

| | | | |
|--|-----------|---------------------------------------|----|
| INTRODUCTION..... | 6 | Class A Blue-White Star..... | 15 |
| CHAPTER 1: GETTING STARTED | 7 | Class F White Star..... | 15 |
| 1.1 Before the Game | 7 | Class G Yellow Star..... | 15 |
| 1.1 Required Materials | 7 | Class K Orange Star..... | 15 |
| 1.2 Recommended Materials..... | 7 | Class M Red Star..... | 15 |
| Rules Organization..... | 7 | Class D White Dwarf..... | 15 |
| 1.3 Rules References..... | 7 | 3.2.3 Luminosity Class..... | 16 |
| 1.4 Optional Rules | 7 | Class 0 - Hypergiant..... | 16 |
| 1.5 Campaign Moderation | 8 | Class I - Supergiant | 16 |
| 1.5.1 Moderated Campaigns | 8 | Class II - Bright Giant | 16 |
| 1.5.2 Unmoderated Campaigns..... | 8 | Class III - Giant | 16 |
| 1.6 Campaign Timekeeping | 9 | Class IV - Subgiant..... | 16 |
| 1.6.1 Campaign Turn | 9 | Class V - Main Sequence (Dwarf) | 17 |
| 1.6.2 Campaign Year..... | 10 | Class VI - Subdwarf | 17 |
| 1.6.3 Tactical Turns Δ..... | 10 | Class VII - White Dwarf..... | 17 |
| CHAPTER 2: PLAYING THE GAME | 11 | 3.2.4 System Resources | 17 |
| Scenarios..... | 11 | Carrying Capacity..... | 17 |
| Sequence of Play | 11 | RAW..... | 17 |
| Exploration Phase..... | 11 | Biosphere | 17 |
| Exploration Missions | 11 | 3.2.5 System Importance | 18 |
| Emerging Empires..... | 11 | 3.2.6 System Terrain | 18 |
| Morale Phase..... | 11 | Asteroids | 19 |
| System Loyalty Checks | 11 | Dust Cloud..... | 19 |
| Turn Orders..... | 11 | Flare Star..... | 19 |
| CHAPTER 3: STELLARCARTOGRAPHY | 12 | Ion Storm..... | 19 |
| 3.1 Campaign Maps..... | 12 | Nebula..... | 19 |
| 3.1.1 Hex Maps | 12 | Emission Nebula..... | 20 |
| 3.1.2 Jump Maps | 12 | Reflection Nebula..... | 20 |
| Map Iconography | 12 | Variable Nebula | 20 |
| Map Directions | 13 | Dark Nebula | 20 |
| Random Map Generation | 13 | Maser Nebula..... | 20 |
| 3.2 Star Systems | 13 | Plasma Storm..... | 21 |
| 3.2.1 System Type..... | 13 | Radiation Field | 21 |
| Single Star Systems..... | 13 | 3.2.7 Special Encounters Δ | 21 |
| Binary Star Systems..... | 14 | Abandoned Colony | 21 |
| Multiple Star Systems | 14 | Alien Derelict | 21 |
| Black Holes..... | 14 | Ancient Ruins..... | 22 |
| Star Clusters..... | 14 | Dimension Portal..... | 23 |
| 3.2.2 Spectral Class..... | 14 | Guardian..... | 23 |
| Class O Extremely Bright Blue Giant..... | 14 | Space Monster..... | 23 |
| Class B Bright Blue Star..... | 14 | Spatial Anomaly..... | 24 |
| | | Splinter Colony | 24 |
| | | Wormhole | 24 |
| | | 3.2.8 Strategic Resources Δ | 24 |
| | | Population Resource..... | 25 |
| | | Morale Resource | 25 |
| | | Economic Resource | 25 |
| | | Industrial Resource | 25 |
| | | Agricultural Resource | 25 |

| | | | |
|-------------------------------------|-----------|--|-----------|
| Scientific Resource | 25 | 3.4.10 Colony Loyalty | 36 |
| Intel Resource | 26 | 3.4.11 Blockades | 36 |
| Trade Resource | 26 | 3.4.12 Rebellions..... | 37 |
| Supply Resource | 26 | 3.4.13 Martial Law | 39 |
| Military Resource | 26 | 3.4.14 Reprisals..... | 39 |
| Random System Generation..... | 26 | 3.4.15 Conquered Colonies..... | 39 |
| 3.3 Jump Lanes | 26 | 3.5 Facilities | 40 |
| 3.3.1 FTL Movement | 27 | 3.5.1 Facility Types | 40 |
| 3.3.2 Non-FTL Movement | 27 | Command Post | 40 |
| 3.3.3 Fleet Movement | 27 | Jump Gate..... | 40 |
| 3.3.4 Contested Movement..... | 28 | Fighter Garrison..... | 40 |
| 3.3.5 Concealed Movement | 28 | Listening Post | 41 |
| 3.3.6 Jump Lane Encounters..... | 29 | Luxury Resort..... | 41 |
| 3.3.7 Jump Lane Classes Δ | 30 | Mining Base..... | 41 |
| Jump Lane Movement Costs..... | 30 | Orbital Factory..... | 41 |
| Jump Lane Class Upgrades | 30 | Orbital Farm | 41 |
| Jump Lane Class Downgrades..... | 30 | Orbital Habitat..... | 41 |
| 3.3.8 Jump Lane Alternatives Δ..... | 31 | Planetary Defense Guns | 41 |
| Freeform Hex Maps | 31 | Planetary Defense Shield | 41 |
| Distance Based Movement | 31 | Research Lab..... | 41 |
| 3.4 Colonies | 31 | Shipyards..... | 42 |
| 3.4.1 Colonization..... | 32 | Starport..... | 42 |
| 3.4.2 Population | 32 | Supply Depot..... | 42 |
| Census | 33 | Trading Post | 42 |
| Morale..... | 33 | 3.5.2 Facility Construction | 43 |
| Population Increase..... | 33 | 3.5.3 Facilities & Combat..... | 43 |
| Population Decrease..... | 33 | 3.5.4 Capturing Facilities..... | 43 |
| Depopulation..... | 33 | Command Post | 43 |
| 3.4.3 Infrastructure..... | 34 | Fighter Garrison..... | 43 |
| Economy..... | 34 | Habitats..... | 43 |
| Industry..... | 34 | Jump Gate..... | 43 |
| Agriculture..... | 34 | Mining Base..... | 43 |
| Research..... | 34 | Orbital Factory..... | 43 |
| Infrastructure Increase..... | 34 | Orbital Farms | 43 |
| Infrastructure Decrease..... | 34 | Planetary Defense Guns | 43 |
| Infrastructure Utilization..... | 34 | Planetary Defense Shield | 43 |
| Infrastructure Disruption | 35 | Research Lab..... | 43 |
| 3.4.7 Colony Size | 35 | Shipyards..... | 43 |
| Outpost | 35 | Supply Depot..... | 43 |
| Settlement | 35 | 3.6 Exploration | 44 |
| Minor Colony | 35 | 3.6.1 Exploration Missions..... | 44 |
| Major Colony..... | 35 | 3.6.2 Exploration Peril | 44 |
| Core World..... | 35 | 3.6.3 Prewarp Natives | 45 |
| 3.4.8 Planetary Basing..... | 35 | 3.6.4 Emerging Empires | 46 |
| 3.4.9 Morale States | 36 | 3.6.5 Variable Exploration Difficulty Δ..... | 48 |
| Good Order..... | 36 | 3.6.5 Simplified Exploration Δ | 49 |
| Unrest | 36 | | |
| Rebellion..... | 36 | | |

| | | | |
|---------------------------------------|-----------|--|-----------|
| CHAPTER 4: POLITICS..... | 50 | Influence Relations | 62 |
| 4.1 Empires | 50 | 4.5.7 Treaties | 62 |
| 4.1.1 Player Empires..... | 50 | Armistice Treaty (+60) | 63 |
| 4.1.2 Non-Player Empires..... | 50 | Border Treaty (+40)..... | 63 |
| 4.1.3 Non-Aligned Empires..... | 51 | Trade Treaty (+20)..... | 64 |
| 4.2 Capitals | 51 | Non-Aggression Treaty (±0)..... | 64 |
| Sector Capital..... | 51 | Co-Belligerency Treaty (-10)..... | 64 |
| 4.2.1 Capital Construction | 52 | Military Treaty (-20) | 64 |
| 4.2.2 Zones of Control..... | 52 | Research Treaty (-20) | 64 |
| 4.2.3 Losing an Imperial Capital..... | 52 | Mutual Defense Treaty (-40)..... | 65 |
| 4.3 Spheres of Influence | 53 | Alliance Treaty (-60)..... | 65 |
| 4.3.1 Political States | 53 | Unification Treaty (-80) | 65 |
| Controlled Systems..... | 53 | 4.5.8 Declarations of War | 65 |
| Claimed Systems..... | 53 | War Score | 65 |
| Contested Systems | 54 | Tribute..... | 66 |
| Neutral Systems | 54 | Vassals | 66 |
| 4.3.2 Sectors | 54 | Extermination | 67 |
| 4.3.3 Borders..... | 54 | Genocide | 68 |
| 4.3.4 Neutral Zones | 54 | NPE Diplomacy..... | 68 |
| 4.3.5 Cut Off Regions | 54 | Offering Chance..... | 68 |
| 4.4 Culture | 55 | Breaking Chance..... | 68 |
| 4.4.1 Aggressiveness | 55 | Declaration Chance | 68 |
| 4.4.2 Integrity | 55 | Treaty Acceptance | 69 |
| 4.4.3 Xenophobia | 56 | NAE Diplomacy | 69 |
| 4.4.4 Cultural Revolutions..... | 56 | 4.6 Intelligence | 69 |
| 4.5 Diplomacy..... | 57 | 4.7 Releasing Empires..... | 69 |
| 4.5.1 Diplomatic States..... | 57 | 4.8 Civil War | 70 |
| No Contact..... | 57 | 4.8.1 Beginning a Civil War..... | 70 |
| Non-Intercourse..... | 57 | 4.8.2 Fighting a Civil War | 72 |
| Normal Relations | 57 | 4.8.3 Ending a Civil War | 72 |
| War..... | 57 | CHAPTER 5: ECONOMICS | 74 |
| 4.5.2 First Contact..... | 57 | 5.1 Income & Expenses | 74 |
| Initial Relationship | 57 | 5.1.1 System Income | 74 |
| Establishing Communications..... | 58 | 5.1.2 Commerce Income | 74 |
| First Contact War | 58 | 5.1.3 Miscellaneous Income..... | 74 |
| 4.5.3 Diplomatic Relations..... | 59 | 5.1.4 Purchases Expense | 74 |
| Relationship Values | 59 | 5.1.5 Maintenance Expense | 74 |
| Diplomatic Shifts | 59 | 5.1.6 Miscellaneous Expense | 74 |
| Relationship Modifiers..... | 60 | 4.1.3 Financial Deficits | 75 |
| Intel Mission Modifiers..... | 60 | 5.2 Technology | 75 |
| Territory Modifiers..... | 60 | 5.2.1 Tech Levels..... | 75 |
| Diplomatic Modifiers..... | 60 | Pre-Industrial | 75 |
| 4.5.4 Embassies | 61 | Industrial | 76 |
| 4.5.5 Diplomatic Couriers..... | 61 | Information | 76 |
| 4.5.6 Diplomatic Missions | 61 | Interplanetary | 76 |
| Improve Relations | 62 | | |
| Damage Relations | 62 | | |

| | | | |
|-----------------------------------|-----------|--|------------|
| Interstellar | 76 | Assault..... | 90 |
| 5.2.2 Tech Investment..... | 77 | Atmospheric | 91 |
| 5.2.3 Tech Advancement | 77 | Blockade Runner | 91 |
| 5.2.4 Research Data..... | 78 | Bombardment..... | 91 |
| Transferring Research Data..... | 78 | Cargo | 91 |
| Capturing Research Data..... | 78 | Carrier (1)..... | 91 |
| 5.2.5 Reverse Engineering | 78 | Catapult (2)..... | 91 |
| 5.2.6 Scavenging Technology | 79 | Command (2)..... | 91 |
| 5.3 Agriculture..... | 79 | Compact (66% x BC)..... | 92 |
| 5.3.1 Food Production..... | 79 | Construction | 92 |
| 5.3.2 Food Consumption | 79 | Cyber Warfare..... | 92 |
| 5.3.3 Population Growth..... | 80 | Deception | 92 |
| 5.3.4 Starvation..... | 80 | Diplomatic | 92 |
| 5.4 Commerce..... | 81 | Endurance (1/2 x Command Cost)..... | 92 |
| 5.4.1 Trading Posts..... | 81 | Fast | 92 |
| 5.4.2 Trade Value | 81 | Fighter Rail..... | 92 |
| 5.4.3 Trade Routes..... | 81 | FTL | 92 |
| 5.4.3 Trade Network..... | 82 | Interdictor | 92 |
| 5.4.4 Civilian Shipping | 82 | Jump | 92 |
| 5.4.5 Commerce Raiding..... | 82 | Medical..... | 92 |
| 5.4.6 Trading Food | 82 | Police | 93 |
| 5.5 Piracy..... | 83 | Repair..... | 93 |
| 5.5.1 Piracy Checks..... | 83 | Scout..... | 93 |
| 5.5.2 Pirate Fleets..... | 83 | Stealth | 93 |
| 5.5.3 Pirate Bases | 84 | Supply | 93 |
| 5.5.4 The Black Market | 84 | Tender | 93 |
| 5.5.5 Conscripting Pirates | 85 | Towing | 94 |
| 5.5.6 Pirate Ascension | 86 | X.1.7 Unit Class Design | 94 |
| 5.5.7 Pirate Caches * | 86 | 6.3 Construction | 94 |
| 5.5.8 Averting Piracy*..... | 87 | Planetary Construction..... | 94 |
| CHAPTER 6: MILITARY..... | 88 | Remote Construction..... | 95 |
| 6.1 Unit Types | 88 | Build Times | 95 |
| 6.1.1 Starships..... | 88 | 6.3.1 Prototyping..... | 95 |
| 6.1.2 Starbases | 88 | 6.3.2 Unit Refits | 96 |
| 6.1.3 Flights..... | 88 | 5.5.5 Mass Production Δ | 97 |
| 6.1.4 Ground Forces..... | 88 | 6.4 Damage & Repairs | 97 |
| 6.1.5 Ground Bases..... | 88 | 6.4.1 Damage States..... | 97 |
| 6.2 Unit Classes..... | 89 | 6.4.2 Repairs | 97 |
| 6.2.1 Class Name | 89 | 6.4.3 Field Repairs..... | 98 |
| 6.2.2 Economic Factors..... | 89 | 6.4.4 Scrapping..... | 98 |
| 6.2.3 Combat Factors..... | 89 | 6.4.5 Scuttling..... | 98 |
| 6.2.4 Command Factors..... | 89 | 6.5 Maintenance | 98 |
| 6.2.5 Special Abilities..... | 90 | 6.5.1 Active | 99 |
| Armor..... | 90 | 6.5.2 Reserve | 99 |
| | | 6.5.3 Mothballed..... | 99 |
| | | 6.5.4 Activations & Deactivations..... | 99 |
| | | 6.6 Supply | 100 |

| | |
|--|------------|
| 6.6.1 Supply Depots..... | 100 |
| 6.6.2 Supply States | 100 |
| 6.6.3 Out of Supply Levels | 101 |
| 6.6.4 Military Supply Ships..... | 101 |
| 6.7 Basing..... | 102 |
| 6.8 Captured Units | 102 |
| | |
| CHAPTER 7: WARFARE..... | 103 |
| | |
| 7.1 Detection | 103 |
| 7.2 Bombardment | 103 |
| Bombardment Missions | 103 |
| Troop Bombardment..... | 103 |
| Suppression Bombardment | 103 |
| Infrastructure Bombardment..... | 103 |
| Facility Bombardment | 103 |
| Terror Bombardment..... | 103 |
| Population Bombardment..... | 103 |
| Resource Bombardment..... | 104 |
| 13.3 Sustained Bombardment | 104 |
| 13.1 Planetary Defenses | 104 |
| 13.5 Weapons of Mass Destruction | 104 |
| Bombardment Surrender | 105 |

Introduction

“War is not just about defeating your enemy on the field of battle. A war can just as easily be won by averting it via diplomatic means, building super weapons designed in secret by your brightest minds, being the best at knowing other people’s secrets, earning economic dominance on the floor of a stock exchange, on the assembly lines at your factories, or within the cavernous interiors of mighty shipyards. But, in the end, the matter of galactic supremacy must be settled one way or another. Cry havoc and let slip the dogs of war...”

This book serves as an introduction to the Victory by Any Means (VBAM) Campaign System, a set of strategic gaming rules that allow players to wage war across the stars, pitting interstellar empires against one another in a battle for economic, military, and political dominance.

But what is a *campaign*? These rules define a campaign as a strategic gaming environment of the classic 4X style in which players use their empires’ forces to explore, expand, exploit, and exterminate in a science fiction setting.

The VBAM Campaign System offers players a modular set of campaign rules with a level of complexity that can scale based on the players’ preferences. When setting up a new campaign, players decide for themselves which rules to use for that game; they are not forced to use all of the rules found in this book if they don’t want. Furthermore, players can choose to omit or even replace entire campaign “modules” if they think that will improve their game play experience. This modularity is especially useful when players want to integrate the VBAM Campaign System with their favorite tactical combat systems. If your preferred rule set already includes rules for unit construction and research, you can continue to use those rules with only simple modifications to resolve how they interact with the basic campaign rules.

Another advantage of the VBAM Campaign System is that it provides players with a strategic combat resolution engine that can be used to quickly resolve both space and ground combat scenarios as they occur during the game. This allows players to either not use a separate tactical system at all if they don’t want to, resolving all combat encounters with the included strategic combat rules, or they can use

the strategic combat rules to resolve battles that wouldn’t be fun to play out using tactical combat rules. The average strategic combat scenario can be resolved in less than ten minutes, and the smallest may require six or fewer die rolls.

While the rules in this book may seem overwhelming at first glance, please keep in mind that the book contains multiple layers of complexity, and most players will not utilize all of these rules in any of their campaigns. In fact, most campaigns will only use a fraction of the rules included in this book at any one time.

Chapter 1: Getting Started

I.1 Before the Game

I.1 REQUIRED MATERIALS

Players are required to have access to both this book (which you already have) and a collection of polyhedral dice. You will need a pair each of six-sided (D6) and ten-sided (D10) dice along with a twenty-sided (D20) die to play this game. At least two D10 dice are required because many rules require the player to roll a D100 (percentile die) against a target number. When asked to roll a D100 or percentile die, the player should instead roll one D10 die for the tens place and the other D10 for the ones place. For example, if the tens die rolls a 4 and the ones die rolls an 8, then the final result on the D100 roll is 48. Rolling two 0's produces a result of 100.

Players also require pencils, paper, and all of the other paraphernalia required to record and track information during the game. Some sample record sheets are included in the appendices, but players should feel free to create new forms or use other methods of tracking their relevant campaign and empire information in whatever form they find easiest or most intuitive.

Perhaps the most important asset players will need to have available is *time*. Strategic campaigns can take days, weeks, months, or maybe even years to run to completion depending on how often the players can meet or otherwise submit and process their turn orders. Players should consider how much time they have available when deciding on the size and scope of the campaign they are going to participate in.

I.2 RECOMMENDED MATERIALS

While a campaign can be successfully run using nothing more than pen-and-paper, it is obviously much easier to track campaign information and make calculations on the fly using electronic aids such as word processors and spreadsheets. This is

especially true for players that find themselves overwhelmed by the concept of running a campaign completely by hand. Players that have access to a laptop, netbook, or tablet can very easily bring these electronic aids to the gaming table.

// *Celestia* or *AstroSynthesis* for map aids

// *Inkscape* or *Illustrator* for map creation

// *online tools*

Rules Organization

I.3 RULES REFERENCES

All of the campaign rules found in this and other *Victory by Any Means Campaign System* products use a numeric numbering system to uniquely identify and reference each major rule or topic in a book. Each of these numeric rule identifiers begins with the number of the chapter where the rule is located followed by the specific section and sub-sections. For example, the current section is "1.4 Rules References," which indicates that "Rules References" is located in the fourth numbered section of the first chapter of this book.

References to rules found in other campaign supplements are preceded by a unique two- to three-character abbreviation that indicates the name of the book in which the specified rule can be found. Refer to the list of products and their related abbreviations provided below.

| Product Name | Abbreviation |
|--------------------|--------------|
| Campaign Guide | CG |
| Campaign Companion | CC |
| Menagerie | MG |
| Engineering Manual | EM |
| Those Who Serve | TWS |

I.4 OPTIONAL RULES

Any rule in this book that has a delta ("Δ") symbol after its heading is an optional rule that players can choose to use or ignore when they play a campaign. These optional rules are included alongside the relevant standard rules to which they apply.

Optional rules usually introduce advanced concepts that may not be appropriate to every campaign setting or that might only appeal to specific groups of players.

Players must agree on which optional rules are going to be used in a campaign before it starts. It's best to create a list of all of the optional rules that are being used in a campaign and have it available for players to reference during the game.

The following is a list of all of the optional rules that are included in this book:

[insert list here]

I.5 Campaign Moderation

The Victory by Any Means Campaign System can be run either by a single neutral arbiter, called a Campaign Moderator or CM (moderated campaigns); or as a collective effort by all the involved players (unmoderated campaigns). Before starting a new campaign, players must decide which of the two options will be used in their game. The advantages and disadvantages of both choices are discussed in this section.

I.5.1 MODERATED CAMPAIGNS

A campaign moderator (CM) is responsible for organizing and managing the campaign in a moderated campaign. This individual's primary duty is to collect and process the players' turn orders and then report the results back to his players so that they can begin writing new orders for the next campaign turn.

One of the largest advantages of the moderated campaign is that it allows for players to operate under a fog of war that forces them to gather intelligence on their opponents or risk being left in the dark. Because the CM is responsible for processing the players' turn orders, the players themselves will only be provided with the information that their faction has access to. Compare this to an unmoderated campaign where player orders are publicly declared each campaign turn.

Another perk of playing in a moderated campaign is that your CM has the ability to string together otherwise unrelated campaign events to form an

overarching campaign storyline, plot, or narrative. This infusion of imagination on the part of the CM can increase the tension and intensity of action within the campaign. For example, let's suppose that several player empires have begun finding mysterious ancient ruins, remnants of some alien civilization, on a number of planets. Normally the random discovery of these ruins (a special trait from the *Campaign Moderator's Companion*) would be just that: random. However, the CM could craft a story that connects these disparate ruins and then provide hints or clues as to what happened to the vanished civilization that built them. The culmination of their storyline might be that the force that wiped out these colonies is returning... or maybe it was a complex alien bio-weapon, a deadly contagion that will infect the populations of the empires now rummaging through the ruins? The CM has broad liberty to incorporate these kinds of game play elements into a campaign.

When resolving turn orders and generating new campaign turns, the CM should adhere to the written campaign rules except as modified by any special scenario or house rules used in the campaign. Players should feel free to query the CM in circumstances in which they feel that a rule isn't being applied correctly, fairly, or uniformly. There are enough "moving parts" within these campaign rules that it's easy for either the player or CM to make a mistake, and these kinds of challenges are a healthy part of the gaming experience. However, the CM is the final arbiter in the campaign and once he has ruled on an issue (hopefully after having polled his players for feedback and consulting the relevant campaign rules) the issue should be considered settled. That being said, CMs should be careful to avoid capricious, off-the-cuff decisions as it will almost certainly alienate their players and can ultimately derail the game.

I.5.2 UNMODERATED CAMPAIGNS

Players can choose to run a campaign without the aid of a neutral moderator. In this case, most (but not all) fog of war aspects are eliminated from the game and the campaign is run in a very "open-handed" fashion in which very little information is actually secret. This lack of secrecy is a necessary evil in an unmoderated campaign as it is required to make sure that all players are following the rules. This is not to say that you should suspect that your

opponents are actively cheating when playing without a CM – we would hope that you are gaming with trustworthy players! – but honest mistakes are possible and even likely, especially when players are first learning the rules. By making game play and turn resolution as transparent as possible the players will be able to catch any rules errors quickly enough to prevent them from having a major effect on the game.

Players in an unmoderated campaign secretly draft their turn orders during the Turn Orders Phase just as they would in a moderated campaign. However, rather than handing these orders over to a CM to be processed, the players instead wait until everyone's turn orders are completed (or the prearranged turn generation time arrives) at which point the group will begin declaring and resolving their orders in the order established by the X.X Sequence of Play, starting with the Colony Phase and progressing through to the Update Phase. The players take turns each phase publicly declaring their orders and resolving any checks that arise. After a player has resolved all relevant orders for the current phase, play passes to the next player and so on. Turn generation continues in this manner until all of the players' turn orders have been resolved, at which point the players will be ready to begin drafting their turn orders for the next campaign turn.

Should debate or discussion arise as to the interpretation of a rule or the legality of an order, the players must collectively decide what to do about it. In most circumstances, the easiest way to resolve these disputes is to put it up to a player vote. The option that receives a simple majority of the player support in the vote is then be adopted as the solution to the problem until such time as an official ruling can be procured that contravenes the player-selected solution.

Please be aware that arguments between players in an unmoderated campaign can be even more destructive than in a moderated campaign because all of the players are involved in the resolution process in the former, while in the latter a neutral CM is responsible for making the final decision. All it takes is one extremely contentious rule dispute for a campaign to fall apart. Players should attempt to be as impartial as possible when making these decisions, and they should be prepared to vote against their own empire's best interests if doing so will enforce the "correct" interpretation of a rule.

In the event of a "no-win" argument, the players should at least consider finding a compromise that will satisfy the majority of the players, even if it doesn't satisfy everyone completely. For example, consider that a rule has been misinterpreted for a large part of the campaign, and one or more players built their forces to either exploit or defend against this rules misinterpretation. This rule change might even be "game ending" in that their forces or strategy might be completely nullified under the correct interpretation of the rules. At this point in the campaign correcting the rule will put these players' empires at a distinct disadvantage compared to the players whose decision making processes weren't affected by the ruling. In such a situation, especially if the mistake was made by multiple players in the same campaign, the players may want to allow the affected players the opportunity to alter their existing forces so that they can remain competitive even after the rules change goes into effect in order to keep the campaign alive.

I.6 Campaign Timekeeping

Campaigns represent a snapshot of history for a collection of empires in a specific universe or setting. A campaign's timeline is divided into campaign turns and campaign years.

I.6.1 CAMPAIGN TURN

The basic unit of strategic timekeeping in a campaign is the campaign turn. Each campaign turn represents about five weeks of time in the game world, which allows units enough time to move between systems, engage in combat, and carry out other operations without straining credibility. Players draft and submit orders at the start of a campaign turn that outline what actions their empires are going to take that turn. The remainder of the turn is then spent resolving those actions to determine their repercussions on the campaign environment (see X.X Turn Orders Phase).

An average campaign lasts about 50 turns. Resolving turns at a rate of one turn per week, which is common for gaming groups that meet locally or play-by-email online, the players can expect to take about a year to complete a full campaign. Smaller campaigns or those with stricter objectives can obviously be completed in less time. Solo

campaigns can easily last 100 turns or longer and can continue as long as the player remains interested in playing the campaign.

I.6.2 CAMPAIGN YEAR

Ten campaign turns are resolved per campaign year. Each campaign turn is assigned a numeral identifier corresponding to the current turn of the year that it represents. This numeral value is then appended to the current campaign year to uniquely identify the campaign turn for record keeping purposes. For example, the seventh campaign turn of campaign year 2258 would be recorded as 2258.7, where 2258 is the campaign year and 7 is the campaign turn number.

Campaign scenarios can adjust the length of a campaign year to change the number of campaign turns that are processed each year. Players can use this option to extend the length of a campaign year to twelve turns so that each turn equals exactly one month of game time. Campaign year lengths can also be shortened to accommodate settings where galactic level events happen more slowly, often as the result of slower travel times between star systems.

I.6.3 TACTICAL TURNS Δ

Campaign settings that require campaign units to act more rapidly can achieve this effect by dividing each standard campaign turn into five separate tactical turns, with each tactical turn representing approximately one week of game time. Units can be issued movement orders and engage in combat during each tactical turn, but all other strategic and economic activities are still only resolved every five campaign turns (i.e., once per campaign turn).

Campaigns that use this optional rule tend to focus more on military conflict and achieving specific scenario objectives because it gives military units more flexibility to move and attack during a single campaign turn. Tactical turns aren't suited for more open, sandbox scenarios largely because the added time requirement of resolving five tactical turns per campaign turn can become oppressive to the players and greatly slow down the game. As a compromise, players can choose to use the tactical turn optional rule in their campaign but only invoke it when empires are in a state of war. Otherwise,

during peacetime, friendly units would just be allowed to move five times per turn.

Players have the option of changing how many tactical turns occur during a single campaign turn, of course, to better tailor the optional rule to their own setting and accommodate their preferred rate of movement on the associated campaign map.

Chapter 2: **Playing the Game**

“Unfortunately, many people do not consider fun an important item on their daily agenda. For me, that was always high priority in whatever I was doing.”

— Chuck Yeager

Scenarios

Sequence of Play

EXPLORATION PHASE

Exploration Missions

Emerging Empires

MORALE PHASE

System Loyalty Checks

Turn Orders

Chapter 3: Stellarcartography

3.1 Campaign Maps

“The quality of a map is also in part an aesthetic matter. Maps should have harmony within themselves. An ugly map, with crude colors, careless line work, and disagreeable, poorly arranged lettering may be intrinsically as accurate as a beautiful map, but it is less likely to inspire confidence.”

- John Kirtland Wright

Campaign maps depict the location of star systems and jump lane in a game. Players use campaign maps to appraise the general strategic environment and determine the movement options that are available to their forces. Because most of a player's interactions with a campaign map will be spent plotting movement, it is extremely important that the position of all systems, jump lanes, and colonies be clearly labeled to prevent confusion.

3.1.1 HEX MAPS

A hex map is the most common mapping option for campaign maps. Each hex on the map contains a single star system with up to six jump lanes connecting it to systems in adjacent hexes. One of the key advantages of using a hex map is that it provides a structured method for creating new campaign maps because each hex will only ever contain a single system. This makes these maps easier to create because all a player has to do is print off a hex map and start drawing in jump lanes to connect the hexes/systems together. The end result is a clean map free of overlapping jump lanes or awkward jump lane connections that could cause confusion.

Hex maps are perfect for campaigns where the X.X Jump Lane Exploration rules are being used because it allows players to dynamically generate the campaign map as empires explore new star systems during the game. The map can be expanded by adding additional hexes to the outer perimeter of the map as new star systems are explored and

players discover new jump lanes that connect to systems beyond the map's existing boundaries.

Rules for randomly generating new campaign maps using a hex grid can be found in X.X Random Map Generation in the appendices.

3.1.2 JUMP MAPS

An alternative to hex-based campaign maps is to create a jump lane map that arbitrarily places star systems on the map and then connects them together using jump lanes. This style of mapping is usually the most convenient option for players that are trying to convert a star map from another source, or when a campaign is going to be fought on a static campaign map. Jump lane maps aren't recommended for exploration campaigns where maps are dynamically generated during the game, however, as it is very difficult for players to determine where new systems and jump lanes should be placed on the map.

MAP ICONOGRAPHY

While campaign maps can be presented in many different ways, they must share a few common characteristics in order to be considered usable. Players are encouraged to use the following standard iconography guidelines detailed below when creating their campaign maps as it will make it easier for players to pick up a map and know what each element means.

Star systems should appear as circles or some other form of star-like icon on the map. The size of a system's symbol should be based on its system importance, with more important systems being afforded larger, more visible icons. Unexplored star systems should be clearly marked to differentiate them from systems that have already been explored.

Jump lanes should appear as lines that connect systems together on the map. It is recommended that the thickness of these lines be sufficient to make them stand out better. If the X.X Jump Lane Class optional rules are in use in your campaign, each jump lane class must be represented by a different line style, color, or equivalent notation so that the jump lane's class will be obvious when players refer to the map. Unexplored lanes should be displayed in a different style, usually by using a

conflicting color, so that players will know which jump lanes have and haven't been explored.

Inhabited systems should be color coded, with each empire being assigned its own a unique color to represent its colonies on the map. Neutral systems that haven't been colonized yet should be assigned a white or neutral grey color to differentiate them from other player controlled system. Assigning systems colors based on their owners allows players to determine who controls a system simply by looking at the map.

The size and extent of each empire's sphere of influence should also be depicted on a campaign map. The simplest manner to demarcate these spheres of influence is to draw a shaded linear border around all of an empire's claimed and controlled systems. Applying a background color to these regions makes it clear which star systems are included within an empire's sphere of influence.

Most campaign scenarios provide players with pre-generated maps and statistics that they can use to start playing the scenario "out of the box" without having to first do a lot of preparatory work. This is recommended for players that have never played the game before and are still trying to understand the campaign system. More experienced players can instead choose to create their own campaign maps using the rules in X.X Random Map Generation as a guide.

MAP DIRECTIONS

Two dimensional galaxy maps like those used in this game are assigned four cardinal directions to describe the position of star systems and other locations on the map. The horizontal axis of the map charts the length of the map from rimward (west) to coreward (east), while the vertical axis are split between upspin (north) and downspin (south). Players can use their own preferred set of directional terminology in their own games but this book, either in part or whole, but this book uses that these terms are in play to provide a set context for discussing directions on its campaign maps.

RANDOM MAP GENERATION

3.2 Star Systems

"Looking at these stars suddenly dwarfed my own troubles and all the gravities of terrestrial life. I thought of their unfathomable distance, and the slow inevitable drift of their movements out of the unknown past into the unknown future."

- H.G. Wells

In the Victory by Any Means Campaign System each star system is treated as a single object. The number and type of planets that orbit the star aren't explicitly defined but are instead approximated by the system's three resource values (Carrying Capacity, RAW, and Biosphere). The amount of resources that are available in any given star system is determined by a combination of several different factors, including the system's type and the spectral class and luminosity of the system's primary stellar component. A system's importance is directly tied to the amount of resources it possesses.

Empires gain access to a star system's resources by establishing colonies or facilities there. Leveraging these resources provides an empire with wealth, food, and living space that it can use to fuel its future growth.

3.2.1 SYSTEM TYPE

A system's type describes how many stellar mass objects are present in the system. The number of special traits that a system receives during system generation is determined by its system type. These special traits provide the system with either bonuses to its system resource values or else indicate the presence of special system terrain or strategic resources. A star system still only receives one set of resource values even if it contains more than one star, however. The system's statistics describe the value of all of the planets in the system, even if they are geographically distant from one another and orbiting different stars in the system.

Single Star Systems

Single star systems are solar systems that contain a single star. These systems have the best chance of supporting robust planetary systems because there aren't any other stellar mass objects in the system that might interfere with planetary formation. They receive three special traits during system

generation. This makes single star systems the most valuable as they tend to have higher resource values than other systems, all other factors being equal.

Binary Star Systems

Binary star systems contain two gravitationally-bound stars that orbit around a common center of mass. The system can either be a close binary where the secondary component orbits in close proximity to the system primary; or a distant binary where the secondary component is located some distance away, possibly far enough away to possess its own planets. The gravitational effects of the second star can make it more difficult for planets to achieve stable planetary orbits. This results in binary systems only receiving two special traits.

Multiple Star Systems

Multiple star systems are comprised of three or more stars. The large number of stellar mass objects in these systems interfere with planetary formation and retention. Multiple star systems only receive one special trait. This single special trait greatly limits the value of a multiple star system but still leaves open the possibility of discovering one of these systems that is particularly rich in natural resources.

Black Holes

Black holes are singularities that are so massive that nothing — *not even light* — can escape their gravitational pull. Objects caught in the vicinity of a black hole are inevitably drawn into them where they are ripped apart by intense tidal forces. Black holes are invisible to detection but luckily they possess visible event horizons that alert observers to their presence so that they can safely identify and avoid them.

Black hole systems have no material value and can't be colonized, nor can facilities be built in them. They always have six jump lanes connecting to them and all resource values at zero. Any unit that ends its turn in a black hole system takes a point of damage regardless of its current supply state.

Star Clusters

A star cluster is a group of hundreds of thousands of gravitationally-bound stars that all formed at roughly the same time and are of the same or similar types/ages. These systems are uninhabitable because never contain habitable planets and their

system resource values are all zero. The intense radiation in the star cluster makes facility construction in these systems impossible. The close proximity of stars in a cluster makes jump lane travel more dangerous. Star cluster systems always have two jump lanes connecting to them. Military units that end their turn in a star cluster system earn an extra out of supply level.

3.2.2 SPECTRAL CLASS

The Harvard classification system differentiates stars by surface temperature and assigns them one-letter alphabetic identifiers that can be remembered using the mnemonic “**Oh Be A Fine Girl, Kiss Me**” that arranges the seven spectral classes in order from hottest (class O) to coolest (class M).

A system's spectral class is used to determine its RAW and Biosphere values during system generation. Hotter stars are younger and tend to be more mineral rich and biosphere poor. Older, cooler stars conversely offer fewer mineral resources but are more likely to contain life-bearing worlds.

Class O Extremely Bright Blue Giant

Class O stars are the largest and most luminous. These bluish stars shine with a power equal to over a million times the luminosity of that of a class G star such as Sol and can be up to 50 times more massive. Class O supergiants are short lived, with an estimated lifespan of 10 to 50 million years.

Stars of this class generate a powerful stellar wind that is so intense that, over the period of about one million years, it can break down and destroy protoplanetary disks not only in their own system but in neighboring systems, too. The ultraviolet radiation put off by the blue giant evaporates the dust and gas in the disk and the star's stellar winds then disperse the material, preventing it from coalescing into planets. This is called the *photoevaporation effect*. Class O stars are unlikely to have any planets orbiting them, let alone any capable of supporting life, but some may still possess an embryonic planetary system.

Surface Temperature: > 25,000K

Example: Zeta Puppis, Lambda Orionis

Class B Bright Blue Star

Class B stars are bright blue suns that are extremely large and luminous, like those of class O. In fact, it is

sometimes difficult to tell the two apart, giving rise to class OB stars that could be either class O, B, or maybe even a very hot class A. Unlike class O stars, class B stars aren't subject to photoevaporation effects. The amount of ultraviolet radiation emitted by these stars is less than that of class O stars, which prevents a class B from breaking down gas and dust in neighboring planetary space.

Surface Temperature: 10,000 – 25,000K

Example: Rigel, Spica

Class A Blue-White Star

Class A stars are bluish-white in color, and are the most common of the bright blue stars encountered in the galaxy. They are known for their strong hydrogen (Balmer) lines, which are at a maximum at a magnitude of A0. These stars are more apt to support planetary systems than larger, hotter stars, and some of these planets may even support tenuous atmospheres and maybe even primitive biospheres.

Surface Temperature: 7,500 – 10,000K

Examples: Vega, Sirius, Deneb

Class F White Star

Class F stars are white in color, though members of this class sometimes possess a trace of yellow. Unlike class O, B, or A classes, these bright stars trend towards the main sequence which improves the chances of finding planets in these systems.

Stars of this spectral class shouldn't be confused with class D white dwarfs. These are two entirely different types of stars, and the two terms aren't interchangeable.

Surface Temperature: 6,000 – 7,500K

Examples: Canopus, Procyon

Class G Yellow Star

Class G stars are relatively uncommon, as most stars usually only remain in this spectral class for a short period of time during between the young blue supergiant (O or B) and late life red/orange (K or M) phases of their stellar evolution.

Of all of the spectral classes, class G stars are the most likely candidates to find planets that are capable of supporting life because of the relative age of these systems and the size of their habitable zones. This translates into higher RAW and Biosphere values for class G stars.

Surface Temperature: 5,000 – 6,000K

Example: Sol, Alpha Centauri A, Tau Ceti

Class K Orange Star

Class K stars are slightly cooler than class G stars like our own sun but still hotter than the red class M stars that they will one day become. These stars are orange to red in color and can range in size from behemoth supergiants down to smaller dwarf stars. Class K stars are much more common than class G stars in our own stellar neighborhood.

While orange stars aren't as attractive colonization targets, they still offer very good prospects for finding inhabitable, life-bearing planets.

Surface Temperature: 2,000 – 5,000K

Example: Alpha Centauri B, Aldebaran

Class M Red Star

These low mass stars can range from small dim dwarfs to extremely large red giants or supergiants. Class M stars are by far the most common class of stars. Red dwarfs make up nearly 80% of all the stars in the nearby stellar neighborhood.

Life around a red dwarf is extremely volatile. The size of the star's habitable zone is short, and most planets located within this zone are tidally locked to the star which has a profoundly negative effect on their climates. The net effect is that while class M stars have a better chance of supporting life than a blue/white star, they also tend to be poor in exploitable resources.

Special Rule: Dim red dwarfs are commonly flare stars (see 3.5 System Terrain). To simulate this, any red dwarf system with an importance of Very Low or Low automatically receive the Flare Star trait.

Surface Temperature: 2,000 – 3,500K

Example: Proxima Centauri, Wolf 359, Antares

Class D White Dwarf

White dwarfs (also called *degenerate dwarfs*) are planet-sized, low mass stars composed of carbon and oxygen. They represent the twilight existence of low to medium mass main sequence stars. At the end of their red giant stage, these stars eventually reach a point where they have insufficient mass to maintain the temperature required to fuse carbon. This prompts the star to shed its outer layers to form a planetary nebula. This leaves behind the core of the sun that becomes the white dwarf. Without the heat generated by fusion to support it against

gravitational collapse, a white dwarf must instead rely on electronic degeneracy pressure; this requires the star to be extremely small and dense.

Planetary systems don't form around white dwarf stars. Any planets in these systems are inherited from the planetary systems that were orphaned when the stars became white dwarfs. The quality of planets orbiting class D stars is typically much poorer than those found around other stars.

Special Rule: Class D stars can only have a luminosity class of VII White Dwarf. Additionally, these systems always receive the Emission Nebula system terrain to represent the planetary nebula that formed when the star shed its outer layers.

Surface Temperature: 1,000 – 1,500K

Example: Van Maanen's Star

3.2.3 LUMINOSITY CLASS

The Yerkes spectral classification system divides stars into different types based on their luminosity (brightness) rather than by surface temperature. This system measures the width and intensity of spectral lines caused by luminosity effects. The following luminosity classes are represented in these rules: 0 (*hypergiants*), I (*supergiants*), II (*bright giants*), III (*giants*), IV (*subgiants*), V (*main sequence or dwarfs*), VI (*subdwarfs*), and VII (*white dwarfs*).

A star's luminosity class is used to determine the size and value of its planetary system (Carrying Capacity) and the number of jump lanes that connect to the system, with the assumption that larger, brighter stars have the greatest number of jump lanes attaching to them. Players can choose to ignore luminosity's jump lane attraction effect if this isn't appropriate to their campaign setting.

Class O - Hypergiant

Class 0 hypergiants are the most luminous stars in existence, and the most massive. A stable hypergiant has a mass equal to nearly 100 solar masses and may have had a mass of as much as 200 to 250 times that earlier in its stellar evolution.

Hypergiants never possess planetary systems and always have Carrying Capacity, RAW, and Biosphere values of zero and the maximum of six jump lanes.

Special Rule: Hypergiants don't appear as a result on the Luminosity Table found in the system generation rules. Instead, players roll a D6 for each supergiant during

system generation and on a roll of '6' the star becomes a hypergiant.

Example: Zeta-1 Scorpii, Rho Cassiopeiae

Class I - Supergiant

The largest and brightest stars in the galaxy are supergiants. These high mass stars have extremely short lifespans, lasting only 10 to 50 million years on average. Because of their short lives, supergiants are typically found in areas populated with other young stars, such as in open clusters or the arms of spiral galaxies.

Example: Rigel, Betelgeuse, Antares

Class II - Bright Giant

Bright giants straddle the boundary between supergiants and giants. These stars are more luminous than a normal giant but are not bright or massive enough to be classified as a supergiant.

Example: Alpha Herculis, Theta Scorpii

Class III - Giant

A giant star is one whose size and brightness are greater than that of a normal star on the main sequence. A star leaves the main sequence and becomes a giant once all of the fusible hydrogen in its core has been consumed. Fusion reactions then migrate to layers surrounding the core where hydrogen remains available. Eventually, if the star is massive enough, its core will begin to contract and its core temperature will increase until it's capable of fusing helium rather than hydrogen. Stars that lack sufficient mass to fuse helium (those with less than one-half solar mass when on the main sequence) will instead remain as hydrogen-fusing red giant stars.

Example: Pollux, Mira, Capella

Class IV - Subgiant

Class IV subgiants populate the boundary between normal main sequence stars and full-fledged giants. Subgiants are brighter than normal main sequence stars but aren't as bright as larger giants. Stars of this type have ceased fusing hydrogen in their cores, forcing hydrogen fusion reactions to migrate to the shell outside the core. This causes the star to swell, moving it on its way towards becoming a giant in the future.

Example: Procyon A, Epsilon Reticuli

Class V - Main Sequence (Dwarf)

The majority of stars are located along the main sequence. These stars, common called dwarfs, are less massive than other less luminous stars. Dwarf stars come in all spectral class; however, some don't spend very much time in the main sequence before migrating towards other steps in their stellar development.

Example: Sol, Proxima Centauri, Barnard's Star

Class VI - Subdwarf

Stars with a luminosity 1.5 to 2 magnitudes lower than that of main sequence stars are considered to be subdwarf stars. They are known for their emission of an above-average amount of ultraviolet radiation compared to what is considered normal for their spectral type.

Example: Kapteyn's Star, Groombridge 1830

Class VII - White Dwarf

White dwarf stars are assigned a luminosity class of VII under the Yerkes system. This special classification is used to clearly divide white dwarfs from other luminosity classes, especially other dwarf stars.

Example: 40 Eridani B, Procyon B

3.2.4 SYSTEM RESOURCES

Each star system is assigned three system resource values. These are Carrying Capacity, RAW, and Biosphere. These three resources describe a system's material value and determines its overall importance. The amount of each resource that a system can be expected to possess is based on its system type and the spectral and luminosity classes of its primary star. Some systems are more likely to offer players greater concentrations of one type of resource than another and not every system will be able to satisfy all of an empire's resource needs. Home systems are an exception to this rule, as they typically offer a balanced array of system resources so that empires without other colonies can still support respectable military forces and population sizes.

Carrying Capacity

Carrying Capacity (or simply Capacity) represents the number and quality of planets that are available for colonization in a system. From a practical

standpoint, a high Carrying Capacity can mean that a system contains a large number of planets or that there is an especially valuable planet in the system, depending on the campaign background.

The maximum value that any of system's population or infrastructure values can be increased to is equal to its Carrying Capacity. This makes systems with high Carrying Capacity values extremely valuable as they are the only systems that can support large colonies.

Star systems that have Carrying Capacity values of zero don't contain any inhabitable planets or other orbital bodies that an empire can colonize. A player can still purchase facilities in these systems to make use of any local resources, however. This allows players to access these systems' resources even if they can't place colonies there .

RAW

RAW is an abstraction of the amount of exploitable *resources* present in a system, including their *accessibility* and relative *wealth*. Systems with high RAW values possess abundant natural resources that an empire can harness to fuel its economy. The planets found in orbit of hot, young stars tend to be more mineral rich and have higher RAW values than older stars. This makes class O, B, and A stars prized commodities for empires looking to increase their incomes.

Colonies use Economy infrastructure to convert a system's RAW into economic points. The amount of system income a colony produces for its owner each turn is equal to its Economy x RAW. Mining bases can be used to extract additional economic points from a system.

Biosphere

Biosphere describes a system's ability to support life, specifically as it applies to food production. Systems with high Biosphere values either possess their own unique, alien biospheres that can be readily harvested and turned into food for an empire's population or else be very accommodating to the transplant of genetically engineered flora and fauna that have been tailored to the environment or else they may.

Life bearing worlds that offer favorable conditions for planetary agriculture are most often found in

orbit of class G or K stars. Class F or M worlds sometimes also have respectable Biosphere values.

The amount of food that a colony produces for its owner each turn is equal to its Agriculture x Biosphere. Orbital farms can also supplement a system's food production. Any food not consumed by imperial populations is then turned into population points that a power can use to purchase population increases to expand colonial populations at its existing colonies.

3.2.5 SYSTEM IMPORTANCE

System importance provides a method for categorizing systems based on their system statistic values. This allows players to quickly evaluate a system's overall value based solely on its system importance. A system's importance is found by totaling its three system resources (Carrying Capacity, RAW, Biosphere) and then performing a lookup on the System Importance Chart.

SYSTEM IMPORTANCE CHART

| Resource Total | System Importance |
|----------------|-------------------|
| 7 or less | Very Low |
| 8-10 | Low |
| 11-12 | Moderate |
| 13-15 | High |
| 16 or more | Very High |

When displaying star systems on a campaign map, it is customary for the size of a star system's marker on the map to correlate to its system importance so that systems of greater importance have larger star system symbols. This makes it easy for players to look at the map and instantly ascertain which star systems contain the most resources.

Very Low value systems are almost completely worthless to an empire because of their lack of exploitable resources. These systems offer few planets (if any) that an empire can colonize. Players normally avoid colonizing Very Low importance systems unless they occupy important positions in the galactic jump network, at which point a player might be forced to establish a presence in the system just to lay claim to it.

Low value systems are below-average when it comes to resource availability. A Low value system might have one resource that is mediocre at best, but all of the rest will be poor. These systems aren't usually high on a player's list of possible colony sites unless they are located in a strategic position on the map.

Moderate value systems are fairly average, as their name would imply. These systems provide empires with a reasonable mix of Carrying Capacity, RAW, and Biosphere that makes them appealing candidates for colonization even if none of their individual resource values are particularly notable.

High value systems offer either a more balanced mix of resource values or one or two extraordinary resource caches that make them high priority colonization targets. High RAW and Biosphere values are obviously the best case scenario for a High value system, but one that has high Carrying Capacity can be equally valuable for industrial, scientific, or intelligence purposes.

Very High value systems are rare finds. These systems have the highest possible system resource values in the game, and they are almost always rich enough to warrant going to war with another power to try and gain control of them. This is because these systems can be developed into massively powerful economic and industrial centers that dwarf the output of other lesser systems. Player home systems are generally all Very High value systems.

3.2.6 SYSTEM TERRAIN

System terrain is the term that is applied to all of the special types of astronomic formations or special aspects of a star system that go beyond its base resource statistics. Special rules apply to each type of system terrain that impact the way that players interact with the system. Some types of system terrain offer bonuses that are beneficial to the player while others institute penalties that limit a system's overall value.

Systems can contain multiple types of system terrain, and all terrain effects are cumulative. For example, a system that contains both a Flare Star and an Ion Storm would provide a surprise penalty from both terrain features. If the Flare Star modifier is -2 and the Ion Storm -1, the cumulative effect would be a -3 surprise penalty.

A system can also receive the same system terrain multiple times with cumulative effect. This is indicative of terrain features that are especially dense or exhibit extreme qualities that can either hurt or hinder an empire's attempts to develop the system.

Asteroids

Asteroids and other protoplanetary debris are commonly found in star systems. This special trait denotes that a system is home to abnormally high concentrations of these types of debris, enough to make the system a much more lucrative site for remote mining operations. This rich availability of natural resources provides a system with a +100% industrial capacity bonus and doubles the effectiveness of any Mining Bases that are established in the system.

Space combat encounters generated in systems that contain dense asteroid fields afford the defender extra protection against enemy attack. They can use hidden asteroid bases to hide and resupply, taking the enemy by surprise. This is represented by giving the defender a +1 bonus to his task force's rolls on the Surprise Table during these encounters.

Dust Cloud

Young stars are often surrounded by dense clouds of particulate matter. The protoplanetary disks around these stars have not yet fully accreted and a dust cloud fills the entire system. Although often beautiful to behold, dust clouds pose a significant danger to orbital assets. Orbits must be kept swept clean of rubble to prevent facilities from being damaged or destroyed by errant debris. This has the effect of increasing the cost of any facilities that are purchased in the affected system by +50% (round fractions up).

Flare Star

Flare stars (also called variable stars) regularly undergo rapid, unpredictable increases in brightness that can last from ten to fifty minutes before ceasing as unexpectedly as they began. A variable surprise penalty is applied to every battle that takes place in a system that contains a flare star. Roll a D6 on the following table before each encounter. This modifier is applied equally to all parties that are present in the encounter.

**FLARE STAR
SURPRISE TABLE (D6)**

| Roll | Surprise Penalty |
|------|------------------|
| 1-2 | -1 |
| 3-4 | -2 |
| 5-6 | -3 |

Ion Storm

Systems that are reknowned for ion storm activity are prone to experiencing unpredictable interplanetary coronal mass ejections. These massive bursts of solar wind disrupt electrical systems and interfere with planetary infrastructure.

All participants in space and ground combat scenarios that are fought in these systems receive a -1 penalty to their surprise rolls at the start of the battle to represent the affect the ion storms have had on their command and control capabilities.

Infrastructure built in a system with ion storms must be hardened against its negative effects or risk being taken out by a particularly intense electromagnetic burst. This effectively increases the cost of all infrastructure purchases in the system by 50% (round up).

Nebula

Nebulae are vast interstellar clouds of dust and gas that give life to new seedlings that will be the elder suns of a later stellar generation. Nebulae are occasionally found in close proximity to a star system, either encroaching on its outskirts or else completely engulfing its interior. Empires can take advantage of a nebula's presence by hiding ships and facilities in these formations to prevent their discovery by other powers.

Five different types of nebulae are presented here: emission, reflection, variable, dark, and maser. Each provides a slightly different set of modifiers that apply to activities in their systems, but all apply at least some kind of penalty to space encounter detection rolls. These common penalties make it harder for opponents to find each other's units and turns battles in nebulae systems into a game of cat and mouse. It is important to point out, however, that these detection penalties don't affect ground encounters generated in the system, only space encounters.

The ability to hide things in a nebula increases the difficulty of X.X Espionage intel missions that target a nebula system. These systems receive a bonus to their defensive intel equal to the nebula's detection penalty. Variable nebulae are considered to have a detection penalty of -2 for this purpose.

Example: A system that contains an emission nebula (-2 detection penalty) would receive a +2 defensive intel bonus against all espionage missions that are targeted against it by other powers.

Emission Nebula

An emission nebula is a cloud of ionized gas that emits light of various colors. Emission nebulae can occur in areas of new star development, where young, hot stars are the source of the ionization, or in planetary nebulae that form after a star sheds its outer layers and the gases are then ionized by the exposed stellar core.

Emission nebulae are rich in heavy elements, a fact that will influence the properties of the future stars that are born in them. This high metallicity content provides Mining Bases in the system with a +100% bonus to their normal income.

The nebula also interferes with sensors and makes detection more difficult. All space encounters generated in a system that contains an emissions nebula are subject to a -2 detection penalty.

Reflection Nebula

Reflection nebulae are clouds of gas and dust that are located near stars that emit enough energy to illuminate the dust in the nebula but aren't powerful enough to ionize its contents. Light scattering is most efficient with blue and red stars, and most reflection nebulae have a blue color as a result.

All space encounters that are generated in a system that contains a reflection nebulae are subject to a -2 detection penalty. This makes it harder for the encounter's participants to detect each other.

Variable Nebula

A variable nebula is a special type of reflection nebula that demonstrates marked changes in brightness over time as the result of fluctuations of output from the local star that illuminates it. To simulate this effect, variable nebalue are assigned a random detection penalty that affects space encounters generated in their systems. Players must roll on the following table at the start of each space

encounter to determine the applicable detection penalty for that encounter.

**VARIABLE NEBULA
DETECTION TABLE (D6)**

| Roll | Detection Penalty |
|------|-------------------|
| 1-2 | -1 |
| 3-4 | -2 |
| 5-6 | -3 |

Dark Nebula

A dark nebula is a form of nebulae without clearly defined borders that is located in the coldest, densest parts of space within which new suns are born. The concentration of interstellar dust within a dark nebula is so great that it can block out or obscure other light sources, such as the light reflected by background nebulae and stars.

It is almost impossible for a task force to detect enemy ships that are operating in a dark nebula. Space encounters in these systems are subject to a massive -4 detection penalty. Dark nebulae have no effect on ground encounter detection, however.

Maser Nebula

Maser nebulae are a form of dark nebulae that are home to stars that stimulate spectral line emissions in the microwave portion of the electromagnetic spectrum throughout the nebula's interior. These emissions damage electronics and impede navigation, even moreso than normal. This effect creates a vicious and deadly maelstrom that most spacefarers actively attempt to avoid if at all possible.

The energized nature of a maser nebula makes travel extremely treacherous. Space encounters generated in a system that contains a maser nebula are subject to a -4 detection penalty, and every non-ground unit that is in the system during the Supply Phase earns an extra out of supply level regardless of their current supply state. This is in addition to any out of supply levels these units would normally have taken this turn.

A maser nebula also prevents powers from establishing major fixed installations in the affected system. Empires can't purchase facilities in a maser nebula system as the long-term damage these

facilities would sustain by being in the system precludes them from being built there in the first place.

Plasma Storm

A relative of the ion storm, a plasma storm is a dense field of ionized gas that is extremely treacherous to traverse. Small, fast ships can maneuver through a plasma storm with ease, but larger, bulkier craft can find themselves trapped within their deadly confines. Because of the inherent danger in charting a safe course through a plasma storm, all non-Fast units that end their movement in a system that contains a plasma storm take 1 damage. Ground forces are unaffected by plasma storms.

Radiation Field

Some stars emit dangerously high concentration of electromagnetic radiation that can cause injury, sterility, or death in living organisms that are subjected to long-term exposure. Some species have a natural immunity to these radiation effects, but that is rare.

The cost of population increases in systems with the radiation field terrain are increased by +50% to reflect that colonists in the system undergo extraordinary levels of attrition due to adverse health effects. This makes it harder to establish large population centers in these systems.

3.2.7 SPECIAL ENCOUNTERS Δ

Many star systems hold untold secrets that can be unlocked by adventurers that are lucky enough to discover them. Examples of the kinds of special encounters that can be found in a system include strange abandoned alien cities, derelict starships, spatial anomalies, and stable wormholes. These points of interest offer the empires that find and control them advantages over their opponents.

Special encounters add a bit of extra excitement and mystery into a campaign and players can use these events to craft a richer narrative for their games. This is especially useful for solo campaign players that rely on these kinds of surprise discoveries to keep their games interesting.

Abandoned Colony

The presence of an abandoned colony in a star system indicates that one or more of the planets in

the system was once home to an alien colony but the colony has long since been deserted – either voluntarily or involuntarily, it's hard to tell. In their haste the colony's former inhabitants left behind infrastructure and equipment that future colonists can renovate for their own use. Cast off alien apparatuses can be jury-rigged, and the colonists can take up residence in the colony's abandoned edifices.

The amount of pre-existing infrastructure that a system receives from an abandoned colony is found by rolling on the table below. Round fractional infrastructure values up. Players should randomly apportion this infrastructure between the system's four colony infrastructure values (Economy, Industry, Agriculture, and Research).

ABANDONED COLONY SIZE TABLE (2D6)

| Roll | Infrastructure |
|------------|-------------------------|
| 4 or less | 1/2 x Carrying Capacity |
| 5-6 | 1 x Carrying Capacity |
| 7-8 | 2 x Carrying Capacity |
| 9-10 | 3 x Carrying Capacity |
| 11 or more | 4 x Carrying Capacity |

Modifiers:

-2 Very Low

-1 Low

+0 Moderate

+1 High

+2 Very High

Unlike ancient ruins, there are virtually no relics or artifacts present at abandoned colonies that can be collected for study. The colonies' original inhabitants took the most valuable equipment with them when they deserted the colony and what scraps they left behind are little more than worthless mechanical junk. This means that an empire won't earn any kind of tech bonus from colonizing a system that contains an abandoned colony.

Alien Derelict

Routine system surveys sometimes uncover the presence of alien derelicts drifting in deep space, in slowly-decaying orbits around long-forgotten

planets, or crashed and abandoned on the surface of a distant world. The hulls of many of these derelicts show obvious signs of battle damage, indicating that they survive a battle only to later be deserted by their crews. Other wrecks show no apparent signs of damage and offer few other clues as to why they were cast off. In any event, alien derelicts are lasting monuments to the empires that built them so many years ago.

After discovering an alien derelict, a player has to sit down and create statistics for the craft. The first step is to determine the cost of the alien derelict by rolling on the following table. The resulting build cost is normally used to "purchase" a single alien derelict, but players can choose to split some of the build cost between multiple derelicts. This can be helpful if you want to design a derelict carrier that still has some fighters or shuttles onboard or a flotilla of frigates instead of a single larger vessel.

DERELICT BUILD COST TABLE (D6)

| Roll | Build Cost |
|------|------------|
| 1-2 | 2D6 |
| 3-4 | 4D6 |
| 5-6 | 6D6 |

The alien derelict's tech level is then found by rolling on the next table. Any of the derelicts created via this special encounter will be designed at the resulting tech level. Players should note that it's possible to encounter fairly primitive derelicts that have low Interstellar tech level or even be Interplanetary in nature. This range of values prevents every derelict from being a potentially earth shattering discovery.

DERELICT TECH LEVEL (2D6)

| Roll | Tech Level |
|-------|--------------------------------|
| 2-3 | Interplanetary |
| 4-5 | 1D6 |
| 6-7 | 2D6 |
| 8-9 | 3D6 |
| 10-11 | 4D6 |
| 12 | 4D6 + Highest Player Empire TL |

Now that the unit's build cost and tech level are known it's possible to sit down and design our alien derelict(s). Because the unit's cost and tech level are determined by separate rolls, players can encounter alien derelicts that are small and advanced, large but primitive, or anywhere in between. This variability means that all alien derelicts are never created equal and some may even be next to useless depending on their size and sophistication. Then again, an empire has just as much chance of stumbling upon a high-tech dreadnought as they do an archaic strikefighter — you just have to hope that luck is on your side!

It's recommended that the CM design all alien derelicts in moderated campaigns. This encourages a more random selection of alien derelicts and prevents a player from taking advantage of an alien derelict discovery to design a derelict specifically to counter one of his opponent's forces. CMs also are afforded the latitude to field derelicts of differing tech levels if they so choose or otherwise tailor the derelict's discovery to fit their campaign's setting, story, or narrative.

Alien derelicts are inactive and immobile until its engines are repaired. Repair ships can be brought into the system to repair the ship and reactivate its engines or tugs with the Towing ability can be used to tow it back to a location where it can be repaired. A third, largely impractical option is to establish a colony in the derelict's system and build it up to the point that a refit can be done on-site using colonial infrastructure and facilities. Empires that find themselves unable to take ownership of an alien derelict may be forced to destroy it to keep it from falling into enemy hands.

Optional Rule: Booby Trap. The reason that the derelict may have been trapped in the system is because someone placed a booby trap in the system that ensnared the ship and prevented it from escaping. This booby trap is still active and the fleet that discovered the [MORE]

Ancient Ruins

The stars were not empty before the current batch of sentient interstellar species emerged from their home systems to explore the galaxy. The crumbling remnants of countless fallen civilizations and long extinct species can be found littering thousands of worlds in our galaxy alone. Glittering cities, shrouded in darkness and abandoned for millennia.

Hidden grottos, silent except for the slow but steady pulse of dormant machinery. Psychic echoes lingering like wraiths in the great halls from which great empires rose and fell. These mysterious remnants of ancient empires can be of significant archaeological and technical interest to an empire.

The alien technologic secrets that are left behind on these worlds provide a bonus to research performed in these systems. A system's research capacity is doubled if it contains ancient ruins. This research capacity bonus not only increases the number of tech points that can be purchased there each turn but it also increases the number of free tech points an empire receives each turn from background research at the colony.

Dimension Portal

This system possesses a dimension portal that connects to a pocket of space in a parallel dimension. This pocket dimension contains 1D6 star systems, one of which is the location of the endpoint of the dimension portal that spawned on the main campaign map. Players must create a new campaign map to chart the geography of this alternate dimension.

Space combat units can move between these two connected systems as a free movement during the Movement Phase each turn as part of their movement orders, and units don't need FTL drives to move between the systems.

Players can decide for themselves whether or not they want all of the dimensional portals encountered in their campaign to connect to systems in the same alternate dimension or if they would rather have each one associated with its own pocket dimension. You could also have the dimensional portals transport ships to a parallel dimension that is nearly identical to the players own, with all of the same star systems and jump lanes present as on the original campaign map. That approach is far more ambitious than a simple pocket dimension but could be a far more interesting concept to explore during a game.

Guardian

This star system is protected by a sophisticated automated defense system that was left behind by an advanced technological power. Guardians are treated as starbases for the purposes of the rules. Players should refer to the rules for alien derelicts

and use the set of tables included there to determine the guardian's build cost and tech level. Unlike alien derelicts there is always only a single guardian present in a protected system. This guardian must be defeated for the system can be safely colonized. Guardians cannot be captured and should a player succeed in capturing a guardian using Marines or Cyber Warfare technology the craft will simply explode.

Space Monster

This system is a breeding ground for some kind of hostile spacefaring organism that has been known to attack passing spacecraft. The space monster is considered to be a starship, but it is special in that it isn't assigned a tech level, nor is it designed using the standard unit construction rules. Instead, the space monster's combat statistics are derived from its home system's statistics as follows:

Defense: Carrying Capacity + 2

Attack Strength: RAW + 2

Point Defense: Biosphere + 2

These creatures heal over time, repairing 1 damage per turn during the Construction Phase. Undamaged space monsters redirect their damage repair capabilities towards reproductive activities. A new space monster is born once the total stored damage repair is equal to its Defense value. This offspring has the same base statistics as its parent and starts in a crippled state to represent its immature status. It will then start using its own repair capability to "heal" itself to full adulthood. These new space monsters are born in the Construction Phase after all combat operations for the turn have been resolved.

Space monsters are incredibly territorial and multiple monsters won't willingly share the same star system. The largest (highest Defense) monster in the system will chase the others away, forcing them to flee to an adjacent star system. Rogue space monsters that migrate to another star system will attack any ships or colonies in that system. This harassment continues until the system is scoured of all life, a larger monster chases the smaller one away, or the monster is killed.

Space monsters cannot be captured by Marines or Cyber Warfare technologies. Any "captured" space monsters are simply destroyed.

Spatial Anomaly

+2 Very High

Spatial anomalies are extraordinary phenomena that seem to defy the laws of physics as we know them. Very often these anomalies take the form of disruptions of the space/time continuum, effectively tears in the fabric of space itself that allow other realities (and this associated physical laws and properties) to bleed through into our own galaxy. Observatories can be established to monitor these anomalies and gather valuable information on the structure of the galaxy. This doubles the number of free tech points that utilized Research infrastructure in the system produces for its owner.

Splinter Colony

Explorers have discovered a long-lost splinter colony in this system that was founded by the crew of a generation ship that the discovering empire launched prior to the advent of faster-than-light travel. The colony's inhabitants are happy to have been rediscovered by their starfaring cousins and will automatically join their empire.

The first empire to discover a splinter colony receives a free colony in the affected system at no cost. Roll once on the Splinter Colony Table to establish the size of the splinter colony. Splinter colonies that are located in systems that have Biosphere values less than 3 are always Outposts with 0 Census and 2 Morale because they are incapable of supporting larger populations.

SPLINTER COLONY TABLE (2D6)

| Roll | Colony Size | Census | Morale | Infrast. |
|------------|--------------|--------|--------|----------|
| 4 or less | Outpost | 0 | 2 | 0 |
| 5-6 | Outpost | 1 | 2 | 2 |
| 7-8 | Settlement | 2 | 3 | 4 |
| 9-10 | Settlement | 3 | 4 | 6 |
| 11 or more | Minor Colony | 4 | 5 | 8 |

Modifiers:

-2 Very Low

-1 Low

+0 Moderate

+1 High

The splinter colony's tech level is 1D6 less than the empire's own tech level. Colony tech levels less than TL 0 indicate the colony's population has regressed to an Interplanetary tech level since making landfall in the system.

Splinter colonies start with a total number of economic points equal to five times their system income values to spend on military units. These units must have a tech level less than or equal to their own colony tech level. The discovering power takes ownership of these units during the Update Phase of the turn that the splinter colony is encountered, integrating them into its own armed forces.

Wormhole

A wormhole is a stable gateway through the fabric of space/time that connects two star systems together. Wormholes allow starships and flights to move between two connected systems at no movement cost, even if they are not equipped with FTL drives. Units can navigate a wormhole at any point during their movement, or it can even be their only movement action for the turn.

When a wormhole is first discovered, the discovering player or CM must locate the wormhole's destination system. The other wormhole terminus is placed in a system somewhere else on the map, preferably in an unexplored or uninhabited system. It's recommended that the other terminus be in a system that's at least 2D10 hexes away from the originating system when using a hex map.

When recording the wormhole trait for two systems in a matched pair players must remember to record the wormhole's destination system so that players will know where each wormhole leads. The easiest way to do this is to add the name of the destination planet in parenthesis after the *Wormhole* trait note (ex: "Wormhole (Procyon 2)").

3.2.8 STRATEGIC RESOURCES Δ

Strategic resources are rare substances that confer major advantages to the empires that control them. In popular science fiction, strategic resources often appear as types of unobtainium that are valuable either because they are very rare or impossible to

synthesize. Access to and control of these resources is usually a major concern in these milieus.

Strategic resources are broken down into eight different classifications: census, morale, economic, industrial, agricultural, scientific, intel, and special. Most strategic resources increase a system's effective utilized infrastructure values.

Empires gain access to a system's strategic resources by establishing a colony in the system or building a mining base there. This permanent presence is sufficient to allow the power to begin exploiting the resource. Access to a strategic is lost if the colony or mining base that was extracting it from a system is lost.

By default, a strategic resource's effects are always applied to the system in which they are located, however a player can choose to transport strategic resources from the system where they are located to any other system that can trace a trade route to that system. This allows empires to extract strategic resources from a system and then have another system benefit from the resource's stated effects. Players usually exercise this option to maximize the effectiveness of their strategic resources by applying the bonuses to their largest colonies, usually their homeworld.

Empires can also take advantage of the ability to relocate strategic resources by selling strategic resources to their trading partners. In this scenario two players would negotiate a special deal where the power with the strategic resource would agree to transport it to one of the buyer's systems in return for some form of material consideration — economic points, military support, etc.

While its usually better for an empire to utilize its strategic resources rather than sell them, there are situations where trading away resources might be the superior option. For example, the strategic resource might be located in a system that is too far away from any of the owner's major colonies that would stand to benefit the most from the strategic resource. Selling the resource might then be worth more than applying its effects to a smaller colony. Strategic resource trades can be broken like any other treaty, but a player must continue to supply strategic resources to a trade partner for as long as the special trade deal remains in place — even if the trade partner is no longer able to trace a trade route to the resource system or vice versa.

Population Resource

Many systems exhibit unique organic or biochemical properties that make them especially compatible with life. Population increase costs are halved in systems that contain a population resource (rounding fractional costs up). This makes it much cheaper for an empire to build up massive populations in these systems. A population resource halves the cost of population increases in its system (round fractional costs up).

Morale Resource

Morale resources have a calming effect on a system's inhabitants. The most common example is a chemical substance that acts like an aphrodisiac or has hallucinogenic properties. These substances tend to be highly-addictive, which contributes to their effectiveness at keeping a system's population content. Any time that a system with a morale resource gains Morale it receive an additional +1 Morale.

Economic Resource

Economic resources are valuable commodities that are in such constant demand that an empire can readily convert them cash. Systems that refine economic resources for commercial or industrial use receive a +100% bonus to their commerce values (round up).

Industrial Resource

This strategic resource indicates that a system possesses large quantities of easily accessible mineral deposits that are in high demand by planetary industry. An industrial resource increases a system's industrial capacity by +50% (round up).

Agricultural Resource

Agricultural resources are used to accelerate food production. This usually takes the form of a fertilizer or biological additive that encourages rapid cell growth in flora or fauna that receive long-term exposure to the resource. An agricultural resource increases a system's food production by +50% (round up).

Scientific Resource

Explorers sometimes discover strange mineral deposits in a star system that seems to defy scientific explanation. Studying these anomalous ore veins

can help to unlock new avenues of research and accelerate technological growth. A scientific resource increases a system's research capacity by +50% (round up).

Intel Resource

Intel resources come in many varied forms. They might be naturally occurring psychotropic substances that can't be synthesized that are extremely effective at breaking down enemy mental conditioning during interrogations, or they might be a special material that is integral to the production of personal invisibility screens. An intel resource increases a system's intel capacity by +50% (round up).

Trade Resource

Lucrative trade resources have few practical industrial applications but are still highly valued by the galactic community for their sheer rarity. The commercial infrastructure that is established to export the trade resource to other worlds can be used to extend an empire's existing trade routes into new systems. A trade resource increases a system's commerce range by +50% (round up).

Supply Resource

Supply resources are used to produce high-quality consumables for a nation's armed forces. The ease with which these resources are converted into supplies allows an empire to deliver a greater volume of supplies to more systems than it would otherwise be able to do by conventional means. A supply resource increases a system's supply range by +50% (round up).

Military Resource

Military resources represent special materials that can be used to build more effective military units. Each military resource provides a +25% bonus to a single unit statistic or special ability value (round up). Players must determine what kind of bonus a military resource confer when the strategic resource is first applied to a system during system generation. The name of the affected statistic is then included in parenthesis after the resource declaration. For example, a system that has *Military Resource (Attack Strength)* in its special notes field contains a military resource that gives units that are built with the resource a permanent +25% bonus to their Attack Strength values.

While bonuses to unit combat values (Defense, Attack Strength, Point Defense) are the most likely options for a military resource, players can also implement military resources that instead affect a unit's command rating or special abilities, such as FTL, Scout, or Assault.

RANDOM SYSTEM GENERATION

3.3 Jump Lanes

"Today's flight marks a critical turning point in the history of aerospace. We have redefined space travel as we know it."

- Burt Rutan

Star systems are connected to one another by a series of interstellar travel routes that are called jump lanes. Each star system can have up to six jump lanes connecting to it, and the number of lanes that a system has influences its strategic value. Starships and flights use jump lanes to travel from one star system to another during the Movement Phase of the campaign turn. Units can use either their own FTL drives to move across jump lanes (3.3.1 FTL Movement) or else move between systems that contain dedicated jump gate facilities (3.3.2 Non-FTL Movement).

Jump lanes serve the purpose of creating a network of artificial terrain on the campaign map that constrains movement along specific predefined paths. This produces strategic defensive chokepoints at various points on the map that players can fortify to protect their empires against invasion while preparing for their next wave of exploration and expansion. Empires are forced to seek out and secure these defensive positions or risk leaving their borders exposed to enemy attack.

But what does a jump lane really represent? Because of their abstract nature, jump lanes can be used to simulate everything from fixed hyperspace corridors, well-surveyed flight paths that have been pre-programmed into shipboard flight computers, or the shortest distances connecting two points in real space. This approach allows the same set of movement rules to be used in all campaigns regardless of the specific type of FTL travel that is

employed in each setting. This improves rules consistency and makes it so that players don't have to create special movement rules or exceptions for each form of FTL propulsion system they might expect to encounter. The assumption is that a ship with a warp drive and another with a folding drive might violate physics in different ways to achieve faster-than-light flight, but they should be subject to the same basic movement limitations for the sake of making the game easier to play.

Under the default system generation rules, massive stars usually have more jump lanes connecting to them than smaller stars do, but every star system has at least one jump lane connecting to it. These same systems also tend to have fewer system resources, which creates an environment where the systems with the most jump lanes and the greatest strategic value also have the least intrinsic material value. Players have the option of divorcing the correlation between stellar luminosity class from jump lane concentration in their campaigns if they believe that this isn't applicable to their particular setting.

Jump lanes facilitate unit movement from one star system to another. Movement orders are recorded during the Turn Orders Phase and then performed during the Movement Phase of the same turn. Any starship or flight that is equipped with a FTL drive can use jump lanes to perform jump lane movement, but non-FTL units can only move between systems that contain jump gates.

3.3.1 FTL MOVEMENT

Starships and flights that have the FTL special ability can use jump lanes to move from one system to another. The maximum number of jump lanes that a unit can traverse during a single Movement Phase is equal to its FTL value. A FTL 4 unit could therefore cross four jump lanes per turn while a FTL 2 unit could only cross two jump lanes per turn.

Units that are capable of performing multiple jumps lper turn receive several marked advantages over those that can't. From a strategic standpoint, they are more versatile and can be quickly redeployed between a player's systems to react to changing wartime conditions. They are also very good at performing basic reconnaissance and responding to enemy incursions as they happen.

Units make space *and* ground detection rolls for every system that they visit during their movement (see X.X Detection). This allows them to try to ascertain the size and disposition of opposing forces in these systems even if they choose to decide to keep moving after unexpectedly encountering an opposing force in one of the system they were ordered to visit this turn.

3.3.2 NON-FTL MOVEMENT

Non-FTL starships and flights can't travel across jump lanes on their own and must rely on jump gates to move from one system to another. Jump gates are special facilities that allow spacecraft to traverse jump lanes as if they were FTL 1 units as long as both systems contain jump gates. This limits non-FTL units to a maximum of one jump lane movement per turn, but it at least lets them to move between systems — a feat they would otherwise be unable to achieve due to their lack of FTL.

3.3.3 FLEET MOVEMENT

Fleets comprised of multiple starships and flights can be issued movement orders and perform movement as a single entity. Fleets always have a strategic speed equal to their lowest FTL value. Units that are being based aboard other craft in the fleet have an effective FTL value equal to their transport's in these instances and don't affect their fleet's strategic speed.

Fleets that contain one or more non-FTL units that aren't being transported aboard other units are also restricted to using jump gates and relays to move between systems until the offending non-FTL are removed from the fleet.

Example: A fleet consists of one battleship (FTL 2), three light carriers (FTL 3) carrying two flights each (FTL 0), five frigates (FTL 3), and two military freighters (FTL 1). The flights based aboard the trio of light carriers have the lowest FTL value in the fleet, however they are being transported by other units and don't impact the fleet's strategic speed. The slowest non-based units in the fleet are the military freighters, which gives the fleet an effective FTL value of 1 when performing jump lane movement.

Should the fleet's owner choose to remove the two freighters from this fleet, its strategic speed would increase to FTL 2 because the battleship is the next slowest unit and it is FTL 2.

3.3.4 CONTESTED MOVEMENT

Contested movement occurs when units that have been ordered to perform multiple jump lane moves during a single Movement Phase pass through a system that contains potentially hostile fleets (i.e., the opposing force is owned by an empire that the moving power hasn't signed a non-aggression treaty with). Contested movement is resolved by having each affected fleet perform one jump at a time. Each of these jumps is a movement impulse. Space and ground detection rolls (see X.X Detection) are made after each impulse. Players receive the results of their forces' detection rolls at the end of each movement impulse. They can then use this detection information to decide whether or not to continue moving a fleet as previously ordered or else cancel its remaining movement orders and have it remain in the current system for the remainder of the campaign turn.

Empires can only make one detection roll of each type (space and ground) per system every campaign turn and the results of these detection rolls carry through to the Encounters Phase turn and should be recorded for later reference. In other words, if one of a player's fleets rolls *Limited Detection* for space detection and *Normal Detection* for ground detection in a system for one fleet during one movement impulse any of its forces that move into that same system during a later step of contested movement or remain in the system through the Encounters Phase will also be bound to those detection results — *the player doesn't make separate detection rolls for each of his fleets that move into the system this turn!*

When attempting to move through a system that contains one or more enemy starships or flights, a fleet must either cancel its remaining movement or else leave behind a force whose total Command Cost is at least half the Command Cost of enemy starships or flights (but not starbases) that the it has detected in the system (round up). These units that the player leaves behind in the system are used to cover its retreat as it moves on to the next system listed in its movement orders. This leaves the fleet's owner in the unenviable position of dividing his fleet's strength in an attempt to push through the enemy lines and continue its movement. Maintaining maximum force concentration in the main fleet leaves it in a better combat position but the token force left behind is likely to get

slaughtered by the enemy. On the flip side, leaving a larger force to cover the main fleet's movement increases its survival odds at the expense of blunting the primary force's firepower as it moves on to the next system.

An exception to the above occurs when a fleet moves into a system and a system and rolls a *No Detection* result for its space combat detection roll. This poor detection result indicates that the fleet was completely unaware of the enemy forces in the system. This of course means that the fleet's owner doesn't have any indication of how many units its opponents have in the system. Enemy forces in the system have the option of either allowing the fleet to continue moving through the system unmolested, but they can also choose to completely block the fleet's movement, trapping them in the system for the remainder of the turn.

Example: A 32 CC fleet has been ordered to move into three systems this turn (A, B, and C). The fleet first moves into A and makes its space and ground detection rolls. System A contains 5 CC of enemy non-starbase space combat units. To continue moving the fleet would have to leave behind at least 3 CC of space combat units. The player decides to leave 8 CC of space combat units behind in system A, and the remaining 24 CC of units in the fleet move on to system B.

The fleet makes another series of detection rolls upon arriving in System B. There are two enemy fleets in this system, one with a construction cost of 12 CC and one with a construction cost of 9 CC. This produces a total of 21 CC of enemy ships in the system. The player must leave at least 12 CC of space combat units behind in System B if it hopes to move on to system C. Doing so would split his fleet into two 12 CC segments, however, and there's a good chance that a larger enemy fleet might be waiting in System C. The player decides to cancel his fleet's remaining movement and keep all 24 CC of his units in System B to participate in an encounter there this turn.

3.3.5 CONCEALED MOVEMENT

Units with the Stealth special ability are capable of moving through star systems without being detected. A fleet can only perform concealed movement if each of its units has a Stealth value greater than zero. This indicates that all of the units in the fleet possess some form of stealth technology that they can use to mask their presence during movement. Fleets can be ordered to perform concealed movement during the Movement Phase as long as this condition is met. Units such as flights

or ground forces that are being transported by other units in the fleet don't affect its ability to perform concealed movement, but they also don't contribute their Stealth values towards their fleet's total, either.

A special detection roll is required whenever a fleet that is performing concealed movement enters a system that contains units owned by another power. The percentage chance that the fleet successfully concealed its movement into the system is equal to its total Stealth value divided by the sum of its Command Cost plus the opponent's total Scout value. Each opposing force in the system makes a detection roll against the fleet, however military treaty partners make a single roll using their combined Scout value. This usually improves their chances of discovering hidden movement in the system.

A defender's planetary scanners provide an additional line of defense against concealed movement. A player adds his colony's utilized Intel value to his force's Scout total during concealed movement attempts. This makes it harder for an empire to move into or through a system that contains a major colony without their presence being detected by the system's owner.

Nebulae interfere with long range sensors and make it harder for Scouts to detect concealed movement. An empire's total Scout value is halved in nebula systems for the purposes of concealed movement (round down).

Any fleet whose total Stealth value is greater than its own Command Cost can therefore move through enemy territory with no chance of detection as long as an opponent doesn't have any Scout craft or Intel rich colonies available to stand guard against them.

An opposing force can't contest the movement of a fleet that successfully performed concealed movement in their system this turn. Fleets that are detected by an opponent while attempting concealed movement however are still subject to the standard contested movement rules. Task forces that include units that failed their concealed movement attempts in their current system shall receive a -1 penalty to their surprise roll during the first space combat scenario they fight in that system during the Encounters Phase this turn.

Instead of continuing its movement, a fleet that passed its concealment roll can elect to cancel its remaining movement orders and stay in the system

so that it can generate encounters against an enemy during the Encounters Phase. The fleet receives a +4 surprise bonus in its first space combat scenario that it fights with an opponent that failed to detect it. That same opponent receives a -4 surprise penalty in that scenario. These modifiers demonstrate that the opponent has been taken completely off guard by the sudden attack and is unprepared for combat. This gives the concealed fleet an opportunity to massacre its enemies before they have a chance to reach battlestations.

Example: A fleet consisting of three cruisers (3 CC, 2 Stealth) and five frigates (1 CC, 3 Stealth) are attempting to perform concealed movement in a system where its opponent has a total of 12 Scout value and a colony with 2 Utilized Intel. The fleet's chances of successfully completing its concealed movement is $9 \text{ Stealth} \div (14 \text{ Command Cost} + 12 \text{ Scout} + 2 \text{ Utilized Intel}) = 32\%$. A roll of '27' on a D100 indicates that the opponent was unable to detect the fleet. The concealed fleet can either continue its movement or else stay in the system and receive a bonus to its surprise.

3.3.6 JUMP LANE ENCOUNTERS

Opposing fleets that try to traverse the same jump lane during the Movement Phase generate a jump lane encounter against each others forces. This typically occurs when two fleets that are resolving contested movement move in opposite directions across the same jump lane during the same contested movement impulse. Jump lane encounters are resolved during the Movement Phase immediately after two fleets meet in a jump lane using the standard encounter resolution rules with the exception that players can only generate X.X Hyperspace Scenarios against their opponents. Hyperspace scenarios are extremely unpredictable because both sides in the battle are subject to persistent combat penalties that make it difficult for either side to gain a definitive advantage.

Rarely, opposing fleets may generate a jump lane encounter in which each of the fleets avoid enemy detection by passing their concealed movement attempts. When this happens neither of the participating fleets even noticed each other as they moved across the jump lane. No hyperspace scenarios are generated during such an encounter, and movement progresses as if the encounter never actually happened.

After resolving a jump lane encounter, each fleet has the option to either continue moving on to its original destination or else fall back to the last system they visited. A fleet must do one or the other, it can't end the Movement Phase in the middle of a jump lane. Fleets that choose to move back to their system of origin cancel their remaining movement orders for the turn.

3.3.7 JUMP LANE CLASSES Δ

Jump lanes can be assigned jump lane classes that vary the amount of FTL value a unit must spend to move across them. This optional rule introduces four different jump lane classes — restricted, minor, normal, and major.

Restricted lanes are tenuous routes that have been only tentatively mapped by previous explorers and are hardly worthy of being called jump lanes. The adventurers that discovered the lane encountered various navigational hazards along its path that prevented them from completing a more comprehensive survey, which is part of the reason it's so difficult to cross a restricted lane.

Minor lanes are infrequently-traveled jump lanes that suffer from a lack of reliable navigation data. These lanes are often found on the frontier where no one has deemed it necessary to invest the time and resources to perform more detailed surveys of the lane.

Normal lanes are dependable jump lanes that support a consistent level of both civilian and military traffic. The quality of maps available for these lanes ensures travelers a safe and uneventful journey. As an empire expands, it is common for it to upgrade most of its internal jump lanes to this class.

Major lanes are heavily-traveled jump lanes that have been thoroughly mapped and provide the quickest, most reliable movement between galactic destinations. It is not uncommon for all of an empire's major colonies to be connected together via a network of major lanes.

A jump lane's class is assigned by rolling on the Jump Lane Class Table during map setup. Jump lanes that are supposed to be unexplored at the start of the game defer their rolls on the Jump Lane Class Table until after they are successfully explored (see X.X Exploration). When using real world star data, players can alternatively choose to use the

distances between stars to determine the effective jump lane class of the jump lanes that connect them.

JUMP LANE CLASS TABLE (D10)

| Roll | Jump Lane Class | FTL Cost |
|------|-----------------|----------|
| 1-4 | Restricted | 4 |
| 5-7 | Minor | 2 |
| 8-9 | Normal | 1 |
| 10 | Major | 1/2 |

Jump Lane Movement Costs

Each jump lane class is assigned its own movement cost as shown on the accompanying chart. The maximum movement cost of jump lanes that a fleet can traverse each campaign turn is equal to its FTL value. However, an FTL-capable unit can always move across at least one jump lane per turn regardless of the jump lane's class.

Jump Lane Class Upgrades

Jump lanes can be upgraded by financing a series of costly navigational surveys. These surveys pay for more comprehensive mapping of a jump lane and the placement of additional navigation buoys along its length to help guide spacecraft safely from one system to another.

The cost to upgrade a jump lane depends on its current jump lane class, as shown on the following chart. An empire can't upgrade jump lanes that connect to systems that are owned by other powers unless it has signed a border treaty with them. Jump lane upgrades take effect during the Colony Phase.

**JUMP LANE CLASS
UPGRADE COST CHART**

| Current Class | New Class | Upgrade Cost |
|---------------|-----------|--------------|
| Restricted | Minor | 50 |
| Minor | Normal | 100 |
| Normal | Major | 200 |

Jump Lane Class Downgrades

Just as jump lanes can be upgraded through careful mapping and the placement of navigation aids, they

can also be downgraded by removing buoys, deleting map data from civilian and military navigation cores, and/or placing obstacles along previously-mapped safe routes. Any of these methods can be used to effectively reduce a jump lane's class.

The cost to downgrade a jump lane is determined by its current jump lane class, as shown on the chart below. An empire can't downgrade jump lanes that connect to systems that are owned by other powers unless it has signed a border treaty with them. Jump lane downgrade take effect during the Colony Phase.

**JUMP LANE CLASS
DOWNGRADE COST CHART**

| Current Class | New Class | Upgrade Cost |
|---------------|------------|--------------|
| Major | Normal | 100 |
| Normal | Minor | 50 |
| Minor | Restricted | 25 |

3.3.8 JUMP LANE ALTERNATIVES



While jump lanes are excellent tools for constraining movement and creating artificial terrain on a campaign map there are some sci-fi settings where they may not be thematically appropriate. Perhaps more importantly, some players also detest the concept of jump lanes *because* they create artificial terrain and would prefer to use alternate movement options that better capture the feeling of FTL travel in their preferred campaign setting. The following are a few alternatives that players can use if they don't want to use jump lanes in their campaigns.

Freeform Hex Maps

An easy option for players that want to do away with jump lanes is to continue using a hex map to track system locations as per the standard campaign system rules but allow units to move between adjacent systems on the map as if they were connected by jump lanes. This constrains movement to a two-dimensional surface, which may not be optimal for the type of campaign environment you're trying to simulate, but it is very effective at

increasing the number of movement options that a player has available. Most importantly, it eliminates the natural chokepoints on the map that jump lanes create and makes imperial borders more fluid.

Distance Based Movement

Another option is to use the distance between two systems on a campaign map to determine how long a ship has to be in transit to move from one system to the other. The recommended number of Movement Phases required to travel between two systems is equal to their light year distance divided by 5 (round fractions up). A FTL 1 starship moving from Sol to Alpha Centauri (4.4 ly) would make the journey in 1 turn, but that same ship would need 3 turns to move from Sol to Epsilon Eridani (10.5 ly). Note that a faster starship with FTL 2 could cover that distance twice as fast, and it could make the trip from Sol to Epsilon Eridani in just 2 turns.

An advantage of this jump lane alternative is that players can use online star catalogs or mapping software like *Celestia* to calculate the distance between two stars. Meanwhile, players that are using flat, two-dimension maps can select a scale for their map and then use a grid or ruler to measure between points on the map to determine the distances between systems. Enterprising players can easily add a z-axis to the flat map to give it three-dimensional depth, too, and then use math to calculate the distance between any two systems.

3.4 Colonies

"Since, in the long run, every planetary society will be endangered by impacts from space, every surviving civilization is obliged to become spacefaring — not because of exploratory or romantic zeal, but for the most practical reason imaginable: staying alive."

- Carl Sagan, *Pale Blue Dot*

Colonies are the source of an empire's political, economic, and industrial power. A colony's population is used to exploit local natural resources, produce finished goods, raise and harvest native food sources, pursue technological research, conduct intelligence missions, and provide logistical support for nearby friendly military and civilian assets.

3.4.1 COLONIZATION

Empires establish new colonies by dispatching colony missions to nearby star systems. Colony missions can only colonize star systems that are located within the commerce range of an empire's colonies, and then only if the system has a Carrying Capacity greater than zero. These systems don't contain any inhabitable planets or other system bodies and therefore can't be colonized by any power. Empires can only colonize uninhabited systems unless the 5.1.4 Multi-Colony Systems optional rule is being used in your campaign.

Colony missions are organized and launched from an empire's capital systems. The cost to establish a new colony is 40 economic points plus an additional 10 economic points per jump that the colony fleet must travel to get to its destination. This expenditure covers the costs associated with recruiting and training colonists, manufacturing prefabricated colony structures, and outfitting a colony expedition to the destination system. Because colony missions originates at a capital system, an empire can't purchase new colonies if they don't have an imperial or sector capital.

Colony missions can't move into or through contested systems due to the threat of violence, and a player may have to choose a costlier, more circuitous route to reach a destination system. Any colony mission that can't reach its target without entering a contested system is automatically cancelled and its colonization cost refunded. The player can attempt the colony mission on a future turn or else quick a different route for the colony fleet to take that avoids the contested systems.

New colonies are placed in systems during the Colony Phase of the turn that they were purchased. They start with 0 Census, 2 Morale, and a colony tech level equal to the current tech level of the capital that launched the colony mission. Colonies don't start with any infrastructure in place unless there is preexisting infrastructure already in the system prior to colonization. New colonies can't perform any population or infrastructure increases/decreases on the same turn that they are colonized.

Pre-interstellar empires can only establish colonies in other systems if they have signed a trade treaty with an interstellar power. Even then, these powers are restricted to only being able to colonize systems that are located within the commerce range of its trade

partner's colonies. This reflects that the pre-interstellar empire is contracting with the other power's civilian shipping to transport its colonists to the destination system.

3.4.2 POPULATION

The size and happiness of a system's population are indicated by its Census and Morale values, respectively. These population values are improved by population increases or reduced by population decreases. A colony can only perform one population increase or decrease per turn, and then only if it isn't in a state of rebellion or located in a contested star system.

Colonies with large populations are inherently more productive and can operate more infrastructure. This makes them imminently more valuable targets for an enemy that is seeking to capture or destroy your empire's means of production.

Population points can be spent to increase a colony's population. The cost to purchase a population increase in a system is equal to 10 times the system's new Census value and increases its Census and Morale values by 1, to a maximum value equal to the system's Carrying Capacity. Population increases take effect during the Colony Phase.

Population increase costs are higher for colonies that have pre-interstellar tech levels to represent that these worlds haven't advanced the agricultural sciences to the point to be able to support large planetary populations. These increased population point costs force low tech population to grow more slowly.

POPULATION INCREASE MODIFIER CHART

| Colony Tech Level | Population Increase Cost |
|-------------------|--------------------------|
| Pre-Industrial | 50 x New Census |
| Industrial | 40 x New Census |
| Information | 30 x New Census |
| Interplanetary | 20 x New Census |
| Interstellar | 10 x New Census |

Example: A system has 4 Census, 5 Morale, and is TL 5 (Interstellar). The cost to purchase a population

increase in this system is 50 population points (10 x 5 Census). This increase would give the colony 5 Census and 6 Morale.

Players may sometimes want to actually reduce the size of populations at their colony worlds. This usually happens during times of war when a colony's owner starts evacuating a system's population ahead of the enemy invasion so that as many inhabitants as possible can escape back to other worlds in its empire. A population decrease reduces a system's Census and Morale values by 1, to a minimum value of 0, and the colony's owner receives a number of population points equal to 5 times the system's original Census value.

Example: An inhabited system has 4 Census and 5 Morale. Performing a population decrease in this system would give its owner 20 population points and reduce the system to 3 Census and 4 Morale.

Census

Census is an abstraction of the size and density of a colony's civilian population. Colonies can range in size from the smallest civilian settlements or military outposts to heavily-populated core worlds that are inhabited by billions of intelligent beings. Colonies with high Census values are more populous and have higher population densities. Conversely, lower Census values indicate that a colony's population is not only smaller but it is also more dispersed with fewer major population centers.

Morale

Morale measures the loyalty of a system's population. Unhappy colonies are less productive and extreme discontent can even lead to open rebellion! Players must manage their colonies' Morale values to keep the peace and avoid major economic disruptions. Empires that suffer from widespread unrest are politically unstable and are forced to spend valuable resources putting down rebel forces and restoring order. In severe cases, an empire can even descend into a full-blown civil war.

Population Increase

Population points can be spent to increase a colony's population. The cost to purchase a population increase in a system is equal to 10 times the system's new Census value and increases its Census and Morale values by 1, to a maximum value equal to the system's Carrying Capacity. Population increases take effect during the Colony Phase.

Population increase costs are higher for colonies that have pre-interstellar tech levels to represent that these worlds haven't advanced the agricultural sciences to the point to be able to support large planetary populations. These increased population point costs force low tech population to grow more slowly.

POPULATION INCREASE MODIFIER CHART

| Tech Level | Population Increase Modifier |
|----------------|------------------------------|
| Pre-Industrial | 50 x New Census |
| Industrial | 40 x New Census |
| Information | 30 x New Census |
| Interplanetary | 20 x New Census |
| Interstellar | 10 x New Census |

Example: An inhabited system has 4 Census, 5 Morale, and is TL 5 (Interstellar). It would cost a player 50 population points to purchase a population increase at the colony. The colony would have 5 Census and 6 Morale after the population increase is applied to it during the Colony Phase that turn.

If this system from had an Information tech level instead, its population increase cost would be increased to 150 population points.

Population Decrease

Players may sometimes want to actually reduce the size of populations at their colony worlds. This usually happens during times of war when a colony's owner starts evacuating a system's population ahead of the enemy invasion so that as many inhabitants as possible can escape back to other worlds in its empire. A population decrease reduces a system's Census and Morale values by 1, to a minimum value of 0, and the colony's owner receives a number of population points equal to 5 times the system's original Census value.

Example: An inhabited system has 4 Census and 5 Morale. Performing a population decrease in this system would give its owner 20 population points and reduce the system to 3 Census and 4 Morale.

Depopulation

A colony is lost if its Census value is ever reduced below zero. All of the colony's inhabitants have either fled the system or been killed, depending on the circumstances that caused the Census loss.

Remove the colony from the system and reduce its Census and Morale values to zero. The system's infrastructure values are unaffected by the colony's destruction and can be used by future colonists after a new colony is established in the system.

3.4.3 INFRASTRUCTURE

A colony's capabilities are largely defined by its infrastructure. Each system has five infrastructure values: Economy, Industry, Agriculture, Research, and Intel. While each of these infrastructure types operate differently they are all subject to the same basic set of rules. They each require Census to operate them, can be purchased using economic points (or torn down to recoup some of their costs), have a maximum value equal to a system's Carrying Capacity, and can be disrupted by the presence of enemy ground forces.

An empire can only build (infrastructure increase) or remove (infrastructure decrease) points of infrastructure from systems that it controls, and then only if the system isn't in a state of rebellion or currently contested by another power.

Economy

Economy measures the strength of a system's business sector, including its mining, consumer manufacturing, service, and high-tech industries. These enterprises earn an empire economic points that it can spend to fund colonization, military construction, research and development, and all of the other activities that are required to maintain normal government operations. An economic point is the basic unit of currency in this game and it represents a fixed amount of buying power that can be universally exchanged for goods and services. Systems with high Economy values generate the most wealth for their owners and are better positioned to serve as regional centers of trade and commerce.

Industry

Industry encompasses all of a system's military fabrication and manufacturing capabilities. This infrastructure is used both to build and repair military units and produce supplies that are used to keep nearby fleets and armies in supply.

Agriculture

Research

Research infrastructure represent the various laboratories, universities, skunkworks, and other research institutions that a colony has available that its owner can use to carry out research and development (R&D). Colonies produce a number of free tech points each turn equal to their utilized Research values.

Infrastructure Increase

System infrastructure values can be investing economic points into infrastructure development. The cost to increase one of a system's infrastructure values by 1 is equal to 10 times the system's new infrastructure value. An infrastructure value can't be increased if it's already equal to its system's Carrying Capacity.

Example: An inhabited system has 5 Research. It would cost 60 economic points to increase this infrastructure value to 6.

Infrastructure Decrease

An empire can sell off infrastructure at its colonies in return for cold, hard cash. Liquidating a point of infrastructure reduces the specified infrastructure value by 1 and provides a player with a number of economic points equal to 5 times the colony's original infrastructure value. The economic points earned from an infrastructure decrease are recorded as miscellaneous income for the turn.

Example: A player is removing Industry from a system with 6 Industry. This infrastructure decrease reduces the system to 5 Industry and gives the player's empire 30 economic points.

Infrastructure Utilization

Population is required to operate a system's infrastructure in order for it to provide any benefit. Each Census can utilize one point of each type of system infrastructure. A system's utilized infrastructure for each type of infrastructure is then equal to the lower of its Census or infrastructure values.

Systems that are experiencing unrest or rebellion are subject to infrastructure utilization penalties (see 5.5.1 Morale States). A colony's utilized infrastructure values are halved when it is in a state of unrest

(round up) and reduced to zero when it is in a state of rebellion.

Example: A system has 3 Census, 2 Morale, 4 Economy, 3 Industry, and 2 Agriculture. The system is in good order. The system's 3 Census can operate three of each type of infrastructure present in the system (Economy, Industry, and Agriculture, in this example). Its Economy value exceeds this value, however, and the colony can only utilize 3 Economy in the system. The fourth point remains unused and provides no benefit to the player. The system's utilized infrastructure values are as follows: 3 Economy, 3 Industry, 2 Agriculture.

If this system's Morale dropped to 1, it would be in a state of unrest and all of its utilized infrastructure values would be halved (rounding up). This reduces the system's utilized infrastructure values to 2 Economy, 2 Industry, and 1 Agriculture.

Infrastructure Disruption

Enemy ground forces disrupt the normal operations of a system's infrastructure whenever the total command cost of enemy troops on the ground in the system is greater than the command cost of friendly ground forces defending the system. The disruption reduces the system's utilized infrastructure values to half that of normal (round fractions up). This effect is cumulative with the effects of being in a state of unrest, and colonies that are affected by both conditions reduce their utilized infrastructure values to one-quarter of normal (round up).

Example: A system has 4 CC of defending ground forces, but the enemy has landed 7 CC of its own troops in the system this turn. The system's infrastructure is now disrupted. The colony was utilizing 5 Agriculture before the disruption, but this is now reduced to 3 utilized Agriculture. If the colony was in a state of unrest, it would instead be reduced to 2 utilized Agriculture.

3.4.7 COLONY SIZE

Colony size describes how large a colony is based on its total Census. More important colonies always have higher Census values because Census is required to utilize infrastructure and make a colony productive.

COLONY IMPORTANCE CHART

| Census | Colony Size |
|--------|-------------|
| 0-1 | Outpost |

| | |
|-----------|--------------|
| 2-3 | Settlement |
| 4-5 | Minor Colony |
| 6-7 | Major Colony |
| 8 or more | Core World |

Outpost

Settlement

Minor Colony

Major Colony

Core World

Core worlds are the oldest, richest, and most densely populated colonies in the galaxy. These colonies are so named because they are usually found at the center ("core") of an empire's sphere of influence. Uneven colonization efforts do sometimes lead to the development of core worlds on an empire's border or high frontier, in which cases these colonies usually serve as sector capitals to extend imperial influence into the untamed frontier.

A colony must have a Census value of 8+ to be considered a core world. Colonies with this level of population typically are quite large, self-sufficient, and capable of making significant material contributions to their empires.

3.4.8 PLANETARY BASING

An empire can base atmospheric flights at planetary airfields at its colony worlds. Each colony has a flight basing capacity equal to its system's Carrying Capacity times Census. Flights based from planetary sites are regularly sent out to perform system patrols and can be included in space combat scenarios even if there aren't any carriers present to base them. Similarly, ground-based atmospheric flights can be sent out to participate in ground combat scenarios where they provide air support for friendly ground forces.

Fighter Garrison facilities can be used to expand a system's basing capacity. A Fighter Garrison

increases a system's planetary capacity by an amount equal to its Carrying Capacity and allows friendly flights to be based in uninhabited systems, too. Non-atmospheric flights can't be based at an owner's colonies unless a system has a Fighter Garrison. They can still be stored at a colony as cargo, however, they just can't be launched to protect the system in case of attack.

Flights that aren't based by a colony or carrier in a system can't attack and are instead crated and stored as cargo until such time as they are transferred aboard a carrier, activated into planetary basing, or embarked aboard a cargo ship for transport to another system. Any flights that are being based or stored as cargo at a colony that is conquered by another power are automatically captured and become the property of the invading power. They cannot use these units offensively until they refit them, however.

3.4.9 MORALE STATES

Colonies can exist in one of three different morale states, each representing a different level of support for the colony's owner. A colony may be perfectly happy with the current political situation (good order), starting to challenge imperial authority (unrest), or actively attempting an insurrection (rebellion). Colonies that are in good order function normally, but those that are in a state of unrest or rebellion are subject to penalties that impact the efficiency of their local infrastructure.

Good Order

Colonies are in good order when their Morale values are greater than half their Census. Good order colonists are contented, industrious, and they don't suffer from any special penalties. Players must try to keep their colonies in a state of good order if they want to maintain maximum production.

Unrest

Colonies are in a state of unrest when their Morale values are less than or equal to half their Census. Colonies experiencing unrest are gripped by a deep malaise that can manifest itself as labor stoppages, anti-government protests, and rioting. A colony's utilized infrastructure values are halved when it is in a state of unrest (round fractional infrastructure values up).

Example: A colony that is utilizing 5 Economy has its utilized Economy value reduced to 3 when it is in a state of unrest.

Rebellion

Colonies that have 0 Morale are in a state of open rebellion. All of a rebel colony's utilized infrastructure values are reduced to zero while it is in a state of rebellion. The owner can't purchase population or infrastructure at the colony while it's in rebellion, nor can it purchase new military units there. Any units that were under construction at the colony when it went into rebellion don't advance their build times during the Construction Phase. Construction will only resume once the rebellion is over.

3.4.10 COLONY LOYALTY

A colony's loyalty is constantly being challenged by campaign events. Loyalty checks are performed during the Morale Phase to see if the colony's Morale has changed that turn. Roll a D10 for each colony. Good order colonies lose 1 Morale if they roll a '1', colonies in unrest lose 1 Morale if they roll a '1' or '2', and colonies in rebellion lose 1 Morale if they roll a '1', '2', or '3'. A colony gains 1 Morale if it rolls a '10' on its loyalty check regardless of its current morale state.

3.4.11 BLOCKADES

Fleets can establish military blockades in enemy systems to cutoff outside aid to opposing units and colonies that are trapped within the blockade. Blockades can only be established when an attacking fleet has a total command cost greater than or equal to twice than the command cost of the defender's own space combat forces. Defenders receive a bonus to their total command cost equal to the total Blockade Runner value in their fleet. This test is used to determine whether or not an empire has enough units in the system to enforce a blockade. Only inhabited systems can be blockaded.

Colonies that are trapped under an enemy blockade are subject to a number of special rules that limit what they can do:

- An empire can't increase or decrease population or infrastructure at blockaded colonies, nor can it purchase new facilities in the system.

- Blockaded colonies receive a -1 penalty to their loyalty checks to represent that their citizens are being panicked by the blockade.
- Its economic capacity is disrupted, which reduces its colony income and trade value to zero. Its owner won't earn any economic points from it while it's blockaded, nor will any trade partners be able to earn income from trading in the system.
- The colony's industrial capacity is unaffected by the blockade, but the maximum construction cost of purchases that can be made there each turn is equal to the colony's normal economic capacity. In other words, while the colony can't generate income for its owner, it can still spend the economic points it would normally produce to feed its local industry.
- A blockaded colony can't trace supply to friendly units in other nearby systems regardless of its current supply range. Colonies that have a supply range of 2 or less have an effective supply range of 0 when blockaded, while those with supply range of 3 or higher have an effective supply range of 0*. The asterisk denotes that the blockaded colony can still resupply friendly units in its own system.
- Food production at a blockaded system is reduced to zero, but its owner also doesn't have to expend food to feed its Census, either. The colony won't experience starvation as long as its agriculture capacity is greater than or equal to 3 x Census. Otherwise, the colony will be forced to roll for starvation each turn that it is blockaded (see X.X Starvation).
- Research and Intel infrastructure can't be utilized when a colony is blockaded. Scientific work is suspended during the emergency, and the colony's spies are too busy trying to coordinate defensive actions and can't escape the colony to sustain any off world operations.

None of a defender's starships or flights are allowed to leave a system while its blockaded. They must remain in the blockaded system until the blockade is lifted or they are destroyed.

A defender has two options to end a blockade. The first is to wait until friendly reinforcements can arrive in the system. This increases the total Command Cost of space combat units the defender has in its system and can disrupt the enemy blockade. The second option is to attack the blockading fleet directly using an Interception or Deep Space scenario. These breakout scenarios pit the embattled defenders against the numerically-superior blockaders. A blockading force can't refuse these scenarios without retreating from the system and abandoning their blockade.

Defenders that survive a breakout scenario have the option of retreating from the system at the end of the encounter. As with normal retreats, defenders that choose to retreat are required to move out of the system during the Movement Phase of the following turn.

Meanwhile, the only space combat scenario that a blockading force can generate against the opponent he's blockading is a Defensive scenario. This represents that the blockading force is effectively pinning up the defenders and the only way to force a confrontation is by launching a direct assault on the defender's colony.

Blockades are automatically established at the start of the Supply Phase whenever an empire has sufficient Command Cost of space combat units in an inhabited enemy system. Similarly, blockades are automatically lifted if a player no longer has enough units left in a system to enforce them. These effects take place before units check their supply states. This can place blockaded units that were previously out of supply back in supply, preventing them from receiving additional OSL.

3.4.12 REBELLIONS

A colony descends into rebellion when its Morale value reaches zero. This precipitous loss of support for the ruling regime prompts a complete breakdown of local governance as armed rebel militias form to seize control of the colony. Rebel colonies are treated as if they are under a X.X blockade for as long as they are in rebellion.

The total cost of rebel forces that appear at a colony when it falls into rebellion is calculated by rolling a D6 die and multiplying the result times the colony's Census value. These economic points are spent to

purchase ground forces that are then placed in the system to represent the rebel militia forces. The rebel have access to any of the ground forces that appear on the colony owner's force list that have a tech level less than or equal to the colony's tech level.

Rebel forces are reinforced every time a colony that's in rebellion takes an additional Morale loss. The rebels gain an additional D6 times Census in economic points to spend on additional rebel ground forces.

Rebels don't spend economic points to maintain their forces. Instead, the local population supports the insurgents by providing them with needed supplies to keep them fighting for as long as the colony is at 0 Morale. The maximum Command Cost of ground forces that a rebel colony can resupply in this manner is equal to its Census value. For example, a 4 Census colony could supply 4 CC of rebel ground forces. Eight 1/2 CC rebel ground forces could conduct guerilla warfare in the system without any ill effects. Any ground forces beyond this Command Cost limit experience the effects of being out of supply normally. This leads to rebel forces suffering higher attrition rates than conventional military forces would in a similar situation and is somewhat representative of the poorer training and unit cohesion that these ad hoc rebel forces must struggle to overcome.

Rebellions can be quashed by increasing a system's Morale to a value greater than zero and eliminating all of the rebel forces operating in the system. This breaks the back of the resistance and ends the immediate threat to the colony's stability, but there's nothing stopping the colony from partisans reigniting the rebellion should Morale drop to zero again. These former rebel colonies are considered to be conquered colonies and are subject to the penalties that entails. This represents that while the system's loyalty has been restored the population at large is still generally hostile to the occupying force.

Rebel colonies become independent if there aren't any loyalist ground forces deployed to their systems during the Morale Phase. This indicates that all of the loyalist troops have either been killed, disbanded, or retreated from the system. Loyalist ships and troops might still be waiting in orbit but without forces on the ground there's no way for them to contest the rebel's control of the system.

After any successful rebellion, the players must ask themselves a few questions to decide how the rebels are going to proceed now that the rebellion is over. First, does the colony produce enough food to fall of its Census? A colony can't remain independent for long if its people are slowly starving to death. Rebel colonies that don't produce enough food will be forced to align themselves with another power that can meet its food requirements and petition them for swift annexation before it's too late.

Another question to ask is whether or not the colony is large enough to support a viable economy? More specifically, can the colony generate enough income each turn to pay to maintain a military force and still give it enough economic points left over to make a meaningful contribution to the campaign? Empires with very low incomes and limited infrastructure aren't much fun to interact with or maintain because their impact on the game is so minimal. There is a point at which a minor power becomes largely insignificant, and any colony that produces less than 5 economic points per turn should definitely be absorbed by another nearby power rather than be allowed to carry on as its own nation.

Finally, rebel colonies that spawn from the same empire will share social and cultural bonds that may encourage them to work together after they secede. It's recommended that colonies that belonged to the same empire should be combined to form a single larger political union instead of establishing each as a single system powers that could be easily reconquered. Geography is the most important factor here as rebel colonies that are close to one another are much more likely to form natural alliances than those on opposite sides of an empire. Colony size is also an issue and colonies with larger populations are more likely to prefer going it alone even if they are in close proximity to one another. Smaller, less populous colonies however tend to coalesce into a single entity to increase their chances of surviving a protracted revolutionary war scenario against their former colonial masters.

A newly-independent rebel colony starts with an empire tech level equal to its colony tech level. The empire receives all of the economic and tech points that were sequestered at the system during the rebellion and seizes control of any and all facilities that the previous owner had in the system. The power's force list contains all of the units from the former owner's force list that the rebel colony is

actually capable of building. This indicates that plans for these military unit designs were present at the colony before the rebellion. Rebel colonies in systems without Shipyard facilities are at a disadvantage because they won't have any non-atmospheric starship classes available on their force lists. This makes sense, though, because these colonies wouldn't have possessed any of the required technical schematics to build such vessels in the first place.

On the diplomatic front, the rebel government's culture values are determined by rolling D100 for each and averaging the result with the former owner's own culture values (round down). Diplomatic relationship values must be rolled for every power this empire is currently in contact with, including its former owner. The rebels start with a war declaration against their former owner. This triggers a war for independence that will only end with the signing of an armistice treaty or the conquest of the rebel colonies.

3.4.13 MARTIAL LAW

Declaring martial law at a colony allows an empire to use its ground forces to keep the peace at the risk of further aggravating the local population. A colony's morale state is considered to be one level higher than normal for the purposes of infrastructure utilization only when it is in a state of martial law. For example, a colony in rebellion that is placed under martial law would continue to function as if it was in a state of unrest, while a colony in a state of unrest would continue to produce as if it were in good order. Colonies that are in good order receive no benefits from being placed under martial law.

Regardless of race or creed, all colonial populations chafe under the yoke of martial law and show strong resentment against the strongmen that are charged with using violence (or at least the threat of violence) to keep the peace. Roll a D6 any time that a colony under martial law loses Morale. On a 4+ the colony loses an additional 1 Morale.

3.4.14 REPRISALS

Empires can conduct reprisal attacks against their own civilian populations in an attempt to eliminate dissident factions and restore order. These attacks can increase a colony's Morale but the resulting

mass killings run the risk of reducing a colony's Census in the process. The outcome of a reprisal is determined by a 2D6 roll. The system gains 1 Morale if the roll is 6, 7, or 8 or it gains 2 Morale if the roll is 9 or greater. However, if the die result is an odd number the attacks were especially heinous and the system loses 1 Census and 1 Morale. This loss is in addition to any Morale increase the colony received from the reprisal.

Conducting reprisals against your own colonies is frowned upon by the galactic community. Any foreign power that has a trade route connecting to the system learns about the attack and must roll a D100 against their own Aggressiveness (AG) to gauge their reaction. Empires condone the attack if their die roll is less than or equal to their AG. Otherwise, if the die roll is greater than the empire's AG, it views the reprisals as an unwarranted act of aggression and its relationship with the power is reduced by 1D6. This relationship penalty is doubled to 2D6 if the reprisal resulted in the loss of Census at the colony.

Example: An empire is conducting reprisals against one of its colonies. The player rolls 2D6 and gets a '9'. The roll is greater than or equal to 9 which means that system gains +2 Morale, but it's also an odd number and that means that system also loses 1 Census and 1 Morale. The net change is -1 Census and +1 Morale.

Two foreign powers are currently trading in the system and have Aggressiveness values of 92 and 22, respectively. The first power rolls '38' against its AG 92 which is less than its AG and thus results in no relationship penalties. The second power rolls a '49' against its AG 22. This empire is completely appalled by the attack, and its relationship with the reprising power is reduced by 2D6 because not only does it know about the reprisals it also knows that they resulted in a loss of life at the colony.

3.4.15 CONQUERED COLONIES

Colonies are conquered when all of the defending ground forces in the system have been eliminated and the attackers assume control of a system. Ownership of a colony is transferred to the occupying power once this condition has been met. When two or more empires are fighting together to conquer a system, the power with the largest army (by Command Cost) on the ground takes ownership after the conquest.

Roll a D6 for every Census in a conquered system. The colony loses 1 Morale on a roll of '3' or less. This can lead to a sudden, catastrophic loss of Morale that represents the formation of resistance cells that are prepared for a long, drawn out fight against the occupying forces. Conquered colonies can even be forced into rebellion as a result of these Morale losses at which point actual rebel militia forces will form to openly contest ownership of the system. The rebel ground forces purchased at the colony must be purchased off the force list of the colony's original owner as they are comprised of native combatants and don't have access to occupying ground unit classes.

A conqueror can't exert complete control over a conquered colony until has eliminated the enemy freedom fighters and fully integrated it into his own political and bureaucratic system. During the Morale Phase, a 2D6 roll is made for each conquered colony, adding the number of turns that have passed since it was conquered to the roll. A conquered colony is fully integrated on a modified die result of '12' or higher.

A conquered colony is liberated when it's recaptured by friendly ground forces and all occupying enemy ground forces at the colony have been eliminated. Rebel militias that form at the colony are considered to be friendly ground forces for this purpose. Liberating a colony restores full control of the conquered colony to its original owner. Any rebel ground forces at the colony become the property of the liberating power.

3.5 Facilities

Planetary and orbital facilities provide a system with capabilities that go beyond traditional colonial infrastructure. Each type of facility provides a unique effect, ranging from providing colonies with orbital dry docks that they can use to build starships (shipyards) to establishing powerful vortex generators that allow non-FTL units to perform jump lane movement (jump gates).

3.5.1 FACILITY TYPES

The following is an overview of the various types of facilities that empires can build during a campaign. Many of these facilities may not be appropriate to your particular campaign setting, however, and

players should decide before the game if they are going to omit one or more of them from play. Players may also choose to create new facility types that reflect capabilities specific to their campaign setting.

Command Post

A command post serves as a central strategic planning location for an empire's military forces. These bases are used to coordinate military operations in nearby territories. [MORE]

All friendly task force flagships that are located within 2 jumps of a Command Post receive a +2 command bonus in all space and ground combat scenarios.

Jump Gate

Jump gates are orbital constructs that are used to create an artificial wormhole or vortex that units can use to travel between two points in space. Starships and flights that lack the FTL ability can use jump gates to perform jump lane movement and move from one system to another via a jump lane as long as both of the systems contain an operational jump gate.

Units that use jump gates to move from one system to another are at a tactical disadvantage compared to those that have FTL drives because an enemy can picket the jump gate and attack them as they emerge into the system. To simulate this, any unit that uses a jump gate to move into a system halves its combat factors (rounding down) on the first round of combat that it fights during space encounters that turn. This reflects the units' reduced combat readiness in the moments immediately after they make the jump into the destination system and are set upon by the waiting defenders.

Fighter Garrison

Fighter garrisons are bases from which an empire can sortie flights of fighters, shuttles, or other small craft to engage enemy forces that attack their systems. These flights can be included in task forces that are created in the same system, giving players the opportunity to field flights even if they don't have any carriers in the system. These flights usually won't win battles on their own but they can still offer critical fires support during encounters.

Each fighter garrison can base 10 CC of flights, plus an additional 5 CC per Census in their systems. A

fighter garrison in a 7 Census system could base up to 45 CC of flights, for example.

Listening Post

Many governments operate listening posts along their borders. These posts are used to gather vital intelligence information about fleet movement in their own systems as well as to coordinate offensive intel missions into surrounding territories. If used properly, listening posts can increase the security along an empire's borders.

Listening posts increase a system's utilized Intel value by 2. This utilized Intel can be used to purchase additional intel points and provide offensive intel bonuses to intel missions that are being run from the system.

Luxury Resort

Empires can establish Luxury Resort accommodations in select systems to promote local tourism. These festive vacation destinations offer visitors a chance to rest and unwind and take in the sites. Systems with Luxury Resorts gain a +1 Morale when they roll a natural 19+ on their system loyalty checks.

Mining Base

A Mining Base coordinates remote mining operations in a system. Short range work craft are sent out from the base to extract resources from nearby planets or asteroids and then bring their cargoes back to be prepared for onsite processing or shipment to other colony worlds. A Mining Base increases its system's income by an amount equal to its utilized Economy value.

Orbital Factory

Orbital Factories are space-borne manufacturing facilities that take advantage of the benefits of zero- or micro-gravity construction environments to aid in the production of goods and equipment that can't be built using planetary industry. An Orbital Factory increases its system's industrial capacity by an amount equal to its utilized Industry value.

Orbital Farm

Orbital Farms are massive space stations that are built to support artificial biospheres that workers can use to cultivate high-yield crops. Many of these farms rely on hydroponics as a primary tool for food

production. An Orbital Farm increases a system's food production by an amount equal to its utilized Agriculture value.

Orbital Habitat

Orbital habitats are vast structures built in orbit of a planet or at Lagrange points. They allow settlements to grow beyond a planet's normal Carrying Capacity restraints, and they even allow colonies to be established in the depths of space in systems that don't have any Carrying Capacity.

Orbital habitats provide a +1 Carrying Capacity bonus to the system where they are built. A player can use this extra Capacity to expand the his empire's colony in the system. This bonus can also be used to allow an empire to colonize 0 Capacity systems that would otherwise be uninhabitable.

Planetary Defense Guns

Systems can be protected by large surface-based weapon systems (rockets, missiles, mass drivers, particle beams, lasers, etc.) that are designed to target orbiting vessels. Planetary defense guns (PDG) engage enemy task forces at the beginning of the Bombardment Phase (see X.X Planetary Defenses). This attack scores 2D6+Census damage against starships in the enemy task force. PDG fire is resolved before bombardment points are calculated, and every enemy unit that it cripples or destroys reduces the number of bombardment points the enemy can generate this turn.

Planetary Defense Shield

Planetary defense shields (PDS) protect a colony from the effects of bombardment, specifically orbital bombardment, by projecting a force field across the inhabited regions of a planet.

A PDS halves the number of bombardment points that an enemy produces during the Bombardment Phase (round down). PDS systems also prevent an enemy from deploying weapons of mass destruction (WMD) against a system.

Research Lab

These dedicated research facilities are used to conduct sensitive scientific experiments or study remarkable local points of interest. Research labs usually are manned by a small number of scientists, analysts, and technical support staff members. The nature of their work keeps them largely sequestered

from the rest of the system's population. More importantly, research labs are designed for maximum self-sufficiency so that they can continue to function for an extended period of time even if forced into an emergency quarantine or protective lockdown.

A research lab provides its system with a research capacity bonus equal to its utilized Research value. This boost allows an empire to accelerate its research and development efforts and speed up the rate that it achieves new tech advances.

Shipyard

Shipyards are used to build and repair starships. These dockyards range in size from small installations capable of building a single corvette or frigate all the way up to massive fleet bases that are capable of supporting the construction of multiple battleships or dreadnoughts.

Non-atmospheric starships can only be built in systems that contain shipyard facilities. Starships usually return to shipyards for repair, too, though dedicated Repair tenders are capable of performing field repairs when a friendly shipyard isn't available.

While shipyards can be purchased in uninhabited systems, they are reliant on industrial capacity to actually function. Players must purchase an orbital factory in these systems to provide a source of industrial capacity to power their production. Alternatively, mobile manufacturing units with the Construction special ability can also provide a shipyard with industrial capacity. Shipyards built in uninhabited systems can only build units that have a tech level that is less than or equal to their owner's own empire tech level.

Capturing an enemy shipyard not only captures the shipyard facility itself but also all of the starships currently under construction there. The attacker assumes the maintenance costs for these units and can choose to scrap, scuttle, or finishing building them, at his discretion. As with other captured units, these starships will need to be refit after completion to fully convert them for the new owner's use (see X.X Captured Units).

Starport

The number of people that pass through the shop-filled thoroughfares of your average starport is enough to boggle the mind. This constant ebb and

flow of alien visitors invigorates the local economy through a combination of duties, tariffs, and docking fees.

Supply Depot

A supply depot is a logistics center that stores ammunitions and other war materiel for distribution out to an empire's military forces in nearby systems. Empires use supply depots to extend their supply range beyond the normal reach of their colonies. Any system that contains a supply depot receives a +1 bonus to its supply range and has a minimum supply range of 2.

Players commonly build supply depots in frontier or border systems to keep their forces in supply during periods of expansion. Military campaigns often rely on supply depots to keep friendly forces in supply while they make their initial pushes into enemy controlled space. Supply depots can also aid colonization efforts by allowing players to quickly extend supply to valuable uninhabited star systems, bypassing the need to build up major colonial infrastructure in systems that may not otherwise be viable candidates for colonization.

Trading Post

Trading Posts are major travel hubs that act as centers of commerce and trade for one or more star systems. As described in X.X Trading Posts, all of the trade routes that an empire establishes are anchored to one of its active Trading Posts.

Any system that contains a starport receives a +1 bonus to its commerce range and has a minimum commerce range of 2. This extends the distance that an empire's merchants can travel to engage in foreign trade, opening up new markets and possibly even contact with new potential trading partners.

establishes a center of trade in the system with a 3 jump range

Centers of trade (COT) are major commercial hubs that empires rely on to administer their civilian shipping networks. These systems extensive space ports, warehouses, fuel depots, financial exchanges, and other facilities that can support a large volume of civilian shipping.

3.5.2 FACILITY CONSTRUCTION

The economic cost to build a new facility in a star system is equal to 50 plus 25 per jump that the system's distance from the empire's nearest capital. It would cost 100 economic points to build a facility in a system that was two jumps away from the nearest capital, for example. Facilities take 10 turns to build and cost 1 economic point per turn to maintain. This maintenance cost must be paid starting on the turn that construction begins on the new facility.

An empire can only build facilities in its controlled systems or any of its claimed systems that are located within the supply range of one of its existing Supply Depots. Facilities can't be purchased in systems that are claimed or controlled by another power.

Empires that have a tech level lower than Interplanetary can't purchase facilities because they lack the technological capability to do so.

3.5.3 FACILITIES & COMBAT

Unlike colony infrastructure, facilities are just as vulnerable to enemy attack as any other space or ground combat unit is. In fact they are even more vulnerable because they are incapable of evading enemy attacks and their position in a system is well-known to an attacker.

Facilities are excluded from traditional space and ground combat scenarios. Enemies that hope to destroy a facility must instead rely on bombardment or intel to eliminate them from the game. Anti-Facility bombardment is used to take out critical enemy facilities in contested systems while Sabotage: Facility intel missions allow an empire to destroy enemy facilities at a distance (and with a chance of plausible deniability should an empire's spies escape without detection). Any units that are based by or under construction at a facility when it is destroyed are also lost. For example, all of the starships under construction at a shipyard are destroyed with the shipyard and any flights based at a fighter garrison are destroyed along with the garrison.

3.5.4 CAPTURING FACILITIES

The conquest of a star system automatically transfers ownership of all of the system's facilities facility to the attacker. Facilities in uninhabited systems can also be captured by an enemy fleet if their owners don't have any space combat units remaining in the system to protect them. These facilities won't provide any benefits until the next turn, however, as crews must repair them and deal with any surprises the former owner left behind prior to their capture.

Command Post

+1 readiness roll bonus within 3 jumps

Fighter Garrison

Base flights extra flights (including non-atmospheric flights)

planetary basing limits are increased to twice Carrying Capacity

Habitats

+1 Carrying Capacity

Jump Gate

Non-FTL movement

Mining Base

+2 Utilized Economy

Orbital Factory

+2 Utilized Industry

Orbital Farms

+2 Utilized Agriculture

Planetary Defense Guns

Planetary Defense Shield

Research Lab

+2 Utilized Research

Shipyard

non-atmospheric starship construction

Supply Depot

establishes supply center with 3 jump range

3.6 Exploration

“We shall not cease from exploration and the end of all our exploring will be to arrive where we started... and know the place for the first time.”

- T.S. Eliot

The exploration of the unknown is one of the common themes of space strategy games. A classic starting campaign scenario is one in which each player’s empire is limited to its own solar system at the start of the game and must explore nearby systems to see what kind of resources they offer and open up new avenues for colonization and expansion. To achieve this effect, star systems and jump lanes on a campaign map can begin a campaign in an unexplored state. Unexplored jump lanes are innavigable and can’t be traversed until they are successfully unexplored. An unexplored star system is then defined as a system that only has unexplored lanes connecting to it, which prevents any power from moving forces there until at least one of the lanes is explored.

Unexplored systems and jump lanes should be clearly identified on a campaign map to make their presence obvious to the players. Campaign scenarios don’t have to include unexplored regions on their maps, and they are a completely optional addition to a campaign. On the other hand, players can create scenarios where jump lane exploration is a central component of play.

3.6.1 EXPLORATION MISSIONS

Jump lane exploration is accomplished by assigning units or fleets to exploration missions. An exploration mission directs a fleet to attempt to explore a specific unexplored jump lane that connects to their current system location. At least one of the units in the fleet must have a Scout value greater than zero, and all of the units must be capable of independent FTL movement or be transported by a unit capable of basing them. Fleets that have effective FTL values of zero can’t perform jump gate exploration under any circumstances.

It’s important to clearly note which unexplored lane that a fleet is trying to explore because an empire’s previous exploration attempts can give bonuses to future exploration missions. If for some reason the player doesn’t specify a lane to explore, an

exploration fleet will simply attempt to explore a random unexplored lane that connects to its system instead that is not already being probed by another exploration fleet.

Exploration missions are resolved before movement during the Exploration Phase. Fleets can only attempt exploration. Units that perform exploration during that phase can’t also perform movement during the Movement Phase.

The success or failure of an exploration mission is determined by rolling on the Exploration Table. Fleets receive a +1 bonus to their rolls for every full 5 Scout value their units possess. Previous exploration progress can also provide bonuses to these rolls. Exploration successes are rare and almost always require a power to spend multiple turns probing an unexplored lane until it has racked up enough *Partial Exploration Success* to all but ensure an exploration success.

EXPLORATION TABLE (2D6)

| Roll | Effect |
|------------|--|
| 2-5 | Exploration Force in Peril. The player must roll on the Exploration Peril Table to determine what unfortunate circumstance has befallen his exploration force. |
| 6-8 | No Effect |
| 9-11 | Partial Exploration Success. The exploring empire receives a cumulative +1 to future attempts to explore this jump lane. |
| 12 or more | Exploration Success. The unexplored lane has been mapped successfully. Move the exploration force into the connecting system. |

Modifiers:

+1 per 5 Scout value (*round down*)

3.6.2 EXPLORATION PERIL

Exploration is dangerous, however, and some ill-fated expeditions may never return home. Exploration forces that find themselves in peril by rolling an *Exploration Force in Peril* result on the Exploration Table are in danger of becoming hopelessly lost. The player must roll on the

Exploration Peril Table to discover what exactly has happened to his exploration force. A natural '2' on the Exploration Table *always* results in an *Exploration Force in Peril* result.

EXPLORATION PERIL TABLE (2D6)

| Roll | Effect |
|-------|---|
| 2-5 | Out of Supply. The exploration force journeyed too far away from the existing supply lines. Each unit receives an out of supply level. |
| 6-7 | Minor Systems Failure. The exploration force takes 1D6 damage. |
| 8-9 | Moderate Systems Failure: The exploration force takes 2D6 damage. |
| 10-11 | Major Systems Failure. The exploration force takes 3D6 damage. |
| 12 | Exploration Force Lost. the entire exploration force has disappeared without a trace. All units assigned to the exploration order are lost. |

3.6.3 PREWARP NATIVES

Explorers will sometimes encounter unexplored systems that are already inhabited. These civilizations can be of any tech level, though they tend to be low tech more often than not, but the one feature they have in common is that they haven't developed FTL drives and have never left their home systems.

Players must make a roll for each system after it's explored to check for the presence of prewarp natives. The percentage chance that a newly-explored system is inhabited by prewarp natives is equal to its Carrying Capacity times Biosphere. A system with 6 Capacity and 3 Biosphere would have a 18% chance, for example.

Alien home systems need a minimum of 3 Biosphere available to be able to feed all of a prewarp empire's Census. Players should increase the Biosphere value of a system that contains prewarp natives to at least 3 Biosphere to prevent them from starving. Alternatively, if advanced rules are in use, players

might decide that low Biosphere systems are home to lithovores, autotrophs, or synthetics that don't consume food at all.

The tech level of a prewarp civilization is determined by rolling on the table below. The tech level that an empire rolls on this table is both its overall empire tech level and the tech level of its sole colony (i.e., its homeworld).

Prewarp Tech Level Table (2D6)

| Roll | Tech Level |
|-------|----------------|
| 2-4 | Pre-Industrial |
| 5-6 | Industrial |
| 7-8 | Information |
| 9-10 | Interplanetary |
| 11-12 | Interstellar |

Prewarp empires that roll an *Interstellar* result on this table begin with a tech level that is equal to D100% times the tech level of the most advanced player empire (round fractional tech levels down). These powers are as technologically adept as any other Interstellar empire at the same tech level but due to unforeseen circumstances they never developed the FTL drive. The first tech advance that one of these powers achieves doesn't increase its empire tech level as normal but instead unlocks the FTL special ability so that it can begin building jump capable craft.

The size of the population in a prewarp home system is then based on its tech level. This demonstrates that low tech powers haven't achieved the breakthroughs in the agricultural and medical sciences that are required to sustain larger populations. Interplanetary and Interstellar level societies also have the ability to move populations into orbit or to other planets in their solar systems, increasing the possibilities for expansion in their own systems.

PREWARP HOME SYSTEM COLONY SIZE

| Tech Level | Colony Size | Census | Morale | Infrastructure | Facilities |
|----------------|-------------|--------|--------|----------------|------------|
| Pre-Industrial | Settlement | 2 | 3 | 6 | 0 |

| | | | | | |
|----------------|--------------|---|---|----|---|
| Industrial | Minor Colony | 3 | 4 | 9 | 0 |
| Information | Minor Colony | 4 | 5 | 12 | 0 |
| Interplanetary | Major Colony | 5 | 6 | 15 | 1 |
| Interstellar | Core World | 6 | 7 | 18 | 2 |

Only Interplanetary and Interstellar prewar natives are allowed to start with facilities in their star system. Interplanetary powers start with one facility while Interstellar powers receive two. It's recommended that Interplanetary powers start with a Trading Post or a Shipyard for their single facility choice as this would allow them to conduct solar trade or build non-atmospheric starships, respectively. Interstellar powers usually start with both of these facilities, but the player has ultimate authority over what type of starting facilities to give to these nations.

Prewarp natives can spend up to five times their system income values to purchase their initial military units or extra facilities. These starting funds can't be used to purchase additional infrastructure at their homeworld, however. They also start with a total number of tech points in their tech pools equal to D100% of their current tech advancement costs (round down). This infusion of research can potentially put prewarp natives very close to advancing technology after they are first activated. This is especially useful for Pre-Industrial or Industrial powers that have extraordinarily high tech advancement costs due to their inferior technological position.

3.6.4 EMERGING EMPIRES

The appearance of unknown drive fields on the edge of one of your explored or inhabited systems indicates the discovery of a new spacefaring nation. These emerging empires have been conducting their own exploration missions into nearby space but have gone unnoticed until now.

The chance of encountering a new emerging empire during the Encounters Phase starts at 0% and is increased by +1% per turn that none of the existing empires in the game successfully explore a jump lane. A percentile die is rolled against this emerging

empire's chance after all of the extent powers' exploration missions have been resolved to see if a new emerging empire has been found. A die result less than or equal to the target indicates that a new emerging empire has been discovered. A single emerging empire's chance roll is made each turn (not one per empire).

The new empire appears on the edge of the campaign map and one of its scout forces will arrive in a previously-explored star system via an unexplored jump lane. Players should randomly select one of the unexplored lanes on the edge of their map to determine the direction from which the emerging empire arrived.

The number of systems that an emerging empire has already explored prior to entering the campaign (including its home system) is determined by rolling on the following table:

EMERGING EMPIRE SYSTEMS TABLE (2D6)

| Roll | Systems Explored |
|-------|------------------|
| 2-3 | 1 |
| 4-5 | 2 |
| 6-7 | 3 |
| 8 | 4 |
| 9 | 5 |
| 10 | 6 |
| 11-12 | Roll Twice |

Emerging empires start with D100% of these systems already colonized (round up). One of these systems must be designated as its home system, preferably the one with the highest system importance. If any of the home system's resource values (Carrying Capacity, RAW, Biosphere) are less than four they should be increased to four now.

Players must check each of the systems (other than the empire's home system) to see if they contain prewarp natives. The emerging empire will have established diplomatic contact with each of these powers. If their relationship is positive they will have signed the highest level treaty possible with them. Otherwise, if the relationship is negative, the empire has already fought a war with the natives at least once in the past. The war will still be ongoing if the

natives' total system income is greater than half the emerging empire's own. Otherwise, the emerging empire has already successfully conquered the natives and absorbed them into their empire, but the native home system is still considered to be conquered and is subject to the usual morale penalties that entails.

Next, roll on the Colony Size Table to discover the size of each of the empire's starting colonies. Systems that are home to prewarp natives instead receive colony values as shown in the previous X.X Prewarp Natives. None of a system's colony values can be increased beyond its Carrying Capacity.

COLONY SIZE TABLE (2D6)

| Roll | Colony Size | Census | Morale | Infrastructure | Facilities |
|------------|--------------|--------|--------|----------------|------------|
| 2-3 | Outpost | 0 | 2 | 0 | 0 |
| 4 | Outpost | 1 | 2 | 2 | 0 |
| 5 | Settlement | 2 | 3 | 4 | 0 |
| 6 | Settlement | 3 | 4 | 6 | 0 |
| 7 | Minor Colony | 4 | 5 | 8 | 0 |
| 8 | Minor Colony | 5 | 6 | 10 | 0 |
| 9 | Major Colony | 6 | 7 | 12 | 1 |
| 10 | Major Colony | 7 | 8 | 14 | 2 |
| 11 or more | Core World | 8 | 8 | 16 | 3 |

Modifiers:

-2 Very Low

-1 Low

+0 Moderate

+1 High

+2 Very High

+2 per system the empire has explored (home system only)

The empire's home system receives a bonus to its total infrastructure equal to its Census value. This ensures that the home system will have enough infrastructure to meet all of its needs when the emerging empire enters play.

Next the players must roll to determine the emerging empire's starting tech level. The empire's tech level is expressed as a percentage of the most advanced player empire's tech level (rounding fractional tech levels down). All of the empire's colonies start with a tech level equal to its own empire tech level. The exception is that any prewarp natives that it absorbed from pre-contact wars retain their original tech levels.

On average, most emerging empires will start with a tech level similar to that of the highest tech level player; however, there's still the rare chance that players could end up encountering a new power that is significantly more advanced than themselves.

EMERGING EMPIRE TECH LEVEL (2D6)

| Roll | Tech Level |
|------|---------------------------------|
| 2-3 | 10% x Highest Player Empire TL |
| 4-5 | 25% x Highest Player Empire TL |
| 6 | 50% x Highest Player Empire TL |
| 7 | 75% x Highest Player Empire TL |
| 8 | 100% x Highest Player Empire TL |
| 9 | 125% x Highest Player Empire TL |
| 10 | 150% x Highest Player Empire TL |
| 11 | 175% x Highest Player Empire TL |
| 12 | 200% x Highest Player Empire TL |

Emerging empires receive an amount of economic points to spend on their starting forces equal to five times their total system income. These points can only be spent to purchase military units or facilities and can't be used to purchase infrastructure improvements. Infrastructure investment can only occur after they enter play. The empire must possess at least one Scout unit class capable of performing jump lane exploration. One of this empire's scout fleets, comprised of one or more of these Scouts, must be placed in the contact system to represent the exploration fleet that appeared out of nowhere

and introduced the emerging empire to the rest of the galactic community.

Finally, emerging empires will have completed part of their research towards their next tech advance. Roll D100% and multiply it times the empire's tech advancement cost (round fractions down). This is the number of tech points currently in the empire's tech pool.

This rule encourages players to continue exploring throughout the game. Without this gentle nudge some players could decide to explore one system at a time and suspend their exploration missions after each system discovery so that they could colonize and build up a presence in the system before resuming exploration. Such a strategy is defensively sound from a meta-gaming perspective, but it makes for a very static and uneventful campaign.

A campaign's emerging empires chance is reset to 0% after a new empire is found and placed onto the map. The chances of discovering new emerging empires will continue to grow by +1% on every turn that none of the existing empires successfully explore a jump lane until a new empire is found and the cycle is once again reset.

Example: It's been 13 turns since the beginning of the turn and empires have successfully explored jump lanes on 4 turns. On the 14th turn the emerging empire's chance is 9%, meaning that a D100 roll of 9 or less will result in the introduction of a new high tech empire.

Assuming that a new emerging empire was discovered this turn, the first required roll will determine how many systems the power will start with. A roll of 9 gives the power four explored star systems: Alpha (8 CAP, 1 RAW, 1 BIO), Beta (6 CAP, 3 RAW, 3 BIO), Gamma (5 CAP, 3 RAW, 5 BIO), and Delta (7 CAP, 4 RAW, 3 BIO). One of these systems must be designated as this power's home system. Of the four candidates, Delta is the most obvious candidate because it has the best balance of Carrying Capacity and RAW. Delta's Biosphere values is increased to 4 because any of the system's resource values that are less than 4 are automatically increased to 4. Beta meanwhile is inhabited by a prewarp Industrial civilization.

D100% of this empires four explored systems are colonized at the start of play (round up). A roll of 29% indicates two of the systems are inhabited. Delta has to start with a colony in it because it's the home system, but the players have to choose which of the other systems the aliens have colonized. In this case the choice is pretty easy and the colony is placed in Gamma.

Next we determine the size of these colonies. Delta rolls a '3' but receives +8 for systems explored and +1 from being a High importance system. This indicates that Delta is a core world with 7 Census, 7 Morale, and 23 infrastructure (the home system receives +7 infrastructure from its Census). The system's Census and Morale are reduced from the norm for a core world because Delta only has 7 Carrying Capacity. Gamma rolls a '5' and gets +1 from being High value. This makes Gamma a Settlement with 3 Census, 4 Morale, and 6 Infrastructure. The Industrial nation in Beta is a Minor Colony with 4 Census, 5 Morale, and 16 Infrastructure.

Pre-contact diplomacy between the two empires gives them a -8 relationship. This means that two empire have been in conflict with one another. Assuming the emerging empire has 37 system income and the prewarp empire has 12 system income, the result is that the Beta natives lost the war and are now a conquered colony that is controlled by the emerging empire. These system income totals are added to give the power a combined system income of 49 economic points per turn. This gives them 245 economic points to spend on its starting military units and facilities.

A '6' is rolled for the empire's tech level which gives it a tech level equal to 50% of the highest tech player empire in the campaign (rounding down). If the move advanced player empire in the game is TL 9 then this emerging empire and its colonies start at TL 4. The colony in Beta starts with an Industrial tech level because that was the tech level the natives had achieved before they were conquered.

3.6.5 VARIABLE EXPLORATION DIFFICULTY Δ

This optional rule assigns each unexplored jump lane an exploration difficulty modifier that influences how easy they are to survey. Roll on the Exploration Difficulty Table for every unexplored lane on the campaign map and record its exploration difficulty modifier. This modifier is added to an exploration fleet's Exploration Table roll when it attempts to explore the jump lane.

EXPLORATION DIFFICULTY TABLE (2D6)

| Roll | Exploration Modifier |
|-------|----------------------|
| 2-3 | -2 |
| 4-5 | -1 |
| 6-8 | +0 |
| 9-10 | +1 |
| 11-12 | +2 |

This rule adds a significant amount of bookkeeping to a campaign because the players have to track difficulty modifiers for every unexplored lane in the game. It's only recommended for players that would like to vary the rate of exploration in a campaign by making certain jump lanes easier to explore while others are harder to explore. Unexplored lanes with negative modifiers are much more likely to place exploration fleets in peril which in turn will lead to higher attrition rates among empires' scout forces.

3.6.5 SIMPLIFIED EXPLORATION Δ

Players that would prefer a more basic approach to exploration can forego normal exploration attempts and instead require an empire to "spend" a set amount of Scout value to explore an unexplored jump lane. The default exploration cost for unexplored lanes is 50 Scout value, but players can adjust this to fit the rate of exploration and expansion they want to see in their campaigns. At this exploration cost, it would take a long range explorer with 5 Scout value (enough to give it a +1 exploration bonus under the standard rules) one campaign year (10 turns) to fully-explore a jump lane.

Players can also choose to vary the exploration cost of unexplored lanes if they would prefer some to be easier to explore than others. The most obvious means of implementing this option is to assign each lane an exploration cost equal to $1D10 \times 10$. This provides a fixed cost range between 10 and 100.

Chapter 4: Politics

4.1 Empires

"In the various states of society, armies are recruited from very different motives. Barbarians are urged by the love of war; the citizens of a free republic may be prompted by a principle of duty; the subjects, or at least the nobles, of a monarchy, are animated by a sentiment of honor; but the timid and luxurious inhabitants of a declining empire must be allured into the service by the hopes of profit, or compelled by the dread of punishment."

- Edward Gibbon, *The History of the Decline and Fall of the Roman Empire*, Chapter XVII

// control colonies, military units, conduct diplomacy

4.1.1 PLAYER EMPIRES

A player empire (PE) is a power that is controlled by a human player. Player empires are the default empire type and they follow all of the normal campaign rules provided in this rule book. Most campaigns will feature at least two player empires: one for each individual player in the game. Player empires compete against one another to achieve one or more predetermined victory conditions as dictated by their campaign scenario to determine the game's winner.

Players can also run solo campaigns that feature a single player empire. Solo campaigns are less focused on achieving victory conditions and instead offer the player a more open-ended game experience where they can expand, explore, and interact with other non-player empires in a sandbox environment without having to worry about direct competition with other player empires.

Should a player be forced to quit a campaign, the players or CM must decide whether or not to find a replacement player to take over control his empire or else convert the player empire into a non-player empire. The only difference between a player empire and a non-player empire is that the latter requires some special rules in order to automate its diplomatic relations and influence other campaign actions.

4.1.2 NON-PLAYER EMPIRES

A non-player empire (NPE) is a power that is being run by the CM rather than by a player. While X.X NPE Diplomacy is largely automated, players must still make specific decisions as to the empire's overall strategy, including what it should build, move its forces, etc. Players can use the results of a NPE's diplomatic rolls as a guide to determine the power's likely goals and intentions.

When setting up a campaign, players can decide how many NPE they want to include in their game. NPE contribute to the campaign experience by giving players additional powers to interact with during the game. Each is a potential friend or foe that players must deal with during the game. They can also be used to add additional military and diplomatic challenges that the players have to overcome to achieve their goals. New players or those that want a faster play experience should keep the number of NPE in their game to a minimum to reduce the amount of bookkeeping that they have to manage turn-to-turn. Players looking for a campaign that features more diplomatic maneuvering are instead encouraged to add extra NPE to the game to keep things interesting.

NPE are a core staple of solo campaigns where they provide valuable foils for the player's empire. Each unexplored star system that is explored in a solo campaign has a chance of revealing a new NPE that the existing powers will have to deal with.

A player empire can be converted into a NPE should its player find himself unable to continue playing in the campaign. This is preferential to letting the player empire remain completely inactive for the rest of the campaign. It can always be converted back into a player empire later on if a replacement player is finally found to take over the position.

Players in unmoderated campaigns can include NPE into their games but the lack of a neutral third-party to guide these powers means that the players must come to a consensus on who will control each of the NPE in their game. In most cases the best solution is to have a NPE be controlled by the player whose empire has the highest relations with it. Alternatively, players can use their own empire's system income totals to divide up management of the NPE in their game. For example the player whose empire has the lowest system income would be in charge of the NPE with the highest system

income and the player with the highest system income would control the NPE with the lowest system income. This gives players to have some fun with an empire that is doing better or has more resources available than their own player empire. Control of the NPE should shift between players in this case to keep things interesting as their system income totals change and prevent a single player from consolidating power using his assigned NPE as battering rams to antagonize his opponents.

4.1.3 NON-ALIGNED EMPIRES

Non-aligned empires (NAE) are a type of minor non-player empire that earn less than 15 economic points per turn from their star systems. These powers usually only control a single star system and have limited economies that can barely support the cost of fielding a meager planetary defense force. This distinct lack of resources makes it difficult for them to have a substantial impact on a campaign.

Recognizing the precarious position that they're in, NAE always pursue a policy of steadfast neutrality with their neighbors. A NAE will automatically sign almost any treaty it is offered if its acceptance chance for that treaty is greater than zero. Non-aligned powers won't sign mutual defense, protectorate or alliance treaties with another empire, however, because such collective defense agreements run counter to their neutrality policy.

Should relations with a NAE deteriorate far enough that the NAE's treaty acceptance chance for a treaty drops below zero it will automatically break the treaty. No breaking attempt is necessary; the treaty is simply broken without malice. The empire that it broke the treaty with doesn't receive any of the normal declaration or breaking bonuses from the broken treaty because its government realizes that the NAE didn't have much choice in the matter and succumbed to internal political pressure.

NAE never issue declarations against other powers or start wars with their neighbors. The majority of NAE powers won't have enough military units to be able to back up such belligerent actions, and what few ships and troops they have available will need to remain in their home systems to protect them against outside attack.

A NAE becomes a NPE when its total system income increases to 15 EP per turn or more. This transition

occurs at the end of the campaign turn during the Update Phase of the sequence of play. Conversely, a NPE that suffers significant setbacks that reduce its system income below 15 EP per turn reverts back to being a NAE until it can get back on its feet.

Non-aligned empires are controlled by the CM in moderated campaigns. In unmoderated campaigns control is granted to whichever player whose empire has the highest relationship with the NAE. The player with the lowest system income total wins any ties.

4.2 Capitals

"Bureaucracy expands to meet the needs of the expanding bureaucracy."

- **Anonymous**

Capitals serve as the administrative centers from which an empire's authority radiates outwards through its sphere of influence. It is within the walls of these capitals that political leaders make the important decisions that shape the destiny of empires. Whether history remembers their actions with reverie or disdain is a matter for future historians to debate.

There are two different types of capitals: imperial capitals and sector capitals. An imperial capital acts as an empire's political nerve center and is the seat of government at which its rulers gather to conduct affairs of state. All of an empire's other capitals are sector capitals. Sector capitals serve as provincial administrative bases that are used to extend an empire's political influence into new sectors of space.

Unless a scenario indicates otherwise, every empire starts the game with an imperial capital at one of its inhabited systems. Imperial capitals are normally located at an empire's largest, most populous system -- usually its home system. This isn't a strict requirement, however, and when setting up a new empire players can decide to place an empire's imperial capital in any of its inhabited systems.

Sector Capital

Sector capitals serve as provincial administrative bases that are used to extend an empire's political influence beyond the reach of its imperial capital

into new sectors of space. Colonies that aren't located within the zone of control of one of its empire's capitals (imperial or sector) are subject to loyalty check penalties. Sector capitals can also be converted into imperial capitals in the event that an empire's original capital is lost or destroyed.

Empires can only build sector capitals in inhabited systems that they control that have achieved core world status (6+ Census). Minor powers that don't have an imperial capital are allowed to build a single sector capital in a non-core world system, however, to ensure that they'll be able to purchase a new capital that they can promote to an imperial capital (see X.X Capitals).

Sector capitals are automatically destroyed if this system's Census drops below 3. This represents that the loss of population at the colony has caused the administrative center there to be abandoned as the bureaucrats either fled from the system or were killed by whatever event triggered the Census loss.

4.2.1 CAPITAL CONSTRUCTION

The economic cost to build a new imperial capital is equal to 10 times an empire's total Census, and it takes 10 turns to build a new imperial capital. This cost and built time is halved if the imperial colony is being built at a colony that already has a sector capital (round fractional costs up). This expenditure finances the construction of a new administrative facility that is large enough to accommodate the amount of government activity that will be conducted there. Smaller empires pay less for their capitals because they require less space and fewer bureaucrats to administer their holdings. Nations that control expansive colonial and/or commercial empires have higher administrative overheads because they have more citizens to govern, ships to inspect, tariffs to levy, etc. Their high-level officials also tend to expect a higher standard of living as a way of displaying a symbol of their nation's wealth to foreigners that visit the capital to conduct state business.

Sector capitals are special facilities that follow all of the standard rules for facility construction and maintenance (see X.X Facilities) with the notable exception that they can only be built at core worlds that have at least 6 Census. In contrast, empires can

build their imperial capitals at any of their colonies regardless of their colony importance. This ensures that an empire can establish or reestablish an imperial capital even if it doesn't control any colonies that have populations large enough to qualify them for core world status.

An empire can only have one imperial capital at any given time.

4.2.2 ZONES OF CONTROL

The maximum distance that a capital can administer friendly colonies is called its zone of control and is equal to its system's commerce range. This zone of control defines the distance that imperial power extends outwards from the capital system and determines the size of the sector that the capital is directly administering.

Colonies that are located within a capital's zone of control are more politically stable because they are more tightly integrated into their empire's bureaucracy. This gives them greater access to an empire's leaders and/or representation in its governing bodies which in turn gives these colonies greater influence over imperial decision making. In contrast, frontier colonies that exist beyond the zone of control of any of their empire's capital systems are politically isolated and less likely to support their empire's actions or policies. These frontier colonies receive a +1 penalty to their system loyalty checks that reflects that their colonial populations are more likely to come into conflict with their ruling government.

4.2.3 LOSING AN IMPERIAL CAPITAL

An empire can only lose its imperial capital if its colony is conquered, destroyed, or abandoned. The imperial capital is automatically razed and remains destroyed even if friendly forces successfully liberate the colony or the system is later recolonized. The damage has already been done and the capital is lost. Sector capitals are comparatively easier to destroy because they are treated as normal facilities, and they can be destroyed using Anti-Facility bombardment missions or Sabotage: Facility intel missions.

The successful conquest of an imperial capital gives an invading army the opportunity to loot the

imperial treasury before burning the capital to the ground. Pillaging an imperial capital nets the conquering power half of the economic points in the defender's economic pool at the time of conquest (round up).

The loss of an imperial capital leaves a nation without a central, recognized authority to administer its territories and other assets. Surviving government officials will try to hold the empire together during the interregnum until a new seat of government is established but the splintered nature of their political efforts leads to even more challenges, as described below. The empire's colonies receive a +1 loyalty check penalty during this period of turmoil as the colonial leadership openly challenges the provisional government's mandate to rule. Colonies are more likely to suffer morale failures in these times of crisis, falling into unrest or rebellion as the vestiges of the former government breakdown all around them. If enough colonies go into rebellion, an empire may find itself fighting a civil war in addition to dealing with the crisis that sparked the loss of its imperial capital in the first place.

An empire can't offer, sign, or break treaties with other powers without an imperial capital nor can it issue new declarations against foreign powers until a new imperial capital is established. The provisional government is incapable of enforcing any of the treaties or declarations that it might endorse, and too many governors, admirals, and generals would simply choose to ignore them in favor of policies that favored their individual personalities and ambitions.

4.3 Spheres of Influence

"Two important characteristics of maps should be noticed. A map is not the territory it represents, but, if correct, it has a similar structure to the territory, which accounts for its usefulness."

- Alfred Korzybski

A sphere of influence is the territorial region, consisting of one or more star systems, that an empire directly controls or hold legitimate claims to, either through natural expansion or treaty. The size of an empire's sphere of influence is determined by two factors: the number of colonies the empire

controls, and the supply range those colonies possess. Barring outside factors, powers *control* any system where they have a colony and *claim* any uninhabited systems that within the supply range of their colonies. Disputed systems that contain mutually hostile forces are *contested*. Claimed, controlled, and contested empires are all part of an empire's sphere of influence. These basic concepts drive the formation, expansion, and contraction of imperial spheres of influence.

4.3.1 POLITICAL STATES

Each of the star systems on the map are assigned a political state and affiliation. A system's political state (neutral, claimed, controlled, contested) tells the player what level of control an empire is exerting over the system, while its affiliation tells you who owns the system.

Controlled Systems

Empires control inhabited star systems where they own colonies. Controlled systems are an integral part of a power's sphere of influence and nothing short of a full military conquest will wrest them from its control. This is in contrast to claimed systems that can change ownership based solely on whose military forces are stationed there or who has the greatest effective supply range in the system. Any player that wants to be sure that a system is part of his empire's sphere of influence should make establishing a colony there a top priority.

While rare, an empire can cede ownership of its controlled systems to other powers. Surrendering colonies to an opponent usually only happens when a player is forced to give up territory as part of the terms of a particularly harsh armistice treaty.

Claimed Systems

An empire can lay claim to any uninhabited system that is both located within the supply range of one or more of its colonies and connected via a jump lane to one of its other claimed or controlled systems. If multiple powers can trace supply into a system, the empire with the largest military force in the system (by Command Cost) has a claim to the system. Otherwise, if there aren't any military forces in the system, the empire with the highest effective supply range (i.e., the colony's supply range minus distance between the two systems) holds the superior claim. In the case of a tie, neither of the

powers can claim the system and it becomes a neutral system.

Empires can voluntarily relinquish claims on their claimed systems to other powers as part of a treaty agreement. Players may choose to sign away their empires' rights to certain claimed systems in order to diffuse tensions and demonstrate that they have no interest in owning those systems. Any empire that has ceded its territorial claims to another power have an effective supply range of zero in these systems. Territorial claims are renewed if the treaty that relinquished them is broken or withdrawn.

Contested Systems

A system is contested if it contains assets belonging to two or more mutually hostile empires that are currently in a state of war. Systems remain in a contested system state until all hostile forces are driven from the system or the attacker successfully capture the colony and remove all of the remaining defenders. Contested systems are considered to be part of the spheres of influence of both empires that are fighting for ownership of them.

Neutral Systems

Neutral systems are located outside the supply ranges of any nearby colonies and are therefore unclaimed and not part of any empire's sphere of influence. A system remains in a neutral state until a power can extend supply into the system at which point it will become a claimed system.

Systems usually don't stay neutral for very long and the race to control neutral systems is one of the great sources of conflict during the early stages of a campaign. Galactic real estate is a limited resource and many of these unclaimed worlds may be worth going to war to control.

4.3.2 SECTORS

An empire's sphere of influence is divided into multiple sectors based on the number, location, and zones of control of its capital systems. Each capital assumes administrative control of its own sector, which includes all of the empire's controlled systems that are located within the capital's commerce range. In the event that a system is within the zone of control of multiple capitals, it is added to the sector administered by the capital with the greatest effective commerce range in the system (commerce

range minus distance). Systems that are located outside the zones of control of any of their owners' capitals aren't part of any sectors.

4.3.3 BORDERS

Empires that sign a border treaty agree to respect each others borders and can't intentionally move military assets across the border into the opponent's sphere of influence unless they have also signed a separate military treaty that grants them that access.

4.3.4 NEUTRAL ZONES

A neutral zone is a demilitarized zone that can be created between two empires to separate their spheres of influence with the intent of minimizing future antagonism. Players can opt to create a neutral zone as part of a normal border treaty. Such a treaty would include special provisions indicating that one or more claimed or neutral systems located along the mutual border are to be set aside and purposefully excluded from either signatory's sphere of influence. These systems become de facto neutral systems regardless of either empire's effective supply range into the system, at least until the border treaty is broken or a third-party absorbs them into its own sphere of influence.

Neither empire is allowed to move forces into the neutral zone without the express consent of the other party, nor may either party establish colonies in these systems. Either of these actions would violate the terms of the border treaty that created the neutral zone.

4.3.5 CUT OFF REGIONS

Enemy attacks, natural disasters, or other national crises can end up cutting off portions of an empire's sphere of influence. A region is considered to be "cut off" if none of the colonies in the affected region can trace a continuous route of jump lanes back to their imperial capital that doesn't pass through a contested system or territories owned by a non-military treaty partner. All of the colonies and facilities in a region that are similarly affected but can trace jump lanes paths to one another are part of the same cut off region.

All of the campaign resources that are generated in a cut off region are stored in separate resource

pools. Any purchases that a player makes in the cut off region can only be paid for using this special reserve of resources. The economic, population, tech, and intel points that a cut off region accrues during its time of isolation are returned to its owner's own resource pools once contact is restored.

A cut off region must rely on its own food production capabilities to feed all of its Census, and none of the food produced in a cut off region can be transferred to any of its owner's other colonies that are located outside the cut off region.

New unit classes that completed prototyping after the region was cut off can't be built in the cutoff region. Similarly, any new units that are prototyped in the cut off region won't be available in the rest of the empire unit after contact is restored.

4.4 Culture

"A nation's culture resides in the hearts and in the soul of its people."

- Mohandas Gandhi

Culture is a representation of a society's attitudes and values that influence its diplomatic relations with other powers. All empires are assigned three culture values: Aggressiveness (AG), Integrity (IN), and Xenophobia (XE). These values range from 1 to 100 (low to high). Player empires are normally assigned culture values of AG 50, IN 50, XE 50. A culture value of 50 is a neutral baseline, and an empire with all of its culture values at this level won't receive any diplomatic modifiers, either positive or negative. Players have the option of changing their empire's culture values before the start of the game if they so choose, however.

Culture values can be assigned to non-player empires in a number of ways. Non-player empires that are included as part of a pre-generated campaign scenario are usually pre-assigned culture values that reflect their own unique personalities and diplomatic inclinations. Manually assigning culture values to a non-player empire is best when you're attempting to model the culture of a nation from an existing science fiction universe. Another option for assigning culture values is to randomly

assign culture values to new empires by rolling a D100 for each culture value. This is most appropriate when randomly generating new non-player empires that a player encountered during the course of an ongoing campaign.

While non-aligned empires are assigned culture values, they have less impact on its interaction with other powers than those that are assigned to player or non-player empires (see X.X NAE Diplomacy).

4.4.1 AGGRESSIVENESS

Aggressiveness (AG) represents a power's tendency to resort to violence in order to solve its problems. Powers with high Aggressiveness values are hostile, quick to go to war, and less likely to agree to a peaceful resolution to conflicts. Powers with lower Aggressiveness values are pacifistic and prefer to avoid conflict if at all possible. An empire's Aggressiveness modifies its relationship values with other powers when it attempts to issue declarations against them.

AGGRESSIVENESS OVERVIEW CHART

| AG | Diplomatic Overview |
|--------------|--|
| 20 or less | Extreme Pacifist. This empire is unlikely to resort to violence even when beset by hostile foes intent on its destruction. |
| 21-40 | Peaceful. This empire is reluctant to go to war unless faced with sufficient provocation. |
| 41-60 | Neutral. This empire doesn't exhibit any extreme tendencies towards war or peace. |
| 61-80 | Hostile. This empire is more inclined to use violence to achieve its goals. |
| 81 or higher | Extremely Hostile. This empire is so belligerent that it makes diplomacy almost impossible. |

4.4.2 INTEGRITY

Integrity (IN) is a measure of a power's willingness to honor its past agreements. It is more difficult for empires with high Integrity values to break the treaties they have signed with other powers.

Conversely, empires with low Integrity values assume a more laissez faire attitude towards politics and treaties signed with them may not be worth the paper they were written on. An empire's Integrity modifies its relationship values with other powers when it tries to break treaties it has previously signed with them.

INTEGRITY OVERVIEW CHART

| IN | Diplomatic Overview |
|--------------|--|
| 20 or less | Deceitful. This empire has no intention of honoring the treaties it signs and will break them at the first opportunity. |
| 21-40 | Unreliable. This empire is willing to abrogate its treaties if it finds that it is in its best interests to do so. |
| 41-60 | Honest. This empire honors most of the treaties it signs, but can still break them when the need arises. |
| 61-80 | Reliable. This empire prefers to honor its treaties with other powers and doesn't like breaking treaties. |
| 81 or higher | Honorable. This empire is dedicated to honoring the treaties that it signs with other powers and reacts very negatively to those that dishonor their treaties. |

4.4.3 XENOPHOBIA

Xenophobia (XE) determines a power's attitude towards other empires. Powers with high Xenophobia values openly dislike other alien species and take every precaution possible to limit their contact with outsiders. Powers with low Xenophobia values tend to be more "xeno-friendly" and actively pursue relations with the empires they come in contact with. An empire's Xenophobia modifies its relationship values with other powers for purposes of signing treaties with them.

XENOPHOBIA OVERVIEW CHART

| XE | Diplomatic Overview |
|--------------|--|
| 20 or less | Universalist. This empire enthusiastically greets each foreign power it encounters and is extremely interested in forging lasting relations with them. |
| 21-40 | Friendly. This empire encourages interactions with other empires and species and make good friends. |
| 41-60 | Open. This empire entertains diplomatic relations with some powers while openly distrusting others. |
| 61-80 | Insular. This empire minimizes its contact with other powers to limit outside influence upon its society. |
| 81 or higher | Isolationist. This empire doesn't want anything to do with the outside world and prefers to be left alone. |

4.4.4 CULTURAL REVOLUTIONS

Empires can attempt to change their culture values by initiating cultural revolutions. These revolutions spark a period of turbulent social upheaval that can lead to permanent changes in the nation's cultural outlook.

Intel points are spent to fund a cultural revolution, representing the use of state propaganda and social programs to try and manipulate public opinion and make them more open to embracing social change. Each intel point spent on the revolution increases its chance of success.

It takes 10 turns to complete a cultural revolution. On the tenth turn, the player takes the number of intel points spent on the revolution and divides it by 10 times the empire's total Census to calculate its percentage chance of success. A percentile (D100) die is rolled against this chance to see if the revolution was a success or failure. A successful cultural revolution allows the player to increase or decrease his empire's culture values by a total of up

to 50 points. The player always chooses which culture values are affected by the cultural revolution.

A failed cultural revolution can spark a reactionary counter-revolution if the D100 roll was greater than or equal to twice the chance of success. Counter-revolutions cause each of an empire's colonies to lose 1 Morale as the counter-revolutionaries rollback the social policies put in place during the revolution and purge the political elements that supported those policies. Such harsh acts to return to the status quo can incite additional violence and lead to even greater political instability.

4.5 Diplomacy

“Diplomacy is a disguised war, in which states seek to gain by barter and intrigue, by the cleverness of arts, the objectives which they would have to gain more clumsily by means of war.”

- Randolph Bourne

Diplomacy is one of the most vital enterprises an empire can engage in. While some nations can survive and even thrive in a state of “Splendid Isolation,” the futures of all empires — even those that are staunchly non-interventionist — are determined by the whirlwind of diplomatic intrigue and real politick that is carried out within the shadowed halls of foreign capitals and embassies.

4.5.1 DIPLOMATIC STATES

Diplomatic states describe the level of diplomatic contact that exists between two opposing empires. Empires that have never met or have lost contact with one another are in a state of no contact. Relations progress to normal relations after contact is established. Finally, powers that are engaged in an armed military conflict are in a state of war.

No Contact

A state of no contact exists between empires that have never encountered each other before. This diplomatic state transitions to non-intercourse once the powers make first contact.

Non-Intercourse

Empires that have encountered one another before but haven't signed a border treaty are in a state of

non-intercourse. The only treaty that two empires in this state can sign is a border treaty.

Diplomatic contact between empires that are in a state of non-intercourse are sporadic at best. There has been no exchange of permanent ambassadors between the two nations and any diplomatic offers must be dispatched via diplomatic courier to deliver the messages directly to one of the opponent's military units or colonies.

Normal Relations

Normal relations are established when two empires sign a border treaty. Empires that have normal relations with another power can offer and sign treaties with that nation.

War

A state of war exists between two empires when one party or the other issues a declaration against their opponent. The war continues until an armistice treaty is signed, and this is the only type of treaty that the warring powers can sign while they are at war.

4.5.2 FIRST CONTACT

First contact occurs when two empires encounter one another for the first time. This can happen when fleets belonging to the two powers move into the same system or when one of them moves ships into a system the other has already colonized. Empires can also come into contact with each other when they both have embassies at another foreign capital.

Initial Relationship

When two empires meet for the first time they are assigned a relationship value that describes how they feel about one another after making first contact. Initial relationship values are calculated as shown below:

$$50 - (D100 + AG_1 + AG_2) \div 3$$

(round up)

This formula takes the average of a D100 roll plus the two empires' Aggressiveness values and subtracts it from 50. The D100 die acts as a randomizer that can shift the starting relationship up or down depending on the die result, but their Aggressiveness values play a major role in determining their initial relationship. Two empires

that are both generally hostile towards outsiders are almost always going to start with poor relations and inevitably end up at war with each other.

Establishing Communications

One of a first contact team's primary jobs is to establish communications with the alien power that they have just encountered. Computer, cryptographic, and linguistic specialists must pool their efforts to find some way of communicating with the aliens. First contact teams have to find a means of communications and institute a common language framework that both parties can use to exchange ideas and information. This makes establishing communications with a new species an extremely difficult and time consuming endeavor.

Beginning in the Diplomacy Phase of the turn in which first contact takes place, any time that two empires that haven't established communications with each other end up in the same system they'll make an attempt to open a line of communications. The outcome of these attempts is found by rolling on the Communications Table below.

COMMUNICATIONS TABLE (2D6)

| Roll | Effect |
|------------|--|
| 4 or less | Communications Rejected. The first contact teams are growing increasingly frustrated and this is leading to a breakdown in relations. The empires receive a -1D6 modifier to their relationship. |
| 5-8 | No Effect |
| 9-11 | Partial Communications. First contact teams report that significant headway has been made in translating the alien language. The empires receive a +1 bonus to their future communications rolls. |
| 12 or more | Communications Established. The empire have established full diplomatic contact and can now begin negotiating treaties. |

Modifiers:

+1 per 5 Diplomatic

Empires that are populated by the same species usually share a common language that allow them

to automatically establish communications when they make contact with one another. Similarly, an empire that has successfully established communications with a third-party can use that power's language to negotiate with another power that the intermediary has already established communications with.

Powers can't negotiate treaties until they have established communications with each other. They can still issue declarations against one another, but these declarations are never communicated to the target of the declaration because there is no way to express the declaration except through commensurate acts of violence.

Communication attempts do occur at conquered systems if an invader is incapable of communicating with the conquered colony's inhabitants. This gives an empire the opportunity to study the alien language first hand so that it can effectively communicate with the conquered populations under its control as well as any other surviving speakers of that language that might still exist out in the galaxy at large.

First Contact War

First contact doesn't always end peaceful. Rarely, the commanders involved in a first contact situation can get trigger happy and inadvertently trigger a first contact war. The percentage chance of this happening is equal to the greater of the two empires' Aggressiveness values divided by 4 (round down), minus 1% per point of Diplomatic value that the powers have in the first contact system.

Contact that triggers a first contact war leads to an automatic hostilities declaration between the two powers. The belligerents won't be able to negotiate an armistice to end the war until after they manage to establish communications, a restriction that makes it quite difficult for a first contact war to come to a rapid conclusion. The empires will still attempt to establish communications with each other during the first contact war whenever their forces occupy the same system during the Diplomacy Phase.

The best chance for establishing communications and signing an armistice to end a first contact war comes from invading or otherwise occupying one of your opponent's inhabited systems. This ensures that a communications roll will be made each turn

that can eventually unlock the ability to sign treaties and conduct meaningful diplomacy.

Example: The Kili have made first contact with the Senorians. These empires haven't met before and they don't have any common contacts that could be used to bridge the language gap. On the first turn the empires roll a '3' on the Communications Table for no effect.

On the next turn the Kili move a fleet of diplomatic vessels into the contact system (they just happened to be sitting a jump away!). This fleet has 7 Diplomacy value. This provides a +1 bonus to the attempt to establish communications this turn. The die roll is '8' and the Diplomatic ability modifier increases it to a 9. This is a Partial Communications result which itself provides a cumulative +1 to future communication attempts.

On the third turn the powers roll a '10' on the Communications Table. Adding the +1 from Diplomatic units and +1 from the Partial Communications result last turn brings this to a 12. Communications have been established and now the Kili and Senorians can begin negotiating treaties with each other!

4.5.3 DIPLOMATIC RELATIONS

Relationship Values

Relationship values are used to track the current state of diplomatic relations between empires in a campaign. Each unique diplomatic relationship is assigned its own relationship value. Relationship values are measured on a sliding scale with a maximum of +100, a minimum of -100, and a true neutral balancing point of ±0. Positive relationship values indicate that powers enjoy a friendly relationship while negative relationship values betray the underlying hostility and political tension that can lead to open conflict or even war.

As relationships between two powers deteriorate, as demonstrated by a decrease in their relationship value, the powers will find it more difficult to offer or sign treaties. However, the chance of successfully breaking treaties or issuing declarations against an opponent increases as an empire's relationship with the target decreases.

SAMPLE DIPLOMATIC RELATIONSHIP MATRIX

| | Empire A | Empire B | Empire C | Empire D |
|----------|----------|------------|------------|----------|
| Empire A | | -16 | +25 | -35 |
| Empire B | -16 | | No Contact | -12 |
| Empire C | +25 | No Contact | | +20 |
| Empire D | -35 | -12 | +20 | |

A diplomatic matrix similar to the example depicted above is used to track diplomatic relationships during play. This sample diplomatic matrix depicts diplomatic relationship values for four empires, lettered A through D. Note that each pair of empires share a relationship value. For example, Empire A and Empire B are currently at -16 Relationship indicating poor diplomatic relations but nothing that some attention couldn't remedy. Any two powers will always share the same relationship value because a single relationship value is tracked for the diplomatic relationship. Because a single relationship value is applied to each diplomatic relationship in a campaign, a total of six unique diplomatic relationships and corresponding relationship values are depicted in this matrix.

Diplomatic Shifts

Diplomatic relations are always in a state of flux. Webs of political intrigue are constantly being woven in the shadows by either side's power brokers. While the nature of these intrigues is not readily discernable, their effects can nevertheless shape the fates of empires. To simulate this constant ebb and flow of political discourse, players are required to make a roll on the Diplomatic Shift Table at the beginning of the Diplomacy Phase for each relationship in their campaign to see if relations have improved, worsened, or stayed the same. Diplomacy shifts aren't rolled for empires that made first contact with each other on the current campaign turn.

DIPLOMATIC SHIFT TABLE (2D6)

| Roll | Effect |
|------|--|
| 2-3 | Major Diplomatic Incident: -2D6 Relationship |

| | | | | |
|--------------|-----------|------------|---------------|------|
| 4-5 | Minor | Diplomatic | Incident: | -1D6 |
| Relationship | | | | |
| 6-8 | No Effect | | | |
| 9-10 | Minor | Diplomatic | Breakthrough: | +1D6 |
| Relationship | | | | |
| 11-12 | Major | Diplomatic | Breakthrough: | +2D6 |
| Relationship | | | | |

Relationship Modifiers

Specific campaign events can trigger a change in diplomatic relations between two empires. In particular, atrocities committed during times of war can have a major impact on how two powers view one another.

The following is a list of event-based modifiers, categorized by type, which can affect relationship values. The value in parenthesis is the relationship modifier. These relationship modifiers take effect immediately after the event that caused them occurs. Most relationship modifiers are diplomacy-based and can be resolved en masse at the end of the Diplomacy Phase after all other diplomatic activities have been completely resolved. Other relationship modifiers, specifically intel mission modifiers, must be applied immediately. This ensures that relationship values are properly updated by the start of the next Diplomacy Phase.

Intel Mission Modifiers

Empires that are caught running intel missions against an opponent receive relationship penalties based on the mission's difficulty level and whether or not the mission was successful.

The base relationship penalty for a detected mission is equal to the mission's difficulty level, but this penalty is halved if the mission was unsuccessful (round fractions up).

Missions that go undetected don't incur diplomatic penalties regardless of their success or failure.

Territory Modifiers

The exchange of territory in the form of star system claims or actual colonies benefits diplomatic relations by increasing the powers' relationship value. Empires often agree to exchange territories as part of a negotiated settlement intended to settle border disputes and prevent future conflicts.

Penalties for capturing or destroying enemy systems or colonies don't exist because such activities are expected during times of war and applying additional relationship penalties for such territorial losses would make it all but impossible for two empires to ever end a conflict peacefully via an armistice treaty.

- The power has ceded claim of a Very Low importance star system to you. (+2)
- The power has ceded claim of a Low importance star system to you. (+4)
- The power has ceded claim of a Moderate importance star system to you. (+6)
- The power has ceded claim of a High importance star system to you. (+8)
- The power has ceded claim of a Very High importance star system to you. (+10)
- The power has ceded an Outpost to you. (+5)
- The power has ceded a Settlement to you. (+10)
- The power has ceded a Minor Colony to you. (+15)
- The power has ceded a Major Colony to you. (+20)
- The power has ceded a Core World to you. (+25)

Diplomatic Modifiers

Negotiations never exist in a vacuum and the treaties and declarations that an empire agrees to will affect its relationships with other powers. Relationship bonuses are applied when an opponent signs treaties with a nation's mutual defense partners or issues declarations against common enemies. Alternatively, relationship penalties are applied when an opponent signs treaties with an enemy or issues declarations against an empire's mutual defense partners.

For the purposes of these modifiers, an *enemy* is any power with which an empire is currently in a state of war, and a *friend* is any power that an empire has signed a mutual defense treaty with.

- The power has signed a border or trade treaty with an enemy. (-2)

- The power has signed a border or trade treaty with a friend. (+2)
- The power has signed a non-aggression treaty with an enemy. (-5)
- The power has signed a non-aggression treaty with a friend. (+5)
- The power has signed a mutual defense treaty with an enemy. (-10)
- The power has signed a mutual defense treaty with a friend. (+10)
- The power has signed an alliance or co-belligerency treaty with an enemy. (-15)
- The power has signed an alliance or co-belligerency treaty with a friend. (+15)
- The power has issued a hostilities declaration against an enemy. (+5)
- The power has issued a hostilities declaration against a friend. (-5)
- The power has issued a war declaration against an enemy. (+10)
- The power has issued a war declaration against a friend. (-10)
- The power has issued a final war declaration against an enemy. (+20)
- The power has issued a final war declaration against a friend. (-20)
- The power has eliminated another empire or species that this empire didn't consider an enemy (-10)

4.5.4 EMBASSIES

The cost to establish an embassy at a foreign capital is equal to 10 times the distance between that system and the purchasing empire's closest imperial or sector capital. An embassy can only be purchased at a foreign capital if two empires have normalized relations by signing a border treaty. Breaking a border treaty removes all of an empire's embassies from its opponent's capital systems.

Empires have diplomatic contact to every power that has an embassy at the same capital system. This allows nations that are located in disparate regions of the galaxy to come in contact with each other and

engage in diplomacy when they would otherwise have no way of knowing about each other's existence.

4.5.5 DIPLOMATIC COURIERS

//units with the Diplomatic special ability

// give bonuses to first contact, opening communications, performing diplomatic missions

// used to conduct diplomacy with empires that you're not in contact with

Empires that are in a state of non-intercourse rely on diplomatic couriers to transmit diplomatic messages to each other. These diplomatic messages are dispatched from one of the empire's capital systems and then delivered to one of the target's military units or colonies by moving into a system where they're located. For example, an empire that wants to offer a border treaty to another power would have to dispatch a diplomatic courier from one of its capital systems and have that courier move until it reaches a system that contains assets belonging to the specified opponent. The diplomatic offer is delivered once this condition is met, the treaty offer is communicated to the opposing government which chooses to sign or reject it, and the response is then forwarded back to the diplomatic courier. The empire then learns the result of the treaty offer once the diplomatic courier returns to a system in its own sphere of influence.

Diplomatic couriers traditionally have higher strategic speeds (higher FTL values) than other units so that they can more quickly deliver diplomatic messages between star systems.

Units that are used as diplomatic couriers aren't required to have the Diplomatic special ability, but it's often in a player's best interests to combine the two functions to reduce the number of unit classes his empire has to maintain.

4.5.6 DIPLOMATIC MISSIONS

cost equal to 5 x distance between closest capitals

can't pass through contested systems

attempts to improve or degrade relations with the target power

Diplomatic units at the target capital provide a bonus

Can only dispatch one diplomatic mission to each opposing capital per turn.

DIPLOMATIC MISSION TABLE (2D6)

| Roll | Effect |
|-------|---|
| 2-4 | Diplomatic Incident. Your empire's relationship with the other power is reduced by 1D6. |
| 5-7 | No Effect |
| 8-9 | 1D6 Relationship |
| 10-11 | 2D6 Relationship |
| 12+ | 3D6 Relationship |

Modifiers:

+1 per 5 Diplomatic (round down)

Chance of success based on mission difficulty

+5% per Diplomatic value that the power has in the opponent's capital systems.

Improve Relations

IMPROVE RELATIONS MISSION TABLE (2D6)

| Roll | Effect |
|------------|--|
| 2-3 | Minor Diplomatic Incident. -1D6 Relationship |
| 4-5 | No Effect |
| 6-9 | Minor Diplomatic Breakthrough. +1D6 Relationship |
| 10 or more | Major Diplomatic Breakthrough. +2D6 Relationship |

Damage Relations

DAMAGE RELATIONS MISSION TABLE (2D6)

| Roll | Effect |
|------|--|
| 2-3 | Minor Diplomatic Breakthrough. +1D6 Relationship |
| 4-5 | No Effect |
| 6-9 | Minor Diplomatic Incident. -1D6 Relationship |

10 or more Major Diplomatic Incident. +2D6 Relationship

Influence Relations

This mission attempts to influence the target empire's relationship with another power. It can be used to increase or decrease relationship values.

// choose relationship to influence

// on a success, the target's relationship moves the indicated distance towards the performing empire's own relationship with that power; this has the effect of improving the target's relationship with nations that an empire is friendly with or making them more antagonistic towards the empire's enemies

INFLUENCE RELATIONS MISSION TABLE (2D6)

| Roll | Effect |
|------------|--|
| 2-3 | Minor Diplomatic Incident. -1D6 Relationship |
| 4-5 | No Effect |
| 6-9 | Minor Diplomatic Influence. 1D6 Relationship |
| 10 or more | Major Diplomatic Influence. 2D6 Relationship |

4.5.7 TREATIES

Treaties are diplomatic agreements that confer specific rights, privileges, and obligations to the signatories. The ultimate goal of any treaty that an empire offers or signs is to strengthen its own political position.

Every treaty is assigned a **treaty modifier** that determines how difficult it is for an empire to sign a treaty of that type. Treaty modifiers are added to an empire's relationship with a target before calculating its treaty acceptance chance.

An empire's willingness to offer or accept a treaty is called its **treaty acceptance chance** and is calculated by taking its relationship with the target plus 50 minus its Xenophobia and then adding the treaty modifier for the specified treaty. An empire can only

offer treaties for which it has a treaty acceptance chance greater than zero. When it comes to signing treaties, player empires can sign any treaty for which its treaty acceptance chance is greater than zero. NPE empires must install roll D100 against their acceptance chances to see whether or not they are willing to sign the treaty. NAE empires automatically sign treaties that it has treaty acceptance chance greater than zero for (see X.X Non-Aligned Empires).

Example: A XE 87 nation that has a +18 relationship with another power. The empire has an effective relationship of -19 with the target. It could offer the target border (+21) or trade (+1) treaties, as their treaty acceptance chance for these treaties are both greater than zero after adding the applicable treaty modifiers (as shown in parenthesis). The empire can't offer any other treaties because its acceptance chance for the next highest level treaty, a non-aggression treaty, is -19%.

If this empire is a player empire, its player could accept an border or trade treaties he was offered by the target power without having to roll for success.

A NPE under the same circumstances would have to roll D100 against their treaty acceptance values. This gives it a 21% chance of accepting a border treaty and a 1% chance of accepting a trade treaty.

Finally, a NAE would automatically sign both the border and trade treaty with the target because the treaty acceptance chances are greater than zero. It automatically break any of the treaties without penalty when its treaty acceptance chance drops to zero or less.

Armistice Treaty (+60)

Armistice treaties are used to end ongoing military conflicts after war is officially declared. The only treaty that two empires that are currently at war can sign is an armistice treaty. Signing an armistice treaty ends the conflict and returns the powers to state of non-intercourse and provides them with a +10 relationship bonus. This bonus increases the chances that the two powers won't immediately resume hostilities.

The standard armistice is a neutral "no-fault" agreement – it does not officially place guilt for the conflict on any one party, and there is no requirement for one party or the other to surrender any additional resources to their enemy in order to secure the signing of the armistice. However, players are free to offer or negotiate armistice treaties that carry special conditions or limitations. For example, a victorious player might force his opponent to accept peace terms that require him to immediately

sign a tribute treaty, cede claims to disputed systems, or release one or more of its colonies as new, independent states.

When negotiating armistices with an enemy alliance, the alliance leader is ultimately responsible for negotiating the terms of an armistice treaty and decides whether the alliance will accept an armistice treaty when it is offered to the alliance. Other members of the alliance aren't allowed to sign separate armistices with an enemy without first withdrawing from or breaking their alliance treaty.

It is impossible for an empire to "break" an armistice treaty. An empire must instead issue new conflict declarations against an enemy if it wants to return to a state of war with the target power.

One element common to historical armistice treaties is the consideration of reparations. Reparations are resources or monies awarded to one nation, payable by another, as a form of restitution for losses incurred during the war. Players may also wish to provide for provisional border arrangements when negotiating an armistice treaty so that post-war reconstruction can commence without any additional conflicts erupting along the newly-established border. It is extremely difficult to determine just what kind of effect reparation requests should have on an armistice treaty's chance of success. Players and CMs must be the final arbiters of what is appropriate in all situations.

Border Treaty (+40)

A border treaty normalizes relations between two empires and establishes a mutual border between their two spheres of influence. Two empires can't sign any other higher level treaties until after they have signed a border treaty.

An empire can't knowingly order any of its units to move across the border into an opponent's sphere of influence once a border treaty is signed. Units that accidentally find themselves in a system that's controlled by an opponent that their empire has a border treaty with must move out of the system during the next Movement Phase or risk war. An opponent receives a +50% bonus to its breaking and declaration attempts if an empire refuses to vacate units from its systems on the turn after their arrival. This also has the effect of doubling a NPE power's breaking and declaration chances.

As part of signing a border treaty, each power must reveal both the location of its nearest capital system (relative to the contact system where the two empires made first contact) and the path of jump lanes that lead from the contact system to that capital. This information is required for an empire to be able to dispatch a permanent ambassadorial delegation to the other's territories to establish formal diplomatic relations. No specific information is revealed about the systems that are located along the chain of jump lanes that journey from the contact system to the nearest capital. Only the most basic jump lane geography is conferred by a border treaty, but it's still enough to give an opponent an idea as to the size of your empire and how to get to its nearest capital system.

Players are allowed to choose the route that they reveal to another power when they sign a border treaty. Normally a player would want to use the shortest path to maximize the efficiency of diplomatic missions, but a pragmatic players might instead choose to reveal a circuitous path that winds through their less important territories before finally reaching the nearest capital. This achieves the requirements of the treaty while concealing information about the empire's sphere of influence in case an opponent should turn out to be hostile.

Trade Treaty (+20)

A trade treaty is an agreement that authorizes merchant shipping to cross over the border and begin engaging in commerce in another empire's territories. A power can only establish trade routes to systems in an opponent's sphere of influence if the two empires have signed a trade treaty. Two parties must have a border treaty in place before they can sign a trade treaty.

When signing a trade treaty an empire is obligated to inform their new trading partner where their nearest Trading Post is located, including the path of systems that their ships must take to reach the center of trade from their mutual border. Empires that don't have any active Trading Posts must instead report the location of their imperial capital system so that foreign merchants can visit that world to setup their trading presence.

Trade routes are automatically severed if the trade treaty that allowed them to be put in place is broken or the system is captured by another empire. Players must be careful when building trade routes into

foreign systems because all of their trade investments can be undone with a stroke of a pen.

Non-Aggression Treaty (± 0)

// requires border treaty

Co-Belligerency Treaty (-10)

// requires non-aggression treaty

Military Treaty (-20)

// can use the other power's supply network

// can enter the other's territories

// allows sale of military units

// requires non-aggression treaty

// must tell location of nearest Supply Depot

Situations often present themselves where a nation might be willing to give an opponent some of the benefits of a military treaty without committing to a full treaty. For this reason empires are allowed to offer and sign special military treaties that give an opponent limited access to its sphere of influence and military logistics network. The terms of these treaties and their associated treaty modifiers must be decided on by the players or CM. Commonly, a limited military treaty would allow an opponent to use just one of their Supply Depots to resupply their forces, move military units through a specific system, or authorize the one-time sale of military hardware. A set expiration date may also be applied to these treaties so that they only last for a set number of turns before being retired.

Research Treaty (-20)

A research treaty authorizes the exchange of scientific data between two empires' scientists. This free exchange of information increases research efficiency.

// can freely share research data

// bonus to the other empire's research capacity equal to 10% of the empire's own (round up)

// can sell unit schematics

// requires trade treaty

Example: The Seniorians have signed a research treaty with the Kili. The Seniorians have a total research capacity of 74 while the Kili have a research capacity of 58. This research treaty

Mutual Defense Treaty (-40)

// requires military treaty

// empires are obligated to come to one another's defense

// when activated, another power has 3 turns to come to the other player's aid

// +50% bonus to declaring against common enemy

// if after 3 turns a declaration is not successfully made against the common enemy, the mutual defense partners' relationship drops by 25.

Alliance Treaty (-60)

//requires mutual defense

Unification Treaty (-80)

// requires alliance or protectorate

// two empires merge and become a single amalgamated empire

4.5.8 DECLARATIONS OF WAR

A declaration of war against another power breaks all of the treaties the two powers have signed and plunges them into a state of war. The armed conflict continues until one power or the other is conquered or the two powers agree to sign an armistice treaty.

The scope of an armed conflict is determined by a power's relationship with its enemy, as modified by its own Aggressiveness (AG) value. An empire's effective relationship with an opponent is calculated by taking its relationship minus its AG and then adding 50 to the total. This effective relationship (ER hereafter) provides limits to what an empire is allowed to do to an opponent during times of war.

Aggressiveness Relationship Modifier

50 - Aggressiveness

ER > 0: limited war goals; interested in capturing claimed systems only. Can't invade or bombard enemy colonies.

ER 0: Outposts

ER -10: Settlements

ER: -20: Minor Colonies

ER: -30: Major Colonies

ER: -40: Core Worlds

INVASION LIMITS CHART

| | |
|--------------|------------|
| Colony Size | Minimum ER |
| Outpost | None |
| Settlement | +10 |
| Minor Colony | -10 |
| Major Colony | -30 |
| Core World | -50 |

BOMBARDMENT LIMITS CHART

| | |
|---------------------|------------|
| Bombardment Mission | Minimum ER |
| Anti-Population | -50 |

Empires restrict their use of WMD bombardment to systems that they are currently capable of invading. The use of such terrible weapons against major population centers is seen as distasteful to most species and they're generally only used against smaller colonies unless two empires have reached such a point in their relationship that mutual annihilation is seen as the only hope for survival ("Nuke the site from orbit - it's the only way to be sure").

War Score

An empire maintains a separate war score for every military conflict that it's currently taking part in. This value tracks the empire's gains and losses during the war and applies a modifier to its relationship for the purposes of offering and signing armistice treaties. Negative war score values apply relationship bonuses that make empires more likely to sign armistices, reflecting that they're in a losing position and are more willing to consider peace. Positive war score values meanwhile indicate that an empire is winning the conflict and is less likely to entertain peace negotiations unless their luck sours.

After every space or ground battle an empire adds the total build cost of enemy units that were destroyed in the battle to its war score while at the same time subtracting the total build cost of its own units that were destroyed in that same engagement.

The loss of population and infrastructure at an empire's colonies also contributes to its war score. Each of the empire's Census that are killed by enemy forces reduces its war score by 30. Infrastructure

losses reduce war score by 10. In the event that a colony is conquered by an enemy, its original owner reduces its war score by 15 per Census and 5 per Infrastructure that are at the conquered colony. Empires that destroy or conquer enemy colonies increase their war score values by the same amount as the colonies' owners lost in all cases.

The actual relationship modifier that an empire receives from its war score is found by dividing its war score by its total system income, rounding fractional modifiers up. This modifier is then subtracted from the empire's current relationship with its enemy to determine its effective relationship for the purposes of ending the war.

Example: The Kili are at war with the Loran. Over the course of the war the Kili have destroyed 174 EP of enemy ships but they've lost 129 EP of their own ships. Unfortunately, the Loran have killed 3 Census and 8 Infrastructure at Kili colonies and conquered a border colony that had 2 Census and 4 Infrastructure. Kili commandos managed to conquer a 1 Census, 0 Infrastructure colony of the Lorans.

The Kili's war score currently stands at +174 (enemy kills) - 129 (friendly kills) - 90 (friendly population) - 80 (friendly infrastructure) - 50 (friendly conquered colony) + 15 (enemy conquered colony) = -160. The Kili's current system income total is 72. Dividing -160 by 72 provides a +3 relationship modifier from the Kili's war score. This marginal modifier demonstrates that the Kili empire has lost a marginal amount of its income during the conflict thus far, and its military victories have been sufficient to counteract its loss of population, infrastructure, and colonies during the war.

However, if the Kili's total system income was only 32, the modifier would instead be +5...

TRIBUTE

An empire can offer or demand the payment of tribute from other powers that it is in contact with. This tribute normally takes the form of economic points, but there is nothing stopping an empire from demanding population points or military units as tribute from an opponent. Empires that extort tribute from other powers usually do so because they are in a superior bargaining position and could easily wipe the tributaries out using their own military forces.

Whenever an empire is paying tribute to another power the recipient receives a penalty to its declaration chance that makes it harder for it to declare against the tributary. This modifier is

calculated by dividing the number of economic or population points that the empire is paying in tribute each turn by its total system income (round up). In cases where military units or other one-time payments are being provided, the value of these payments is divided by 10 and spread across 10 turns to ensure that the tributary power receives a long-term benefit to the lump sum tribute expenditure.

The declaration modifier conferred by tribute payments makes it harder for the nation that is receiving the tribute to declare against the tributary power. In essence the tributary is paying off the more powerful opponent in a direct attempt to keep them from attacking them!

NPE and NAE powers will only accept tribute demands if they know that an opponent's economy is at least twice their own, and then only if the player controlling them believes that they are in imminent danger of attack from the empire that demanded tribute from them. Conversely, players can choose to have NPE and NAE powers demand tribute from other powers if they roll a successful declaration chance against them but aren't in a position where declaring war makes any sense.

Example: The Graal are a minor power on the edge of Loran space that are paying 7 economic points and 2 population points per turn to the Loran as tribute. The Graal's current system income is 28 economic points per turn. This 9 points of tribute reduces the Loran's declaration chance by $9 \div 28 = 33\%$. If the Loran empire had a declaration chance of 25% currently, this penalty would reduce it to -8%, making it impossible for the Lorans to declare war against the Graal.

Had the Loran's declaration chance been higher, the Graal may have been forced to gift them a pair of freighters costing 6 economic points each. This gift would have provided a +2 tribute bonus for the next 10 turns, increasing the declaration penalty to $11 \div 28 = 40\%$ during that time frame.

VASSALS

A vassal is a power that is subordinate to the political will of another more powerful nation. Vassals are nominally independent and are considered to be separate empires for the purposes of the rules, but they are controlled by the player or empire that has vassalized them.

The peaceful avenue for vassalization requires an empire to sign a protectorate treaty with another

power. A protectorate treaty creates a binding partnership between the two powers. This brings increased security for the protectorate but at the cost of its political independence. A protectorate treaty has a treaty modifier of -60 and replaces an alliance treaty for NPE powers that meet the treaty offering requirements.

Empires can also be forced into vassalization as part of the terms of an armistice treaty. A power must have a armistice treaty acceptance chance greater than or equal to 50% before it'll consider becoming a forced vassal, and a NPE's chances of accepting such terms is equal to its armistice treaty acceptance chance minus 50%. Powers that choose to become forced vassals immediately sign border and protectorate treaties with their opponent. This allows the conqueror to take control of the vassal's remaining assets. The defeated empire is now a satellite state that is under the political domination of the victorious conquerors.

Mutual defense, co-belligerency, and alliance treaties that an empire signs automatically extend their benefits to all of its vassal states, too. The other treaty signatories aren't offered the opportunity to approve or deny the vassals' inclusion under the terms of these treaties, they are simply included as if they the vassals were an extension of their attached empires' own spheres of influence. Similarly, any declaration of war issued against an empire are reciprocated against all of its vassals. War declarations made against a vassal are extended to their controlling empire, too, in the same way that any declaration of war against one empire extends to all of its allied powers. This ensures that all of an empire's vassal states can mobilize their forces and join a conflict without having to issue separate declarations of war against an enemy.

An empire can only be vassalized by another power if its total system income is less than or equal to half that of the empire it is being vassalized by. This condition is a requirement for vassalization. A vassal whose income exceeds this limit reasserts its independence during the Diplomacy Phase. These powers convert their protectorate treaties into standard alliance treaties and can either choose to maintain them (if their relationship with their former masters is high enough) or else break the treaties and strike out on their own as a free nation.

EXTERMINATION

Particularly depraved alien species can choose to exterminate colonial populations. This extermination might take the form of forced labor camps that work the colony's inhabitants to death, or the empire might actually be butchering them for use as an additional food source.

Only those empires whose Aggressiveness or Xenophobia are greater than or equal to 90 are allowed to use their ground forces to exterminate Census at their colonies. A total Command Cost of ground forces equal to a system's Census must be deployed to the system before extermination can begin. Once this requirement is met the power can begin eliminating Census at a rate of 1 Census per turn. Each turn of extermination reduces the system's Census and Morale values by 1. Aggressive species tend to eat their captives, and they receive a food production bonus equal to 10 times the system's original Census. Xenophobic species prefer to just use the population as expendable labor, and they instead receive an economic point bonus equal to 10 times the system's original Census. If an empire's AG and XE values are both greater than or equal to 90 it can choose to receive either of these two bonuses.

The signs are population extermination are extremely hard to conceal and any empire that visits the system will know what happened. Colonies never lose their conquered colony status if they are conquered by a power that is known to have exterminated Census in the past. This applies to colonies that didn't know about an enemy's wartime atrocities until after they were subjected to the horror firsthand after they were conquered. For a exterminating power this means that none of the colonies it conquers will ever integrate into their empire and the only way to establish a stable long-term colony there will be to wipe out the indigenous inhabitants and then recolonize the system using its own colonists.

Empires that discover that another empire has been exterminating Census receive a +50% bonus to their attempts to break treaties with or declare war against the offending power. This bonus even applies to empires that have been known to exterminate Census in the past -- after all, they're just as worried about other governments that threaten their own long-term survival!

GENOCIDE

Genocidal warfare is one of the most hideous experiences that any empire can face during a campaign. Hyper-aggressive empires that refuse to engage opponents diplomatically often choose to eliminate enemy populations in favor of simply conquering them. Whether it's the ravenous hivemind or an army of crazed robots, most space opera settings include some alien species that is bent on ruthless destruction or victory at any cost. Such callous disregard for intelligent life leaves little room for negotiation and will almost ensure that any power willing to commit such crimes against sentients will be shunned or hated by all opposing powers.

A genocide occurs when an empire kills an empire's last Census. In campaigns that split Census into different species types, genocide instead occurs when the last Census of a particular species is killed. Note that this is killed, not conquered. Conquering all of an opponents colonies doesn't kill all of their Census, but exterminating them or destroying them using orbital bombardment will.

Empires receive a +50% bonus to their attempts to break treaties or declare war against powers that they know have committed genocide in the past. The sole exception is cases where an empire committed genocide against another power that was known for its own genocidal tendencies. In other words, eliminating an alien species that earned a reputation for going around wiping out all other forms of sentient life isn't seen as a bad thing and doesn't earn an empire a penalty in its relations with other players.

NPE DIPLOMACY

Offering Chance

A NPE has a chance of offering a treaty to other empires each turn during the Diplomacy Phase. This offering chance is calculated as follows:

$$(100 - XE + Relationship) \times 10\%$$

(round to nearest)

A separate offering chance roll is made for every empire that a NPE is currently in contact with. The NPE's Xenophobia and its relationship with the target influence its likelihood of offering a treaty. If

successful, the NPE offers the next highest level treaty (by treaty modifier) that it has available with the target power. The target then decides whether or not to sign the treaty.

In the event that the NPE doesn't have any treaties available that it can offer, players should interpret the successful offering chance as a sign that the NPE wants to develop better relations with the target. Whoever is controlling the NPE should consider having it dispatch diplomatic missions to the other power to improve relations so that it can sign additional treaties in the future.

Breaking Chance

A NPE has a chance of breaking a treaty to other empires each turn during the Diplomacy Phase. This breaking chance is calculated as follows:

$$(100 - IN - Relationship) \times 10\%$$

(round to nearest)

A separate breaking chance roll is made for every empire that a NPE is currently in contact with. A combination of the NPE's Integrity and its relationship with the target is used to determine how likely it is to try and break a treaty with that power. If successful, the NPE will attempt to break the highest level treaty (by treaty modifier) it has with the target power.

Declaration Chance

Peace is fleeting and one never knows when an empire will decide to resort to war. A NPE has a chance of declaring against other empires each turn during the Diplomacy Phase. This declaration chance is calculated as follows:

$$(AG - Relationship) \times 10\%$$

(round to nearest)

A separate declaration chance roll is made for every empire that a NPE is currently in contact with. Aggressive NPE are more likely to attempt to declare against their neighbors. If successful, the NPE will attempt to declare the next highest level declaration (by declaration modifier) it can against the target power. The normal progression is hostilities, war, and final war.

NPE have a chance equal to their Integrity values

Whenever a NPE passes its declaration chance but fails to issue a declaration against another power it

will continue to harbor enmity for the target. The player that controls the NPE should move additional military forces towards the common border to indicate its increased hostility towards the target and get ready for the inevitable conflict.

Treaty Acceptance

// give calculation

// each turn that a NPE is offered a treaty it receives a -10 modifier to future treaty offers. This reduces by 1 per turn. Doesn't apply to the NPE's own offers, just when another empire offers it a treaty.

NAE DIPLOMACY

4.6 Intelligence

"It is only the enlightened ruler and the wise general who will use the highest intelligence of the army for the purposes of spying, and thereby they achieve great results."

- Sun Tzu

Intelligence is the art of information warfare.

Offensive Spies: roll above difficulty

Mission successful on roll above difficulty

Critical Failure on '1' [D6]

1-2: Spy escapes without being discovered

3-4: Spy escapes but mission discovered

Spy killed, mission undiscovered

5-6: Spy killed, mission discovered

Defensive Spies: roll below difficulty

Each Defensive success D6

1-2: Spy detected but escaped; identity unknown

3-4: Spy killed, identity unknown

5-6: Spy killed/captured, identity known

4.7 Releasing Empires

"The best of all governments is that which teaches us to govern ourselves."

- Johann Wolfgang von Goethe

Empires have the option of releasing territories they control to form new non-player or non-aligned empires. There are several reasons why a player might decide to have his empire release one or more colonies to create a new empire. The most likely is to reduce the empire's total Census to reduce its tech advancement costs and accelerate that rate at which it can research new technologies. This can be especially important for an empire that has recently conquered a number of enemy colonies and needs to shed Census to get its tech advancement costs back in line with its ability to generate tech points.

New empires are also commonly created as the result of armistices after major powers go to war. The loser in a war might be required to release some of its colonies to create a new buffer state between itself and its opponent. The creation of this state along the border denies its resources to the previous owner while at the same time creating a small nation that the opponent can easily decapitate should the two nations return to a state of war.

Another scenario where an empire might choose to divest itself of its holdings is when its colonies are in unrest or rebellion and it doesn't have the resources available to deal with them because those resources are needed to deal with another crisis situation. Granting these bothersome systems independence can forestall a nasty civil war and allow an empire to continue concentrating on more pressing matters.

An empire can select one or more contiguous systems (i.e., you can trace a continuous path of jump lanes between them) to release as a new empire. These systems must be capable of producing enough food to feed all of their Census. Empires aren't allowed to release colonies if they'll inevitably starve to death from a lack of food. Any starbases or facilities that the empire controls in these systems will become property of the new empire. Other military forces, including starships, flights, and ground forces, are given ten turns to

withdraw from the new empire's territories or else they'll be confiscated by the new power.

The first order of business when setting up a newly-released empire is to establish a provisional government. If one of the new empire's colonies already has a sector capital present, that capital is automatically upgraded to an imperial capital. Otherwise, one of the provisional government's first major objectives is going to be to build a new imperial capital in one of its systems. The player must roll a D100 for each of the power's three culture statistics (Aggressiveness, Integrity, and Xenophobia) to determine its cultural outlook.

Next, we determine the empire's relationship with the empire that released it. Divide the power's total Morale by its total Census and multiply the result times 100, then subtract 50. Round fractions down, max +100 relationship. All of the new power's diplomatic relationship values with other powers are the same as those that the releasing empire has with those foreign governments. The exception is that a new empire receives a +50 relationship bonus to its relationship with any powers that forced the empire's previous owner to release it as part of an armistice or other treaty.

New empires start with an empire tech level equal to that of the power that released them regardless of the tech level of the colonies that they now control.

Each of the newly-released empire's colonies receive a Morale bonus equal to half its Census value (round up) to reflect the people's elation at having been granted independence. This increases Morale enough that most of the empire's colonies should start out in good order and puts an end to any rebellions that were already underway when the colonies were released.

A released empire's force list contains all of the units on the releasing power force list that colonies in the new empire are actually capable of producing. This reflects that the construction facilities at these colonies only have plans or schematics for units that could actually be purchased there. After all, an empire wouldn't leave plans for one of its cutting-edge battleships in a system whose industry was incapable of reproducing it.

Empires are released during the Diplomacy Phase of the turn. They receive their first orders on the Turn Orders Phase of the following turn.

4.8 Civil War

"Look to the past and remember no empire rises that sooner or later won't fall."

- Al Stewart

Disloyalty can spread like wildfire across an empire's sphere of influence as its colonies fall one after another into rebellion. This loss of political stability can even threaten to erupt into a civil war that forces colonial governors and military leaders to choose sides and take up arms either for or against their government.

Each empire that has one or more colonies in a state of rebellion are required to make a D100 roll during the Loyalty Phase to examine whether or not the rebellion has sparked a civil war. If the power's D100 roll is less than or equal to its total number of rebel Census, then it will find itself plunged into a bloody civil war!

4.8.1 BEGINNING A CIVIL WAR

Battle lines are drawn at the start of a civil war and all of an empire's assets – including its colonies, facilities, and military units – are divided between loyalist and rebel factions. These two factions are treated as separate empires for the duration of the civil war. The loyalist faction takes control of all of the empire's colonies that have Morale values greater than zero. All of the facilities in these systems are also controlled by loyalists. The rebel faction in turn controls all of the colonies that are currently in rebellion at the start of the civil war as well as all of the facilities located in those rebel systems. Any units under construction at a rebel colony automatically become rebel property when they join the rebellion. The rebel colonies increase their Morale value so that they are equal to their current Census, demonstrating that they are no longer in a state of rebellion and are ready to fight for their independence. More importantly, this ensures that the rebel colonies are in good order and capable of producing income for the rebel faction.

The rebels also receive militia reinforcements at their colonies to help them maintain order. Each of the Rebel colonies receives a total construction cost of ground force equal to 5 times their Census. Without these ground forces a rebel colony would find itself

conquered by loyalist forces almost immediately after a civil war begins. The rebel player chooses which types of ground forces to purchase with these points. Any unused economic points are placed into the rebel faction's economic pool to be spent on future campaign turns.

An empire's military forces are also split between the loyalist and rebel factions. Special loyalty checks are rolled in each system where an empire has units to test their loyalty. This is accomplished by rolling on the Unit Defection Table to determine the percentage of units (by construction cost) that have defected to the rebel faction (round down). One loyalty check is made for the fleets in the system and another for its planetary defense forces (including starbases, ground forces, and flights based from planetary sites). Ground forces are more likely to side with the rebels, and they receive a +2 bonus to their loyalty checks. Colonies also receive a modifier to their rolls based on their colony importance, indicating that civil wars that are incited by more important colonies have a much better chance of garnering rebel support from the local population. Civil wars sparked by the secession of smaller colonies, meanwhile, will draw fewer defections and have a comparatively lower chance of success.

Defecting units change their faction affiliation immediately during the Loyalty Phase.

UNIT DEFECTION TABLE (2D6)

| Roll | % Defecting |
|------------|-------------|
| 2 or less | 0% |
| 3-4 | 10% |
| 5-6 | 20% |
| 7-8 | 40% |
| 9-10 | 60% |
| 11-12 | 80% |
| 13 or more | 100% |

Modifiers:

Planetary Defenses +2 (*see rules*)

Outpost -2

Settlement -1

Major Colony ±0

Core World: +1

Internal political stability is often difficult for a rebel faction to achieve, especially in the early stages of a civil war. This adds to the social problems that the rebels must face as they fight for their survival against loyalist forces. Establishing a permanent ruling body that can assert legitimate control over all rebel forces requires the rebels to build an imperial capital at one of their colonies. However, if one of the original rebel colonies already possesses a sector capital, the rebels can instead promote the capital to an imperial capital. In the rare case that an empire's imperial capital is one of the original rebel colonies, the rebel faction can actually start in control of its own imperial capital. Under these strange circumstances, it is the *loyalist* faction that will be forced to build or promote a new imperial capital in order to reestablish its administrative authority.

Rebel factions adhere to a different set of cultural values than those espoused by their loyalist brethren. As such, rebel nations are assigned separate culture values. Roll a D100 for each of the three culture statistics (Aggressiveness, Integrity, Xenophobia). Add each roll to the loyalist's culture value and then halve the total, rounding fractions to the nearest whole number. This average of the original empire's culture values and the results of a random die roll demonstrate that as much as the rebel faction's beliefs deviate from those of the loyalists they still have quite a bit in common.

Rebels always start with a -50 relationship with the loyalist faction. Their diplomatic relationships with other powers are the same as those the empire had with them prior to the civil war, with one important caveat. The rebels receive a +50 bonus to their relationship with any empire that is currently in a state of war with the loyalists and a -25 penalty to their relationship with any empire that has signed a mutual defense treaty with the loyalists. This shows that rebels are likely to believe the old mantra that "the enemy of my enemy is my friend" and seek entente with the loyalist's foes in order to forge an alliance of convenience to help defeat them.

All of the treaties and declarations that an empire has active prior to a civil war are inherited by the loyalist faction. None of these agreements apply to the rebel faction as they were negotiated with the empire's existing government.

The rebel faction can begin conducting diplomacy with other powers, including the rival loyalist faction, once an imperial capital is established at one of its colonies. Rebels are treated like any other empire for the purposes of conducting diplomacy. It will track diplomatic relationship values with its neighbors, offer and sign treaties, issue declarations, etc. just like any other empire. Rebels can use diplomacy to encourage other states to get involved in their battle for independence. Overt military support from foreign powers is of the most benefit to the rebel faction, but covert assistance undermining the loyalist's political position can also be beneficial.

The rebel faction's ultimate diplomatic goal is to sign an armistice treaty with the loyalists that will put an end to the civil war. It is unlikely that the loyalist faction will be prepared to sign such a treaty at the start of a civil war however, after enough blood has been shed and lives lost, the rebels may find their enemy more amenable to peace negotiations.

4.8.2 FIGHTING A CIVIL WAR

Colonies that belong to an empire that is embroiled in a civil war receive a -1 penalty to their loyalty checks, increasing the odds that they'll lose Morale each turn. Civil war also tend to promote acts of piracy, and each of the empire's systems are also subject to a -1 piracy check penalty.

Loyalist colonies that fall into rebellion during a civil war automatically join the rebellion and shift their allegiance to the rebel cause. These colonies don't receive any rebel militia to reinforce them like the original rebel colonies did, nor do they receive a Morale bonus after they rebel. This demonstrates that systems that join the rebels after the start of a civil war aren't as emotionally invested in the fight for secession as those that first rallied to the cause. Luckily for both sides in the conflict, colonies that are in a state of rebellion don't provide material support for either side in the conflict, which is as close to neutrality as you'll find in a civil war.

4.8.3 ENDING A CIVIL WAR

Civil wars can end under four conditions: 1) all rebel colonies and military units have been captured or destroyed; 2) all loyalist colonies and military units

have been captured or destroyed; 3) an armistice is signed that puts an end to the civil war; or 4) all loyalist and rebel colonies and military units have been captured or destroyed, rendering the entire civil war extremely pointless. A military victory for either faction ensures that a single nation will remain in control of the empire's territories at the end of the war. However, if the loyalist and rebel factions sign an armistice treaty to end the civil war, two separate empires will emerge from the conflict, each controlling their own spheres of influence as determined by their colonial holdings when the armistice was signed.

When an armistice is used to end a civil war, the internal Rebel and Loyalist lines are dissolved and the territories controlled by both factions are recognized as legitimate successor states by the galactic community. Their new empires inherit the assets that their particular faction possessed at the end of the war. The powers are considered to be completely independent of one another from this point forward.

Several difficult questions remain for rebel factions that survive a civil war concerning their territorial integrity. It is possible for a rebel force to survive a civil war with sections of its territories cut off from each other. This is more common after civil wars that end in an armistice, but can also happen if a third-party captured some of the original empire's systems during the war. In these cases it might make more sense to divide the surviving rebel territories into multiple empires that each controls a portion of the empire's remaining sphere of influence.

Empires resume making civil war checks beginning on the turn after the current civil war ends. There is nothing stopping a power from immediately falling back into civil war on the turn after the previous one was concluded, however the chances of that happening are fairly remote. In any event, the next civil war will prompt the creation new rebel and loyalist factions and start the cycle of destruction all over again, continuing until the social upheaval runs its course once more.

The chaos and destruction wrought by a civil war can bring even the strongest of empires to its knees regardless of who eventually achieves victory. The war itself can leave the nation economically devastated and unable to respond to outside threats. Worse, the Morale losses sustained during

the civil war can make it all but certain that another bloody civil war will start immediately after the current one is finished.

Chapter 5: **Economics**

5.1 Income & Expenses

during the Economic Phase

Empires earn income from two sources: colonies and trade. Colonies are an empire's primary source of income, and certainly the most reliable. Commerce income can serve as a lucrative source of revenue depending on how many foreign trading partners it has, however. Empires also sometimes earn income from other sources, and this is classified as miscellaneous income.

The economic points that an empire earns from its income sources are used to make purchases, maintain their armed forces, and cover any unexpected miscellaneous expenses that arise during the campaign.

5.1.1 SYSTEM INCOME

Star systems are an empire's primary source of income. Each inhabited system has a system income equal to its utilized Economy times RAW. This is the number of economic points the system generates for its owner each turn. The total system income of all an empire's colonies is totaled to calculate its total system income.

5.1.2 COMMERCE INCOME

Empires that operate trade routes earn income from them in the form of commerce income (see X.X Commerce). Total the trade value of all of the systems that are part of the empire's trade network and then multiply the total by 10%, rounding fractions to the nearest whole number. This result is the number of economic points of commerce income the empire earns this turn.

Empires with Pre-Industrial, Industrial, or Information tech levels are incapable of off-world trading and as such always have commerce income values of zero.

5.1.3 MISCELLANEOUS INCOME

Occasionally, a random event or other one-time payment will provide an empire with extra income. Any income that an empire earns that cannot be classified as either colony income or commerce income should be recorded as miscellaneous income.

5.1.4 PURCHASES EXPENSE

Purchases expense is the total cost of purchases that an empire made this campaign turn. An empire's purchases expense can never exceed the number of economic points that were in an empire's Economic Pool at the start of the campaign turn. In this game, empires can't spend money they haven't earned yet.

Purchases that were ordered this turn but couldn't be carried out for one reason or another aren't added to an empire's purchases expense, however, as no resources were expended on these cancelled projects.

5.1.5 MAINTENANCE EXPENSE

An empire must spend economic points each turn to maintain its fleets and armies. Maintenance expense is calculated by taking the total maintenance cost of all an empire's units, making sure to account for their current X.X Maintenance States, and multiplying it by 10% (round fractions up).

Empires can reduce their maintenance commitments by transitioning their fighting forces into reserve or mothball maintenance states. Units that are in either of these two maintenance states cost less to maintain but can be reactivated and brought back to active duty in the future when the need arises. They can also scrap or sell unwanted units to completely eliminate their maintenance burdens.

5.1.6 MISCELLANEOUS EXPENSE

Any expenses that an empire incurs that cannot be classified as either purchases expense or maintenance expense should be recorded as miscellaneous expense. The economic losses incurred as a result of commerce raiding are a common example of a miscellaneous expense.

4.1.3 FINANCIAL DEFICITS

Empires in crisis can find themselves in situations where they no longer generate enough economic points every turn to cover all of their expenses. This usually happens during a war as colonies are attacked, conquered, or destroyed, or an empire ends up with a glut of military construction that increases its maintenance costs. An empire can maintain a policy of deficit spending only so long before their economy is exhausted and they run out of economic points to spend on these expenses.

~~Whenever the number of economic points in its economic pool goes negative, an empire is forced to immediately scrap military units or liquidate colonial infrastructure to cover the economic shortfall. These scrapping or liquidation orders are processed as if they had been issued at the start of the turn as part of the player's original turn orders. The economic points earned from these operations are added to the empire's economic pool and will return it to a positive value for the next turn.~~

~~An empire that doesn't have any units that can be scrapped or infrastructure that can be sold for an economic gain are allowed to carry their deficit forward, but all of their military units will be out of supply during the Supply Phase next turn.~~

5.2 Technology

"Any sufficiently advanced technology is indistinguishable from magic."

- Arthur C. Clarke

Developing new technologies can give an empire a military edge over its opponents and it's important for empires to continue investing resources into R&D to keep from falling behind their neighbors.

5.2.1 TECH LEVELS

Tech levels are divided into two distinct categories: Interstellar and Pre-Interstellar. Interstellar empires are assigned numerical tech level values that describe how advanced they are relative to a baseline Interstellar power that has only just developed FTL drives (TL 0). Pre-Interstellar tech

levels aren't assigned numerical values and are instead limited to three pre-defined tech levels: Pre-Industrial, Industrial, and Interplanetary. Each of these tech levels forms a chain that takes a civilization from technological barbarity to the precipice of interstellar flight.

Every empire, colony, and unit in a campaign is assigned a tech level (TL) that demonstrates how advanced it is:

- **Empire tech levels** determine an empire's overall level of technological advancement. An empire can't increase the tech level of any of its colonies beyond its own empire tech level, nor can it design or build military units that have a tech level greater than its own.
- **Colony tech levels** describe the level of technology that is demonstrated by a colony's infrastructure. Colonies can only build units that have tech levels that are less than or equal to their own. This prevents colonies from building units that are more advanced than their own technological baseline. The cost to increase a colony's tech level is equal to 10 times the system's Census (minimum cost of 10). Colony tech levels can't be increased beyond the tech level of the empire that controls them.
- **Unit tech levels** set limits on where military units can be built. A unit can only be purchased at colonies that have tech levels that are greater than or equal to its own tech level. A TL 5 starship could only be built in a system that has a tech level greater than or equal to TL 5, for example. It couldn't be build in a TL 3 system, let alone a system with a Pre-Interstellar tech level.

Pre-Industrial

Pre-Industrial civilizations range in technological sophistication from primitive Stone Age savages to fairly advanced Iron Age city-states. These powers are not sufficiently advanced to have a major impact on a campaign, and their chance of achieving industrialization (let alone spaceflight!) during the course of the campaign is remote.

Pre-Industrial empires are extremely primitive and don't possess the factories or other infrastructure required for most military construction projects and

can only be used to produce ground forces. Native ground forces fielded at a Pre-Industrial tech level are horribly inefficient and largely impotent when it comes time to protect their world against a planetary invasion. Empires with a Pre-Industrial tech level aren't allowed to build facilities of any kind because they lack the technology to do so.

Military Units: Ground Forces

Facilities: None

Industrial

The Industrial tech level spans the gap of history between the dawn of a civilization's Industrial Revolution through to the point just before it begins building its first permanent orbital structures. Early Industrial empires possess a level of technology roughly equivalent to that of late 18th century Europe, having mastered the art of modern warfare with their equivalents of firearms, artillery, cavalry, etc. By the end of this era, however, the power will have achieved a level of technological sophistication equivalent to that of the present day (i.e., early 21st century) and will be capable of building relatively sophisticated ground combat units.

Industrial empires can only produce ground forces and Atmospheric flights (i.e., aircraft). Non-Atmospheric flights or any other type of military unit remain out of their reach, unfortunately. This forces Industrial powers to rely on ground-based flights to defend their home systems against enemy attack from space. Luckily the ground forces these nations can field are just strong enough to make an opponent think twice before committing to an invasion.

Military Units: Flights (Atmospheric Only), Ground Forces

Facilities: Fighter Garrison, Research Lab

Information

Empires that reach the Information age demonstrate the technical skill to build basic orbital space stations and small craft. These constructs are primitive compared to those built by interstellar nations, but they at least allow low tech powers to fortify their planets against alien attack or invasion.

Colonies at an Information tech level can produce ground forces, flights, and starbases. Despite their ability to build orbital and sub-orbital structures,

they still aren't capable of manned interplanetary spaceflight and can't build starships of any type. This important innovation won't be achieved until a nation progresses to the Interplanetary era.

Information level civilizations are the first Pre-Interstellar empires that can pose a significant threat to Interstellar militaries. While the units that these nations can build are feeble and antiquated by Interstellar standards, an Information level empire that can build enough of them stands a good chance of repelling all but the most dedicated attacks by early Interstellar powers that possess similarly sized economies.

Military Units: Starbases, Flights, Ground Forces

Facilities: Fighter Garrison, Research Lab

Interplanetary

An Interplanetary power has achieved a level of technological sophistication that finally allows them to build manned spacecraft capable of interplanetary travel. This breakthrough allows an empire to begin actively exploring the worlds of its solar system, conducting detailed planetary surveys first hand rather than relying on data collected by robotic probes. Colonization teams often follow these surveyors, establishing an empire's first off world colonies on the various planets and moons in their solar system that they deem worthy of scientific study or material exploitation.

Interplanetary powers have unrestricted access to all unit types, but they can't build units with the FTL special ability because they lack the technical skill to reproduce this technology. Interplanetary empires are further restricted from purchasing any type of facility or other technology that they could use to perform jump lane movement. These powers can purchase FTL-capable starships or flights from other powers or contract with them for the construction of Jump Gates in their systems, they just can't build these on their own.

Military Units: Starships, Starbases, Flights, Ground Forces

Facilities: Fighter Garrison, Research Lab

Interstellar

Interstellar empires represents the pinnacle of technological achievement. The defining features of these civilizations is that they have all successfully

developed some form of faster-than-light (FTL) propulsion system that allows them to build spacecraft that are capable of traveling from one star system to another via the galactic jump lane network. Interplanetary powers that develop FTL drives become TL 0 Interstellar powers. Future tech advancement leads to the development of new technologies that improve the effectiveness of an Interstellar empire's military forces.

While all Interstellar empires possess FTL drives, the difference in capabilities from one spacefaring empire to the next can be vast. Fledgling nations that are just taking to the stars are still vastly outmatched by the ancient powers that lurk in the shadows and wield unspeakable powers thanks to their intimate understanding of advanced technologies. The gulf that separates these two polar opposites of the Interstellar tech level can be truly frightening.

5.2.2 TECH INVESTMENT

The maximum amount of economic points that an empire can spend on tech investment each turn is based on its research capacity. All of an empire's colonies offer a limited ability to carry out scientific research and these worlds provide their owner with a base research capacity equal to their total utilized Economy values. The majority of an empire's research and development takes place at its Research Labs, however, and a system's research capacity is doubled if it contains a Research Lab.

An empire can receive additional bonuses to its overall research capacity from other sources. Signing research treaties with other governments provides an empire with a research capacity bonus equal to 10% of the other power's research capacity, for example. Scientific strategic resources and spatial anomalies can also boost an empire's research capacity in affected systems.

Every economic point spent on tech investment is converted into a tech point and then added to the empire's tech pool. These tech points are automatically used to purchase tech advancements once the number of tech points in the pool is greater than or equal to the power's tech advancement cost.

Example: An empire controls eight systems with the following utilized Economy values: 7, 4, 3, 3, 2, 1, 0, 0. The first system contains a Research Lab, which doubles its research capacity to 14. This gives the power a total research capacity of 27.

5.2.3 TECH ADVANCEMENT

The amount of tech points that an empire requires to advance its empire tech level is called its tech advancement cost. This cost is based on two factors: the power's current tech level and its total Census. The more advanced an empire is the lower its tech advancement costs are. Specifically, empires that have achieved an Interstellar tech level have the lowest tech advancement costs while primitive Pre-Industrial powers have significantly higher costs. This demonstrates that the less advanced an empire is the more research is required to achieve their next major technological breakthrough.

The size of an empire's population is factored into its tech advancement cost because larger empires tend to become complacent and settle into periods of technological equilibrium during which technological progress stagnates. While individual worlds within the larger empire might possess technologies that are more advanced than the imperial norm they are aberrations, and it takes a lot more research effort (represented here as tech points) to achieve noticeable advances in technology on an empire-wide scale. Smaller empires that have fewer colonies and fewer Census can focus their research efforts more efficiently.

TECH ADVANCEMENT COST CHART

| Tech Level | Tech Cost |
|----------------|--------------|
| Interstellar | 25 x Census |
| Interplanetary | 50 x Census |
| Industrial | 100 x Census |
| Pre-Industrial | 200 x Census |

Example: An Interstellar (TL 7) empire that has a total of 25 Census would have a tech advancement cost of 625 tech points. An Interplanetary empire with the same number of Census would instead have a tech advancement cost of 1,250 tech points.

5.2.4 RESEARCH DATA

Empires can acquire advanced research data from their research partners, conquered colonies, alien artifacts, special events, etc. This research data gives an empire's scientists vital new information that accelerates their ongoing research and development efforts.

Transferring Research Data

Research data can be freely traded or sold between empires that have signed a research treaty with one another.

Empires may also offer to give up research data to a non-research partner

// an empire can sell research data to other players that they have signed research treaties with

// the research data is for a specific empire tech level

// an empire's tech advancement costs are halved for as long as its empire tech level is lower than the tech level for which it received research data

// selling research data can be extremely lucrative; the trick is setting the cost of the research data at a point where it's cheaper for the buyer to purchase the research data than to pay to independently reproduce it at their own expense

An empire can be forced to give up research data to another power as part of the terms of a treaty; can be used as a form of reparations

This is the only condition under which an empire can provide non-research treaty partners with research data outside of losing control of their research facilities

Capturing Research Data

if an empire conquers the research center of an enemy that has a higher tech level than its own, it can receive a tech investment bonus

tech potential = research capacity x difference in tech levels

pre-interstellar empires consider tech difference differently; +25 per level difference

The enemy's actual Interstellar tech level has no effect on tech potential in these cases

Round tech gains from stolen research down

Stolen Research Table (2D6)

5- 10% x Tech Potential

6-7 25% x Tech Potential

8-9 50% x Tech Potential

10-11 75% x Tech Potential

12+ 100% x Tech Potential

Modifiers:

Outpost (+0)

Settlement (+1)

Minor Colony (+2)

Major Colony (+3)

Core World (+4)

Example 1: The Brindaki have conquered a 5 Census system (Minor Colony) that was serving as an enemy research center. The enemy's empire tech level is six levels higher than the Brindaki's own, and the colony had a research capacity of 25. This provides a tech potential of 150 tech points. The Brindaki player rolls a '7' on the Captured Research Table and adds +2 because this was a Minor Colony for a final modified die result of '9'. The conquest of the research center nets the Brindaki $50\% \times 150 = 75$ tech points, a major windfall that should accelerate their research and development efforts.

Example 2: The Gromt are an Industrial empire that has somehow managed to capture an enemy research center in a system with 4 Census (Settlement) that belonged to an Interstellar nation. The opponent's tech level is considered to be 50 tech levels higher than the Gromt's own for the purposes of calculating captured research potential. This is +25 TL for Industrial => Interplanetary and a second +25 TL for Interplanetary => Interstellar. The total tech potential from this research center capture is 1,000 tech points. The player rolls an '9', adds +1 because this is a Settlement, for a total of a '10'. This gives the Gromt a tech bonus equal to $75\% \times 1,000 = 750$ tech points!

5.2.5 REVERSE ENGINEERING

// requires 1 utilized Research and unit

// roll 2D6; on 8+ the player earns tech points equal to the difference in tech levels between the unit and the empire studying it; on '2' the unit is scrapped

// low tech powers add 10 per Pre-Interstellar tech level difference; for example, an Interplanetary power reverse engineering a TL 7 Interstellar unit would receive 17 tech points from a reverse engineering success where a TL 0 empire would only gain 7 tech points. An Industrial empire would earn 37 tech points from a reverse engineering success on the same unit.

5.2.6 SCAVENGING TECHNOLOGY

One of the duties that conquering ground forces are charged with is stripping down alien infrastructure at advanced alien colonies to send back to imperial research labs for further study. Technology scavenging takes place during the Tech Phase at colonies that have tech levels greater than the empire's own empire tech level, starting on the turn after a colony is conquered. The colony's tech level is reduced by 1 in return for a tech point bonus equal to its 5 times the colony's Census.

Example: The Loran (TL 4) conquest of the Brindaki colony at Morizaban (TL 6, 4 Census) gives the voracious Lorans access to Brindaki technology that they can scavenge and research. On the turn after Morizaban was conquered its tech level is reduced to TL 5 and the Lorans receive 20 tech points. The next turn reduces the system's tech level to TL 4 and the Lorans receive another 20 tech points. Morizaban is now at TL 4 which is equal to the Loran Imperium's empire tech level. The Lorans are unable to scavenge any additional tech points from the system.

5.3 Agriculture

“Civilization as it is known today could not have evolved, nor can it survive, without an adequate food supply.”

- Norman Borlaug

All imperial populations, regardless of their species or biology, must consume food to survive and grow. Food is produced by an empire's colonies using Agriculture infrastructure in systems that have Biosphere values greater than zero. Powers can use their food production to feed their own Census or trade it to other empires. Any excess food

production is converted into population points that the player can use to purchase population increases on future turns.

5.3.1 FOOD PRODUCTION

Colonies use Agriculture infrastructure to convert local Biosphere into food. Every system has an agriculture output equal to its Biosphere times its utilized Agriculture. This is the amount of food the colony produces for its empire each turn. This food is used to feed the colony's population, and any excess food is automatically shipped to the empire's other colonies via the civilian shipping network.

A colony's morale state has a palpable effect on its agricultural production. Colonies that are in good order produce their full agriculture outputs each turn. Unrest halves a colony's utilized Agriculture value for purposes of calculating its food production (round fractional Agriculture up). Colonies that are in a state of rebellion don't produce any food for their owners. Rebel colonies continue to produce food for the rebel Census at the colony as if it were still in Unrest, however. This can sometimes prevent rebel colonies from experiencing starvation.

Empires can supplement their normal planetary food production using Orbital Farms. Each of these facilities that an empire owns produces an amount of food equal to its system's Biosphere value. Orbital Farms don't require Census to operate them, so there is no food cost associated with operating Orbital Farms and they aren't affected by a system's morale state.

5.3.2 FOOD CONSUMPTION

The food produced at an empire's colonies is used to feed its own planetary populations. Each Census normally consumes 3 food per turn. The total amount of food that a colony needs each turn is therefore equal to its Census x 3. This is called the colony's food cost.

Colonies that don't produce enough food to cover the food cost of their own Census must transport food in from other farming worlds to survive. Any excess food that a colony produces is automatically shipped off to an empire's other colonies using its civilian shipping network. Any colony that can't meet its food cost because it's being blockaded or otherwise cutoff experience 5.8.4 Starvation and can

lose Census and Morale. This is the biggest threat of being unable to fulfill a colony's food cost.

5.3.3 POPULATION GROWTH

Any excess food beyond the amount required to feed an empire's Census are converted into population points that a player can use to increase populations at its existing colonies. This conversion of food into population points represents that well-fed colonies are healthier and have lower mortality rates than those that are just barely scraping by.

The amount of population points that an empire earns each turn is equal to its total food production minus its total food cost. The amount of food the power imported from its trade partners this turn is added to its total food production while the amount of food it traded away is instead subtracted from it. Blockaded colonies don't contribute towards either total because they are completely cutoff from the rest of the empire and can't contribute anything towards their empire's long-term population growth.

Example: The Jains have a food production total of 74. They purchased 12 food from the Tirelons and sold 9 food to the Brindaki this turn. This gives the Jains a total of $74 + 12 - 9 = 77$ food. Their empire has 21 Census with a food cost of 63 food per turn. This leaves the Jains with $77 - 63 = 14$ food leftover after it feeds all of its Census. This food is converted into population points on a 1:1 basis, and the Jains earn 14 population points this turn.

5.3.4 STARVATION

Empires that don't produce or import enough food to feed all of their Census will experience starvation at one or more of their colonies during the Agriculture Phase. To know how many of an empire's colonies are starving, the player must first calculate the size of its food shortage. This is done by taking the total food cost of the empire's colonies and then subtracting the amount of food it produced or received from its trade partners this turn. Blockaded colonies don't contribute their food production this turn, but their food costs are ignored, too. The result is the amount of food that the empire was short this turn.

Once the size of the empire's food shortage is calculated, the player must randomly select one or more colonies whose combined food cost is greater

than or equal to its food shortage. Each of these colonies must roll on the Starvation Table to see how their populations reacted to the lack of food.

STARVATION TABLE (2D6)

| Roll | Effect |
|-----------|----------------------|
| 2 or less | -1 Census, -1 Morale |
| 3-5 | -1 Morale |
| 6-12 | No Effect |

Modifiers:

- +0 Outpost
- 1 Settlement
- 2 Minor Colony
- 3 Major Colony
- 4 Core World

Colonies can also face starvation when they are blockaded by enemy fleets. Blockaded colonies can't import food to feed their people, nor can they export food to other friendly colonies to keep them fed. Any blockaded colony that has a food cost greater than its food production are starving and must roll on the Starvation Table.

Colonies that are in a state of rebellion continue to produce food for the rebel faction as if they were still in a state of unrest even though their current morale state effectively reduces their food production to zero. Rebel colonies aren't required to roll for starvation unless their food cost is greater than half their food production.

A colony can only make one roll on the Starvation Table per campaign turn. This limits the amount of Census or Morale that a colony can lose each turn from a lack of food. It also prevents a single colony from being hit by multiple starvation rolls in a single turn.

5.4 Commerce

“Historically, trade has been a source of the economic and cultural development of quite a number of civilizations. Today, efficiently functioning trade is an important prerequisite for a more stable and prosperous world.”

- President Vaclav Havel, Czech Republic

Empires routinely engage in interstellar trade, transporting goods between their own colonies or to those owned by their foreign trading partners. Trade provides an empire with an additional source of revenue (in the form of commerce income) that it can use to supplement its normal system income.

5.4.1 TRADING POSTS

Trading Posts serve as centers of trade and empires rely on them to administer their trading operations in the surrounding territories. All of an empire's trade routes originate at one of its centers of trade and the cost to establish a trade route is based on the target system's proximity to the empire's nearest Trading Post as described in X.X Trade Routes.

A Trading Post remains active unit it is crippled by enemy bombardment or intel missions. An inactive Trading Post can't be used to establish new trade routes until it is repaired. None of the trade routes that pass through a system containing an inactive Trading Post are affected as long as they can still trace a jump lane path back to another active Trading Post somewhere else in an empire's territories without moving through any hostile or contested systems.

A trade route is always connected to a system if it contains a Trading Post, even if the Trading Post is currently inactive. This allows the system to continue generating commerce income for its owner, which represents that even though the Trading Post is damaged it can still manage the flow of merchant traffic that is moving through the system.

An empire must control an active Trading Post before it can engage in off-world trade. Pre-Industrial, Industrial, and Information civilizations are incapable of building Trading Posts because they lack the technology to establish a permanent commercial trading network in their own solar systems. This prevents them from establishing

centers of trade in their systems and ensures that any trading relationships they form with other more advanced nations will be entirely one sided. Interplanetary powers are capable of building Trading Posts but their trade network can't extend beyond their own home system until they achieve an Interstellar tech level.

5.4.2 TRADE VALUE

The amount of commerce income that an empire can earn from trading in a system is based on its trade value, which is equal to its Census times its highest utilized infrastructure value. An active trade route generates commerce income equal to 10% of a system's trade value each turn.

Empires always knows the current trade values of systems that they have trade routes connecting to. Players can monitor changes in a system's trade value over time estimate its current capabilities as an increase in trade value indicates an expansion of population or infrastructure in the system. Intel missions are still required to learn a system's actual stats, but this basic level of intelligence can at least provide helpful hints as to a system's capabilities.

Example: The Juno system has 4 Census, 2 Economy, 1 Industry, and 3 Agriculture. The system's highest utilized infrastructure value is Agriculture (3), which gives the system a trade value of $3 \times 4 = 12$. Empires trading in Juno can expect to earn 1.2 economic points per turn from the system.

5.4.3 TRADE ROUTES

Trade routes connect star systems together for the purposes of interstellar trade. Merchant vessels rely on trade routes to move goods from one system to another, and they can only actively trade in systems that are connected to their empire's trade network.

An empire can establish a trade route to one of its own system or a system that is controlled by a trade partner. The target system must be adjacent to another system that is already part of the empire's trade networks. The cost to establish a new trade route is five times the distance between the target system and the empire's nearest Trading Post. The path of jump lanes that links these two systems together can't pass through hostile systems (including any contested systems) or systems that are owned by another non-trade partner. Establishing a trade route to a system adds that

system to the empire's trade network. The system's trade value is then added to the value of the trade network as long as the trade route remains active.

For a trade route to remain active its owner must be able to trace a jump lane path from the target system back to one of his Trading Posts without passing through any systems that are either contested or controlled by a non-trade partner. Furthermore, an empire must have an active trade link in each of the systems along that jump path.

Several campaign events can force empires to abandon their existing trade routes. All trade routes that connect to a system that is conquered by another power are destroyed when it is conquered. Trade routes established in foreign systems are also lost when an empire's trade treaty with that power is broken.

5.4.3 TRADE NETWORK

An empire's trade network is comprised of all of the systems where it currently has active trade routes. The value of this trade network is equal to the total trade value of each of these systems. Systems that contain inactive trade routes don't contribute their trade values towards this total, and systems that contain Trading Posts are always part of their empires' trade networks.

The names and trade values of all of the systems that are part of an empire's trade network should be recorded on its imperial record sheet. This makes it easier for players to keep track of which systems their empires are trading in and what the total trade value of their trade networks are from turn to turn.

5.4.4 CIVILIAN SHIPPING

Empires can contract with civilian shipping interests to transport flights, ground forces, and other forms of cargo between systems. The economic cost to move a unit from one system to an adjacent system is equal to the unit's command cost. Most non-military units, including alien artifacts, have a command cost of 1 for purposes of being transported as cargo.

Civilian shipping orders are resolved at the end of the Movement Phase after all other units have moved. Civilian shipping can't transport cargo into contested systems. Orders that would require a

civilian fleet to move into a contested system are automatically cancelled and the shipping fees refunded. This restriction prevents a player from using his empire's civilian shipping network to move troops and flights into contested systems to reinforce or replenish his military forces that are fighting there.

5.4.5 COMMERCE RAIDING

Fleets can conduct commerce raids against civilian shipping in enemy star systems. These attacks are used to disrupt trade routes and deprive an opponent of valuable commercial revenue. An empire loses a number of economic points each turn equal to the total Command Cost of commerce raiders operating in any system that's part of its trade network. This loss is recorded as a miscellaneous expense for the turn and represents the cost in lost shipping and revenue incurred by the enemy commerce raiders.

Because the financial losses from commerce raiding affect all empires that trade in a system equally, it's in a player's best interests to quickly eliminate enemy commerce raiders before his trade partners become upset that they are losing too much money trading in the system and decide to cut their losses and cancel the trade treaty.

Fleets that are ordered to perform commerce raids this turn can't participate in invasions or embark/disembark troops during the Ground Combat Phase, nor can they perform bombardment during the Bombardment Phase. These restrictions apply because these units are devoting all of their time to hunting down enemy commerce.

5.4.6 TRADING FOOD

Trade partners can negotiate to buy or sell food from one another. This is done by signing a special trade contract that stipulates how much food the buyer is purchasing each turn and what they are giving the seller in consideration for the food shipments. A fair price for food is 1 economic point per unit of food sold, but the players should feel free to negotiate the price that is in their own best interests. A player that is feeling charitable might give a neighbor that is hard on his luck a break on food prices while a more unscrupulous player might

demand free food from a weaker adversary as a form of tribute.

The maximum amount of food that an empire can import from one its trade partners is equal to the total food production of that power's colonies where it has active trade routes. This prevents an empire from purchasing food that its merchants are incapable of picking up and bringing back home.

The food that an empire sells to one of its trade partners is deducted from its total food production before calculating the number of population points it earned that turn. Empires can't eat food that they no longer possess!

Empires that experience a reduction in their food production capabilities might not have enough excess food to satisfy all of their trade contracts. Nations won't ever let their own people starve, and their own colonies always take precedence whenever food shortages occur. A power will make a good faith attempt to honor its food export contracts by splitting its remaining food surplus proportionately between its food export commitments.

Integrated Example: Commerce

5.5 Piracy

“Forbid a man to think for himself or to act for himself and you may add the joy of piracy and the zest of smuggling to his life.”

- Elbert Hubbard

For as long as merchants have plied their trade, unscrupulous souls have preyed upon them for their own monetary gain. History is replete with tales of highwaymen and high seas raiders that grew rich from pillaging merchant caravans and shipping, respectively. In an age of accessible interstellar space travel, a conceit common to most sci-fi milieus, piracy continues to pose a threat to military and civilian shipping interests.

5.5.1 PIRACY CHECKS

Players are required to roll a piracy check for every system that contains an active trade route. Systems have a base piracy chance of 5%. This is increased by

+5% per trade route in the system. The presence of military system patrols in a system reduces this piracy chance by -1% per starship or flight in the system, plus an additional -1% per point of Police value that these units' possess. Mothballed starships or flights don't contribute towards a system's piracy checks because they are deactivated and aren't being used to actively patrol their systems. Systems have a minimum piracy chance of 1% regardless of how many defenders are policing the system.

Roll a percentile die against a system's piracy chance. A new pirate fleet is created in the system if the die roll is less than or equal to the piracy chance. The size of the new pirate fleet is determined by the system's importance as shown below. This is the number of economic points that are available to purchase the fleet's initial units. If a pirate fleet is already active in the system, these units should be added to its existing pirate fleet in preference to forming a separate, competing raider clan.

PIRATE FORCE SIZE CHART

| System Importance | Pirate Force Size |
|-------------------|-------------------|
| Very Low | 1D6 |
| Low | 2D6 |
| Moderate | 3D6 |
| High | 4D6 |
| Very High | 5D6 |

Example: A Moderate value system has three trade routes connecting to it and is patrolled by 6 starships, 5 flights. The system has a base piracy chance of 5% and the three trade routes increase this by +15% to 20%. The system's patrol forces apply a -11% modifier, reducing the system's piracy chance to 9%.

If the system defenders had a total of 10 Police value between them, the system patrol modifier would have increased to -21% and reduced the system's piracy chance to its minimum value of 1%.

Any pirate force that forms in this system would start with 3D6 economic points to spend on units because the system has a Moderate system importance.

5.5.2 PIRATE FLEETS

Pirate fleets are hostile raider forces that take up residence in star systems as the result of piracy checks. Pirates are a constant threat to merchant

traffic and can eat into an empire's revenues as long as they remain active. A pirate fleet automatically performs a commerce raid against its system each turn (see X.X Commerce Raiding). These raids earn the pirates economic points that they can use to maintain their fleet units, perform repairs, and purchase new units off the black market.

Pirate fleets are subject to the same maintenance and supply rules as other empires. They must pay economic points each turn to maintain their units, and they rely on systems to keep themselves in supply. The key difference is that pirates don't have access to Supply Depots and must rely on the black market instead of industrial capacity to keep their units in supply. This places an upper limit on the total Command Cost of pirate units that a system can supply and encourages pirate fleets to stay on the move to evade system patrols. Large pirate fleets may even have to split their forces between multiple systems to ensure that they can all stay in supply.

While pirate fleets normally remain in the system where they first appear, there's nothing stopping them from moving to other systems to evade military system patrols that are bent on their destruction. A wealthy group of pirates might choose to move to another system if they become too successful in order to gain access to new black market opportunities to expand their operations.

Pirate fleets are administered by the CM in moderated campaigns, but they offer a special challenge in unmoderated games. It's recommended that the player whose space the pirates are active in be responsible for managing their income and assets. While this is a clear conflict of interest, it's also the easiest way to keep track of pirate fleets without the aid of a neutral moderator.

A pirate fleet is eliminated when its last unit (including spies) is destroyed.

5.5.3 PIRATE BASES

Pirate Bases are thriving centers of black market activity that offer pirates a refuge where they can conduct business discretely without attracting unwanted attention from government authorities. These facilities are automatically established in any lawless systems that contain at least 10 Command Cost of pirate units during the Piracy Phase.

A Pirate Base doubles its system's black market value, giving pirates the ability to spend more money and make larger purchases. They also give pirate forces a +2 detection bonus in all combat encounters generated in the system.

Pirate Bases are well hidden and it takes time to track down their exact location. Military forces can't attack a Pirate Base directly until after all of the pirates in the system have been driven off or destroyed.

5.5.4 THE BLACK MARKET

Pirates and other underworld elements rely on the black market for the ships, arms, equipment, and personnel they need to carry out their illegal enterprises. The amount of black market activity active in a system (called its black market value) is determined by its system importance and the size of the largest colony in the system (if any). Refer to the two charts below to determine the amount of black market value contributed by both of these factors. A system's black market value is doubled if it contains a pirate base.

| System Importance | Black Market |
|-------------------|--------------|
| Very Low | +1 |
| Low | +5 |
| Moderate | +10 |
| High | +15 |
| Very High | +20 |

| Colony Size | Black Market |
|--------------|--------------|
| Outpost | +1 |
| Settlement | +5 |
| Minor Colony | +10 |
| Major Colony | +15 |
| Core World | +20 |

Governments can deploy Police units to patrol systems to crackdown on the black market and make it harder for pirates to operate there. Each point of Police value in a system reduces its black market value by 1. A small group of anti-piracy ships

or ground forces can effectively reduce the black market value of most systems to zero, but pirates can still expect to find black market contacts in high importance systems that support larger colonies.

The maximum number of economic points that a pirate force can spend in a system each turn to build or repair units is equal to the system's black market value. Most systems won't have black market values greater than 20, and a large number of uninhabited systems will average 10 or less. This limits the size and expense of purchases that a pirate force can make in these systems. The largest starship that most pirate forces will be able to purchase is a light cruiser, with the rare pirate force coming into possession of a heavy cruiser or battlecruiser if they are lucky enough to move into a system whose black market is capable of supporting the construction of one of these larger warship classes.

Pirates can strike deals with arms dealers to acquire "surplus" starships or hire mercenary forces to bolster their existing forces. When purchasing new military units off the black market, a pirate force can always purchase any of the generic pirate units presented below but they can also purchase older units from the force lists of any empire that owns the system. A pirate force is allowed to purchase units that are at most two tech levels lower than the empire's current tech level. For example, pirates could purchase TL 6 units off a TL 8 empire's force list, but they would be restricted to TL 5 or lower if the empire was TL 7. Larger units remain unavailable to pirates regardless of their tech level, and pirate fleets are limited to purchasing units that have Command Costs of 3 or less. This prevents pirates from purchasing surplus battleships or dreadnoughts, craft that would never find their way onto the black market under any circumstances.

Pirates can only make purchases off the black market in systems where they currently have one or more units present. This prevents a pirate force from purchasing new units in systems where they aren't currently operating. All pirate purchases off of the black market are subject to the normal unit construction rules. Military units that pirates purchase off the black market have to undergo retrofitting to prepare them for their new life as commerce raiders.

Units are especially vulnerable to enemy attack while they're under construction. Pirates must

maintain a military presence in the system to keep them safe. Pirates that are driven off or destroyed lose control of any units they own that are under construction in the system. These abandoned units are effectively destroyed, having been commandeered by rival pirate gangs or destroyed by government agents before they can be activated. It's recommended that pirate forces only purchase new units in systems that they are reasonably sure they can hold onto for as long as they're under construction. This is part of the reason most pirates rely on escorts (Command Cost 1/2) as they are cheap and can be built in a single turn using minimal black market value.

The black market also gives pirate forces the opportunity to purchase spies in a system. Pirates have fewer reasons to pay to conduct intel missions, and the cost of maintaining spies is usually greater than your average pirate force can bear, but it's still an option for the larger pirate organizations that are looking to solidify their hold over their own underworld empires.

Example: A Moderate (+15) value system containing Settlement (+10) would have a black market value of 25. A pirate force in this system could spend up to 25 economic points per turn to purchase or repair units.

5.5.5 CONSCRIPTING PIRATES

Empires can secure a temporary alliance with a pirate fleet in exchange for cold, hard cash. Conscripting a pirate fleet has a per turn cost equal to its total Command Cost (round fractions up). This cost must be paid to the pirate fleet every turn to maintain their cooperation. Additionally, pirates require that their employers compensate them for the loss of men and equipment while they are conscripted. The pirate fleet receives repair costs for any of its units that are crippled and the full build cost for any of its units that are destroyed. These payments are automatically remitted to the pirates during the Economic Phase at the end of the turn and they aren't optional.

A conscripted pirate fleet is controlled by the empire that is conscripting it and its units serve and fight alongside the employer's own as if they were fielded by a power that the empire had signed a co-belligerency treaty with. Conscripted pirates won't conduct commerce raids against their employers' systems until they are released from their contract.

Pirate fleets are extremely fickle and they're allegiance is to the empire that's willing to pay them the most for their services. An opponent can "outbid" a pirate fleet's current employer by offering the pirates a premium above the amount of economic points that they're currently being paid. Pirate fleets will shift affiliation during the Piracy Phase if another empire has offered them more money than they're currently getting per turn from another power.

All of the economic points paid to conscript a pirate fleet go into the pirate's coffers and can be used to repair or expand the pirate's military force. This makes long-term conscription of a pirate fleet a very dicey prospect as you could end up financing the creation of an extremely powerful military organization that could rival the strength of your empire's own armed forces.

5.5.6 PIRATE ASCENSION

Pirate fleets that take gain control of an inhabited system end up establishing themselves as legitimate empires in their own right. There are two ways that a pirate fleet can make the transition from a group of lawless brigands into a political power. The first and most likely avenue for pirate ascension is the conquest of an existing colony. A pirate force can achieve this goal by purchasing one or more ground forces and then carrying out a successful invasion of the colony. Any ground forces that a pirate force purchases must be able to be based aboard its existing starships or flights, however, which means that a pirate fleet must first possess one or more units with Assault or Cargo equipment before it can start purchasing ground forces. A pirate fleet that intends to invade a colony must therefore purchase assault ships or troop transports before it can purchase any mercenaries.

The second option for pirate ascension is for a pirate force to colonize an uninhabited planet. For 25 economic points a pirate force can colonize any system where it has at least 5 Command Cost. The high cost of colonizing a system means that it'll take a considerable amount of time for a pirate fleet to earn enough economic points to afford such a colonization mission, however. Anti-piracy military patrols will typically eliminate a pirate fleet long before it is rich enough to establish a colony, but rarely pirate fleets might find themselves operating

uncontested for a long enough period of time to make this a realistic strategy.

The decision to have a pirate force transition into a legitimate empire is ultimately left up to the player or CM that is controlling them. As a general guideline, a pirate fleet won't consider preparing to conquer or colonize a system until it has at least 5 Command Cost of units in its employ. Depending on the situation, a pirate fleet might opt to invade a colony sooner rather than later, but it needs to have achieved a certain degree of critical military mass before proceeding with invasion or colonization plans to increase its odds of holding onto the colony after it takes control of the system.

Whether a ascended pirate fleet becomes a NPE or NAE depends on its initial system income. Most pirate forces are likely to become NAE due to their low starting incomes (or zero starting income, in the case of pirates that colonize an uninhabited star system). This is usually beneficial for the players or CM as it is easier to resolve diplomacy with a NAE than it is with a NPE. This means less bookkeeping for those charged with maintaining these forces.

Any empire that is formed by a pirate fleet starts with an empire tech level equal to that of the colony they conquered or Interstellar TL 0 (choose the higher of the two). It's starting force list contains all of the base pirate units plus schematics for any of the unit classes that are present in its pirate fleet. This gives the new power a fair number of unit classes that it can purchase immediately after it enters play.

5.5.7 PIRATE CACHES *

The empire that eliminates a pirate's last unit pieces together enough information from the wreckage to track down their secret warehouses and financial accounts. Retrieval teams are sent out to acquire this pirate cache that has a value equal to the number of unspent economic points that pirate fleet had at the time that it was removed from the game.

In the event that multiple powers attack and destroy the dead pirate fleet's units on the same turn, the contents of the pirate cache are split equally between each of these empires. Any leftover economic points are given to the player that killed the last pirate unit.

A pirate cache can be extremely valuable, depending on how successful the pirates were before they were taken out. An unscrupulous player could allow a pirate fleet to operate with impunity in one of its systems where its trading partners have trade routes with the implicit goal of taking the pirates out later and grabbing the economic points the pirates had previously stolen from its trade partners.

5.5.8 AVERTING PIRACY*

A system's owner can choose to forego the creation of a new pirate fleet if its system patrol value (total number of non-mothballed starships and flights in the system plus their total Police value) is greater than or equal to twice the pirate force's size. Instead, the player's empire takes a financial loss from piracy equal to the pirate force's size. This miscellaneous expense covers the costs of eliminating the pirates before they could take root in the system.

This optional rule reduces the number of pirate fleets that form in a campaign and is especially helpful in larger games where each empire can end up generating multiple pirate fleets every turn. Eliminating the majority of pirate fleets means fewer combat encounters to resolve each turn.

Chapter 6: Military

"In my view it will not be long before space becomes a battleground."

- Lieutenant General Edward Anderson,
Deputy Commander, US Northern Command

6.1 Unit Types

"And all I ask is a tall ship and a star to steer her by."

- James Masefield, "Sea-Fever"

6.1.1 STARSHIPS

The ultimate goal of virtually every intelligent civilization is to take to the stars and explore the vast unknown that exists beyond their solar systems. Starships are the vehicle for that exploration and expansion and it is these craft that decide the fates and power of empires.

Starships can only be built in systems that have Interplanetary or Interstellar tech levels. Systems that meet the basic tech level requirement for starship construction possesses planetary shipyards that can be used to produce atmospheric starships. Construction of non-atmospheric starships requires an operational Shipyard facility in the star system.

Starships come in a multitude of sizes and mission roles, ranging from small gunboats and corvettes to massive battleships and super carriers.

A starship's hull type, which is a general description of its size, is based on its Build Cost. This demonstrates that Build Cost is directly proportionate to hull types based on their Build Costs.

| Hull Type | Abbr | Build Cost | Command Cost |
|-----------|------|------------|--------------|
| Gunboat | GB | 1 | 1/2 |
| Corvette | CT | 2 | 1/2 |

| | | | |
|------------------|----|-------|-----|
| Frigate | FF | 3 | 1/2 |
| Destroyer | DD | 4 | 1/2 |
| Light Cruiser | CL | 5-9 | 1 |
| Heavy Cruiser | CA | 10-14 | 2 |
| Battlecruiser | BC | 15-19 | 3 |
| Battleship | BB | 20-24 | 4 |
| Dreadnought | DN | 25-29 | 5 |
| Superdreadnought | SD | 30-34 | 6 |
| Titan | TN | 35+ | 7+ |

| Type | Abbr | Build Cost | Command Cost |
|----------------|------|------------|--------------|
| Escort Carrier | CVE | 1-4 | 1/2 |
| Light Carrier | CVL | 5-9 | 1 |
| Heavy Carrier | CVA | 10-14 | 2 |
| Fleet Carrier | CVB | 15-19 | 3 |
| Super Carrier | CVD | 20+ | 4+ |

6.1.2 STARBASES

6.1.3 FLIGHTS

| Type | Abbr | Build Cost | Command Cost |
|--------------------|------|------------|--------------|
| Light Fighter | LF | 1 | 1/2 |
| Standard Fighter | SF | 2 | 1/2 |
| Medium Fighter | MF | 3 | 1/2 |
| Heavy Fighter | HF | 4 | 1/2 |
| Superheavy Fighter | SHF | 5+ | 1+ |

6.1.4 GROUND FORCES

6.1.5 GROUND BASES

Ground bases are planetary fortifications that are used to defend a system against invasion.

6.2 Unit Classes

"If you know the enemy and know yourself you need not fear the results of a hundred battles."

- Sun Tzu

Unit classes establish the baseline statistics and capabilities of its class members. Any modifiers that affect the unit either positive or negative are added to these values to determine its actual unit statistics. A class' statistics are divided between four categories: economic factors, combat factors, command factors, and special abilities.

6.2.1 CLASS NAME

Every unit class is assigned a class name that uniquely identifies it on an empire's force list. A unit class can either be given an arbitrary name (ex: Halcyon) or a utilitarian name (ex: Destroyer-III) at the owning player's discretion, but no two unit classes on the same force list can be given the same class name. In the event that an empire receives a unit whose class has the same name as one of its existing units, the player must give the new unit class a different name to clearly differentiate it from the existing unit class.

6.2.2 ECONOMIC FACTORS

xxx

Build Cost (BC) is the number of economic points that an empire must spend to purchase a unit of a given class.

Built Time (BT) is the number of turns that a unit has to be under construction at a colony before it is finally completed.

Maintenance Cost (MC) is the number of economic cost to maintain a unit for an entire campaign year (10 turns) . Empires pay 10% of a unit's MC every turn as maintenance expense.

Tech Level (TL) describes how advanced a unit is. Units can only be built in systems that have tech levels that are greater than or equal to their own TL.

6.2.3 COMBAT FACTORS

Combat factors are used to gauge a unit's combat effectiveness.

Defense (DV) determines how much damage a unit can take and still continue fighting. While a unit's basic structure integrity plays a major role in determining its Defense value, other factors including energy shielding, ablative armor, decoys, electronic defenses, and other various types defensive systems also contribute towards its overall survivability. A unit is crippled when its total damage is greater than or equal to its Defense value, and a unit is destroyed when its damage total is equal to twice its Defense.

Because of how strategic combat is resolved in the Victory by Any Means Campaign System, capital ships are considerably more powerful than lesser starship types because they typically have higher Defense ratings. Units continue to fight at full strength until they are crippled, which occurs when a unit takes an amount of damage equal to their Defense rating. A capital ship's high Defense rating makes them harder to cripple and increases the number of combat rounds that the capital ship will remain at full combat strength.

Attack Strength (AS) is a measure of a unit's heavy weapons strength. The more heavily armed a unit is, the higher its Attack Strength will be. It is used to score damage against enemy warships or ground forces but it is completely ineffective against enemy fighter or shuttle flights.

Point Defense (PD) encompasses all of the active defense mechanisms that a unit can employ to protect itself against incoming weapons fire and flights. Examples of point defense weapons include anti-fighter batteries, flak cannons, countermissiles, and sand casters. Point Defense weapons aren't powerful enough to breach heavy armor belts, however, and this prevents them from being used against more powerful adversaries such as starships or ground forces.

6.2.4 COMMAND FACTORS

xxx

Command Rating (CR) is used to coordinate command and control operations at the squadron level. The maximum Command Cost of units that a

unit can command when it leads a squadron is equal to its Command Rating. This means that units with high CR values make better squadron command elements because they can bring more units into battle with them.

Command Cost (CC) determines how difficult a unit is to command within a squadron environment. Larger combat units have higher Command Costs while smaller combat units have lower Command Costs. While on the surface this may seem counterintuitive, consider that while a battleship may have better internal command and control capabilities it can have a more difficult time coordinating its actions with other units. By comparison, lighter combatants have less “command overhead” that can get in the way of carrying out their assigned orders. The maximum Command Cost of units that a command element can include in its squadron is equal to its Command Rating.

6.2.5 SPECIAL ABILITIES

| Special Ability | Mass Cost |
|--------------------|--|
| Armors | 1 x Defense |
| Assault | 1 |
| Atmospheric | 50% x Build Cost (round down, minimum 1/2) |
| Blockade Runner | ? |
| Bombardment | 2 |
| Cargo | 1 |
| Carrier | 1 |
| Command | 2 |
| Construction | 2 |
| Cyber Warfare | 2 |
| Deception | 25% x Build Cost (round down, minimum 1) |
| Diplomatic | 2 |
| Electronic Warfare | 2 |
| Endurance | 1/2 x Command Cost |
| Fast | |

| | |
|--------------|--|
| Fighter Rail | 1/2 |
| FTL | 50% x Build Cost (round down, minimum 1/2) Cost doubled for flights |
| Jammer | 1 |
| Jump | 50% x Build Cost (round down, minimum 1/2) |
| Marines | 2 |
| Medical | 1 |
| Police | 2 |
| Repair | 1 |
| Scout | 2 |
| Stealth | 2 x Command Cost |
| Supply | 1 |
| Tender | 1 |
| Towing | 1 |

Armor

Permanent +1 formation level bonus

Assault

Assault is used to transport friendly ground forces and coordinate planetary invasions. Each point of Assault value allows a unit to base 1 BC of ground forces. Troops that invade a system from Assault basing receive their full combat factors during an Invasion combat scenario. By comparison, ground forces that invade from Cargo receive only half their normal combat factors (rounded up). This makes Assault craft an extremely important component of any ground campaign.

Ground forces that are deployed to a system can use their Assault value to base other ground forces at that location. The troops that these units carry are automatically added to any ground combat scenario that the basing ground unit is drawn into in the same way that flights based aboard a Carrier accompany it into battle. As such, the Command Costs of these based ground forces are covered by the Assault unit and don't count against the command element's Command Rating limits.

Atmospheric

Atmospheric units are equipped with airfoils or anti-gravity propulsion systems that allow them to operate both in space and within a planetary atmosphere. The Atmospheric special ability can only be purchased once per unit. The benefits it provides a unit depends on its unit type:

- *Atmospheric starships* can be built at colonies as if they were ground forces without the aid of shipyards. The normal manpower limits for ground forces apply equally to atmospheric starship construction.
- *Atmospheric flights* are called *aircraft* and can fight in both space and ground battles. Atmospheric flights at tech levels below Interplanetary are only capable of fighting in ground battles, however.
- *Atmospheric ground forces* are troops that are equipped with the necessary equipment and life support to leave a planetary atmosphere and fight in space where they are treated like flights. Mecha are a popular example of this type of unit.

Starbases can't be Atmospheric because they are fixed orbital structures that can't operate in an atmosphere under any circumstances.

Blockade Runner

Blockade Runners are used to break through enemy blockades and resupply friendly systems. Defenders add their Blockade Runner value to their Command Costs when calculating the size of their force for purposes of X.X Blockades.

(Strategic) [increases number of ships for purposes of stopping a blockade]

(CSCR) Blockade Runner value can be spent to increase the formation levels of friendly Blockade Runners as a cost of 2 x CC per +1 formation level bonus.

Bombardment

(Strategic) Each point of Bombardment value gives a fleet or army a bombardment point to use to perform bombardment missions. An empire can attack a system with a maximum of one weapon of

mass destruction (WMD) for every 5 Bombardment value it has available (round down).

(CSCR) Task forces can spend Bombardment value in place of AS when scoring directed damage against enemy starbases or ground bases with the caveat that at least one point of AS must be allocated against an enemy unit per point of damage scored.

Cargo

Carrier (1)

1 BC of flights

Carriers possess hangars that are designed to base flights (fighters, bombers, shuttles, etc.) and deploy them into combat.

Flights can't possess the Carrier special ability.

(CSCR) Repair damaged flights

Catapult (2)

~~Catapults are larger versions of the basic Fighter Rail technology. Each Catapult gives a unit the ability to base a single 1/2 CC flight. This limits Catapults to flights that cost less than or equal to 4 economic points. These systems are usually installed aboard cruisers or capital ships to provide basic small craft support, especially in the reconnaissance role.~~

Command (2)

+1 CR bonus

Command units are dedicated command and control platforms that possess advanced communications and data processing facilities that allow military leaders to better coordinate combat operations during a battle.

(Strategic) A unit's Command value is added to its existing Command Rating. This increases the total Command Cost of units it can bring into a battle when it serves as a command element.

(CSCR) Each point of Command allows a player to increase one of his unit's non-Defense statistic values by one for the rest of the combat round. No unit can have a statistic increased to more than twice its normal value, however.

Compact (66% x BC)

Compact units have been engineered to require half the normal amount of space when they are based aboard other units. For example, a 1 BC flight with the Compact ability would have an effective BC of 1/2 for purposes of being based using the Carrier or Cargo abilities. The key benefit of the Compact ability therefore is that it allows an empire to base twice as many units in the same amount of space.

Construction

(Strategic) Units with the Construction ability function as mobile manufacturing platforms that an empire can use to build units via X.X Remote Construction.

Cyber Warfare

// interfere with enemy computers

// damage systems

Deception

// unit pretends to be a different unit class

// CC difference it can mimic is equal to Deception value

// cost 25% x BC

Diplomatic

Move diplomats and spies

Endurance (1/2 x Command Cost)

Reduced functionality version of Supply; can only resupply the unit with this ability, not other units.

(Strategic) Each point of Endurance value allows a unit to remain in supply for one turn without earning an out of supply level when it would normally be out of supply. A 2 Endurance unit could be out of supply for two turns without any ill effects, for example. This effect is similar to that provided by the Supply ability except that Endurance only benefits the equipped unit and can't be used to keep other units in supply.

Fast

Fast units have stronger engines or are more mobile, and this gives them a tactical speed bonus compared to other military units.

(Strategic) A task force can add or subtract one combat round from a scenario for every 5 Fast value

their units possess (round down). A scenario's length can't be reduced below one round.

(CSCR) Fast value can be used to either decrease enemy formation levels at a Fast cost of 2 x CC (*flanking maneuver*) or increase the friendly formation levels at a Fast cost of 2 x CC (*outflanking maneuver*). Only friendly units with the Fast ability can have their formation levels increased by this ability. This prevents speedy corvettes from making slow, ponderous battleships harder to hit.

Fighter Rail

~~A Fighter Rail is an external docking port that can accommodate a single 1 BC flight. These rails allow carriers to deploy twice the number of light fighters than would be possible with a comparable amount of Carrier value, but Fighter Rails can't be combined to allow for larger, more expensive flights to be based from them.~~

FTL

//FTL costs are doubled for flights.

(Strategic) The maximum number of jump lanes that a unit can move across during the Movement Phase each turn is equal to its FTL value (see X.X Jump Lane Movement).

Interdictor

(Strategic) [bonus to blockades] or [increase scenario length]

(CSCR) [retreat penalty]

Jump

Allow extra units to transit with the unit when it jumps; CC x Jump value

// FTL for units without FTL; can bring CC x Jump value worth of non-FTL units with it.

(Strategic) Each point of Jump value allows a unit to escort up to its Command Cost of other non-FTL units across a jump lane.

(CSCR) Jump units that successfully retreat from battle can take a total Command Cost of other units with them when they flee.

Medical

(Strategic) Medical units are used to perform X.X Field Repairs on friendly ground forces and ground bases. The amount of Medical value required to

perform field repairs on one of these units is equal to its build cost.

(CSCR) Medical can be used to conduct emergency triage on damaged ground units during a battle. The Medical cost to repair one point of damage is equal to twice the unit's Command Cost. Triage can't repair damage that a unit took outside of battle; it can only heal damage taken during the current scenario.

Police

Police forces are used to run anti-piracy patrols or perform peacekeeping operations in friendly system.

As part of their anti-piracy mandate, Police units are used to crackdown on illicit criminal activity in their systems. This interferes with the underworld's ability to conduct business on the black market. Police units reduce a system's black market value by an amount equal to their total Police value. This makes it harder for pirate forces to make purchases, such as conducting repairs on their damaged units.

Ground forces with the Police special ability are used to maintain order at the colonies where they're deployed. Colonies receive a +1 bonus to their loyalty checks if the total Police value in the system is greater than its Census.

(Strategic) Each point of Police value that a starship or flight has available reduces its system's piracy chance by 1%. This lowers the chance of a pirate fleet attacking the system each turn.

(Strategic) Systems that fail their loyalty checks and lose Morale roll D100 against the total Police value of friendly ground units in the system. The Morale loss is averted if the die roll is less than or equal to

(CSCR) In battles against pirate forces, Police units can substitute their Police value for AS or PD, allocating it between the two statistics before each combat round. This improves the unit's combat factors and demonstrates that they are most effective when fighting pirates. This bonus doesn't apply in situations where pirate units are fighting alongside another empire's forces.

Repair

(Strategic) Repair units are used to perform X.X Field Repairs on friendly starships, starbases, and flights. The amount of Repair value required to

perform field repairs on one of these units is equal to its build cost.

(CSCR) Repair can be used to conduct emergency field repairs on damaged starships, starbases, and flights during a battle. The Repair cost to repair one point of damage is equal to twice the unit's Command Cost. Emergency repairs can't repair damage that a unit took outside of battle; it can only heal damage taken during the current scenario.

Scout

(Strategic) The Scout ability provides fleets with a +1 bonus to their exploration rolls for every 5 Scout value in the fleet (round down).

(CSCR) Task forces can spend Scout value in place of AS when scoring directed damage against enemy non-flight units with the caveat that at least one point of AS must be allocated against an enemy unit per point of damage scored. In other words, by itself Scout value can't damage enemy units and the maximum amount of damage that a task force can do is still limited by its AS.

Stealth

Stealth encompasses a multitude of electronic countermeasures that are meant to make a unit harder to detect. This includes everything from anti-sensor hull coatings and heat collection/dissipation systems to full-blown cloaking technology.

(Strategic) [concealed movement] or [detection penalty]

(CSCR) Stealth units can use the ability to perform sneak attacks or cloak. These units gain a AS bonus equal to their Stealth when performing sneak attacks. Units that choose to cloak instead reduce their AS and PD to zero but receive a bonus to their formation levels equal to their Stealth value.

Supply

Carries enough supplies to resupply 1 CC of units; for example, a Supply 4 ship could resupply 4 CC of units before it's Supply would be exhausted

(Strategic)

Tender

Allow 1 BC of starships to dock and be carried

starships carried by Tenders can't have FTL drives of their own

Some empires employ dedicated gunboat tenders that are designed to transport gunboats from system to system and deliver them into combat situations. While these tenders could conceivably transport larger starship classes on their external moorings gunboats remain the most popular options

(CSCR) Repair damaged starships they're basing

Towing

Starships and flights that have the Towing ability are called *tugs*. These units can move other space combat units from one location to another using only their own powerful drives. The amount of Towing value required to tow a starship or flight is equal to the unit's command cost. Individual tugs can combine their Towing values in order to be able to move more massive units.

Tugs are usually used to tow crippled units whose FTL drives have been damaged in battle back to colonial bases for repair after a battle. The tug's FTL value is used to determine the number of jumps that it and its towed unit(s) can make during the Movement Phase of the turn. Towing puts heavy stress on a tug's own propulsion systems, however, and its FTL value is halved while it is towing another unit (round fractional FTL values up).

(Strategic) [towing]

(CSCR) Towing units can grapple onto friendly units and move them out of harms way during a fight. The towed unit's AS and PD are reduced to zero but its formation level is increased by 1 per X Towing, where X is twice the towed unit's Command Cost.

X.I.7 UNIT CLASS DESIGN

Build Cost = Set by player

Build Time = 1/2 Build Cost (round up)

Command Cost is equal to Construction Cost divided by 5 (round down, minimum 1/2).

6.3 Construction

PLANETARY CONSTRUCTION

Starship, starbases, flights, ground forces, and all other types of military units are built at colonies using a mix of planetary and near-orbital industry. Non-Atmospheric starships can only be produced in systems that contain orbital Shipyard facilities, but starships with the Atmospheric ability can be built at any colony using planetary factories because their Atmospheric capability allows them to be launched into orbit after completion/

The total construction cost of units under construction in a system during the Construction Phase cannot exceed its industrial capacity. Ground force production at a colony is further limited by its available X.X Manpower. The maximum command cost of ground forces that can be simultaneously under construction at a colony is equal to the colony's Census value.

In the event that the system's industrial capacity is insufficient to cover all of the construction projects currently underway in its system, the affected player must choose to suspend construction on one or more units until the total construction cost of units being produced at the system is less than or equal to its current industrial capacity. These units retain all of their construction progress to date and they can resume construction on a later turn once there is enough unused industrial capacity available to satisfy their construction cost requirement.

Ground force construction can be similarly impacted if a system's Census value is reduced. Like before, the player will be forced to suspend construction of one or more units until the total command cost of ground forces currently under construction in the system is equal to the system's current Census value.

Starbases and ground forces are automatically deployed to the colony where they were built after completion. An empire can't move its starbases after they're built, but its ground forces can be embarked aboard transports (either military or civilian) and moved to other systems on future campaign turn.

Flights are crated and stored at a colony after their are completed unless there is a Fighter Garrison available in the system with sufficient Carrier value available to base them. Unassigned flights can't participate in combat at their location, so it's in the player's best interest to quickly reassign them to carriers as soon as possible.

Ground forces can only be purchased at colonies that have Census available from which to draw manpower. The maximum Command Cost of ground forces that can be under construction at a system at any one time (including repairs) is equal to its current Census value. This forces empires to evacuate injured troops from combat zones and move them back to friendly colonies for repair, or else pay to field Medical support units (either ground triage or orbital hospital ships) that can perform field repairs on damaged ground forces. It also limits the rate at which new ground forces can be built and a government's army expanded.

REMOTE CONSTRUCTION

Units with the Construction special ability are capable of performing remote construction operations in systems. This availability of extra machine shops and fabrication equipment increases a system's industrial capacity by 1 per 5 Construction value in the system (round down) as long as the units are currently in supply. This industrial capacity bonus is added to the system's industrial capacity if the power has a colony in the system.

Empires can use remote construction to build starbases or new flights in star systems where they either don't have colonies or lack the necessary industrial capacity to facilitate their construction. Construction units must remain in the system to contribute industrial capacity towards these projects throughout their construction.

BUILD TIMES

All military units must be under construction at a colony for one or more turns after they're purchased before they are finally completed. By default, each unit has a construction time that is equal to its construction cost divided by 2 (round up). This is the number of Construction Phases that the unit must be under construction after it is purchased before it is finally completed and ready for service. For example, a unit that costs 9 economic points would take 5 turns to build.

Repairs also take time to complete. The time required to complete repairs is equal to half the unit's normal construction time (round up).

Unit construction times are advanced during the Construction Phase of the turn, starting on the turn that they are purchased. This means that a unit with a construction time of 1 turn will be completed on the same turn that it is purchased while another unit with a construction time of 2 turns is finished on the turn after it was purchased.

6.3.1 PROTOTYPING

Engineers can design new unit classes to supplement an empire's existing classes and/or take advantage of new technologies. All new unit classes must be successfully prototyped before they can start construction. To purchase a new unit prototype, an empire must spend a number of economic points equal to twice the unit's construction cost. Only the unit's base construction cost counts against a system's industrial capacity for purposes of construction. The remainder of the cost covers the extraordinary technical expenses associated with developing a new unit class.

Prototypes can only be purchased at colonies that have Research infrastructure available to support the engineering and design portion of the prototyping process. The maximum number of unit prototypes that can be under construction at a colony at any one time is equal to the colony's utilized Research value. Prototyping is interrupted whenever the number of prototypes under construction at a colony exceeds its utilized Research value. The player must select one or more prototyping projects to put into stasis until the colony's utilized Research infrastructure can be restored or other prototyping projects are completed. Progress made towards completing a progress isn't removed, and engineering teams can pickup where they left off once prototyping resumes.

Starting on the turn that it is first purchased, each prototype rolls on the Prototype Table during the Construction Phase to determine what kind of progress the engineers assigned to the project have made towards completing the prototype's testing and design phase. Prototype units remain in an evaluation state until a *Prototype Complete* result is

rolled on the table, at which point construction of the unit actually starts.

PROTOTYPE TABLE (2D6)

| Roll | Effect |
|------|---|
| 2-7 | No Effect |
| 8-11 | <i>Promising Results.</i> The prototype receives a cumulative +1 bonus to its future prototyping rolls. |
| 12+ | <i>Prototype Complete.</i> The prototype has been completed successfully. |

Multiple prototypes of the same unit class can be purchased and undergo prototyping simultaneously. Each prototype makes a separate prototyping roll, but any *Promising Results* outcomes rolled apply equally to all other prototypes of the same class. This often makes prototyping multiple units of a new class advantageous despite the added expensive because it allows the class to accrue prototyping bonuses at an accelerated rate. Prototyping is completed for all of the members of a unit class if any one of them rolls a *Prototype Complete* result on the Prototype Table.

Construction doesn't begin on a unit until after it's finished prototyping, and a unit that was successfully prototyped during the Construction Phase of the current turn won't start construction until the Construction Phase next turn. This represents that prototyping is an iterative process and that the original prototype is continuously being taken apart and put back together as engineers try to address and correct flaws in the unit's original design plans. Final construction can only begin once a unit class is officially approved as ready for production.

Even though units don't undergo construction while they're being prototyped, their command costs still counts against colonial planetary and/or shipyard construction maximums. These construction facilities are unavailable because they are being used to assemble the prototype and test new equipment prior to the start of actual construction.

Example: The human empire is going to prototype a new type of battlecruiser, the Lexington-class (C\$ 15). It costs 30 EP to initiate this prototyping project, but the prototype only requires 15 industrial capacity to accommodate its actual construction. The

prototype makes its first roll on the Prototype Table during the Construction Phase of the turn it was purchased. It rolls a '9', which is *Promising Results*. This gives the class a cumulative +1 bonus to its future prototyping rolls.

Prototyping continues on the Lexington-class until the prototype rolls a '12' or greater on the Prototype Table, at which point the prototype is complete. Actual unit construction begins in the Construction Phase of the following turn.

6.3.2 UNIT REFITS

An alternative to prototyping new unit classes is to return a unit class to a planet to undergo a comprehensive refit. This creates a new class variant based off of the original design but that can incorporate new technologies or alter the original's capabilities.

A refit class always has the same construction cost as the unit class it is based on, but a player can change any of its other unit statistics, including its unit tech level. The easiest way of handling this is to design a new unit class with the same construction cost as the original and then apply the desired unit statistics to that new class. However, refitting a unit class is always less efficient than designing and prototyping an entirely new unit class. The refit's maintenance cost is increased by 1 for every 5 MU that were added or subtracted from the design during the refit (round up).

To begin refitting a new class variant, a player must first move a unit of the original class to a colony that has enough industrial capacity available to oversee the refit process. The economic point cost to perform the initial refit is equal to the unit's construction cost. This cost covers the expense of designing and implementing the desired changes to the base unit's configuration. Unit refits are also subject to the same technical limitations as prototypes and require utilized Research to support them during construction. The maximum number of unit refit projects that a system can maintain is equal to its utilized Research value, minus the number of unit prototypes that are already in development there.

Refitting a unit is much simpler than developing a completely new class from the ground up. Unlike prototyping a new unit class, construction on the unit refit begins on the same turn that it is ordered. Research infrastructure is still required to support

unit refits, however, and the maximum number of unit refits that a colony can support at any one time is equal to its utilized Research infrastructure (this is in addition to the normal prototyping limits). The same rules for handling the interruption of design work due to a lack of utilized Research applies to unit refits as it does to prototyping.

Refit classes receive a special note that includes the name of the original unit class that it is a refit of. Units can only be refitted to class variants that are derived from the same base unit class. A unit can't be refitted into an unrelated unit class even if they have the same construction cost.

Additional units can be refitted to a new refit unit class starting on the turn after the lead member of the variant class is completed. The refit cost for each of these units is equal to half its construction cost (round up). The amount of construction time required to complete a refit is equal to half its normal build time (round up).

Example: The Lexington-class battlecruiser (TL 0, C\$ 15, M\$ 6, BT 8, DV 6, AS 5, PD 3, CR 8, CC 3, FTL 1) is being brought in to undergo an extensive refit to update it to TL 2 and convert it into a heavy carrier. The resulting class is the Lexington-class heavy cruiser (TL 2, C\$ 15, M\$ 11, BT 8, DV 7, AS 1, PD 4, FTL 1, Carrier 6, Refit (Lexington)). A new unit class with these same stats would have a maintenance cost of 7, but because this unit refit added 8 MU (+1 DV, +1 PD, +6 Carrier) and removed 4 MU (-4 AS) it receives a maintenance penalty of $12 \div 3 = +4$ M\$. This makes the Lexington refit over 50% costlier to maintain than a new unit class with the same stats, but the refit didn't require any prototyping so it could be produced quicker.

A special "Refit (Lexington)" note is added to the class' stat block to indicate its design lineage. Any unit of the Lexington-class or one of its derivatives can receive this refit.

5.5.5 MASS PRODUCTION Δ

A colony's factories must be retooled before every construction project. Retooling planetary industry takes time but speeds military unit production once the necessary retooling is completed.

// max # of each class a colony can purchase each turn is $X+1$, where X is the number of units of that class that were under construction in the system last turn

// the construction time of units reduced by 10% per unit of the same class currently under construction

at the colony (max 50% reduction, round fractional construction times up)

6.4 Damage & Repairs

The universe is a dangerous place, and it's inevitable that at some point during a campaign a player's forces will take damage, either as the result of a being out of supply or being attacked by a hostile enemy force. This section describes the levels of damage that a unit can receive during a game as well as rules for how this damage can be repaired.

6.4.1 DAMAGE STATES

There are four damage states that describe the current level of damage that a unit has incurred: undamaged, damaged, crippled, and destroyed. The relationship between the amount of damage a unit has sustained and its Defense value is used to determine its damage state.

Undamaged: A unit that hasn't received any damage is undamaged. Undamaged units function normally and aren't subject to any special penalties or restrictions.

Damaged: A unit is damaged if it has received one or more points of damage but its total damage is still less than its Defense value.

Crippled: A unit is crippled when the amount of damage it has received is greater than or equal to its Defense value. Crippled units have reduced combat effectiveness because many of their weapon systems have been knocked out by enemy fire. This is represented by halving a crippled unit's AS, PD, and special ability values halved (round down).

Destroyed: A unit is destroyed once its damage total equals twice its Defense value. Destroyed units are removed from play after they have received enough damage to destroy them.

6.4.2 REPAIRS

Injured units can be repaired at their empire's colonies. The cost to repair a unit is based on its current damage state. The cost to repair a damaged unit is equal to 25% of its construction cost, while the cost to repair a crippled unit is equal to 50% of its construction cost. Round fractional repair costs up in both cases.

Repairs usually take multiple turns to complete. The completion time for a repair operation is equal to half the repair cost (round up). The command costs of units that are undergoing repairs count against a colony's normal production or shipyard capacity limits while they are undergoing repairs.

A player can cancel repairs after they are ordered. Half of the economic points spent on the repairs are returned to the empire's economic pool (round down) and the unit that was undergoing repairs is left with the same amount of damage as when the repair order was initiated. Any repair work that crews had performed on the unit prior to the repair cancellation are lost under the assumption that for every system that was repaired another one was left partially disassembled when the order came down to halt repairs and return the unit to service.

6.4.3 FIELD REPAIRS

Special units can be used to perform field repairs on units that are operating away from their owners' colonies. Units equipped with the Repair ability can be used to repair friendly space combat units (starships, starbases, and flights), while units that possess the Medical ability can be used to repair friendly ground forces. The amount of Repair or Medical value required to conduct repairs on a unit is equal to the damaged unit's build cost.

Repair and Medical units can only perform field repairs if they are in supply and didn't move during the Movement Phase this turn. Field repairs are cancelled if the unit performing the repairs are forced out of supply or the field repair units moved this turn. All of the economic points spent on field repairs are lost when these operations are interrupted.

6.4.4 SCRAPPING

Units can be scrapped at a colony to remove them from play and recover a portion of their original construction cost. The colony's owner receives 50% of a unit's construction cost when scrapping undamaged or damaged units, or 25% of a unit's construction cost when scrapping crippled units (round down). Units that have received heavy damage are worth less as scrap than those units that are still in good fighting condition.

Any units or other cargo that are based aboard a unit when it is scrapped are automatically scrapped along with it. The player must be sure to disembark these units and goods prior to their basing unit being scrapped if they wish them to remain in service.

A unit's maintenance state has no impact on its ability to be scrapped. This allows players to scrap reserve and mothballed units without first reactivating them.

Units that have been purchased but are still under construction can be scrapped at any point during the construction process; the player does not have to wait for them to be completed before he can order them scrapped. These units always return 50% of their original construction cost (round down).

6.4.5 SCUTTling

Players can voluntarily destroy units by scuttling them. Empires usually scuttle units to reduce their maintenance burden or prevent units from being captured by an opponent. Scuttling functions much like scrapping with the exception that the unit's owner doesn't recoup any of the unit's original construction cost when a unit is scuttled. Units can be scuttled at any location, however, whereas units can only be scrapped in inhabited systems.

6.5 Maintenance

"Another flaw in the human character is that everybody wants to build and nobody wants to do maintenance."

- Kurt Vonnegut

Empires must pay economic points each turn to maintain their military forces. These maintenance expense expenditures represent the cost to produce replacement parts, train personnel, and provide all of the other consumables that a nation's armed forces need to continue functioning at optimal levels.

Units can operate in one of three maintenance states: active, reserve, or mothballed. A unit's current maintenance state defines what actions it is allowed to perform as well as what percentage of its listed maintenance cost an empire must pay to maintain it.

MAINTENANCE STATE CHART

| Maintenance State | Maintenance Cost % |
|-------------------|--------------------|
| Active | 100% |
| Reserve | 50% |
| Mothballed | 10% |

6.5.1 ACTIVE

Active units are fully-operational and available to receive orders. This is the default maintenance state for units in a campaign and all new units begin in an active state. Active units pay their full maintenance cost each turn and can be ordered to perform any legal action, including performing movement, loading or unloading cargo, conducting exploration, etc.

6.5.2 RESERVE

Reserve units are maintained at less than full-readiness. These units can't be issued movement orders and their combat factors are halved when they are drawn into combat (e.g., they fight as if they were crippled). Task forces that are commanded by a reserve unit receive a -1 penalty to their rolls on the Surprise Table.

The trade off for these combat penalties is that an empire only has to pay half a reserve unit's normal maintenance costs each turn. Placing units into the reserves is therefore a quick and easy way for a player to reduce his empire's maintenance costs.

6.5.3 MOTHBALLED

Mothballed units are out of service and aren't combat ready. These units can't participate in encounters that are generated at their locations and are automatically captured if their location is conquered by another power. The only action that a mothballed unit can take is to be reactivated. A power only pays 10% of a mothballed unit's normal maintenance costs each turn, however, so they cost an empire almost nothing to maintain. This reduced maintenance cost allows an empire to economically maintain a combat reserve that can be activated during times of crisis to bolster their existing forces.

Empires commonly mothball older units that aren't as effective as their modern equivalents to reduce

their overall maintenance costs. For military hardware, mothballing involves prepping the equipment for long-term storage at planetary or naval facilities in anticipation of future reactivation. Personnel, meanwhile, are furloughed or otherwise returned to their lives in the general civilian population until such time as their nation requires them to return to active service.

Mothballed units can be scrapped or scuttled without first being reactivated. This allows empires to destroy unwanted units without first going through the hassle of reactivating them. Mothballed units that are to be sold to another power must first be reactivated to Active status, however, before they can be traded away.

6.5.4 ACTIVATIONS & DEACTIVATIONS

Players can order their units to change maintenance states during the Turn Orders Phase. Activation orders are given to units in reserve or mothballed status, recalling them to an active maintenance state. Deactivation orders are given to units in active status to transition them to either reserve or mothballed status, as indicated by the player's deactivation order. It isn't possible to convert a reserve unit into a mothballed unit or vice versa; they must be brought back to active status first before they can be deactivated into reserve or mothballed status. Any units that are being transported aboard another unit are activated or deactivated along with their carrying unit.

As with normal unit construction, activation and deactivation orders often require multiple campaign turns to complete. The build time for a unit activation or deactivation order is equal to 25% of its completion time for reserve units or 50% of its completion time for mothballed units (round fractional completion times up). Mothballed starships require shipyard capacity equal to their command costs

~~Mothballed units require production or shipyard capacity equal to their construction costs during the deactivation/reactivation process as if they were new units under construction. Starships require shipyard capacity in addition to their production capacity. Deactivating or reactivating Mothballed units will tie up a colony's industry and shipyards and prevent the colony from building any new units~~

~~while Mothballed units are being worked on. This requirement also limits the rate at which the units can be transitioned into or out of mothballs, which in turn prevents a player from quickly reactivating all of its Mothballed units at the onset of a crisis or deactivating them all after a war is over. Another implication of this rule is that a colony with atrophied infrastructure may not be able to demothball units that have been stored there in the past due to a lack of production and shipyard capacities.~~

~~Fleet tenders that possess the Repair ability can use their spare Repair ratings to mothball or demothball space combat units (starships, flights, or starbases) at their location. The amount of shipyard capacity available to perform these actions is equal to their total unused Repair rating. Likewise, hospital ships or ground teams with the Medical ability can be used to mothball or demothball ground combat units (troops, aircraft, or installations). The amount of production capacity these units provide for use with these actions is equal to their total unused Medical rating. Repair or Medical units that are being used in this manner must remain in the system and can't move until the reactivation or deactivation orders are completed.~~

~~Orders to mothball or demothball a unit are delayed if there isn't enough production or shipyard capacity available at its location to support them. Enemy attacks or sabotage missions are often to blame for these interruptions. The completion time for the affected activation or deactivation order won't progress until there is enough production or shipyard capacity available to continue work mothballing or demothballing the unit.~~

6.6 Supply

Supply is an important concern for any empire. A player must keep his military forces in supply to maximize their combat efficiency and prevent them from taking damage due to lack of upkeep. To achieve this goal, players must be mindful of the size and reach of their logistics networks as they expand their empires into new star systems. Colonies can only trace supply out so far, and units that travel beyond their supply range will find themselves out of supply.

6.6.1 SUPPLY DEPOTS

Supply Center

// capital systems or supply depots

// supply range equal to $\text{Census} / 2$ (round down) or fixed 3

Supply capacity

Every inhabited star system has a supply capacity equal to its industrial capacity ($\text{Utilized Industry} \times \text{Census}$). This is the total Command Cost of military units that the unit can resupply during the Supply Phase each turn. A colony's supply capacity can only be used to resupply friendly units in its own system. Supply depots are required to transport supplies to units operating in other nearby star systems.

6.6.2 SUPPLY STATES

Units can exist in one of two supply states: *in supply* or *out of supply*. A unit is in supply if it is within the supply range of a friendly colony during the Supply Phase and can trace a supply route back to that colony. Supply routes can't pass through contested systems or systems that are controlled by a power with which your own power hasn't signed a military treaty. Units that are in supply are able to receive a regular flow of replacement supplies and personnel from these nearby colonies that keeps them functioning in good order without penalty.

Units that aren't located within the supply range of a friendly colony during the Supply Phase are out of supply that turn. Units with the Endurance special ability reduce their effective Endurance value by 1 at this time. All other units that have Endurance values of zero earn a number of out of supply levels (OSL) equal to their Command Costs each turn that they are out of supply. For example, a light cruiser (1 CC) would receive 1 OSL per turn it is out of supply while a battleship (4 CC) would receive 4 OSL per turn.

Units that are being based aboard another unit don't earn out of supply levels when they are out of supply. However, carriers and transports that become crippled as the result of being out of supply won't be able to base as many units as they could before and their owners will be forced to destroy one or more of the flights, ground forces, or other units based aboard those craft until the total build

cost of units remaining is less than or equal to their new basing capacity.

6.6.3 OUT OF SUPPLY LEVELS

Units accrue

Being out of supply for an extended period of time leads to equipment failure and crew attrition and units take 1 damage for every 2 OSL they earn. This gives small units a slight advantage as they take less damage overall from being out of supply, however larger units that have high Command Costs also typically have proportionately higher Defense values that allow them to take more damage. Consider this example: a CC 1 light cruiser with DV 2 could be out of supply 4 turns before it's destroyed, but a CC 4 battleship with DV 15 could be out of supply 15 turns before receiving enough OSL damage to destroy it.

There are two ways that a unit's OSL can be removed and its Endurance value restored. The first occurs when the unit moves back within the supply range of a friendly colony and can once again trace a supply route to that colony. The second is when a military supply ship expends Supply value to resupply the ship (see X.X Military Supply Ships). Clearing a unit's OSL doesn't repair any damage that it took as a result of being out of supply, however. The damaged unit must return to a colony for refit and repairs before it can be restored to an undamaged state. Starships that are sent on deep range patrol missions will commonly return with damage, and the costs to repair these units cover the replacement of equipment that failed during the cruise.

// basing units don't earn out of supply levels, but they can be destroyed if the unit they are embarked aboard becomes crippled

Example: A light cruiser (CC 2) with 3 Endurance is operating outside the supply range of any friendly colonies and has been out of supply for eight turns. Thanks to its Endurance value, it can be out of supply for three turns before earning any OSL. On its third turn out of supply, the cruiser's Endurance value is reduced to zero. On each subsequent turn it receives 2 OSL. Of the eight turns the cruiser has been out of supply, it only earned OSL on five of them (the first three were covered by its Endurance). This gives the unit a total of 10 OSL at the end of the Supply Phase on its eighth turn out of supply.

If this light cruiser moves back into supply on the next turn, its 10 OSL would be removed and its Endurance value restored to its starting value. The ship took 5 damage during its voyage, however, and the ship must return to a colony to have this damaged repaired.

6.6.4 MILITARY SUPPLY SHIPS

When military forces are forced to operate beyond their lines of supply, they rely on military supply ships to keep them in supply. Military supply ships, often called *fast combat support ships (AOE)* in modern naval parlance, are vessels with the Supply special ability that can be used to refuel, rearm, and resupply friendly military units in the field. The Supply cost to resupply a friendly unit is equal to its Command Cost. A CC 3 heavy cruiser would require 3 Supply to replenish it, for example. Resupplying a unit removes all of its OSL and restores its Endurance to its original starting value.

Supply value that is used to resupply a unit is exhausted after use. It remains exhausted until the military supply ship moves back into supply, at which point its Supply values is restored. Exhausted Supply isn't restored if a military supply ship resupplies another military supply ship, however; the exhausted supply ship must be able to trace a supply route back to a friendly colony before its Supply value can be replenished.

Freighters can perform ad hoc military supply duties, using their Cargo value in place of Supply value, but they aren't as effective in this role and the amount of Cargo value required to resupply a unit is equal to twice its Command Cost. The CC 3 heavy cruiser from the previous example would require 6 Cargo to be resupplied.

Unlike military supply ships, standard freighters are completely exhausted after they are used to resupply another unit regardless of the amount of Cargo value expended. Exhausted freighters can't be used to resupply any other units until they are back in supply, though they can continue to load and unload cargo and troops while they're in this state.

Example: A military supply ship (Supply 4) rendezvous with the light cruiser (CC 2) from the previous example on its eighth turn out of supply. It costs 2 Supply to resupply the light cruiser, removing its 10 OSL and returning it to 3 Endurance. The military supply ship now has 2 Supply available and 2 Supply exhausted. It could resupply up to 2 CC of units before all of its Supply value is exhausted. The military supply ship could even use this Supply to clear its own OSL

from being out of supply, but its Supply value would remain exhausted because Supply is only restored when a military supply ship can trace a supply route back to a friendly colony.

If the military supply ship wasn't available and the player was forced to dispatch a basic military freighter (Cargo 6) to meet up with the light cruiser instead, that freighter would have to expend 4 Cargo to resupply it because the Cargo cost to resupply a unit is twice that of conventional Supply. The military freighter is completely exhausted after performing this resupply even though it only used 4 of its 6 Cargo value. It couldn't resupply another unit until it moves back in supply and de-exhaust its Cargo value.

6.7 Basing

Carriers

Tenders

Cargo Ships

Assault Ships

Flights, ground forces, and other special forms of cargo can be embarked aboard units equipped with Cargo bays for transport to other planets or star systems. The maximum command cost of these units that a unit can embark is equal to its Cargo value. Multiple transports can combine their Cargo values to allow them to carry larger units. For example, a freighter with 3 Cargo has enough cargo capacity to embark up to 3 CC of flights or ground forces, but two of these freighters working in tandem could transport up to 6 CC of units.

Units can embark or disembark cargo at any friendly system or colony they visit during the Movement Phase. If transferring cargo between units in different fleets, the destination fleet must have sufficient cargo capacity available to cover the total construction cost of the inbound cargo. Crated flights can be disembarked directly to waiting carriers so long as those vessels have sufficient Carrier value available to base them.

Units that are transported as cargo can't participate in combat. The one exception to this rule is that ground forces that are stationed aboard transports can take part in X.X Invasion Scenarios during the Ground Combat Phase when they attempt a landing to establish a beachhead at an enemy colony. Ground forces that invade from Cargo suffer significant combat penalties compared to those that invade from Assault basing, however.

Cargo can be lost if the units that are carrying them are damaged or destroyed. During the Supply Phase players must check to see if each military force still has enough Cargo value available to accommodate the command cost of all the cargo they are currently transporting. Should the cargo's total command cost exceed the force's combined Cargo value, the owning player will be forced to destroy one or more units until the remaining cargo's total command cost is less than or equal to its Cargo value.

Cargo can also be disembarked via a special "jettisoning" action. Jettisoning cargo effectively destroys the cargo. Barring CM fiat, it is impossible to retrieve or otherwise recover jettisoned cargo. The decision to jettison cargo must be made during the Turn Orders Phase; it cannot be made in the middle of battle.

When not being used to move units from system to system, Cargo vessels are automatically employed as X.X Military Supply Ships that carry supply points that military forces can consume while out of supply to keep from taking damage. This logistics application makes it beneficial for players to assign supply ships to their military convoys to extend their operational ranges.

6.8 Captured Units

// captured ships are treated as crippled units until they are repaired, regardless of how much damage they sustained before they were captured

Chapter 7: Warfare

7.1 Detection

7.2 Bombardment

Military forces can conduct bombardment in enemy systems during the Bombardment Phase after all space and ground encounters have been resolved for the turn. This bombardment is used to weaken an enemy colony, often in preparation for a full-scale planetary invasion.

Space combat units (starships, starbases, flights) can perform **orbital bombardment** if the system's owner doesn't have any starbases left in the system to protect its colony from bombardment. Ground combat units (ground forces, ground bases) that are deployed to a system can perform **planetary bombardment** regardless of whether or not there are any starbases left in orbit. Troops that are still aboard transports in orbit can't contribute to planetary bombardment.

BOMBARDMENT MISSIONS

The amount of damage that units can score against system targets during the Bombardment Phase is limited by how many bombardment points they have available to spend on bombardment missions that turn. An empire's bombardment point total is equal to twice its total Bombardment value plus half its total Attack Strength (round up).

Troop Bombardment

Troop bombardment is an all-out, concerted strike against an opponent's ground forces and ground

bases. Every 2 bombardment points spent on troop bombardment scores 1 damage against an enemy ground unit. This mission can only damage ground units that have already been disembarked and deployed to the system, not those that are based on orbiting transports.

Suppression Bombardment

Suppressive bombardment performed coordinated strikes against a system's infrastructure that disrupts its productivity without damaging its infrastructure. This is useful if an empire plans to invade the system what wants to limit a system's productivity in the lead up to the eventual ground campaign. This mission reduces one of the system's utilized infrastructure values by 1 this turn and has a bombardment cost equal to twice the system's Census value.

Infrastructure Bombardment

This mission is used to permanently destroy infrastructure in an enemy system. One point of infrastructure of the player's choice is destroyed in the system at a bombardment cost equal to 10 times the system's current infrastructure value.

Facility Bombardment

Facility bombardment is used to eliminate enemy facilities in a system. These immobile installations, located on planetary surface or near-planetary orbits, are more susceptible to enemy bombardment than traditional colonial infrastructure. It takes 10 bombardment points to damage a facility. This damage is enough to crippled an undamaged facility or destroy a crippled facility.

Terror Bombardment

Terror bombardment is a sadistic terror bombing campaign that selects targets at random in an attempt to instill a sense of panic and fear in a system's population. This mission reduces the system's Morale by 1 and has a bombardment cost equal to 10 times the system's current Morale value. It has no effect if the colony is already in rebellion.

Population Bombardment

Population bombardment is a cruel assault against a colony's population. Rather than eliminating strategic enemy industrial or economic assets, a bombardier's guns ignore these obvious targets and instead focus their fury on civilian population

centers to inflict the maximum amount of damage possible. The bombardment cost to reduce a system's Census and Morale by 1 each is equal to 10 times the system's current Census value.

Resource Bombardment

This type of bombardment is an attempt to not only annihilate an enemy colony but render the planet that it's located on uninhabitable, permanently reducing the system's resource (Carrying Capacity, RAW, Biosphere) values in the process. The bombardment cost to reduce one of a system's resources by 1 is equal to 50 times its current resource value. None of a system's population or infrastructure values can exceed its Carrying Capacity, and players may need to reduce these values when inhabited systems are targeted by missions of this type.

13.3 SUSTAINED BOMBARDMENT

A player can choose to carry over bombardment points from one turn to the next in order to perform more expensive bombardment missions. Any bombardment points that a force doesn't spend on bombardment missions on the current turn are automatically added to its bombardment point total on the following turn. This sustained bombardment allows a smaller force to perform costlier bombardment missions that it might not otherwise be able to achieve using the number of bombardment points that it can generate in a single turn.

One major limitation on sustained bombardment is that unused bombardment points are only carried over from one turn to the next and all of these bombardment points are lost if the attacker is incapable of performing bombardment in the system on the following turn. Reserving bombardment points for future use is therefore a tricky proposition. Sustained bombardment is a safe bet if you're sure you'll still be able to bombard a system next turn. A fleet that is threatened by a possible enemy counter attack, however, might think twice about saving up bombardment points and instead use them to attack targets of opportunity in case it is driven out of the system next turn.

13.1 PLANETARY DEFENSES

Systems can be protected by various forms of planetary defenses, a special class of facilities that affect units that attempt to attack a system during the Bombardment Phase. Two examples of these types of facilities are included in this book: X.X Planetary Defense Guns and X.X Planetary Defense Shields.

Planetary Defense Guns (PDG) are planetary weapon systems that engage enemy ships when they move within firing range. These weapons attack *before* bombardment and can eliminate enemy units before they get a chance to bombard the defended system.

Planetary Defense Shields (PDS) are be used to protect systems against enemy bombardment. An attacker's bombardment point total is halved (round down) when bombarding a system that is protected by a planetary shield.

While rules for only two planetary defense facilities are included in this book, additional planetary defense facilities are sure to appear in future campaign books. Players can also create new planetary defenses for use in their own campaigns to represent any kind of defensive structures that would affect enemies at the start of the Bombardment Phase.

13.5 WEAPONS OF MASS DESTRUCTION

Weapons of mass destruction (WMD) are the absolute scourge of planetary warfare. These terrifying weapons are designed to inflict the maximum amount of damage possible in a brief span of time. The effects of traditional bombardment pale in comparison to the devastation that can be wrought by weapons of mass destruction.

WMD cost 5 economic points each and can be built at any colony or manufacturing facility that could normally produce flights. WMD are completed on the same turn that they are purchased. They have Command Costs of 1/2 for purposes of Cargo basing. Units with the Bombardment special ability can carry 1 WMD per point of Bombardment value they possess. Any WMD not embarked aboard

Bombardment or Cargo units are left crated at planetary locations for later embarkation and use.

A Bombardment can deploy as many of its available WMD as it wants when it performs bombardment. Each WMD provides an additional 10 bombardment points that its can spend on bombardment missions this phase. Weapons of mass destruction can't be used against systems that are protected by planetary defense shields (PDS), however, because these sophisticated defenses make a system immune to WMD attacks.

Weapons of mass destruction represent such a serious threat to galactic peace that most civilized powers outlaw their use. Empires that persist in using them against their enemies will almost assuredly have to deal with the political implications of their actions once their neighbors learn of the atrocities that they are committing against other sentients.

BOMBARDMENT SURRENDER

Fleets that have achieved space superiority in an inhabited star system can demand that a colony lay down its arms and surrender in preference to being bombarded.

// will only surrender if there aren't any friendly ground units left on the planet

// Chance of refusing demand is equal to average of AG and XE, +5% per Census in the system

// heavily populated systems know that they can hold out longer

// colonies that surrender are still considered conquered colonies

Espionage: Trade

Difficulty Level : 1

This mission reveals the target system's trade value and the name of all of the empires that have a trade route connecting to the system.

Sabotage: Trade

Difficulty Level: 2

This mission reduces the system's trade value to zero this turn.

Propaganda: Trade

Difficulty Level: 2

This mission severs one trade route of the player's choice.

Espionage: Supply

Difficulty Level: 2

Reveals the system's supply range. If this is not a supply center, it instead indicates the distance to the nearest supply center.

Sabotage: Supply

Difficulty Level: 4

The system's supply range is halved this turn.

Propaganda: Supply

Difficulty Level: 2

1D6 units being serviced by this supply center are out of supply this turn

"The crossing of space ... may do much to turn men's minds outwards and away from their present tribal squabbles. In this sense, the rocket, far from being one of the destroyers of civilisation, may provide the safety-value that is needed to preserve it."

— Arthur C. Clarke, *The Exploration of Space*, 1951

Appendix: Unit Archetypes

X.1.1 Escorts

Escorts are small warships that are individually weak but can be effective in large numbers. Starships of this type are traditionally fielded as escorts for larger cruisers and capital ships, thus their designation. Escorts are cheap to build and maintain and can be fielded in large quantities. Empires routinely assign escort ships to system patrols to defend and monitor activity in the various star systems in their sphere of influence. These patrols can deal with minor incursions into their empire's territories and deal with any errant pirate forces as they appear. Even if the escorts can't repulse an attack against their system location, they can at least warn their owner that an opponent is making a move against their territories. This information is especially important in moderated campaigns where the fog of war may not otherwise inform the player as to why his empire lost ownership of a system that was previously within its sphere of influence.

One of the key benefits of escort starships is that they are extremely cheap to build and maintain. Small colonies with limited industrial capacities can usually build or repair a few escorts at a time. This makes it easier for an empire to replace its escort losses, both in terms of total economic cost and time spent under construction.

In combat, escorts typically provide supporting fire to their force's larger combat units. An escort's unit statistics are rarely impressive, but in aggregate they can substantially increase their squadron's overall offensive and defensive capabilities. Escorts are also useful as "damage sponges" that a player can score damage against in preference to damaging his more powerful starships during a battle.

Gunboat (GB)

Gunboats are the smallest escort class. These weak combat units are typically used for short-range planetary defense missions. Because of their small size, gunboats are rarely equipped with FTL drives unless they are intended for non-combat missions. This is because FTL drives are space-intensive enough that their inclusion on a gunboat hull would nearly preclude the craft from being armed with weapons or defenses of any kind.

Corvette (CT)

Corvettes are diminutive fighting ships that have limited combat capabilities and are typically restricted to system patrol duties. They are however

twice the size of a gunboat, which gives naval architects substantially more flexibility when it comes time to design new corvette classes.

Frigate (FF)

Frigates are mid-sized escorts that are massive enough to be outfitted for a number of different mission roles. They are more powerful than a corvette but still weaker than a destroyer.

Destroyer (DD)

The destroyer is the strongest of the escort classes. While historically destroyers were created as a counter to enemy torpedo boats (thus their original designation as torpedo boat destroyers), in this parlance “destroyer” refers to a light warship that has sufficient size and capabilities to provide meaningful firepower and support assistance to a fleet. While a destroyer’s capabilities can never rival those of a full light cruiser, they are far more capable than a frigate, corvette, gunboat.

Wolf Packs

Once common strategy when fielding escorts is to form light attack squadrons that place a single light cruiser or heavy destroyer in command of as many escorts as possible. A 4 CR light cruiser for example could command 10 escorts. This heavy concentration of escorts provides a reasonable amount of firepower and their low Command Costs mean that it is cheaper to increase their formation levels using friendly Point Defense which in turn makes the escorts better able to weather enemy weapons fire.

Empires can build their entire order of battle around wolf pack tactics, fielding escort classes almost exclusively with the exception of the few larger light cruisers needed to provide superior command and control functionality to their fleets. The ability to quickly replace combat losses is a major advantage for power that adopt wolf pack tactics. Consider that an empire whose home system has an industrial capacity of 30 could produce 10 ships of a 3 BC escort class every turn. The same system building 2 BC escorts would complete 15 per turn.

The problem with wolf pack and swarm tactics is that it's harder for an empire to achieve the same level of firepower concentration that an opponent that concentrates on larger starship classes can. An empire that adopts a wolf pack doctrine must be prepared to commit wave after wave of escorts at a

superior enemy force and be willing to accept the enormous losses that the strategy requires. Each successive wave of ships thrown at the enemy will whittle down its defenses inch by inch until it finally breaks. As long as the wolves can replace their losses faster than their opponents they can make the strategy work. However, if an empire's industrial sector is incapable of keeping up with its combat losses -- or, more worryingly, if its opponent can replace the losses of its own more expensive units at a similar rate -- these swarm tactics won't have any chance of long term success.

X.1.2 Cruisers

Cruisers are warships that are more powerful than an escort but still weaker than a true capital ship. Historically, ships of this type were used as long-range commerce raiders because of their superior speed and cruising ranges. Their moderate costs and build times relative to their firepower and defenses make cruisers an attractive option, and most navies employ cruisers as their primary starship units.

Light Cruiser (CL)

Light cruisers are the smallest members of the cruiser family. Warships built on light cruiser hulls are capable of engaging and destroying escorts with relative ease, but they are at a clear disadvantage when confronted by larger cruisers or capital ships. Empires traditionally employ light cruisers as system defense pickets or support units. It is very common for a player to use light cruisers as command ships for system patrol fleets, with a single light cruiser serving as a squadron leader for a number of subordinate escorts.

Heavy Cruiser (CA)

Heavy cruisers are starships that strike a balance between the economy of smaller units and the capabilities of larger vessels. Players should find that heavy cruisers offer considerable versatility when designing new classes. Most interstellar navies utilize heavy cruisers as their primary workhorse warships, building them in at least moderate numbers to provide command ships to lead smaller light cruiser or escort squadrons while also serving as heavy escorts for the empire's larger, more powerful capital ships.

Battlecruiser (BC)

The battlecruiser is the largest class of cruiser an empire can build.

are more powerful than heavy cruisers thanks to the enhanced defenses and firepower that their higher mass allows them to purchase during unit design. Battlecruisers have historically lacked the thick defensive armors that are incorporated aboard other capital ship classes because they trade this armor for faster engines and greater strategic speed. This creates a warship that has the firepower of a battleship but only the survivability of a heavy cruiser. A player should not be compelled to follow historical precedents when designing new battlecruiser units for his empire, however. Generalist battlecruisers are just as valid as those that specialize or overspecialize in specific areas of play.

Battlecruisers are sometimes referred to as “pocket battleships” because the largest battlecruiser classes are often almost as powerful as a small battleship.

X.1.3 Capital Ships

The largest and most powerful fighting ships in the galaxy are called capital ships. These massive warships are capable of both dealing and receiving tremendous amounts of damage, and their capabilities far surpass those of a simple cruiser. Capital ships traditionally serve in command roles, leading task forces and squadrons into battle.

| Type | Abbr | Build Cost | Command Cost |
|------------------|------|------------|--------------|
| Gunboat | GB | 1 | 1/2 |
| Corvette | CT | 2 | 1/2 |
| Frigate | FF | 3 | 1/2 |
| Destroyer | DD | 4 | 1/2 |
| Light Cruiser | CL | 5-9 | 1 |
| Heavy Cruiser | CA | 10-14 | 2 |
| Battlecruiser | BC | 15-19 | 3 |
| Battleship | BB | 20-24 | 4 |
| Dreadnought | DN | 25-29 | 5 |
| Superdreadnought | SD | 30-34 | 6 |
| Titan | TN | 35+ | 7+ |

Battleship (BB)

Battleships are the mainstay of an empire’s line of battle. These large warships are typically equipped with heavy, reinforced armor plating for defense and a multitude of weapons batteries that give it an edge in ship-to-ship combat.

While battleships are more expensive than battlecruisers, they are also cheaper than dreadnoughts. This relative economy makes it more likely that an interstellar empire will focus the majority of its capital ship construction on battleship classes in preference to larger, costlier ship classes.

The name for this class comes from the phrase “line-of-battle ship,” a term applied to the large wooden warships fielded during the Age of Sail. In modern parlance, the Battleship has come to represent the most heavily armed and armored warships in an empire’s navy. Battleships are also sometimes referred to as battlewagons.

Dreadnought (DN)

Dreadnoughts, also sometimes called super-battleships, are a class of vessels that decisively outclass their battleship predecessors. Where the battleship is a revolutionary advancement over the battlecruiser, the dreadnought is only an evolutionary refinement of the battleship. Starships of this type are typically equipped with the heaviest armor and armament available, and have enough internal volume to integrate many additional systems that could not be included on a battleship due to lack of space.

The two key factors that prevent an empire from expending its full starship construction budget on dreadnought production are that these fighting ships are very expensive to purchase and take a considerable length of time to build. Despite these disadvantages, dreadnoughts remain a sound investment for a large interstellar empire. As the pinnacle of the capital ship lineage, units of this type will have the highest survivability of any Starships in the game, and their concentrated firepower may be sufficient to turn the tide of battle.

Superdreadnought (SD)

Titan (TN)

The absolute largest and most powerful capital ships in existence are called titans. These supermassive starships are extremely expensive and take an

extraordinarily long time to build, but their cost is easily justified by their impressive combat capabilities. Titans almost always serve as fleet flagships, and it is extremely rare to see more than one titan in a single task force outside of decisive engagements.

Only the most heavily industrialized systems are capable of accommodating titan construction. This restricts the construction of these vessels to an empire's Major Colonies and Core Worlds.

X.1.4 Carriers

Carriers are starships that allocate a significant amount of their total mass towards hangar and launch facilities. A starship is considered to be a dedicated carrier if 25% or more of its total mass units are devoted to basing equipment.

| Type | Abbr | Build Cost | Command Cost |
|----------------|------|------------|--------------|
| Escort Carrier | CVE | 1-4 | 1/2 |
| Light Carrier | CVL | 5-9 | 1 |
| Heavy Carrier | CVA | 10-14 | 2 |
| Fleet Carrier | CVB | 15-19 | 3 |
| Super Carrier | CVD | 20+ | 4+ |

Escort Carrier (CVE)

Escort carriers are light warships (usually destroyers) that devote a large quantity of their onboard mass to flight operations. Escort carriers rarely field more than a few flights per ship, but their low command costs allow more of them to be included in any given squadron.

Carriers of this type are often used to provide light fighter support to squadrons that would otherwise not have access to friendly Flight support.

Light Carrier (CVL)

Light carriers are built on a light cruiser hull. These carriers can base and deploy a larger number of flights than an escort carrier can, but their basing capacities are inferior to those of larger, better-equipped carrier vessels.

Heavy Carrier (CVA)

A heavy carrier is a vessel of heavy cruiser size that dedicates much of its internal volume to Basing equipment. These heavy combat vessels are capable

of transporting and deploying large numbers of fighters, shuttles, gunboats, and other small craft into combat.

Fleet Carrier (CVB)

Fleet carriers are dedicated carriers that are the size of a battlecruiser. Each one of these immense carriers is capable of delivering a massive strikegroup into combat. However, with this strength comes at a cost: the loss of a single fleet carrier can have a devastating effect on an empire's ability to recover its flights after a battle!

Super Carrier (CVD)

The largest carriers, called supercarriers, are capital ships that possess Hangar ratings greater than any previous carrier type. A fully-loaded supercarrier can transport and deploy a dizzying number of flights into combat, and their strong defenses allow them to survive weapons salvos that would incinerate smaller carriers.

Troops transports are starships that are used to move ground forces from one system to another using a combination of Cargo and Assault capacities. These ships aren't built for combat and won't survive long if drawn into a battle. Rather, troops transports are intended to serve in a secondary role that emphasizes moving the largest number of troops at the lowest overall cost.

Assault ships are central to planetary ground campaigns. Empires rely on their Assault ships to establish beachheads in enemy systems.

Assault shuttles (AST) are flights with the Assault special ability that are used to support friendly ground forces during planetary invasions. Carriers can be equipped with assault shuttles

Jackson-class light armored carrier

BC 9 MC 4 BT 2 TL 0 Starship

DV 4 AS 1 PD 3 CR 4 CC 1

FTL 1, Decoy 1, Carrier 5

Jefferson-class heavy armored cruiser

BC 13 MC 4 BT 3 TL 0 Starship

DV 6 AS 7 PD 3 CR 6 CC 2

FTL 1, Armor 1

Jefferson-B-class heavy cruiser

BC 13 MC 4 BT 3 TL 0 Starship

DV 9 AS 7 PD 3 CR 6 CC 2

FTL 1, Decoy 1

Offensive

+25% Attack Strength

-25% Point Defense

Defensive

+25% Point Defense

-25% Attack Strength

Maximum Firepower

+50% Attack Strength

-50% Point Defense

Sneak Attack

Requirement: Stealth

Stealth units receive bonus to their Attack Strength equal to their Stealth values

Tactical Cloak

Requirement: Stealth

Stealth units receive bonus to their Point Defense equal to their Stealth values

Targeting Sensors

+1 AS per Scout value in task force

Offensive Fire

Requirement: None

Task force receives a +25% bonus to its Point Defense

Defensive Fire

Requirement: None

Task force receives a +25% bonus to its Point Defense

Suppressive Fire

-1 to enemy AS roll

Flanking Maneuver

+1 AS per Fast value in task force

Emergency Repairs

Requirement: None

Task force can perform emergency repairs on damaged units

Maximum command actions = flagship CR

Attack (AS Activate)

Defend (PD Activate)