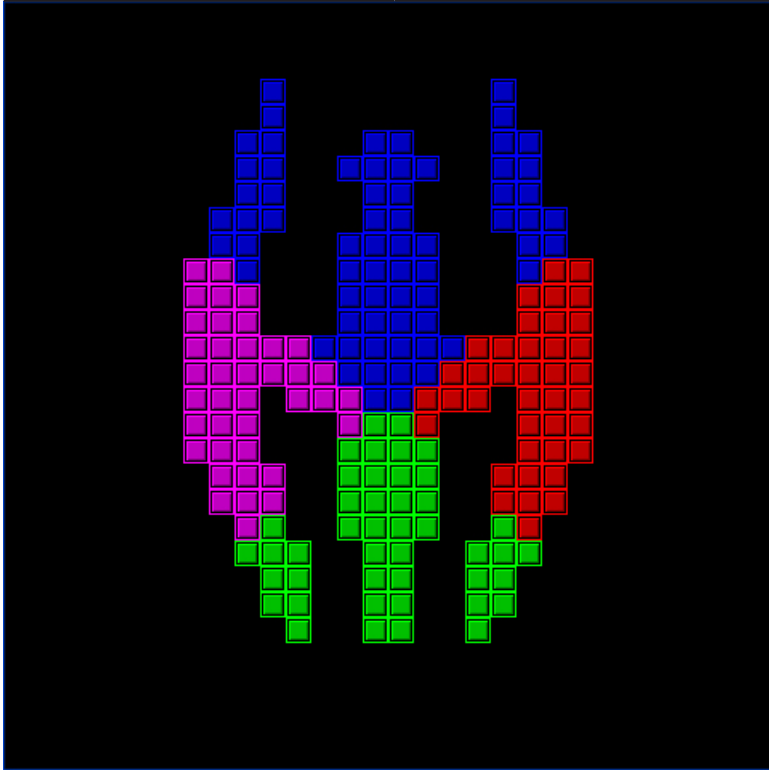
Name	Size Range	Special Trait
Sky Devil	23.500 - 26,000	None
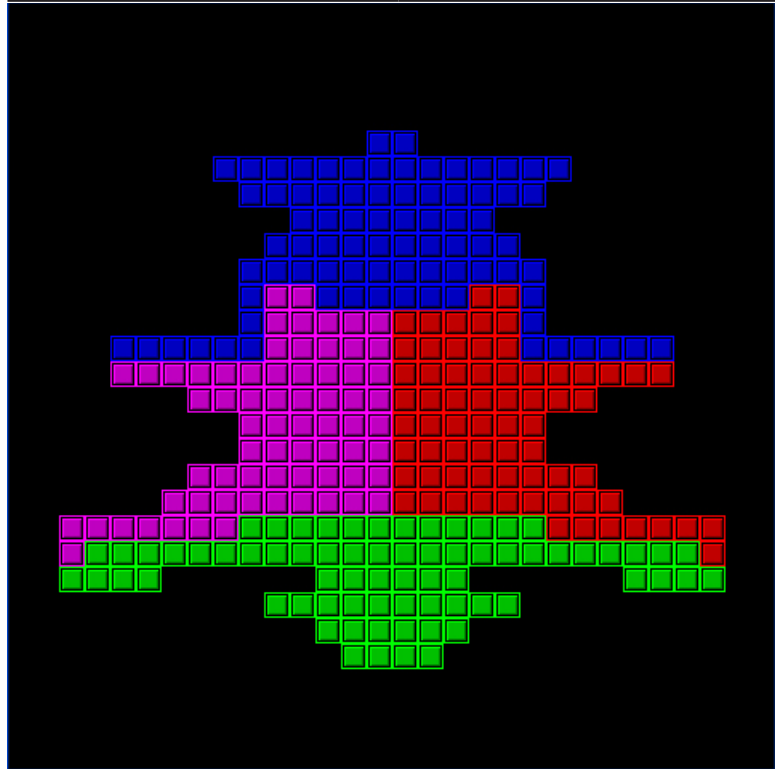
Name	Size Range	Special Trait
Star Blaster	25,000 - 28,000	No Jamming Radar Capability
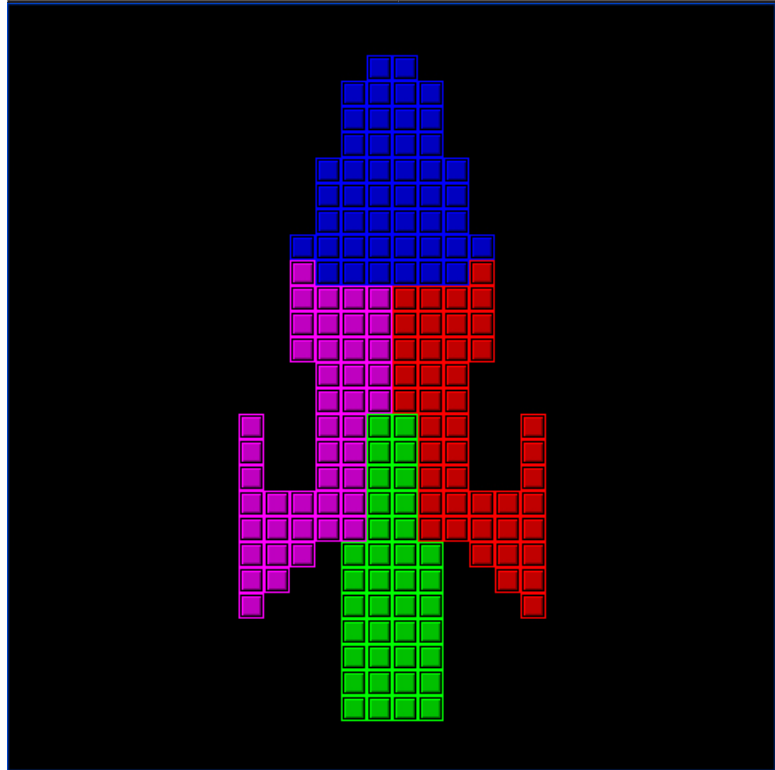
Name	Size Range	Special Trait
Wolverine	11,000 - 12,000	Speed +1 and Maneuver +1
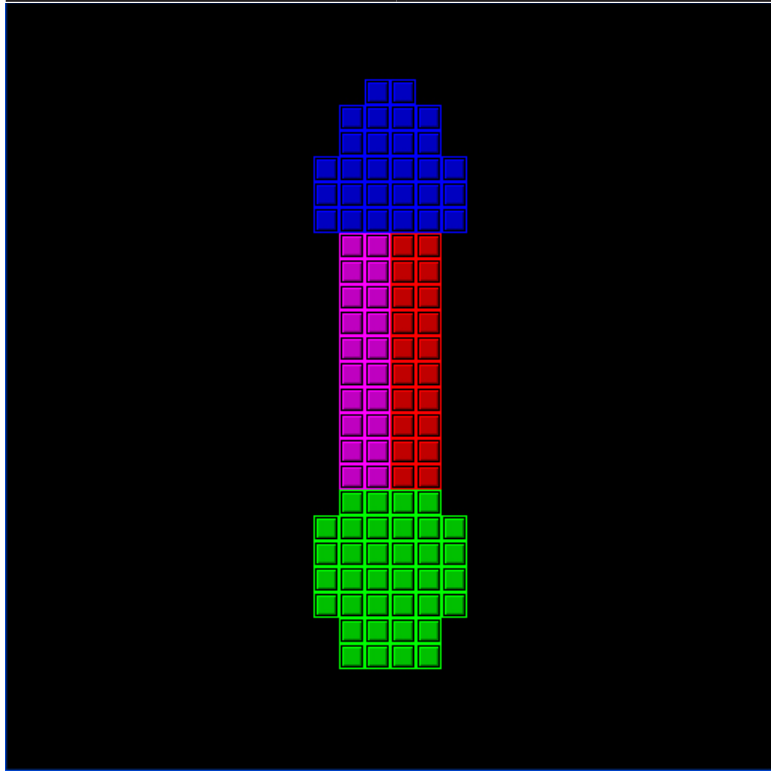
Name	Size Range	Special Trait
Anvil	35,000 - 38,000	None
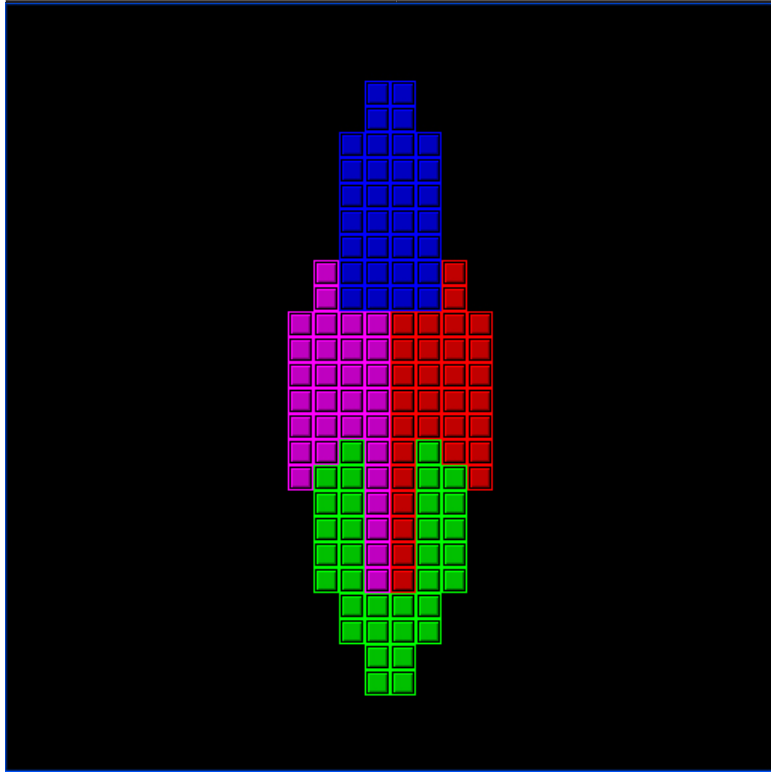
Name	Size Range	Special Trait
Clamp	33,000 - 36,000	Maneuver +3
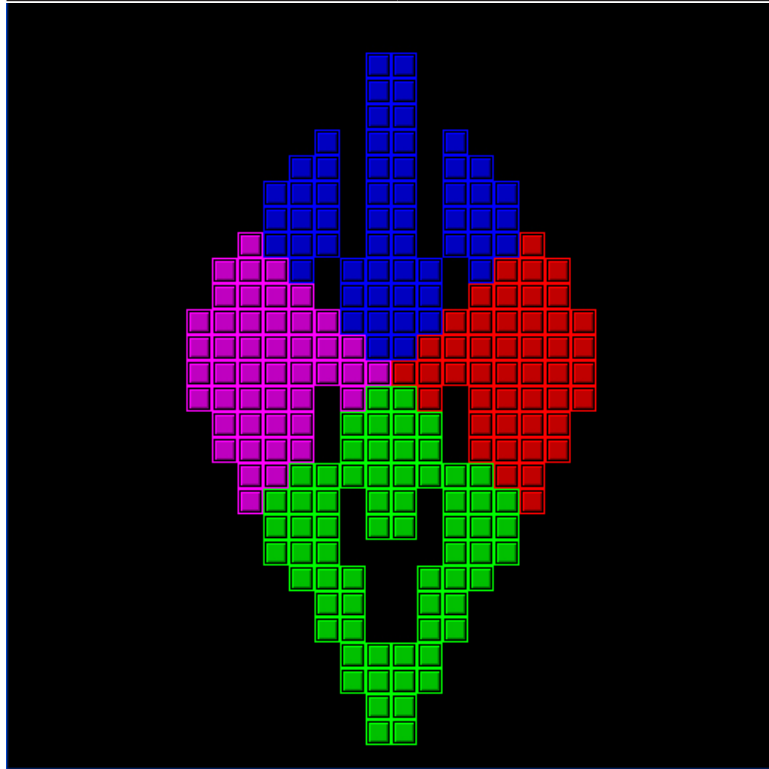
Name	Size Range	Special Trait
Scorponok	40,000 - 44,000	None
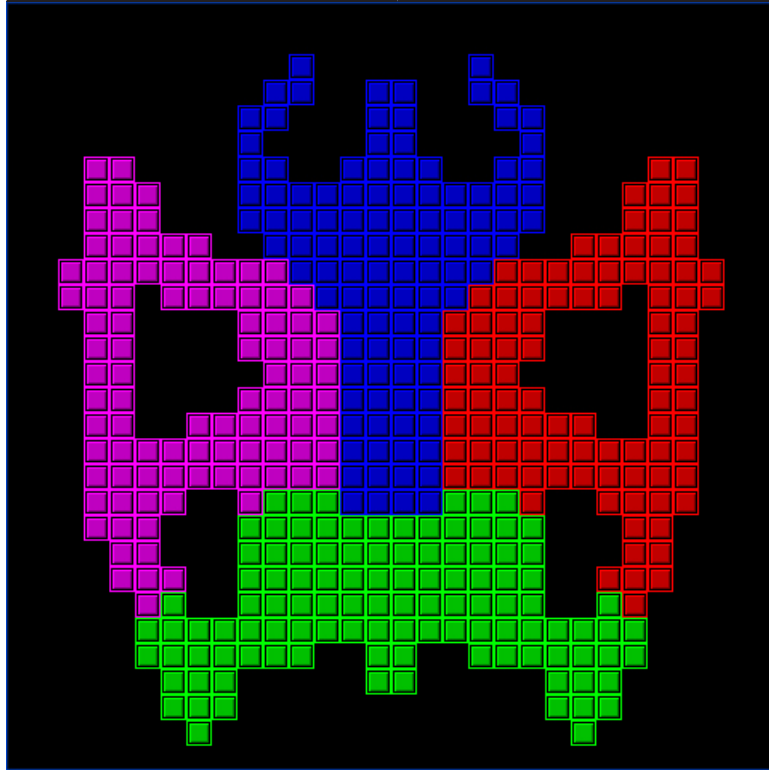
Name	Size Range	Special Trait
Sickle	32,000 - 35,000	Maneuver +3
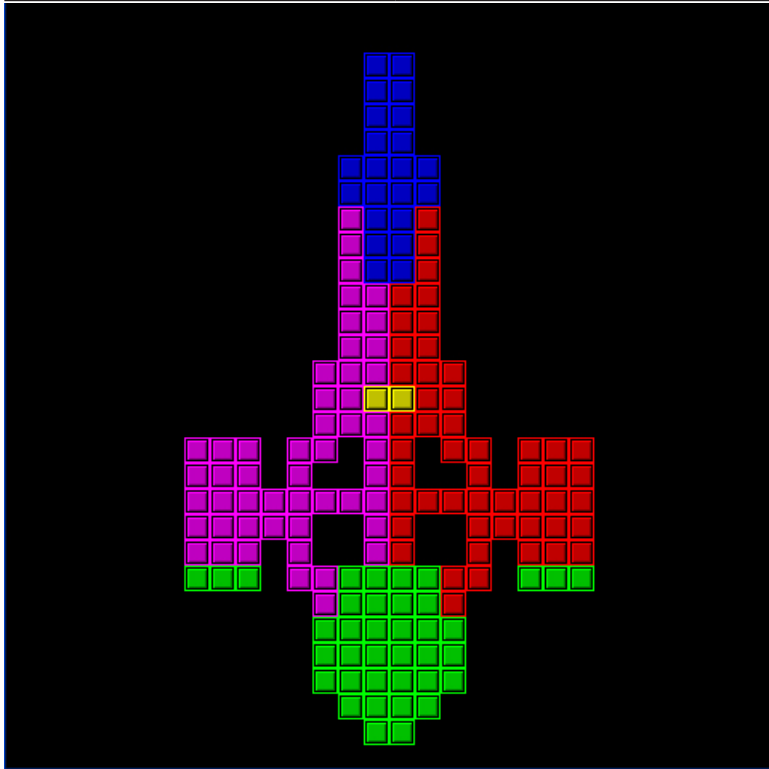
Name	Size Range	Special Trait
Claymore	80,000 - 88,000	Cargo and Hangar Capacity +3%
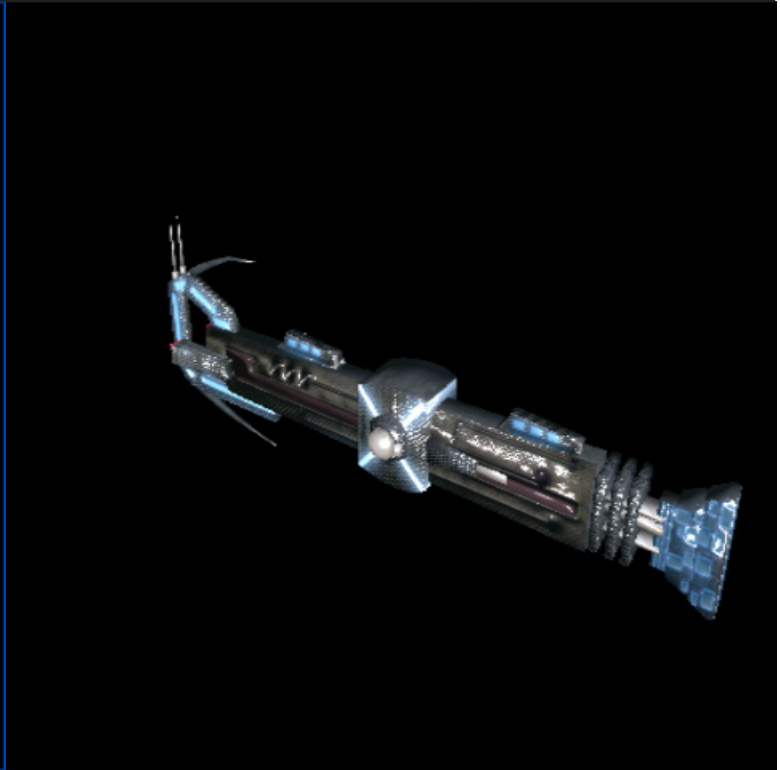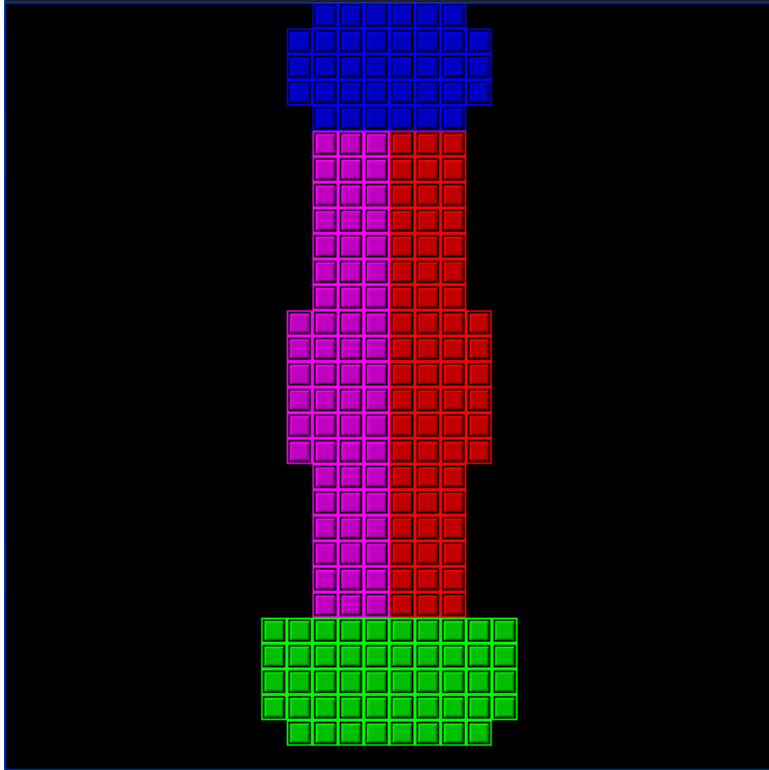
Name	Size Range	Special Trait
Cutlass	90,000 - 99,000	Speed +1
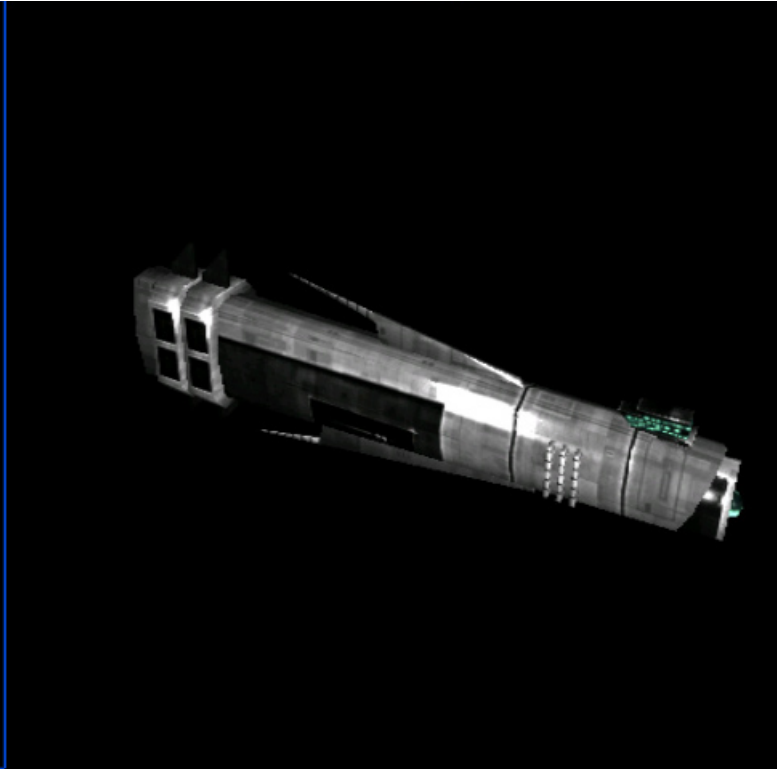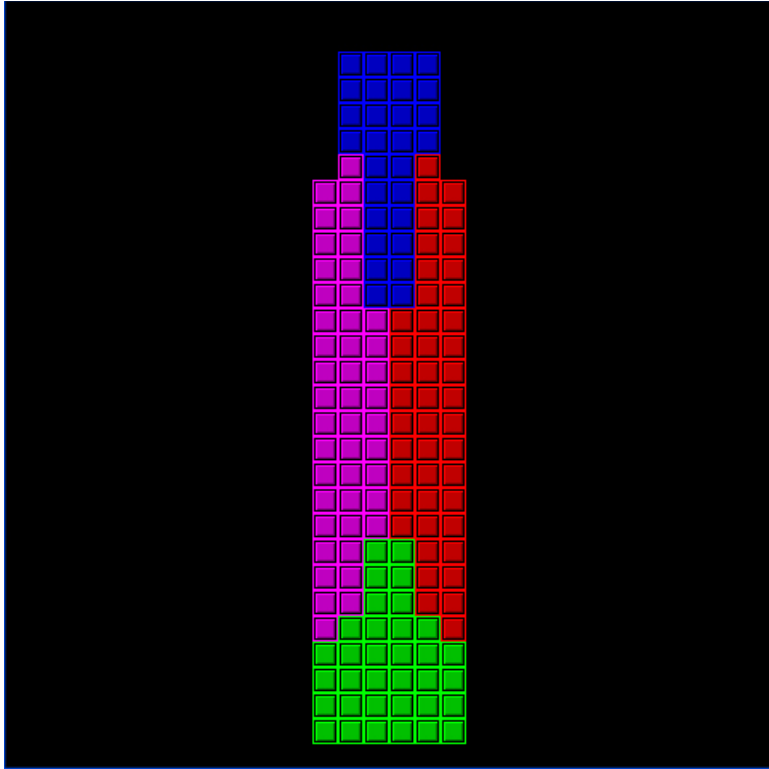
Name	Size Range	Special Trait
Mace	100,000 - 110,000	None
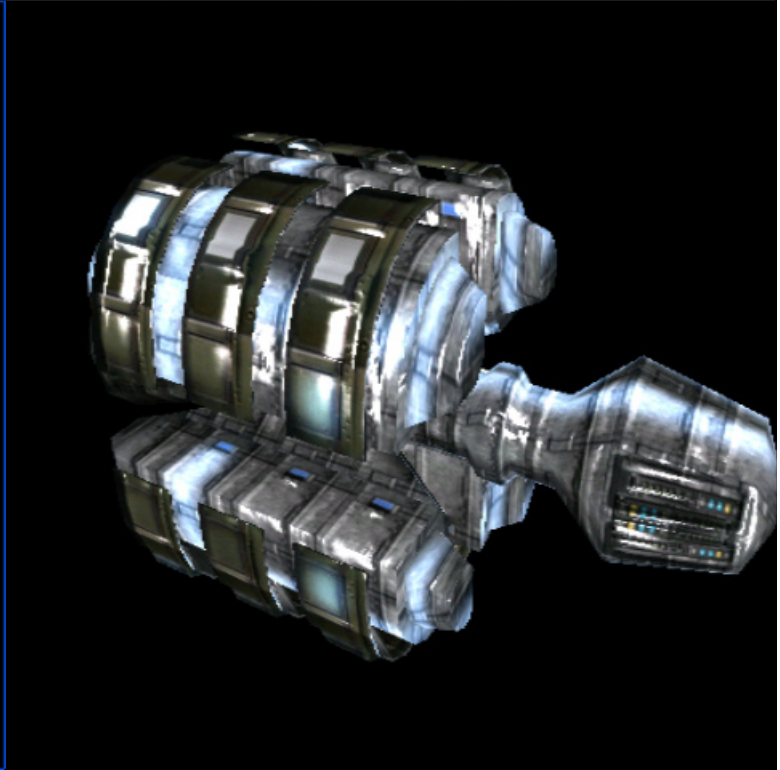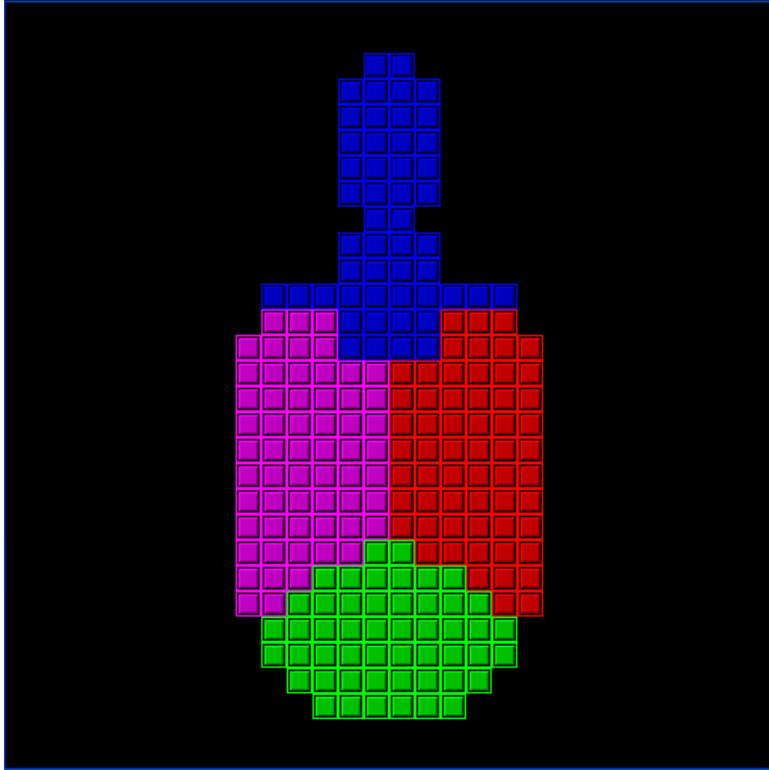
Name	Size Range	Special Trait
Long Sword	68,000 - 75,000	None
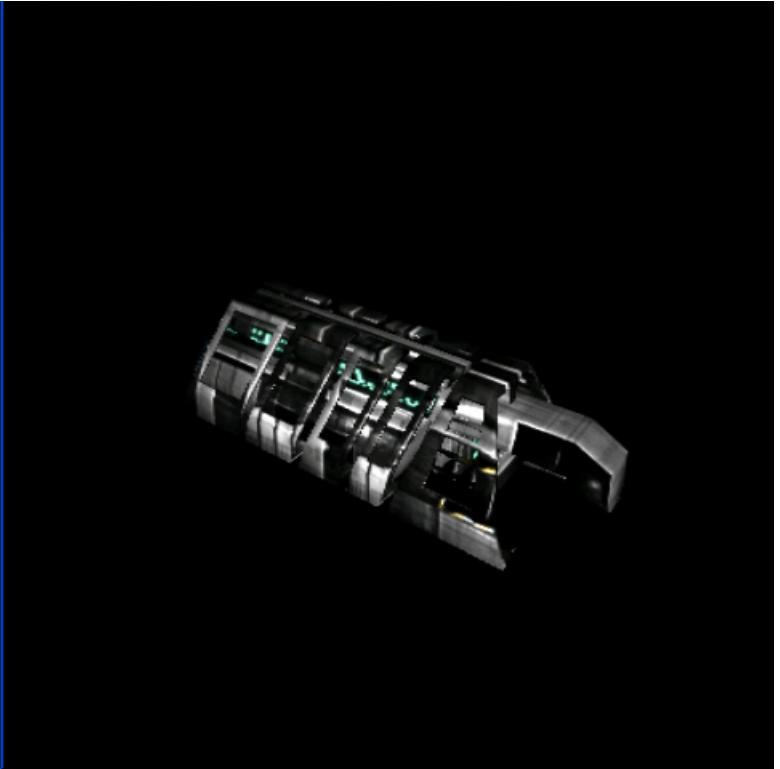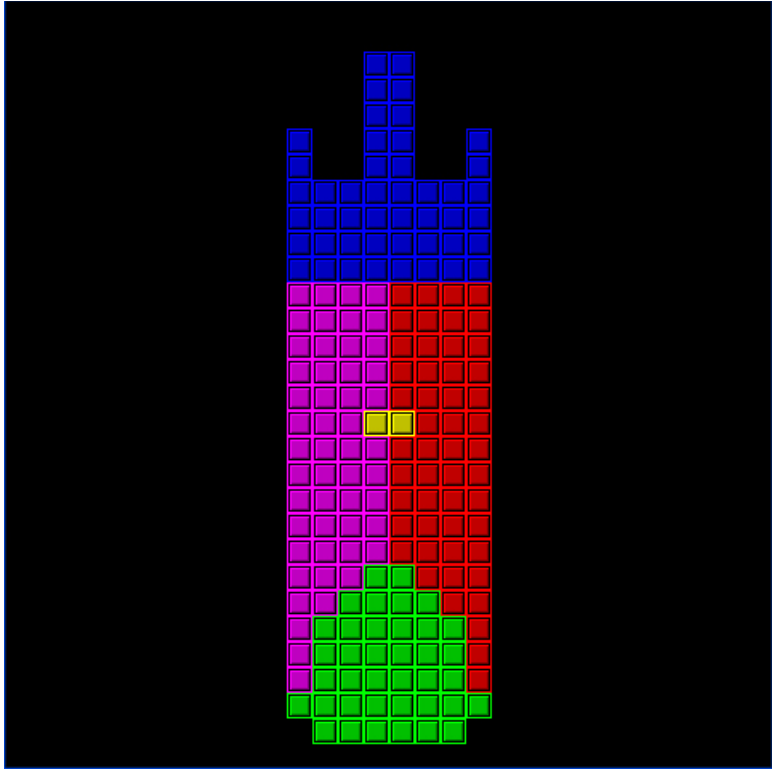
Name	Size Range	Special Trait
Rapier	85,000 - 93,000	Maneuver +1
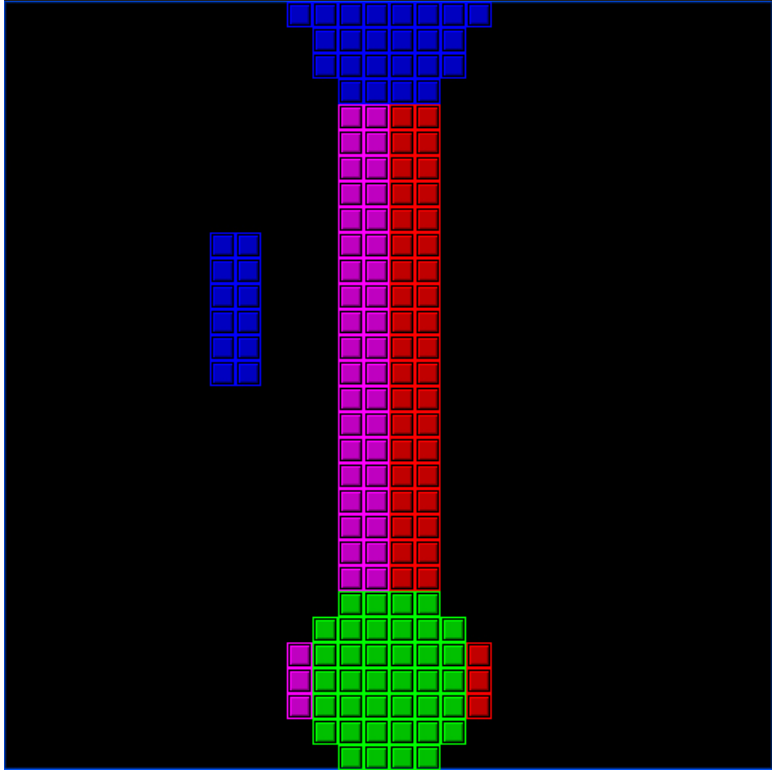
Name	Size Range	Special Trait
Saber	75,000 - 83,000	Cargo and Hangar Capacity +6%
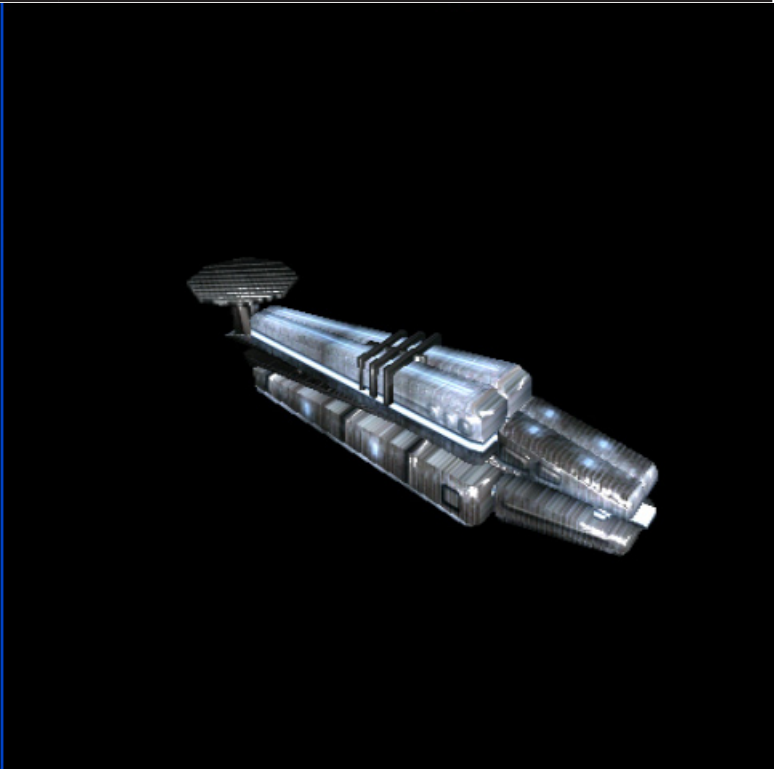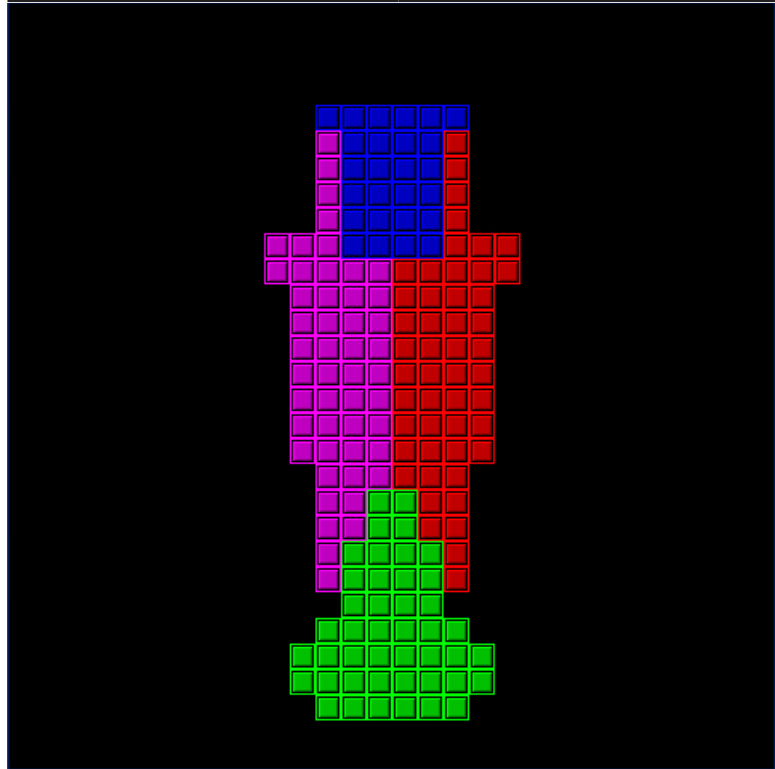
Name	Size Range	Special Trait
Scimitar	57,000 - 63,000	None
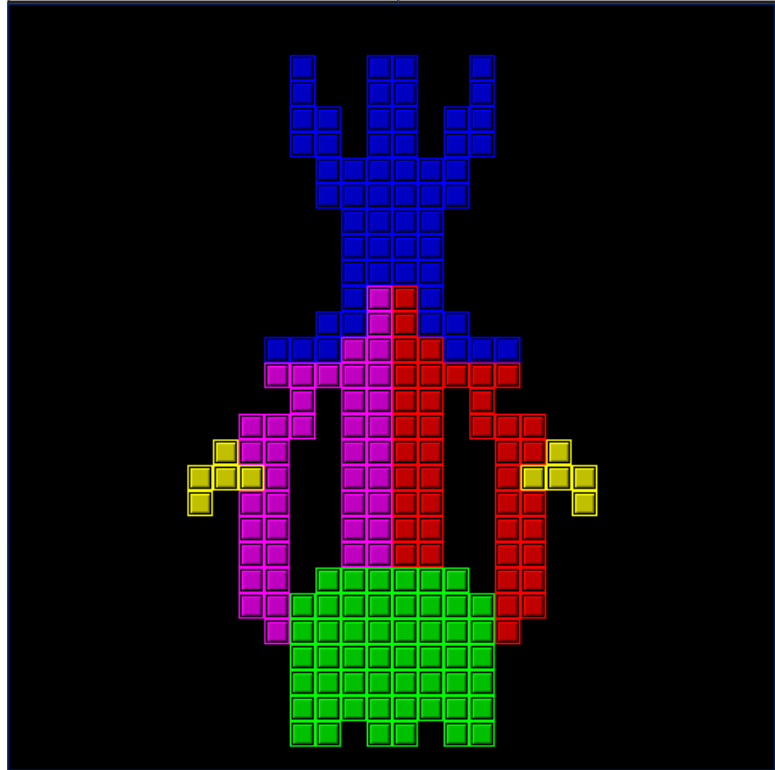
Credits:

Authors:
Brandon Beltran
Joshua Beckus
James Campbell
Scott Chivers
Jeffrey Rossi
Eric Tipton
Jason Walker

Editor:
Pam Langley
Will Potter
Kathy Tam

Artwork:
Brandon Beltran