

Galactic Frontiers™

A Game of Strategic Galactic Conquest

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Credit

Design, Graphics, Interface:
Russell Lowke

Programming:
Arthur Street

Human Interface & Programming:
Carl Braga

Illustrations:
Mathew Cary

Additional Game Testers:
Mark Nichols, Alister Lowke, Andrew Jinks, Peter Masefield, Harry Gordon

A quick thanks to those who are burning twice as bright:

- Bungie Software
- Project STORM team
- Authors of 'Prince of Darkness' / MARS
- Inside Mac Games (IMG) magazine
- Interplay / id Software

Introduction

“...In time, the colonies scattered through space by the First Terran Empire, expanded far beyond the easy reach of the Imperial Navy. As with the so-called ‘Middle Ages’ of pre-Imperial Terra, the desire of the central government to retain despotic control of its citizens was defeated by two essential considerations - communication and travel. Remember, the first Empire had no knowledge of the Kriest-Wagner Field and its ability to bridge distances at a velocity greater than the speed of light. How could a government police its outlying provinces when it took years to reach the further solar systems, and almost as long to declare the Imperial will to the people of those systems?”

Within only a few centuries dukedoms became principalities, then kingdoms, as each petty general or charismatic messiah exerted control on isolated planets. It was the era of the warlord, when someone with a safe home planet, adequate military resources and some military skill, together with a certain ruthlessness and an eye for the main chance, could hurl their battle-standard across the Stars to bring half a hundred galaxies to bow at their feet. Of course, they would also need a substantial amount of luck...”

- From Book VI of the Forbidden Histories of the First Empire.

1.0 What this guide contains

Credits and Copyright
Introduction

- 1.0 What this guide contains
- 2.0 What is Galactic Frontiers?
- 2.1 What you need to Know
- 2.2 What Equipment do you need?
- 2.3 How Many People can Play?

- 3.0 Getting Started
- 3.1 Choosing a Game
- 3.2 Saving your Game
- 3.3 How to Win

- 4.0 How to Play Galactic Frontiers
- 4.1 How to Interpret the Screen.
- 4.2 What Happens each Turn
- 4.3 Moving Ships
- 4.4 Getting Planet Information

- 4.5 Upgrading planets
 - 4.5.1 Class
 - 4.5.2 Industry
 - 4.5.3 Fortifications
 - 4.5.4 Radar
 - 4.5.6 Tax
- 4.6 Battles
- 4.7 Locating Ships in Flight
- 4.8 Events
- 4.9 The Game Score Window
- 4.10 The Transmit Window
- 4.11 Ending your Turn
- 4.12 Between Moves

- 5.0 Choosing a game
 - 5.1 The different types of game
 - 5.2 Customizing your games
 - 5.2.1 Planet Development
 - 5.2.2 Radar
 - 5.2.3 Star Gate/Cannon
 - 5.2.4 Species
 - 5.2.5 Ship Control
 - 5.2.6 Random Events
 - 5.2.7 Victory
 - 5.2.8 Battles
 - 5.2.9 Exploration
 - 5.2.10 Taxation
 - 5.3 Playing with different Species

- 6.0 Technical Notes

2.0 What is Galactic Frontiers?

Galactic Frontiers is a strategy game for one to four players, where each player is a contender vying for supreme power over the galaxy. Starting from a single base planet, players invade neighboring planets by moving ships to those planets. Most planets will be occupied by other forces, either neutral or those of opposing players. Having moved one or more ships to a neighboring planet, the computer will determine whether any ensuing battles are won or lost and the players are informed of the result at the commencement of the next turn.

2.1 What you need to Know

To play Galactic Frontiers you should be familiar with the basic skills needed to use the Apple Macintosh computer, such as click dragging icons and using pull down menus. Detailed instructions on these techniques can be found in your Macintosh User Guide.

2.2 What Equipment do you need?

Galactic Frontiers will run in black and white and on any Macintosh from the Macintosh Plus on, that has at least 464K of memory free and at least 496K to run in color on color machines. Whilst compatible with Apple's System software from version 4.1 on, it is recommended that you upgrade to at least System 6.0.8. Galactic Frontiers is fully compatible with System 7.0 through 7.5. It is also 32 bit clean and compatible with virtual memory, modern memory manager, modern resource manager, RAM Doubler™ and Power Macintosh. Galactic Frontiers can be played from a hard disk or from floppy disk with a system disk used as a start up disk.

2.3 How Many People can Play?

Galactic Frontiers must be played with at least one person and one computer controlled player. Up to four players may play at any one time, all of which may be people if desired. Galactic Frontiers is best played with two or more people.

3.0 Getting Started

To install Galactic Frontiers onto your hard disk simply copy the entire contents of the Galactic Frontiers original disk onto your hard disk. To open Galactic Frontiers simply double click on the 'Galactic Frontiers™' game icon in the Finder™.

If you are not using a hard disk then you will need to startup your machine using a system disk. Once the desktop has appeared eject your system disk by dragging it into the trash and insert the Galactic Frontiers disk. The Galactic Frontiers disk icon will then appear on your desktop. Open the disk and double click on the file named 'Galactic Frontiers™' to begin a game.

After a couple of seconds the 'Galactic Frontiers' title page will appear. Click the mouse or any button to move past the title page onto the Game Setup dialog.

3.1 Choosing a Game

The 'Game Setup' dialog is used at the start of a game to set information on each of the the four competing empires. By clicking on the 'Control:' popups each empire may be designated as Player Controlled, Computer Controlled or Not in Play. By default this dialog opens with one Player Controlled and two Computer Controlled empires.

Each empire is considered to be predominantly one species. There are four species types, Human, Insect, Simian and Amphibian. Players may choose one of these four types by using the 'Species' popups. Two or more players may choose the same species type if they wish. There is one Custom and five preset game types to choose from, Beginner, Intermediate, Advanced, Home Planet and Campaign.

Select your game type from the 'Game Type' popup and press the outlined 'Start' button to commence a game.

3.2 Saving your Game

At any point during the game you may save your game by selecting 'Save...' from the file menu. The first time you do this the computer will bring up a standard Macintosh save dialog asking you to name your saved game and select a folder to store your game in. From then on selecting save will update that saved game file. If you ever wish to save your game to a new file then selecting "Save As..." from the file menu will bring up the Macintosh save dialog again.

3.3 How to Win

This winner is the player who accumulates the most game points after a certain number of game turns (see 4.7)

Table 1: Number of turns before a game ends

Beginner	50 turns
Intermediate	75 turns
Advanced	90 turns
Home Planet	75 turns
Campaign	150 turns
Custom	??? (user definable)

Custom games may be set to a variety of victory conditions (see 5.2.7)

4.0 How to Play Galactic Frontiers

Each player starts with a single planet, positioned in one of opposing corners, or sides of the map. This planet is called the 'Home' planet. A Home planet is noteworthy because it is both the first planet a player receives, and along with the other players' Home planets, the most powerful planet on the screen. The Home planet is where a player's first ships are produced. These ships are both vehicles for interplanetary movement and also function as each player's technological resource for enhancing planets.

4.1 How to Interpret the Screen

On screen, ships appear directly to the right of the planet on which they are residing. The number of ships on that planet is indicated by a value written directly above the ship icon. The ship icon also behaves as an emblem, each player having a unique and identifiable icon that is used on the map to mark all the planets that the player owns. Player one has a red icon, player two has blue, player three has green and player four has purple. The different icon shapes keep them identifiable on black and white screens. 'Natives' appear in gray, and

represent the independent forces residing on an, as yet, unowned planet. All unowned planets start with a small native garrison of a couple of ships. Near the home planet are various 'unexplored' planets that appear on the map as stars.

Table 2: Planet Colors and Characteristics - Standard Game

Class 1	Brown and small
Class 2	Red
Class 3	Green
Class 4	Blue with rings (Home Planets)

4.2 What Happens each Turn

Each turn a player should:

- Read battle and event reports.
- Move ships to other planets.
- Adjust planet values such as Industry, Forts, Radar and Class.
- End Turn

After each player has completed their moves, selecting 'End Turn' from the Turn Menu will add each planets production, land all ships due for arrival and update the screen ready for the next turn.

4.3 Moving Ships

To send ships from one planet to another simply click drag from that ship icon to a destination. Movement is not instantaneous and the number of turns of any journey will take is indicated beneath the target planet's icon. To drag more than one ship, hold down combinations of the Shift, Option and Command keys while you drag. Holding down the Option key while dragging will prompt a dialog that asks for an exact number of ships required to be moved.

Table 4: Keys used to drag more than one ship.

Shift key	Pick up 4 ships.
Shift & Command keys	Pick up 10 ships.
Command key	Pick up all ships.
Command and Option keys	All ships but 1.
Option	Opens a dialog box for a custom value to be typed in.

4.4 Getting Planet Information

Single clicking on any planet opens a planet window displaying information about that planet. There are five variables associated with each planet, each variable indicated by a number or 'index'. These indices consist of the following categories: Class, Industry, Fortification, Radar and Tax. Each of these indices may be increased or decreased, by click dragging up or down on the text. Increasing any value will cost the player one or more ships while decreasing any value usually yields ships. The first time each variable is changed positively or negatively a help alert is given to the user describing briefly the effect of each action.

4.5 Upgrading planets

4.5.1 Class

Class: indicates the basic potential of a planet. The class index of a planet equals the maximum industry index for that planet. Increasing a planet's class by 0.2 is called 'ruling', and costs one ship. Ruling planets is a slow process, as to have any real effect, the class needs to be raised by a whole point before another industry may be built. Ruling may only be done once for each planet, in each turn. Decreasing a planet's class is called 'plundering'. Plundering should only be done in dire situations, when it is inevitable that the player will lose the planet very soon. Plundering reduces a planet's class by 0.6 whilst randomly yielding the player up to three ships. Like ruling, plundering may only be done once for each planet in each turn.

Star Gate is a special option from the Class popup that begins the building of a 'Gate'. Gates allow rapid movement of ships between two or more planets. They take a number of turns to build as dictated by the Game Options and cost a number of ships for each turn. Each installation must be initiated by the player as the computer will not execute subsequent installations for you.) Installations need not be consecutive - a player may elect to begin and complete installations at any time.

4.5.2 Industry

Industry: is the most important planet variable. At the end of each turn every planet produces a certain number of ships relative to the Industry index of that planet. A planet is said to be fully industrialized when the industry index reaches the Class index of that planet. Once fully industrialized no more industries may be built on a planet unless that planet's Class index is increased by ruling (see above). More industry means more ships, so every new planet should be fully industrialized as quickly as possible. The secret to winning Galactic Frontiers is not to out-battle your opponents but rather to out-produce them. Industrialization is the means of doing this. Building an industry only costs one ship, which may be received at a later time if the player elects to disband a planet's Industry. Industries may only be built once for each planet; each turn.

4.5.3 Fortifications

Fortifications: are used to give protection to a planet. Forts have an advantage during combat as each has a fighting value equivalent to two ships while they only cost one ship to build. Forts aid in suppressing rebellions and riots, although once built they may never be moved or disbanded. Building a fort may only be done once for each planet in each turn.

4.5.4 Radar

Radar: is the best means players have of determining an opponent's position. Radar reveals the number of enemy ships on nearby planets and forewarns of incoming invasions. The more radar installed on a planet, the more accurate predictions will be and the longer the distance at which enemy ships are spotted. Planets may also be cloaked, rendering all ships on that planet invisible to enemy radar for a single turn. Both installing and cloaking cost one ship and may only be done once for each planet in each turn.

4.5.6 Tax

Tax: is used to alter temporarily the production of a planet. In times of need the tax may be increased in an effort to squeeze the production of more ships from a planet. The stable value (the value at which tax has no effect on the rebellion value of a planet) is indicated by an underlined value. Overtaxing inflates the rebellion factor of a planet while under taxing deflates it. Be warned that rebelling planets revert to the allegiance of those who owned them longest previously. The Tax popup has a very different effect from the others as changing its value has no immediate result and costs nothing.

4.6 Battles

A battle takes place on each planet on which a player lands that was not previously owned by that player. The defending planet will be occupied by either a 'native' force or by another player force. All forces are considered unfriendly to each other, so defending ships must be destroyed before the planet may be captured. Battles are 'to the death' and occur simultaneously outside the players moves. The result of each conflict is relayed to the players' at the beginning of their next turn by a flashing 'Won' or 'Lost' icon over each battle site.

To see a detailed report on a battle select 'Battle Report' from the 'View' menu or click on the flashing battle site icons. The 'Battle Report' window gives a detailed report on what conflicts have occurred since the start of the turn. The depth of the report may be altered by clicking on the grow hook in the top right hand corner of this window. Once a report has been read its corresponding battle site icon (see above) disappears from the map. To select the next report either click on the next battle site icon on the map or click on the page corner of the 'Battle Report' window.

4.7 Locating Ships in Flight

To see where your ships are moving press the space bar down and the computer will superimpose a map of lines indicating to where, and in what direction, your ships are moving.

At the bottom of each planet window there will be scrollable list of any friendly ships that are destined to arrive on that planet in subsequent turns. Ships may be stalled for one or more turns to allow other ships behind them to catch up. This allows ships to strike in cohesion and usually is worth the extra wait. To stall a group of ships, simply select the group from the scrollable list and press the 'Stall' button. Ships may also be aborted in similar fashion, only the 'Abort' button is used rather than 'Stall'. Aborting ships diverts them from their original

destination to a friendly planet. On aborting, the player will receive a movable dialog, asking you to select between four of the closest friendly planets to which to send the diverted ships.

4.8 Events

The Event window opens automatically at the start of any move in which the player has an event. It may also be opened from the 'View' menu in the menubar. The event window is used to notify the players of such things as radar, messages, black holes, novas, plagues and riots. On receiving multiple events in one turn, you may use the scroll bar to flip through each event.

4.9 The Game Score Window

The 'Game Score' window may only be opened from the 'View' menu in the menubar. The 'Game Score' window displays the following statistics for each empire: the player's name, emblem/ship icon, species icon, industry points, battle points and total points. This window is the best indication of each player's progress during the game while also serving as a good reference for identifying each player. The 'Game Score' window is opened automatically at the conclusion of any game.

4.10 The Transmit Window

The 'Transmit' window may only be opened from the 'View' menu. 'Transmit' may be used in multi-player games to allow communication between players. Players type their message in the text field and then click on the emblems or names of each of the players to whom they wish to send the message. To send the message click on the 'Send' button. Messages will arrive in the receiver's event box at the commencement of the following turn. (e.g. a message sent in turn one will arrive in turn two, regardless of the order in which players have their moves.) Once a message has been sent it may not be retrieved or edited.

4.11 Ending your Turn

To end your turn select 'End Turn' (Command E) from the 'Turn' menu.

4.12 Between Moves

In games with two or more Player Controlled participants, there is a special break between each player's move. The game board is left blank until either player initiates his move by selecting his name from the 'Turn' menu. This allows the players to perform moves in any order they like during a turn. As the computer conducts all moves simultaneously, the order in which players move has no effect on the game. In solo games this break is omitted entirely.

5.0 Choosing a game

5.1 The different types of game

There are 5 preset games: Beginner, Intermediate, Advanced, Home Planet and Campaign. They have been configured as straightforward and reasonably well weighted introductory games.

The 'home planet' game is an interesting (though unrealistic) option that causes all ships in a player's empire to be built solely on the home planet. If, in this variant, the home planet is captured, no more ships may be produced until it has been retaken. This is an interesting variant, as players must plan their strategy and organization of ships much more carefully.

5.2 Customizing your games

Custom game type is for those players who have played Galactic Frontiers a few times and are prepared to set their own parameters for a game. To set the Custom game parameters, select the 'Option' button from the Galactic Frontiers 'Start Game'. This will open a control panel like window called 'Game Options' where settings and statistics may be changed for a custom game.

In the top left hand corner of the Options window there is a popup menu that allows you to select one of the preset games. When you select a preset game all the game variables for that game are inserted into the various controls. The preset games may not be modified.

Once you modify a control the popup switches to 'Custom' indicating that you are modifying a custom game. All the variables that may be modified have been grouped into 10 categories called 'Planet Development', 'Radar', 'Star Gate/Cannon', 'Species', 'Ship Control', 'Random Events', 'Victory', 'Battles', 'Exploration', 'Taxation'. Each of these groups are represented by an icon on the Options window. To modify a group select its icon and appropriate controls will appear.

Existing preset game files can be changed by setting up new custom files and renaming these in the Finder™ to replace existing game option files.

5.2.1 Planet Development

The 'Normal' and 'Doubled' radio buttons allow you to choose whether the game should be played with planet classes ranging from one to five (Normal) or one to nine (Double). When planet classes are set to 'Doubled' virgin planets will be of Classes one, three and five while the home planet will have a class of seven. Ruling may be used to increase a planets class by two points in the doubled option rather than the usual one.

If the Industry check box is off industries are not used in the game and the Industry popup control that is usually found in the planet window will not appear. If Industry is not used, planets are considered fully industrialized when taken.

The Fortification check box allows you to turn fortifications on or off in a similar manner to the Industry check box. Two edit fields are also supplied allowing a variable to be inserted for the maximum number of forts a planet is allowed to have and the number of ships each fort is equivalent to in battle.

The Ruling and Pillaging check box allows you to turn ruling and pillaging on or off.

5.2.2 Radar

The first two radio buttons for this section allow you to choose whether radar will detect ships on unowned nearby planets or ships on nearby planets and incoming invading ships. If the 'inform opponent on detection' check box is on then attacking players will be told if their ships have been found by enemy radar by way of an event message.

The 'Accuracy of reports' radio buttons allow you to set the preciseness of radar reports.

5.2.3 Star Gate/Cannon

'Star Gates' and 'Star Cannons' are two very different devices for rapidly moving ships during the game. This window allows you to choose which is to be used throughout the game as Star Gates and Star Cannons may not both be used during a game. Ships may move from any friendly Star Gate to any other friendly Star Gate in just one move, regardless of distance. Ships may move from a Star Cannon to any other planet at twice the usual speed. The number of turns it takes to build a Star Gate/Cannon and the cost per installation must also be specified here.

The 'Destroyed when captured' checkbox determines if the Star Gate should be automatically destroyed if taken by another player.

5.2.4 Species

The species control is mainly a way of weighting a game to be more challenging and realistic. Each species has a Build, Attack and Defence factor that may be adjusted as an advantage or handicap.

5.2.5 Ship Control

This window allows the player to set the cost of ships and determine whether ships may be stalled or aborted. It is not advisable to modify the speed of ships as the ideal setting is 2.24.

You may select whether the game should be played with all ships built on the home planet or with all ships built on individual planets. The 'built on home planet' option is an interesting (though unrealistic) option that causes all ships in a player's empire to be built solely on the home planet. If, in this variant, the home planet is captured, no more ships may be produced until it has been retaken. This is an interesting variant, as players must plan their strategy and organization of ships much more carefully.

5.2.6 Random Events

Riots: Riots occur on ungarrisoned planets where the population has the opportunity to sabotage the planet's production. During a riot production for that planet ceases altogether.

Plagues: Plagues tend to spawn on crowded battlefields where there are large numbers of troops. They eliminate up to half of the ships on the planet and often reduce Industry, Fortification or Radar. Fortunately Plague rarely appears on any planet twice.

Supernovae: A supernovae is the unexpected cataclysm of a planet's sun exploding. Supernovae usually result in the planets removal from the map altogether.

Black holes: Black holes are like interstellar vacuum cleaners that will swallow up your ships should they stray too near. Some holes have a stronger pull than others. Once your ships have run into a black hole it will appear on your map as a circular ring.

5.2.7 Victory

This window allows you to choose the victory conditions for the game.

5.2.8 Battles

This window allows you to set the figure by which each player's ships' strength is multiplied for every battle point that player has. For example if you have five hundred battle points and the battle experience has been set to 1/1000 then each of your ships would be equivalent to one and a half regular ships. This creates a balancing factor for players who have been battling each other throughout the game while their counterparts have been quietly acquiring planets. Be careful with this option as it can be accountable for unexpected battle results particularly if it is set to a very low value, such as 1/100.

Battles may be conducted randomly or by a formula. The formula lets the player with the most effective ships win automatically but removes from you half of the number of ships that you opponent began the battle with.

5.2.9 Exploration

If 'Limited Visibility' is selected, players are only allowed to see planets which are up to two moves away from their own planets. As a player progresses to unexplored planets and colonizes them, more unexplored planets will appear until eventually the whole map has been discovered.

The 'Remain Accessible' option means that once a planet has been discovered it will remain on the map. The 'removed from view' option means that the player can only ever see planets that are within two moves of your own planets.

If 'Limited Visibility' is not selected then all planets can be seen at the beginning of the game. This results in a more erratic game, as opponents may attack anywhere within an empire rather than just on the frontier. Radar in this type of game is essential.

'Center all visible planets and scramble planets names' is a useful option for multiple player games where the players do not want to turn their backs while one player has a turn. With this option the computer draws the current player's planets at the center of the map and scrambles the planet names so that no planet is called by the same name to another player.

5.2.10 Taxation

This window allows you to modify the tax yield. Normally this number is set to five.

The optimum tax level is the 'safe' level to tax a planet without the changing rebellions. The 'Optimum tax increases' option means that all planets begin on a light optimum tax level which then slowly increases over time. Hence a player's original planets become more and more productive as the game progresses. This gives an advantage to defence orientated players as their planets will have been owned for long periods of time and hence will have a high optimum tax level. Setting the 'tax level yields' value high (eg eight) with this option active will give defensive players a further advantage.

The frequency of rebellions may also be set in this window.

5.3 Playing with different Species

For the Simple and Standard games the computer automatically assigns Human species type characteristics to all empires regardless of what is actually selected in the species popup. Humans have average abilities in all areas. Insects are fast builders and producers, but completely lack combat strength. Simians are great fighters but terrible producers. Amphibians have average production with good defence but lack offensive skills.

6.0 Technical Notes & Problems

Known problems with version 1.0.2

- Galactic Frontiers sometimes crashes and freezes on the Macintosh 660AV and the 840AV. This is a bug due to a change in the resource manager introduced on these machines. It has been fixed by Apple and is prevented by using System Enabler 088 version 1.2 or later. The fix / system enabler is included in System 7.5 and later.
- Changing Monitor color depth when the game is in play, causes redraw problems when dragging ships. To change the color depth, Quit Galactic Frontiers, use the Monitors control panel, then re-open Galactic Frontiers.
- Error message: Disk error -51 when saving new custom settings, indicates that the existing "Custom" settings file has been locked. To fix this, use Get Info in the Finder and uncheck the lock box.
- In Game options, in Ship Control, in the speed traveled per turn field, any single digits after the decimal point are not used or remembered, more than one decimal place is OK but not a

single digit. (ie. 2.5 is saved as 2 and 2.50 is saved correctly as 2.50)

- Command -W should doesn't dismiss the Game Options window, it should.
- Sometimes when there is a ship movement, or an attack is won on a planet the same round it goes supernova, the event icon erroneously appears on the supernova icon.
- Most spelling is International English not American English (Sorry)