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Contents

Chapter 1

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1.1 Spheres of Influence Documentation

Spheres of Influence - 3.1

by

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Contents

Introduction

Acknowledgments

Index of Sections

1.2 Contents

CONTENTS

1.3   Requirements

Requirements

AmigaDOS 3.0 or 3.1

(tested on A3000/030 AmigaDOS 3.1)

1 meg chip memory

1 meg any more memory (fast or chip)

works with all Amiga graphics chips sets

hard disk space about 3 meg until save games get huge

1.4 Introduction

Introduction

Spheres of Influence© is a simulation of galactic colonization for one to eight players. A minimum of one meg of CHIP memory and an additional meg of FAST or CHIP are required, with version 3.0 or higher of the Amiga® operating system running on any Amiga®. Requirements

Each player has control over many variables, from the primal and stockpiled resources , and industries on planets, to the equipment and cargo of space vessels. To set the scene, imagine that you have just assumed total rule over the planet of your birth; in your quest for more power you turn your attention outward--toward the planets in nearby space. Of course, it will not be a trivial matter to plant that first colony, you will have to nurture the population, supplying their needs and improving their lot--but first you will have to master your own planet, adjusting the industrial output and accumulating sufficient resources to build a starship! You will find that politics and social unrest will make your life interesting, and a close attention to detail may be necessary to achieve your goals.

Play is open ended, and will terminate after 99999 turns or when quit is selected from the project menu, combat between players is possible, but not necessary (cooperation and trade between players is also possible.)

Spheres of Influence© has many options to make play more or less complicated, each player may be handicapped to adjust for experience, and each player has control over their own color preferences. Spheres of Influence© can be set to automatically save the game in progress with a built-in timer, and uses the builtin ASL file requester. Amiga® Intuition® based input is used throughout--gadgets, requesters, menus, and mouse clicks allow even the novice user to be up and running in no time, mnemonic keyboard shortcuts allow access to most features; context sensitive Amigaguide format help is nearly always available, just a press of the Help key away.

There are two types of gamers, those who like to jump in and wing it with little or no instructions, and those who carefully study the documentation before commencing play. If you like to jump right in, read the section titled "Game Set Up" as you get started because some features must be set initially. After you are up and running, check out the section on "Planets" which will give you a good idea of the scope of play, check out the menus (which are different on most windows), then experiment to your heart's content.

The concept of the game involves possible conflict between players, as well as possible cooperation between players. As a learning experience, try playing your first game(s) with many of the features disabled--limiting the difficulty; also, watch all player's take their turns to get a quicker familiarization with the critical play routines. Play a few dozen turns or so, then start again with more complicated details, maintaining privacy to insure fair competition.

Game Set Up

Loading Spheres of Influence©

hard drive users:

To use the installer script, one must first get all the files into a single drawer. If you are unpacking the DEMO LhAed version, this will be the outcome; if installing the commercial package from two disks, create a temporary drawer and copy the contents of both disks there. After all files are in the drawer with the installer icon, double click on it and follow the prompts. There is nothing special about this procedure, and the installer is really a waste of time here. The result of the install procedure is simply to insure that all related files and libraries reside in a single drawer. Simply creating a drawer on your hard drive, then copying all files from both disks there is fine. From the cli run the "Spheres of Influence" file to play the game; from the Workbench®, open the new drawer and double click on the program icon.

CLI users will need to insure that the stack is set to at least 80000 before launching Spheres of Influence© from a shell.

If the program fails to load, you will probably receive an error message--most are self-explanatory; the message referring to "BAD CHIP MEMORY FILE!" means that either the computer did not find the chip data files, or one of those files was corrupt. After the program loads, you will see the title picture (a spiral galaxy) with a small window across the top. This window, and all program windows will start at least one pixel down from the top of the screen, allowing screen dragging and screen depth arrangement. If the window above the title picture becomes inactive you will not have the suggested access to it's project menu; simply click anywhere within the small window to re-select it--making the menu available. This project menu will offer you these options:

"Version and credits",

"start New game",

"Restore saved game",

"modify Galaxy's design",

and

"Quit program".

You will notice that each of these menu selections is followed by a keyboard shortcut involving the use of the Right Amiga® Key (the outlined, unfilled capital A to the right of the space bar.) Close inspection will show that the capitalized letter in the menu command text is the same as the keyboard shortcut letter--providing a mnemonic aid for quick learning of menu shortcuts (this feature is found in most menu's throughout Spheres of Influence©. In general, when a window opens, it will need to be closed before you continue with game play. Some windows will have a traditional Intuition® "close window gadget" attached to the upper lefthand corner, others will not. Windows without a close gadget will always present two or more choices (as gadgets), one or more of which will close the window. Windows with a close gadget may display a simple message to be read, or many possible choices of variables to manipulate before you choose to close the window.

Initially, only two commands may be of concern, modify Galaxy's design and start New game . Begin by selecting "modify Galaxy's design", and a new window will open. This window provides control of many general features, and allows you to tailor the program to your available system memory. Three gadgets turn details on or off--each (depreciation , social effects , and political effects) can be dispensed with (any or all) to make the game less detailed and easier. The gadget labeled EDIT INITIAL RESOURCES takes you to a new window which allows you to create the galaxy's planetary primal resources to your own liking. It is not necessary to modify the galaxy's design at all, and you may proceed directly to "start New game" if you choose. This will open a new window with gadgets to select the number of players; close the window when the proper gadget is selected and you will be asked to verify your entry with the verification requester , a "no" answer starts the whole process over, while a "yes" response brings up a new window asking the players' names. The names are entered into standard Intuition® string requesters (which may be edited as needed), you close the window when you are ready to proceed. The players' names are then displayed, and the spelling is verified; select "MAKE CORRECTIONS TO NAMES" to re-enter or edit those names, or "ALL NAMES CORRECT" to close the window and proceed. You will be required to enter a password for each human player (and, if the game will be moderated via a BBS, a BBS handle as well.)

The computer will randomly create a galaxy , given the default specifications or those you have entered, and will open the ASCII text file "star_names.txt" to name the stars (feel free to edit this file and change any or all the names presented.) If insufficient names are present you will be asked to name those unnamed stars individually. If you have any computer players a requester will appear asking for each computer player's Artificial Intelligence library.

Computer players do not have to share the same Artificial Intelligence library, though they may. At this time only one AI library is available--"soicompai.library" and it must be used for all computer players; hopefully, other computer Artificial Intelligence libraries will be written in the future. After this you will be asked if you wish to edit the galactic map data--a yes answer gives access to an editor which modifies various stellar attributes (this option is available again at the general handicap menu), a no answer (or upon exit from the map editor) opens the general handicap window . It is not necessary to make any entries at this window--it presents a soon to become familiar selection of gadgets representing all the players.

The general handicap window has one menu--"PROJECT. The "PROJECT" menu offers three choices, "Load all player's handicaps from one file", "load one player's handicap from a file" (this is NOT password protected, and allows one person to set up a BBS moderated game for the other players), and the previously mentioned access to an editor for the map . If you wish to start all players out with the same handicap (which can then be individualized) use the "Load all player's handicaps from one file" menu selection to bring up the file requester and load a handicap file (handicap.data is the default.) To change an individual's handicap use that player's named gadget to open the player handicap window . This brings up an extensive group of factors which need to be set initially. There are fifteen different windows, some with their own menus, all of which need many variables adjusted. The possibilities here are almost endless, so have fun! At all fifteen windows you may save handicap files which you create, as well as loading any other handicap file for this single player. If you do not take this chance to name your home planet, you will be forced to do so upon leaving the genera

l handicap window" link "HCAP" 0}.

After handicapping, the players' phase window will appear, offering all players their first build phase . Game play is based on turns, each of which is composed of five phases which are always in this sequence:

build ,

growth ,

movement ,

offense ,

and

defense .

Within any particular phase, the order in which the players take their individual turns is not fixed. Any player can play their turn before or after any other player--a player may even interrupt their turn in the middle of play, turn control over to any other player, then resume play at a later time.

The phase is changed to the next phase when all players have signified that they are finished with the current phase. A quick look at the two menus on the players' phase window reveals "PROJECT", and "STATISTICS" menu selections. To begin play, select a player gadget or menu selection.

You now see the map display window with it's many menus. You may single click or double click on any star, vessel, or task force gadget displayed on the map; a single click adjusts the map to the location of the gadget, and makes that star, vessel, or task force the current star, vessel, or task force--a double click does the same then opens the display window for that object. At the very start, your home star is the current star, and your home planet is the current planet (each player has their own current star, planet, etc.) Use the "OTHER DISPLAYS" menu to view the current star, which will open the star display window for your inspection and manipulation (very little can be changed here!) Close the window to return to the map. Use the "OTHER DISPLAYS" menu to view the current planet, which will open the planet display window , this window is full of many variables to manipulate. Select the BUILD STARSHIPS gadget or menu item to see the starship construction window , and build a few ships (as soon as you have enough stockpiled resources .) After you build a ship, you will have access to the starship display window ; you can load cargo and give the ship travel orders.

Due to the nature of Intuition® gadgets, it is sometimes possible to enter a value in a gadget which is beyond the intended variable capacity. When this happens, the entry will be automatically reduced to the capacity of the variable--you will usually get some indication that this has occurred. In many places, changing a gadget's value may cause an action which would require more than your available stockpiled resources ; at that time you will be notified of the limiting resource , and the gadget's value will be reduced to the point at which resources are sufficient to complete your requested action.

The rest of this documentation will consist of sections describing the various display windows, their menus and gadgets, plus an appendix giving tips on getting around in the program, strategy, and the mathematical models used for the various routines.

1.5 Title Window

Title Window

After the program loads, you will see a title picture with a small window across the top. The text display reads "USE THE MENU TO CHOOSE STARTING OPTION". There are neither gadgets nor variables to control on this window. The project menu will offer you these options:

"Version and credits",

"start New game",

"Restore saved game",

"modify Galaxy's design",

and

"Quit program";

each of these menu selections is followed by a keyboard shortcut .

1.6 Version and Credits

Version and Credits

"Version and credits" (keyboard shortcut <RIGHT-AMIGA> + v), displays the author's name, the copyright date, and the version number. The registered owner of the software and that owner's serial number, or the DEMO message is also shown. If the software is not registered (ie. DEMO) this window will always be displayed (and must be closed to continue) each time the program is run. Selection of the close window gadget (a box with a dot, in the window's top left corner) will close this window.

1.7 Design Galaxy

Design Galaxy

"modify Galaxy's design" (keyboard shortcut <RIGHT-AMIGA> +g), opens a window providing control of general features, and allows you to adjust the framework of the galaxy numerically (if you choose to modify the default settings, you must do so before starting a new game.) The "NUMBER OF STARS" in the galaxy may be adjusted, the maximum is 999 (the default is 75) and there must be at least one star per player. Star systems will randomly be created with from zero to the number displayed in the "MAXIMUM NUMBER OF PLANETS PER STAR" planets (with six being the limit and default.) The "MINIMUM DISTANCE BETWEEN STARS" gadget affects the galactic density (default 25.) "MINIMUM DISTANCE BETWEEN OPPONENTS" helps regulate the approximate amount of time between initial player contacts (default 50.) The "MINIMUM PLANETS IN HOME SYSTEM" gadget can be used to insure large home planetary systems (minimum is 1, default is 4, the actual is adjustable in the Map Editor .)

"MAXIMUM DETECTION RANGE" sets the best case distance at which a target can be detected (default 10.) Three gadgets, "MAXIMUM X COORDINATES", "MAXIMUM Y COORDINATES", and "MAXIMUM Z COORDINATES" define the galaxy bounds, and are limited from zero to 999, and by memory (all default to 999.) AUTOMATICALLY SAVE EVERY # MINUTES IS TURNED OFF comprises two gadgets. The string gadget expects a number in minutes between notifying the current player that the save timer has expired, the bounds are 1 and 10080 (the time delay and on/off state may be changed most any time; defaults 15 minutes and OFF.)

Three gadgets turn details on or off-- DEPRECIATION , POLITICAL EFFECTS , and SOCIAL EFFECTS , (all default to OFF.) The gadget labeled EDIT INITIAL RESOURCES takes you to a new window modifying primal resource bounds on planets. The "RESTORE DEFAULT SETTING!" resets all non-resource settings to their original state. The information on this window is available for inspection during play, the "STATISTICS" "show Galaxy's design" menu selections displays this window. Close the window when you are satisfied with the galaxy's design.

1.8 New Game

New Game

"start New game" (keyboard shortcut <RIGHT-AMIGA> + n), starts the process of defining the scope of the game, gives access to the handicapping and map editing features , and may lead to the beginning of the defined game. The new game will require the entry of information for which the program will prompt you. The first question is "Do you want password protection?" and is set for each game in progress. data required will be the number of players, and their status (human or computer.) The player data window has two rows of gadgets, you may select any combination of players--at least one must be human.

Select the close window gadget when through, which brings up the verification requester , just to be sure. An affirmative response will bring up the enter player names window, which has string gadgets for each player's name. Enter the names of all human players (duplicate names are not an error condition but may lead to confusion.) You may enter computer player names of your choice, though the computer will randomly select from a short list of historical names if you make no entry (computer names may not duplicate any other names!)

Closing the window, when you finish editing the names, brings up the verify player names window; this allows you to check for mistakes or re-edit the random computer names. Your acceptance of the names brings up the passwordrequester (if passwords are being used) for each human player. After (possibly) entering all passwords, if the game will be moderated via a BBS, you will have the chance to enter your BBS handle.

When all players have entered a password (if required and possibly a handle) you will see the verification requester allowing you your first chance to edit the galactic map . A negative response, or termination of the map editor, will open the general handicap window . If desired, select each player in turn, handicapping them as desired, by using the menu items or gadgets, or use the menu item to load a handicap file for any or all players.

If you did not name your home planet during the handicapping phase, you will be required to do so after closing the general handicap window ; this will be accomplished through the use of the NAME REQUESTER , after all home worlds are named, the game begins. You are confronted with a window containing gadgets and menu items for each player, there are some new menu items present during the Build Phase .

1.9 Restore Saved Game

Restore Saved Game

"Restore saved game" (keyboard shortcut <RIGHT-AMIGA> + r), brings up the file requester for your specification of the file name of the game to be restored. Play will be resumed showing the phase window currently active when the game was saved. When run from the CLI a single parameter following the program name will be taken as the name of a file (optionally with complete path) containing a saved game to be restored.

1.10 Depreciation Effect

Depreciation Effect

The depreciation effect can be turned on or off only before game play begins. When turned on, each build phase includes the depreciation of all industries on all occupied planets. The rate is adjustable for each industry of each player, but must always remain below one and may not go below zero. For example--if a player's planetary computer industry is 50, and the player's computer depreciation is ten percent (.1), the new number of computer industries is forty-five, 50 - (50 * .1) = 45. The various rates of depreciation are set in the handicap window .

1.11 Political Effects

Political Effects

The political effect can be turned on or off only before game play begins. Politics, if activated, affect the food production (not consumption), population growth, and industrial output of each planet during the build phase . Each planet has it's own optimum political style, which changes slowly over many turns. You are challenged to find each planet's best political structure, and keep on top of the changes!

1.12 Social Effects

Social Effects

The social effect can be on or off only before game play begins. The social atmosphere of each planet can affect it's food production (not consumption), population growth, and industrial output. A quality social climate must be found balanced among ten different measurements, each of which depict two extreme answers to hypothetical questions as posed to the planet's society. Random social targets are chosen originally for each planet, but these change over time. The challenge is to balance the effect of masked, evolving variables to provide a satisfactory social climate for all your people.

1.13 Edit Initial Resource Window

Edit Initial Resource Window

The initial resource ranges window has three kinds of gadgets, plus the close window gadget. The first is a cycle gadget , which cycles the display through the various classes of stars (there are 21 classes each with three sizes--dwarf, giant, and super giant; seven letters label the classes--O, B, A, F, G, K, and M which yield type O dwarf, through type M super giant.) Next come six gadgets representing planetary position, or orbital distance, from the star. Finally come sixteen pairs of gadgets defining the range (0 minimum to about 13 million maximum) between which a random number will be selected representing the amount of the specific primal resource which will be created given the stellar class and the position of each planet.

Entering the same two numbers for minimum and maximum will force the use of that specific quantity--zero minimum and zero maximum are acceptable. This allows for the creation of more or less logical galaxies--a stellar class may share basic resource attributes across all same class stars, and planetary orbital position can influence resource makeup even more specifically. The concept here is to make it most likely that a player will be able to predict the value of a star's planets based on stellar class.

The similarity of a colony planet to the player's home planet (stellar class and position) affects the ease of colonization and the colony's growth. The menu allows for the saving and loading of specific ranges of resources , as well as the whole galaxy. Savings keeps either the currently displayed sixteen ranges, or the whole galaxy of ranges; loading a range has six potential targets, while loading a galaxy fills all ranges.

You may chose to load a set of ranges into just this stellar class--either for the currently displayed planetary position (the currently displayed position's gadget is the one which is "ghosted" and may not be selected), or into all six positions of this

class.

Similarly you may affect all three sizes of this stellar class with the same ranges--either this planetary position or all. You may alter all stellar classes, this position, or all. You may save a galactic design for further work or use, then load it back when you wish to re-use that design.

1.14   Quit Program

Quit Program

"Quit program" (keyboard shortcut <RIGHT-AMIGA> + q), will bring up the verification requester , a positive response will terminate the game--all unsaved play will be lost. This option is not available during any player's phase--the player must end their phase or relinquish control to quit the game.

1.15   Verification Requester

Verification Requester

The verification requester presents one or more lines of information, representing the possible result of your most recent action. There will be a specific question at the bottom of the window--answer by selecting either the "YES" or "NO" gadget as appropriate, or you may press the `y' (for yes) or `n' (for no) keys.

Occasionally, the computer must get input from a player other than the one currently playing their phase. When this occurs the verification requester will cover the entire screen so that no confidential information may be viewed by the responding player. This only occurs if one player is trying to load or unload cargo from an opponent's planet. If you are playing this game by exchanging disks after each player takes their turn, a communications method must be devised and trust must be complete if trade between players is contemplated.

1.16   Edit Galactic Map

Edit Galactic Map

The edit map data widow has no menus and nine or ten gadgets. This editor (available from the general handicap window's menu and once by requester) allows customization of the galaxy, after random set-up has occurred. The first line of text tells if this is someone's home star and if so, who's. The "EDIT NAME:" gadget allows editing of the star's name. The "NUMBER OF PLANETS:" gadget allows entry of the stars existing planets (restricted by the previously set variables `maximum planets per star' and `minimum planets for home'.)

If this is a player's home star, a "POSITION OF HOME PLANET:" gadget displays the position of the player's home planet and allows it to be changed. The "Star's Class" cycle gadget allows you to change the star's class (the planetary resources also change to reflect the new class resource ranges.) The X, Y, and Z maximum coordinate variables are given for referral, and three integer gadgets allow the star's coordinates to be precisely fixed.

The "VIEW STAR:" gadget opens a specifically named star for editing, while the "PREVIOUS STAR" and "NEXT STAR" gadget step through the star list in either direction. Using the <right cursor arrow> key will jump the display directly to the next star with a player owned planet; similarly, holding down either shift key while selecting the next (or previous) gadget will perform likewise, jumping to the next (or previous) star with a player owned planet. Close the window to terminate the edit session.

1.17   General Handicap

General Handicap

The general handicap window has "PROJECT" and "PLAYER TO HANDICAP" menus, with player gadgets as well. Selecting a player by gadget or menu selection opens the player's handicapping window . The "PROJECT" menu has three selections, "Load all player handicaps from one file", "load one player's handicap from a file", and edit the galactic Map data . Loading all handicaps from one file brings up the file requester allowing specification of a previously saved handicap to be used for all players identically. After giving all players the same handicap, you may go into any player's handicap and modify it. Loading one player's handicap from a file allows one person to start a BBS moderated game, as this does NOT require a password. Close this window ONLY WHEN COMPLETELY FINISHED with all handicapping!

1.18   Handicapping Players

Handicapping Players

Player handicaps are player specific--two individual players may or may not have the same handicap. The player handicap window has either two or three menus (depending upon which aspect is being handicapped), the first two areconstant, the third is only available while any one of the first four items of the second menu are selected.

The first menu "HANDICAP FILES" has two options--"load a handicap file", and "save this handicap file"; both bring up the file requester asking for a file name. The save file will be a complete player handicap file which can be used by any single player via this window's `load handicap' command, or by all players using the general handicap `load all handicap' command. As soon as construction may begin, player's may revisit their handicap window--inspecting the entries, but may change only a few items on the last (other single factors) aspect menu item's display. The second menu "ASPECT TO HANDICAP" lists fourteen different aspects. The first four relate the cost (or return) of a given operation (in resources consumed or generated) and each adds a new menu to the window. This third menu allows you to pick which specific industry or accessory is being handicapped.

All sixteen resources are represented by floating point gadgets and may be positive or negative. For example, the first aspect listed is planetary industrial expansion --the growth of new businesses; it has a third menu "INDUSTRY TO ADJUST" which offers twelve possibilities, "Offense", "School", "Reactor", "Mine", "Farm", "Aviation", "Defense", "Tech level", "Computer", "Utility", "Electronic", and "Habitat". Selecting one of these mutually exclusive items updates the resource displays allowing you to modify them to suit yourself.

Let's imagine that "School" was selected, and that these entries only have been made in the resource gadgets--TITANIUM = 2.5, IRON = .06, KRYPTON = -1, leaving all others at 0. Now each time a school is constructed by this player the resources on the planet upon which the school is built are changed--titanium is REDUCED by 2.5 units per school built, iron is REDUCED by .06 units per school built, and krypton is INCREASED (note the negative entry) by 1 unit per school built. These entries may be positive, negative, very large, or very small and zero is quite acceptable--you must be sure to use reasonable amounts or the game play may be ridiculous!

Another example, the second aspect to adjust is "building starships" and has a third menu of "SHIP'S ACCESSORY TO ADJUST". Imagine selecting the "Missile" accessory, then entering these figures URANIUM = 3.2, EMPLOYEES = 2.1, MONEY = 4 all the rest are at 0. Now, each time you build a ship's missile the planet at which the ship is docked will lose resources--3.2 uranium resource units, 2.1 employee units, and 4 credits (money.)

When any of the first four "ASPECT TO HANDICAP" items are displayed there will be a list of single letters running down the right-hand side of the window. These letters reflect the keyboard shortcut for selecting the "INDUSTRY TO ADJUST" menu item--the currently displayed item will be in one color, all the rest will be in another. Another quick method of stepping through these industries is to use the <cursor up> and <cursor down> keys, which will act just like selecting the next or previous industry item from the menu.

The "planetary resource production" aspect has a third menu listing all twelve industries and relates the number of resources produced or consumed in the operation of any given industry in the growth phase . No other aspects have third menus. The "planetary industry depreciation" is only effective when depreciation is turned on. The "planetary resource spoilage" is always active, but setting all resource factors to zero effectively eliminates it from consideration.

The "player combat factors" weight each player's combat strength (offensively and defensively) against all other players. The "unit combat factors" weight each type of offensive weapon against each type of object (ship's lasers against ship, planet's shield against ship's bombs, etc.)

The "cargo weights" set the unit weight of each kind of cargo a starship may carry. The "ship weights" set the weight of the vessel's accessories. Cargo, ship weights are used in calculating the "mass" which (along with fuel and power) directly affects the vessel's travel range and speed.

The "home planet's starting industries" "home planet's starting stockpiles", and "home planet's starting primals" set the initial level for these items on the player's home planet (changing the stellar class will change the home resources

.)

The "other single factors" aspect is a mixture of separate factors, some of which will be available later for change.

You may enter your choice of home planet names, "STARTING POPULATION" sets home planet beginning population, "SPEED FACTOR" weights the comparative vessel speed (0.00001 is slowest, the larger the number the faster the player's vessels), "FUEL FACTOR" rates average fuel economy (1.0 is worst, 0.00001 best), SCRAP FACTOR adjusts the resource return obtained when industries are torn down, "LUCK" affects most calculations of growth and combat, "DETECTION FACTOR" controls the distance at which combat can occur, "STARTING CREDIT" sets the players beginning Galactic Credit , HOME'S HABITAT BARRIER sets the home planet's barrier, "BIRTH RATE" sets the overall rate at which this player's population will expand, the "HOME STAR'S CLASS" cycle gadget sets the player's home planet's star's class (changing the home planet resources), and the "WORK RATE" sets the number of employees generated by a planet's population for all of this player's planets.

The WARNING MESSAGE DISPLAY TIME controls the amount of time each game message to the player will be displayed--a length of zero will cause the message to remain until the message window is closed; the "warning message file" allows for optional storage of messages in a named file. The other file name gadgets may contain the names of files (which you have previously created) which contain the lists of names you wish to use in naming your objects.

1.19   Name Requester

Name Requester

The name requester has a string gadget, a "USE COMPUTER GENERATED NAME" gadget, a close window gadget and no menus. Some unique name must be entered in the string gadget; you may re-use the name of a vessel, task force, or shipclass if it is no longer in existence. If you try to close the window without entering a name a warning will occur. The text in the string gadget will become the object's name (unless already in use) when the window closes. A carriage return while the string gadget is active will try to close the window. Selection of the "USE COMPUTER GENERATED NAME" gadget will generate the next available unique name (alphabetically) and try to close the window (it may not succeed if the name is already in use.) Player names are limited to 43 characters, stars, planets, and vessels to 15 characters, and class names to 10 characters.

1.20   Notes

Notes

Notes may be up to 200 characters long and may use up a lot of memory--if an object has no note, no memory is used. You may remove an object's note by emptying the note string gadget of all text while the object is being displayed--select the note gadget and simultaneously press the <RIGHT-AMIGA> and `x' keys to remove all text (this will free up the memory used for the old note when the window is closed.)

1.21   Which Note

Which Note

On those occasions where your vessel and class notes conflict, you will be asked to choose how to resolve the conflict with a large requester--selection of any gadget will resolve the issue. One string gadget labeled "Your UNIT has this note:" will display the unit's note; a string gadget labeled "Your UNIT CLASS has this note:" will display the class note; each may be freely edited--without changing the actual note of the unit or class. Four gadgets are lined up at the bottom of the requester labeled:

"USE UNIT'S NOTE",

"USE CLASS'S NOTE",

"USE BOTH--UNIT'S FIRST",

and

"USE BOTH--CLASSES FIRST";

you may use no note (have the appropriate string gadget empty), either note (edited or not), or both notes (edited or not) in either order.

1.22   Players' Phase Window

Players' Phase Window

This window presents gadgets representing the name of each player, and tells the phase of play for this turn. There are five phases, building industries , growth calculation, movement , offense , and defense . The menus "PROJECT", "STATISTICS", and "START PLAYER'S PHASE" are available for selection. The project menu contains seven options which allow major changes affecting all players.

"adjust Colors" (keyboard shortcut <RIGHT-AMIGA> + c), adjusts the screen colors displayed when no one player's colors are available; "start New Game" (keyboard shortcut <RIGHT-AMIGA> + n), begins the gaming process all over (all unsaved play will be lost).

"Restore saved game" (keyboard shortcut <RIGHT-AMIGA> + r),allows the choice of loading a save file from storage; " save Automatically" (keyboard shortcut <RIGHT-AMIGA> + a), sets the save timer to the currently entered delay period; "save as What file" (keyboard shortcut <RIGHT-AMIGA> + w), brings up the file requester so that you may specify the destination drawer and name of the saved game file; "save File: no file name entered" (keyboard shortcut <RIGHT-AMIGA> + f), will remain ghosted until the game has been saved once, thereafter it will read "save File: RAM:first_game" (assuming you last saved a game to RAM: called first_game) and will resave the game under the same name with no prompts.

"Quit game" (keyboard shortcut <RIGHT-AMIGA> + q), asks if your sure and if so exits the game--all unsaved play will be lost. The statistics menu has two options. "show Victorious player" (keyboard shortcut <RIGHT-AMIGA> + v), displays the relative ranking of each player with 1000000 being the score of the best; "show Galaxy's design" (keyboard shortcut <RIGHT-AMIGA> + g--not available during a player's phase, use the <Ctrl> + `g' key combination instead), gives access to the automatic save game timer and the delay (in minutes) between saves, and shows the original design specifications.

If this is a game moderated by a BBS, the build phase may be interrupted by a dicker phase if one player tries to load or unload cargo or colonists on another player's planet. If a player issues a load or unload cargo order for a ship at a planet owned by an opponent the game will immediately notify the player that play will be halted. The game will be saved automatically and will need to be returned to the home BBS so that the opponent may download the game and examine the offer and situation. The oppone

nt must respond and return the game to the BBS before the game may continue. Starting with version 2.4 the computer player turns are automatically taken, after each computer player's first turn. If the snoop factor is non-zero you will have access instead of the turn automatically occurring.

1.23   Build Phase

Build Phase

Upon entering the build phase the player's map is displayed. During this phase you may build and destroy industries, build or scrap starships, negotiate diplomatic treaties , adjust planetary political and social values, load or unload ship's cargo, move resources between a starship and any planet within the stellar system occupied by the starship, and give a movement order to any of your starships or task forces.

1.24 Movement Orders

Movement Orders

Each unit (task force, starship) may receive one of the following movement orders:

"ATTENTION",

"SENTRY until turn___",

"EXPLORE",

"GO TO STAR: ___",

"GO TO LOCATION: X =___ Y = ___ Z = ___",

"PATROL TO STAR: from here to ___",

"PATROL TO LOCATION: from here to X = ___ Y = ___ Z = ___".

Starships can

"JOIN TASK FORCE: ___",

"LEAVE TASK FORCE";

starships can also

"LOAD CARGO",

"UNLOAD CARGO"

while in a star system with planets.

An order may be cancelled any time during the build phase .

The order "ATTENTION" causes no vessel movement, and a unit's display to be viewed during every build phase --if it's related "view automatically" menu item is selected.

"SENTRY until turn ___" sets a timer for the unit--it becomes inactive and even if it's related "view automatically" menu item is selected you will not see it's display until the given turn or if combat threatens it.

"EXPLORE" is used to send the unit to the nearest star which you have never visited and to which no other unit of yours has any form of "go to" orders. This is handy for easily exploring the galaxy.

"GO TO STAR: ___" sends the unit to the specified star.

"GO TO LOCATION: X = ___ Y = ___ Z = ___" sends the unit to the specified location.

"PATROL TO STAR: from here to ___" causes a recurring patrol--from the unit's current location to the given star, back and forth.

"PATROL TO LOCATION: from here to X = ___ Y = ___ Z = ___" causes a recurring patrol--from the unit's current location to the given location. Patrolling, as with any order consumes fuel (even SENTRY and ATTENTION, both of which require one fuel per turn), a calculation is made at each end of the patrol which insures adequate fuel to reach the patrol's next turn-around.

"JOIN TASK FORCE: ___" will create a new task force if no task force name is used. "LEAVE TASK FORCE" will remove a vessel from it's task force.

"LOAD CARGO" and "UNLOAD CARGO" allow a ship within a planetary system to take on and discharge cargo (resources .)

1.25 Growth Phase

Growth Phase

During the growth phase all calculations pertaining to the output of planetary industries will be carried out by the computer. Each populated planet will have it's population affected by it's owner's birth rate. Employees will be produced from populations according to their work rate. Depreciation and industrial loss occur during this phase. The reason each player must request that their own phase be calculated is so that the player will be sure to get all messages resulting from these calculations in private. No actions may be made by the players during this phase.

1.26   Movement Phase

Movement Phase

During the movement phase all vessels will be inspected by the computer. Those with orders to move anywhere will be moved one step closer to their goal. Fuel consumed (even while sitting still) will be deducted from each vessel's supplies. The reason each player must request that their own vessels be moved is so that the player will be sure to get all messages resulting from these movements in private. No actions may be made by the players during this phase. A vessel who's order causes it to stop temporarily in any stellar system will be offered the opportunity to change it's orders to "ATTENTION".

1.27   Offensive Combat Phase

Offensive Combat Phase

The beginning of each offensive combat phase displays a list view window for each offensive unit which has the ability to attack one or more targets. To create a preliminary target list, select one or more targets for each unit to attack. Two or more of your unit's may have the same target(s). After you get the preliminary targets (these may be changed later) for all your units involved in combat, you will see the map window.

From this window you will be able to inspect all known stars, planets, starships and your task forces; some changes will be possible--you may neither build nor repair vessels, nor load or unload cargo, but vessel combat orders may be changed. You may neither build industries, nor change social or political values. Task forces may be broken up, rearranged, and created, with any local vessel moved into or out of any local task force. While displaying an object which has potential targets you will have access to the two sub-menus of the "ACTION" "TARGETING:" menu selection; "create new target list" brings back the list view window with all potential targets (even those with diplomatic ties to you) for your selection; "lock Killer weapons on targets" (keyboard shortcut <RIGHT-AMIGA> + k), brings up the targeting window for this vessel and it's selected targets allowing you to commit weapons offensively.

1.28   Defensive Combat Phase

Defensive Combat Phase

During the defensive combat phase all combat is resolved. You are notified if you had any damage to your units during combat, then the map widow is displayed allowing access to all your units for assessment of damage--only those options which present information are available here. During this phase, even units which were completely wiped out will be available for inspection (this will be the last look at destroyed vessels, as they disappear at the end of the phase.)

1.29   Industries

Industries

One of the main challenges in Spheres of Influence© is to build an effective industrial complex on your home (and each colony) planet. There are twelve industries:

"OFFENSE",

"SCHOOL",

"REACTOR",

"MINE",

"FARM",

"AVIATION",

"DEFENSE",

"TECH LEVEL",

"COMPUTER",

"UTILITY",

"ELECTRONIC",

and

"HABITAT".

The player's handicap controls the resources needed to build an industry, as well as the resource input/output of each industry operated during the growth phase . Only those offensive and defensive industries which have had adequate resources for their maintenance during the growth phase will be available during the following combat phases.

1.30 Resources

Resources

Effectively managing the sixteen resources can require meticulous care. When the galaxy is created, each planet gets seeded with a random number of each of these fourteen resources as specified in the Edit Initial Resource Window :

"TITANIUM",

"KRYPTON",

"URANIUM",

"SILVER",

"NITROGEN",

"VANADIUM",

"HYDROGEN",

"ARGON",

"GOLD",

"IRON",

"OIL",

"JEWELS",

"WOOD",

and

"FOOD";

"COLONISTS", and "MONEY" are produced only on inhabited planets. The initial value of any resource on a given planet could be zero, then the only two ways to obtain that resource on the planet would be:

(1) through production (if an industry could be built without the resource and then produce the resource), and

(2) transportation as cargo on a starship. Careful attention to these details is essential when designing a galaxy--make sure that resources needed to build and operate industries are available somehow!

As of version 2.7, resources have taken on a new feature. They now exist in primal form and stockpile form. The primal form is that originally created with the planet, industries must be created to convert primal resources into stockpiled resources, stockpiled resources} are then used to produce needed industries, and ships.

For a simple example, a planet has only 10 GOLD and 10 IRON, it takes 5 GOLD and 5 IRON to build each UTILITY, one UTILITY produces 1 OIL and uses 2 GOLD in the process. During the turn 1 build phase you only build one UTILITY on the planet. The planet has 1 UTILITY, 5 GOLD, and 5 IRON at the growth phase when the UTILITY is operated. At the beginning of the turn 2 build phase you find 1 UTILITY, 3 GOLD, 5 IRON, and 1 OIL. As you can see, a planet may produce resources which where never present. During galaxy design, you may wish to divide the resources into natural resources (those a planet is endowed with at "birth") and manufactured resources (set to zero initial level.) You would then design the player handicaps to make sure that needed manufactured resources to build the appropriate industries.

1.31 Galactic Map

Galactic Map

Each player sees a personalized display of the galactic map. The player chooses how much map data to display--which stars, which vessels, the point of view from which the galaxy is drawn, the view direction, and the viewmagnification. The coordinates of the stars never vary, but the star's display color, name label and label offsets are controlled by the player.

It is very difficult to display a three dimensional stellar map (on the flat screen of a computer monitor) in such a way that the user may easily judge the spatial relationships between objects. As of version 2.5, an "ego-centric" map display is in use. The display is calculated based upon the player's desired point of view, view direction, width of view and view magnification (distance.)

The player's point of view is based upon the player's current star or last selected unit; view direction is set by menu selection, or using the arrow keys on the keyboard (using the RIGHT-SHIFT key as a qualifier causes jumps of 10°, the LEFT-SHIFT key causes jumps of 45°); magnification (0-9) is set by requester (as view distance), menu or keyboard shortcuts . The point of view, for the sake of drawing the map, is the center of the monitor screen looking in the view direction.

Each icon on the map is a gadget which can be selected with a single or double click, causing the map to be redrawn. A single or double click centers the player's point of view on the object; a double click opens the display window for the object as well. Stars and vessels are portrayed with ten sizes of icons--the larger the icon the closer the object. Very distant objects may be invisible and have no gadget, increasing the magnification will bring these objects onto the map.

The map window has four menus:

"PROJECT",

"OTHER DISPLAYS",

"DISPLAY CONTROLS",

and

"ACTIONS",

project, other displays, and actions are generally available to all display windows.

The display controls menu has many selections, "VIEW ORIENTATION" has sub-menus, "horizontal axis increase" (keyboard shortcut <RIGHT-AMIGA> + x), "vertical axis increase" (keyboard shortcut <RIGHT-AMIGA> + y), "set axis and view angle" (keyboard shortcut <RIGHT-AMIGA> + =) brings up a view control requester ; the "get Label fonts" (keyboard shortcut <RIGHT-AMIGA> + l) brings up a requester which allows one to adjust the map fonts .

"LABEL SELECTED OBJECT SIZES:" has 10 subitems which enable or suppress the labeling (by name) of all mapped objects "DISPLAY SELECTED STAR TYPES:" has six sub-menus, "all stars charted" (keyboard shortcut <RIGHT-AMIGA> + *), "my own stars charted", "known hostile stars charted", "known neutral stars charted", "known allied stars charted", and "known special stars charted"; each controls the display of a star depending upon what your stated attitude is toward it.

"my own Task forces charted" (keyboard shortcut <RIGHT-AMIGA> + t), controls the display of your task forces (you cannot see other player's task forces, though you will see the individual ships in those task forces.

"DISPLAY SELECTED SHIP TYPES:" has five sub-menus, "all ships charted" (keyboard shortcut <RIGHT-AMIGA> + s), "my own ships charted", "known hostile ships charted", "known neutral ships charted", and "known allied ships charted"; each controls the display of a ship depending upon what your negotiated attitude is toward it's owner.

"LEVEL OF MAP MAGNIFICATION:" has ten sub-menus which control successively higher levels of magnification--"100%" (keyboard shortcut <RIGHT-AMIGA> + 0) is the highest magnification, "10%" (keyboard shortcut <RIGHT-AMIGA> + 1) is the lowest magnification, additionally, the view control requester may be accessed here as "set magnification distance" (keyboard shortcut <RIGHT-AMIGA> + -).

"ADJUST LABEL OFFSETS:" has four sub-menus, "current star", "current task force", and "current ship", each of which brings up the requester which allows you to change the offsets for the current object's name label. These menus all allow multiple selection.

1.32   Sweep View of Map

Sweep View of Map

As of version 2.7 there is a new map feature--the ability to scan the view sequentially and automatically to get a complete view of the entire galaxy from where one's point of view is. I use the term "sweep view" which is accessed by pressing the <Esc> key (escape key) when the map is displayed. This brings up a new requester with an integer "Delay" gadget and six integer degree gadgets. Use these and the "RETURN TO STARTING DISPLAY" gadget to customize the sweep display. A small window will open in the top left corner during the sweep, you may close it at any time and the sweep will stop on the view currently displayed.

1.33   Current Object

Current Object

There are five object displays:

star,

planet,

starship,

task force,

and

shipclass.

Each player potentially has five current objects--one for each type of display, though for any given type of object (except star and planet) you may have not have a current object (if, for instance, you had none of that object.) The current object is always the last object displayed, or the last object created (except a single click on an object at the map will cause the object to become the current object of it's type.)

1.34   Adjusting Label Offsets

Adjusting Label Offsets

The map label offsets window is draggable, and has two gadgets controlling placement of an object's name on the map, the "X offset:" gadget adjusts the name on the screen's horizontal axis, the "Y offset:" gadget adjusts it on the screen's vertical axis.

You may use positive or negative numbers; positive moves the X offset right and the Y offset down, negative moves the X offset left and the Y offset up. These are personal preferences and do not affect the display on other player's maps.

1.35   Project Menu

Project Menu

There are four different menus using the "PROJECT" label. The first is encountered at the title window's opening and are Title Window , Credits , New Game , Restore Saved Game , Design Galaxy , and Quit Program .

Another is found attached to the menu offering to handicap the players. The last two project menus are very similar, one is found attached to the phase window and represents changes which will affect all players.

Finally, all object display windows and the map window share a common project menu with "adjust Colors" (keyboard shortcut <RIGHT-AMIGA> + c), " save Automatically" (keyboard shortcut <RIGHT-AMIGA> + a), "save as What file" (keyboard shortcut <RIGHT-AMIGA> + w), "save File: no file name entered" (keyboard shortcut <RIGHT-AMIGA> + f), "examine Handicap and name files" (keyboard shortcut <RIGHT-AMIGA> + h), "set drawing pens", "Get distance between" (keyboard shortcut <RIGHT-AMIGA> + g), and "edit password".

"adjust Colors" runs your favorite palette tool. save Automatically , if checked, sets the save timer to the currently entered delay period turning the timer on, or off if unchecked. "save as What file" brings up the file requester so that you may specify the destination drawer and name of the saved game file; "save File: no file name entered" will remain ghosted until the game has been saved once, thereafter it will read "save File: SoI:mygame" (assuming you last saved a game to the SoI disk called mygame) and will resave the game under the same name with no prompts.

"examine Handicap and name files" allows access to your handicap information (you may not change most details of your handicap!) "set drawing pens" opens the select drawing pens for attributes window. "Get distance between" opens a requester which will display the distance between any two objects or locations. "edit password" opens a requester which allows you to enter a new password .

1.36   Setting Drawing Pens

Setting Drawing Pens

The select drawing pens for attributes window has no menus, but has many gadgets. Each player is allowed to specify which drawing pen is used when the computer displays information about any given industry , resource , attitude, or vessel accessory. If you open the select drawing pens for attributes window and look down in the lower right-hand corner you will see sixteen small gadgets (labeled "COLOR PENS") displaying the sixteen screen colors. The gadgets are organized like this:

0 4 8 12

1 5 9 13

2 6 10 14

3 7 11 15

so the sixth is the second row from the left and the second column down and is pen number 5 (color register five--computers think that they start counting from zero!)

The selected gadget will change shape becoming round instead of square, and the text at the lower right-hand corner of the window will change to reflect the selected pen number (drawing the text in that pen's color.) Now when you select a gadget representing an industry, resource , attitude, or vessel accessory, that gadget's text will change to the selected pen color and each time the computer presents you with information regarding that item it will be displayed in the color of the register chosen. If a player's handicap and the galactic configuration allow, the player may use register zero (black or background color) for any unnecessary industry , resource , or vessel accessory thereby hiding all printed reference to that item.

Two additional gadgets reside at the lower center of the window, the "WARNING MESSAGE DISPLAY TIME (IN SECONDS)" and "EXAMINE HANDICAP/CHANGE DEFAULT NAME FILES". The warning message display may be set to zero, which opens a message window which remains until closed, or to any number of seconds (up to 65535) for message display before automatically closing the message window.

The handicap gadget opens the handicap window, giving a display of all the handicap variables as set before the game started (only the file names and message delay are accessible for change.) Changing any file name will automatically start reading the file at it's beginning, any duplicate entries which are still in use will be skipped over by the name routine (this allows you to set a file name back to a previously used file which has been expanded.)

One final string gadget exists and is labeled "BBS handle:". Use this gadget to let the game know the handle by which you get E-Mail on the BBS which is moderating this game. This only has an affect on games being played via BBS, and is only used to determine who may still play during this turn phase.

1.37   Other Displays Menu

Other Displays Menu

The "OTHER DISPLAYS" menu has five items each with many similar sub-items. Each item represents an object display:

"STAR:",

"PLANET:",

"TASK FORCE:",

"SHIP:",

and

"SHIPCLASS:".

It's sub-items select specifically which object will be displayed by the menu selection. The sub-items for all other display menu items are, in short,

"current",

"previous",

"next",

"first",

"last",

"pick from list",

and

"report".

A sub-item may be ghosted if the sub-item is not available, and most have keyboard shortcuts . Selecting the "current" sub-item opens the display for the current item of the display type--for example, selecting "VIEW STAR: view current star" opens the stellar display for your current star. Selecting "VIEW SHIP: pick ship from list" opens a scrolling list view from which you may select the ship for display. The unified report sends a self-formatted report of all objects in a given display category to the specified file for your careful consideration. You must add stars and planets to your own lists as necessary; ships, task forces and classes will be automatically added to your lists.

Keyboard shortcuts for an object always involve an object key (optionally with a qualifier key)--* for star, p for planet, s for ship, t for task force, b for shipclass (build.)

1.38   Actions Menu

Actions Menu

The actions menu has ten items, some of which have sub-items. The first five (" automatically view all object_XXX") can be turned ON (checked) or OFF (unchecked) at will. If, for instance, you have turned " automatically view all ships" ON, then from the same menu select "End phase", the computer will examine each ship in your ship list to see if you have opened a display for that ship; IF NOT each unviewed ship will be displayed in turn until all ships on your ship list are displayed, or until you turn " automatically view all ships" OFF.

This lets you insure that all objects are inspected each turn (there is one exception to this--any ship or task force with orders to be on "SENTRY" duty will not be viewed automatically.) The "open diplomatic Negotiations" (keyboard shortcut <RIGHT AMIGA> + n) item opens the diplomatic negotiations window . The "TASK FORCE:" item has four sub-items, "create task force to Join" (keyboard shortcut <RIGHT AMIGA> + j), "separate all task forces into single vessels", "select task forces to break into single vessels", and "delete all unused task forces everywhere".

Selecting the create task force sub-item opens a window which allows task force creation . Separating ALL task forces causes all vessels in all task forces everywhere to be removed from their task force (use with caution!) Selecting task forces to break up opens a scrolling list view of all your task forces any of which may be selected for vessel separation. Deleting all unused task forces will free memory for all task forces which have no vessels. "TARGETING:" has two sub-menus, "create new target list", and "lock Killer weapons on targets" (keyboard shortcut <RIGHT AMIGA> + k.) Targeting is only available for those units which have at least one combat target, and only during the offensive combat phase . Creating a new target list will allow you to make a list of potential targets from all the unit's detected targets.

Locking weapons opens a targeting window allowing you to specify just which armaments to use against each foe. "Relinquish control" (keyboard shortcut <RIGHT AMIGA> + r) allows a player to temporarily give up control of the computer, with the ability to restart the phase where they left off (say you wish to go make dinner, but are right in the middle of a phase--select

"Relinquish control" allowing other players access to their phase, and then later start your phase right where you left off!) The selection of the "End phase" (keyboard shortcut <RIGHT AMIGA> + e) item will start displaying those objects for which you have selected automatic viewing (you may still make any change to these or any other objects you choose to view); when all selected objects have been automatically viewed your phase will be ended. If you have selected end phase and are presented with displayed units, simply de-selecting any automatic view option will relinquish your control (NOT end your phase), allowing you to go back to make any major changes you desire.

1.39   Negotiate Diplomacy

Negotiate Diplomacy

The diplomatic negotiation window has no menus and presents three diplomatic attitude gadgets for each opponent "NEUTRAL", "ALLIED", and "HOSTILE".

Initially all players are neutral toward each other. The pen with which a player's name is printed shows what attitude that player has toward you (if you have chosen pen seven to display hostility, and a player has chosen to be hostile toward you, that player's name will be printed with pen seven.) You state your attitude toward each player by choosing the appropriate gadget next to that player's name (the chosen gadget will look different from the two unchosen gadgets--the background fill will be different.)

These diplomatic positions are advisory only--you may change them at any time and you may choose to help defend an enemy or attack an ally (any attack on another player's unit will automatically cause your position to become hostile toward the attacked player.)

1.40   Galactic Credit

Galactic Credit

Your starting galactic credit is set in the player handicap window . At the end of each build phase all unused credit at your home planet will be transferred to your galactic credit. Galactic credit is available at your home planet and all your colonies at any time. If you wish to move money from a non-home planet to another planet you must do so as cargo on a ship.

1.41   Star Display

Star Display

The stellar report window shares the PROJECT , OTHER DISPLAYS , and ACTIONS menus with all other object display windows. It also contains data about the star--location, class, and planetary system size, among other details. Near the top center you see a line with one of these three statements:

"DATA IS CURRENT",

"DATA IS NOT CURRENT",

and

"UNEXPLORED TERRITORY".

The first two possibilities tell you if your information is accurate now or not; information is only current if you have an observer present in the star system--an inhabitant, or ship; non-current data is accurate as of the last time you had something with which to perform reconnaissance in the star system.

In an unexplored star system only very limited data will be present, even the number of planets will be unknown. There are sixteen gadgets labeled "SELECT COLOR WITH WHICH TO DRAW STAR ON MAP:"--those colors defined as MINE, SPECIAL, NEUTRAL, ALLIED, and HOSTILE are labeled with the first letter of each respectively (M for MINE, H for HOSTILE, etc.) Selecting any of these gadgets will cause the star's icon to be displayed on your map in the chosen color. This allows a quick visual look at the map for interesting stars.

There is a string gadget labeled "OPEN PLANETARY REPORT FOR:" which allows entry of a planet's name. If the entered name corresponds to one of the planets for which you have reconnaissance, that planetary display will be immediately opened

if you press carriage return while the gadget is selected, otherwise it will be displayed after closing this stellar display widow. Display of a star will cause one of the star's planets to become the current planet (if it has planets), if there are ships or task forces in the system one of each will become the current ship or task force. If the original current object is in the system it will remain current, otherwise the first object on the respective star system list will become the current object.

Across the center of the window is a line of at least two and not more than eight gadgets representing planets; the first and last are the "previous" and "next" gadgets, which allow you to jump directly to your current planet's previous or next planet on your planet ordered list . If you have reconnaissance at the star you will have access to a gadget for each of the star's planets, they are labeled "first", "second", "third", "fourth", "fifth", and "sixth"; each corresponds to the planet's orbital position.

There is a string gadget labeled "MY NOTE FOR THIS STAR:" in which you may enter up to 200 characters of information which you would like displayed each time you view the star; as all these characters will not fit on the screen you may scroll through the note (as with all Intuition® string gadgets.)

Another string gadget is labeled "MY PERSONAL NAME FOR THIS STAR:" it allows you to give the star a nickname which the computer will use only for your displays (though it will not be used in the scrolling list view window.) A string gadget labeled "OPEN STELLAR REPORT FOR:" allows you to enter a name. If it is a valid star name (or one of your personal star nicknames) that star will be displayed immediately if you press carriage return while the gadget is selected, otherwise it will be displayed after clo

sing this star display widow.

At the bottom center of the window is a cluster of five gadgets dealing with your ordered list of stars, "remove star from list", "GO TO PREVIOUS STAR", "GO TO NEXT STAR", "PREVIOUS STAR:" and "NEXT STAR:". Your ordered star list may contain any or all of the stars in the galaxy, you need not have reconnaissance at the star; this is the list which will be displayed if you check " automatically view all stars" at the "ACTIONS" menu.

Your home planet's star is automatically the first (and only) star in your ordered star list at the beginning of the game and may never be removed from your list. Entry of a valid star name in the "PREVIOUS STAR:" gadget will cause the named star to be the currently displayed star's previous star--un-ghosting the "GO TO PREVIOUS STAR" gadget if needed; selection of the "GO TO PREVIOUS STAR" gadget will immediately display that previous star.

Likewise, entry of a valid star name in the "NEXT STAR:" gadget will cause that star to be the currently displayed star's next star--un-ghosting the "GO TO NEXT STAR" gadget if needed; selection of the "GO TO NEXT STAR" gadget will immediately display that next star. The "remove star from list" gadget will remove the currently displayed star from your ordered star list if it is not ghosted. You need not have a colony or vessel in the star system for it to be on your list.

With version 2.7 the star display has taken on some new characteristics. When one has viewed a planet, there will be a marker placed next to the gadget which allows one to select that planet for viewing (those labeled "first", "second" etc.) This allows for a quick reference to those planets already viewed.

1.42 Planet Display

Planet Display

The planet window shares the PROJECT , OTHER DISPLAYS , and ACTIONS menus with all other object display windows along with an additional menu "PLANET CONTROLS".

The control menu has six items:

"ADJUST POLITICAL POWER:",

"adjust planet's social Values"

(keyboard shortcut <RIGHT-AMIGA> + v),

"adjust planet's growth Order"

(keyboard shortcut <RIGHT-AMIGA> + o),

"Build starships"

(keyboard shortcut <RIGHT-AMIGA> + b),

"SHIPPING:",

and

"Inspect resources"

(keyboard shortcut <RIGHT-AMIGA> + i).

Some of these may be ghosted if you are not the owner of this planet. Your current star will become this planet's star. If this star system has ships or task forces, and the respective current object is not in this system, your current ship or task force will be changed to one in this system.

The political ideology of any inhabited planet may be changed by it's owner; you must choose between sixteen possible philosophies:

"autocracy",

"aristocracy",

"technocracy",

"meritocracy",

"democracy",

"oligarchy",

"theocracy",

"monarchy",

"gerontocracy",

"patriarchy",

"matriarchy",

"pantisocracy",

"bureaucracy",

"stratocracy",

"gynocracy",

or

"toparchy"

(all of these forms of government where found in Roget's International Thesaurus, 1934 edition, and/or the Webster's Unabridged Dictionary, 1983 edition.)

Using the social values menu item opens a window for planetary social adjustment . The adjust growth order menu opens a window which allows you to regulate the order in which planetary growth occurs on this planet. Proper order may be critical as growth in one industry may use all the available supply of one or more resources , supplies which may be needed for a following industry's operation.

Juggling your growth order will insure that your most important industry gets supply priority (an earlier ordered industry might also produce resources needed by a later ordered industry .) These changes are made on the set planet growth order window which has no menu and twelve gadgets. Enter a number between one and twelve (inclusive) ranking each industry 's priority (one being first, twelve being last); each planet has it's own individual build order. Only those offensive and defensive industries which have had adequate resources for their maintenance during the growth phase will be available during the following combat phases.

The "build starships" menu item opens a requester which allows either the creation of new starships and shipclasses using the "DESIGN" gadget, or the refurbishment (repair) of old starships using the "REFURBISH" gadget.

The shipping menu item has two sub-items, "Load or unload current ship" (keyboard shortcut <RIGHT-AMIGA> + l), and "load or Unload ships" (keyboard shortcut <RIGHT-AMIGA> + u.) The "Load or unload current ship" sub-item opens the cargo window allowing you to select a list of ships in this system to load and unload.

The "Inspect resources" menu item opens a window which displays the planet's resources . The planet resources window is scrollable, draggable, sizable, shares the planet window menu, has no gadgets, may be put behind the planet's display window

and may remain open while you are manipulating the menus and gadgets of the planet display window; it will be updated each time you make a change which affects resources .

The planetary display window provides some important information about the planet--the title contains the planet's name, it's sun's name, it's orbital position, environment and environmental modification, and population (a planet's population is not the same as it's employee resource --though they are mathematically related.) The owner is displayed, whether the planet has been modified is shown (if an industry gadget is selected whether it has been modified is also shown), the owner's galactic credit is listed, and the number of vessels in the star system (yours, then all other players' combined.)

There are many gadgets on this window. At the top left is a group of twelve integer gadgets, two arrow gadgets, and a slider--all of which are used to adjust the level of this planet's industries. Each integer gadget shows the number of industries of that kind on the planet and is labeled ("OFFENSE", "SCHOOL", "REACTOR", "MINE", "FARM", "AVIATION", "DEFENSE", "TECH LEVEL", "COMPUTER", "UTILITY", "ELECTRONIC", and "HABITAT"), selecting one causes the integer gadget to be outlined (so that you will know which is active) and the arrows and slider to become un-ghosted (modified is redraw as well.)

When an industry 's integer gadget is selected you may change the value it contains, either up (building) or down (scrapping); you may do so by editing the gadget's entry (exact changes), moving the slider (large approximate changes), using the arrows (single digit changes), or using the mouse to select the slider box either above (increase by ten) or below (decrease by ten) the slider knob.

Any entry which would result in the expenditure of more of any resource than is available will be changed to a value that does not so result; a message detailing the limiting resource will be displayed. To the right are four large gadgets duplicating frequently used menu items, "SOCIAL VALUES" opens the social adjustment window , "NEGOTIATE DIPLOMACY" opens the diplomatic negotiation window , "BUILD STARSHIPS" opens the starship construction requester .

Below them is a string gadget labeled "OPEN PLANETARY REPORT FOR:" which allows entry of a planet's name. If the entered name corresponds to one of the planets for which you have reconnaissance, that planetary display will be immediately opened if you press carriage return while the gadget is selected, otherwise it will be displayed after closing this planet display widow.

Across the center of the window is a line of at least three and not more than eight gadgets representing planets; the first and last are the "previous" and "next" gadgets, which allow you to jump directly to this planet's previous or next planet. You will have access to a gadget for each of the star's planets. There is a string gadget labeled "MY NOTE FOR THIS PLANET:" where you may enter a note of up to 200 characters. At the bottom of the window are three gadgets controlling your ordered planetary list, "PREVIOUS PLANET:", "remove planet from list", and "NEXT PLANET". Your ordered planetary list always includes your home planet (even if abandoned by you), and may also include any other planet you have visited.

Your home planet is automatically the first (and only) planet in your ordered planet list at the beginning of the game. Entry of a valid planet name in the "PREVIOUS PLANET:" gadget will cause that planet to be the currently displayed planet's previous planet--un-ghosting the "previous" gadget if needed; selection of the "previous" gadget will immediately display that previous planet. Likewise, entry of a valid planet name in the "NEXT PLANET:" gadget will cause that planet to be the currently displayed planet's next planet--un-ghosting the "next" gadget if needed; selection of the "next" gadget will immediately display that next planet.

The "remove planet from list" gadget will remove the currently displayed planet from your ordered planet list (though you must always have at least your home planet on the list) if it is not ghosted. You will probably wish to add each new colony to this list, so that you may quickly move among them using your "next" and "previous" gadgets.

With version 2.7 the planet display has taken on some new characteristics. When one has modified a planet, there will be a marker placed next to the gadget which allows one to select that planet for viewing (those labeled "first", "second" etc.) This allows for a quick reference to those planets already modified by creating new industries or expending resources on ships.

1.43 Habitat Barrier

Habitat Barrier

Each planet has it's own habitat barrier which affects the improvement of a colony's environment. Increasing the value in the planet's habitat industry gadget will eventually improve the planetary environment. When the value entered in the gadget reaches or exceeds the barrier (or a multiple thereof) the environment is improved--once for each time the barrier is reached.

The title of the planet display window shows ENVIRONMENT: followed by an original environment number between zero and one hundred, then a decimal point followed by a single number or letter. The original environment figure is never changed. Each

modification (after reaching the habitat barrier) will change the entry following the decimal point: `0' is the first (least modified), the digits `1' through `9' follow in ascending mathematical order, then the letters of the alphabet starting at `a' and proceeding to `z' with `z' being the maximum beneficial modification to the planet's environment.

A colony's environment, the environmental similarity to the owner's home planet, and any modification to it's environment affect the planet's ability to support the owner. Population growth, food production, and industry output are affected by the colony's environment. When a planet is first colonized it's habitat barrier is calculated. That number will be a number between half the colonizing player's home planet's habitat barrier and one and one half times that home planet's habitat barrier (assume your home planet's habitat barrier is 100 the new colony's barrier will fall between 50 and 150 inclusive.)

1.44   Adjusting Social Values

Adjusting Social Values

The adjust planet's social values window presents ten gadgets and no menus. Each gadget represents a hypothetical question which might be asked of the members of a planet's society, displaying two opposite ends of a response spectrum for that question.

You, as ruler, have a very strong affect on the social values of the people on your planets, your social attitudes as demonstrated by your answers to these ten questions are reflected (on the average) by the population of this planet. Use the sliders for each gadget to show social values you wish the people on this planet to exhibit. Here are the questions and their extreme answers:

How would you build consumer goods?

fast and cheap vs. made with pride

When confronted with a conflict between your virtue and your sense of duty, which prevails?

virtue vs. duty

When designing a government for this planet, who should command, a local or imported administrator?

colonial government vs. home rule government

When asked to describe your work ethic, which most closely fits?

nose to grind-stone vs. PARTY! PARTY! PARTY!

When faced with the potential distribution of morally offensive material, what is your preferred action?

censorship by consent vs. freedom of information

When assigning tasks among the sexes, how do you decide who does what?

role differentiation vs. sexual parity

When confronted by a situation in which either honor or justice must prevail (one at the expense of the other), which do you choose?

honor vs. justice

Would you prefer your subjects to be self-willed individuals or solidly regimented conformists?

rugged individuality vs. regimented solidarity

Which is more important, your self-esteem or your loyalty to your government?

individual self-esteem vs. loyalty to government

When faced with a decision concerning lifespan which is more important, quality of life or quantity of years?

quality vs. quantity

1.45   Scrapping Items

Scrapping Items

Industries on a planet may be reduced in an effort to recover valuable resources , or to limit the use of resources during the growth phase . The resources returned will be less than the original amount used by an amount controlled by the player's "SCRAP FACTOR" handicap. Scrapping does not affect items built during this turn, this allows you to try "what if" simulations with all planets and vessels during your turn, changing your mind with no penalty.

1.46   Starship Construction

Starship Construction

The only way to leave this window is by using the "close window gadget" in the top lefthand corner--this causes your requested ship building to occur (or no building if the build number is left at 0.) The first line on the starship construction window gives the location of the planet at which construction is occurring. The starship design window has two menus, "AVAILABILITY TYPE" and "SHIPCLASS", plus some gadgets. The availability menu has sixteen mutually exclusive items:

"Titanium" (keyboard shortcut <RIGHT-AMIGA> + t),

"Krypton" (keyboard shortcut <RIGHT-AMIGA> + k),

"Uranium" (keyboard shortcut <RIGHT-AMIGA> + u),

"Silver" (keyboard shortcut <RIGHT-AMIGA> + s),

"Nitrogen" (keyboard shortcut <RIGHT-AMIGA> + n),

"Vanadium" (keyboard shortcut <RIGHT-AMIGA> + v),

"Hydrogen" (keyboard shortcut <RIGHT-AMIGA> + h),

"Argon" (keyboard shortcut <RIGHT-AMIGA> + a),

"Gold" (keyboard shortcut <RIGHT-AMIGA>+ g),

"Iron" (keyboard shortcut <RIGHT-AMIGA> + i),

"Oil" (keyboard shortcut <RIGHT-AMIGA> + o),

"Jewels" (keyboard shortcut <RIGHT-AMIGA> + j),

"Wood" (keyboard shortcut <RIGHT-AMIGA> + w),

"Food" (keyboard shortcut <RIGHT-AMIGA> + f),

"Employees" (keyboard shortcut <RIGHT-AMIGA> + e),

and

"Money" (keyboard shortcut <RIGHT-AMIGA> + m)

which are used in conjunction with the last three lines of text at the bottom of the window.

The top-most of these three lines shows the total amount of the resource (selected in the availability menu) consumed (or obtained) by building one ship with the given accessories, then (multiplying that number by the number of ships being built) displays the total resource change (if you have left the number of ships being built set to zero the total will be 0.) The second-to-last line shows the total amount of the selected resource available at the planet at which ship construction is occurring. The last line is simply a reminder that you may change the selected resource , what the possible keyboard shortcuts are and which is selected (these items may be rapidly moved through using the <cursor left> and <cursor right> keys which will act just like selecting the next or previous resource item from the menu.)

The shipclass menu has three items, " Become a shipclass", "Load a shipclass", and "Pick ship to define a shipclass". When you check the first item, the ship you design (whether you build any or not) becomes a shipclass . After you have defined one or more shipclasses, the next item allows you to pick a design (using a scrolling list view) to use as a template for this building session--you may immediately alter the specific accessories to suit your needs. After you have built a ship, the third item allows you to choose a specific ship (using a scrolling list view) to use as a template for this building session--again, you may immediately alter the specific accessories to suit your needs.

Near the top of the window is a string gadget labeled "STARSHIP NAME (or CLASS stub):", you may enter a name for your ship here, if you are creating a class this will be a prefix or stub to which the computer will add the serial number of the ship. If you do not enter a name here, or if your chosen name is in use, the name requester will prompt you for a name if you build any ships or a class. Initially, a starship inherits it's tech level for free from the planet at which it is created. Just below the name gadget are six integer gadgets which allow you to customize the accessories on this ship (or of this shipclass)

"POWER",

"FUEL",

"BOMBS",

"MISSILES",

"LASERS",

and

"SHIELDS".

Weight is automatically calculated based upon the vessel weight factors entered in your handicap data and displayed as "mass".

To adjust the design specification for power use the mouse to select the integer gadget just to the right of the label "POWER:", enter a number between zero and 65535 which suits you--if you press the carriage return key while the gadget is still selected your resource change due to the entry will be calculated and the display will be redrawn reflecting that change. If you over do it, a warning message will appear, the entry will be reduced to a level for which there are adequate resources .

Also, when you press carriage return while an integer gadget is selected, your potential vessel's RANGE (in the same units as the galaxy display--one pixel per unit), SPEED (in units-per-turn), and FPT (fuel-per-turn) will be updated and displayed near the top of the window, using the existing throttle setting.

You may similarly enter data in any or all of these six accessory gadgets without pressing carriage return--no recalculation and no redrawing of the display will occur; this lets you make a number of entries first, then (with any integer gadget selected) press the carriage return key to calculate the affect of all entries. If any entries would require more resources than those available, those entries will be reduced to fit the available resources , and a warning message will be displayed.

Power is analogous to the number of engines a vessel has--the more power the faster a vessel can go. It is important to note that all vessels consume fuel all the time, enter a large enough value in the fuel gadget to get you where you want to go, even if the vessel is only on sentry duty in the star system of it's construction.

Bombs, missiles, lasers, and shields are combat specific, their weight and effectiveness is regulated by your handicap data.

Below the accessory gadgets are four string gadgets. Two, labeled "PREVIOUS STARSHIP:" and "NEXT STARSHIP:", give you control over the initial placement of this ship (or series of ships) on your ordered list of ships. If, for instance, you enter the name of one of your existing ship in the "previous" gadget, the new ship(s) will be added to your ship list immediately following the old ship, likewise, if you enter the name of an old ship in the "next" gadget, the new ship(s) will be added to your ship l

ist" link "OLIST" 0} immediately before the old ship.

The gadget labeled "TASK FORCE:" can be used in two ways. If you enter the name of a task force already existing in the star system in which ship construction is occurring, the new ship(s) will be automatically joined to that task force. If the entered name is not in use, a task force will be created with that name and the new ship(s) will be joined to that task force; otherwise you will be notified that the entered name is already in use.

A string gadget is available for attaching a note . Below the note gadget is an integer gadget labeled "BUILD". You must enter a number between one and 65535) in this gadget if you wish to build any ships (all of which will be identical) with this design. If you are only designing a shipclass, this number may be zero; if you build more than one ship, a shipclass will automatically be created (unless a shipclass was used in the design of these ships--then the new ships will belong to the original shipclass.)

In recalculating the resource needs a minimum value of one will be assumed if zero is entered in the build gadget. If you do not wish to see the outcome of calculating the resource needs, make all your entries without pressing a carriage return, then close the window; all computations will be carried out (a warning message could appear if you over did it), and the ships for which resources are available will be constructed. Remember, no actual changes to your resources or quantity of ships will occur until you close this window--you may play around with different accessory and throttle values as much as you like, finding just the right balance of cost and features.

1.47 Refurbish Starship

Refurbish Starship

The window for refurbishing (repairing) starships is almost identical to the starship construction window . The menus are identical and are used in exactly the same manner. Two new integer gadgets replace the fixed display of tech level and hits; the build gadget is gone. The display at the bottom contains only two lines, one shows your change in the selected resource , the other reminds you of the availability menu.

All gadgets operate exactly like those in the starship construction window. Tech level may be increased only up to the tech level of the planet at which the vessel is being refurbished. The main use of this window is to adjust the accessory levels of the ship; after combat a vessel may need repair, after a journey it may need fuel, to accomplish a mission may require additional power, fuel, weapons, or other accessories, you may edit it's name, adjust it's list position, and join or leave a task force. Refurbishment may also include reducing (scrapping) ship accessories.

Scrapping any part of the ship will result in a change in planetary resources opposite in sign to that of building; if, for instance, your handicap data says that your planetary resource of iron will be reduced with laser construction and you scrap some lasers, your planet will gain iron. The change will be adjusted according to your scrap factor handicap except in the instance of ships built during this turn, which will not be affected by the scrap factor unless the ship has been used to transport cargo within the system this turn. This allows you to tweak the design of a ship during it's construction turn with no penalty (effectively the case for all ships all the time if your scrap factor is zero.) You may adjust the vessel's throttle here and get an update on range, speed and fuel consumption.

1.48 Shipclass Creation

Shipclass Creation

Imagine, if you will, that you want to develop a series of ships which you will send out from your home world exploring the galaxy--each will be built and launched as resources become available. Your thinking might go like this:

As all these ships have a very similar mission I should try to come up with the best design and then re-use that design--possibly with upgrades and modifications. Ship classes give you that power. Use the build ship menu item or gadget at the planet window. When the requester gives you the choice of design or refurbish you may choose either design or refurbish--if you choose refurbish it will be an actual refurbishment session and any accessory changes made to the ship will occur. Selecting design gives you a clean slate to begin with--leaving the build identical ships value set at zero causes only a class to be created, not any actual ships and costs nothing in resources (other than a slight amount of computer memory.)

Regardless of which you choose (design or refurbish), your window will have a menu labeled "SHIPCLASS" containing three items, " Become a shipclass", "Load a shipclass", and "Pick ship to define a shipclass". When the first item is checked, the ship you design (whether you build any or not) becomes a shipclass . After you have defined one or more shipclasses, the next item allows you to pick a shipclass design (using a scrolling list view) to use as a template for this building session. You may alter the accessories and even select the newly modified design as a shipclass of it's own. The third item allows you to choose a specific ship as a template for a shipclass and this building session--the class is created, and the current accessory values are changed to reflect that of the picked ship.

If you are in a design session and select either of the two later items, all accessory gadget values and the note ?will change to reflect that of the chosen class. In a refurbishment session all values which start out smaller than that of the class will be raised to match that of the class, all those larger will generate a requester asking which value to use (that of the class--causing scrapping, or that of the ship.) The which note requester will be generated if the current ship and the class both have notes. One change may occur if you elect to create a shipclass--if necessary, the name in the ship name gadget will be shortened to ten characters. This allows the computer to sequentially name class members with names based on a class name stub (you may always display the vessel and change this name later.)

1.49 Starship Display

Starship Display

The starship display window allows you to inspect a starship and it's cargo, give it orders and a note, and adjust your ship list. The window has four menus, three are the commonly shared PROJECT , OTHER DISPLAYS , and ACTIONS . The other is labeled "SELECT CARGO TO VIEW" and has sixteen items:

"TITANIUM",

"KRYPTON",

"URANIUM",

"SILVER",

"NITROGEN",

"VANADIUM",

"HYDROGEN",

"ARGON",

"GOLD",

"IRON",

"OIL",

"JEWELS",

"WOOD",

"FOOD",

"COLONISTS",

and

"MONEY".

This menu (and the identical one at the cargo window support multiple selection. You may select up to as many cargo items for display as will fit in the window before ending a single menu session; de-selection may be mixed freely with selection; all sixteen cargo items can not be displayed on the window at once.

The selection of a cargo type will cause the display of three items of information, a manifest label identifying the cargo, the amount of that cargo currently aboard, and the amount of the resource available (if docked at a planet) for loading. The availability of colonists as cargo is regulated by the number of employees who have not worked this turn. When population is removed as colonist cargo, the employees are removed also (calculated by your work rate), this functions the same when colonists are unloaded, the planet receives both population and employees.

The window title gives the ship's name and location; there are three lines of information at the top of the window giving specific data relating to the ship's design, cargo, range, speed, fuel-per-turn (FPT) and the name of the planet at which it is docked--if it is. If a ship is in a star system with planets, the planet at which the ship is docked may be changed. You may do so by selecting one of the planet gadgets labeled "CHANGE PLANETARY DOCKING TO:", which will immediately change the planetary dock; this may occur many times during one turn.

There is another docking string gadget labeled "OR ENTER A PLANET NAME:" which accepts entry of any valid planet name known to you; if the entered planet is in the same star system as the ship the ship will be immediately re-docked; otherwise the ship will be ordered to proceed to the star system of the entered planet, upon arrival the ship automatically docks at the chosen docking planet.

Near the bottom of the window is a group of six string gadgets labeled "PREVIOUS STARSHIP:", "TASK FORCE:", "EDIT NAME:", "NEXT STARSHIP:", "PERSONAL NOTE FOR THIS STARSHIP:", and "VIEW SHIP:". Two other gadgets labeled "PREVIOUS STARSHIP" and "NEXT STARSHIP" may be ghosted ifappropriate. The "previous" and "next" string gadgets control the starship's placement on your ordered list of ships. Acceptable entries here will activate their respective gadgets below. The task force string gadget allows creation of a task force if none by that name exits, and causes the vessel to join the named task force if it is in the same star system.

You may edit this ship's name (providing the new name does not conflict with any other), and have a note of up to 200 characters. The view ship string gadget accepts the name of any of your ships and immediately displays the named ship if you press carriage return while the gadget is selected, otherwise it will be displayed after closing this ship display widow. The last two lines on the window deal with the ship's orders--the top line shows the order, and the bottom line has gadgets to give new orders to the ship (those gadgets will vary depending upon the order.)

The extreme leftmost lower gadget is a cycle gadget which allows you to move through the available movement and combat orders. Just above these order lines is an integer gadget labeled "THROTTLE:", it must contain a number between zero and one, inclusive. A vessel's speed, range and fuel consumption are affected by it's throttle setting, a throttle setting of 1.0 is the fastest, uses the most fuel, and yields the most limited range. A very small entry (like 0.001) will cause a vessel to move very slowly, use little fuel, and have it's most range.

1.50 Load/Unload Cargo

Load/Unload Cargo

The movement of cargo between ships and planets is accomplished with the load/unload cargo window. The window has four menus, three are the commonly shared PROJECT , OTHER DISPLAYS , and ACTIONS The other is labeled "SELECT CARGO TO VIEW" and has sixteen items:

"TITANIUM",

"KRYPTON",

"URANIUM",

"SILVER",

"NITROGEN",

"VANADIUM",

"HYDROGEN",

"ARGON",

"GOLD",

"IRON",

"OIL",

"JEWELS",

"WOOD",

"FOOD",

"COLONISTS",

and

"MONEY".

This menu (and the identical one at the ship window support multiple selection. The window title gives the ship's name and location; there are three lines of information at the top of the window giving specific data relating to the ship's design, cargo, range, speed, fuel-per-turn (FPT) and the name of the plant at which it is docked.

The planet at which the ship is docked may be changed, do so by selecting one of the planet gadgets labeled "CHANGE PLANETARY DOCKING TO:", which will immediately change the planetary dock (the current dock planet's gadget is bordered in the odd colors.) There is another docking string gadget labeled "OR ENTER A PLANET NAME:" which accepts entry of any valid planet name known to you; the ship will be immediately re-docked if the entered planet is in the same star system as the ship; otherwise the ship will be ordered to proceed to the star system of the entered planet.

You may select as many cargo items for display as will fit on the window before ending a single menu session; de-selection may be mixed freely with selection; all sixteen cargo items will not fit in the window at once. The selection of a cargo type will cause the display of three items of information, a manifest label identifying the cargo type, the amount of that cargo currently aboard this ship, and the amount of the resource available upon the planet at which this ship is docked.

The availability of colonists as cargo is regulated by the number of employees who have not worked this turn. When population is removed as colonist cargo, the employees are removed also (calculated by your work rate), this functions the same when colonists are unloaded, the planet receives both population and employees. Additionally, a set of three gadgets will appear for each selection. These two arrow and one integer gadget control the movement of cargo to and from the ship--each cargo type has it's own set of three gadgets.

At the very bottom of the window are two gadgets, a cycle gadget and the order gadget; use the cycle gadget to display either load or unload as you choose, then highlight the gadget (the gadget is un-highlighted if it asks a question and highlighted if the order ends in `!'--an exclamation mark) to affirm the order--it will be executed when you close the window. In entering an amount of cargo to load (unload) you may use either it's respective arrow gadgets (the up arrow raises the integer gadget contents

, the down arrow lowers it), it's integer gadget, or both, to achieve the proper value in the integer gadget.

There is an interesting behavior exhibited by these arrow gadgets, select an arrow, and without releasing the mouse button move the pointer OFF that arrow gadget, then release the mouse button--the entry in the respective integer gadget continues changing in the direction controlled by the recently selected arrow gadget. To stop this change select any gadget anywhere on the window. Any entry exceeding the available cargo will be reduced to that available amount. If you select a cargo type, then enter an amount in it's gadget, then de-select that cargo type the gadget will disappear, but the amount entered will be remembered.

If (and only if) you have a cargo type selected when you close the window, any de-selected cargo types with non-zero entries will be included in your load/unload order--if no cargo type is selected and displayed no cargo movement will occur. It is not necessary for the ship owner and the planet owner to be the same (or even that the planet have an owner.)

If a ship unloads any colonists on an unowned planet the planet becomes owned by the ship's owner. If a ship unloads other cargo on an unowned planet it just sits there for anyone to grab. If a ship unloads colonists on a planet owned by an opponent, the ownership of the planet goes to the player with the largest population, with ties going to the original owner. If a player offers to load or unload cargo at an opponent's planet, the opponents is offered the option of accepting or refusing (a player who refuses may need to be softened up a bit by planetary bombing or via an offsetting offer or bribe.

1.51   Shipclass Display

Shipclass Display

The shipclass display window allows you to examine your shipclasses and shows the number of existing members of the class in the title. The window has three commonly shared menus PROJECT , OTHER DISPLAYS , and ACTIONS , and a "MODIFY" menu with a single item "Pick ship to copy" (keyboard shortcut <RIGHT-AMIGA> + p.) Picking a ship to copy will fill all shipclass variables with the respective values from the ship.

A string gadget labeled "SHIPCLASS NAME:" allows editing of the name, a string gadget for a note is just below it. Seven integer gadgets follow labeled with the various accessories pertaining to shipclasses. You may modify any of these gadgets--any new ships designed upon this class or refurbished to this class specification will use the values shown in these gadgets. At the very bottom is a gadget labeled "DELETE THIS SHIPCLASS" it's selection will do just that, closing the window as well. Deleting an unneeded class will save a little memory.

1.52   Task Force Creation

Task Force Creation

Task forces may be created in two fashions; you may use the actions menu item to create a task force to join, or you may enter a name which does not exist in the task force gadget of any ship. Either action opens a window with no menus which allows you to define the task force. A string naming gadget is the top line while the second line contains a cycle gadget which cycles between a set of three deep space location integer gadgets and a string star gadget. "previous" and "next" string gadgets are available to control initial placement of this new task force on your ordered task force list.

The centrally located "GATHER VESSELS" gadget (if it is selected when the window is closed) causes the task force display window for this task force to open immediately. At the bottom is a "CANCEL" gadget which will cancel creation of this task force. The task force will be created as specified when you close the window.

1.53   Task Force Display

Task Force Display

The task force display window allows you to inspect your task forces, give them orders, and add or remove vessels from them; it's title shows the task force's location.

The window has four menus, three are the commonly shared PROJECT , OTHER DISPLAYS , and ACTIONS . The other is labeled "TASK FORCE CONTROLS" and has eleven items:

"join all Local vessels with this task force"

(keyboard shortcut <RIGHT AMIGA> + l),

"Select local vessels to join this task force"

(keyboard shortcut <RIGHT AMIGA> + s),

"select ships to reMove from this task force"

(keyboard shortcut <RIGHT AMIGA> + m),

"separate this task force into single Vessels"

(keyboard shortcut <RIGHT AMIGA> + v),

"select local task forces to Break into single vessels"

(keyboard shortcut <RIGHT AMIGA> + b),

"disassemble all local task forces Into single vessels"

(keyboard shortcut <RIGHT AMIGA> + i),

"Organize all local task forces as this task force"

(keyboard shortcut <RIGHT AMIGA> + o),

"select local task forces to join this Particular task force"

(keyboard shortcut <RIGHT AMIGA> + p),

"Delete this unused task force"

(keyboard shortcut <RIGHT AMIGA> + d),

and

"delete all Unused local task forces"

(keyboard shortcut <RIGHT AMIGA> + u.)

The menu item "join all Local vessels with this task force" causes all local starships (in the exact same location as the task force) to join that task force--vessels may be in deep space or in a star system. "Select local vessels to join this task force" opens a scrolling list view of vessels available to join this task force, you may select as many as you like. The "select ships to reMove from this task force" item produces a scrolling list view of starships attached to this task force--all selected will be removed from the task force.

Choosing "separate this task force into single Vessels" removes all vessels. "select local task forces to Break into single vessels" opens a scrolling list view of all local (in the same location) task forces as this task force--all chosen will be broken up into individual unattached vessels. The menu item "disassemble all local task forces Into single vessels" causes all local task forces to be broken up. Selecting "Organize all local task forces as this task force" combines the vessels of all local task forces to be joined with this task force--it has no effect on unattached vessels.

Using "select local task forces to join this Particular task force" produces a scrolling list view of all other local task forces--those chosen will have all their vessels joined with this task force. When un-ghosted "Delete this unused task force" will cause the memory set aside for this task force to be released for system use--the task force must contain NO vessels. If "delete all Unused local task forces" is selected ALL local un-used task forces will have their memory released. Removing a task force allows that name to be reused.

The total makeup of the task force is displayed, the number of ships, cargo items, accessories, worst unit, and average damage are all printed with the drawing pen specified by the player, range, and speed are displayed. An "EDIT NAME:" gadget allowing name changes is at the top right-hand corner of the window. In the middle of the window is a group of four string gadgets, "PREVIOUS TF:", "VIEW TF:", "NEXT TF:", and "PERSONAL NOTE FOR THIS TASK FORCE:". Two other gadgets labeled "PREVIOUS TASK FORCE" and "NEXT TASK FORCE" may be ghosted if appropriate.

The "previous" and "next" string gadgets control the task force's placement on your ordered list of task forces. Acceptable entries here will activate their respective gadgets below. The view task force string gadget accepts entry of the name of any of your task forces and immediately displays that task force if you press carriage return while the gadget is selected, otherwise it will be displayed after closing this task force display widow. You may have a note of up to 200 characters.

The last two lines on the window deal with the task force's orders--the top line shows the order, and the bottom line has gadgets to give new orders to the task force (those gadgets will vary depending upon the order.) The extreme leftmost lower gadget is a cycle gadget which allows you to move through the available movement and combat orders. Just above these order lines is an integer gadget labeled "THROTTLE:", it must contain a number between zero and one, inclusive.

A task force's speed, and range are affected by it's throttle setting, a throttle setting of 1.0 is the fastest, uses the most fuel, and yields the most limited range. A very small entry (like 0.001) will cause a task force to move very slowly and have the most range. In effect, when you adjust a task force's throttle setting, you are adjusting the throttle of the slowest vessel in the task force. If you give a task force orders to move somewhere, the throttle for each vessel in the task force is set so that all vessels move at the same relative speed.

1.54   Warnings

Warnings

A warning message opens a one line message display window (only the player who's turn is being played will receive these messages.) Each player's handicap data contains a value for warning message delay--it may be set at the original handicap window, and thereafter via the "PROJECT" menu item "examine Handicap and name files". A setting of zero will cause all messages to be displayed on a window which will not close until it's close gadget is selected; any number above zero will be treated as the number of seconds for which the computer will present the warning message before automatically closing the window.

Examination of a player's handicap will allow access to the entry of a file name representing an optional storage file location for messages. If a valid file name (potentially with full path) is present, the warning message will be written to the chosen file after being displayed in a window; you may view this ASCII text file with your favorite word processor or text editor--it might be a good idea (from time to time) to erase all or part of the file, as old messages accumulate. As with any string gadget which seeks the entry of a file name, selecting this gadget using any of these qualifier keys <Ctrl>, <LEFT-SHIFT>, <LEFT-Alt>, <RIGHT-SHIFT>, or <RIGHT-Alt> will bring up the FIND File Requester. If a valid file name (and possible path) are entered when you select the "FIND" gadget, that entry will be loaded into the requesting string gadget.

1.55   Creating Name Files

Creating Name Files

Each player must name every ship and task force they create. Without the help of the computer, this would be enough of a chore to make game play impossible! If you do not wish the possibly overwhelming task of naming each and every object upon creation, and wish to avoid the boring names the computer supplies, you may prepare name files. During initial handicapping each player has their first chance to identify those files which contain their private lists of names, thereafter, the same window will be available by selecting the "PROJECT" menu, "examine Handicap and name files" item commonly available at most windows during all phases of play.

The select drawing pens window supplies a gadget in the lower center labeled "EXAMINE HANDICAP/CHANGE DEFAULT NAME FILES"; it's selection will result in the handicap window opening. Using the "ASPECT TO HANDICAP" menu and selecting the "other single factors" item will change the handicap window's display ; at the bottom are string gadgets within which you may enter valid file names (complete with path, if needed.) Each object which will need to be named (the first one to reach a star system may name the planets) has a file name associated with it.

Any time a name is needed for an object the computer first examines the player's supplied file name for that particular kind of object. If a file name is supplied and a file is found with the supplied file name, the computer reads a name from the file (the computer keeps a place marker, so names are used in order.) If the supplied name is already in use, no name is supplied, no file is found, or all names have been used in the file, the name requester will appear. Name files are very easy to make.

Use your favorite word processor or text editor to create the file (MicroEmacs is supplied with your operating system and should be found in the System:Tools or Extras:Tools drawer, Notepad® will work, too; always save as plain ASCII text.) Leaving no blank lines (one name to a line, the first name on the top line), create a list of names, no name longer than fifteen letters. You may use all the letters (capital letters are the same as minuscule letters: INTREPID = iNTrEPid = intrepid), numbers are fine--but stay away from non-printing characters, and most punctuation marks (the space " ", underscore "_", and single closing (possessive) quote "'" seem okay.)

You may even add to these files any time during game play--here is a trick you may use to keep name files from growing impossibly long. Just imagine, you have a ship name file that you have been using for many turns; at first you entered one hundred names. You add another hundred names, and another hundred, finally realizing that you have a huge file of used up names. Simply create a brand new file with new names and change the file name at the single factor display. After you have used the new file at least once (here's the trick) you may change back to the old file, the computer will automatically start reading names with the place marker at the beginning of the file--any name that is still in use (because the ship has not been destroyed) will be ignore

d, names of defunct ships will be reused.

1.56   File Requester

File Requester

As of version 2.7 the ASL file requester replaces my custom attempt!

1.57   Keyboard Shortcuts

Keyboard Shortcuts

Many menu items and sub-items have keyboard shortcuts , most of which involve the <RIGHT-AMIGA> key. The <RIGHT-AMIGA> key is just to the right of the space bar--a stylized outlined capital A. To use the <RIGHT-AMIGA> key shortcuts press and hold the <RIGHT-AMIGA> key, then press (while still holding the right-hand Amiga® key) the appropriate key (as shown in the menu.) If a menu selection has a shortcut there will be a depiction of the stylized A and a letter, number or punctuation mark at the end of the line containing the selection; or simply a letter or number (possibly preceded by a qualifier key.)

In most cases the shortcut key will be represented in the selection's text by the only capitol letter in the text (thus the shortcut of the color palette adjusting tool is `<RIGHT-AMIGA> c' for "adjust Color".)

Some very frequently used selections use a single key press without the <RIGHT-AMIGA> qualifier, use the `*' key (asterisk, a shifted 8 on the keyboard, or the multiply key on the numeric keypads of newer machines, sometimes called a star) to open the current star display, use the `p' key to open the current planet display, use the `s' key to open the current ship display, use the `t' key to open the current task force display, use the `b' key to open the current shipclass display. These same single keys may be used with the <RIGHT-AMIGA> key to modify the drawing of the map (except p, b and m which are never drawn on the map), with the left shift key to pick the first object on your list, the right shift key to pick the last object on your list, with either <Alt> key to pick a specific object to display from your list, or with the <Ctrl> key to create a unified report file on the object.

For example (assuming you have a ship), pressing just the `s' key will display your current ship, <RIGHT-AMIGA> + s will toggle the display of all ships on your map on or off, the <left shift> + s will display the first ship on your ship list, the <right shift> + s will display the last ship on your ship list, <left Alt> + s or <right Alt> + s will display the scrolling list view window for your ship list allowing you to select just one ship to view, and <Ctrl> + s will allow you to generate a text report about all your ships. In the case of stars, only the numeric keypad asterisk will work with the left and right shift keys to display the first or last of the list, as you must always press a shift key to get the asterisk over the 8 key.

1.58   String Gadgets

String Gadgets

String gadgets are almost always long enough to display the entire string, with the exception of the note gadgets , which can scroll through 200 characters of note, and the file name gadgets. Some string gadgets always expect to find an entry from some list. For instance, if you are displaying your current star you will see a string gadget labeled "OPEN STELLAR REPORT FOR:" containing the text "star's name". You must supply a valid name or an error will occur, resulting in a warning.

To simplify this chore, this type of string gadget may be selected (select means click with the left mouse button while the cursor is in the gadget) WHILE HOLDING DOWN A QUALIFIER KEY (if the gadget is already selected--ready to accept input, click

outside the gadget to de-select it.) The available qualifier keys are <Ctrl>, left <SHIFT>, right <SHIFT>, left <Alt> and right <Alt>. Each qualifier may bring up a different list scroll window from which a single item may be chosen.

The particular list displayed with each qualifier key is specific to the input expected, but two generalities hold true for stars and planets--the left <Alt> key will bring up a list of ALL KNOWN objects of the given type (all stars are always known to everyone); the right <Alt> key will bring up a list of those objects ON YOUR PERSONAL next/previous list. Generally, either left or right <Alt> will bring up your complete list for ships, task forces, and classes--the only exceptions are when only a local (at the same location) unit will appropriately fill the string gadget.

At the star display window there are five string gadgets which will respond to qualified selection, labeled "PREVIOUS STAR:", "NEXT STAR:", "OPEN STELLAR REPORT FOR:", "MY PERSONAL NAME FOR THIS STAR:", and "OPEN PLANETARY REPORT FOR:". All follow the left <Alt> = KNOWN, right <Alt> = MINE rule, except the PERSONAL NAME gadget, which always brings up the entire (known) star list (also, it will not return a selection as it is just for informational purposes.) At the planet display window there are three string gadgets which will respond to qualified selection, labeled "PREVIOUS PLANET:", "NEXT PLANET:", and "OPEN PLANETARY REPORT FOR:". All follow the left <Alt> = KNOWN, right <Alt> = MINE rule.

When constructing ships, each window has four similar string gadgets which will respond to qualified selection, labeled (for ships) "PREVIOUS SHIP:", "NEXT SHIP:", "TASK FORCE:", "SHIP NAME or CLASS STUB:", "TASK FORCE:" or CLASS STUB:". For both previous and next string gadgets either <Alt> key will bring up your complete list. For both task force string gadgets either <Alt> key will bring a list of only those task forces in the star system at which construction is occurring (a local list.) For both name string gadgets either <Alt> key will bring up your complete list of that type of object, though this is informational only.

When creating a task force you will have access to four string gadgets which will respond to qualified selection, labeled "TASK FORCE NAME:", "STAR:" (when applicable), "PREVIOUS TASK FORCE:", and "NEXT TASK FORCE:". The star string gadget follows the left <Alt> = KNOWN, right <Alt> = MINE rule, for the previous and next string gadgets either <Alt> key will bring up your complete list of your task forces, and the name string gadget uses either <Alt> key to bring up your complete list of task forces--though this is informational only. When displaying task forces or ships, many string gadgets which will respond to qualified selection might appear; different string gadgets are available depending upon order being displayed. If the string gadget expects a star, it will follow the left <Alt> = KNOWN, right <Alt> = MINE rule.

If the string gadget expects a ship either <Alt> key will bring up your complete list of ships. For both edit name string gadgets, either <Alt> key will bring up your complete list of ships--though this is informational only. If the string gadget expects the name of a task force, either <Alt> key will bring a list of only those task forces at the location at which the ship is located (a local list.)

For ships only, one string gadget expects the name of a planet at which to dock the ship. This docking gadget may be selected with any one of three qualifiers, it will follow the left <Alt> = KNOWN, right <Alt> = MINE rule, plus it will bring up a list of local planets if the <Ctrl> key is used. When displaying shipclasses only the edit name string gadget will respond to qualified selection. Either <Alt> key will bring up your complete list of that class--though this is informational only. When deciding how to re-assemble a complex list which you have broken, a string gadget is often available which expects an entry from the broken list, either <Alt> key or the <Ctrl> key will bring up your complete list of that object type.

When editing the galactic map a string gadget labeled "VIEW STAR:" will respond to qualified selection, either <Alt> key will bring up the complete star list.

Any string gadget which seeks the entry of a file name, allows selection of this gadget using any of these qualifier keys <Ctrl>, <LEFT-SHIFT>, <LEFT-Alt>, <RIGHT-SHIFT>, or <RIGHT-Alt> which will bring up the File Requester. If a valid file name (and possible path) are entered when you exit the file requester, that entry will be loaded into the requesting string gadget. Standard Intuition® string gadget editing works, such as <RIGHT-AMIGA> + x which empties the string gadget, or <RIGHT-AMIGA> + q which restores the original entry.

1.59 Cycle Gadgets

Cycle Gadgets

Cycle gadgets allow the sequential viewing of list elements. Holding down either <SHIFT> key while selecting the gadget causes the display to cycle backwards, using the <Ctrl> (control) key while selecting causes the top of the list to appear, using either <Alt> (alternate) key while selecting causes the currently selected value to be displayed, no qualifier key allows forward cycling through the list.

1.60   Integer Gadgets

Integer Gadgets

Integer gadgets are standard Intuition® integer gadgets. They will accept any positive or negative number value which does not exceed the number of allowable digits, and may not contain a decimal point. Sometimes a gadget will accept a value which exceeds the game's specifications (the maximum value for any given industry on a planet is 65535 but 99999 will fit in the gadget), if that occurs you will be warned and the entry limited to what the game considers acceptable. Other times the entry you give would cause some other problem (not enough resources to create the number of ships desired), those entries will also generate a warning message, and their value will be reduced to a functional level. Standard Intuition® string gadget editing works, such as <RIGHT-AMIGA> + x which empties the string gadget, or <RIGHT-AMIGA> + q which restores the original entry.

1.61   Floating Point Gadgets

Floating Point Gadgets

Floating point gadgets are string gadgets. Unfortunately floating point gadgets will accept any input--even non-numerical. They want a numerical value of no more than eight digits, with or without a decimal point--nonsensical values will be ignored, with a warning. If you supply a number which exceeds the limits which the game sets, that entry will be set to the closest acceptable value (a warning message will occur except at the handicap window.) Standard Intuition® string gadget editing works, such as <RIGHT-AMIGA> + x which empties the string gadget, or <RIGHT-AMIGA> + q which restores the original entry.

1.62   Scrolling List View

Scrolling List View

The scrolling list view window presents the contents of a list from which you may select no items, one item only, or any number of items. The window title will identify the list; there will be a one line instruction letting you know how many items may be selected, and the use to which the selection(s) will be put. This window is draggable, has no menus and closing the window allows your selection to be used. If the list is smaller than 19 items, the window will be just tall enough to display the number of items on the list, otherwise the window will open full height and contain two arrow gadgets and a slider gadget. The arrows will scroll the item names up and down, the slider will allow bigger changes in the list display. The size and location of the slider knob are directly proportional to the number of items and displayed location on the list.

1.63   Ordered Lists

Ordered Lists

There is a list of stars which contains all the stars in the galaxy, each player also has a list of some of those stars. There is a list of planets which contains all the planets in the galaxy, each player has a list of some planets. Each player also has a list of ships, task forces, shipclasses (any player list might be empty--except their star and planet lists, empty lists may not be viewed.) Every ship, task force, or shipclass which a player has will be on the player's appropriate list. As you create each object it will be placed on it's appropriate list; by default it will go at the tail end of the list--though you may specify where on the list it will be, and even change that position later. A major part of the game will consist of examining your objects and making changes to them.

The easiest method of looking at all your objects is to move through their lists, from first to last (or last to first) inspecting each item on each list. If you group items on a list in a logical manner, those items which are related by common traits will be viewed in sequence as grouped. For instance, you have colonized three planets within your home system and two in a different star system; you arrange your planet list so that your home planet is first, then follow it with each other planet in your home system, then follow with the other two colonies. Now, when you open your planetary display for your home planet, the next planet on the list is in the same star system, as is the next after it, the other two planets follow--you may use the "next" planet gadget to step through the list. Ordered lists let you decide in which order you wish to view your objects of interest.

1.64   List Management

List Management

The process involved with changing an object's position on a list is the same for all object types (stars, planets, starships, and shipclasses) First, identify where you want to position the object; open the display for the object who's position you wish to change. Toward the bottom of the display window are two string gadgets one on the left labeled "PREVIOUS object:" another on the right labeled "NEXT object" (where object is replaced by the displayed object type.)

You may enter the name of any other object of the same type in either string gadget, and optionally enter the name of a different object (of the same type) in the other. After entering a valid name in either string gadget (with the gadget still selected) press carriage return to change the list connection or close the window after making one or more changes in these gadgets (an error message will result if the operation is un-successful.) As an example, suppose you have five ships named (unimaginatively) "A", "B", "C", "D", and "E"; ship "A" is the first on your ship list, ship "B" is next, and so forth with ship "E" last on the list. Opening the display of ship "A" will show the "PREVIOUS SHIP:" string gadget with an entry of "first ship" and the "NEXT SHIP:" string gadget with the entry "B". The display for ship "C" will show the "PREVIOUS SHIP:" string gadget with an entry of "B" and the "NEXT SHIP:" string gadget with the entry "D".

The display for ship "E" will show the "PREVIOUS SHIP:" string gadget with an entry of "D" and the "NEXT SHIP:" string gadget with the entry "last ship". Looking at the ship "C" display you remember that for some reason you wished ship "C" to be the second item on your ship list, following ship "A". Enter the name "A" in the "PREVIOUS SHIP:" string gadget, then close the ship window by going to the "OTHER DISPLAYS" menu and selecting the "pick ship from list <Alt>d" sub-item of the "VIEW SHIPS:" item. From the scrolling list view select ship "A" to view; notice that the display of ship "A" shows the "PREVIOUS SHIP:" string gadget with an entry of "first ship" and the "NEXT SHIP:" string gadget now with the entry "C"--just as you had wished.

Or you could imagine that you created four task forces, "tf 1", "tf 2", "tf 3", and "tf 4" and they started out linked in that order on your task force list. If you were to open the display for "tf 2" and change the entry at "NEXT TASK FORCE:" from "tf 3" to "tf 1", the display of "tf 1" would show "tf 2" as it's previous task force. Or, consider this, you have built ten starships and named them "First", "Second", "Third", through "Tenth", starting out linked in that order on your ship list. Display the "Fifth" ship; change the "PREVIOUS SHIP:" entry from "Fourth" to "Seventh"; change the "NEXT SHIP:" entry from "Sixth" to "Second"; now, close the ship display window. The computer will recognize that you are trying to make a complex change in the list--the only way both these orders can be complied with is to change other linkages on the list. An insertion requester will open and present you with a drawing showing what the possible outcomes of your new linkage can be--select the one which best suits your goals.

1.65   Insertion Requester

Insertion Requester

The list insertion requester describes the possible outcomes of your request for a complex change to an object's position on it's list. First a sample list, and a list depicting double linkage are graphed. Next comes a statement which describes your request using simple numbers as the names of the objects involved. Below that is a graph of the new linkage, and graph of a segment which is remove from the list (the outcome of your complex instruction.) At the bottom are two gadgets labeled "SELECT A SEGMENT INSERTION METHOD:" the leftmost gadget is a cycle gadget which changes the display of the other gadget.

Each time you select the cycle gadget another possibility for inserting the segment is presented graphically below the gadgets. If you select an unselected display gadget, that insertion method becomes selected. Only one display will be selected, and the segment will be inserted according to the selected method when the window is closed. There are eight different possible displays of segment insertion available:

"IGNORE BOTH",

"IGNORE PREVIOUS",

"IGNORE NEXT",

"INSERT SEGMENT AT LIST'S HEAD",

"INSERT SEGMENT AT LIST'S TAIL",

"INSERT SEGMENT BEFORE:"

(with a string gadget added to accept the name of a valid object), and

"INSERT SEGMENT AFTER:"

(with a string gadget.)

1.66 Combat

Combat

In Spheres of Influence© combat is optional. The game can be played with the players aiding one another, ignoring each other, or doing battle with any or all other players. The amount of combat is controlled by the players--if no one attacks there will be no combat! The effect of combat is controlled by the various player handicaps .

The difficulty of building weapons (offensive and defensive) is controlled by the player's industrial expansion, and ship building handicaps; the strength of offensive weapons against the various potential targets is controlled by the unit combat handicaps; a player's detection handicap controls how close that player's attacking unit need be to detect and attack a foe.

Any unit detected may be attacked, both units DO NOT need to be in the exact same location, detection is controlled by tech level and the "MAXIMUM DETECTION RANGE" variable as set in the galactic design. There are player-to-player handicaps which affect all conflict between players; a player's luck is a factor in combat.

Combat will be possible, during the combat phases, when any player's planet, ship or task force is within detection range of any other player's planet or ship. Of course, if the attacker has no weapons the attack must fail. During the offensive phase each player identifies what targets to attack and how to attack them and all ships, and task forces are given their combat orders.

During the defensive phase all conflict is resolved by the computer, each player has the chance to see what damage occurred (you are told if there was any damage when you begin your defensive phase), and any vessels destroyed will be available one last time for your inspection.

1.67 Targeting Window

Targeting Window

The targeting window is available only during the offensive combat phase . Some important information is displayed about your attacking vessel, name, location, defensive strength, number of units detected, number of units targeted, total weapons of each type, number of weapons of each type which have been previously committed against other units, and the difference between total and committed--the available weapons.

On planets only those offensive and defensive industries which have had adequate resources for their maintenance during the growth phase will be available during the following combat phases. The display also gives information about the targeted unit, owner's name, unit type and name, X, Y, and Z coordinates (need not be the same as those of the attacking vessel), information relating to it's accessories and it's total cargo (if a ship).

This text will be printed in the color you select representing your diplomatic attitude toward the object's owner. You may move around in the target list using the two gadgets at the bottom of the window. If you commit weapons against an object owned by someone with whom you have not specified hostile relations a verification requester will appear confirming this treacherous act! If you attack someone with whom you are not hostile, your diplomatic status will become hostile toward them and they will have a chance to re-think their combat decisions even though they may have ended their attack phase before you.

Closing the window or moving forward or backward on the target list causes any entry in the commit weapons gadget(s) to be used to determine your unit's attack against the displayed unit. An object's targeted attacks will only be carried out if the object's combat order is "ENGAGE". Lasers may be fired once each combat phase, and automatically recharge before the next combat phase. Bombs and missiles are expended when fired and must be replaced at one of your colonies.

1.68   Combat Orders

Combat Orders

Any task force or starship has combat orders in addition to movement orders. Combat orders are "ENGAGE", "WITHDRAW", and "HIDE"; they are only available during the offensive phase of combat (no movement orders are available during combat.) During your offensive turn you may examine any of your objects; using the "ACTIONS" menu's sub-items "create new target list" and "lock Killer weapons on target" (under the "TARGETING" item) you control exactly which weapons to deploy against which targets.

Any time before ending your offensive combat turn you may give combat orders to any or all of your space-based combatants; these orders will be used in determining the outcome of any battles. By default, all combatants will have the "ENGAGE" order unless you change that order. Planets may not withdraw or hide, and automatically may engage all targeted enemies within range.

If a unit is ordered to "ENGAGE" and you have given it no targets, the unit will stay around--a sitting duck with no offensive say in the battle. If your opponent has targeted that unit, it will receive incoming fire, depending upon it's shields and luck to survive the battle, but firing no weapons against the foe. If a unit is ordered to "ENGAGE" and has targets, the unit will stick around, firing those weapons which you specified in the targeting session. It will receive any incoming fire, counting on shields and luck to survive. If the unit does not have orders to "ENGAGE", and has targeted weapons, they will not fire.

The order "WITHDRAW" causes a unit to move out of range of it's attacker, if possible, before hostilities commence. This maneuver is governed by chance, and if effective protects the unit from harm, otherwise the incoming weapons fire will be reduced to half it's normal strength. The outcome of each unit-to-unit conflict is tested separately for the success of withdrawal--after all, running from one enemy could lead you straight into another!

Successful hiding is also governed by chance, if your unit does hide you will be spared harm--if not you will receive the full force of incoming fire protected only by shields and luck. Hiding is good against all foes--once you are hidden no attacker will fire on you during this combat phase. Unfortunately, your unit may not get hidden until part way through the battle--as each foe shoots at your unit it will try to hide, if it hides successfully no shots from this or any subsequent foes will hit it.

1.69   Combat Resolution

Combat Resolution

Combat occurs when all players have ended their offensive phase; each player takes their defensive turn and may examine the results of any combat during that turn. The result of a combat situation is determined by the computer using the following logic.

First, all ships, task forces and planets which have targets are processed as follows; if the target has orders to "ENGAGE"--fire all targeted weapons at the target.

Second, all ships, and planets which are targets are processed as follows; if the target has orders to "ENGAGE"--all incoming fire is calculated for effect based upon both player's handicaps; if the target has orders to "HIDE", and was not hidden--all incoming fire is calculated for effect based upon both player's handicaps; else if the target has orders to "WITHDRAW" and was not withdrawn--all incoming fire is calculated for effect at half strength.

1.70   Resource Shortage Warning

Resource Shortage Warning

During the build phase , this window's text describes the resource which caused your last command to fail. You may have had a partial success. During the growth phase , this describes the first (and only the first) resource which caused the inability of the stated industry to be fully productive.

1.71   Amigaguide Help

Amigaguide Help

Starting with version 3.0 amigaguide.library is used to display large texts. This is currently only to display "help" info.

1.72   Find Palette Tool

Find Palette Tool

This window requests that you enter the name of your favorite screen palette adjusting tool, you must include the full name and path of the tool. One palette tool provided with your operating system works great. Look in either your sys:tools drawer or Extras:tools drawer (might be Extras2.0: or something very similar), and you will find a file called Colors or Palette. As usual, the gadget which needs a file name will open up the file requester if you select the gadget while holding down either <ALT> key.

1.73   Unified Reports

Unified Reports

Requesting a Unified report for an object type will cause the generation of an ASCII text file listing specified information about all those objects of that type which are on your object list. A record of your most recent file name is kept and when prompted for a report destination, it is listed as the default. If you have not created a report, you will be asked to enter a file name in a string gadget (as with all occasions which request a file name you may bring up the file requester by clicking outside the string gadget and re-selecting that gadget while holding down either <ALT> key.)

The title of the report generator window will specify which type of object was selected for report. This window has no menus, and eight gadgets. The directions explain that you may either create a new file in which the report will be stored, or add this new data on the end of a file. In either case, if no file exists one will be created. If you choose to create a new file and a file of that name already exists, the old file will be LOST WITHOUT WARNING. This is the intended use of this file, and you will be prompted once at the beginning if you try to create your first report using the name of an existing file.

The "ALL REPORTS" gadget is either on or off, and always starts out off. If you select either the "CREATE NEW FILE" or "ADD DATA AT END OF OLD FILE" gadgets, the report for the object you requested will be generated and stored under the file name listed in the upper string gadget. If the "ALL REPORTS" gadget was turned on (selected) at the time you selected either file gadget, reports for all five object types will be made at once.

After the directions are two string gadgets, one labeled "FIELD DELIMITER:" on the left and the other labeled "MAXIMUM LINE LENGTH" on the right. The maximum line value is currently ignored. The field delimiter is a string of up to five printable characters which you wish placed between data items on your report. Pressing a carriage return while this gadget is selected will cause the example to be redrawn using your supplied delimiter string. No delimiter string will be added to the final item on a line.

The following cycle gadget allows you a choice of three possible line terminators; no line terminator (one long stream of data suitable for spreadsheets or databases--use a single comma with no spaces), one carriage return (causing a line feed--char '0x0A' between objects), and two carriage returns (giving a blank line between objects.) The gadget labeled MODIFY FIELDS RE-PORTED will open a window allowing you to customize your report.

1.74   Modifying Record Fields

Modifying Record Fields

This will open a window with one menu with five items:

"CHANGE STAR FIELDS"

(keyboard shortcut <RIGHT-AMIGA> + *),

"CHANGE PLANET FIELDS"

(keyboard shortcut <RIGHT-AMIGA> + p),

"CHANGE TASK FORCE FIELDS"

(keyboard shortcut <RIGHT-AMIGA> + t),

"CHANGE SHIP FIELDS"

(keyboard shortcut <RIGHT-AMIGA> + s),

and

"CHANGE SHIPCLASS FIELDS"

(keyboard shortcut <RIGHT-AMIGA> + b).

Gadgets will be created in pairs based upon the selected object type, each pair will consist of an on/off gadget and a string gadget large enough to hold the biggest possible field for each object type's variables.

If you are interested in a field's data, turn the gadget on (selected) and the field will be reported. To the right of each on/off gadget is an integer gadget which allows you to specify how many characters to print (exactly--left justified) for the given field. On the top line is a centered label describing which object type is being displayed, to the left is a simulated gadget showing an ON gadget labeled "PRINT FIELD" to the right is a simulated gadget labeled "DO NOT PRINT FIELD", this is displayed because different color preferences will make different on/off combinations.

To edit the fields, choose the appropriate menu item or keyboard shortcut for the object type you wish to change. For instance, at the star display the third item down on the left is "CLASS"; if you want the star's class mentioned in your report, make sure that item is ON, if you wish to devote fifteen characters to this text put a 15 in it's accompanying integer gadget. Make sure that you have an editor, database, or spreadsheet capable of dealing with the longest line you create.

1.75   Find Unified Report Destination

Find Unified Report Destination

This window requests that you enter the name of your unified report destination, you must include the full name and path. As usual, the gadget which needs a file name will open up the file requester in FIND mode if you click outside the gadget then select the gadget while holding down either <ALT> key.

1.76   Get Distance Between Locations

Get Distance Between Locations

This window is draggable, has no menus, and has two lines of three gadgets; each line consists of a cycle gadget, a string gadget, then another cycle gadget. On each line of gadgets, the leftmost cycle gadget controls which list of items will be available in it's respective string gadget, will give you the option of entering raw coordinate locations, or will give you the option of getting an entry off the map (if opened on the map window.)

Both gadget lines are identical, and either may be set to any list, both may be set to the same list. The rightmost cycle gadgets will run through the selected list for that line. The bottom line displays the distance between the displayed objects or locations. For reference, each object's location is displayed next to it's string gadget. These string gadgets may be selected while pressing either <Alt> key which invokes the select name from list requester

as usual.

1.77   Computer Artificial Intelligence Library

Computer Artificial Intelligence Library

If there will be any computer players, a window will open asking that you supply the name and full path of an artificial intelligence library for each computer player. The computer players do not need to use the same library, but they may. "soicompai.library" is currently the only available option, and is the default entry--simply close the window to use this library. Registered users will have additional libraries made available to them as they are created.

1.78   Busy (Wait) Pointer

Busy (Wait) Pointer

When the computer is busy doing computational chores the mouse pointer will change, becoming a round clock-like object. While this change is in effect you should refrain from using the mouse to select gadgets within the game.

While making changes to a planet's industries you may receive a warning telling you that the change was excessive; immediately after you close this warning window, the computer will calculate the maximum possible change given the planet's resources , then enter this number in the proper gadget. During this recalculation the busy pointer will be displayed, if you press the <Esc> key (escape) while the pointer is a clock, your entire change will be aborted, and the entry (or entries) being calculated will be reset to the level at which they were last acceptably entered. Likewise, when building or refurbishing a ship, pressing the <Esc> key while the pointer is a clock will restore all accessory values to their starting point.

1.79   Passwords

Passwords

When you start a new game you will be asked if you wish password protection in this game--it is entirely optional. If you choose to have this protection, each player must supply a private password. After all players are named, each player is asked to enter a password. It may be up to 15 characters long, and must have at least one character. DO NOT forget your password, as you will need it to take your turns. The player's PROJECT menu has an item which allows one to change one's password, it will be ghoste

d in games which do not require one.

1.80   BBS Moderated Games

BBS Moderated Games

As of version 3.0 there has been no support for this feature and neither development nor bug fixing is being undertaken. If anyone is interested in these doors, the source code is available to anyone and it is a simple matter to update the BBS door code to the current 3.0 level of the game. I would be happy to do so and send anyone who wishes to run this door the current code and/or executable.

With the 1.9 BETA version, Spheres of Influence© has the ability to be played using a BBS as moderator. The BBS must have a custom front end installed, often called a door. A TempestBBS front end is finished, and a CNet front end is in the works. Programmers interested in adopting the front end for other BBSes are welcome to inspect the C source code for the TempestBBS front end which I wrote and placed in the Public Domain. Look for a file called SOIFE.lha. Adaption to any other BBS should be simple, as only a few BBS commands are needed (get a text string from user, send a text string to user, allow user to upload a file [and be able to define the final directory location of the file either via moving it or defining the upload path], and either mark files for download or immediately send files to user.) The only real difference in BBS moderated games is that one must save after every phase, and send the save file to the BBS. The BBS inspects the save file and lets any other player download it if they have a turn coming.

In BBS play, if a player tries to load or unload cargo or colonists on a planet owned by an opponent, the player is immediately notified that this will result in the game being automatically saved for immediate return to the BBS. The opponent will then be the only player allowed access to the file until a decision is reached. After the choice is made, the original player is notified of that choice when next they download the save game file and play. All gadgets which effect changes in play (not notes or colors, but build industries or ships etc.) will be ghosted and

unusable during this dicker choice phase. This allows the opponent the opportunity to examine the entire situation and make a reasoned response. If the opponent had already ended this build phase , that condition will automatically be changed to allow the opponent the option of making additional building changes, just as though "End phase" had never been selected.

1.81   Save Automatically

Save Automatically

When viewing the window which allows modification to the galactic design one is offered the chance to set 2 auto-save features-
-time between saves and if the feature is in use. If one turns auto-save on a requester appears (when game play is underway)
asking for the file name (including full path) under which to save automatically. Next a requester appears asking if you wish to
use the "auto-incrementing" feature. If you choose not to, the game will be saved using the same name over and over again, thus
overwriting the old file each time. On the other hand, if you turn auto-incrementation on the file name you entered will be treated
like a stub and a number will be added to the stub each time the file is saved. These numbers can build up rapidly, so a cut-off
is in place which one sets via the INCREMENT COUNT gadget. Thereafter, when you reach the count you will be notified and
asked to select a new save file name so that you have some control over the amount of space used for file storage.

1.82   Map Viewer Requester

Map Viewer Requester

When the MAP VIEW ORIENTATION CONTROL window opens one is presented with eight gadgets. The first four are labeled
"VIEWER LOCATION:" next is "DISTANCE:", then two labeled "DIRECTION OF VIEW:", and finally one called "WIDTH
OF VIEW". The "from get distance requester" gadget opens the get distance requester and if one selects one of it's "send"
gadgets, one's current point of view will be at the location of the "sent" item. One may also enter values directly into the "X:",
"Y:", or "Z:" gadgets.

The distance gadget controls how far one may see in the given direction. Items on the map are drawn proportionately based on
this figure and that object's distance from the current view location. The horizontal and vertical direction of view is controlled
numerically via the two gadgets so labeled. These allow one to fine-tune one's view point target. The width of one's view is
controlled by the final gadget, and it must remain between 6° and 178° (inclusive.)

1.83   Map Font Requester

Map Font Requester

The "SELECT THE FONTS TO USE ON YOUR MAP" window gives one control over which fonts, font styles and font sizes
each map icon is labeled with (when labeled.) Below the direction lines are ten gadgets going down the window, each gadget
has an example of the map icons it controls, as well as a text sample in the user's text choice. Selecting any of these gadgets will
bring up a standard font requester--if a font is chosen, the text will be refreshed to depict the new choice.

1.84   Stripmining (Import/Export)

Stripmining (Import/EXport)

This window displays all the system's stockpiles (except money and employees which may not be "stripmined"!) Due to the
amount of data present this is a very compact format. Planet names may be truncated, but will be drawn in the appropriate color
pen, based on ownership. Everything is currently skwished together to get six planets onscreen at once. If stockpile amounts
exceed 5 digit figures the trailing digits will be overdrawn by the gadget, but might be partially visible.

There are no menus for stripmining. The first line of text shows the planet names for all planets in the system. The second line
is composed of various combinations of (possibly) multiple iterations of "has: take:" and a single "has: get:". Has/get labels the
target planet gadgets from which stripmining was initiated; has/take labels those on potential donor planets.

Below each planet name and gadget label is a list of 14 stockpiled resources , the "has:" column shows how much is available,
the gadget (if not ghosted) allows one to enter an amount which will be removed from the donor planet and placed on the target
planet.

If one presses the <ENTER> or <(carriage)RETURN> key while a gadget is selected all gadget entries are checked for appropriateness (negative number?, number too large??) and fixed as needed--the gadget display is updated if this causes a change in your entry.

Tip--if it "has:" 491 and you want it all just enter 555 and the computer will know to only take/give what is there. The "Take:" gadget will always be ghosted but it will update to display a total from all donors when one presses the <ENTER> or <(carriage) RETURN> key while a gadget is selected.

1.85   Inflight Refueling

Inflight Refueling

This window requests an amount of fuel to transfer to the receiving vessel.

1.86   Inflight Cargo and Weapon Transferal

Inflight Cargo and Weapon Transferal

This window requests amounts of resources and? weaponry to transfer to the receiving ship.

1.87   Incompatibilities

Incompatibilities

It has been brought to my attention that some '040 accelerators have problems with my code, but I have not been able to pin this one down, yet. Additional information has come to light about '040 problems--it seems related to a newer version of the 68040.library and IEEE math libraries.

1.88   Acknowledgements

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1.90   Index of Sections

INDEX OF SECTIONS