

Contents

Welcome to the Stars! Player's Guide. Almost everything you ever wanted to know about Stars! in one easy stop.

General Playing Information

What Stars! is all about, how to get started, how to register.

Playing Stars!

How to build your empire, win your wars, and take out the trash.

Menus and Dialogs

Reference to Stars! commands.

The Stars! Screen

Details about what you see. Drill down in each part of the Stars! screen to get detailed help.

Appendixes

Information about predefined races, battle details, and file types.

General Playing Information

[Giving the Unregistered Shareware Version to Your Friends](#)

[Registration Information](#)

[Stars! World Wide Web Site](#)

[What's it All About?](#)

[What You Need to Play](#)

[Tuning Stars for Your Screen Resolution](#)

[Setting Up Play](#)

[Submitting Your Turn](#)

[Being Absent from Play](#)

[Winning](#)

[Options for Launching Stars!](#)

[Exiting Stars!](#)

Playing Stars!

Getting Help Fast

Planets

Setting Up Production

Research

Building and Managing Fleets

Assigning Fleet Waypoints

Colonizing

Mining

Transporting Freight

The Basics of Combat

Scanning the Universe

Cheating

Keyboard Shortcuts

Menus and Dialogs

Menus

New Game Setup (Basic)

New Game Setup (Advanced)

Custom Race Wizard

Production Dialog

Technology Browser

Ship Designer

Research Dialog

Cargo Transfer Dialogs

Ship Transfer Dialog

Battle Plans Dialog

Battle VCR

Player Relations Dialog

Change Password

Find Planet or Fleet

Defaults Dialog

Score Dialog

Host Mode Dialog

File Open Command

Save File Commands

The Stars! Screen

The Big Picture

Screen Layout

The Command Pane

Messages Pane

Scanner Pane

Selection Summary Pane

Appendixes

Races Provided with Stars!

The Guts of Combat

Files Used in Stars!

Data Tables

Giving the Unregistered Shareware Version to Your Friends

If this is the shareware version you can evaluate this product for 30 days; however if you plan to continue using it after 30 days, you must register it. Please feel free to distribute this unregistered shareware version to anyone you wish. Just make sure you give them everything that was included in the original *.zip* file:

- ◆ stars!.exe
- ◆ stars!.hlp
- ◆ readme.txt
- ◆ order.txt
- ◆ license.txt
- ◆ commdlq.dll

Please read license.txt for additional information about distributing Stars!

About Shareware

Millions of computer users have found shareware to be the safest and most risk-free way to buy software. Independent shareware authors, like Star Crossed Software, allow computer users to try out a program before buying it. Computer users can obtain a shareware copy of Stars! (or other shareware programs) for no-charge from a BBS or a friend, or for a small charge from a shareware disk vendor, retail store or flea market. If you find a shareware program to be useful and plan to continue using it after an evaluation period, then you are required to register it with the program's authors. This will entitle you to receive the latest full featured version of Stars!

Registration Information

This is the unregistered shareware version of Stars! 1.0. You can order the full-blown, registered version from Star Crossed Software by phone or mail. Whenever you order Stars!, you are always purchasing the *latest* version.

See these Topics:

[What Does the Registered Version Have that My Unregistered Shareware Version Doesn't?](#)

[Cost](#)

What Does the Registered Version Have that My Unregistered Shareware Version Doesn't?

And you thought the unregistered shareware version was packed with features! We think you'll find these additional features that come with the registered version worth the price:

- ☑ Technology levels increase from 10 to 26. This means powerful items requiring tech levels above 10 become available. The cost of researched items decreases as tech levels increase, allowing even the most expensive ship designs to become affordable.
- ☑ Powerful technology available only in the registered version.
- ☑ Computer players with additional tricks up their sleeves.
- ☑ Additional controls in the creation of new games.
- ☑ Ability to create custom races:
 - ◆ Allow the computer to create a random race for you.
 - ◆ Change the habitable range of Gravity, Temperature, and Radiation for your people, or even make them immune to the environment.
 - ◆ Change your population growth rate.
 - ◆ Change how efficient your people are in generating resources, mining, and building installations.
 - ◆ Select from 22 custom advantages and disadvantages for your race, including options not available in the unregistered version.
 - ◆ Adjust the rate at which your scientists research each of six areas, allowing you to speed up developments in critical fields.

Extra Technology

- ◆ Neutronium and Valanium armor that can absorb up to 600 points of damage.
- ◆ Elephant Hide Fortress shields that regenerate after every battle and can take 300 points of damage.
- ◆ Five new beam weapons capable of dealing up to 235 points of damage per shot at ranges up to 11.
- ◆ Two long range torpedoes that cause up to 170 points of damage to every ship in the target square.
- ◆ Four new powerful bombs that can clean out enemy planets in no time flat.
- ◆ Two Trans-Galactic Scoop engines which can travel at speeds up to Warp 8 using NO FUEL.
- ◆ Fearsome warship hull designs like the Battleship and Super Battleship.
- ◆ Large utility hull designs like the Super Freighter, Galleon, and Ultra-Miner.
- ◆ Mining robots with increased efficiency.
- ◆ A powerful planet-based scanner capable of seeing 400 light years, as well as seeing orbiting ships and planetary activity at 200 light years.
- ◆ The dense Neutron Shield that protects your planets from enemy bombers and storm troops.
- ◆ Powerful ship-based scanners that allow your ships to see up to 335 light years and perform penetrating scans and long distances.
- ◆ Ultra-Stealth Cloaks that decrease the range at which ships can be detected by 75% per cloak.

Extra Race Advantages and Disadvantages

- ◆ Terraform a planet's environment up to 15%.
- ◆ Extra Hull Designs gives you five versatile and powerful new ships: the Rogue, Miner, Fuel Transport, Privateer, and Super Cruiser.
- ◆ Mineral Alchemy allows you to transmute resources into minerals to alleviate shortages.
- ◆ No planetary defenses allows you to gain additional advantages for doing without planetary shields.

When You Create New Games

- ◆ The Medium, Large, and Huge universes are available.
- ◆ The universe's planet density can be increased or decreased.
- ◆ The distance at which players start can be increased or decreased.
- ◆ The fuel reserves in planets can be increased.
- ◆ Technology advances can be slowed to change the strategies of play.

Cost

Stars! comes on a single 3.5" or 5.25" disk, in a one-user or eight-user license pack.

Stars! base price for a single user is \$30.

You can also purchase the eight-user license pack for \$95.00, significantly less than ordering eight separate copies at \$30 a piece. Make this one a group purchase for you and your friends.

Shipping costs are additional and apply to each copy ordered (eight-user pack counts as one copy).

| | |
|--------------------------------|--------|
| US Mail, First Class (US only) | \$4.00 |
| US Mail Second Day (US only) | 10.00 |
| US Mail Overnight (US only) | 20.00 |
| Canadian Mail | 5.00 |
| International Air Mail | 18.00 |

Order by Phone

Call **503-451-1635**, Monday through Friday, 9 AM to 5 PM, Pacific time. Star Crossed accepts Visa, Mastercard, check or money order.

Order by Mail

See the file, *order.txt*, for a complete order-by-mail form.

Send your check or money order to:

Star Crossed Software
38451 Harrington Road
Lebanon, OR 97355

Stars! World Wide Web Site

Be sure to check out the official Stars! Web site at <http://www.webmap.com/stars!>. There you'll find the latest shareware version of Stars!, order information for the registered version, FAQs, other Stars! resources, and upcoming product information from Star Crossed Software.

What's it All About?

Stars! is a full-blown, turn-based interstellar strategy game for Microsoft Windows that's fast-paced and simple to play yet capable of carrying out a huge and subtle variety of strategies. You'll build starships, discover and colonize new planets, research new technologies, manage the essential elements of world economies, defend your empire and (no guarantees here) destroy all your enemies. One or more people can play, on a single machine or across a Microsoft network, or by transferring turn files via modems, email or computer bulletin boards.

Aside from that, what's its story?

It's a Relatively Small Universe, After All

Somewhere out on the edge of the Universe, two great races (the Sznip, a race of crustaceans, and the Fermis, a race of nuclear plasmatooids) have destroyed themselves and the chance for all remaining sentient races to evolve and expand into (nearly) infinite space. Once upon a time there was a Theory that said the Universe was made up of interconnected "bubbles" of space/time. The Sznip and the Fermis proved this theory to be true. The detonation that destroyed both these super races also caused these bubbles of real space to "pop" (actually a simultaneous replacement of real space with null). All the bubbles but one. This bubble of space/time, your bubble, is all that remains. And it's small (too small) and full (too full) of sentient species, each on the verge of colonizing other planets and traveling between the stars. Each race hungry to control the little bit that's left.

There's bound to be trouble.

What You're Doing Here

Fortunately, the element found in the terrible weapons of the Sznips and Fermis does not exist in the Universal Remnant. So there's a limit to the trouble you and your opponents can cause. During your first year, you'll be ready to build your first simple space ships. Eventually you'll build interstellar cruisers and planet bombers, freighters the size of small moons, and weapons that will make your opponents tremble. You'll colonize world after world as quickly as your race can. By the time the space dust settles, 100, 200, perhaps 500 or more years will have passed, and either you or one of your undeserving opponents will be calling the shots. Or, shot up, war-scarred, and with too few resources to continue, you'll call a halt, shake hands and all settle down for a foot stomping game of Fizbin.


You are the Master Strategist

You guide the destiny of your race. The Stars! control panels give you the ability to command planets and fleets, to seek out strange new worlds and new civilizations, to boldly help your neighbors understand their role in the doctrine of Manifest Destiny.

Stars! may seem complicated at first glance. Lots of tiles and windows, lots of text, lots of colors. These things require a little explaining. Only a very little.

But not here. You won't need to pay more than cursory attention to most of the information on the screen, most of the time. It's there when you need it. You can even temporarily collapse some of pieces if you find them distracting.

To orient yourself, before you go nose to beak with the other spacially challenged races, PLAY THE TUTORIAL GAME. Just click on **New Game** in the opening screen, then click on **Play Tutorial** in the New Game dialog.

To get help during play, LEFT-CLICK the mouse when you see this cursor: . Also consider clicking on Help buttons in the dialogs and choosing the Help commands in the main menu.

Get going. The universe is waiting, along with a host of (other) empire-hungry races. Don't let the Sznips and Fermis have become extinct for nothing.

What You Need to Play

Here's the minimum software and hardware you'll need to play Stars!

| | |
|-------------------------|--|
| Operating System: | Either Microsoft Windows 3.x, Microsoft Windows NT or Microsoft Windows 95. |
| Memory requirement: | 4 Mbytes RAM. 8 Mbytes is preferred. |
| Disk space requirement: | 4 Mbytes for program and help files. |
| Video display: | Color displays only. 256 colors and a resolution of 800x600 or better is strongly recommended. 640 by 480 is playable but cramped. |

Tuning Stars for Your Screen Resolution

640 by 480 (VGA)

This is the minimum *required* resolution.

1. Use this menu command: View (Window Layout > Small).
2. Resize each of the windows to optimize the information you need to see at a glance.
3. Collapse tiles in the Command pane, expanding them when needed.

800 by 600

This is the *minimum recommended* resolution.

1. Use this menu command: **View (Window Layout > Medium)**. If you're using large fonts, you may find that the small window layout works better for you.
2. Resize each of the windows to optimize the information you need to see at a glance.

1024 by 768 (or better)

For maximum playing pleasure.

- ⇒ Use this menu command: **View (Window Layout > Large)**.
- ⇒ If you use large fonts, you may need to specify **View (Window Layout > Medium)**.

Setting Up Play

You can play Stars! alone against one or more AI (computer) players, against other human players or a mix of human and AI players, on a single machine, a network, over a modem, email or bulletin board.

See these Topics:

[Starting a Single Player Game](#)

[Starting a Multi-Player Game](#)

[Hosting a Network Game](#)

[Hosting a Modem \(BBS, Email\) Game](#)

Starting a Single Player Game

1. Click on **New Game** on the opening screen or on **File (New)** from the Stars! main menu.
2. In the New Game dialog, select the universe size, difficulty level and race to play. To learn about or modify the attributes of your race, click on Customize Race in the dialog. The Custom Race Wizard appears.

When you're done setting up your game, click on **Ok**.

3. You'll be prompted for a game name. Enter any name up to eight characters long (don't worry about typing an extension). Stars! creates a set of files containing data for that game and each player in the game. You can save the game wherever you wish. By default, Stars! will save the game files in the Stars! install directory.
4. Your game begins, with your home world displayed on the screen and in the Command, Scanner and Selection Summary panes. For the first turn, the Messages pane contains tips that help you get started. Once you finish the turn, select the menu command **Turn (Generate)** or press the F9 key. Your next turn will generate immediately.
5. To quit, select **File (Close)** or **File (Exit)**. If you've made changes since the start of the turn, Stars! will prompt you to save. If you don't save, you'll start the same turn over the next time you open the game.
6. When you wish to continue the game where you left off, click on **Continue Game** on the opening screen. You can also click on **Open Game**, selecting gamename.m1 from the directory containing your saved games.

Starting a Multi-Player Game

In a multi-player game, designate one person as the host. This person is in charge of generating turns and generally administering the game. A player can also act as host. The following steps apply whether the game is played on a single machine, over a network, by modem, email or a bulletin board service (BBS).

Note: The shareware or unregistered version may host both registered and unregistered players. Registered players can progress up to tech level 26, while unregistered players will be limited to tech level 10.

See these Topics:

[What the Host Needs to Do](#)

[What Each Player Needs to Do](#)

What the Host Needs to Do

As the host, you'll need to do the following steps, some with the help of the other players:

1. Click on **New Game** on the opening screen or on **File (New)** from the Stars! main menu. The New Game dialog appears.
2. Click on Advanced Options, then specify options such as the universe size, difficulty level, relative starting positions, accelerated play for BBS games, and the number and type of players. If you wish, learn about or customize the race for each human player. Each player should choose and customize their own race without being watched by the other players. Alternately, a player can load a customized race file.

The order of players listed in step 2 of the dialog becomes part of the filename for each player. Keep track of this, telling each player their number. They'll need it when they start to play.

3. You'll be prompted for a game name. Enter any name up to eight characters long (don't worry about typing an extension). Stars! creates a set of files containing data for that game and each player in the game. You can save the game wherever you wish. By default, Stars! will save the game files in the Stars! install directory.
4. The Stars! Host Mode dialog appears. Create a password, if you want to prevent other players from opening the game file. If you're playing over a *network*, click on **Auto Generate**. If you're playing over *email or modem*, click on **Close**.
5. Follow the guidelines for organizing network or modem (BBS, email) play.

What Each Player Needs to Do

Once the host creates the game, do the following on the machine where you'll play:

1. Obtain the *gamename.xy* and *gamename.mN* files, where *gamename* is the name entered by the host in the File Save dialog and *N* is your player number; for example, *game.m1*.

If you're *playing over a network*, just access the shared play directory (sharepoint) set up by the host.

If you're *playing via modem or email*, you need to obtain these files from the host and place them in an arbitrary playing directory you've created on your own system.

2. Start Stars! and click on **Open Game** from the opening screen. Open your player file, *gamename.mN*.

Your game begins, with your home world displayed on the screen and in the Command, Scanner and Selection Summary panes. For the first turn, the Message pane contains tips that help you get started.

3. *Network/single machine players*: Once you finish the turn, select the menu command **Turn (Wait for New)**. Stars! will minimize, waiting for a new turn. When the new turn is ready, it will beep once and flash, while displaying the text "Turn available".

Modem players: Select **File (Save and Submit)**, then **File (Exit)**. Or, if you're trading turns quickly or leave your computer on for long periods of time, you could also use **Turn (Wait for New)**.

All players: If you wish, you can exit the game before or after you finish the turn. You can save your changes or start the turn again if you don't like the way things are going. Read Exiting Stars! for more information.

4. If you are playing over a modem or email, upload or email only your history file, *gamename.xN* file to the host system. If you plan to be absent for a turn or more, follow the instructions in Being Absent from Play.

Hosting a Network Game

If you haven't run Stars! before, make sure you read [Starting a Multi-player Game](#) to help you understand hosting a game. The following applies only to network software built into Microsoft Windows, including Remote Access Software (RAS).

Set up the game on a shared directory (sharepoint) accessible to all players. Select **Auto Generate** in the [Host dialog](#) once you've set up the game. The Host dialog will minimize, waiting for all players to submit their turns. Once that happens, Stars! will automatically generate a new turn, then return to wait mode.

If you want to force a new turn to be generated, even if all players have not yet submitted their turns, double-click on the Stars! host icon, then select **Generate Now** from the Host dialog. To cause Stars! to auto-generate turns again, select **Auto Generate** again. The dialog will minimize and wait for players as before.

Hosting a Modem (BBS, Email) Game

Stars is turn-based, not interactive. This means modems can be used to transfer turn files once they are generated. You can do this through a BBS, email, upload/download from an FTP site, or using any other method you wish to transfer files from the host to player systems. If you're hosting or playing a game where the host is connected to player systems using Remote Access Software (RAS), see [Hosting a Network Game](#).

If you haven't run Stars! before, make sure you read [Starting a Multi-player Game](#) to help you understand hosting this type of game. The following applies to games where turn files are manually transferred between a remote host and player machines, using modem file transfer software or email.

Tip: Notice the [Accelerated BBS Play](#) option in the Advanced Game setup. You may wish to check this option during setup to jump-start the game.

Before the first turn each player needs to download the universe file, *gamename.xy*, and their player file, *gamename.mN* (where *N* is the player number), for the newly created game. Alternately, you can upload or email *gamename.xy* and *gamename.mN* to each player. These files will be located in the same directory in which you saved the game.

After each player has submitted their turn (in the form of the log file, *gamename.xN*) do the following:

1. Open the host file, *gamename.hst*, then select **Generate Now** from the [Host dialog](#). If it is convenient for you to keep an instance of Stars! running, the game may be played as on a [network](#).
2. Once the turn is generated, notify the players that the new turn is available. You can email or upload each newly updated *gamename.mN* file or allow each player to download it themselves.

If you use a timer application to launch Stars! on the host system, take a look at the variety of [command line options](#) that will do such things as start Windows and Stars!, generate the new turn and exit both programs.

Submitting Your Turn

Single player games

Press F9 or select **Turn (Generate)**.

Multi-player games

Do *one* of the following:

- ⇒ Select **Turn (Wait for New)**. Stars! will minimize, waiting for a new turn. When the new turn is ready, it will beep once and flash, while displaying the text "Turn available".
- ⇒ Select **File (Save and Submit)**, then **File (Exit)**. Or select **File (Exit)**. You'll be prompted to save and submit before Stars! exits.

Being Absent from Play

This applies to multi-player games only.

What to do when you're away and the game doesn't stop.

Playing While Absent

If you're a *player*:

- ⇒ Tell the person acting as the game host that you plan to miss one or more turns. The host can substitute a "housekeeper" AI to take your place until you return. This AI will keep planets and fleets active, making sure your production queues are busy, etc. This AI does not develop any strategy for you.

The next two steps apply to modem, email or BBS players only:

1. Give the host a copy of your history file, *gamename.hN*. This will allow the host to update the universe for you while you're gone.
2. Be sure that the person playing host returns the history file and new turn file to you before you open your game. You won't be able to open your turn until this time.

If you're a *host*:

1. Open the Host dialog, if it's not open yet. Use **File (Open)**, selecting *gamename.hst*.
2. Right-click on the blue diamond next to the name of the player who's absent. Choose **Human (Currently inactive)**.
3. When the player returns, right-click on the diamond and select **Human Controlled**. You'll have to do this before the player can open their player file, *gamename.mN*.
4. If you're running the game *over a modem, email or BBS*, return the updated history file, *gamename.hN*, and player file, *gamename.mN*, to the player.

Missing Turns

If you miss one or more turns and don't follow the instructions for absent players described above, Stars! will continue to follow any existing orders. All messages and data for the missed turns, such as planets discovered or battles fought, will be present the next time you load a turn.

Winning

When Stars! determines that one player has an overwhelming advantage and that no other player can possibly hope to win, the omnipotent player is declared the winner. Stars! sends all players a message declaring the victor. After the initial message, you can continue to play until only one player remains. The survivor is declared the final victor.

To get a feel for how you're doing during the game, view your score as play progresses. The score has two parts: a total point value for the items in your empire and your rank against all other players. Winning conditions are determined by points.

You win by having more planets, starbases, ships, tech levels and resources than all other players. This opens the game up for several winning strategies. You can win simply by out-producing all other players, taking planets away from other players, or a combination of both. Your score shows you the items that gain you the most points and thus may be essential to winning.

If you're a race with a high reproductive rate, and if you can survive under a wide range of environmental conditions, you may want to concentrate on out-colonizing, out-researching and out-producing your opponents. If you're slow-growing but technologically adept, you may want to use more warlike tactics. Most races will need to use a combination of both of these general strategies.

An average race such as Humanoids will need to take planets away from other players to win. In order to remove another player from a planet, especially a home planet, you'll probably need a combination of bombs and troops. Either alone typically will not do the trick. Of course bombers tend to be sitting ducks, so you'll need a variety of ship designs. With this in mind, you need to balance resource allocations between researching technologies you will need, expansion of your empire, increasing your industrial capacity by building mines and factories, and building fleets. There is nothing stopping you from forming (and breaking) alliances with other human players. Each player has strengths and weaknesses that can be determined and used to your advantage.

To find out where your race excels and where it encounters disadvantages, look at the View Race dialog. To design a race with a specific playing strategy in mind, use the Custom Race Wizard. To learn more about the advantages and disadvantages for each of the predetermined races, and strategies for playing each of those races, read Races Provided with Stars!

Options for Launching Stars!

None of the following options are required to launch a game of Stars! All the options must be used with either a player or host file name argument. Stars! may also be started using only the player or host file name as the only argument.

-t -- try, then exit. If you specify a player file, this opens the newly generated turn. If the turn hasn't been generated yet, then Stars! exits. If you specify a host file, this checks to see if all players have submitted their changes for the turn. If they have, Stars! generates the new turn and exits. Otherwise, it just exits.

-w -- wait. If you specify a host file, this auto-generates the new turn as soon as all players have submitted their changes. If you specify a player file, this waits for the new turn to be generated. This option does not cause Stars! to exit.

-g -- generate and exit. Specify a host file only. This forces the turn to generate regardless of whether all players have submitted changes, then exits. You can't load a player file when you use this option.

-p password -- supplies the password on the command line. You can use this with a host file or a password-protected player file.

-x -- Exit Windows when Stars! exits. This is a good match with the **-b** option if you wish to create a script that automatically starts Windows, generates the new turn, then exits Windows.

The -x flag is for 16-bit Windows only (3.1 or 3.11). Behaviour of the -x option on OS/2, Windows NT, or Windows 95 is undefined and probably not what you want.

-b gamelist_file -- Generate turns for each game listed in the supplied file name.

Examples

| | |
|-----------------------------------|--|
| stars! filename | Load a player or host <u>file</u> . |
| stars! -w gamename.hst | Load the host file and enter Auto Generate mode. |
| stars! -w gamename.mN | Load the specified player file and wait for the host to generate a new turn. |
| stars! -t gamename.mN | Load the specified player file; quit if the host has not yet generated a new turn. |
| stars! -g gamename.hst | Load the host file, force a new turn and quit. |
| stars! -w -g gamename.hst | Load the host file, wait for all players to submit turns, generate and quit. |
| stars! -t -g gamename.hst | Load the host file, generate a new turn only if all players have submitted turns, then quit. If it generates the turn the return value is 1; if the turn is not generated the return value is 0. |
| stars! -x -b gamelist_file | Generate turns for each game listed in the supplied file name, then exit Windows. Useful for BBS play. |

For example if your BBS is OS/2, NT or Windows-based you can launch Stars! with the **-b gamelist_file** parameter to batch generate turns for multiple games. Stars! will automatically exit when the last turn has been generated. The file listing the games must contain one game name per line including the full path:

```
c:\games\stars!\play\frenzy.hst
c:\games\stars!\play\game.hst
c:\user\john\stars!\killer.hst
```

You can name this games list file anything you want. If you are running a DOS-based BBS but have Windows installed on the machine, you can launch Windows and Stars! from a nightly maintenance script similar to this:

```
win c:\games\stars!\stars!.exe -x -b c:\games\stars!\gamelist.txt
```

This will launch Windows and Stars!, generate a turn for each game listed in gamelist.txt, then exit Stars! and Windows. This method is optimal for Windows 3.1.

If you have Windows for Workgroups installed (Windows 3.11) you need to use the **win /n** option:

```
win /n c:\games\stars!\stars!.exe -x -b c:\games\stars!\gamelist.txt
```


This will prevent Windows from loading any of its network drivers and suppress its login prompt. If you only need to generate a turn for a single game you can still use the **-g *gamename.hst*** parameter with or without **-x** (use **-x** with Windows 3.1 or 3.11 only).


Exiting Stars!

Select **File (Close)** or **File (Exit.)**. If you've made changes since the beginning of the turn, Stars! will prompt you to save or save and submit your turn.

If you want to erase the changes you've made that turn, before you submit, you can exit without saving, then select **Continue Game** from the opening screen. You'll be right back at the start of the turn you just left.

Getting Help Fast

Whenever the cursor changes to  , left-clicking displays details on that item.

Blue diamonds  offer popup menus of related commands. Left-click on a diamond to display a summary of these commands. Right click on the diamond to list the commands.

Planets

Planets have three environmental factors that affect your population's growth rate: gravity, temperature, and radiation. The levels of gravity, temperature and radiation differ from planet to planet. You can create a race that is immune to one or more of these environmental factors--a very expensive race advantage. You can also make a planet's environment more hospitable to your race by terraforming.

Planets also have minerals: fuel, ironium, boranium, and germanium. Fuel is for your starships. The other three minerals provide the building blocks for all the technology you create, including planetary installations such as defenses, scanners and starbases.

See these Topics:

[Your Home World and Other Inhabited Planets](#)

[Terraforming](#)

[Building Defenses](#)

[Building Planet-based Scanners](#)

[Building Starbases](#)

Your Home World and Other Inhabited Planets

You start the game on your home world, where you have a small but thriving population, basic industry in the form of factories and mines, and basic technology, [defenses](#), and a [planet-based scanner](#). You also have a [starbase](#) in orbit, allowing your planet to produce ships. Each player's home world, whether it belongs to an [AI](#) or a human, starts out with these same items. All planets contain minerals at the start of the game. When you colonize a planet, you can add the other items as your [resources](#) and knowledge of [new technology](#) increases.

All the information about a planet you own and the controls you use to give orders to that planet are available in the [Command pane](#). The [Selection Summary pane](#) shows the level of gravity, temperature and radiation levels on a planet, as well as the rate at which your population will grow. Conditions on your home world are optimal for your race.

Population

People, along with factories, create the resources, or units of work, you need to build your empire. As your population grows, you can send them to [colonize](#) new worlds. To learn how many colonists it takes to produce one resource per year, look on [page 3](#) of the View Race dialog.

Your maximum population is based on the [Value](#) displayed in the Selection Summary pane. For example, a planet with a value of 100% can support 1,000,000 people, the maximum any planet in the Stars! universe can bear. A planet with a value of 50% can support only 500,000 people.

The selection Value also determines your population's [annual growth rate](#) on that planet. Left-click on the Value to display the growth rate, as well the total number of people the planet will support based on its current condition. The growth rate is shown as "up to $n\%$ " because the rate slows as the population approaches the maximum. Growth begins to plateau after the planet reaches 25% capacity

Minerals

All planets contain fuel, ironium, boranium and germanium. [Fuel](#) is used as the [energy source](#) for most types of starships. The other three minerals provide the building blocks for almost everything your race produces. All minerals exist on and under the planet's surface. Minerals on the surface can be used immediately in [production](#). Minerals under the surface must be [mined](#) to make them usable. Minerals can also be [transported](#) to planets where they're needed. If you have the [race advantage](#) of Mineral Alchemy, you can transform existing resources into minerals without mining. The [Selection Summary pane](#) shows the total amount of minerals under the surface of any planet you [scan](#) or the total above and below the surface for any planet you colonize.

Mines

Mines extract minerals from the planet. Use the [Scanner](#) or [Command pane](#) to [select a planet](#) you own. Look at the [mineral graph](#) in the Selection Summary pane. Each mineral is represented by a colored bar. The bright color shows how much of the mineral is on the surface and ready to use; the dark color shows the unmined quantity.



Left-click on any of the bars to display the exact quantity, density and an estimate of the amount the current number of mines will extract in the coming year.

Mineral quantity, density and mining production is also displayed in the [Minerals on Hand tile](#) when you are commanding a planet. This tile also shows you the current number of mines and factories and the maximum number of mines and factories the current population can operate. Left-click on the mines and the factories values for additional details.

You can [build mines](#) on any planet you inhabit or use [robot miners](#) on uninhabited planets. To learn how many colonists you need to operate a mine, see [page 3](#) of the View Race dialog.

Factories

Factories, along with people, create resources for building items such as ships, mines, defenses and more factories. Resources are also required to research new technologies. In general, anything that requires work requires resources. To learn how many resources a factory will produce for your race, see page 3 of the View Race dialog.

You do not need factories to build things. Factories only increase the total number of resources you receive each year. For a typical race you can double the number of resources generated per year by building factories.

Tip: Keep an eye on how many factories you build. They increase the rate at which you use available minerals and, if left unchecked, can strip a planet. If you think you've built too many, you can always raze a few.

Defenses

Defenses partially protect a planet from bombs and invasion. If you haven't taken the race disadvantage, "No planetary defenses," you should build defenses, especially in a single player game. AIs love to bomb planets. While you can't build a perfect planetary defense system you can significantly reduce the number of bombs and invading colonists.

Terraforming

Terraforming is the ability to change a planet's environment to make it inhabitable or more habitable for your race. If you are immune to environmental conditions, you don't need to terraform.

You won't know if you need to terraform or can terraform a planet unless you can scan it, gathering information about the planet's environment. To see all terraformable planets you've found use the Planet Value view in the Scanner pane. Yellow planets will be inhabitable after terraforming. Most green planets can also be terraformed to improve them. The larger the dot, the better the planet will be once you terraform it.



Won't be a candidate until you significantly improve terraforming technology.

Great candidate for terraforming.

Click on the planet in the Scanner pane, then look in the Selection Summary pane. The environment graph shows how much you can modify the planet's environment, given your level of terraforming technology. The following graph shows that the player possesses Gravity, Temperature and Radiation terraforming technology, and that Radiation must be terraformed to make the planet habitable. Gravity is right at the edge of this race's habitable range, and should be terraformed at least a small percentage. Terraforming the Temperature will improve conditions even more.



Maximum terraformed level, using current technology

Current radiation level

See these Topics:

[How to Terraform](#)

[Types of Terraforming Technology](#)

[The Total Terraforming Advantage](#)

How to Terraform

Before you colonize planets, you should choose Terraforming in the Defaults dialog. This causes terraforming to begin on the same turn in which you land, preventing you from losing colonists. You could also colonize the planet, then immediately add terraforming to the production queue.

When terraforming is chosen as a default, terraforming tasks are added automatically to the production queue for that planet. Terraforming will stop as soon as each environmental factor that you possess the technology to improve is brought just within your habitable range.

To go beyond the point of minimal terraforming, you must manually add the appropriate terraforming tasks to the production queue.

The production queue doesn't allow you to add terraforming tasks that make a planet less inhabitable for your race or improve it beyond its optimum value.

As each terraforming task completes, the related environmental factor is improved by 1%..

Types of Terraforming Technology

There are three types of terraforming: Temperature, Gravity, and Radiation. You can raise or lower each environmental factor as needed by your race. You modify these factors 1% for each task you add to the production queue, up to limit of your current terraforming technology. There are four paths of research to achieve these technologies:

- ◆ The Total Terraforming race advantage requires that you research only Biotechnology to learn any terraforming technology.

Otherwise the following apply:

- ◆ Temperature terraforming requires research into Biotechnology and Energy.
- ◆ Gravity terraforming requires research into Biotechnology and Propulsion.
- ◆ Radiation terraforming requires research into Biotechnology and Weapons.

The minimum level of each technology allows you to improve a specific factor 3% from its initial value; the maximum (without Total Terraforming) improvement is 11%.

The percentage of improvement does not always indicate how much the Value of the planet will increase. Often only one or two environmental factors will be negative, while the remaining factors look pretty attractive. In this case improving the negative factors can improve the planet's overall value to a much higher percentage than that indicated by the technology.

As you upgrade your terraforming technology, you'll see the amount you can improve the planet increase. You may also see that some planets that were previously not terraformable (red in Planet Value view) become terraformable (yellow in Planet Value view).

To learn more about the individual requirements and types of terraforming technology, open the Technology Browser (Press F2) and select Terraforming from the dropdown menu.

The Total Terraforming Advantage

Total Terraforming is a race advantage, not a type of technology. To determine if you have this advantage look on [page 4](#) of the View Race dialog.

If you have this advantage, you begin the game with the ability to improve the temperature, gravity and radiation levels up to 3%. You will also use 10% less resources while you terraform. You'll be able to research terraforming technologies that improve factors up to 15%. The maximum level of terraforming possible without this benefit is 11%. Total Terraforming requires research only into Biotechnology, while all other terraforming technology requires knowledge of Biotechnology and one other technology (the latter depending on the type of terraforming).

Building Defenses

Skip this section if you've chosen the race disadvantage, No planetary defenses.

Defense installations partially protect a planet from bombs and invading troops. You should build defenses, especially in a single player game. Als love to bomb planets. While you can't build a perfect planetary defense system you can significantly reduce the number of bombs and invading colonists.

You can only operate as many defenses as your population will allow. The Status tile for each planet you own specifies this number, along with the type of defenses and the percentage of the enemy's bombs and colonists stopped.

As a game progresses, you can increase the number of defenses and upgrade the technology (and the efficiency) of existing defenses. Use the Production dialog to perform either of these tasks:

- ◆ **Adding defenses** increases the number of existing defenses of the type you're currently employing. For example, if you're using Missile Batteries, then adding Defenses to the production queue causes more Missile Batteries to be built. This increases the percentage of coverage.
- ◆ **Upgrading defenses** replaces your existing defenses with defenses that employ the next level of defense technology you've researched. The Upgrade Defenses task appears in the production dialog only if the next level of technology is available. Each Upgrade Defenses task upgrades all your defenses. For example, if you currently employ Missile Batteries and the production dialog shows you that the Upgrade Defenses task is available, then adding one Upgrade Defenses task will upgrade your defenses to Laser Battery. Notice that when you upgrade defenses, the percentage of coverage also increases.

It's a good idea to upgrade your defenses to the level of technology available to you, then build new defenses. You probably won't need to spend too many resources on defenses early in the game, unless you meet a race that reproduces faster than you do and uses a strategy of dropping colonists on your planets in an attempt to take them over.

For a description of defense technology, open the Technology Browser (press F2) and choose Planetary from the drop-down menu. Click the Next button until you step through the Scanners and reach the Defenses. Each type of defense is described with a graph summarizing its effectiveness.

Building Planet-based Scanners

A scanner is the planet's radar, detecting both fleets and planets within its range. There are several types of planet-based scanners, with different ranges for detecting fleets and different ranges for detecting the environment and mineral content of other planets.

You start the game with a basic scanner on your home planet. Other scanners become available to you as you perform research. To learn about each of the different planet-based scanners and the type of research required to attain them, open the Technology Browser (press F2) and choose the Planetary from the drop-down menu.

As new scanners become available, they'll appear in your production inventory in the Production dialog. Add one to the queue by clicking on the scanner in the inventory, then clicking on the **Add** button. Only add a scanner that you can build in a reasonable number of years, or you will block your queue.

You can only build scanners that are more powerful than the scanner currently in use. When you successfully build a new scanner, any weaker scanners you also know how to build disappear from your inventory. The new scanner replaces the existing scanner.

A planet's scanner type and range appear in the Status tile, in the Command pane.

Planet-based scanners are useful for detecting opponent's fleets that pass near or enter your empire. Only fleets that are cloaked have a chance of escaping detection. It's a good idea to build the strongest scanner possible on each of your planets, allowing you to fully cover all your space. You can reduce the chances of fleets sneaking past if you place scanners on all your planets.

To view the area covered by your scanners, use the Radar Overlay. Your basic radar coverage appears in red. Planet-penetrating radar coverage appears in yellow.

Building Starbases

A starbase is basically an orbiting shipyard. Only a planet with a starbase can build ships. If a planet is attacked and the colony is destroyed, the starbase is destroyed as well. Build a starbase by adding it to the production queue. In the Scanner pane, a starbase appears as a yellow dot orbiting the planet.

Normally a starbase costs 500 kT Ironium, 250 kT Boranium, 250 kT Germanium and 500 resources to build. If you have the Cheap Starbases race advantage, starbases cost only 50 kT of each mineral and 100 resources to build. To learn if you have this advantage look on page 4 of the View Race dialog.

A planet can have only one starbase at a time.

Setting Up Production

You use production to build things, including [ships](#), [mines](#), [factories](#) and [defenses](#) and to do tasks, such as [terraforming](#). The Production dialog lists all the things you can build or tasks you can perform on a specific planet, commands that allow you to add these items to the queue, and information that tells you how much each item will cost and when or if it will be completed given your available resources.

For instructions on how to add and delete items in the production queue, read about the [Production dialog](#).

See these Topics:

[How Production Works](#)

[Using Auto Build](#)

[Unblocking a Production Queue](#)

[Production Strategies](#)

[Conditions that Affect Production](#)

How Production Works

You have one production queue per planet. The queue is essentially a work list. Items are produced in the order shown in the queue: first come, first serve. You can add things at any time to any place in the queue, and delete things from any position in the queue. The percentage complete is shown for the selected item. If you add an item to the top of the queue in front of something that is partially complete, during the next turn you will see that the first item in the queue is partially complete, along with the item you had previously begun producing. However, your people will not work to complete the original item until the new item you placed in the queue is complete or has been deleted. In any case, production is halted if the planet runs out of sufficient minerals or sufficient resources.

The inventory is the left hand list in the queue, containing all the things you know how to build or tasks you know how to perform on that planet. Certain items, such as a starbase, appear only once in the inventory. Since you can only have one starbase, it disappears from the inventory when it's added to the queue. Some items in the inventory may actually be upgrades of existing items, such as defense installations. If you've upgraded a certain item, any older versions disappear from the inventory list. Some items you know how to build but only need one of, like a planet-based scanner, will not show up in the inventory list if you have already built a better model.

Using Auto Build

Whatever you select to auto-build is automatically added to the production queue only when the queue is empty. If there is an item in the queue that can't be built (listed in red), the queue will never be empty and auto-build won't go to work. In that case, you'll need to mine more minerals, create minerals using Mineral Alchemy, or transport minerals to your planet from another planet you own or are mining. Unless you've invested quite a few resources in partially producing the item blocking the queue, you might also consider removing it until you have sufficient resources.

Your rationale for choosing an auto-build strategy depends on several things. If you're mineral-poor, you'll want to auto-build mines first until you have enough minerals on the surface to start serious productions, then auto-build factories. The auto-build command has a *Mines, then Factories* option that builds all the mines you can use, then builds all the factories you can use, then adds mines to the queue, and so on.

If you have enough minerals on the surface to begin serious production, consider auto-building factories first. Factories increase your production rate by producing more resources. This is especially important if your race is slow to reproduce and thus slow to create resources.

Tip: Keep an eye on how many factories you build. They increase the rate at which you use available minerals and, if left unchecked, can strip a planet. If you think you've built too many, you can always raze a few.

Unblocking a Production Queue

Read on if you find that one of your planets has run out of minerals while producing an item in your queue, turning the color of the item name red (which means it'll never be completed unless you do something about it.) You have a couple of choices: transport minerals from other planets or, better yet, if your race has the ability, use mineral alchemy (or a combination of the two).

To transport minerals, just set up freighter waypoints to transport minerals from your remote miners or mineral-rich planets to your planet with the blocked production queue.

If your race doesn't have mineral alchemy, skip the rest of this. To learn whether or not you can perform mineral alchemy, look on page 4 of the View Race dialog.

Mineral alchemy transmutes resources into minerals (sort of your own Philosopher's Stone). If you can't complete an item in the queue because you've run out of one or more minerals, place a few mineral alchemy units in the queue ahead of the item you're trying to build. Each unit of mineral alchemy will turn a mere 25 of your resources in 1 kT of each of the three minerals. This is a good strategy for unblocking queues on a planet where you have a large population and can quickly replace the resources used by alchemy .

Add as many mineral alchemy units as you need to finish the item stuck in the queue. Like other items in a queue, the color of each Mineral Alchemy task added will tell you how long it will take for the process to complete. If you have a large number of resources dedicated to production, you can create a large amount of minerals fairly quickly.

On planets with low mineral densities you may find it useful to periodically insert mineral alchemy into your production queue, to make sure you have enough minerals to create the items you need.

Production Strategies

Here's a few tried and true strategies for production. Don't be afraid to try others. Use these if you aren't sure what else to do, or if these seem like a good match for your method of play.

See these Topics:

[Starting Out on New Planets](#)

[Don't Build More than You Can Use](#)

[Razing Installations](#)

Starting Out on New Planets

When you first colonize a planet, it's a good idea to auto build either factories or mines. While factories cost resources and minerals to build they also produce resources. Mines create the raw materials used to build everything. The more factories you have, the faster you can produce things. The more mines you have, the faster you can bring raw materials to existing factories. The number of factories and mines you can build is limited to the resources you devote to production. The number you can operate is limited by the size of your population.

Some races operate factories or mines more efficiently than others. To learn your race's efficiency, look at [page 3](#) of the View Race dialog. The values for the number of factories or mines 10,000 colonists can operate ranges from 5 to 25. The higher the number the more efficient the race.

When you start the game, use the Auto-build default in the [Defaults](#) dialog. That will cause the item you choose to auto-build to be automatically built on all planets you colonize, until you change the default.

Don't Build More than You Can Use

Although you can build more mines, factories and defenses on a planet than you can use (to the limit of your resources and minerals) the number you can actually operate is based on the size of your population. The [Status tile](#) for each planet shows how many of each facility the population can operate for a given turn. [Page 3](#) of the View Race dialog also shows how many mines and factories every 10,000 colonists can operate. Generally, if you build more than you can operate, you're wasting resources in production that you could put to use elsewhere.

Razing Installations

In the production inventory you will see Raze Mine, Raze Factory, and Raze Defenses. Adding a raze task to the queue destroys the associated installation: one Raze Mine task destroys one mine. Razing a factory returns one kT of each mineral. Razing a defense returns three kT of each mineral. Razing a mine returns nothing.

You'll probably only want to use this feature if you are desperate for minerals or know the enemy is coming with an overwhelming force and you don't want to leave anything for them before you give up the planet. Otherwise, if you're defeated, the enemy will get any of your mines and factories not destroyed by the attack.

Conditions that Affect Production

Race Advantages and Disadvantages

Page 3 of the View Race dialog tells you whether or not you excel at building and operating factories and mines, as well as how many resources N colonists generate each year (not counting the resources created by factories). The more each of the following conditions are true, the more your race will excel at production:

- ◆ One resource is generated each year for every eight colonists.
- ◆ Factories produce 15 resources per year.
- ◆ Every factory requires five resources (and the usual amount of minerals) to build.
- ◆ Colonists may operate 25 factories.
- ◆ Factories cost one mineral less to build.

Of course, the mining rate also affects production. The closer your race is to meeting one or more of the following conditions, the better:

- ◆ Mines produce 25 kT of minerals per year,
- ◆ Every mine requires two resources to build.
- ◆ Every 10,000 colonists can operate 25 mines.

How Research Makes Production Cheaper

Production of a particular item becomes cheaper when all research requirements are surpassed by one level: for example, an engine that requires research level 3 Propulsion and level 1 Energy becomes 5% cheaper when you attain level 4 Propulsion and level 2 Energy, 20% cheaper with level 7 Propulsion, level 5 Energy, and so on. You can eventually reduce the cost of producing some items by 90%.

Disaster Strikes Planet X!

When comets or other natural blunt instruments crash into inhabited planets, the planet's production queue is reset. All work in progress is lost, including the resources spent on that work. It's not all bad. Usually a cosmic barrage brings extra minerals with it that you can apply immediately to production.

Research

You can't go from rubberband drives to ramscoops or from binoculars to 400x planetary scanners without applying mental elbow grease. This means research. Fortunately, to conduct research in Stars!, you need to know nothing of physics or animal husbandry, biomechanics or elastic waistbands. You only need to know which general areas of technology you wish to research and how many resources you wish to allocate to that research. That, pushing a couple of buttons, and being patient, will gain you access to all the technology you need to rule the known Stars! universe.

Before you start researching, spend a little time in the [Technology Browser](#) (press F2). Learn about the types of technology available to your race, which technology you wish to build, and which areas and levels of research are needed to gain that technology.

See these Topics:

[Fields of Study](#)

[Allocating Resources for Research](#)

[The Cost Doing of Research](#)

[Research Strategies](#)

Fields of Study

There are six fields of study: Energy, Weapons, Propulsion, Construction, Electronics, and Biotechnology. You can research only one of these fields at a time. The levels of proficiency range from 0 to 26 (at 26, you are a techno-geek *suma cum astrolabe*, a level that 20th century hi-tech moguls can only daydream about reaching.) As you complete a level in a field of study new technology becomes available to you.

Going beyond the level needed to produce an item has its benefits: for every technology level you achieve above the required level, the production cost of that item is reduced by 5%. You can eventually reduce the production costs for many items by 90%. This is a reason for studying past level 26.

The fields of study needed to gain access to a technology depend on the function of that technology. For example, most ship hulls require knowledge in the area of Construction only. Some technology requires research into more than one area of study: Gravity Terraforming requires that you research both Biotechnology and Propulsion.

You use the Research dialog to specify the type of research and the amount of resources you wish to apply to that research. It also displays the technological benefits of a specific type of research and the level you need to reach to obtain that technology. Resources applied to research are taken off the top of your resources heap. This allocation is modified only if you check *Contribute only leftover resources to research* in the Production dialog, which means that only resources not allocated to the production queue are used for research.

You can change research before a level has been reached. Stars! keeps track of how much progress you've made in a field, allowing you to return to a partially researched field at any time without losing any ground.

Allocating Resources for Research

For research, you receive all resources from planets with nothing in the production queue and with auto-build turned off. You receive all unspent resources from planets with something in the queue. If the *Contribute only leftover resources to research* box is selected, you'll only receive the resources left over if queue is emptied that turn. If this box is *not* selected, you'll receive the percentage of resources you indicated in the Research dialog, plus any resources left if the production queue is emptied that turn. If the production queue is blocked you'll receive all the resources from that planet for that turn.

Predicting the amount of time researching a level of technology will take is slightly tricky. Stars! estimates the number of years (or turns) and displays this number in the Research dialog as the *Estimated time to completion*. This number is based on the following: Stars! assumes you get all resources from planets where there's nothing in the production queue and auto-build is turned off, and the allocation you specified in the Research dialog from those planet's where there's something in the queue and the *Contribute only leftover resources to research* box is *not* selected.

To get your best estimate of how long researching a level of technology will take, use a combination of the estimate shown in the Research dialog and the number of resources allocated the previous year (also shown in the Research dialog). Look at the dialog each turn and see how the estimate changes based on the changing conditions in your empire.

Stars! will be able to better predict the amount of time researching a level will take if you assign or change your research allocation as the last task of your turn. Then, you'll already have modified your production queues, which directly affect the research budget.

The Cost Doing of Research

Research becomes more expensive for each level of technology you achieve. You spend resources to do research. Research in any field becomes progressively more expensive, increasing in a Fibonacci series. The total cost equals the cost for that field plus the added cost of 10 resources per field of study per level you've already achieved. This cost is calculated for you in the Research dialog.

It pays in the short term to pick a piece of technology you wish to learn, then research only the field(s) needed for you to be able to gain that technology. Then you'll never use more resources than necessary to learn a technology. Ultimately, though, it costs the same to research all technology. The added costs encourage you to develop a few initial technologies quickly and take them out into the universe.

Research can be cheaper for some races than others. To learn how efficient your race is at performing research, look at page 5 of the View Race dialog. Both the Technology Browser and page 4 of the View Race dialog show you which technology you won't be able to research due to a race disadvantage. The Research dialog will only show you technology that's available to your race.

Research Strategies

Early in the game, when resources are scarce, it's a good idea to research only the technology you need to build a specific item or perform a specific task. Create clear goals and research along the technology paths needed to meet those goals. Research in sequence. Ultimately, you'll spend the same on research regardless of the order. However, you'll spend more if you study things you don't currently need while you're trying to research technologies you do need to achieve a goal.

Look at the Research dialog each turn. As conditions change, you may be able to lower your research allocation and still achieve knowledge of the technology in the same amount of time (similar to adjusting warp speed in the Fleet Waypoints tile, where you can sometimes lower your speed and fuel usage without increasing the amount of time it takes to reach a waypoint). This is useful only if you can use the resources elsewhere and you haven't checked the *Contribute only leftover resources to research* box in the Production dialog.

Building and Managing Fleets

A fleet is a distinct group of one or more ships, and can be any mix of ship types. Fleets can be created, merged, and split at any point in the game. You design the ship types, add them to the production, create fleets, then assign waypoints and tasks. Fleets can be used for exploration, defense and offense, colonizing, remote mining, and transporting minerals and people, .

See these Topics:

[Designing Ships](#)

[Assembling Fleets](#)

[Setting Fleet Speed](#)

[Using Fuel](#)

[Locating Fleets](#)

[Switching Between Fleets](#)

[Rendezvousing Fleets](#)

[Transferring Cargo](#)

[Jettisoning Cargo](#)

[Splitting and Merging Fleets](#)

[Scrapping Fleets](#)

Designing Ships

Use the [Ship Designer dialog](#) to create, edit and delete new ship designs. After you create a new design you can add it to the production of any of your planets that has a [starbase](#). There are limits to the number of designs and ships you can have in the game. Develop strategies to take these limits into account.

See these Topics:

[Ship Designs or Types](#)

[How to Approach Ship Design](#)

[Reaching the Maximum Number of Designs](#)

[Adding Scanners](#)

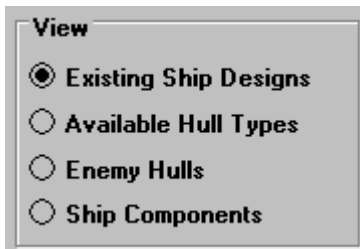
[Adding Cloaking Devices](#)

Ship Designs or Types

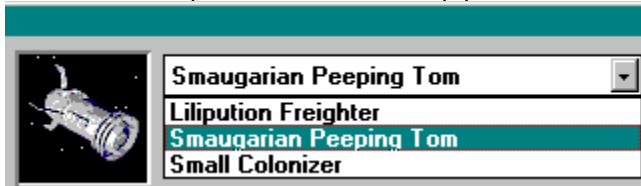
You can have up to 16 different ship designs at one time, and up to 32,000 ships of each design in a fleet. Although Stars! will let you know if you've reached the maximum number of designs when you try to create a new design, you're better off keeping track of the number yourself.

To learn how many designs you've created:

1. Use the menu command, **Commands (Ship Design)**, to open the Ship Designer dialog.
2. Select **Existing Ship Designs**.



3. Click on the dropdown next to the ship picture and count the number of designs.



If you reach the maximum, you can delete an existing, obsolete design to make room for another. Develop strategies for deciding when to create new designs and when to obsolete older designs.

Tip: Stars! will gray the Copy Design button in the Ship Designer once you reach 16 designs.

How to Approach Ship Design

Develop a strategy for deciding when to create a new design. If you create a new design every time you successfully research a new piece of technology, chances are you'll have many ships of similar design out in space at the same time. Try to leave room for at least one design, so that you'll be able to create a design quickly without first deleting an existing design. You could also only create a new design for an existing class of ship, such as a colonizer, only when the existing design has outlived its usefulness.

Spend time in the Technology Browser (press F2) learning about the ship technology you think you'll want to research. Take ship design into account when you plan your research strategies. If possible, design new ships only when you gain the technology you need to make a significant advance over older designs.

Once you're ready to build, follow the steps for using the Ship Designer dialog.

Reaching the Maximum Number of Designs

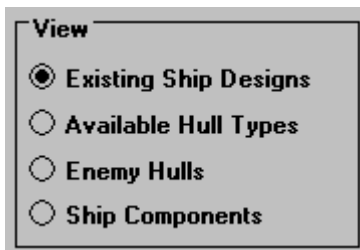
If you've reached the design limit of 16 and wish to create a new design, you'll have to delete an existing design first. To delete a design, use the [Ship Designer dialog](#).

Pick a design that is no longer useful (too slow, ineffective weapons). Before you delete the design, think of the most advantageous way to get rid any existing ships of that design. For example:

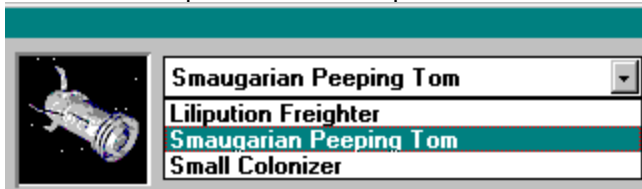
- ◆ You could send each ship of the design to planets that need minerals. Set the [waypoint task](#) at each planet to [Scrap Fleet](#). A portion of the minerals will be returned to the surface supply on that planet. If you use this method, you'll have to wait until all the affected ships reach their assigned waypoints.
- ◆ Delete all the ships at in one stroke using the [Ship Designer dialog](#). You'll be warned that all the ships of that design will be destroyed. When you delete ships this way you receive NO minerals.
- ◆ If the ships of the type you wish to delete use any weapons, use them in a large battle as distracting cannon fodder, possibly keeping your more advanced ships safer a little longer.

To learn *how many ships still exist* in a design you wish to delete:

1. Select Existing Ship Designs:



2. Click on the ship name in the dropdown:



3. Look at the number displayed on the plaque under the drop down:



The first number indicates how many ships of that type exist, the second indicates how many you built since creating the design. Here, one ship was built and is still in play.

Adding Scanners

A ship-based scanner is needed (with one exception) for a fleet to be able to detect planet details while in orbit or from a distance, and opponents' fleets from a distance. If you're scanning a planet you don't own, you'll gain information about the environment and the mineral content under the planet surface only. Only a robot miner can determine information about a planet's environment and mineral content without a scanner. Any ship without a scanner can only detect opponents' fleets that share the same X,Y coordinates it does.

There are several types of ship-based scanners: those that determine planetary details while in orbit; scanners that detect fleets from a distance and planetary details while in orbit; scanners that detect both fleets and planetary details from a distance; and the Chameleon scanner, which doubles as a cloaking device.

You start the game with the Bat scanner, a low-tech device that detects planet details only while your ship is orbiting the planet, and has no long-distance fleet-detection capability. You'll need to research the more advanced models. For a description of all the different scanners, take a look inside the Technology Browser.

Early in the game, it's a good idea to place a scanner on every ship. Later on, you may not find it necessary to add them to freighter designs or any other type of ship traveling only in territory already covered by your planet-based scanner. You may want to add a fleet-detecting scanner to any ship design that will be used near the fringes of your empire, to watch for intruders on your personal space.

Scanner ranges are not cumulative: the scanner range of a fleet is the range of the best scanner in the fleet.

Adding Cloaking Devices

A cloaking device reduces the range at which your opponents' scanners can detect your fleets. There are several different types of cloaks, each reducing opponents' scanner range by a specific percentage. The higher the percentage, the more the range is reduced. Cloaks on a ship can all be the same strength or of different strengths. Cloaking is shared by an entire fleet: every ship is covered, cloaked or not.

You can add a cloaking device to any slot labeled *Special* or *Scanner/Special*. To learn how cloaking is calculated for a ship and a fleet, and how to use a cloaking device to your best advantage, read about [Cloaking](#). To learn more about specific cloaks, open the [Technology Browser](#) (press F2) and view the Special category.

Assembling Fleets

You can have up to 32000 ships of one design in a fleet, with up to 16 different designs, and up to 500 fleets.

For some tasks a fleet with a single ship is sufficient. For example, exploration and colonization usually only require one ship outfitted with the appropriate technology. However, for moving large quantities of minerals around, for defending your planets and for attacking other players it's very useful to have large groups of ships in a single fleet.

You can merge and split fleets as you wish. The only stipulation is that the affected ships must be in the same location.

Setting Fleet Speed

The fleet speed determines the number of years it takes to reach a waypoint, as well as fuel usage. You set the speed of a fleet in the Fleet Waypoints tile, using warp units.

The two most important factors are 1) how long it will or should take to reach the waypoint and 2) the amount of fuel the fleet will need. If you specify your speed before loading fuel and cargo you may be in for a surprise. Fuel usage is based on fleet mass. You should load the fleet before you set the speed. If you load the fleet after setting the speed, go back and play with the speed again. Now you'll get an accurate reading of the time and fuel usage based on your real payload.

Tips for setting speed:

- ◆ For flights that are assigned more than one waypoint, you can set the speed for each leg of the journey to optimize for fuel efficiency or time.
- ◆ If it takes more than two turns to reach a waypoint, try increasing your speed each turn. You may be able to reduce your travel time without using as much fuel as the original estimate. You can do this because as your fleet uses fuel, it decreases its mass and thus needs less fuel to go the same speed.

Using Fuel

Fuel is shared by all ships in a fleet. The fuel capacity of a fleet is the sum of the fuel capacity of each ship in the fleet. The rate at which fuel is used is based partially on the mass of the fleet. This mass includes all loaded cargo and fuel. Under some conditions you'll want to load only the optimal amount of fuel to reach a destination, keeping the fleet mass to a minimum. If you're mounting an exploration, colonizing or mining expedition, you'll probably want to eschew fuel economy and top off the tanks.

Fuel usage is also based on the rate at which each ship in the fleet uses fuel. All ship types can move at any speed, but they each burn different amounts of fuel to achieve that speed. The total fuel usage for the fleet is the sum of the fuel usage for all the individual ships.

Tip: Since fuel is shared by the entire fleet, you can help guarantee that a ship with a low fuel capacity reaches its destination by merging it into a fleet with a large fuel capacity.

Optimizing Fuel Usage

You may want to use the *Load Optimal fuel transport task* for a fleet heading to a planet that has enough fuel to carry the fleet to its next waypoint. This is an efficient strategy if you establish unchanging trade routes for freighters. Stars! will then automatically load (or unload) fuel so the fleet carries only the amount that it needs. Make sure all the waypoints where you've assigned this task continue to have enough fuel available to carry out the orders.

You can also optimize fuel usage by designing ships with fuel-efficient engines.

Colonization Missions

For colonizing, it's a good strategy to fill the fuel tanks. When the colony ship arrives, the ship is scrapped, leaving any leftover fuel available as a stockpile for other fleets passing through while the new colony establishes its mines. This is especially true for fuel poor planets.

Fleets in Orbit

Fleets orbiting planets do not use or require fuel. If you leave a fleet at one of your planets to defend it from possible attack you don't need to load it with fuel. If you have to send it off to chase an opponent there is no time penalty for loading fuel before leaving.

Ramscoop Engines

Ramscoop engines draw fuel from surrounding space, allowing them to travel up to a certain speed at no cost. If you load fuel on a fleet using ramscoop engines and set a speed greater than that allowed for "free" travel, the fleet will travel at the set speed until it runs out of fuel, then slow to the maximum possible speed for that ramscoop.

Locating Fleets

The simplest way to locate a fleet is to use the Find command. Use either the **Command (Find)** menu command, or press CTRL-F. Then enter the number of the fleet in the Find dialog. If the fleet exists, it will appear in the Command pane.

If you are looking for a fleet with a specific composition:

1. Select the Ship Filter Overlay in the Scanner.
2. Select the type of ship you're looking for. Only fleets that contain that type of ship will appear in the Scanner.
3. Double-click on the fleets shown in the Scanner. If more than one fleet is at a location, continue to click. As you click, the fleets will cycle through the Command pane. You can also use the **Next** or **Prev** buttons on the Fleet tile.

The composition of each fleet will be listed in the Fleet Composition tile.

Switching Between Fleets

Switch between fleets using one of the following methods:

- ⇒ Using the Find command (CTRL-F), then clicking on the ship in the Scanner pane.
- ⇒ Pressing the **Prev** and **Next** buttons on the Fleet tile to scroll through all your fleets in the Command pane.
- ⇒ Click a location where more than one fleet is present. Right click on the spot and select the new fleet from the popup list. Or just continue to click in the location until the fleet appears in the Fleet tile.
- ⇒ In the Other Fleets Here tile, select a fleet from the dropdown list.

Rendezvousing Fleets

It's useful to specify one fleet as a destination for another if you are transferring cargo between fleets (for example, between a remote miner and a freighter), merging fleets, or chasing an opponent's fleet.

To rendezvous one fleet with another, just select the current position of the destination fleet as the waypoint for the fleet that wishes to intercept it. As long as the destination fleet can be detected by the pursuing fleet's scanner, this fleet will follow the destination fleet until it overtakes it or runs out of fuel. If the fleet in pursuit loses sight of the destination fleet, it travels to the destination fleet's last known position.

When two or more fleets are on the same spot or close together, and you want to send a third fleet to meet with one of them, do one of the following:

- ⇒ If the fleets are close together, zoom in by hitting the plus (+) key on the numeric pad until you can see everything clearly. Then set the waypoint on the fleet with which you wish to rendezvous. Press the minus (-) key to reduce the zoom.
- ⇒ If two fleets are in the same spot and you want to target one specifically, or target an opponent's fleet in orbit of a planet, click on the blue diamond in the Fleet Waypoint tile, then select the destination fleet from the popup list.

Transferring Cargo

You can transfer cargo between fleets, and between planets and fleets. If you transfer to an opponent's fleet or planet, you can transfer it back before the end the turn (this is essentially an undo). Once the turn is generated, you can't get the cargo back. If you transfer something to a non-AI opponent, you should also send a message indicating the transfer was made. This allows you to set up a rudimentary form of Trade.

Transfer cargo using one of the [cargo transfer dialogs](#). These are accessible from several tiles in the Command pane.

Jettisoning Cargo



As indicated by the Location tile shown here, you must be in deep space to jettison cargo. Do this if you don't have enough fuel, must reach your destination or make a fast getaway, and can't wait for another ship to reach you with fuel.

Transferring cargo to an opponent's ship or a planet you don't own effectively does the same thing: you lose the cargo.

Splitting and Merging Fleets

To split a fleet, click on the Split or Split All button in the [Fleet Composition tile](#). If you choose Split, a dialog opens allowing you to split up or merge fleets as you wish. You can also click on the Ships button in the [Other Fleets Here tile](#) to selectively split or merge fleets.

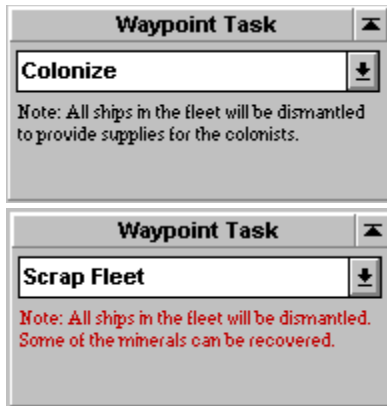
The Split and Split All buttons are disabled if you already have 500 fleets.

The Split All button will fail if it would cause you to wind up with more than 500 fleets.

To merge all fleets at a location, click on the Merge button in the Fleet Composition tile. If the resulting fleet would have more than 32000 ships the merge will not complete.

Scrapping Fleets

Scrap or destroy a fleet by sending it with a colony fleet or by choosing the Scrap Fleet waypoint task. Scrapping allows you to regain a percentage of the minerals used in the ship's construction. This is a good way to get rid of ships built using a hull design that is no longer useful and that you want to eliminate. You can scrap fleets at any planet or even in deep space.



The minerals you recover are added to the minerals at the planet where the fleet is scrapped. The percentage of minerals recovered depends on the following circumstances:

Colonization mission: leaves 75% of the minerals on the surface of the planet.

Scrap Fleet mission to a starbase: leaves 80% of the minerals on the surface of the planet.

Scrap Fleet mission (to any planet without a starbase): leaves 30% of the minerals on the surface of the planet.

Scrap Fleet in deep space: all minerals are lost. This is useful if you have a fleet that is in deep space, out of fuel, and not worth rescuing.

In all cases you retrieve 100% of the minerals on board.

You may also want to do this if you reach the maximum number of hull types, and need to scrap a type to allow you to create a new hull design.

Assigning Fleet Waypoints

You cause a fleet to move by assigning it one or more destinations or waypoints. You can assign a task at each waypoint, such as transport, attack, colonize, remote mine or scrap fleet. When fleets reach their last waypoint they stop.

See these Topics:

[Adding Waypoints](#)

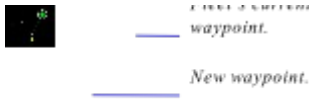
[Moving Waypoints](#)

[Deleting Waypoints](#)

[Example Waypoint Scenarios](#)

Adding Waypoints

1. Select the fleet into the Command pane.
2. SHIFT-click on the location you want the fleet to travel to. A green line appears between your current location and the new waypoint.



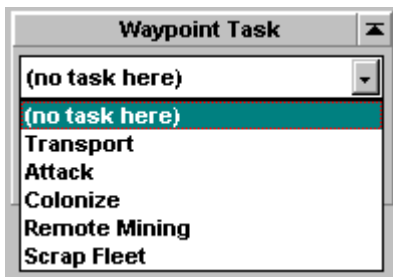
Notes: 1) The route line is drawn in white if two or more legs of the route are identical. 2) You can't add two consecutive waypoints at the same location.

3. Look at the fleet's speed and fuel usage in the Fleet Waypoints tile and adjust if necessary.



See if you can increase the speed to decrease travel time without using too much fuel.

4. Assign an appropriate task from the Waypoint Task tile. If there's no work to be done at that waypoint, choose No Task Here.



5. Repeat steps 2 through 4 to add more waypoints.
6. If the final waypoint is the same as the original starting location you can check *Repeat Orders* in the Waypoint Task tile to cause the fleet to continually repeat the entire series of tasks until the fleet is interrupted.

Tip: If there are multiple objects at the location, click on the blue diamond in the Fleet Waypoints tile and select the object you wish to make the waypoint.

Moving Waypoints

If you want to move a waypoint from one place to another, move the cursor over the point you want to move, and the cursor will change to a hand. Click the mouse and the hand will close. Drag the mouse to the new destination. You will notice that the destination will snap to objects when you get close to them to help you avoid missing a planet. If you really want to set a waypoint really close to an object but not at the object, hold down on the Shift key while dragging in order to disable the snap-to-object behavior.

Deleting Waypoints

There are several ways to remove a waypoint:

- ⇒ Click on the waypoint you want to remove, then press either the Backspace or Delete key.
- ⇒ Click on the waypoint, then drag it to the next or previous waypoint and release.

Example Waypoint Scenarios

You could order one of your fleets at your home planet to load colonists and fuel from its current location (waypoint zero), travel to another planet you own (waypoint one), unload the colonists, load 10 kT of boranium and as much ironium as you can find, load enough fuel to return to your home planet (waypoint two), unload all the minerals, pick up more colonists, refuel, and repeat those orders until told otherwise (*Repeat Orders* checkbox).

You'll want to explore planets near you. Build a fleet that has at least one ship with a scanner, load it full of fuel, and give it waypoints to a string of nearby planets. For each waypoint you select you will see the amount of fuel that leg of the journey will use and how long it will take to get there listed in the Fleet Waypoints tile. It can be a good idea to have fleets on exploration missions travel in a somewhat circular path so that they wind up near a planet you own before they run out of fuel. Otherwise you may have to rescue them later.

Each time your fleet stops at a planet you will obtain a mineral and environment summary of that planet. On the next turn when the fleet has moved away (assuming you gave it additional waypoints) you'll notice that the planet's color in the Scanner pane is white instead of gray (in Normal view). When you click on the planet, the Selection Summary pane displays the environment and mineral summary of that planet. This summary, however, is only as recent as your last visit to that planet. You can tell how old the data is by looking at the Report Vintage.

Colonizing

Colonize planets that are immediately habitable by you or that have a negative value but can be terraformed to become habitable. You should colonize as many planets as possible in order to increase the rate at which you gain resources, thus technology and fleets. At the same time, don't pull people off your home world so fast you begin to lose significant resources. Try to find a balance between the planet's growth rate and the rate at which you send colonists off-planet.

See these Topics:

[Choosing Planets to Colonize](#)

[Sending a Colony Mission](#)

[Hey, that Planet's Already Inhabited!](#)

[Using Freighters](#)

Choosing Planets to Colonize

Planets come in three basic flavors:

- ◆ **Planets you can inhabit immediately.** These have a positive value, and appear green in Planet Value view in the scanner. The better the planet, the higher the value, and the larger the green dot. The higher the value, the faster your colony will grow.
- ◆ **Planets that have a negative value but can be terraformed by you.** These planets appear yellow in the Planet Value view. The larger the yellow dot, the better the planet will be after you finish terraforming.
- ◆ **Planets that will just plain kill you.** These have a negative value, and appear red in Planet Value view. The bigger the red dot, the more deadly the planet. You don't have the ability to terraform these planets, although, if you can increase your level of terraforming technology, you may see the value of a large red dot change from red to yellow.

Sending a Colony Mission

To colonize an uninhabited planet:

1. Fill the colony ship(s) with colonists and fuel.
2. Assign the new planet as a waypoint,
3. Set Colonize as a waypoint task.

The colonists will dismantle the colony ship when they land, regaining any leftover fuel and cargo, and some of the minerals used in the ship construction, to start the colony.

It's usually a good idea to minimize the number of ships in the colonization fleet. You can always transport additional colonists using a freighter once the colony is established (colonists are unloaded, and the freighter proceeds to its next waypoint). If you have old, out-of-date ships you no longer have use for you can send them along on a colonization mission as a form of recycling (although ships may be scrapped at any time).

Hey, that Planet's Already Inhabited!

You can't colonize a planet that's already inhabited. Colonizing means to make an uninhabited planet your own. If you transfer the colonists using Transport orders, you'll automatically initiate ground combat with the current inhabitants. At this point your colonists become ground troops. If more than one player lands ground troops on the planet during the same year/turn, everyone will fight until only one side is left.

Using Freighters

Freighters can shuttle colonists to a planet that has already been colonized. If you're heading for a planet owned by an opponent, expect a fight, and be sure to carry enough colonists to overwhelm your foe. Use as many freighters as necessary, setting their orders to unload the colonists as soon as they reach the waypoint:

1. Specify orders for transporting colonists in the Waypoint Task tile. For the waypoint where you'll load colonists, specify Transport as the action and Colonists as the cargo, then specify the amount you wish to load.
2. At the waypoint or waypoints where you'll drop colonists, specify Transport as the action and Colonists as the cargo, then specify the amount you wish to *unload*. Be sure not to unload more colonists than the planet can support.

Mining

Most of a planet's mineral content lies under the surface, unavailable for use until your colonists mine it. You can assign colonists the task of mining their own world, or use robot miners to mine uninhabited worlds.

The mineral content of a planet is shown in the Selection Summary pane and the Minerals on Hand tile. The number of mines that have been built and that can be operated also appear in the Minerals on Hand tile.

See these Topics:

[Mining Colonized Worlds](#)

[Using Remote Mining](#)

Mining Colonized Worlds

To build a mine, just add it to the production queue. You can do this manually or by using the auto-build feature of the Production dialog. These mines will be built, and the minerals within will be mined and made available immediately to locals.

To determine how much more of a mineral a new mine will produce:

1. Go to page 3 of the View Race dialog and see how efficient your race is at building and using mines and factories.
2. Then select **Cancel** and look at the density information in the Selection Summary pane and the Minerals on Hand tile. Click on the mineral name or value in either of these locations to display information on the density of each mineral still under the surface.
3. Calculate the number thus:

$$(\text{potential productivity})(\text{mineral density}) = (\text{actual productivity})$$

For example, if page 3 of the View Race dialog told you that 10 mines produce up to 10 kT per year and the mineral density is 50 percent, then 100 mines will produce 50 kT in the next year. In this case, you would have to add two mines to produce 1 additional kT per of each mineral per year.

Using Remote Mining

Remote mining is the use of specialized mining ships to remove minerals from uninhabited (and preferably, uninhabitable) planets for transfer to your needy, inhabited worlds. You can only perform remote mining on uninhabited worlds. Remote mining is performed by mining ships carrying robot mining modules. You need to research the technology to create both the hulls and the modules, then design the ships using a miner hull. Place mining modules in the Mining slots when you design the hull. When you're ready to mine, add Mining ships to your production queue.

Use the Technology Browser (press F2) to learn the research and production requirements: look in the Hulls category for the miner hulls, and in the Mining category for the modules.

Remote mining fleets actively engaged in mining report on the planet's environment and mineral situation they are mining. These ships do not need scanners, unless you want them to be able to detect enemy fleets as well.

See these Topics:

[Creating a Mining Fleet](#)

[Strategies to Use with Remote Mining](#)

Creating a Mining Fleet

Mining ships can't carry much fuel. To assemble and launch a mining fleet:

1. Merge your mining ships into a fleet with at least one freighter. The freighter typically will be able to carry enough fuel for the fleet to reach its destination.
2. Assign the planet to be mined as the waypoint, with orders to carry out remote mining.
3. When the fleet reaches the planet to be mined, split the miner and freighter into separate fleets.
4. Select the freighter fleet and assign a route with waypoints at the planet(s) to receive the minerals and the mining fleet itself. At the mining fleet waypoint assign a transport order that causes the minerals to be loaded from the miner to the freighter in the most optimum way possible.

When you set the mining fleet as the waypoint instead of the planet the mining fleet is orbiting, the freighter will automatically follow the mining fleet wherever you send it.

Strategies to Use with Remote Mining

If an opponent colonizes an uninhabited world you're in the process of remote mining, your mining efforts will stop immediately. You can help keep from being surprised by designing mining ships with long range scanners or by stationing a fleet of armed ships with attack orders at the same location as the mining fleet.

You can use remote mining to help prevent your opponents from colonizing within your empire. A planet that you're remote mining may still be inhabitable by an opponent. If you can strip the planet of it's minerals, an opponent isn't as likely to establish a colony.

Transporting Freight

You can transport minerals, fuel and colonists from waypoint to waypoint. These waypoints can be either planets or fleets. Freight is carried in ships that have cargo holds or modules. For a description of cargo modules, refer to the [Technology Browser](#) (press F2).

To get the transport process started:

1. Select the fleet that will carry the cargo.
2. Add a waypoint or series of waypoints in the Scanner pane.
3. In the Fleet Waypoints tile, select the waypoint where you want to load or unload cargo.



Choose the waypoint
where you'll load or
unload the cargo.

4. In the Waypoints Task tile, specify the Transport orders:



Select Transport as the task.

Select a cargo.

Select a load or unload action.

For a description of each action, read about the [Transport task](#).

You can also use Zip Orders to speed things up a bit. Just right-click on the blue diamond in the Waypoint Task tile and select one of the sets of orders listed. Left-click on the diamond for a description of these orders.

Repeat this process for each waypoint where you'll load or unload freight. If you want to set up a route where the fleet follows a route endlessly, until you specify otherwise, check the *Repeat Orders* box in the Fleet Waypoints tile. If you want the fleet to return to its planet of origin as part of the route, be sure to specify that planet again as a waypoint.

Remember that you can specify another fleet as a waypoint. For example, if you want to set up a route between a [remote mining fleet](#) and one of your mineral-needy planets, specify the mining fleet as the first waypoint and your planet as the second waypoint. At waypoint zero, your point of origin, specify a *Transport for Fuel* or *Load Optimal*. At the second waypoint, the mining fleet, set Transport orders for each mineral you plan to load, specifying *Load from Fleet* or *Wait for Fleet*. At the third waypoint, specify a *Transport* order of *Unload All* for each mineral you picked up from the miner.

If you're unloading cargo (fuel, minerals or colonists) at more than one planet, you'll want to unload exact amounts, half, or all. On the last planet, be sure to unload all your remaining cargo.

The Basics of Combat

Here's how to create and specify battle plans, initiate all types of combat, and watch a replay of a battle in space. In general, all you need to know about the outcome of a battle is described in the message you receive. If you lose a battle and don't know why or just want to compare your tactics to those of your enemies you can watch a replay of the battle in the battle VCR.

If you really want to learn about the technical details of battle, read [The Guts of Combat](#).

See these Topics:

[Fleet-to-fleet Combat](#)

[Bombing Planets](#)

[Ground Combat](#)

[Declaring Enemies and Friends](#)

[Creating New Battle Plans](#)

[Viewing a Battle in Space](#)

[Viewing Enemy Fleets in the Summary Pane](#)

[Viewing Enemy Ship Designs](#)

Fleet-to-fleet Combat

To specify orders for attacking an opponent's fleet, do the following:

1. Add a [waypoint](#) at the enemy fleet. If the enemy fleet is in orbit of a planet, you may want to explicitly target the fleet so that you'll chase the fleet if they leave the planet. Just right-click on the blue diamond in the Fleet Waypoints tile and choose the enemy fleet.
2. Set a waypoint task of [Attack](#). Specify the [battle plan](#) and the targeted player. If you aren't sure who owns the fleet, you can specify everybody or enemies.

Your fleet will either reach the enemy and engage them, or you'll chase them until you break off pursuit. If you do attack, you receive a message the following year describing the outcome of the battle. If you wish you can replay the battle using the [Battle VCR](#). If you lose them you'll receive a message saying that your fleet's waypoint has been set to their last known location.

The components used in the ship designs and battle plans used by you and your opponent determine the outcome.

To learn about specific weapons, armor, shields and engines, study the Technology Browser (press F2). To learn how to research and design your offensive technology, read about how to [perform research](#) or how to use the [Research dialog](#), then read about [ship design](#).

Bombing Planets

To specify orders for bombing a planet, do the following:

1. Choose a fleet containing bombers, and set a waypoint to the enemy planet.
2. In the Waypoint Task tile, set a waypoint task of Attack. Use the tile to specify the battle plan.

In your plan, *Bomb Planet* must be checked. If you aren't sure, open the Battle Plans dialog, then select the plan you specified in the Waypoints Task tile.

You specify the type of bombs a particular bomber design carries when you design the ship. Your bombers have an infinite number of bombs, allowing your fleet to bomb forever without resupplying. The number of bombs you place in each slot is the number dropped on that planet per year.

If the planet you've targeted is an intermediate waypoints, your fleet will bomb that planet until it is reduced to rubble, then move on.

For information on the damage a bomb can cause, take a peek at the Bombs category of the Technology Browser. To learn how to research bomber and bomb technology, read about how to perform research or use the Research dialog. To learn how to design and build bombers, read about ship design.

Ground Combat

To initiate ground combat:

1. Build a fleet with one or more freighters.
2. In the Waypoint Task tile, use the Transport task to load colonists onto the fleet. Try to load what you think will be an overwhelming number.
3. Set a waypoint to your opponent's planet.
4. Use the Transport task to drop all colonists at the new waypoint.

You'll lose some of your colonist troops when you transport them through the planetary defenses. Your colonists that make it to the surface and your opponent's colonists fight until only one side remains. If everyone is killed, the planet is up for grabs to the first player who colonizes it. Such planets must be recolonized using a colonization fleet.

Capturing a planet in this way allows you to keep any surviving mines and factories.

If the planet is not habitable by your colonists, have the fleet load all of them in the next year. This prevents you from losing colonists to the elements.

If you plan to use ground combat extensively, consider creating a race with the race advantage of *Colonists attack better* before you start the game.

Declaring Enemies and Friends

In a single player game, everyone is your enemy. In a multi-player game, you designate who you do and don't wish to attack. Specify your enemies, your friends, and races you have no feelings for whatsoever (neutral), using the [Player Relations dialog](#).

When you give a fleet [attack orders](#) you can choose to have it attack all enemies, neutrals and enemies, everybody or a specific opponent.

If you declare another player to be your friend you may be unexpectedly drawn into battles. If a friend of yours is attacked and you have a fleet at the same location your fleet will automatically join the battle even if it does not have attack orders. Yegads.

If both players are your friends, you can sit on the sidelines and watch or be on your merry way. Same thing if both players are your enemies.

Creating New Battle Plans

Battle plans specify the behavior of your ships in a confrontation. When you specify attack orders, you choose a battle plan that defines the attack and defense. Modify an existing plan or create a new plan using the [Battle Plans dialog](#).

Viewing a Battle in Space

After a while you will find that there is no need to view most battles. There are times, however, when you were sure that you had overwhelming forces and still got your rear kicked. That's where the Battle VCR comes in to play. It is a great place to learn about the characteristics of your opponents' fleets and to determine your opponents' battle strategy. You'll be able to see if they like to use such strategies as getting in close and fighting it out, running away, or keeping to optimum range. You can use this information to compensate for their strategies when you select and design your battle plans.

You start the VCR from the Messages pane. When a battle has taken place, you receive a message summarizing the event. If you click the **Goto** button, the scanner selection moves to the location of the battle and the button turns to **View**. If you click on **View**, the VCR displays.

Viewing Enemy Fleets in the Summary Pane

To learn about an opponent's fleet that appears in the Scanner pane:

- ⇒ If your opponent's fleet is in space, left-click on the fleet symbol. If there is more than one fleet at the location, right-click and select the enemy from the popup list.
- ⇒ If your opponent's fleet is orbiting a planet, right-click on the planet, then select the fleet from the popup list.

The fleet appears in the Selection Summary pane. The number of ship types in the fleet are indicated by the ship in the picture in the Summary pane and the total number of plus (+) symbols in the corners of the picture. Display the fleet's composition by clicking on the picture in the Summary pane and on each of the plus symbols. If you have fought ships of the type before, the Summary pane displays a more complete description of the fleet and its payload. Otherwise you are only shown a minimal amount of information.

Tip: If the enemy fleet is in orbit, you can also click on the planet, then click on the yellow arrow in the Summary pane until the fleet's summary is displayed.

Viewing Enemy Ship Designs

Any ships you have fought can be examined in the Ship Designer dialog. Select **Enemy Hulls**, then select the design you want to view.

Ships you have not seen in battle will have no details other than the hull type. If you have fought the ship type before the dialog displays full details, including armor and shield strengths.

Scanning the Universe

Scanners detect planetary environments and your opponents' fleets. You can build scanners on planets and on ships. The effectiveness of opponents' scanners can be reduced by using cloaking devices on ships. All fleets detected by your scanners appear in the Scanner pane.

Like all other technology, the science behind scanners and cloaking devices must be researched. The research requirements and features of planet-based scanners are described in the Planetary category of the Technology Browser; ship-based scanners are described in the Scanners category; cloaking devices are described in the Special category.

See these Topics:

Selecting Fleets in the Scanner Pane

Scanning Planets

Cloaking, or Hiding Fleets from an Opponent's Scanners

Detecting an Opponent's Fleets

Selecting Fleets in the Scanner Pane

Fleets in orbit are indicated by a circle around the planet. To select a fleet that's orbiting a planet:

1. Right click on the planet in the Scanner pane.
2. Select the enemy fleet from the popup list.

If you own the ship, it'll appear in the Command pane. If you select an enemy fleet, it will appear only in the Selection Summary pane.

Follow the same procedure to select a fleet from a group in deep space.

Scanning Planets

When you scan an uninhabited planet, you'll be able to detect the environment and the amount of each mineral under the planet surface, but not the minerals above the surface. If you attempt to scan a planet inhabited by an opponent, you can detect only the environment, underground minerals and an estimate of the population (plus or minus 25%).

Cloaking, or Hiding Fleets from an Opponent's Scanners

Cloaking devices allow you to reduce your opponent's effective scanner range in detecting your cloaked fleet. Cloaking devices do not make your ship invisible: no matter how much your fleet is cloaked, it will always be visible to another fleet at the same location.

Cloaking reduces your opponent's scanner range by a specific percentage. The higher the percentage, the more the range is reduced. Cloaking is shared by an entire fleet. The cloaking percentage of a fleet is displayed in the [Fleet Composition](#) tile, except when in [small screen mode](#).

Cloaking percentage is calculated as follows:

In order for matter to be cloaked, it requires a certain number of cloaking units per kT:

| | | |
|---------------|--------|---------|
| 100 units/kT | 50% | cloaked |
| 300 units/kT | 75% | cloaked |
| 600 units/kT | 87.5% | cloaked |
| 1000 units/kT | 93.75% | cloaked |

Cloaking can never exceed 95%

Between those reference points, cloaking percentage is linear. 40 units cloak at 20%, 180 units cloak at 60%, etc.

Ship Cloak units are the sum of all cloaking devices on the ship:

| | |
|---------------------------|--------------|
| Transport Cloak (50%) | 100 units/kT |
| Stealth Cloak (40%) | 80 units/kT |
| Super-Stealth Cloak (65%) | 220 units/kT |
| Ultra-Stealth Cloak (75%) | 300 units/kT |
| Chameleon Scanner (20%) | 40 units/kT |

The total number of Cloaking units for a ship is obtained by multiplying the Cloak units by the weight of the ship without cargo.

To determine the percentage a fleet is cloaked, sum up the total number of cloaking units in the fleet and divide by the mass of the fleet, including fuel and cargo.

For example, a small freighter with a Quick Jump 5 engine, Tritanium Armor, and a Transport Cloak weighs 90kT empty. This freighter has $100 \text{ units/kT} * 90\text{kT} = 9000$ units of cloaking.

By itself, empty, the freighter is visible to enemy scanners at only 50% of their maximum range. If you completely fill the freighter with fuel and cargo, the ship now weighs 360kT. Its cloaking units/kT are $9000 / 360 = 25 \text{ units/kT}$. The freighter is now only 12.5% cloaked.

Now assume that the empty freighter is placed in a fleet with an empty scout that has a Quick Jump 5 engine, Laser, and a Bat Scanner, which weighs 15kT when empty. The entire fleet weighs 105kT, so traveling together, this fleet would be $9000 / 105 = 85.7 \text{ units/kT}$ approximately 43% cloaked.

There are several types of cloaking devices, and one ship-based scanner, the Chameleon, that doubles as a low-level cloak. Multiple cloaks on the same ship can all be of the same or different strengths. You add one or more cloaks when you create the [ship design](#). To learn more about a specific cloak, open the [Technology Browser](#) (press F2) and view the Special category.

Detecting an Opponent's Fleets

Having scanners on as many planets as possible reduces the chance that cloaked fleets will sneak past. For example, if your opponent has 75% cloaking, and your scanners normally detect fleets at a range of 200 light years, your scanning range will be reduced to 50 light years. If your scanners are close together, whether they be planet-based, ship-based, or a combination, you'll create a gauntlet that opponents' ships aren't as likely to sneak through undetected.

Also consider placing sentry ships at uninhabited planets along your border. They will help prevent any unseen planet-hopping by your opponents. Even if a ship is cloaked, you will still detect it when it passes by.

The X series of planet-based scanners and certain ship-based scanners can detect both fleets in deep space and fleets in orbit. Both these ranges are affected by cloaking. For example, if you are using a Snooper 250X planet-based scanner against a 75% cloak, the scanner will have effective ranges of 62 light years and 31 light years. If the ship is in orbit of a planet 32 light years away, you won't see it.

With the Scanner pane set to Radar overlay, ask yourself, "Will there be gaps in my coverage if each scanner only saw half as far? What about one-fourth as far?"

Cheating

There's no such thing as a game that doesn't have back doors and secret shortcuts. We think we've closed all those that will give you an unfair advantage (or worse, break the game), and have documented the rest. With a little bit of sweat and elbow grease, you might find a, err, undocumented "shortcut." If so, be sure to write us. If it isn't a game buster, we may enhance it for a future release and offer it as a documented feature. You may also receive a free box of Stars! action figures.

There are more obvious ways of cheating, such as sneaking looks at an opponent's screen or cracking the password to an opponent's game file. Depends on how you want to play. This type of cheating is recorded by the Stars! host program and reported to the Stars! Eye in the Sky, then beamed to us back here at Stars! HQ. If you cheat three times, we email your game files to all your opponents, even the AIs. It's nothing personal.

Keyboard Shortcuts

| | |
|-------------------|--|
| F1 | Open this Player's Guide . |
| F2 | Open the Technology Browser . |
| F3 | Start the Tutorial game. |
| F4 | Open the Ship Design dialog. |
| F5 | Open the Research dialog. |
| F6 | Open the Battle Plans dialog. |
| F7 | Open the Player Relations dialog. |
| F8 | Open the View Race dialog. |
| F9 | Generate a new turn , immediately. |
| F10 | Display your score . |
| CTRL F | Find a planet or fleet in the Scanner. |
| + / - | The plus (+) key zooms the Scanner in. The minus (-) key zooms back out. |
| Up arrow | Up arrow displays the previous message in the Messages pane. |
| Down arrow | Down arrow displays the next message. |
| Home / End | Go to the first and last messages in the Messages pane. |
| p / n | Displays the next planet or fleet in the Command pane. |
| f | Displays your fleet or planet with the lowest ID number in the Command pane. If the fleet is already selected the planet is displayed, and vice versa. |

Menus

Click on a menu command to learn more about it.

| <u>F</u> ile | | <u>V</u> iew | |
|-------------------------------|--|------------------------------|--|
| <u>N</u> ew... Ctrl+N | | <u>F</u> ind... Ctrl+F | |
| Custom <u>R</u> ace Wizard... | | <u>Z</u> oom ▶ | |
| <u>O</u> pen... Ctrl+O | | <u>R</u> ace... F8 | |
| <u>C</u> lose | | <u>W</u> indow Layout ▶ | |
| <u>S</u> ave Ctrl+S | | <u>S</u> core... F10 | |
| Save <u>A</u> nd Submit | | | |
| <u>E</u> xit | | | |

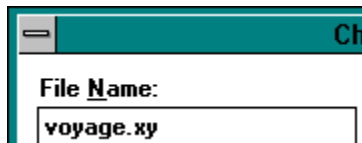
| <u>T</u> urn | <u>C</u> ommands | <u>H</u> elp |
|--|--------------------------------|---------------------------------------|
| <u>W</u> ait for New <u>G</u> enerate F9 | <u>D</u> efaults... | <u>I</u> ntroduction |
| | <u>S</u> hip Design... F4 | <u>P</u> layer's Guide F1 |
| | <u>R</u> esearch... F5 | <u>R</u> egistration Info |
| | <u>B</u> attle Plans... F6 | <u>T</u> echnology <u>B</u> rowser F2 |
| | <u>P</u> layer Relations... F7 | <u>T</u> utorial F3 |
| | <u>C</u> hange Password... | <u>A</u> bout Stars!... |

New Game Setup (Basic)

Begin a new game by either clicking the **New Game...** button in the startup screen or by selecting **File (New...)** from the menu bar. Both commands display the New Game dialog.



When you click on **Ok**, Stars! opens the **Choose New Game Name** dialog, allowing you to enter a unique filename for the game. The [playing screen](#) displays and the game starts.



Type in a filename, using this format: *filename.xy*. The default filename is **game.xy**.

Example: spaced.xy (where *spaced* is the base name that you supply, and *.xy* is the secret and mysterious extension required by Stars!) You can also just type the base name -- the extension will be applied automatically.

To learn about each part of the basic New Game Setup dialog, click on one of the following:

[Tutorial](#)

[Difficulty Level](#)

[Universe Size](#)

[Player Race](#)

[Customize Race](#)

[Advanced Game](#)

Tutorial

If you are new to the game, the tutorial will help you become a proficient player much more quickly. The tutorial takes you through an easy Stars! game that includes yourself and one A.

Difficulty Level

Choosing a higher level increases the number of computer opponents and their level of skill. If you want more opponents without raising their level of skill, simply choose a larger universe size. At any difficulty level, a larger universe creates more opponents. [The Big Picture](#)

Universe Size

Tiny -- 400 light years in size. The tiny universe is only recommended for a 2 or 3 player game. Players will encounter each other very early.

Small -- 800 light years in size. This universe will comfortably accommodate 4 players for an intimate game. If early encounters with other players are desired, 5 or 6 players can play in a small game.

Medium -- 1200 light years in size. This is a relatively large universe for 4 or fewer players, giving them plenty of room to expand. A full complement of 16 players can comfortably play a game in a medium universe, though early contact is likely with more than 12 players.

Large -- 1600 light years in size. This universe easily holds 16 players. Four or fewer players will often be able to build substantial empires before contacting another race.

Huge -- 2000 light years in size. This really, really big universe will allow even 16 players quite a bit of time to expand before running into other players. Since the huge universe has approximately 800 planets, even 16 players could colonize about 50 planets each before needing to battle to expand their empires.

Player Race

Open the dropdown list and choose a predefined race or select **Random** to let Stars! select a predefined race for you.

Customize Race

Click on **Customize Race** to enter the [Custom Race Wizard](#). This wizard allows you to specify every attribute of your race.

Advanced Game

Click on **Advanced Game** to enter the New Advanced Game setup. From that point on, you define the game only in the Advance Game dialog.

New Game Setup (Advanced)



Access the New Advanced Game dialog by clicking on the **Advanced Game...** button in the basic New Game dialog.

See these Topics:

Step 1: Specifying the Universe

Step 2: Specifying the Players

Opening a Custom Race File

Step 1: Specifying the Universe

New Advanced Game – Step 1 of 2

Game Name:

Universe Size

- Tiny
- Small
- Medium
- Large
- Huge

Player Positions

- Close
- Moderate
- Farther
- Distant

Enhanced Fuel

Slower Tech Advances

Accelerated BBS Play

Computer Players Form Alliances

Density

- Sparse
- Normal
- Dense

To learn about each part of Step 1, click on one of the following:

[Game Name](#)

[Enhanced Fuel](#)

[Slower Tech Advances](#)

[Accelerated BBS Play](#)

[Computer Players Form Alliances](#)

[Density](#)

[Player Positions](#)

Game Name

Game Name:

Keep the name Stars! offers or type in a name for your game. This name will appear in the Stars! titlebar when the game is running.

Enhanced Fuel

When checked, this option increases the fuel at each planet in the universe by 33%. This option can be useful in the larger universes when players want to play a highly mobile game.

Slower Tech Advances

Checking this box will make research twice as expensive. This will extend the game, making long-term strategy a more important element of play.

Computer Players Form Alliances

Checking this box will cause the computer players to prefer attacking you over attacking each other. This will make the game significantly more difficult.

Density

Normal planet density in Stars! is approximately one planet for every 5000 l.y.². That is, if you divided the universe up into squares 70 l.y.² on each side, there would on average be one planet in each square.

Selecting **Sparse** decreases density to approximately one planet for every 6500 l.y.². Selecting **Dense** increases the density to approximately one planet for every 4000 l.y.².

Player Positions

This allows you to specify how close players start out relative to each other.

The result of these selections are affected by the number of players, the size of the universe and the density of the universe.

For instance, playing a 16 player game in a tiny universe severely restricts your chances for expansion, since a tiny universe typically has only 32 planets. More than two players in a tiny universe will be a very short game. You can increase the pace and length of a game in any size universe by selecting Dense in the planet Density box. You'll have more planets to colonize with short distances between them, and a rapid increase in resources and technological development.

If you want plenty of time get the feel of the game and to plan before you run into your opponent(s), choose **Distant** player positions.

Accelerated BBS Play

When you check this option, the following happens

- ◆ Players start out with a population 4 times larger than normal.
- ◆ All planets have 20% more minerals.
- ◆ Planets with poor mineral densities are improved by a few percentage points.
- ◆ The default starting distance between players is now "Moderate".

What this means is that you can build 5 to 10 ships your first turn if you choose, complete research up to 2 tech levels a year, and in general jump-start the game. You don't need to worry about running out of colonists if you want to send out a bunch of colony ships at the beginning of the game.

In practice, games with this option have a lot more decisions to be made from turn 1 on. The first 10 turns accomplish what usually takes about 30 to 50 turns. Games with this option usually have a winner emerging before turn 100. The disadvantage to this option is that some of the subtlety of Stars! is lost. You don't have to make as many of the early resource tradeoffs that have a large impact on your strategy later in the game. Most BBS games will find that this disadvantage is outweighed by the faster pace.

Step 2: Specifying the Players

Player #1:  The Humanoids

Click on the blue diamond next to a player number. The menus that appear list the following options:

- Predefined Race** displays a list of all predefined races. Select a listed race or select **???Random???** to let Stars! design a new race to fill that position. Select **Expansion player** to create a random, potentially human controlled computer player that is currently inactive. The host may assign these player positions to players entering the game after it has started. Until that happens, the expansion players do generally passive things like conduct research.
- Custom Race** designs a new race or loads a custom race. Select **New...** to invoke the Custom Race Wizard. Select **Open...** to find the race filename.
- Edit Race...** appears only when a custom race is selected. Choosing this item takes you into the Custom Race Wizard.
- Computer Player** displays a list of all computer generated races. Select a race and a proficiency level.
- No Player** clears that position.

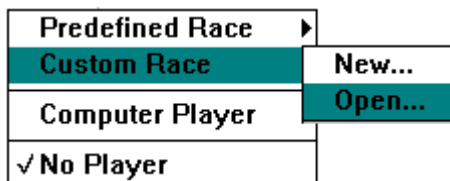
Opening a Custom Race File

If you have already created a custom race and want to use it in a new game, go to Step 2 of the New Game setup, Advanced Options.

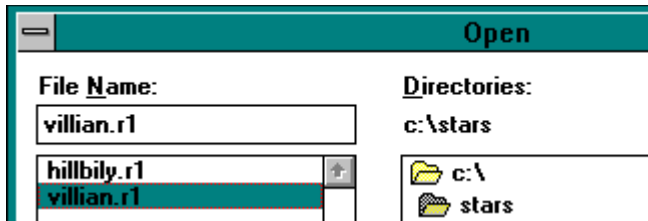
1. Click on the blue diamond next to a player number.

Player #4:  --- No Player ---

2. Select **Custom Race, Open...**



3. Highlight a race filename, then click **OK**.



4. That race will be assigned to the chosen player position.

Player #4: ♦ The Villians (VILLIAN.R1)

If the selected player position followed any unused positions, those positions will also be assigned to that race.

Custom Race Wizard



View Race Dialog: Refer to the following help for the Custom Race Wizard when using the View Race dialog.

The 5-step Custom Race Wizard allows you to tailor the race you play in Stars!. Here, you define a race's strengths and weaknesses. The trick lies in balancing advantages with disadvantages in order to achieve a mix that makes the best use of the stuff of creation -- units of primordial ooze called *advantage points*.

In each step, the box in the upper right corner of the dialog shows the current number of unused advantage points.



With each advantage selected, the number decreases. Advantage points go down a little for slight advantages, and a lot for juicy ones. Before you finish, the number of advantage points must be greater than or equal to zero. When the number becomes negative and turns red, your race has missed the boat to Creationville. To get back in the black, select a few disadvantages (what, did you think there wouldn't be a catch to playing God?).

Use the   buttons to move between steps while trying to compensate for your greedy ambitions.

See these Topics:

[Step 1: Basic Definition](#)

[Step 2: Population Growth Factors](#)

[Step 3: Population Efficiency](#)

[Step 4: Race Advantages and Disadvantages](#)

[Step 5: Research Costs](#)

[Finish and Save](#)

Step 1: Basic Definition

The screenshot shows a window titled "Custom Race Wizard - Step 1 of 5". At the top right, a box displays "Advantage Points Left" with the value "2". Below this, the "Race Name" field contains "Humanoid" and the "Password" field is empty. A section titled "Predefined Races" contains eight radio button options: Humanoid (selected), Silicanoid, Rabbitoid, Antetheral, Insectoid, Random, Nucleotid, and Custom. Below this, a label reads "Spend up to 50 leftover advantage points on:" followed by a dropdown menu showing "Surface minerals" and a small icon of a blue diamond with a black triangle. A "NOTE: Do NOT pluralize your Race Name." is displayed below the dropdown. At the bottom, there are five buttons: "Help", "Cancel", "< Back", "Next >", and "Finish".

Specify/view your race type, name and use of leftover advantage points.

See these Topics:

[Race Name and Password](#)

[Predefined Races](#)

[Leftover Advantage Points](#)

[Race Icon](#)

Race Name and Password

| | |
|------------|---------------------------------------|
| Race Name: | <input type="text" value="Humanoid"/> |
| Password: | <input type="text"/> |

Name your race and if you wish, choose a password. The password chosen when a race is created is attached to the race file. While you may change the password during the game, that change applies only to the current game. Opening that race file for use in another game will require proper entry of the original password. Also in order to open or view the race file, you need the password. You may specify a race name only here in step 1.

Do not pluralize the race name.

Predefined Races

| Predefined Races | |
|---|----------------------------------|
| <input checked="" type="radio"/> Humanoid | <input type="radio"/> Silicanoid |
| <input type="radio"/> Rabbitoid | <input type="radio"/> Antetheral |
| <input type="radio"/> Insectoid | <input type="radio"/> Random |
| <input type="radio"/> Nucleotid | <input type="radio"/> Custom |

Selecting a predefined race automatically presets all of the controls in steps 2 through 5. None of the predefined races prevent you from selecting any advantage -- they only serve to save time when creating a new race.

If you aren't sure which kind of race you want to create:

1. Select each predefined race in turn.
2. Use the buttons to step through the wizard, noting the settings.
3. Go back to step 1 and select the predefined race that looked the best for your purposes.
4. Fine tune that race using as much of the wizard as necessary.
5. **Custom** The predefined race type changes to custom after you change any settings.

Leftover Advantage Points

Spend up to 50 leftover advantage points on:

| | |
|-------------------------|---|
| Surface minerals | ↓ |
| Surface minerals | |
| Mineable minerals | |
| Mines | |
| Factories | |
| Defenses | |

At the end of making selections in the wizard, there will be leftover advantage points. You can convert these points into extra minerals, mines, factories or defenses -- all available at the first turn of any game using this race. To learn more about minerals, mines, factories and defenses, read about [Planets](#).

Surface Minerals

You will get 10kT of surface minerals for each leftover advantage point. For example, if there are 20 unused points, you would receive a total of 200kT of minerals. Stars! weights the distribution in favor of the rarest minerals.

Mineable Minerals

You will get 40kT of mineable minerals for each leftover advantage point. These minerals are beneath the surface and must be mined. Stars! will weight the distribution in favor of the rarest minerals.

Mines

You will get one additional mine for every two leftover advantage points.

Factories

You will get one additional factory for every 5 leftover advantage points.

Defenses

You will get one additional defense installation for every 10 leftover advantage points.

Do not choose Defenses if, in step 4 of the Custom Race Wizard, you select the race disadvantage No Planetary Defenses. If you select both, the leftover advantage points will be wasted.

Race Icon



Select a race icon from the collection. This icon identifies your fleets when they are displayed in the selection summary pane's fleet summary mode. In a multi-player game you may not get the icon you select if another player chooses the same icon.

Step 2: Population Growth Factors

Custom Race Wizard - Step 2 of 5

Advantage Points Left **2**

Gravity ◀ ██████████ ██████████ ██████████ ██████████ ██████████ ▶ 0.31g to 3.20g
<< >> Immune to Gravity >> <<

Temperature ◀ ██████████ ██████████ ██████████ ██████████ ██████████ ▶ -120°C to 120°C
<< >> Immune to Temperature >> <<

Radiation ◀ ██████████ ██████████ ██████████ ██████████ ██████████ ▶ 20mR to 80mR
<< >> Immune to Radiation >> <<

Maximum colonist growth rate per year: 15% ▲▼

Help Cancel < Back Next > Finish

Specify/view your race's habitable range and its growth rate under optimum conditions.

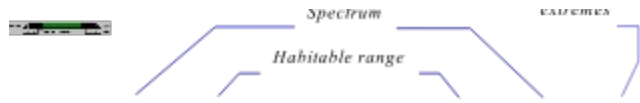
See these Topics:

[Hold me down, Heat me up and Burn me out](#)

[Maximum Population Growth](#)

Hold me down, Heat me up and Burn me out

Use this dialog to specify how well your race tolerates gravity, temperature and radiation. The tolerances are set individually for each of the three environmental factors.




The width of the colored bar represents the extent of the habitable range. The width plus the position of the bar left or right determine the extremes of the habitable range. The numbers to the right of the bar show the extremes in either gravities (g), degrees Celsius (C) or millirads (mR).

Your race will grow only on planets with conditions that fall within the habitable ranges. On planets that are outside the habitable ranges, some colonists will die every year due to the unbearable conditions.

The gravity and temperature of every planet are picked at random, but are slightly weighted to favor values in the middle of the spectrum. If you move the colored bar away from the center, you will see the advantage points increase, compensating for the reduction in the number of habitable planets you will encounter. The radiation level of a planet is chosen completely at random.

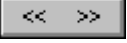
Tip: A disadvantage of picking an extreme range is that more of the uninhabitable planets are further out of your habitable range, making [terraforming](#) more difficult. However, in addition to getting advantage points back, there is another benefit. Planets with environments near the ends of the spectrum have a good chance of being super-rich in one or more minerals. For example, a planet with a flesh-searing radiation extreme of 97mR could easily have four times as many of each mineral as a mild vacation world.

Adjusting the Habitable Range

If you click on the  or



buttons, the entire range moves left or right. Holding down the SHIFT key while clicking moves the range in steps. Click and hold the colored bar to drag it back and forth freestyle.

Clicking the  button *widens* the habitable range. Clicking the



button *narrows* the habitable range. Holding down the Shift key while clicking narrows and widens the range in 20% increments.

Immunity



Selecting the **Immune to** checkbox allows you to ignore an environmental factor. This is very expensive and will require the selection of many disadvantages to bring advantage points back above zero. When you select immunity, the habitable range becomes irrelevant and disappears. If you select any kind of immunity, you may not want to spend points on the [Total Terraforming](#) advantage. Once you're in the game, you can research individual [terraforming](#) technologies that apply only to environmental factors that can affect you. If you are totally immune, you never need to terraform.



Selecting immunity is different than expanding the habitable range to fill the entire spectrum. Immunity treats every point in the spectrum as 100% ideal. A range widened to fill the spectrum treats only the mid-point as 100% ideal. The edges of the range are 0% ideal. You will still want to terraform less than perfect planets.

Maximum Population Growth

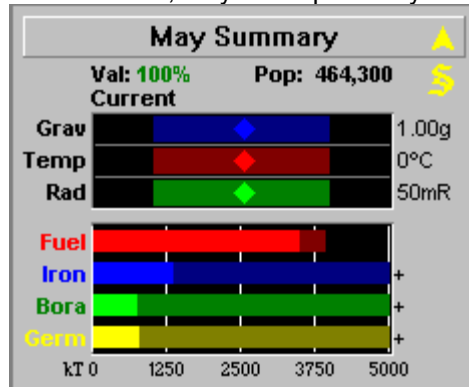
Maximum colonist growth rate per year: 15%

Set the maximum colonist growth rate between 1% and 15% per year. The colonists will grow at this rate only if the planet value is 100%. If the planet value is less than 100%, the colonist growth rate will fall proportionately.

For example:

Maximum colonist growth rate per year: 10%

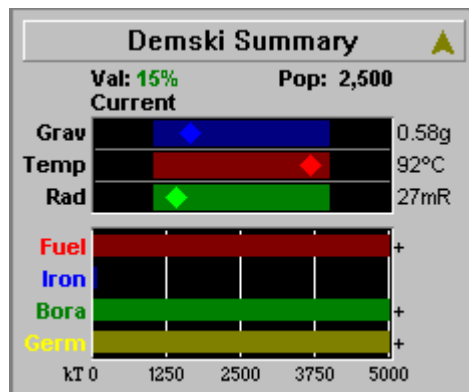
The planet May is the homeworld for a race with a 10% maximum colonist growth rate. As with all homeworlds, May has a planetary value of 100%.



Clicking on the Value in the Selection Summary pane for the planet May displays this popup:

Your population on **May** is **464300**.
May will support a population of up to **1000000** of your colonists.
Your population on **May** will grow by up to 10% per year.

Your people on May decide to colonize Demski, a nearby rock with a planetary value of 15%.



Clicking on the Value in the Selection Summary pane for the planet Demski displays this popup:

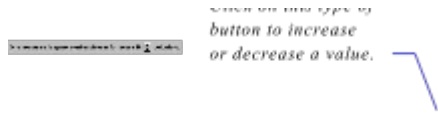
Your population on **Demski** is **2500**.
Demski will support a population of up to **150000** of your colonists.
Your population on **Demski** will grow by up to 1.50% per year.

If you are immune to an environmental factor, every planet you explore will be 100% ideal for that factor. Immunity is expensive. You will have to choose many disadvantages in order to compensate and bring the advantage point value back above zero.

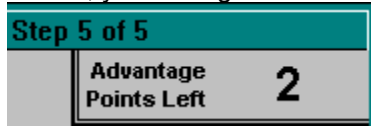
If you select both immunity to one or more environmental variables and the advantage of Total Terraforming in [step 3](#) of the Custom Race Wizard, some or all of the points used to get the Total Terraforming advantage will be wasted.

Step 3: Population Efficiency

Specify/view the efficiency of your colonists, mines and factories for all the planets you inhabit.



If you are confused about whether increasing or decreasing a value is providing an advantage, watch the advantage points box as you click on the controls. If the number of points decreases when you click on a control, you have given the race an advantage.



If you have a race with a high population growth, you may not care about being efficient with factories. In this case you would set the controls so colonists produce fewer and more expensive factories, thereby freeing up advantage points to use somewhere else.

Step 4: Race Advantages and Disadvantages

Specify/view the technological advantages and disadvantages for your race. You'll probably find several disadvantages that won't affect your playing strategy. Each time you choose a disadvantage, you'll gain advantage points you'll be able to use elsewhere or, if you're in the negative, bring the balance closer to being above zero (you have to be above or at zero before you can execute the Custom Race Wizard). For more information on any of the technologies listed below, see the Technology Browser in the **Help** menu or by pressing F2 while in the game.

Advantages

Cheap colonization -- Gives you the Mini-Colony Ship hull. You also start with the ability to build the Settler's Delight engine, which burns no fuel through Warp 5 and attaches only to the Mini-Colony Ship hull.

Improved Fuel Efficiency -- Your ships will burn 15% less fuel than what the drive specifications indicate. These additional engines are available: the Fuel Mizer and the Trans-Galactic Mizer Scoop.

Advanced Remote Mining -- You start with the ability to build the Midget Miner Hull and Robo-Midget Miners. With further research you can build the Ultra-Miner hull and the Ultra-Miner remote mining device. This is not affected by the disadvantage, Only Basic Remote Mining.

Improved Cloaking -- You start the game with the ability to build the Transport Cloaking device. This cloak can only be attached to unarmed hulls. Also, with further research, you can build the Ultra Stealth cloak and the Chameleon Scanner (which doubles as a cloaking device). The stealth bomber will be available by either choosing this advantage or Extra Hull Designs.

Colonists Attack Better -- When you send your colonists to storm a planet controlled by another player, your troops will 25% more efficiently slaughter the enemy.

Colonists Defend Better -- When other players attack your planets, your colonists will enjoy a 20% defensive bonus.

Total Terraforming -- You begin the game with the ability to adjust each of a planet's environment attributes by up to 3% in either direction. Throughout the game, additional terraforming technologies not available to other players will be achievable. Total Terraforming uses 15% less resources and provides an extra set of technologies that you can learn, reducing the cost of research as well.

Cheap Starbases -- Starbases takes only 50kT of each mineral and 100 resources to build. Without selecting this advantage, a starbase takes 500 kT Ironium, 25kT Boranium, 250 kT Germanium and 500 resources to build.

Better Battle Initiative -- if similar types of opposing ships meet, the race with this advantage gets to move and shoot first.

Extra Hull Designs -- you will have the following extra hull designs available: Super Cruiser, Privateer, Rogue and Fuel Transport. The Miner hull will be available provided that the disadvantage, Only Basic Remote Mining, is **not** selected. The Stealth Bomber will be available by either choosing this advantage or Improved Cloaking.

Mineral Alchemy -- you will be able to turn resources into minerals. One instance of mineral alchemy will use 25 resources to produce one kT of each mineral. This item will be available in the production inventory and can be automated through the auto-build feature of the production dialog.

Disadvantages

No Super Freighters -- No Super Freighter and Galleon hulls.

No Ramscoop Engines -- You will not be able to build the Sub-Galactic Fuel Scoop, the Trans-Galactic Fuel Scoop and the Trans-Galactic Super Scoop.

Only Basic Remote Mining -- No Robo-Miner, Robo-Maxi-Miner and the Robo-Super-Miner hulls.

No Warship Cloaking -- You will be unable to attach cloaking devices to your warships.

No Smart Bombs -- You will be unable to develop bombs that kill enemy colonists while leaving their mines and factories intact.

No Planetary Defenses -- You will be unable to build any planetary defenses. Leftover advantage points dedicated to defenses in step 1 of the Custom Race Wizard will be wasted.

No Advanced Warship Hulls -- The top three warship hull designs are withdrawn: the B-52 Bomber, the Super Battleship and the Battleship.

No Advanced Scanners -- You will not have any scanners that can scan planets from a distance and see fleets hiding behind planets. The one exception is the hybrid Chameleon Scanner, which requires the advantage of *Improved Cloaking*.

Low Starting Population -- instead of 2500 people, you start with 2000 (20% fewer) Does not seem to be bad disadvantage, but is in fact really nasty when you consider the compound interest qualities involved. It takes a long time to overcome a lower starting population -- it helps to have a high growth rate, but even then it is painful.

No Advanced Armor or Shields -- Armor excluded: Neutronium and Valanium. Shields withdrawn: Gorilla Delegator and Elephant Hide Fortress.

Home Planet Initial Stats Public -- In the first turn of a new game, all other players can see your home planet -- another seemingly mild but truly nasty disadvantage. That is why you get back so many points -- you will need them.

Step 5: Research Costs

Specify/view how efficiently your scientists use planetary resources in their research. Changes are reflected in the advantage points box in the upper-right corner of the dialog.

| | |
|-----------------------|---|
| Step 5 of 5 | |
| Advantage Points Left | 2 |

Select **Costs 25% extra** to give the race a disadvantage. Advantage points will **increase**.
Select **Costs 25% less** to give the race an advantage. Advantage points will **decrease**.

- Costs 25% extra
- Costs standard amount
- Costs 25% less

If you select **Costs 25% less** in more than one box, advantage points decrease with each additional selection. If you select **Costs 25% extra** in more than one box, advantage points decrease with each additional selection.

Finish and Save

When you select Finish, Stars! verifies that you have created a valid race, asks you to reenter your password (if you have specified one), and then opens the **Save As** dialog.



1. Type the base name (in this case, **gump**).
2. Click **OK**.

The file name under which the race is stored can be different from the name you've given the race. However, you may wish to make some reference to the race name in the race filename to help you keep track of numerous saved races.

Production Dialog

Here you order a planet to build ships, defenses, factories, mines and starbases. You can also schedule terraforming, mineral alchemy and demolition of existing factories, mines and defenses. To learn about the kinds of items that you can build visit the [Technology Browser](#) (press F2).



Production Inventory



Inventory list of everything the planet can build.

Amount of each mineral and number of resources required to produce one of whatever item is selected above.

Production Queue



Items currently awaiting production.

Quantity of each mineral and number of resources required to build selected item in the quantity shown.

Completion status of selected item.

Items are produced in order, from top to bottom. The color of each item in the queue indicates the estimated time to completion:

- ◆ **Green** -- all will be produced this turn.
- ◆ **Blue** -- at least one, but not all, will be produced this turn.
- ◆ **Black** -- these items all require more than one turn to complete.

- ◆ **Red** -- at least one of these items cannot be built due to a lack of the required minerals.

0% Done, Completion Never

If you plan to clear the queue, **% done** helps indicate how many minerals and resources you'll lose for any item in production. All minerals and resources already put into a partially completed order will be lost if the queue is cleared.

For example, if the top item in the queue cost a total of 2000 resources and 1000 kT of minerals to build, and is 30% complete, when you clear the queue you'll lose 600 resources and 300 kT of minerals.

Viewing all your planets production queues



Click on Previous and Next to display the production queues for each of your other planets.

See these Topics:

[Adding an Item to the Queue](#)

[Removing an item from the queue:](#)

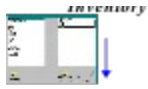
[Clearing the Production Queue](#)

[Auto Build](#)

[Contributing Only Leftover Resources to Research](#)

Adding an Item to the Queue

You can add an item at any time to any spot in the queue. The procedure is slightly different depending on whether you want to add the item to the top, middle or bottom.



See these Topics:

[To add an item to the top of the queue:](#)

[To add an item to the middle of the queue:](#)

[To add an item to the bottom of the queue:](#)

To add an item to the top of the queue:

1. Click on --- Top of the Queue ---.
 2. Click on an item in the inventory, then click the Add button or double-click on the item in the inventory list.
- ⇒ To add additional units, keep clicking the **Add** button or double-clicking on the item in the inventory list.

For large orders:

To add 10 units of an item at a time, hold down the SHIFT key while double-clicking on the item in the inventory list, or click on the item, then SHIFT-click on **Add**.

To add 100 units of an item at a time, hold down the CTRL key while double-clicking on the item in the inventory list, or click on the item, then SHIFT-click on **Add**.

To add an item to the middle of the queue:

1. Click on the row in the queue just above where you want the item to appear.
 2. Click on an item in the inventory list, then click the **Add** button, or double click on the item in the inventory list.
- ⇒ To add additional units, keep clicking the **Add** button or double-clicking on the item in the inventory list.

For large orders:

To add 10 units of an item at a time, hold down the SHIFT key while double-clicking on the item in the inventory list, or click on the item, then SHIFT-click on **Add**.

To add 100 units of an item at a time, hold down the CTRL key while double-clicking on the item in the inventory list, or click on the item, then SHIFT-click on **Add**.

To add an item to the bottom of the queue:

- ⇒ Click on an item in the inventory list, then click the **Add** button, or double click on the item in the inventory list.
- ⇒ To add additional units, keep clicking the **Add** button or double-clicking on the item in the inventory list.

For large orders:

To add 10 units of an item at a time, hold down the SHIFT key while double-clicking on the item in the inventory list, or click on the item, then SHIFT-click on **Add**.

To add 100 units of an item at a time, hold down the CTRL key while double-clicking on the item in the inventory list, or click on the item, then SHIFT-click on **Add**.

Removing an item from the queue:

- ⇒ Select an item in the queue, then click the **Remove** button or double-click on the item in the queue.
- ⇒ Keep clicking the **Remove** button or double-clicking on the item name to remove additional units.

Speed Removal:

To remove 10 units of an item at a time, hold down the SHIFT key while double-clicking on the item in the queue, or click on the item, then SHIFT-click on **Remove**.

To remove 100 units of an item at a time, hold down the CTRL key while double-clicking on the item in the queue, or click on the item, then SHIFT-click on **Remove**.

Clearing the Production Queue



The **Clear** button removes all items from the production queue. The twin to this button can be found in the [Production tile](#).

Resources and minerals already spent on partially completed items are *lost* if the item is removed from the queue before completion.

Auto Build



Whenever the production queue is empty, the planet will add the selected item to the queue, then build as many as possible until another item is manually added to the queue.

To select an auto-build mode:

1. Right-click on the blue diamond to open the list.
2. Left click on the item you want to auto-build.

The following lists all the items that are possible with Stars!.

Note: Mineral Alchemy is displayed in your auto-build list only if you selected the Mineral Alchemy race advantage.

Mines, Factories, Defenses

Builds as many as your planet's population can operate. As the planet's population goes up, so does the production capacity.

Mines then Factories

Builds as many mines as the planet's population can operate then switches to factories until the population increases enough to build more mines.

Mineral Alchemy

Mineral alchemy turns resources into minerals. One instance of mineral alchemy will use 25 resources to produce one kT of each mineral. This item will be available in the production inventory and can be automated through the auto-build feature of the production dialog.

Factories using Alchemy

This option uses mineral alchemy to build factories if the planet is out of one or more required minerals. Mineral alchemy is added to the production queue, followed by factories.

Contributing Only Leftover Resources to Research

Ordinarily, every planet devotes a percentage of their annual resources to research. This cream is skimmed off the top at whatever percentage has been set in the Research dialog's budget control. If after this, the production queue empties or is blocked during a turn, the leftover resources are also funnelled into the research coffers.

By selecting this option you specify that the research budget gets only what production fails to use that year. This is important for fledgling colonies who need to build a basic infrastructure with meager resources.

Technology Browser

To enter the Technology Browser, press F2 or use the **Help (Technology Browser)** menu command. The Technology Browser provides details about every technology you can learn through research, including ship components, planetary installations and terraforming.



To find an item quickly, select a technology category from this dropdown list.

Resource costs and weight.

Technical stats and capabilities.

Warnings and special notes about availability and race requirements.

Select to show only technologies you can currently build.

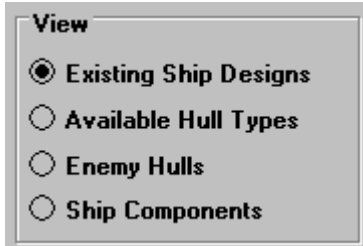


Click on the picture of a hull to see a popup showing information on the that ship's hull design.

Ship Designer

The ship designer allows you to view and edit existing ship designs and design new ships as hull types become available through construction research.

View Selector



Existing Ship Designs displays all your current ship hull types and component configurations.

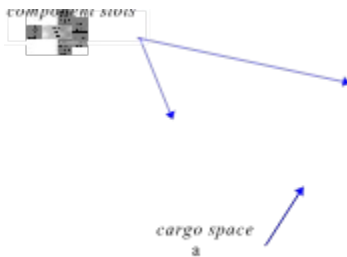
Available Hull Types displays the ship hulls available to you at the current level of construction technology.

Enemy Hulls displays hull designs for enemy ships you have scanned, and component configurations for enemy ships you have battled.

Ship Components displays an inventory of all available ship components.

Ship Schematic

Ship schematics show the type and number of components a hull is designed to hold. The schematic is made up of component slots that only accept the type and number of components indicated by their labels. *Cargo spaces only show cargo capacity - they do not accept components.*



The cost, mass, fuel capacity, and shield and armor strengths of a ship are shown in the lower-right corner of the Ship Designer dialog. The values change as components are added or removed.

| | | | |
|------------------------------|--------------|------------------|--------------|
| Cost of one Privateer | | | |
| Ironium | 58kT | Max Fuel: | 175kT |
| Boranium | 6kT | Shields: | 450dp |
| Germanium | 23kT | Armor: | 300dp |
| Resources | 72 | | |
| Mass: | 108kT | | |

Ship Component List

The ship component list is the parts inventory used to build a new ship or edit an existing design. New components are automatically added to the list as construction research levels increase.

Selecting a component category from the dropdown list screens out all other components. This can save time when the list of all components becomes too long for a quick scroll.



Click here to display a list of component categories. Select a category to display only those components.



Right-click on a component to see technical details and cost.

When a component is selected, the cost and mass of the item are shown in the lower-left corner of the Ship Designer dialog.

| | |
|---|------|
| Cost of one Anti-Matter Pulverizer | |
| Ironium | 10kT |
| Boranium | 80kT |
| Germanium | 25kT |
| Resources | 130 |
| Mass: 21kT | |

See these Topics:

[Designing a New Ship from Scratch](#)

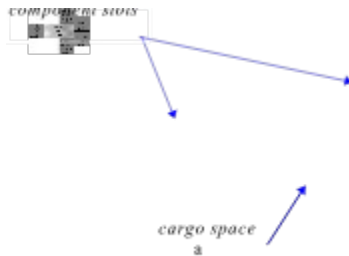
[Editing an Existing Ship Design](#)

[Deleting an Existing Design](#)

[Learning About Enemy Hulls](#)

Ship Schematic

Ship schematics show the type and number of components a hull is designed to hold. The schematic is made up of component slots that only accept the type and number of components indicated by their labels. *Cargo spaces only show cargo capacity - they do not accept components.*



The cost, mass, fuel capacity, and shield and armor strengths of a ship are shown in the lower-right corner of the Ship Designer dialog. The values change as components are added or removed.

| | | | |
|------------------------------|--------------|------------------|--------------|
| Cost of one Privateer | | | |
| Ironium | 58kT | Max Fuel: | 175kT |
| Boranium | 6kT | Shields: | 450dp |
| Germanium | 23kT | Armor: | 300dp |
| Resources | 72 | | |
| Mass: | 108kT | | |

Ship Component List

The ship component list is the parts inventory used to build a new ship or edit an existing design. New components are automatically added to the list as construction research levels increase.

Selecting a component category from the dropdown list screens out all other components. This can save time when the list of all components becomes too long for a quick scroll.



Click here to display a list of component categories. Select a category to display only those components.



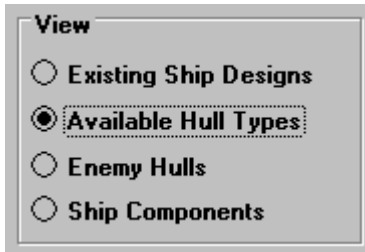
Right-click on a component to see technical details and cost.

When a component is selected, the cost and mass of the item are shown in the lower-left corner of the Ship Designer dialog.

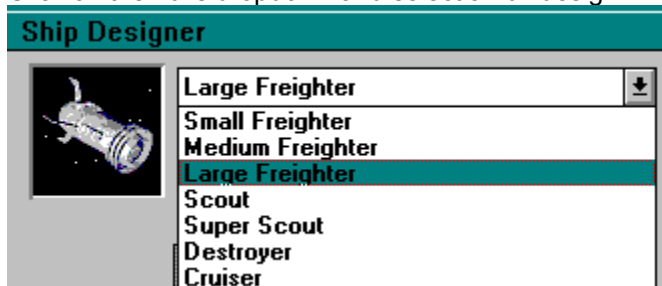
| | |
|---|------|
| Cost of one Anti-Matter Pulverizer | |
| Ironium | 10kT |
| Boranium | 80kT |
| Germanium | 25kT |
| Resources | 130 |
| Mass: 21kT | |

Designing a New Ship from Scratch

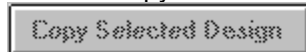
1. Select Available Hull Types.



2. Click on the hulls dropdown and select a hull design:

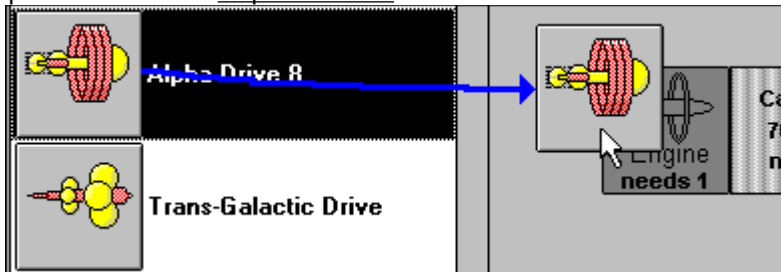


3. Click on Copy Selected Design.

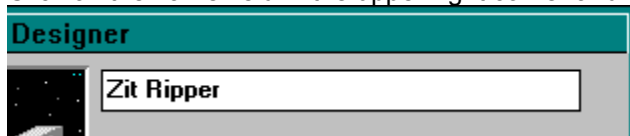


4. If the Copy Selected Design button is shadowed, there are 16 existing designs. 16 is the maximum number of designs you can have at one time. You must delete one existing design before you can design a new ship.

5. Attach components to the hull by dragging them from the [ship component list](#) over to a compatible tile on the ship schematic.



6. Click on the name field in the upper-right corner and type in a name for the new ship design.

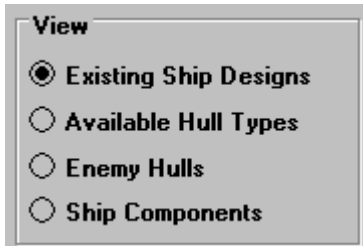


7. Click on **OK**.

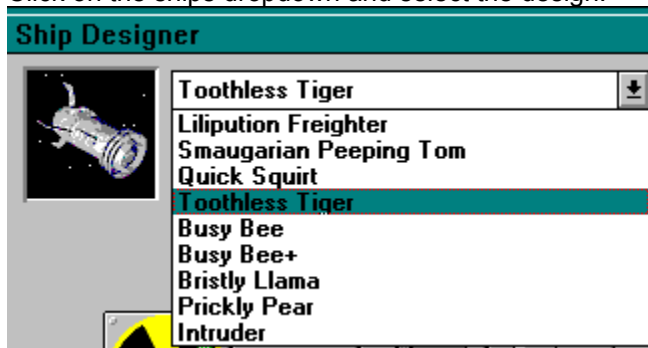
Editing an Existing Ship Design

Do the following if you want to change an existing design or create a new design based on the existing design. You can edit a design only if none of your current ships use that design.

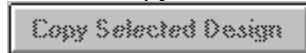
1. Select Existing Ship Designs.



2. Click on the ships dropdown and select the design.



3. Click on Copy Selected Design.

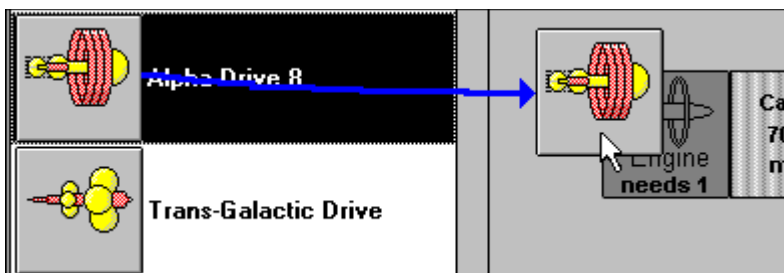


If the **Copy Selected Design** button is shadowed, there are 16 existing designs. 16 is the maximum number of designs you can have at one time. You must delete one existing design before you can design a new ship.



If the **Edit Selected Design** button is shadowed, there are existing ships based on this design. Only designs on which no existing ships are based may be edited. See [Deleting an Existing Design](#).

4. Drag the component to be removed from the [ship schematic](#) to the ship component list and release.
5. If you wish, replace the old component with a new one from the ship component list. Drag it over to the same slot on the ship schematic and release.



6. Save the design:
To save the design under the same name, click on **OK**.
To rename the design (creating a new design), click on the name field in the upper-right corner and type in a name for the new ship design. Then click on **OK**.

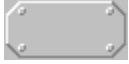
Designer



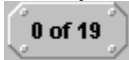
Zit Ripper

Deleting an Existing Design

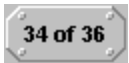
If you delete an existing design, all ships that use that design are destroyed, and their minerals are lost to the cosmos. If you wish to retrieve some of the minerals used in the ship, scrap all the ships using that design, then delete the design.



This plaque appears below ship schematics of existing designs. It tells you how many ships built on the selected design still exist. If you delete an existing design, any existing ships built with that design will be destroyed.



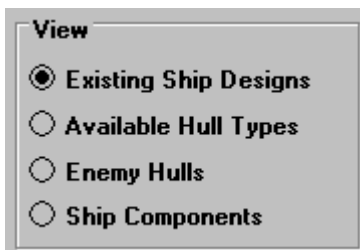
In this case, all of the 19 ships built on this design have already been destroyed. Deleting this design will destroy no existing ships.



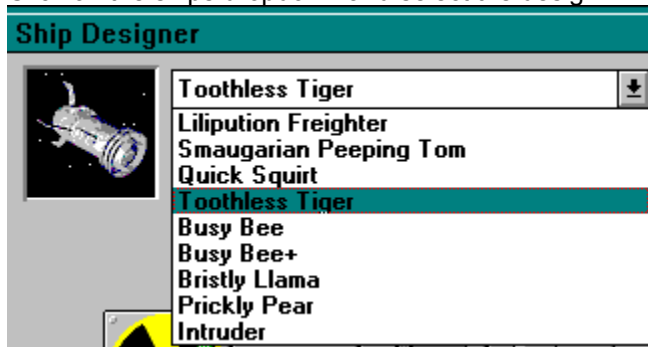
In this case, 34 out of the 36 ships built on this design remain intact. Deleting this design will destroy all 34 remaining ships.

To delete an existing design:

1. Select Existing Ship Designs.



2. Click on the ships dropdown and select the design.



3. Click on Delete Existing Design.

Learning About Enemy Hulls

When you encounter an opponent's ship, you automatically detect its basic hull type. If you enter into a battle with the ship, you learn which components are used in the design as well. To review enemy hull designs:

1. Select Review Enemy Hulls.
2. Click in the hulls dropdown and select a design.

A schematic of the ship displays. If you've encountered the ship in passing, only an empty schematic is displayed. If you've met that devil in battle, all the components are displayed. Click on a component to display further details.

Research Dialog

The research dialog displays research status and holds the controls for setting the annual budget and the field of study. You can view expected research benefits, see an estimated time to completion for current research, adjust your annual research budget, and order your scientists to change to another field of research.

The screenshot shows a window titled "Research" with a teal header bar. It is divided into several sections:

- Technology Status:** A table with two columns: "Field Of Study" and "Current Level".

| Field Of Study | Current Level |
|---|---------------|
| <input checked="" type="radio"/> Energy | 6 |
| <input type="radio"/> Weapons | 10 |
| <input type="radio"/> Propulsion | 12 |
| <input type="radio"/> Construction | 12 |
| <input type="radio"/> Electronics | 7 |
| <input type="radio"/> Biotechnology | 6 |
- Currently Researching:** A box containing the text "Energy, Tech Level 7", "Resources needed to complete: 1735", and "Estimated time to completion: 1 year".
- Resource Allocation:** A box containing the text "Annual resources from all planets: 7810", "Total resources spent on research last year: 4588", "Resources budgeted for research: 15%" (with a spinner control), and "Next year's projected research budget: 3664".
- Expected Research Benefits:** A list of items: "Plasmotic Armor", "Gorilla Delagator", "Planetary Shield", "Elephant Hide Fortress", and "Neutron Shield".
- Buttons:** "Done" and "Help" buttons are located at the bottom right.

See these Topics:

[Technology Status](#)

[Expected Research Benefits](#)

[Currently Researching](#)

[Resource Allocation](#)

Technology Status

| Technology Status | |
|---|---------------|
| Field Of Study | Current Level |
| <input checked="" type="radio"/> Energy | 6 |
| <input type="radio"/> Weapons | 10 |
| <input type="radio"/> Propulsion | 12 |
| <input type="radio"/> Construction | 12 |
| <input type="radio"/> Electronics | 7 |
| <input type="radio"/> Biotechnology | 6 |

Technology Status shows your current level of achievement in each area of technology. Tech levels range from 0 to 26. For every tech level you achieve above the minimum required to produce an item, the cost of that item is reduced by 5% (continued technical advancements improves production, thereby lowering costs).

When you select a technology, research will continue in that field until you reenter the research dialog and change the field of study setting.

Expected Research Benefits



Expected Research Benefits lists the items that further research in the selected field of study will make available. The color of each item indicates how many more levels of research are required to make that item available:

- ◆ **Green** -- will be available at completion of the current level.
- ◆ **Blue** -- will be available after 2 - 4 more levels.
- ◆ **Black** -- will be available after at least 5 more levels.

The levels of research required to build an item vary. Some items require only one level in one area, while others require several levels in two or more fields (the Dolphin Scanner requires the following minimum tech levels: energy level 5, electronics level 10 and biotechnology level 4).



When you move the cursor to an item in the list, the help cursor appears. Left click and hold to see the technical details and cost of that item.

Currently Researching

| |
|---|
| Currently Researching |
| Energy, Tech Level 7 |
| Resources needed to complete: 1735 |
| Estimated time to completion: 1 year |

Currently Researching shows the status of research in the selected field of study.


Resources needed to complete

Resources needed to complete current research. If you invest more resources than are necessary to complete the current technology, the excess resource may be partially applied against the next level's research expense.

Estimated time to completion

The years-to-completion number is based on values that change from year to year and is almost always conservative. The number cannot anticipate resource expansion due to population growth and construction, nor can it anticipate any resources freed when Production Queues become empty.

Resource Allocation

| Resource Allocation | |
|--|---|
| Annual resources from all planets: | 7810 |
| Total resources spent on research last year: | 4588 |
| Resources budgeted for research: | 15%  |
| Next year's projected research budget: | 3664 |

Resource Allocation shows the detail of your current resource budget and allows you to adjust the percentage of available resources that are spent on research.

Annual resources from all planets

Shows the total resources you have at your disposal.

Total resources spent on research last year

Shows how many resources were actually spent on research last year. This can differ dramatically from last years projected research budget due to uncalculated increases in productivity, population growth and leftover resources from planetary production queues.

Resources budgeted for research

Specifies the amount of each planet's total resources to siphon off for research before allocating to production. (A planet with 100 resources will have only 85 resources available for production if the research percentage is set to 15%.)

Planets whose production queues are empty or blocked due to a shortage of minerals will automatically allocate all of their resources to research.



You may adjust the research percentage from 0% to 100%. Hold down the SHIFT key and left-click on the arrow buttons to raise or lower the number in 10% intervals.

Next year's projected research budget

A conservative guess of how many resources will be invested in research in the coming year. (conservative unless you are currently being slaughtered by another player's bombers - then it may be liberal due to diminished output the next year on the planet(s) currently being attacked)

Cargo Transfer Dialogs

The cargo transfer dialog enables you to transfer fuel, minerals and colonists from a planet to a fleet in orbit, from a fleet in orbit to a planet and from fleet to fleet. Transfers can be made to another player as well as between planets and ships you own.



All transfer dialogs work the same: the fleet or planet you are commanding is shown on the left half of the dialog, the fleet or planet you're transferring cargo to or from is on the right. The amount of cargo available for transfer on either object is shown in the gauges on both sides. If the object on the right belongs to an opponent, the gauges for that object will initially register 0.

Click on one of the following to learn more about a specific type of cargo transfer:

[Between Your Planet and Your Fleet](#)

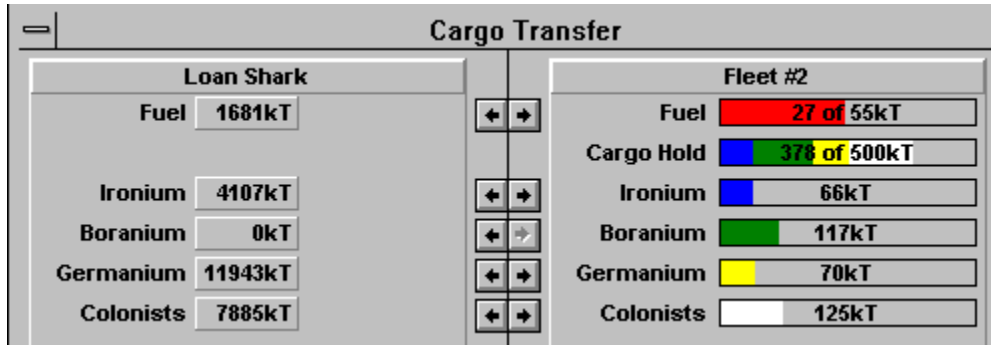
[Between Your Fleet and a Planet](#)

[Between Your Fleets](#)

[Between Your Fleet and an Opponent's Fleet](#)

Between Your Planet And Your Fleet

While commanding a planet, click on the **Cargo** button in the Fleets in Orbit tile of the Command pane. The cargo transfer dialog appears as shown below:



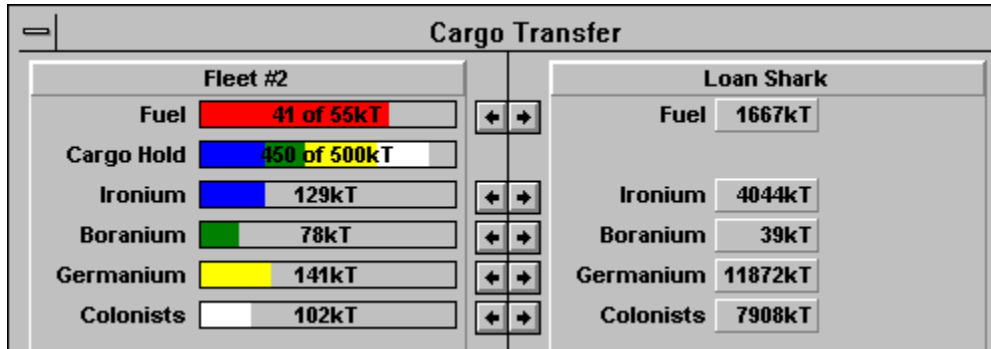
The numbers on the planet side of the dialog represent the total planetary supply of fuel, minerals and colonists. To transfer cargo between your planet and your fleet, do one of the following:

- ⇒ Click in gauge next to the cargo name and drag.
- ⇒ Click on the arrows.

Tip: Shift-click to transfer cargo in units of 10. Ctrl-click to transfer in units of 100.

Between Your Fleet and a Planet

While commanding a fleet, click on the **Xfer** button in the planet tile or click on the Cargo gauge in the Fuel & Cargo tile. The cargo transfer dialog appears as shown below:



The numbers on the planet side of the dialog represent the total planetary supply of fuel, minerals and colonists. The gauge labeled Cargo Hold shows the combined cargo weight.

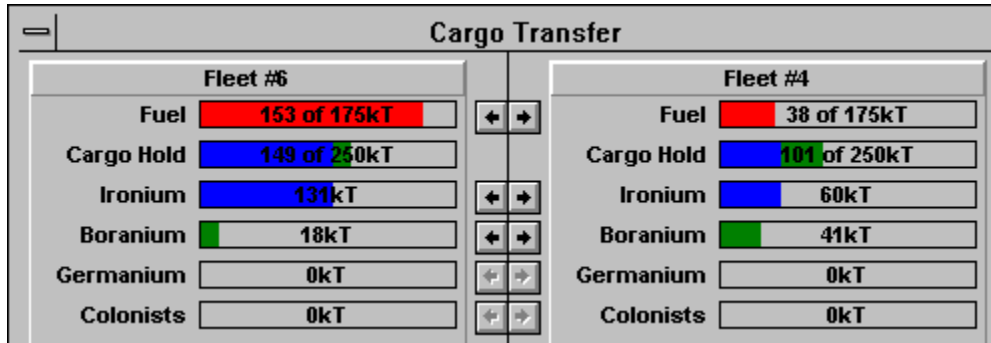
To transfer cargo between your planet and your fleet, do one of the following:

- ⇒ Click in gauge next to the cargo name and drag.
- ⇒ Click on the arrows.

Tip: Shift-click to transfer cargo in units of 10. Ctrl-click to transfer in units of 100.

Between Your Fleets

While commanding a fleet, select another fleet in the [Other Fleets Here](#) tile, then either click on the Cargo button or click in the cargo gauge. The cargo transfer dialog appears as shown below:



The box labeled Cargo Hold is a gauge that shows the combined cargo weight.

To transfer cargo between your planet and your fleet, do one of the following:

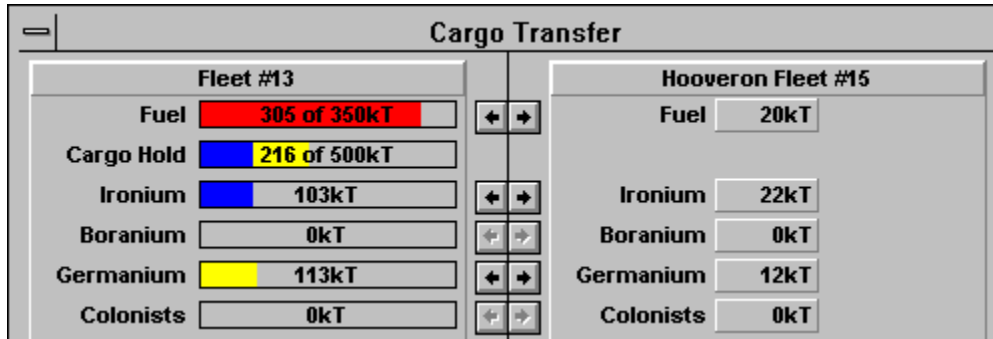
⇒ Click in gauge next to the cargo name and drag.

⇒ Click on the arrows.

Tip: Shift-click to transfer cargo in units of 10. Ctrl-click to transfer in units of 100.

Between Your Fleet and an Opponent's Fleet

While commanding a fleet, select an opponent's fleet from the [Other Fleets Here](#) tile, then either click on the Cargo button or click in the cargo gauge. The cargo transfer dialog appears as shown below:



In this dialog, you are not able to see how much fuel, minerals or colonists the other player's fleet is currently holding. The gauges on the other player's side of the dialog start off at zero and increase to show only the amount you transfer to that fleet. If you later rendezvous with that fleet and they are still carrying all their cargo, you will still see just the amounts you transferred to them in their gauges. The box labeled Cargo Hold is a gauge that shows the combined cargo weight.

To transfer cargo between your planet and your fleet, do one of the following:

- ⇒ Click in gauge next to the cargo name and drag.
- ⇒ Click on the arrows.

Tip: Shift-click to transfer cargo in units of 10. Ctrl-click to transfer in units of 100.

Ship Transfer Dialog

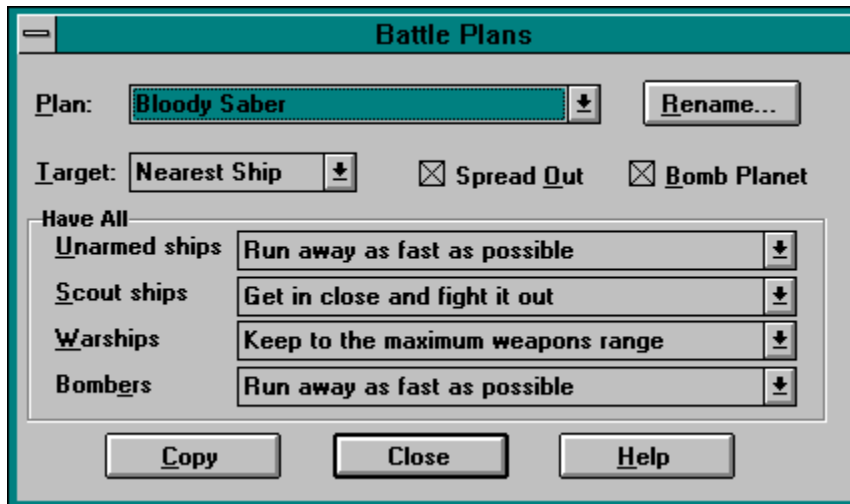
Use the ship transfer dialog to reassign ships to other fleets. While commanding a fleet, select another fleet in the Other Fleets Here tile, then click on **Ships**. The Ship Transfer dialog opens. The list of ships in each side of the dialog are all the ship types in the two fleets combined.



Click on the arrows to transfer ships between fleets.

Battle Plans Dialog

The Battle Plans dialog allows you to view or change the battle plans for a selected fleet. You can open the Battle plans dialog using the **Commands (Battle Plans...)** menu command or through the [Waypoint Task tile](#).



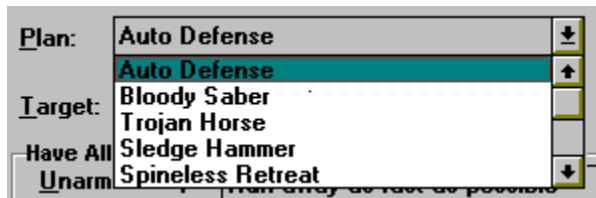
See these Topics:

[Viewing a Battle Plan](#)

[Changing a Battle Plan](#)

[Adding a New Battle Plan](#)

Viewing a Battle Plan



Select an existing battle plan from the **Plan** dropdown. The current settings for that plan display in the dialog.

Changing a Battle Plan

1. Select an existing battle plan from the **Plan** dropdown.
2. In the **Target** dropdown, select a primary target for the fleet to attack. If there are no targets that match this setting, your fleet will attack the nearest target belonging to whoever you have ordered the fleet to attack.
3. Under **Have All**, select a battle strategy for each type of ship:

Run away as fast as possible -- after a small delay, these ships retreat at maximum warp.

Slowly back away, attacks permitted -- these ships take slightly longer retreat because as they back away and prepare for warp, they are spending time shooting back.

Act as decoys for the rest of the fleet -- these ships pull away from the main fleet to distract the enemy away from the rest of the fleet while it prepares to attack or retreat.

Keep to the maximum weapons range -- under all circumstances, these ships try to keep as far away as possible from whatever enemy they are attacking. This is a useful strategy for using torpedoes which can be fired from great distance but also will inflict collateral damage to the attacker if they are too close to the impact.

Keep to the optimal weapons range -- these ships get as far away as possible without leaving the most effective range for the weapons they are using to attack. This is a useful strategy for using beam weapons which diminish in power as the range extends beyond a certain distance. For torpedoes the optimal range is the maximum range.

Get in close and fight it out -- if you know your opponent has only torpedoes, then getting in close will cause him collateral damage if he hits you.

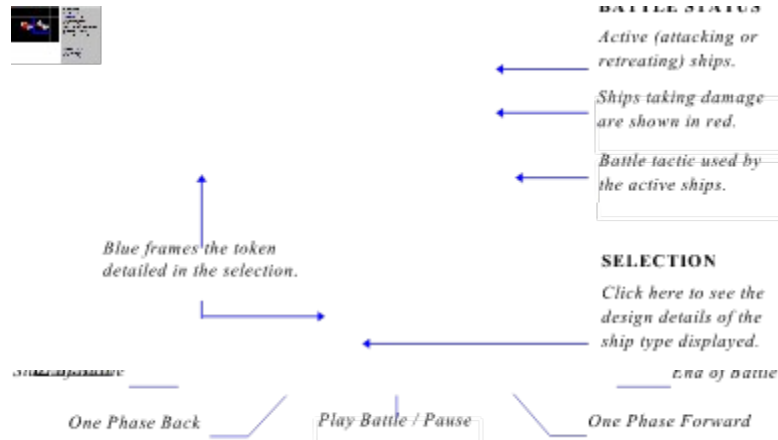
- ⇒ Check the **Spread Out** box to put some distance between ships in the fleet. This will help prevent all your fleets from being targeted easily by a single large warship.
- ⇒ Check the **Bomb Planet** box if you want bombers to release their bombs upon arrival at the waypoint.

Adding a New Battle Plan

1. Click on the **Copy** button to copy an existing plan. If the list is full (14 plans), select an existing plan you are willing to replace.
2. Select the options you want.
3. Click on the **Rename** button and type in a new name.
4. Click on **OK**.

Battle VCR

This dialog allows you to replay a battle in which your fleet or the enemy's fleet took damage or were destroyed. The VCR displays each ship type involved in the battle on a grid, or *battle board*. Use the VCR control buttons to step back and forth through phases of the battle.



The ship displayed in a square represents one or more ships and is called a token. A token is a stack of identical ships from a single fleet--like a company of specialized soldiers within a larger army. The selection detail to the right of the battle board tells you three things about the selected token:

- ◆ who owns the ship(s).
- ◆ the number of ships remaining (the number following the asterisk; for example, Toothless Tiger *1).
- ◆ the number of ships destroyed (the number following the minus sign; for example, Rip Snorter *2 (-1)).



A small plus sign is shown for each token also at this location but not currently displayed. These plus signs may indicate other player's tokens as well as your own.

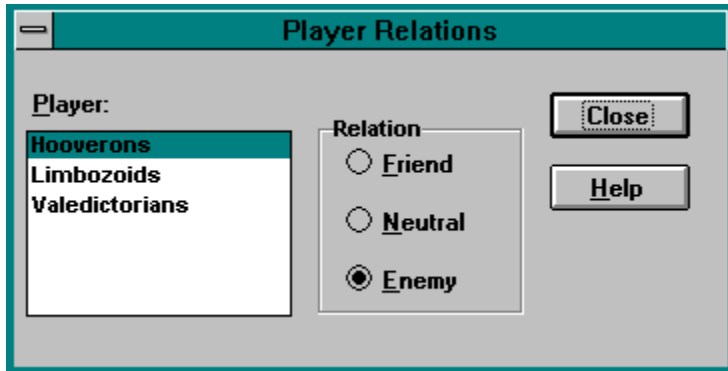
Left-click on a token to select it. Right-click to display a list of all the tokens at that location or keep left-clicking to cycle through them. The battle status detail tells you whether ships are attacking or fleeing, and whether they are taking damage. It also displays the tactic being employed by the active ship. This helps you figure out your opponents battle strategies.

For a more detailed description of what takes place in the VCR, read [About the Battle Board](#).

Player Relations Dialog

Multi-player Games Only

The Player Relations dialog determines your relationship to other players for the purpose of giving attack orders. You can open the Player Relations dialog using the **Commands (Player Relations...)** menu command or through the Waypoint Task tile.



One on One...

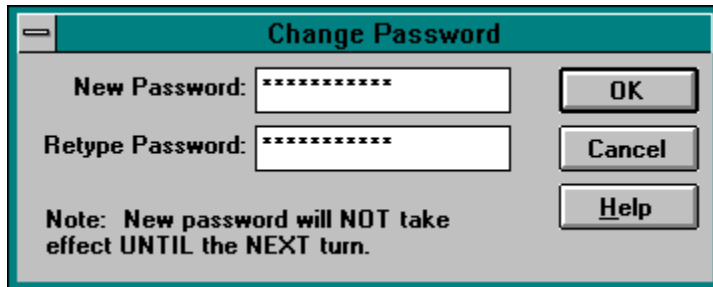
In the Waypoint Task tile you can order an attack on a specific race or on combinations of races by grouping them under enemies. Specifying a player as a friend prevents you from selecting them under the neutral or enemies category when you specify a target. You can change your relationship with another player at any time during the game. The change takes effect immediately.

All for One...

If reach a waypoint and encounter a friend involved in a battle with a player you've marked as a neutral or an enemy, you'll be automatically pulled into the battle to help defend your friend. If both the battling players are marked as your friend, then you are not affected unless you choose to join the battle voluntarily.

Change Password

Multi-player Games Only



New Password: [*****] **OK**

Retype Password: [*****] **Cancel**

Note: New password will NOT take effect UNTIL the NEXT turn. **Help**

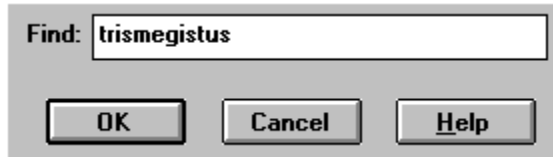
This dialog allows you to create a new password for your race or to change an existing one.

1. In the **New Password** field, type in a password up to 16 characters long. The characters appear as asterisks as you type.
2. Press TAB and retype the password in the **Retype Password** field. Since the letters are hidden as you type, this step helps catch mistypes before you lock yourself out of the game.
3. Press ENTER or click on **OK**.

If the password and retyped password do not match, you are prompted to type them again.

Find Planet or Fleet

Use this command to find a planet or fleet quickly.



To display the Find dialog Press **CTRL F**.

To find a planet

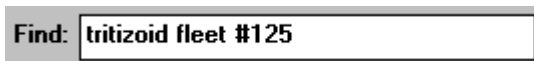
⇒ Enter the name of the planet, using either upper or lower case. Partial names comprised of the first few letters of the planet will work provided no two planets share those first letters. The more letters you type, the more accurate the search will be.

To find a fleet of your own

⇒ Enter the fleet number using any format (i.e. fleet #58, fleet 58, #58, 58, etc..).

To find another player's fleet

⇒ Enter the fleet identification using this format:



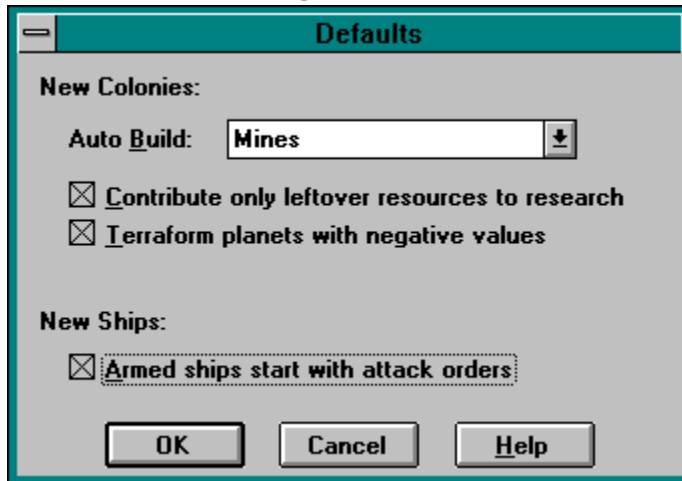
race name the word "fleet" #(fleet number).

When a planet or fleet is found, a yellow selection arrow will move to that location. If the planet or fleet is outside the current view, you will need to scroll the scanner pane or decrease the zoom to find the location.



If Stars! says it cannot find a planet or fleet by that name, try again, making sure you type the correct name or number, or that you used the correct format for finding another player's fleet. If you still can't find a fleet, it may not exist any more.

Defaults Dialog



New Colonies - Auto Build

These default settings will apply to all newly colonized planets. It does not apply to colonies you establish by overcoming an opponent through ground combat.

To select a default:

1. Open the dropdown list and select a thing to auto-build.
2. Click on **OK**.

New Colonies - Auto Leftovers to Research

Select this default to divert excess resources to research on all newly colonized planets. This functions the same as the *Contribute only leftover resources to research* option in the Production dialog.

New Colonies - Auto Terraform

Select this default to add terraforming to the production queue of every new colony. The planet will be terraformed only for those environmental attributes which have a negative value. You must possess the terraforming technology needed to transform the factor that is out of range and the terraforming will continue only until the negative values reach zero. To continue terraforming you'll then have to add terraforming to the queue manually.

New Ships - Auto Attack

Select this default to specify that all armed ships will come out of production with attack orders. They are assigned the battle plan immediately following Auto Defense in the battle plan list. To view this plan, open the Battle Plans dialog.

Score Dialog

Multi-player Games Only



A screenshot of a score dialog box titled "Current Score For The Hawks". The dialog has a teal header bar with a minus sign icon on the left. The main content area is light gray and contains a table of scores for various assets. Below the table, it states "Your rank is #1 out of 15 players." At the bottom, there are two buttons: "Done" and "Help".

| | | |
|----------------------|--------------------|-------------|
| Planets: | 80 @ 6 = | 480 |
| Starbases: | 6 @ 10 = | 60 |
| Small Ships: | 33 @ 1 = | 33 |
| Medium Ships: | 15 @ 3 = | 45 |
| Large Ships: | 0 @ 7 = | 0 |
| Tech Levels: | 50 @ 3 = | 150 |
| Resources: | 7734 / 25 = | 309 |
| Total: | | 1182 |

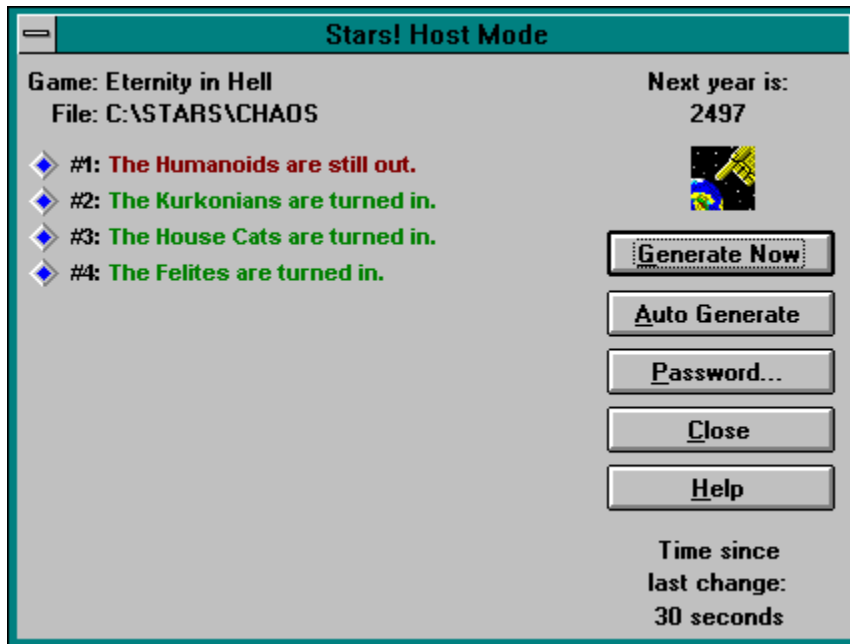
Your rank is #1 out of 15 players.

Each asset a player controls is worth a certain number of points. The score dialog shows the current tally of points for each asset and how you fare against other players based on the point total.

Host Mode Dialog

Multi-player Games Only

The host mode dialog is used only by the host of a multi-player game. The person acting as host can choose to manually or automatically generate a new turn when all players have submitted their turns.



Roll Call

- ◆ #1: The Humanoids are turned in.
- ◆ #2: The Mensoids are still out.
- ◆ #3: The Golems are turned in.
- ◆ #4: The Cleavers are turned in.

The upper-left corner of the dialog displays player status. Click on the blue diamond to learn whether a player is human or AI, and to change a human player from Active to Inactive. Once a player is inactive, a marginally competent AI takes over for the absent player to run his empire. When the player returns, click on the button again, selecting Active Player.

The dialog displays player's status as dead if they have been eliminated and no longer waits for a turn to be submitted by deceased players. The dialog also shows the status of players who have saved turn changes, but not marked their log file as turned in.

One Step Ahead

Next year is:
2550

The upper-right corner of the dialog displays the year of the next turn. All games start in the year 2400.

Hurry Up and Wait

Time since

last change:
30 seconds

The amount of time since any change has been made, including the last time a player submitted or unsubmitted a turn, or when host mode was entered--any change made that would affect host mode.

Stars! The Next Generation

Generate Now

Click to manually generate a new turn. This forces the turn to be generated regardless of whether all players have submitted their turns. In network games, all turn data saved by each player who hasn't yet submitted changes is used. **All unsaved changes made in unsubmitted turns will be lost.**

Auto Pilot

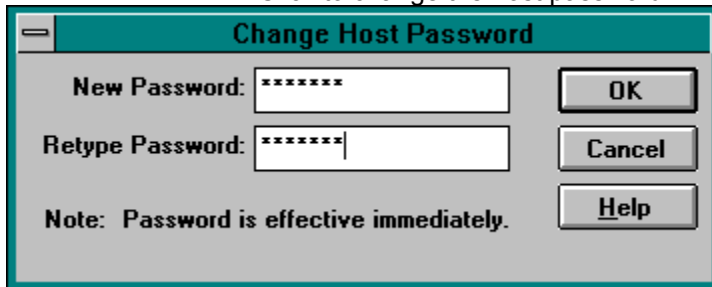
Auto Generate

Click to tell Stars! to automatically generate turns when all players have submitted their changes. Stars! will continue to poll the play directory, waiting for all players to submit their turns. If the Host Mode dialog is visible, it will only poll the play directory to see which players have submitted turns and which players are out. It will not automatically generate the turns.

Don't Use Your Dog's Name

Password...

Click to change the host password. The following dialog appears:

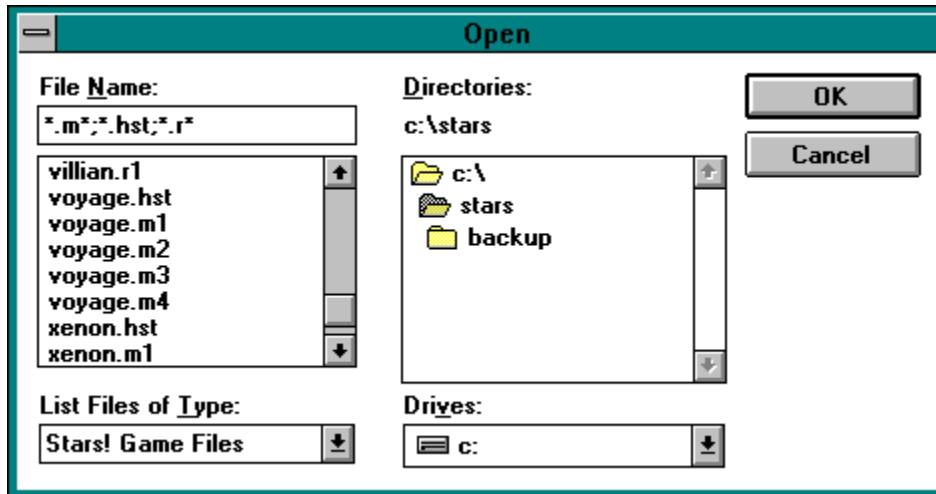


This dialog allows you to create a new host password or to change an existing one.

1. In the **New Password** field, type in a password of up to 16 characters long. The characters appear as asterisks as you type.
2. Press TAB and retype the password in the **Retype Password** field. Since the letters are hidden as you type, this step helps catch mistypes before you lock yourself out of the game.
3. Press ENTER or click on **OK**.

If the password and retyped password do not match, you are prompted to type them again.

File Open Command



This standard file browser dialog allows you to open files saved on your machine and on network drives. These are the three types of files that a host or player has access to:

gamename.hst

This is the file containing the information the host program needs for a specific game. This file should be available only to the person playing the host. If the file is password-protected, you will be asked for a password.

gamename.mN

N is a number from 1 to 16, representing the player number. This is the individual file for each player, containing all the data about that player's race and state of the player's empire at the beginning of a turn. Both the player and the host maintain copies of this file.

You can load the current turn in a game by opening the **.m** file which has your player number in the extension. If the file is password-protected, you will be asked for a password.

name.rN files

This file contains a race description created and saved using the [Custom Race Wizard](#). If you open this file from **File (Open)**, the Custom Race Wizard opens. If the file is password-protected, you will be asked for a password.

Password Notes

If you forget or lose your password, there is nothing you can do to open the password-protected game. We hope you're not reading this because you've forgotten. Don't worry, empires come, empires go.

There is no valid password for AI players.

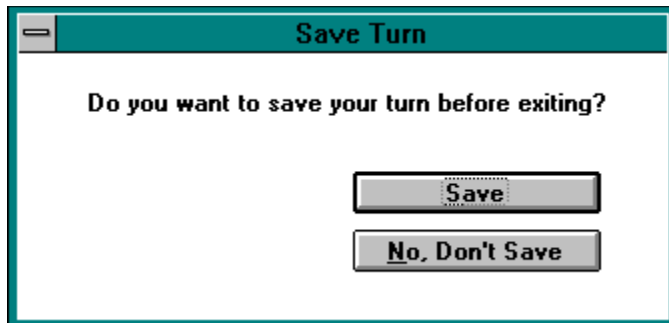
There is no valid password for inactive players. When the player becomes active again, they get their old password back.

Save File Commands

Saving a File

Use the Save command to save the current state of your game. This is useful if you need to exit the game before you finish your turn. When you restart Stars! just click on the **Continue Game** button to resume where you left off.

If you close the game before saving you will get this alert.

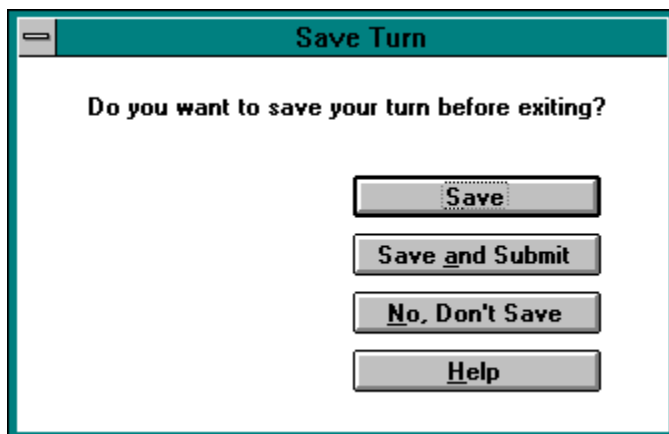


Save and Submit

Multi-player Games Only

Use the Save and Submit command to save the current state of your game and submit your turn. In multi-player games, this marks your turn as finished so the host can auto-generate. Save does not.

If you close the game before saving you will get this alert.



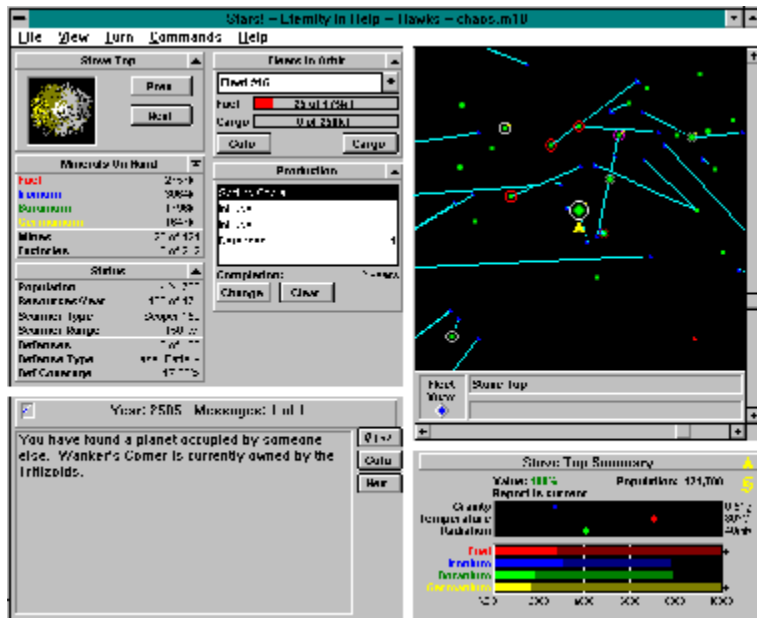
The Big Picture

The Stars! screen is divided into four parts or *panes*: the Command pane (upper left), the Messages pane, the Scanner pane (upper right) and the Selection Summary pane.

Click on a pane to learn more about that section of the Stars! screen.

Command pane

Scanner pane



Messages pane

Selection Summary pane

This picture represents Medium Screen layout. For small and large screens, the layout will be slightly different.

Screen Layout

Changing the Basic Layout

From the main menu, select **View (Window Layout)**. Select **Small Screen**, **Medium Screen** or **Large Screen**. Choose the screen layout that works best with your [video resolution](#).

Shrinking and Growing Panes



You can change the size of each the four panes. Move the cursor to the line dividing panes. The cursor changes to indicate the directions the border can be dragged. Left-click and hold, then drag the cursor to a new position and release.

The Command Pane

Use the Command pane to assign tasks to your planets and fleets. When you select a fleet or planet that you own, it appears in the Command pane. Use the tiles in the Command pane to assign tasks or view information about the selected object.



This tile is used to assign commands to your fleets.

There is a tile for each type of command you can give a planet or fleet. You can move and collapse these tiles, arranging and displaying them in any order you wish.

The following picture shows the tile that appears when you command a fleet. If you select a planet that you own, its picture and name appear in the tile.

To move a tile, click here and drag, letting go when the tile is close to the new location.



Click here to collapse a tile.



Click here to expand a tile.



See these Topics:

[Commanding a Planet](#)

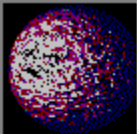
[Commanding a Fleet](#)

Commanding a Planet

Use the Command pane to display information and give orders to your planets. Planet tiles containing information and commands appear when you select a planet you own from the [Scanner pane](#). If you have a fleet in orbit of the planet you're commanding, you can click on the **Goto** button in the [Fleets in Orbit tile](#) to command that fleet.

To find out where the planet you're commanding is located in the universe, look in the Scanner Pane. A summary of the planet appears in the [Selection Summary pane](#). Here, the planet Garfunkel is displayed in the Command pane.

To learn more about a tile, click on the picture.

| Garfunkel | |
|---|--|
|  | <input type="button" value="Prev"/> <input type="button" value="Next"/> |
| Minerals On Hand | |
| Fuel | 3710kT |
| Ironium | 157kT |
| Boranium | 434kT |
| Germanium | 106kT |
| Mines | 13 of 35 |
| Factories | 10 of 35 |
| Status | |
| Population | 35,500 |
| Resources/Year | 45 of 45 |
| Scanner Type | Viewer 50 |
| Scanner Range | 50 light years |
| Defenses | 10 of 15 |
| Defense Type | SDI |
| Def Coverage | 14.2% |

| Fleets in Orbit | |
|---------------------------------------|--------------------------------------|
| Fleet #2 | ↓ |
| Fuel | 40 of 100kT |
| Cargo | 25 of 25kT |
| <input type="button" value="Goto"/> | <input type="button" value="Cargo"/> |
| Production | |
| Mine | 1 |
| Small Colonizer | 2 |
| Completion: | 1 year |
| <input type="button" value="Change"/> | <input type="button" value="Clear"/> |

See these Topics:

[Planet Tile](#)

[Production Tile](#)

[Minerals on Hand Tile](#)

[Fleets in Orbit Tile](#)

[Switching to Commanding Fleets](#)

Planet Tile



*Click here and
here to display
other planets
you own.*

This tile shows the planet currently selected to command. Switch to commanding to other planets you control by clicking on **Prev** and **Next**.

Production Tile



Estimated time to completion of the highlighted item.

Open the Production dialog.

Clear the entire production queue.

The Production tile displays the contents of the production queue for the planet you are commanding. It is also your primary entry point into the Production dialog, where you set up production for each of your planets.

Green items will be produced at the end of the current turn.

Blue items will have at least one of the items shown produced at the end of the current turn.


Black items require more than one turn before anything is produced.

Red items at least one of the items will never be built, due to a lack of required minerals.

- ⇒ To open the Production dialog, click on **Change**. Use this dialog to view and change the production queue for one or more of your planets
- ⇒ To remove everything from your production queue, regardless of completion status, click on **Clear**. Minerals and resources spent on partially completed items are lost if an item is removed before completion.

Status Tile



 Left-click in each section of the Status tile to display more information about the current population, scanners and defenses. Learn more about the different scanner and defense types by visiting the Planetary section of the Technology Browser (press F2).

Population Status

Population -- How many of your people live on the selected planet.

Resources/Year -- This number is based on the size of the population and modified by the Value shown in the Selection Summary pane. You increase resources by increasing the population and, if the population growth potential is less than 100%, by terraforming the planet. Each year you get one resource for every N colonists, and N resources for every 10 factories you've built. Of course, factories also cost resources to build.

The population growth potential is based on a maximum population size of 1,000,000. Maximum growth occurs only on planets that are 100% optimum for your race. The Value in the Selection Summary pane indicates the percentage of the maximum number of your people the planet will support.

To learn how many colonists it takes to generate one resource and how many resources 10 factories can create, open the View Race dialog to page 3 (press F8, click on **Next** 2 times.)

Planet's Scanner Status

Scanner Type -- Type of scanner deployed on the planet surface.

Scanner Range -- Range of the scanner in light years.

Planet's Defense Status

Defenses -- Number of defenses deployed out of the maximum you can produce, given your population.

Defense Type -- Current technology of the defenses.

Defense Coverage -- Estimates how many of an enemy's bombs and troops the current defenses will stop.

Minerals on Hand Tile



Minerals available for immediate use.

Available and possible mines and factories.



Left-click on each statistic in the Minerals on Hand tile to display more information about the planet's mineral supply, mines and factories.

Mineral Statistics

This tile lists type and quantity of minerals on the planet surface, including fuel. These minerals are ready for immediate use in [production](#). The total mineral supply, both above and below the surface, is displayed in the [mineral content graph](#) of the Selection Summary pane and is also available by Left-clicking on each of the values in this tile.

Mine and Factory Statistics

The current number of [mines](#) and [factories](#) on this planet and the total number that you can currently operate are displayed. The number you can operate is determined by your current population. Since your population changes from year to year, the maximum number your people can operate will also change. To determine how many mines X number of your colonists can operate, look at [page 3](#) of the View Race dialog.

In the picture above, 10 out of a maximum of 28 mines and factories currently exist. This means that the current population can operate 28 of each facility. If more than 28 mines or factories are built, they will sit idle until the population increases.

Fleets in Orbit Tile

Click on fleet
from this list. —

Click and drag to transfer fuel
between the fleet and planet.

Click on Goto to
command the fleet. —

Click to transfer cargo
between the fleet and planet.

The fleet dropdown lists all fleets in orbit of the planet you are currently commanding. Fleets you own are listed in black. If you own the fleet, you can transfer any amount of fuel and cargo between the fleet and planet, limited only by the carrying capacity of the fleet.

Fleets belonging to other players are listed in red. You can transfer fuel and cargo to another player's fleet, and, if you wish, transfer up to that amount back to your planet. Once the turn is over, however, that cargo belongs to them.

⇒ To command a fleet you own that is shown in the tile, click on Goto.


⇒ To open the dialog for transferring cargo between the planet and the fleet, click on the Cargo gauge or the Cargo button.

⇒ To fuel the ship, click in the Fuel gauge and drag the cursor. Alternately, click on **Cargo** and use the transfer dialog.

In small screen layout, the Fuel and Cargo gauges aren't displayed. Click on the Cargo button to display the cargo list.

Switching to Commanding Fleets

Click on  fleet
from this list. 

Click on *Goto* to
command the fleet. 

From the Command pane, you can switch to commanding a fleet if the Fleets in Orbit tile shows that a fleet you own is in orbit. In the picture, clicking on **Goto** would change to commanding Fleet #2.

Commanding a Fleet

Planet tiles containing information and commands appear when you select a planet you own from the [Scanner pane](#). If you have a fleet in orbit of the planet you're commanding, you can click on the **Goto** button in the [Fleets in Orbit tile](#) to command that fleet.

Use the Command pane to display information and give orders to your fleets. Fleet tiles containing information and commands appear when you select a fleet you own from the Scanner pane. If your is orbiting a planet you own, you can command that planet by clicking on the **Goto** button in the [Location tile](#).

To locate the fleet in the universe, look in the Scanner pane. A [summary](#) of the fleet appears in the [Selection Summary pane](#).

To learn more about a tile, click on the picture.

The screenshot displays the Command pane interface, which is divided into several sections:

- Fleet #2**: Shows a small image of a ship and navigation buttons for 'Prev' and 'Next'.
- Garfunkel**: Contains 'Goto' and 'Xfer' buttons.
- Fleet Waypoints**: A list with 'Garfunkel' and 'Utopia' (highlighted).
- Coming From**: Displays 'Garfunkel', 'Distance' (55.04 Light Years), 'Warp Factor' (Warp 5), 'Travel Time' (3 Years), and 'Est Fuel Usage' (7kT). Includes a 'Repeat Orders' checkbox.
- Waypoint Task**: Shows 'Colonize' as the selected task. A note states: 'Note: All ships in the fleet will be dismantled to provide supplies for the colonists.'
- Fuel & Cargo**: Shows 'Fuel' (40 of 100kT) and 'Cargo' (25 of 25kT). Lists resources: Ironium (0kT), Boranium (0kT), Germanium (0kT), and Colonists (25kT).
- Fleet Composition**: Shows 'Ships In Fleet' (1) and a list containing 'Small Colonizer' (1).
- Other Parameters**: Shows 'Best Warp' (5), 'Est. Range' (330 l.y.), and 'Percent Cloaked' (38%). Includes 'Split', 'Split All', and 'Merge' buttons.
- Other Fleets Here**: A dropdown menu showing 'Fleet #3'.
- Fleet #3**: Shows 'Fuel' (20 of 50kT) and 'Cargo' (0 of 0kT). Includes 'Goto', 'Ships', and 'Cargo' buttons.

See these Topics:

[Fleet Tile](#)

[Location Tile](#)

[Fuel and Cargo Tile](#)

[Fleet Composition Tile](#)

[Other Fleets Here Tile](#)

[Fleet Waypoints Tile](#)

[Waypoint Task Tile](#)

[Switching to Commanding a Planet](#)

Fleet Tile



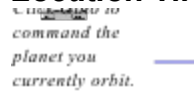
*Click here and
here to display
other fleets you
own.*

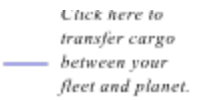
Use the **Prev** and **Next** buttons to display each of your fleets in the Command pane, allowing you to command that fleet. The picture in the tile indicates the most common ship in the fleet or the largest type of ship in the fleet.



If a fleet contains more than one distinct ship type, a small plus sign appears for each type not currently displayed.

Location Tile

 Click here to command the planet you currently orbit.

 Click here to transfer cargo between your fleet and planet.

This tile indicates whether you are in orbit or in deep space. If the fleet is in orbit, the planet name is displayed in the title bar. Here, the location tile shows that the fleet is in orbit of the planet Cherub. Selecting **Goto** switches to commanding the planet you're orbiting. The **Goto** button is disabled (shaded) if you don't own the planet.

If the fleet is in Deep Space, the Jettison button is displayed, allowing you to donate your cargo to the cosmos.

Tip: Jettison cargo if you don't have enough fuel, must reach your destination or make a fast getaway, and can't wait for another ship to reach you with fuel.

Fuel and Cargo Tile



Click and drag to
transfer fuel.

Click here to open the
Cargo transfer dialog.

Fuel -- The Fuel gauge shows the current and maximum fuel level of the fleet. Here, 40 kT of fuel is present in a 100kT tank.

⇒ To change the fuel level, left-click in the gauge and drag the cursor. You must be orbiting a planet you own to load fuel. You can also give fuel to planets that you don't own. If you decide that's a bad idea, after the fact, you can transfer the fuel back to your fleet. If your location is deep space, you can only dump fuel using this dialog.

Cargo -- The Cargo gauge shows the total amount of cargo loaded and the total cargo capacity of the fleet. The exact amount of each type of cargo loaded is listed below the gauge. In the picture, the cargo hold is full of colonists.

⇒ To display the dialog for transferring cargo, left-click in the Cargo gauge. If your location is in deep space, you can only dump cargo using this dialog.

In medium and large screen layout, the exact amount of cargo is displayed under the gauges. In small screen layout, you'll need to click in the Cargo gauge to display the cargo list.

Fleet Composition Tile



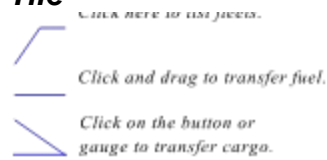
Click on the ship name to display the ship design.

Fleet stats: speed using 100% of fuel, range at that speed, and the cloak strength.

This tile shows the number and type of each ship in the selected fleet. This fleet contains a ship with the Small Colonizer hull type, with a recommended top speed of warp 5 (anything faster uses fuel at a rate of more than 100%) and an estimated range of 330 light years at that speed.

- ⇒ To display the specific design of a ship, click on the ship name. If the fleet name is in red, the ship has been damaged in battle. When you click on the name of a damaged ship, the amount of damage is listed in the popup in red.
- ⇒ To break the selected fleet into smaller fleets of a single ship each, click on **Split All**.
- ⇒ To break the selected fleet into two fleets, click on **Split**.
- ⇒ To join the selected fleet with other fleets in the same location, select the **Merge** button.

Other Fleets Here Tile



The dropdown lists all other fleets present at the selected fleet's location.

- ⇒ To switch to another fleet, choose the fleet in the list, then click on **Goto**.
- ⇒ To open a dialog to transfer ships between the selected fleet and a fleet shown in the list, select **Ships**. You must own both fleets.
- ⇒ To transfer fuel between the fleet selected in the command pane and the fleet listed in this tile, click in the Fuel gauge and drag the cursor.
- ⇒ To open a dialog for transferring cargo between the fleet selected in the command pane and the fleet listed in this tile, click on the Cargo gauge or the **Cargo** button.

In small screen layout, the Fuel and Cargo gauges aren't displayed. Click on the **Cargo** button to display the cargo list.

Fleet Waypoints Tile



This is how the tile looks when the current waypoint is selected. To adjust the speed to the next waypoint, you must first select the next waypoint. The speed control will then appear.

The Fleet Waypoints tile lists all the waypoints assigned the selected fleet. A waypoint may be a planet, another fleet or a position in deep space. The first waypoint listed is your current location. If you are in transit between waypoints, the current waypoint is shown as your coordinates in deep space. Listed below the current waypoint are future waypoints. You assign waypoints in the Scanner pane.



Right-click on the blue diamond to display a list of all items at the selected waypoint. Select an item to change the waypoint target.



Selecting this bar displays speed control for that leg of the journey.

Left-click and drag the bar to change fleet speed for this leg of the journey.

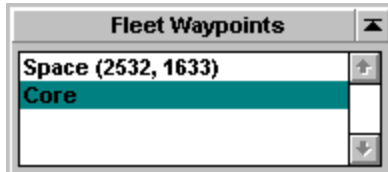
Right click here to select a new waypoint target from a list of other targets at the same location.

Warp Factor -- Left-click and drag the colored bar to adjust speed. Changing speed changes travel time and fuel usage. Here you can optimize fuel usage for travel to the selected waypoint, or for the return. Since using fuel lightens the ship's load, you may be able to increase the speed on succeeding turns without using more fuel.

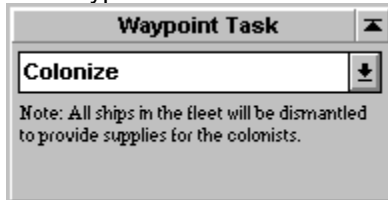
Repeat Orders -- Repeats the total set of orders you assigned using the Waypoints Task tile, until you deselect this box. Repeating orders is useful if the first waypoint in the list is the same as the last waypoint.

Waypoint Task Tile

When you select a waypoint in the [Fleet Waypoints tile](#)...



the Waypoint Task tile shows the task you ordered the fleet to perform at that waypoint.



You may alter the task at any time before the fleet reaches the waypoint. Just select the fleet, select the waypoint in the Fleet Waypoint tile, and choose another waypoint task.

This is the tile
look at the
colonized (look at a
because when no
waypoint tasks are
assigned.

The first
all the way
costs.

[Click here to
choose a waypoint
task.](#)

Note: For all waypoint tasks except *Attack*:

If the fleet comes under attack it will defend itself using the Auto Defense [battle plan](#).

Click on one of the following to learn more about a specific task:

[Transport](#)

[Attack](#)

[Colonize](#)

[Remote Mining](#)

[Scrap Fleet](#)

Transport

Choose a
load/unload
action.

Choose a
load/unload
action.

Right-click here
for Zip-Orders.

Optionally specify an
exact amount of cargo.

For **each** type of cargo specify one method for loading or unloading. For some actions you can specify the exact amount of cargo to load or unload.

When you assign an action to a cargo, the cargo name turns from black to green. This tells you, at-a-glance, which cargo has an action assigned.



Zip Orders: To quickly load fuel and assign the same action to one or more minerals, right-click on the blue diamond and choose an order from the list. If a Zip Order doesn't quite meet your needs, you can modify it in the Waypoint Tasks tile.

(no action)

No task at this waypoint.

Load All Available

Loads as much of the specified cargo as is available on the planet and fits in the available cargo space of the fleet.

Load Half Available

Loads either half of the available cargo of the specified type or fills the cargo space of the fleet whichever is smaller.

Load Up to...

Will load up to the specified amount of the specified cargo. Does not keep the fleet from moving on even if less than the required amount is available.

Wait for...

Will load the specified amount of the specified cargo. Will keep the fleet from moving on if less than the required amount is available.

Unload All

Unloads all of the cargo of the specified type currently on board.

Unload Half

Unloads half of the cargo of the specified type currently on board.

Unload exactly...

Unloads the specified amount.

Load Optimal

Fuel only. Loads or unloads as much fuel as is required such that the remainder is just sufficient to get to

the next destination.

Set Amount to...

Loads or unloads as much of the specified cargo as necessary such that the amount on board is the amount specified. Will keep the fleet from moving on if less than the required amount is available.

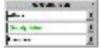
Load from Fleet

Loads all available cargo of the specified type from the target fleet. If the waypoint is set to a planet then cargo is pulled from all other fleets in orbit. Does not wait for a full load.

Wait from Fleet...

Same as Load from Fleet but keeps the fleet from moving on until it has a full load.

Attack



Select the battle plan.

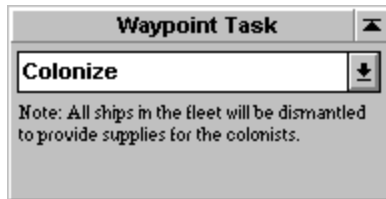
Select the opponent.

Attack an opponent's planet and/or fleet. Select your plan of attack and who you will attack. The example shown here orders the fleet to attack anyone designated as an enemy, using the Bloody Saber battle plan.

Auto Defense is the default battle plan for fleets with non-attack orders. These fleets will automatically use this plan if attacked by an enemy. When you select **Attack** in the Waypoint Tasks tile, Stars! automatically assigns the first battle plan listed after Auto Defense. Click in the battle planet dropdown to assign a new plan.

To learn what each Battle Plan contains, click in the dropdown and select **Battle Plans...** or use the **Commands (Battle Plans...)** menu command. The [Battle Plans dialog](#) appears, at your service.

Colonize



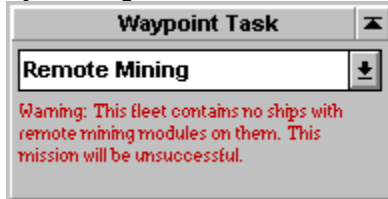
Specify this order when you first colonize a planet. To succeed, the fleet must contain a ship with a colonization module, and must be loaded with colonists. When the waypoint is reached all ships in the fleet are dismantled for raw materials used in building the colony. Once the colony is established you can use freighters to transport additional colonists.

Remote Mining

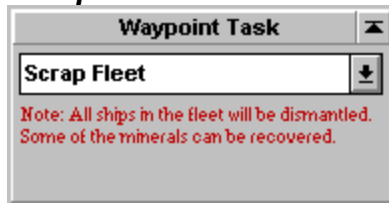


The tile also shows the result of each release: the fleet's robot miners and mine capacity. The releases are color coded:
Red: Fuel
Blue: Iron Ore
Green: Deuterium
Yellow: Genesha

Specify this order to send a fleet containing robot miners on its way to mine an uninhabited planet. If you try to assign this task to a fleet that doesn't include robot miners, the tile will display this warning:



Scrap Fleet



Specify this order to discard an out-of-date ship. Scrapping a fleet salvages a percentage of the minerals used in the ship's construction. This is a good way to get rid of ships built using a hull design that is no longer useful.

The minerals you recover are added to the minerals at the planet where the fleet is scrapped. The percentage of minerals recovered depends on the following circumstances:

- ◆ **Colonization mission** -- recovers 75% of the minerals.
- ◆ **Planet with Starbase** -- recovers 80% of the minerals.
- ◆ **Non-colonization mission** -- (to any of your planet's without a starbase): recovers 33% of the minerals.

Switching to Commanding a Planet

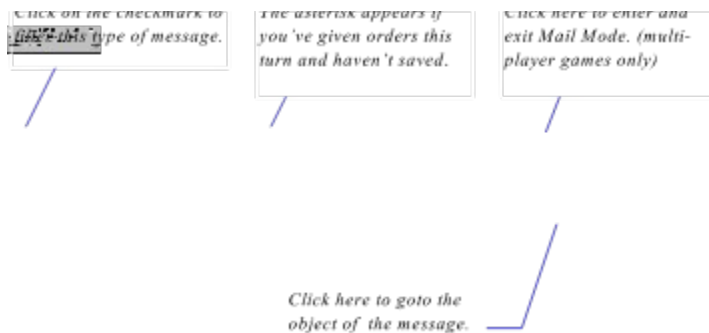
 *Click on Goto* 

Whenever the Location tile shows that you're orbiting a planet, you can switch from commanding the fleet to commanding the planet by clicking on **Goto**.


Messages Pane

The Messages pane can be used to view messages sent to you by Stars! or other players, and to send messages to other human players.

The Messages pane allows you to effectively manage your burgeoning empire. Stars! generates a lot of messages to inform you of most significant events that happen each year, or turn, in the game. From this pane, you can view your messages, open a dialog related to the current message, and change your Command pane and Scanner selection to the place referred to by the message.



The text in the title bar tells you three things:

- ⇒ The current year or turn. Since every game starts in the year 2400, the example shows that it's currently turn number 2.
- ⇒ Whether or not you have made changes and need to save.  An asterisk follows the year if you have unsaved changes.
- ⇒ How many messages you were sent this turn, and the number of the message displayed.

See these Topics:

[The Goto, Previous and Next Buttons](#)

[Sending Messages to other Players](#)

[Filtered Message Checkbox](#)

[Keyboard Equivalents](#)

[Filtering Message Types](#)

The Goto, Previous and Next Buttons

Click on the **Goto** button to go to the object of the current message.


Click on the **Next** and **Prev** buttons to see the next or previous message.

To see the **first** message, press **SHIFT** and click on **Prev**.

To see the **last** message, press **SHIFT** and click on **Next**.

Sending Messages to other Players

Multi-player Games Only

 The envelope appears only if you are playing against other humans. Selecting the envelope replaces the message pane with the mail pane.

Select the addressee from this dropdown list.

Click here to enter and exit mail mode. (multi-player games only)

Type your message here. It is sent when you exit Mail Mode.

Your pen pal will receive your message in their next turn.

Filtered Message Checkbox

If this box is checked, the message type is not filtered out. If the box contains an X, the message type is filtered and will not display.

⇒ Left-click on the box to filter out that message type. The checkmark changes to a red X.

Keyboard Equivalents

All of the message pane controls have keyboard equivalents.

Down Arrow goto the *next* message

Up Arrow goto the *previous* message

Enter goto the *related dialogue or location*

Home goto the *first* message

End goto the *last* message

Filtering Message Types



Over time you will find that some types of messages are too trivial to provide you with useful information. The example shows what happens when you filter out a message.

- ⇒ To filter out a message type, click on the blue check mark in the title bar. The mark changes to a red X and a magnifying glass containing a minus appears in the title bar. This means you're only viewing the messages you feel are important. These messages are filtered out for the remainder of the game, unless you choose to unfilter them.
- ⇒ To display all messages, including filtered messages, click on the magnifying glass. The glass changes to contain a plus.
- ⇒ To return to viewing only important messages, click on the magnifying glass again.
- ⇒ To unfilter the type of message displayed, click on the red X. The X changes back to a blue check. Now you will see messages of that type by default.

Even though you filter out a message type, Stars! continues to send you all important and unimportant messages. When you filter out a message, you're only specifying that it's no longer important and that you probably won't want to see it again.

Scanner Pane



Scanner

Status Bar

Scanner View Selector

The **Scanner pane** is your window on the universe, showing what you do and don't know. All the planets in the universe are displayed, along with every other interesting object you know about. When you start the game, all the planets except your home planet are displayed as dim gray specks. Once you visit a planet, it turns white in the scanner, indicating that you have data on it. All players see the same map - from their own perspective. Learn about the universe by selecting objects and different views. You also assign waypoints for your fleets using the scanner, and can view fleet locations: those owned by you as well as any opponent fleets that your radar can detect.

See these Topics:

[Selecting Objects in the Scanner](#)

[Choosing Your View of the Universe](#)

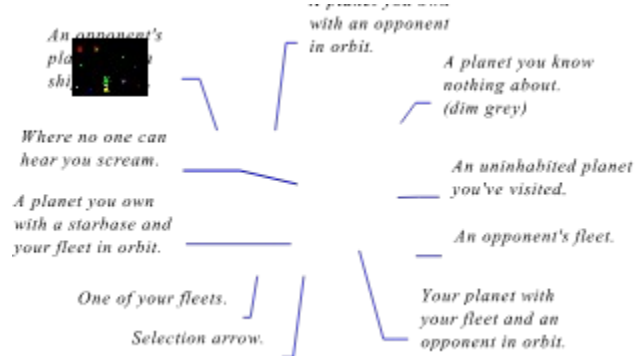
[Status Bar](#)

[Colors, Circles and Sizes of Planets](#)

[Fleets](#)

[Zooming](#)

Selecting Objects in the Scanner



Obtaining a Planet or Fleet Summary

To just obtain a summary of a specific planet or fleet, left-click once on the object in the Scanner. A small yellow selection arrow appears under the object you select. The status bar under the Scanner pane displays the name of the object, and the distance from the object in the Command pane. The Selection Summary pane changes to display what you know about the selected object.

Selecting a Fleet or Planet to Command

Double-click, or click a second time, on one of your fleets or planets to command it. The object is displayed in the Command pane and magnified in the Scanner. To command an object when more than one object is in the same location, do one of the following:

- ⇒ Left-click on the location. The selection arrow moves to that location. Now right-click on the same location. A popup appears, listing all objects at that location. Click on the name of the object you wish to command.
- ⇒ Left-click on the location till the object you wish to command appears in the Command pane.

When clicking on a location to cycle through your planet and fleets, enemy fleets are skipped. Even though you'd like to, you can't display enemy fleets in a command pane. Enemy fleets, if present, are listed in the popup menu: selecting one will display what you know about that fleet in the Selection Summary pane.

Choosing Your View of the Universe



Right-click on the blue diamond to display a list of different views of the universe. Left-click on a view in the list to alter the scanner's display.



Left-click on the blue diamond to display a summary of each view.

There are five exclusive scanner views, which you can use with one or more overlays:

Normal View

Planet Value View

Minerals at Planet View

Population View

No Player Information View

These overlays can be used in any combination:

Add Waypoints Overlay

Radar Overlay

Fleet Overlay

Ship Filter Overlay

Planet Names Overlay

Normal View



This is the default scanner mode, allowing you to easily view and manipulate all of your planets and fleets. This view displays the route of the selected fleet and shows, using color, which planets you inhabit, have visited or scanned, or know nothing about.

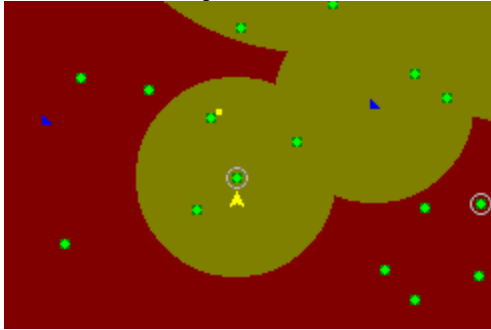
Add Waypoints Overlay

This overlay allows you to use only the mouse to add waypoints for the selected fleet (the fleet displayed in the Command pane).


- ⇒ To add a waypoint, select the fleet then left-click on the waypoint location.
- ⇒ To delete a waypoint use the Backspace key. Left-click on the waypoint, then press Backspace.
- ⇒ Change waypoint locations when the cursor turns into a hand. Left click on the waypoint, and drag it to a new location.

Note: You may quickly find that using this overlay is unnecessary. You can add waypoints in ANY view by pressing the SHIFT key and left-clicking on locations in the scanner. Add Waypoints view exists as a prompt for beginning players to use the Scanner to add waypoints. (It also allows you to add waypoints without using the keyboard, making it easier to eat and play at the same time.)

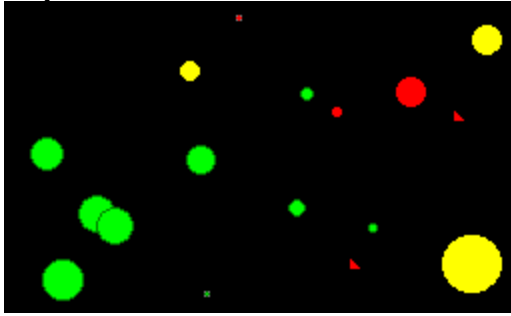
Radar Overlay



Radar shows the range of detection provided by your planets and fleets. Filled red circles appear around each of your objects that has a normal scanner. Filled dark yellow circles appear around each of your objects that has a planet penetrating scanner. The radius of each circle is that scanner's detection range. Planet-based scanners can detect other player's fleets and, if the technology is advanced enough, the environment on planets within range. Likewise, many ship designs allow you include a scanner. Ship-based scanners detect both fleets and planet environments. The range at which detection will occur depends on the quality and the number of your scanners.

 To display information on your planet's scanner technology, left-click on the scanner portion of the Status tile when the planet is displayed in the Command pane. To display information about the types of scanners used in your fleet's hull designs, open the Ship Design dialog (press F4). To learn more about scanner technology, visit the Technology Browser (press F2). Planet based-scanners are described in the Planetary section of the Browser. Ship-based scanners are described in the Scanners section.

Population View



This view displays planets you own in green, planets owned by friends in yellow, and planets owned by neutrals and enemies in red. The bigger the circle, the larger the population.

Note: Don't confuse the yellow planets in this view with the yellow planets in the Planet Value view. In the latter view, yellow specifies a planet your race can terraform.

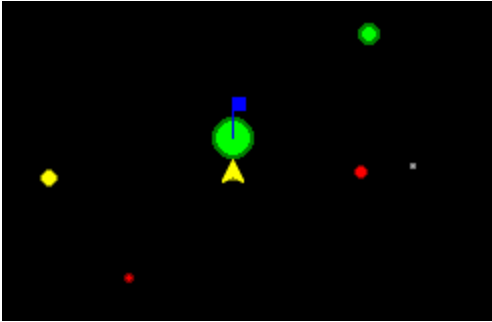
No Player Information View



This picture shows the No Player Information view used with the [Planet Names overlay](#).

This view hides all traces of planet ownership in the scanner. You can use this view with the Planet Names overlay to plot strategy with another player without revealing your empire. If an opponent will be looking at your screen, make sure you select a planet before you select this view. If a fleet is selected, its waypoint path will be shown.

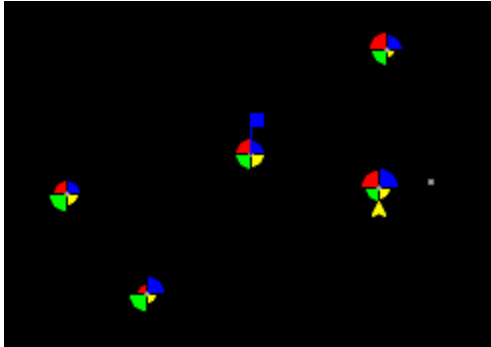
Planet Value View



This view represents planet size based on the selection value. Orbiting ships are not shown in this view. The color specifies the planet type:

- ◆ **Green planets** -- habitable by your race. The larger the circle, the more hospitable the planet.
- ◆ **Yellow planets** -- can be terraformed to become habitable. The larger the circle, the quicker you'll be able to make the planet inhabitable, and the more hospitable the planet will be after you terraform it to the limits of your technology.
- ◆ **Red planets** -- uninhabitable by your race. As terraforming technology improves, some red planets may become yellow.

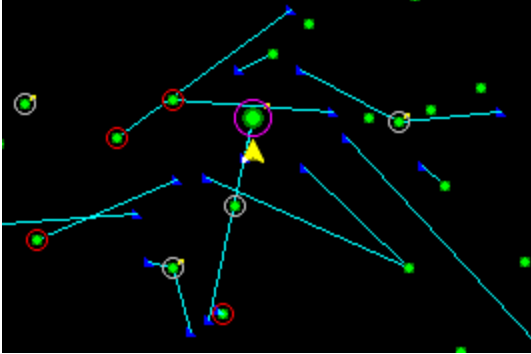
Minerals at Planet View



This view shows the relative quantities of each mineral at a planet. Orbiting ships are not shown in this view. The bigger the pie slice, the larger the quantity of that mineral. Each color matches the color of the mineral in the Selection Summary pane:

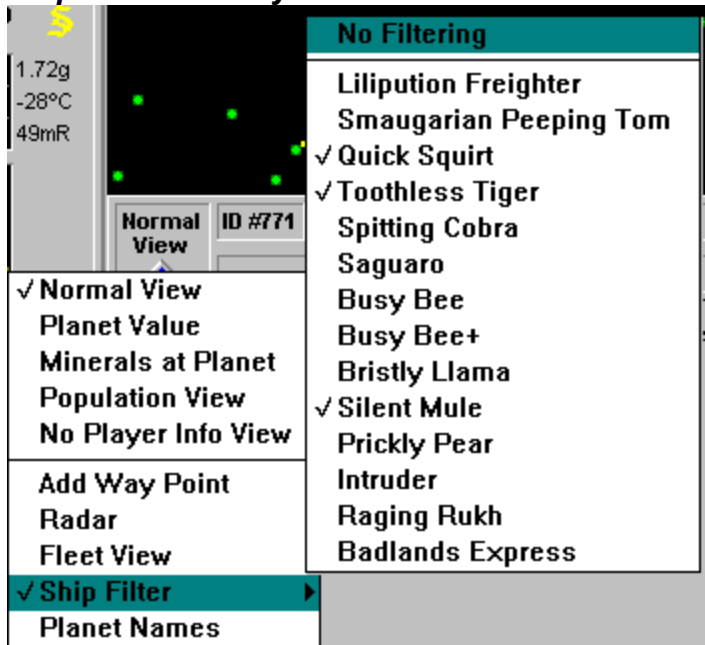
- ◆ **Red** -- Fuel
- ◆ **Blue** -- Ironimum
- ◆ **Green** -- Boranium
- ◆ **Yellow** -- Germanium

Fleet Overlay



This overlay shows the path of all your fleets at the same time. It's useful for spotting fleets that have no assigned waypoints and planets you own that have no traffic going to them. Also, which fleet may approach closest to a fleet that is stranded, or which fleet may be able to intercept an opponent's fleet or beat an opponent's fleet to colonizing a planet.

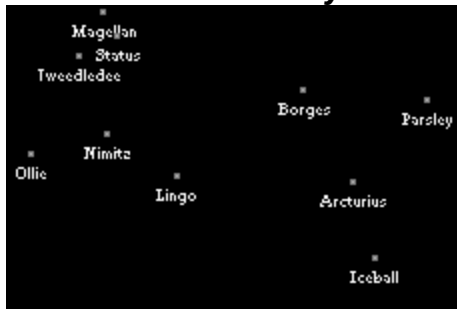
Ship Filter Overlay



This overlay displays only those fleets that contain a selected ship design. Select **Ship Filter** to display a list of known ship types.

- ⇒ Select one or more ship types to view only those fleets that include the selected type.
- ⇒ To see all fleets again, select **No Filtering**.
- ⇒ To revert back to the last filter selections, select **Last Filter**.

Planet Names Overlay



This picture shows the No Player Information view used with the Planet Names overlay. This overlay displays planet names (at zoom \geq 100%). You can use this overlay with the No Player Information view to plot strategy with another player without revealing your empire. If you prefer locating planet waypoints by name, you may also prefer to use this view when assigning waypoints.

Status Bar

ID #114 X: 1702 Y: 1105 Utopia

55.04 light years from Garfunkel

This bar displays the selected planet's ID, X and Y coordinates, and name.

If a fleet in deep space is selected, this bar displays the fleet coordinates and number. If the fleet is in orbit around a planet, only the planet information is displayed.

This bar also displays the distance between the object you've selected in the scanner and the object you are commanding (the object in the Command pane). If they are the same, the bar is blank.

The full set of information shows only if the Scanner pane is wide enough to display the information. If the scanner window is too narrow, only the object name is displayed. If the text is too small to read, left-click in the bar to display the popup.

Colors, Circles and Sizes of Planets

Gray -- you know nothing about this planet.

White -- you have visited this planet and have some data about its environment and mineral composition.

Green -- you control this planet.

Red -- another player controls this planet.

Yellow -- In Population View, yellow indicates the planet of a friend or neutral opponent. In Planet Value view, yellow specifies a planet you can terraform.

Yellow dot in the orbit -- indicates that a planet you own or have visited has a starbase. This includes other player's planets as well as your own.

Colored Flag -- In the Planet Value view and Minerals at Planet view, the Scanner pane displays flags on any planet you've visited, regardless of the owner. *Blue flags* represents your planets. *Yellow flags* belong to people you have defined as Friends in the player relations dialog. *Dark Red flags* belong to Neutrals. *Bright Red flags* belong to Enemies.

Fleets

Fleets in orbit are indicated by a circle around the planet:

- ◆ **White circle** -- The fleet belongs to you.
- ◆ **Red circle** -- The fleet belongs to another player.
- ◆ **Purple circle** -- Both you and another player have fleets in orbit.

A fleet traveling in deep space is displayed as a colored triangle:

- ◆ **Blue fleets** -- these belong to you.
- ◆ **Red fleets** -- these belong to other players.
- ◆ **Purple fleets** -- your fleet has met another player's fleet. Usually does not indicate passion.

Zooming

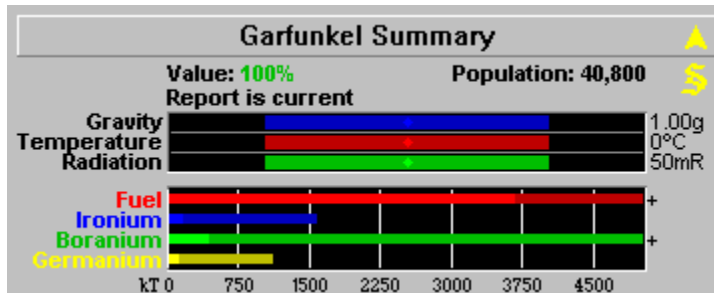
To zoom into or out of the Scanner, use the **View (Zoom)** menu command. Stars! can zoom the scanner from 25% to 400%. The zoom factor does not change the way you select and command fleets and planets.

If you have trouble selecting a particular planet or ship because the Scanner Pane is too crowded, just increase the zoom factor a bit. If you are plotting global strategy and need to see your whole empire just decrease the zoom. To quickly zoom in and out, use the + and - keys on the numeric keypad.

Tip: You can also change the amount of universe displayed by left-clicking and dragging on the left or bottom edge of the scanner pane or by selecting the menu, **View (Window Layout (Large | Medium | Small))**.

Selection Summary Pane

To learn more about an area of the Summary pane, click on the picture.



The **Selection Summary pane** displays what you know about a planet or fleet selected in the [Scanner pane](#). For planets, it reports on the population size and growth value, environment and mineral content of the planet. For enemy fleets, it displays the owner's [race icon](#), and some information about the fleet composition. For your fleets, it displays a summary of the fleet composition and cargo.

See these Topics:

[Object Name](#)

[Multiple Objects Indicator](#)

[Report Vintage](#)

[Population Status](#)

[Selection Value](#)

[Starbase Indicator](#)

[Environment Graph](#)


[Mineral Content Graph](#)

[Fleet Summary](#)

Object Name

The title bar displays the name of the planet or fleet summarized in this pane. The object is indicated by the yellow arrow in the scanner.

Multiple Objects Indicator

 When the little arrow is bright yellow, there is more than one object that you have information about at the selected location.

- ⇒ Left-click on this arrow to cycle through the objects at this location. The Summary pane and other displays change as each object is displayed.
- ⇒ Right-click on the arrow to display a list of everything at the location. Selecting an item on this list causes the Stars! to display what you know about that object.


Report Vintage

This line indicates the age of the information displayed in the summary. Stars! keeps a history file cataloguing every planet you've visited since the start of the game. Note that this information may not be accurate if another player has visited the planet since you were last there and has made changes.

Population Status

Uninhabited -- The planet is available to any player for colonization or remote mining. Look at the value to see whether the planet is safe to colonize or terraform.

Population number -- how many colonists currently live on the planet. If you own the planet, the number is exact. If another player owns the planet, the number is a guess (since you are understandably denied the ability to conduct a door-to-door census of your neighbors.)

 If the planet is owned by an opponent, left-clicking on the population also displays a guess on the defensive capability of the planet.

Selection Value

Use this number to quickly help you decide whether or not you want to colonize the selected planet. The higher the percentage of Value, the more habitable the planet is to your race. The values range from -30% to 100%, with 100% as the optimum value. You can compare this number with the contents of the Environment Graph.

Positive value -- Indicates the maximum population size on that planet, given the current conditions. The value is a percentage of the absolute maximum of 1,000,000 people. For example, if a planet has a value of 29%, it will support up to 290,000 of your people. This value is potentially different for each race, and is based on how well your race is suited to the planet's environment.

Negative value -- A rough estimate of how fast your colonists will die on the planet. For example, if the value is -10%, 10% of your colonists will die each turn.

If you have terraforming technology, you may be able to modify the planet's environment to support more of your people. While you terraform a planet, the death rate is zero.

Growth Potential

Value also approximates the maximum rate at which your population will grow. For example, if your population grows at a 10% rate, and the Value is 30%, your population will, at best, grow at only 30% of the 10% growth rate, or 3% per year.



Left-click on the Value for a description of how the value relates to your potential for growth on the selected planet.

Starbase Indicator



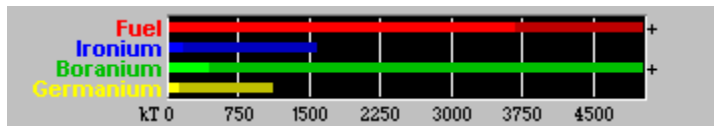
When this symbol appears, the planet has a starbase in orbit. Only a planet with a starbase can produce ships. A starbase is indicated in the Scanner by a yellow dot in orbit of the planet. If you destroy a colony that has a starbase, you also destroy the starbase.

Environment Graph



The Environment Graph displays the planet's gravity, temperature, and radiation levels. Left clicking on each of these factors displays an informative summary popup. The name is shown to the left of the graph, its value is shown to the right. The blue, red, and green bars represent the range your colonists find habitable. Your colonists are more reproductive in the center of the range, and less reproductive toward the edges. If the graph is missing a colored bar, it means that your colonists are immune to that factor. The bright diamond in each bar shows the current level of gravity, temperature and radiation for that planet. If each diamond falls within the range, your race can survive on that planet. You can move these diamonds closer to the center of each bar by terraforming. If you possess terraforming technology, a line appears next to each diamond that your technology can shift. The end point of the line represents the maximum amount of terraforming you can perform with your technology.

Mineral Content Graph



This graph displays the quantity of each mineral on the planet. The bright color shows the amount on the surface and ready for immediate use, the dark color shows the amount under the surface waiting to be mined. Scanners only detect the amount under the surface. You can't detect what's on the planet surface unless you colonize the planet.


The scale along the bottom of the graph can be adjusted to focus on small mineral quantities or zoom out to get the big picture. Left-click on the scale to display a menu of available scales, then select a value.



Left-clicking on any mineral to display the exact amount of the mineral under the surface and on the surface, the rate at which the mineral is being mined, and the amount that will be mined in the coming year.


Fleet Summary

When you click on a fleet in the Scanner, the Summary pane displays what you know about the fleet. To display a ship at a location:


1. Click on the yellow multiple objects arrow  in the Summary pane.
2. Select the fleet from the list.


Once a fleet is displayed in the Summary pane, you can view each fleet in the location by left-clicking on the yellow arrow.



The picture in the tile indicates the most common design of ship in the fleet or the largest ship in the fleet. A small plus sign appears in the corners of the picture for each additional ship type.


 Left-clicking on the ship image lists additional details on the individual ships in the fleet. If you have met the enemy ship of that type in battle, Stars! displays the hull type. Left-clicking on the icon below the fleet displays the race name and associated player number.

For your fleet, the number, ship count, fuel and cargo amount, fleet mass, next waypoint and waypoint task, and speed are shown:


Fleet #9 Summary 




Ship Count: 1
Fuel:  **34 of 175kT**
Cargo:  **250 of 250kT**
Fleet Mass: 497kT
Next Waypoint: Same Here
Waypoint Task: Transport
Warp Speed: 5




For an opponent's fleet, the owner, number, ship count and mass are displayed:

Hooveron Fleet #49 Summary 



Ship Count: 1
Fleet Mass: 593kT



Races Provided with Stars!

Here's a description each of the races provided with Stars, along with some basic strategies that take advantage of each race's strengths and weaknesses. You can also learn more about a race by opening the [Custom Race Wizard](#), selecting the race and stepping through the wizard.

See these Topics:

[Antethereals](#)

[Humanoids](#)

[Insectoids](#)

[Nucleotids](#)

[Rabbitoids](#)

[Silicanoids](#)

Antethereals

Literally, "Big foreheads, long dirty claws, baggy pants." Antethereals are a fast growing, generally peaceable race, good at research and mining.

Best Universe Size/Game Difficulty

Against AIs, Antethereals do their best in a small universe, in an easy or medium game. It suffers in a large universe, at any level of difficulty, and in a medium+ universe in a hard+ game.

Advantages

Reproduces fairly fast. Research is cheaper than for most races. Efficient with mines. Starts the game knowing how to perform total terraforming at a level of +3%.

Disadvantages

Tiny survival range--you won't find many planets you can colonize. Can't use advanced war-related technology.

Strategies

Research for defensive hull types, long range weapons, propulsion (fast engines), construction (large cargo capacity).

Auto-build factories, then mines, then factories, until you find a better production strategy.

Explore as fast as possible.

Build remote miners and freighters. Put ramscoops on the freighters to optimize fuel use and maximize speed.

Concentrate on remote mining. You can't be an Antethereal and follow a "green" strategy. Strip mine planets you can't colonize, using freighters to transport the minerals to your populated worlds. Be sure to assign the mining fleet itself as a waypoint, so freighters will follow the fleet

Put attack scout in orbit with remote miners, preventing easy colonization from opponents and an attack on your miner. Don't place the scout in the same fleet as the miner, though. Attach armed escorts to your freighters to protect them from attack as well.

On habitable planets, use remote miners for a few turns before colonizing, dumping all the mined minerals on the planet surface so the colonists have a large supply immediately available.

Win by out-researching your opponents. Since you'll concentrate on remote mining, invest in construction to build the biggest, most efficient remote miners possible.

Build very advanced, long range weapons. Avoid direct confrontations, building only as many warships as you need for defense.

Humanoids

Literally, "Over promoted." The absolute average race, with no special abilities or disabilities. Can swing either way, playing a defensive game that focuses on outgrowing and outproducing opponents, or an offensive game that focuses on crushing opponents through military might.

Best Universe/Game Size

Has the potential to do well in any size of universe.

Advantages

High growth rate, a pretty good habitable range. No serious disadvantages.

Disadvantages

No serious advantages. And they're dull.

Strategies

Try to determine the attributes of your opponents and adjust to counter them. You can adapt to compete almost any kind of opponent.

Insectoids

Literally, "Eaters of Spackle."

Best Universe/Game Size

Large or better universe. You'll need time to increase your population size and develop powerful weapons.

Advantages

Immune to temperature. Good fighters, with improved cloaking and battle initiative. Cheap research for engines and weapons. Better than average with factories.

Disadvantages

Need to find planets with gravity and radiation on the further ends of the spectrum. Low starting population, no advanced scanners. Has no chance to build freighter transport routes cheaply. Terraforming research is expensive.

Strategies

Your best chance is probably to out-produce and aggressively attack your opponents. Build fast warships and colonizers. You colonize slowly and can't build ramscoop engines, so build remote miners and search for fuel. Be aggressive with your neighbors, and their neighbors: what you can't colonize, take away.

Nucleotids

Literally, "Yo! Recombine this!"

Best Universe/Game Size

Medium to large universe. This will give them time to grow and develop technology before encountering other races.

Advantages

Can live on almost any planet. Colonizing and transport is cheap. Good at fighting and building starbases.

Disadvantages

Very low growth rate. Below average in building and using factories and mines. No advanced armor or shields.

Strategies

Expand as fast as your population growth will let you. Avoid conflict for as long as possible. Concentrate on expansion.

Rabbitoids

Literally, "Swingers of the stars." A fast growing, generally peaceful race (not unlike the Antethereals).

Best Universe Size/Game Difficulty

Has the potential to do well in any size of universe.

Advantages

None of the other pre-made races grow faster (only the humanoids come close). Reasonable survival range. Although you are average at how many resources you create per person, your high growth rate will help increase the rate at which you create resources.

They are efficient with factories and terraforming planets. Colonists fight well.

Disadvantages

Slightly below average miners. No advanced warship hulls.

Strategies

Breed, breed, breed. With your adequate habitable range, and terraforming advantages, you can inhabit a large portion of the universe.

Silicanoids

Literally, "Sand in crack." Descendant from the long extinct race of Siliconoids. Abrasive by nature, immune to all environmental factors, can populate any planet, slow growing, slow to research. Planets are a common commodity for this race. If you lose a few, it won't matter, because you can live anywhere.

Best Universe Size/Game Difficulty

Does better in a medium universe, even better in a large to huge universe, at any level of game.

Advantages

Immune to all environmental attributes, which means you can colonize any planet. Produces resources quickly. Can build starbases quickly, at a low cost.

Disadvantages

Low growth rate, which means you can't colonize at too fast of a rate. The initial stats of the home world are made public, which means all players know where at least one of your starbases is located. AIs love to bomb starbases.

Strategies

Don't waste your time on scouts. Build colony ships, fill them up, and colonize all the planets you find (make sure to colonize the more mineral-rich planets first). Don't pull people off planets faster than you can grow them, though. Otherwise you'll have thinly populated worlds ripe for takeover.

If the universe is large, you'll have many planets colonized by the time you encounter your opponents.

No need for remote mining, since you can colonize anything.

Auto-build factories, then mines, then factories, until you find a better production strategy.

Build starbases whenever you have enough resources.

Build big bombers to clear your opponent's planets.

Build defensive fleets and park them near your starbases, holding off bombing raids by AIs.

The Guts of Combat

Here's some information to help you understand the behavior of fleets in battle. You may find it useful in planning battle strategies. It may also satisfy your drive to collect Stars! military trivia.

See these Topics:

[About the Battle Board](#)

[Tactics](#)

[Armor and Shields](#)

[Ship Repair](#)

[Token Speed](#)

About the Battle Board

The battle board is the checkerboard you see in the [Battle VCR](#). The fleets are distributed on the board as tokens. Each token is a stack of identical ships from a single fleet. The individual tokens move around the board targeting enemy tokens, following the tactics specified in their [battle plan](#). Each location can contain any number of tokens.

Each round of battle is broken into phases, where one phase is a single token moving and, if applicable, firing. Within a round, the order in which the tokens move is determined by their speed, with the fastest tokens moving first.

If more than 255 tokens are involved in a battle, you [will not receive](#) a VCR recording of the battle.

Tactics

A fleet's battle plan lists a tactic for each general class of ship--unarmed, scout, warship and bomber. Tactics fall into three styles: attack, decoy and retreat.

Attack

Attack tactics determine the distance the token attempts to stay away from its target. The three attack tactics are *Get in Close and Fight it Out*, *Keep to the Optimal Range*, and *Keep to the Maximum Range*.

Close range is point blank: the ship is within the same square on the battle board as its opponent. Maximum is as you'd expect: the minimum of the maximum ranges of the weapons on a ship. Optimum is the maximum range at which the ship can do 100% damage. For ships with beam weapons that distance is one square on the battle board. Ships with torpedoes only stay at maximum range.

Decoy

The decoy tactic is *Act as Decoys for the Rest of the Fleet*. This causes the token to move closer then away from enemy tokens in an attempt to draw their fire.

Retreat

The retreat tactics are *Slowly Back Away, Attacks Permitted*, and *Run Away as Fast as Possible*. Both of these tactics cause the token to disengage. Disengaging requires time to prepare the ships for escape.

Run Away... causes the entire crew to concentrate all their efforts on escape. The number of rounds a token sits there trying to run away is either 2, or 6 minus the token speed, whichever is greater.

Slowly Back Away... causes the escaping ships to attack as they're disengaging. This increases the amount of time they remain on the board and under attack. The number of rounds a token sits there trying to back away is either 3, or 9 minus the token speed, whichever is greater.

Armor and Shields

Hulls have a base armor value. Additional armor is added to this value.

Shields will take damage and fail before enemy weapons attack your armor. In a token, the shields overlap. For example, if your fleet has 20 scouts with shields valued at 20 each, you have a pool of 400 shields points that must be destroyed before the armor on any of those ships is damaged--unless your opponent is using torpedoes. Torpedoes damage both shields and armor, taking shield points and armor points from the token with each successful attack.

Shields are at full strength at the start of each battle. This means if you leave a battle one turn and enter a battle the next turn, your shields will be back at full strength.

Beam weapons have a maximum range and lose power over distance. There is no loss at a distance of one square, but at 10 squares away, you would only cause 1/10th the damage.

Torpedoes have maximum range and do not lose power over distance. 1/2 of all torpedo damage bypasses shields and hits the armor directly. 1/4 damage is done to every other token in the same location, even your own.

If the damage your token can inflict on an enemy's token is more than enough to destroy the enemy token, the remainder can be used on additional enemy tokens in the same location, limited only by the number of ships in the attacking token. For example, one token does a total of 1000 damage. The primary target is destroyed after taking 500 damage. There are 10 other tokens at the same location, each with 100 dp of shield/armor, so 4 of them would be destroyed.

Placing all your ships in *one large fleet* allows the fleet to take advantage of overlapping shields and to protect themselves better against torpedo attack.

If the attacker is using torpedoes you may lose MORE ships if they are separate than together. For example, your super battleship is loaded with torpedoes doing a total of 2000 points of damage. The target would take 1000 dp through the shields and 1000 dp directly to the armor. All other tokens in the same location take 1/4 damage, or 500 points. You can destroy a lot of ships this way. This simulates a spherical blast radius. If they ships are packed tightly, fewer of them will take damage than if they are spread evenly through the area.

It can also be advantageous to *create many fleets* so that a single powerful opponent that uses primarily beam weapons (such as a super battleship) won't be able to destroy all of your ships in a single shot. A token can only target one square per round. If your ships were all in the same token it could destroy them quickly. You can use the Spread Out checkbox in the Battle Plans dialog to help keep your tokens from sticking together.

Ship Repair

If after a battle your fleet has one or more ship types listed in red in the [Fleet Composition tile](#), then you have taken damage. Click on a red ship name to display how much damage has been done.

The yearly rate of repair is a percentage of the total armor value, according to the following:

| | |
|---|-----|
| Ships moving through space: | 2% |
| Ships sitting still in space: | 5% |
| Ships orbiting an opponent's planet: | 10% |
| Ships orbiting a planet you own: | 15% |
| Ships orbiting your planet with a starbase: | 25% |

For example, a ship with a base of 25 damage points (dp) plus armor with a value of 75 dp has a maximum armor value of 100 dp. It takes 10 dp of damage, it would take 2 years in deep space, or one year in orbit, to fully repair the armor.

If you're orbiting an opponent's planet and your fleet has Attack orders, repairs will happen very slowly -- about 1% per year.

Token Speed

Speed is computed from a token's best warp speed and mass. Maneuvering Jets, Overthrusters and the Better Battle Initiative race advantage can increase a token's base speed. The number of squares a token can move per round equals one plus their speed divided by 2. Speed is also used to decide the order of movement. If your ships have a speed of 9 and the Robotoid ships have a speed of 8 both sets of ships will move 4 spaces per round. Your ships will move and fire first, though (the slightly higher speed giving you the advantage).

Files Used in Stars!

gamename.hst

This is the file containing the information the host program needs for a specific game. This file should be available only to the person playing the host.

gamename.xy

This is the universe file, containing information about the positions of all the planets and does not change over the course of the game. Individual players as well as the host program need to have this file available to them.

gamename.mN

These are the turn files. *N* is a number from 1 to 16, representing the player number. This is the individual file for each player, containing all the data about that player's race and state of the player's empire at the beginning of a turn.

name.rN files

This file contains a race description created and saved using the Custom Race Wizard. *N* can be any number (you can actually use any extension, the default is r1.) You can specify a race file for each non-computer player in the game from page 2 of the New Advanced Game dialog. Once the universe has been created the race file is no longer needed. If you open this file from **File (Open)**, the Custom Race Wizard opens. Note: These files don't require the extension to be .r1 but that is the default.

gamename.xN

These are the log files. *N* is a number from 1 to 16, representing the player number. This is the log of commands given by a player for the current turn. This file is submitted, either automatically or manually, to the host program. The host adds the changes to the player's .m*N* file, and returns that file to the player when the new turn is generated. The host needs these files to update the information about each player from the .hst file before turn generation.

Each time the player opens (or continues) a game, the .m*N* file is loaded. If a corresponding .x*N* file exists, it will also be loaded to update the game's current state.

gamename.hN

These are history files. *N* is a number from 1 to 16, representing the player number. This file is created by the player as he sees universe data. It is a history of the things the player has seen or learned on previous turns. Typically, only the player maintains a copy of this file. If a player will be absent for a few turns, and wishes to be temporarily replaced by the "Human Inactive" AI, a copy of this file should be given to the host so the absent player's view of the universe can be updated.

Data Tables

These tables list statistics on each piece of technology available in Stars!. Use the following guide to determine the unit of measure for a statistic:

- ◆ If the category is a technology, such as Energy, the unit is in levels of technology successfully researched.
- ◆ If the category is weight or a mineral name, the unit is in kilotons (kT).
- ◆ dp or Dmg measure damage in points or percentage to a hull, people or surface installations.
- ◆ Range is number of squares on the battle board (displayed in the VCR).
- ◆ Fuel # indicates the percentage of standard fuel usage for that engine at the warp speed indicated by the number.
- ◆ Ability refers to different things for each type of technology. For a description of an ability, open the technology browser and view the page for that item.

See these Topics:

[Armor](#)

[Beam Weapons](#)

[Bombs](#)

[Torpedos](#)

[Engines](#)

[Hulls](#)

[Scanners](#)

[Shields](#)

[Specials](#)

[Mining](#)

[Planetary](#)

[Terraforming](#)

Armor

| NAME | Energy | Weapons | Propulsion | Construction | Electronics | Bio-Tech |
|-----------------|--------|---------|------------|--------------|-------------|----------|
| Tritainium | 0 | 0 | 0 | 2 | 0 | 0 |
| Crobnium | 0 | 0 | 0 | 4 | 0 | 0 |
| Enercell Armor | 4 | 0 | 0 | 0 | 0 | 0 |
| Strobnium | 0 | 0 | 0 | 6 | 0 | 0 |
| Plasmotic Armor | 7 | 0 | 0 | 0 | 0 | 0 |
| Kelarium | 0 | 0 | 0 | 9 | 0 | 0 |
| Neutronium | 0 | 0 | 0 | 12 | 0 | 0 |
| Valanium | 0 | 0 | 0 | 16 | 0 | 0 |

| NAME | Weight | Resources | Ironium | Boranium | Germanium | dp |
|-----------------|--------|-----------|---------|----------|-----------|-----|
| Tritainium | 60 | 10 | 10 | 0 | 0 | 75 |
| Crobnium | 55 | 20 | 12 | 0 | 0 | 125 |
| Enercell Armor | 25 | 25 | 0 | 0 | 20 | 150 |
| Strobnium | 50 | 30 | 16 | 0 | 0 | 200 |
| Plasmotic Armor | 15 | 35 | 0 | 0 | 30 | 275 |
| Kelarium | 45 | 40 | 20 | 1 | 0 | 300 |
| Neutronium | 40 | 60 | 25 | 2 | 1 | 450 |
| Valanium | 35 | 80 | 30 | 2 | 2 | 600 |

Beam Weapons

| NAME | Energy | Weapons | Propulsion | Construction | Electronics | Bio-Tech |
|-------------------------|--------|---------|------------|--------------|-------------|----------|
| Laser | 0 | 0 | 0 | 0 | 0 | 0 |
| X-Ray Laser | 0 | 3 | 0 | 0 | 0 | 0 |
| Heavy Laser | 1 | 6 | 0 | 0 | 0 | 0 |
| Yakimora Light Phaser | 0 | 2 | 0 | 0 | 0 | 0 |
| Inter-Phaser | 0 | 5 | 0 | 0 | 0 | 0 |
| Phaser Bazooka | 2 | 8 | 0 | 0 | 0 | 0 |
| Mini Blaster | 0 | 4 | 0 | 0 | 0 | 0 |
| Blaster | 0 | 7 | 0 | 0 | 0 | 0 |
| Heavy Blaster | 3 | 10 | 0 | 0 | 0 | 0 |
| Phased Cannon | 0 | 6 | 0 | 0 | 0 | 0 |
| Gatling Neutrino Cannon | 0 | 9 | 0 | 0 | 0 | 0 |
| Big Mutha Cannon | 4 | 12 | 0 | 0 | 0 | 0 |
| Disruptor | 0 | 8 | 0 | 0 | 0 | 0 |
| Heavy Disruptor | 0 | 11 | 0 | 0 | 0 | 0 |
| Mega Disruptor | 5 | 14 | 0 | 0 | 0 | 0 |
| Pulverizer | 0 | 10 | 0 | 0 | 0 | 0 |
| Streaming Pulverizer | 0 | 13 | 0 | 0 | 0 | 0 |
| Anti-Matter Pulverizer | 6 | 16 | 0 | 0 | 0 | 0 |

| NAME | Weight | Resources | Ironium | Boranium | Germanium | Range | dp |
|-------------------------|--------|-----------|---------|----------|-----------|-------|-----|
| Laser | 1 | 1 | 0 | 3 | 0 | 1 | 15 |
| X-Ray Laser | 1 | 1 | 0 | 2 | 0 | 3 | 20 |
| Heavy Laser | 2 | 2 | 0 | 1 | 0 | 6 | 25 |
| Yakimora Light Phaser | 8 | 6 | 3 | 15 | 3 | 2 | 45 |
| Inter-Phaser | 8 | 6 | 3 | 10 | 3 | 4 | 50 |
| Phaser Bazooka | 9 | 7 | 2 | 8 | 2 | 7 | 55 |
| Mini Blaster | 15 | 8 | 5 | 65 | 2 | 3 | 70 |
| Blaster | 15 | 8 | 5 | 55 | 2 | 5 | 75 |
| Heavy Blaster | 16 | 11 | 4 | 45 | 1 | 8 | 80 |
| Phased Cannon | 20 | 40 | 10 | 105 | 12 | 4 | 90 |
| Gatling Neutrino Cannon | 20 | 50 | 10 | 90 | 12 | 6 | 100 |
| Big Mutha Cannon | 21 | 60 | 8 | 80 | 8 | 9 | 110 |
| Disruptor | 25 | 70 | 8 | 110 | 10 | 5 | 145 |
| Heavy Disruptor | 25 | 75 | 8 | 95 | 10 | 7 | 155 |
| Mega Disruptor | 26 | 90 | 6 | 85 | 7 | 10 | 165 |
| Pulverizer | 20 | 110 | 15 | 105 | 30 | 6 | 220 |
| Streaming Pulverizer | 20 | 120 | 15 | 90 | 30 | 8 | 225 |
| Anti-Matter Pulverizer | 21 | 130 | 10 | 80 | 25 | 11 | 235 |

Bombs

| NAME | Energy | Weapons | Propulsion | Construction | Electronics | Bio-Tech |
|-----------------------|--------|---------|------------|--------------|-------------|----------|
| Lady Finger Bomb | 0 | 2 | 0 | 0 | 0 | 0 |
| Black Cat Bomb | 0 | 5 | 0 | 0 | 0 | 0 |
| M-70 Bomb | 0 | 8 | 0 | 0 | 0 | 0 |
| M-80 Bomb | 0 | 11 | 0 | 0 | 0 | 0 |
| Cherry Bomb | 0 | 14 | 0 | 0 | 0 | 0 |
| LBU-17 Bomb | 0 | 5 | 0 | 0 | 8 | 0 |
| LBU-32 Bomb | 0 | 10 | 0 | 0 | 10 | 0 |
| LBU-74 Bomb | 0 | 15 | 0 | 0 | 12 | 0 |
| Smart Bomb | 0 | 5 | 0 | 0 | 0 | 9 |
| Neutron Bomb | 0 | 10 | 0 | 0 | 0 | 12 |
| Enriched Neutron Bomb | 0 | 15 | 0 | 0 | 0 | 15 |

| NAME | Wt | Resources | Ironium | Boranium | Germanium | Dmg People | Dmg Instl. |
|------------------|----|-----------|---------|----------|-----------|------------|------------|
| Lady Finger Bomb | 40 | 6 | 1 | 24 | 0 | 0.40% | 0.10% |
| Black Cat Bomb | 45 | 12 | 1 | 28 | 0 | 0.60% | 0.20% |
| M-70 Bomb | 50 | 18 | 1 | 33 | 0 | 0.90% | 0.40% |
| M-80 Bomb | 55 | 27 | 1 | 38 | 0 | 1.20% | 0.60% |
| Cherry Bomb | 60 | 41 | 1 | 44 | 0 | 1.70% | 0.70% |
| LBU-17 Bomb | 30 | 9 | 1 | 18 | 15 | 0.20% | 0.60% |
| LBU-32 Bomb | 35 | 15 | 1 | 29 | 15 | 0.30% | 1.40% |
| LBU-74 Bomb | 45 | 36 | 1 | 39 | 12 | 0.40% | 2.20% |

| | | | | | | | |
|-----------------------|----|----|---|----|---|-------|-------|
| Smart Bomb | 50 | 29 | 1 | 28 | 0 | 0.50% | 0.00% |
| Neutron Bomb | 57 | 32 | 1 | 40 | 0 | 0.80% | 0.10% |
| Enriched Neutron Bomb | 64 | 40 | 1 | 55 | 0 | 1.10% | 0.20% |

Torpedos

| NAME | Energy | Weapons | Propulsion | Construction | Electronics | Bio-Tech |
|-----------------|--------|---------|------------|--------------|-------------|----------|
| Alpha Torpedo | 0 | 0 | 0 | 0 | 0 | 0 |
| Beta Torpedo | 0 | 3 | 0 | 0 | 0 | 0 |
| Gamma Torpedo | 0 | 5 | 1 | 0 | 0 | 0 |
| Delta Torpedo | 0 | 7 | 1 | 0 | 0 | 0 |
| Epsilon Torpedo | 0 | 8 | 2 | 0 | 0 | 0 |
| Rho Torpedo | 0 | 10 | 2 | 0 | 0 | 0 |
| Upsilon Torpedo | 0 | 13 | 3 | 0 | 0 | 0 |
| Omega Torpedo | 0 | 16 | 3 | 0 | 0 | 0 |

| NAME | Weight | Resources | Ironium | Boranium | Germanium | Range | dp |
|-----------------|--------|-----------|---------|----------|-----------|-------|-----|
| Alpha Torpedo | 1 | 6 | 0 | 2 | 0 | 4 | 8 |
| Beta Torpedo | 1 | 20 | 1 | 5 | 0 | 4 | 24 |
| Gamma Torpedo | 2 | 50 | 5 | 10 | 0 | 5 | 50 |
| Delta Torpedo | 1 | 70 | 1 | 5 | 0 | 6 | 80 |
| Epsilon Torpedo | 2 | 95 | 5 | 10 | 0 | 8 | 75 |
| Rho Torpedo | 1 | 110 | 1 | 5 | 0 | 6 | 95 |
| Upsilon Torpedo | 2 | 130 | 5 | 10 | 0 | 8 | 120 |
| Omega Torpedo | 3 | 150 | 8 | 18 | 0 | 9 | 170 |

Engines

| NAME | Energy | Weapons | Propulsion | Construction | Electronics | Bio-Tech |
|----------------------------|--------|---------|------------|--------------|-------------|----------|
| Settler's Delight | 0 | 0 | 0 | 0 | 0 | 0 |
| Quick Jump 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| Fuel Mizer | 0 | 0 | 2 | 0 | 0 | 0 |
| Long Hump 6 | 0 | 0 | 3 | 0 | 0 | 0 |
| Daddy Long Legs 7 | 0 | 0 | 5 | 0 | 0 | 0 |
| Alpha Drive 8 | 0 | 0 | 7 | 0 | 0 | 0 |
| Trans-Galactic Drive | 0 | 0 | 10 | 0 | 0 | 0 |
| Radiating Hydro-Ram Scoop | 2 | 0 | 6 | 0 | 0 | 0 |
| Sub-Galactic Fuel Scoop | 2 | 0 | 8 | 0 | 0 | 0 |
| Trans-Galactic Fuel Scoop | 3 | 0 | 9 | 0 | 0 | 0 |
| Trans-Galactic Super Scoop | 4 | 0 | 12 | 0 | 0 | 0 |
| Trans-Galactic Mizer Scoop | 4 | 0 | 16 | 0 | 0 | 0 |

| NAME | Weight | Resources | Ironium | Boranium | Germanium |
|------|--------|-----------|---------|----------|-----------|
|------|--------|-----------|---------|----------|-----------|

| | | | | | |
|----------------------------|----|----|----|----|----|
| Settler's Delight | 2 | 2 | 1 | 0 | 1 |
| Quick Jump 5 | 4 | 3 | 3 | 0 | 1 |
| Fuel Mizer | 6 | 11 | 8 | 0 | 0 |
| Long Hump 6 | 10 | 6 | 5 | 0 | 1 |
| Daddy Long Legs 7 | 15 | 12 | 11 | 0 | 3 |
| Alpha Drive 8 | 17 | 28 | 16 | 0 | 3 |
| Trans-Galactic Drive | 25 | 50 | 20 | 20 | 9 |
| Radiating Hydro-Ram Scoop | 10 | 10 | 25 | 12 | 9 |
| Sub-Galactic Fuel Scoop | 20 | 28 | 40 | 12 | 15 |
| Trans-Galactic Fuel Scoop | 19 | 58 | 45 | 24 | 25 |
| Trans-Galactic Super Scoop | 18 | 65 | 48 | 30 | 32 |
| Trans-Galactic Mizer Scoop | 17 | 70 | 42 | 26 | 26 |

| NAME | Fuel 1 | Fuel 2 | Fuel 3 | Fuel 4 | Fuel 5 | Fuel 6 | Fuel 7 | Fuel 8 | Fuel 9 |
|----------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Settler's Delight | 0 | 0 | 0 | 0 | 0 | 140 | 275 | 480 | 750 |
| Quick Jump 5 | 50 | 50 | 100 | 100 | 100 | 180 | 500 | 800 | 900 |
| Fuel Mizer | 0 | 0 | 0 | 0 | 35 | 120 | 175 | 235 | 360 |
| Long Hump 6 | 50 | 50 | 60 | 100 | 100 | 105 | 450 | 750 | 900 |
| Daddy Long Legs 7 | 50 | 50 | 60 | 70 | 100 | 100 | 110 | 600 | 750 |
| Alpha Drive 8 | 50 | 50 | 50 | 60 | 70 | 100 | 100 | 115 | 700 |
| Trans-Galactic Drive | 25 | 35 | 50 | 65 | 80 | 95 | 100 | 100 | 100 |
| Radiating Hydro-Ram Scoop | 0 | 0 | 0 | 0 | 0 | 0 | 165 | 375 | 600 |
| Sub-Galactic Fuel Scoop | 0 | 0 | 0 | 0 | 0 | 85 | 105 | 210 | 380 |
| Trans-Galactic Fuel Scoop | 0 | 0 | 0 | 0 | 0 | 0 | 88 | 100 | 145 |
| Trans-Galactic Super Scoop | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 65 | 90 |
| Trans-Galactic Mizer Scoop | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 70 |

Hulls

| NAME | Energy | Weapons | Propulsion | Construction | Electronics | Bio-Tech | Weight |
|------------------|--------|---------|------------|--------------|-------------|----------|--------|
| Small Freighter | 0 | 0 | 0 | 0 | 0 | 0 | 25 |
| Medium Freighter | 0 | 0 | 0 | 3 | 0 | 0 | 60 |
| Large Freighter | 0 | 0 | 0 | 8 | 0 | 0 | 125 |
| Super Freighter | 0 | 0 | 0 | 13 | 0 | 0 | 200 |
| Scout | 0 | 0 | 0 | 0 | 0 | 0 | 8 |
| Super Scout | 0 | 0 | 0 | 6 | 0 | 0 | 8 |
| Destroyer | 0 | 0 | 0 | 3 | 0 | 0 | 30 |
| Cruiser | 0 | 0 | 0 | 9 | 0 | 0 | 90 |
| Super Cruiser | 0 | 0 | 0 | 10 | 0 | 0 | 160 |
| Battleship | 0 | 0 | 0 | 12 | 0 | 0 | 222 |
| Super Battleship | 0 | 0 | 0 | 16 | 0 | 0 | 250 |
| Privateer | 0 | 0 | 0 | 4 | 0 | 0 | 65 |
| Rogue | 0 | 0 | 0 | 9 | 0 | 0 | 100 |
| Galleon | 0 | 0 | 0 | 11 | 0 | 0 | 125 |

| | | | | | | | |
|------------------|---|---|---|----|---|---|-----|
| Mini-Colony Ship | 0 | 0 | 0 | 0 | 0 | 0 | 8 |
| Colony Ship | 0 | 0 | 0 | 0 | 0 | 0 | 20 |
| Mini Bomber | 0 | 0 | 0 | 1 | 0 | 0 | 28 |
| B-17 Bomber | 0 | 0 | 0 | 4 | 0 | 0 | 69 |
| Stealth Bomber | 0 | 0 | 0 | 6 | 0 | 0 | 70 |
| B-52 Bomber | 0 | 0 | 0 | 8 | 0 | 0 | 110 |
| Midget Miner | 0 | 0 | 0 | 0 | 0 | 0 | 20 |
| Mini-Miner | 0 | 0 | 0 | 2 | 0 | 0 | 60 |
| Miner | 0 | 0 | 0 | 5 | 0 | 0 | 86 |
| Maxi-Miner | 0 | 0 | 0 | 10 | 0 | 0 | 111 |
| Ultra-Miner | 0 | 0 | 0 | 12 | 0 | 0 | 110 |
| Fuel Transport | 0 | 0 | 0 | 4 | 0 | 0 | 12 |
| Super-Fuel Xport | 0 | 0 | 0 | 7 | 0 | 0 | 111 |

| NAME | Resources | Ironium | Boranium | Germanium | Fuel | Cargo | Slots | dp |
|------------------|-----------|---------|----------|-----------|------|-------|-------|------|
| Small Freighter | 20 | 12 | 0 | 17 | 200 | 70 | 3 | 50 |
| Medium Freighter | 40 | 20 | 0 | 19 | 275 | 210 | 3 | 100 |
| Large Freighter | 100 | 35 | 0 | 21 | 600 | 1200 | 3 | 200 |
| Super Freighter | 250 | 80 | 0 | 23 | 1300 | 2800 | 3 | 400 |
| Scout | 10 | 4 | 2 | 4 | 50 | 0 | 3 | 25 |
| Super Scout | 12 | 4 | 2 | 4 | 100 | 0 | 4 | 60 |
| Destroyer | 35 | 15 | 3 | 5 | 150 | 0 | 5 | 250 |
| Cruiser | 85 | 40 | 5 | 8 | 250 | 0 | 7 | 500 |
| Super Cruiser | 150 | 80 | 10 | 15 | 350 | 0 | 7 | 950 |
| Battleship | 275 | 250 | 25 | 20 | 500 | 0 | 10 | 2000 |
| Super Battleship | 400 | 275 | 30 | 25 | 650 | 0 | 13 | 3000 |
| Privateer | 50 | 50 | 3 | 2 | 175 | 250 | 5 | 300 |
| Rogue | 100 | 100 | 5 | 5 | 350 | 500 | 6 | 550 |
| Galleon | 130 | 110 | 5 | 5 | 550 | 1000 | 8 | 900 |
| Mini-Colony Ship | 5 | 3 | 0 | 3 | 30 | 10 | 2 | 10 |
| Colony Ship | 20 | 10 | 0 | 15 | 100 | 25 | 2 | 50 |
| Mini Bomber | 35 | 20 | 5 | 10 | 40 | 0 | 2 | 50 |
| B-17 Bomber | 150 | 55 | 10 | 10 | 100 | 0 | 4 | 250 |
| Stealth Bomber | 175 | 55 | 10 | 15 | 150 | 0 | 5 | 225 |
| B-52 Bomber | 280 | 90 | 15 | 10 | 150 | 0 | 6 | 450 |
| Midget Miner | 20 | 10 | 0 | 3 | 25 | 115 | 2 | 100 |
| Mini-Miner | 35 | 25 | 0 | 6 | 35 | 150 | 4 | 150 |
| Miner | 70 | 32 | 0 | 6 | 45 | 300 | 6 | 300 |
| Maxi-Miner | 140 | 39 | 0 | 6 | 55 | 500 | 6 | 450 |
| Ultra-Miner | 150 | 35 | 0 | 6 | 75 | 750 | 6 | 600 |
| Fuel Transport | 50 | 10 | 0 | 5 | 500 | 0 | 2 | 5 |
| Super-Fuel Xport | 70 | 20 | 0 | 8 | 1000 | 0 | 3 | 12 |

Scanners

| NAME | Energy | Weapons | Propulsion | Construction | Electronics | Bio-Tech |
|-------------------|--------|---------|------------|--------------|-------------|----------|
| Bat Scanner | 0 | 0 | 0 | 0 | 0 | 0 |
| Rhino Scanner | 0 | 0 | 0 | 0 | 1 | 0 |
| Mole Scanner | 0 | 0 | 0 | 0 | 4 | 0 |
| DNA Scanner | 0 | 0 | 3 | 0 | 0 | 6 |
| Possum Scanner | 0 | 0 | 0 | 0 | 5 | 0 |
| Chameleon Scanner | 2 | 0 | 0 | 0 | 5 | 0 |
| Ferret Scanner | 3 | 0 | 0 | 0 | 7 | 2 |
| Dolphin Scanner | 5 | 0 | 0 | 0 | 10 | 4 |
| Gazelle Scanner | 4 | 0 | 0 | 0 | 8 | 0 |
| RNA Scanner | 0 | 0 | 5 | 0 | 0 | 10 |
| Cheetah Scanner | 5 | 0 | 0 | 0 | 11 | 0 |
| Elephant Scanner | 6 | 0 | 0 | 0 | 16 | 7 |
| Eagle Eye Scanner | 6 | 0 | 0 | 0 | 14 | 0 |

| NAME | Weight | Resources | Ironium | Boranium | Germanium | Range |
|-------------------|--------|-----------|---------|----------|-----------|-------|
| Bat Scanner | 2 | 1 | 1 | 0 | 1 | 0 |
| Rhino Scanner | 5 | 3 | 3 | 0 | 2 | 50 |
| Mole Scanner | 2 | 9 | 2 | 0 | 2 | 100 |
| DNA Scanner | 2 | 5 | 1 | 1 | 1 | 125 |
| Possum Scanner | 3 | 18 | 3 | 0 | 3 | 150 |
| Chameleon Scanner | 6 | 25 | 4 | 6 | 4 | 160 |
| Ferret Scanner | 2 | 36 | 2 | 0 | 8 | 185 |
| Dolphin Scanner | 4 | 40 | 5 | 5 | 10 | 220 |
| Gazelle Scanner | 5 | 24 | 4 | 0 | 5 | 225 |
| RNA Scanner | 2 | 20 | 1 | 1 | 2 | 230 |
| Cheetah Scanner | 4 | 50 | 3 | 1 | 13 | 275 |
| Elephant Scanner | 6 | 70 | 8 | 5 | 14 | 300 |
| Eagle Eye Scanner | 3 | 64 | 3 | 2 | 21 | 335 |

Shields

| NAME | Energy | Weapons | Propulsion | Construction | Electronics | Bio-Tech |
|--------------------------|--------|---------|------------|--------------|-------------|----------|
| Mole-skin Shield | 0 | 0 | 0 | 0 | 0 | 0 |
| Cow-hide Shield | 2 | 0 | 0 | 0 | 0 | 0 |
| Wolverine Diffuse Shield | 4 | 0 | 0 | 0 | 0 | 0 |
| Bear Neutrino Barrier | 6 | 0 | 0 | 0 | 0 | 0 |
| Gorilla Delagator | 10 | 0 | 0 | 0 | 0 | 0 |
| Elephant Hide Fortress | 15 | 0 | 0 | 0 | 0 | 0 |

| NAME | Weight | Resources | Ironium | Boranium | Germanium | dp |
|------------------|--------|-----------|---------|----------|-----------|----|
| Mole-skin Shield | 2 | 2 | 1 | 0 | 1 | 30 |
| Cow-hide Shield | 1 | 3 | 2 | 0 | 2 | 50 |

| | | | | | | |
|--------------------------|----|----|----|---|----|-----|
| Wolverine Diffuse Shield | 2 | 8 | 5 | 0 | 5 | 80 |
| Bear Neutrino Barrier | 3 | 12 | 8 | 0 | 8 | 100 |
| Gorilla Delagator | 8 | 18 | 8 | 1 | 12 | 150 |
| Elephant Hide Fortress | 25 | 35 | 30 | 3 | 12 | 300 |

Specials

| NAME | Energy | Weapons | Propulsion | Construction | Electronics | Bio-Tech |
|---------------------|--------|---------|------------|--------------|-------------|----------|
| Colonization Module | 0 | 0 | 0 | 0 | 0 | 0 |
| Transport Cloaking | 0 | 0 | 0 | 0 | 0 | 0 |
| Stealth Cloak | 2 | 0 | 0 | 0 | 5 | 0 |
| Super-Stealth Cloak | 4 | 0 | 0 | 0 | 10 | 0 |
| Ultra-Stealth Cloak | 10 | 0 | 0 | 0 | 12 | 0 |
| Cargo Module | 0 | 0 | 0 | 3 | 0 | 0 |
| Fuel Tank | 0 | 0 | 0 | 4 | 0 | 0 |
| Maneuvering Jet | 2 | 0 | 3 | 0 | 0 | 0 |
| Overthruster | 4 | 0 | 6 | 0 | 0 | 0 |

| NAME | Weight | Resources | Ironium | Boranium | Germanium | Ability |
|---------------------|--------|-----------|---------|----------|-----------|---------|
| Colonization Module | 32 | 10 | 12 | 10 | 10 | |
| Transport Cloaking | 1 | 3 | 2 | 0 | 2 | 50 |
| Stealth Cloak | 2 | 8 | 5 | 0 | 5 | 40 |
| Super-Stealth Cloak | 3 | 15 | 8 | 0 | 8 | 65 |
| Ultra-Stealth Cloak | 5 | 25 | 10 | 0 | 10 | 75 |
| Cargo Module | 5 | 20 | 11 | 0 | 2 | |
| Fuel Tank | 5 | 4 | 6 | 0 | 0 | |
| Maneuvering Jet | 5 | 10 | 5 | 5 | 0 | 1 |
| Overthruster | 5 | 20 | 10 | 7 | 1 | 2 |

Mining

| NAME | Energy | Weapons | Propulsion | Construction | Electronics | Bio-Tech |
|-------------------|--------|---------|------------|--------------|-------------|----------|
| Robo-Midget Miner | 0 | 0 | 0 | 0 | 0 | 0 |
| Robo-Mini-Miner | 0 | 0 | 0 | 2 | 1 | 0 |
| Robo-Miner | 0 | 0 | 0 | 4 | 2 | 0 |
| Robo-Maxi-Miner | 0 | 0 | 0 | 7 | 4 | 0 |
| Robo-Super-Miner | 0 | 0 | 0 | 12 | 6 | 0 |
| Robo-Ultra-Miner | 0 | 0 | 0 | 13 | 8 | 0 |

| NAME | Weight | Resources | Ironium | Boranium | Germanium | kt/year |
|-------------------|--------|-----------|---------|----------|-----------|---------|
| Robo-Midget Miner | 130 | 25 | 12 | 0 | 4 | 6 |
| Robo-Mini-Miner | 250 | 60 | 20 | 0 | 6 | 9 |
| Robo-Miner | 275 | 85 | 25 | 0 | 6 | 12 |
| Robo-Maxi-Miner | 300 | 110 | 30 | 0 | 6 | 15 |
| Robo-Super-Miner | 290 | 140 | 28 | 0 | 6 | 18 |

| | | | | | | |
|------------------|-----|-----|----|---|---|----|
| Robo-Ultra-Miner | 280 | 135 | 26 | 0 | 6 | 21 |
|------------------|-----|-----|----|---|---|----|

Planetary

| NAME | Energy | Weapons | Propulsion | Construction | Electronics | Bio-Tech |
|------------------|--------|---------|------------|--------------|-------------|----------|
| Viewer 50 | 0 | 0 | 0 | 0 | 0 | 0 |
| Viewer 90 | 0 | 0 | 0 | 0 | 1 | 0 |
| Scoper 150 | 0 | 0 | 0 | 0 | 3 | 0 |
| Scoper 220 | 0 | 0 | 0 | 0 | 6 | 0 |
| Snooper 250X | 3 | 0 | 0 | 0 | 7 | 3 |
| Snooper 320X | 4 | 0 | 0 | 0 | 9 | 6 |
| Snooper 400X | 5 | 0 | 0 | 0 | 13 | 7 |
| SDI | 0 | 0 | 0 | 0 | 0 | 0 |
| Missile Battery | 3 | 0 | 0 | 0 | 0 | 0 |
| Laser Battery | 6 | 0 | 0 | 0 | 0 | 0 |
| Planetary Shield | 10 | 0 | 0 | 0 | 0 | 0 |
| Neutron Shield | 15 | 0 | 0 | 0 | 0 | 0 |

| NAME | Resources | Ironium | Boranium | Germanium | Ability |
|------------------|-----------|---------|----------|-----------|---------|
| Viewer 50 | 3 | 0 | 0 | 3 | 50 |
| Viewer 90 | 12 | 1 | 1 | 12 | 90 |
| Scoper 150 | 21 | 2 | 2 | 30 | 150 |
| Scoper 220 | 28 | 3 | 2 | 35 | 220 |
| Snooper 250X | 100 | 10 | 10 | 50 | 250 |
| Snooper 320X | 250 | 15 | 15 | 70 | 320 |
| Snooper 400X | 500 | 25 | 15 | 90 | 400 |
| SDI | 25 | 5 | 5 | 5 | 1.5% |
| Missile Battery | 25 | 5 | 5 | 5 | 2.0% |
| Laser Battery | 25 | 5 | 5 | 5 | 2.4% |
| Planetary Shield | 25 | 5 | 5 | 5 | 3.0% |
| Neutron Shield | 25 | 5 | 5 | 5 | 3.8% |

Terraforming

| NAME | Energy | Weapons | Propulsion | Construction | Electronics | Bio-Tech |
|---------------------|--------|---------|------------|--------------|-------------|----------|
| Total Terraform 3 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Terraform 5 | 0 | 0 | 0 | 0 | 0 | 3 |
| Total Terraform 7 | 0 | 0 | 0 | 0 | 0 | 6 |
| Total Terraform 10 | 0 | 0 | 0 | 0 | 0 | 9 |
| Total Terraform 15 | 0 | 0 | 0 | 0 | 0 | 13 |
| Gravity Terraform 3 | 0 | 0 | 1 | 0 | 0 | 1 |
| Gravity Terraform 7 | 0 | 0 | 3 | 0 | 0 | 2 |

| | | | | | | |
|------------------------|---|---|---|---|---|---|
| Gravity Terraform 11 | 0 | 0 | 6 | 0 | 0 | 3 |
| Temp Terraform 3 | 1 | 0 | 0 | 0 | 0 | 1 |
| Temp Terraform 7 | 3 | 0 | 0 | 0 | 0 | 2 |
| Temp Terraform 11 | 6 | 0 | 0 | 0 | 0 | 3 |
| Radiation Terraform 3 | 0 | 1 | 0 | 0 | 0 | 1 |
| Radiation Terraform 7 | 0 | 3 | 0 | 0 | 0 | 2 |
| Radiation Terraform 11 | 0 | 6 | 0 | 0 | 0 | 3 |

| NAME | Resources | Ironium | Boranium | Germanium | Ability |
|------------------------|-----------|---------|----------|-----------|---------|
| Total Terraform 3 | 85 | 0 | 0 | 0 | 3 |
| Total Terraform 5 | 85 | 0 | 0 | 0 | 5 |
| Total Terraform 7 | 85 | 0 | 0 | 0 | 7 |
| Total Terraform 10 | 85 | 0 | 0 | 0 | 10 |
| Total Terraform 15 | 85 | 0 | 0 | 0 | 15 |
| Gravity Terraform 3 | 100 | 0 | 0 | 0 | 3 |
| Gravity Terraform 7 | 100 | 0 | 0 | 0 | 7 |
| Gravity Terraform 11 | 100 | 0 | 0 | 0 | 11 |
| Temp Terraform 3 | 100 | 0 | 0 | 0 | 3 |
| Temp Terraform 7 | 100 | 0 | 0 | 0 | 7 |
| Temp Terraform 11 | 100 | 0 | 0 | 0 | 11 |
| Radiation Terraform 3 | 100 | 0 | 0 | 0 | 3 |
| Radiation Terraform 7 | 100 | 0 | 0 | 0 | 7 |
| Radiation Terraform 11 | 100 | 0 | 0 | 0 | 11 |

AIs

An AI is a computer player. AIs always exist in single player games and can exist in multi-player games, if chosen.

Resources

Resources are units of work created by people and factories. They represent the cost of doing a task or producing an item.

Annual Growth Rate

This rate is calculated by multiplying the value by the "Maximum colonist growth rate per year" found on page 2 of the View Race dialog.

Energy Sources for Starships

Starships use engines that either require the mineral called Fuel or that "scoop" their fuel from the surrounding universe.

Resources

Resources are units of work created by people and factories. They represent the cost of doing a task or producing an item.

AIs

An AI is a computer player. AIs always exist in single player games and can exist in multi-player games, if chosen.

Losing Colonists

Colonists won't die or reproduce while terraforming a planet with a negative value. They're all sealed into space suits and too busy and scared to think or do anything else. If you do attempt to give them other tasks, such as building mines or factories, they will die off at the annual rate shown by the negative value in the Selection summary pane until you resume terraforming.

Defenses and Invading Troops

Defense effectiveness is only 50% of full strength against invading troops.

AIs

An AI is a computer player. AIs always exist in single player games and can exist in multi-player games, if chosen.

Mineral Alchemy

You will be able to turn resources into minerals. One instance of mineral alchemy will use 25 resources to produce one kT of each mineral. This item will be available in the production inventory and can be automated through the auto build feature of the production dialog.

Resources

Resources are units of work created by people and factories. They represent the cost of doing a task or producing an item.

Mineral Alchemy

You will be able to turn resources into minerals. One instance of mineral alchemy will use 25 resources to produce one kT of each mineral. This item will be available in the production inventory and can be automated through the auto build feature of the production dialog.

Resources

Resources are units of work created by people and factories.

Added Cost of Research

The added cost of research represents the cost of such things as dilution of research efforts across more than one field, ramp up time to switch to entering a new fields of study, etc.

Fibonacci Series

Fibonacci numbers are the unending sequence 1, 1, 2, 3, 5, 8, 13, 21, 34, ... where each term is defined as the sum of its two predecessors.

Max Number of Designs and Ships

16 different ship designs at one time, and up to 32,000 ships of each design in a fleet.

Example Strategy for Obsolescence

If you colonize everything within the reasonable range of your current colonizers, you could delete the old design and replace it with a new one.

Minerals Above the Surface

You learn how many minerals are on the planet surface and available for immediate use only after colonizing the planet.

Fuel Poor Planets

Poor is defined to be very low quantity (under 500 kT) or very low density (under 10).

Speed for Free

Each type of ramscoop can travel at a different speed for free. See the Engines category of the Technology Browser for more information.

Mineral Content

Fuel needed for ships and Boranium, Germanium and Ironium needed for production

Load Optimal applies only to fuel.

Load from Fleet means to load everything the fleet has of that item, then leave.

Wait for Fleet means to wait for the other fleet to have enough of the mineral to fill your hold or until you've loaded the amount you specify in the Waypoint Tasks tile.

Orbit Ring Colors

A white circle indicates that only one or more of your fleets are in orbit. A red circle indicates one or more of an opponent's fleets. A purple circles indicates that both your fleet(s) and an opponent's fleet(s) are in orbit.

Fleet Colors

A blue fleet belongs to you. A red fleet belongs to an opponent. A purple fleet indicates that both your fleet and an opponent's fleet are in the same location.

AIs

An AI is a computer player. AIs always exist in single player games and can exist in multi-player games, if chosen.

Total Terraforming -- You begin the game with the ability to adjust each of a planet's environment attributes by up to 3% in either direction. Throughout the game, additional terraforming technologies not available to other players will be achievable. Races with the Total Terraforming advantage can terraform planets 10% more cheaply than other races and provides an extra set of technologies that you can learn, reducing the cost of research as well.

Only Basic Remote Mining

No Robo-Miner, Robo-Maxi-Miner and Robo-Super-Miner hulls.

Extra Hull Designs

You will have the following extra hull designs available: Super Cruiser, Privateer, Rogue and Fuel Transport. The Miner hull will also be available provided that the disadvantage, Only Basic Remote Mining, is also selected.

Only Basic Remote Mining

No Robo-Miner, Robo-Maxi-Miner and the Robo-Super-Miner hulls.

Improved Cloaking

You start the game with the ability to build the Transport Cloaking device. This cloak can only be attached to unarmed hulls. Also, with further research, you can build the Ultra Stealth cloak and the Chameleon Scanner (which doubles as a cloaking device).

The Command pane (upper left on the Stars! screen) is where you assign orders to your fleet and planets, including production, transfer and waypoint orders.

The Messages pane contains messages sent to you by Stars! and other players, and allows you to send messages to other players.

The Scanner pane (upper left on the Stars! screen) is your view of the universe. It's where you assign fleet routes and view different types of planet and fleet information.

The Selection Summary pane summarizes what you know about the object selected in the Scanner.

Mines

Mines bring minerals to the surface of your planets, where they are used in production.

Factories

Factories produce resources which are used in production. Resources are units of work created by people and factories.



You are here.

Planet penetrating scanners can detect fleets in orbit around a planet. They also can tell you planetary stats from a distance.

We're only using 60 minute tapes. Bigger battles just won't fit.

Unarmed ships include any design that has no weapons.

Scouts include ships based on the Scout, Super Scout, and Destroyer hulls.

Warships are all other armed ships, including armed freighters.

A **bomber** is any ship based on one of the Bomber hulls.

Each token is a stack of identical ships from a single fleet.

The token attempts to get out of battle (jump into hyperspace). It does not try to leave the square. Eventually, it will simply disappear from the board. Hopefully this means it has escaped and not been liberated to its component quarks.

One round is each token getting a chance to move.

Each token is a stack of identical ships from a single fleet.

Each token is a stack of identical ships from a single fleet.

Best Warp Speed

This is the maximum warp speed that the engines on this ship design can go at 120% normal fuel consumption or less.

