DISTANT WORLDS™
UNIVERSE

EPILEPSY WARNING

PLEASE READ THIS NOTICE BEFORE PLAYING THIS GAME OR BEFORE ALLOWING YOUR CHILDREN TO PLAY.

Certain individuals may experience epileptic seizures or loss of consciousness when subjected to strong, flashing lights for long periods of time. Such individuals may therefore experience a seizure while operating computer or video games. This can also affect individuals who have no prior medical record of epilepsy or have never previously experienced a seizure.

If you or any family member has ever experienced epilepsy symptoms (seizures or loss of consciousness) after exposure to flashing lights, please consult your doctor before playing this game.

Parental guidance is always suggested when children are using a computer and video games. Should you or your child experience dizziness, poor eyesight, eye or muscle twitching, loss of consciousness, feelings of disorientation or any type of involuntary movements or cramps while playing this game, turn it off immediately and consult your doctor before playing again.

PRECAUTIONS DURING USE:

- Do not sit too close to the monitor.
- Sit as far as comfortably possible.
- Use as small a monitor as possible.
- Do not play when tired or short on sleep.
- Take care that there is sufficient lighting in the room.
- Be sure to take a break of 10-15 minutes every hour.

USE OF THIS PRODUCT IS SUBJECT TO ACCEPTANCE OF THE SINGLE USE SOFTWARE LICENSE AGREEMENT

CONTENTS

INTRODUCTION

Much of the content in Distant Worlds can be modified, allowing you to customize your game experience.

Want to add your own alien races to the game? Maybe you want to predefine your own characters that appear in the game? Do you have some custom ship pictures you want to use in the game? Or maybe you just want to hear different music while playing the game? All of these changes are possible in Distant Worlds.

This document describes which content you can customize, and explains how to do it.

THEMES

A theme contains a full set of customized content, including images, alien races, characters, music, etc. You can switch between all of the themes on your computer from the "Change Theme" screen on the Main Menu.

Themes are stored in their own folder, with subfolders for specific types of content.
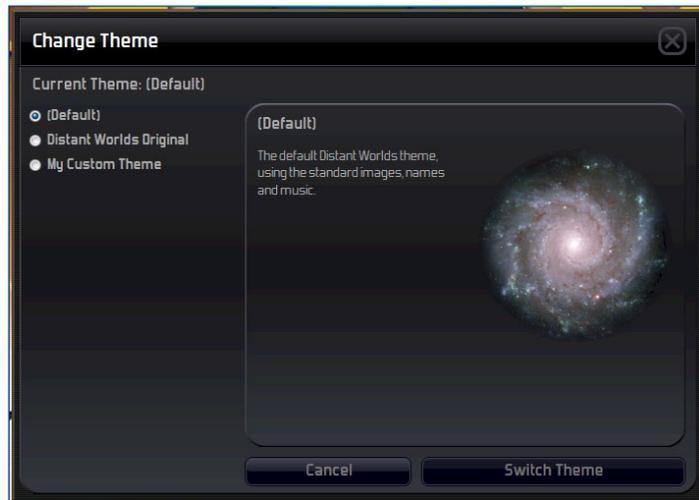
A finished theme should be placed in its own folder under the **Customization** folder. The theme will then be available for selection from the "Change Theme" screen in the game.

Listed below are all of the types of content that can be customized in a theme:

▶ Alien races (races folder and raceBiases.txt)

▶ Alien race families (raceFamilies.txt and raceFamilyBiases.txt)

▶ Empire policy (policy folder)

▶ Dialog for each alien race (dialog folder)

▶ Ship Design templates (designTemplates folder)

▶ Custom predefined Characters (characters folder)

▶ Natural resources that occur in the galaxy (resources.txt)

▶ Components used to build ships and bases (components.txt)

▶ Research tech trees (research.txt)

▶ Fighters (fighters.txt)

▶ Planetary facilities and wonders (facilities.txt)

▶ Governments (governments.txt and governmentBiases.txt)

▶ Nearly any images in the game including:

   ▶ Ship and Base pictures (images\units\ships folder)

   ▶ Alien race and pirate pictures (images\units\races folder)

   ▶ Character pictures (images\ units\characters folder)

📁 characters	
📁 designTemplates	
📁 dialog	
📁 help	
📁 images	
📁 maps	
📁 policy	
📁 races	
📁 sounds	
🖼 about.png	86 KB
📄 about.txt	1 KB
📄 characterNames.txt	4 KB
📄 colonyNames.txt	1 KB
📄 components.txt	22 KB
📄 designNames.txt	5 KB
📄 facilities.txt	14 KB
📄 fighters.txt	5 KB
📄 governmentBiases.txt	2 KB
📄 governments.txt	6 KB
📄 raceBiases.txt	3 KB
📄 raceFamilies.txt	1 KB
📄 raceFamilyBiases.txt	2 KB
📄 research.txt	55 KB
📄 resources.txt	6 KB
📄 shipNames.txt	1 KB
📄 systemNames.txt	6 KB

Change Theme

Current Theme: (Default)

◉ (Default)
⦿ Distant Worlds Original
⦿ My Custom Theme

(Default)

The default Distant Worlds theme, using the standard images, names and music.

Cancel   Switch Theme

- ▶ Troop pictures (images\units\troops folder)

- ▶ Empire flag symbols (images\ui\flagshapes folder)

- ▶ Weapons effects (images\effects\weapons folder)

- ▶ Planet images (images\environment\planets folder)

- ▶ Planetary surface maps (images\environment\planetmaps folder)

- ▶ Use interface button icons (images\ui\chrome folder)

- ▶ And many more…
- ▶ Custom Galactopedia articles (help folder)
- ▶ Custom predefined Galaxy maps (maps folder)
- ▶ Star system names (systemNames.txt)
- ▶ Ship design names (designNames.txt)
- ▶ Random Character names (characterNames.txt)
- ▶ Player ship names per type (shipNames.txt)
- ▶ Names given to newly-established player colonies (colonyNames.txt)
- ▶ Music (sounds\music folder)
- ▶ Sound effects (sounds\effects folder)

THEME DESCRIPTION

To introduce your custom theme in the Change Theme screen, you may optionally include some descriptive files in the root of your theme folder.

To display some introductory text describing your theme, include the file about.txt. The text in this file will appear when your theme is selected in the Change Theme screen.

You may also add an image to accompany your description. To do this, include a PNG image file named **about.png**. This image will be displayed to the right of your introductory text.

MOST ITEMS OPTIONAL

Note that most customizable items are optional – i.e. you only need to supply the items that you want customized, all other items will be loaded from the default resources. Thus it is possible to customize a single image, while loading the remaining images from the default Distant Worlds images.

This principle holds true for most other items: customized name text files, etc. You do not need to customize everything to have a valid theme. Just customize what you want to change.

However an exception to the above applies when adding alien races to a theme. If you create one or more new custom races then you must explicitly define all of the race-related files for every race in your theme. This also means that you must include any of the default races (from the root game folder) that you want available in your theme. For every alien race you should include the following:

- ▶ a race file in the races folder

- ▶ an empire policy file in the policy folder

- ▶ optionally, a set of predefined characters in a file in the **characters** folder

- ▶ optionally, a set of design template files in their own race-named subfolder in the **designTemplates** folder

- ▶ an updated **raceBiases.txt** file that records bias values for all races in your theme

To achieve this, you may find it helpful to copy some of the existing race, policy, character and designTemplate files from default Distant Worlds game installation. You can copy these files to your theme subfolders and then modify them as needed.

CUSTOMIZING IMAGE FOLDERS AND FILES

In Distant Worlds Universe the structure of all folders in a theme is the same as the default folder structure under the root game folder.

Thus in a theme you have an images folder with four subfolders:

- **effects** – contains all special effects, including weapons, explosions, animations, etc

- **environment** – contains all planet, asteroid, star, galaxy backdrop and ruin images, etc

- **ui** – contains all user interface related images

- **units** – contains all ship/base, alien race, character and troop images
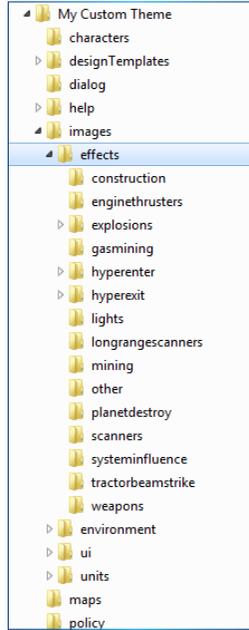
When any image folder is missing from your theme, Distant Worlds will fall-back to use the corresponding default images from the root game folder (with some exceptions outlined below). So you do not need to include all image folders in your theme, but rather only the ones you want to change.

This means that nearly all images in the game are moddable in a theme, including planets, effects, ruins, planetary facilities, and the user interface icons.

USER INTERFACE SKINNING

To reskin the user interface you should include the folder images\ui\chrome in your theme. This folder contains all of the button icons used in Distant Worlds.

You can mod the mouse pointers by including an updated images\ui\cursors folder in your theme.

Some other useful folders to mod when changing the user interface are:

- **images\ui\events** – contains all colony disaster message images

- **images\ui\flagshapes** – contains all empire flag shape images, including pirates

- **images\ui\messages** – contains all major event message images

- **images\ui\components** – contains all component images

- **images\ui\resources** – contains all resource images

(folder tree listing:)

```
My Custom Theme
    characters
    designTemplates
    dialog
    help
    images
        effects
            construction
            enginethrusters
            explosions
            gasmining
            hyperenter
            hyperexit
            lights
            longrangescanners
            mining
            other
            planetdestroy
            scanners
            systeminfluence
            tractorbeamstrike
            weapons
        environment
        ui
        units
    maps
    policy
```

IMAGE FALLBACK AND EXCEPTIONS

In most cases you can replace some of the images in your theme, while relying on the default images for the remainder, e.g. replace some of the button images in the **images\ui\chrome** folder in your theme, while leaving the others to be supplied from the default chrome folder in the base game. In other words the typical Distant Worlds file fall-back mechanism works in most places.

However there are some exceptions that do not have any fall-back. For these cases if you supply the relevant folder in your theme, then you must supply **ALL** images in that folder. Folders that do NOT fallback to default are as follows:

- images\environment\supernovae

- images\environment\planets\volcanic

- images\effects\weapons

- images\effects\explosions

- images\effects\planetdestroy

- images\effects\hyperenter

- images\effects\hyperexit

- images\effects\enginethrusters

- images\ui\flagshapes

EXTENSIBLE EFFECT FOLDERS

Also note that some folders have a special naming convention to allow for extensibility. These folders use numeric subfolder names. These numeric names map to the SpecialImageIndex value in the **components.txt** file. These folders include the following:

- images\effects\hyperenter

- images\effects\hyperexit

- images\effects\enginethrusters

For the hyperenter and hyperexit folders above you can add extra animation subfolders named by number. The default animations are numbered from 0 to 3, but you can add extra folders starting from 4. You can then refer to these numbered folders in the **components.txt** file.

For the enginethrusters folder above you can add extra thruster images named by number. The default images are numbered from 0 to 5, but you can add extra images starting from 6. You can then refer to these numbered images in the **components.txt** file.

For example, to add a new hyperdrive with its own hyperenter and hyperexit animation, you can add two new folders populated with animation image frames:

- ▶ images\effects\hyperenter\4
- ▶ images\effects\hyperexit\4

You can then refer to these new animations when adding the new hyperdrive component in the **components.txt** file by setting the **SpecialImageIndex** value to 4 as follows:

129, Super Warp Drive, 129, ④ 23, 8, 0, 37000, 64, 6, 0, 0, 0, 0, 17, 4, 7, 7, 12, 5, 10, 6,

MODDING PLANET IMAGES

Most of the subfolders in the **images\environment** folder are moddable. This allows you to change the images used for planets, asteroids, etc.

Distant Worlds loads planet images by specific filename. So any changed planet images that you supply in your theme must precisely match the filename of an existing planet image.

For example, to supply changed Frozen Gas planet images in your theme you could have the following files:

- ▶ FrozenGasAr-0001.png
- ▶ FrozenGasOt-0007.png
- ▶ FrozenGasKr-0003.png
- ▶ FrozenGasTy-0013.png

…or any of the other pre-existing filenames in the default **images\ environment\planets\frozengasgiant** folder under the root game folder.

However planet image files with the following names would NOT be used, because their filenames do not exist in the loading process:

- ▶ FrozenGasAr_0001.bmp
- ▶ FrozenGasPlanet01.png
- ▶ FrozenGasAr_0001.png
- ▶ FrozenGas-Ar0001.png

PLANET IMAGE FILENAMES

The following filenames are expected in each subfolder under **images\ environment\planets**:

- ▶ **Barrenrock**: 21 images named Barren-0001.png to Barren-0021.png
- ▶ **Continental**: 20 images named Continental-0001.png to Continental-0020.png
- ▶ **Forest**: 26 images named Forest-0001.png to Forest-0026.png
- ▶ **Iceglacial**: 18 images named Glacial-0001.png to Glacial-0018.png
- ▶ **Marshyswamp**: 18 images named Marsh-0001.png to Marsh-0018.png
- ▶ **Ocean**: 14 images named Ocean-0001.png to Ocean-0014.png
- ▶ **Sandydesert**: 25 images named Desert-0001.png to Desert-0025.png
- ▶ **Volcanic**: 20 images named Volcanic-0001.png to Volcanic-0020. png (Volcanic planets also have matching glowing lava overlays named VolcanicG-0001.png to VolcanicG-0020.png)

SPECIAL CASES FOR GAS PLANETS

Note that many of the Gas Giant and Frozen Gas Giant planet images are categorized according to the dominant gas resource present at a planet. The galaxy generation process will often attempt to use a planet image that matches the dominant resource.

However this planet image categorization by resource only applies when the default resources are used. When customized resources are used then any gas planet image in the folder is used, regardless of the resources present at a gas planet. However the same image filenames are still used.

- ▶ **Frozengasgiant**
  - ▶ **Argon**: 10 images named FrozenGasAr-0001.png to FrozenGasAr-0010.png
  - ▶ **Helium**: 10 images named FrozenGasHe-0001.png to FrozenGasHe-0010.png
  - ▶ **Krypton**: 11 images named FrozenGasKr-0001.png to FrozenGasKr-0011.png
  - ▶ **Tyderios**: 13 images named FrozenGasTy-0001.png to FrozenGasTy-0013.png
  - ▶ **Other**: 10 images named FrozenGasOt-0001.png to FrozenGasOt-0010.png
- ▶ Gasgiant
  - ▶ **Argon**: 5 images named GasGiantAr-0001.png to GasGiantAr-0005.png
  - ▶ **Caslon**: 5 images named GasGiantCa-0001.png to GasGiantCa-0005.png
  - ▶ **Helium**: 8 images named GasGiantHe-0001.png to GasGiantHe-0008.png
  - ▶ **Hydrogen**: 8 images named GasGiantHy-0001.png to GasGiantHy-0008.png
  - ▶ **Krypton**: 5 images named GasGiantKr-0001.png to GasGiantKr-0005.png
  - ▶ **Other**: 2 images named GasGiantOt-0001.png to GasGiantOt-0002.png

ADDING EXTRA CUSTOM PLANET IMAGES

You can use the **images\environment\planets\other** folder to add your own custom planet images that can be selected in the Game Editor. The planet images must be PNG image files.

This allows you to define special-case planets or other unique stellar bodies. This can be particularly useful in a custom map that follows a storyline.

Planet images that come from the **images\environment\planets\other** folder have a key difference when used in the game: no cloud overlay is ever added. If you want clouds to appear in your custom images in the **images\environment\planets\other** folder, you should draw the clouds directly on your image.

UNMODDABLE IMAGE FOLDERS

Finally, note that some image folders are not moddable. In other words, these folders are always read from the default image folder structure under the root game folder:

- ▶ images\units\creatures
- ▶ images\environment\mapstars
- ▶ images\environment\nebulae

POPULAR IMAGES FOR CUSTOMIZING

Nearly any images can be customized in Distant Worlds. This section will look at some popular image types that you will likely want to customize:

- ▶ Ships and Bases
- ▶ Alien races (including pirate types)
- ▶ Characters
- ▶ Troops
- ▶ Empire Flag Shapes
- ▶ Planetary Surface Maps used in Ground Report screen
- ▶ Planetary landscape images
- ▶ Ruin images
- ▶ Planetary Facility and Wonder images

All images should be stored as PNG image files (Portable Network Graphics). Image backgrounds should be set to full transparency.

SHIP AND BASE IMAGES

Figure 3. Ship images folder
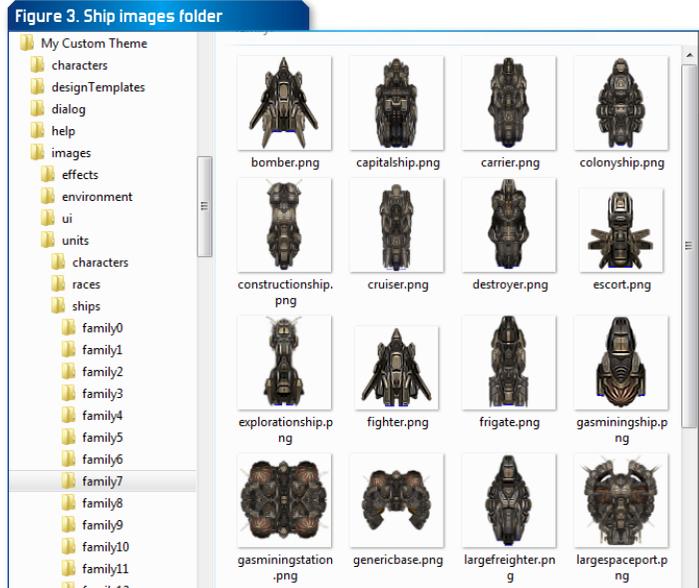
Customized ship or base images should be placed in their own ship family subfolder under the images\units\ships folder. Thus there can be subfolders named "family0", "family1", etc – mimicking the structure found under the default images\units\ships folder under the root game folder.

Each image should be named by its ship- or base-type, e.g. destroyer.png, explorationship.png, mediumspaceport.png, etc.

Only supply the images that you want to customize – you do not have to supply a complete family of images. Any missing images will fall-back to the default Distant Worlds ship images for that family.

If you add completely new ship image families then ensure that the sequence of folder names retains a continuous series of numbers. For example if you add a new ship image family folder named "family26", you must also have folders named "family25", "family24", "family23", etc – all the way back to "family0".

SIZE AND SHAPE

All images for ships and bases should be perfectly square in shape, i.e. the width and height should be the same length. This will ensure proper appearance when rotating the image.

Ship and base images should be less than 300 pixels per side, i.e. up to 300 x 300 pixels wide and high.

ENGINE EXHAUST

Some colors have special meaning when used in ship and base images.

Pure blue (RGB 0,0,255) is used to indicate the location of engines on the ship, allowing engine exhaust to be displayed when the ship is moving. Paint a pure blue line (single-pixel width) on the ship to indicate the location of each engine.

RUNNING LIGHTS

Pure yellow (RGB 255,255,0) is used to indicate the location of 'running' lights on the ship or base. Paint a single pixel of pure yellow anywhere on the ship or base to indicate where a flashing light should appear.

ALIEN RACE IMAGES

Customized alien race images should be placed in the **images\units\races** folder under your custom theme.

Alien race images should be named "Race_0.png", "Race_1.png", etc. You do not have to supply all alien race images in your theme. Any missing images will fall-back to the default Distant Worlds race images from the images\units\races folder under the root game folder.

All alien race images should be perfectly square in shape, i.e. width and height should be the same length. These images should ideally be at least 200 pixels wide and high, with the head and shoulders filling most of the frame.

ALTERNATE IMAGE

If desired you can also include an alternate version of each race image. If present, this alternate version will be used in the Diplomacy screen when talking to the race. This allows you to present a different version of the race in this situation. For example in the base race images included in the game, these alternate versions include a rasterized background focus effect.

Figure 4. Alien race images folder
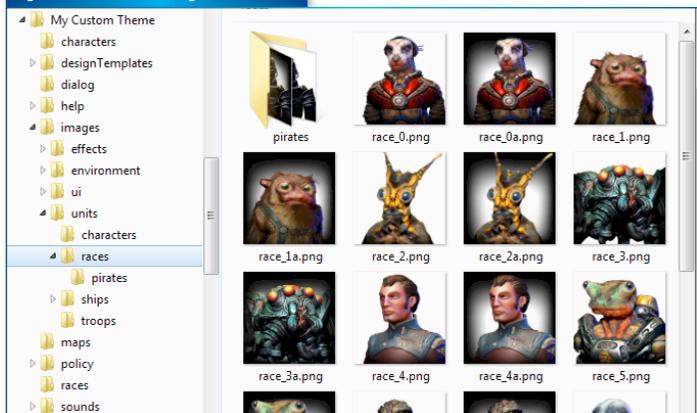
To include an alternate version of a race image simply append "**a**" to the filename, e.g. "race_3a.png"

Note that if no alternate race image exists then the default version will simply be used in the Diplomacy screen.

PIRATE PICTURES

Pirates also have unique artwork. The image for each pirate role can be customized (Balanced, Smuggler, Raider, Mercenary). Pirate role images are stored in the **pirates** subfolder under the images\units\races folder.

Each pirate image file is named by its role. Thus the valid pirate image filenames are:

- ► Balanced.png
- ► Mercenary.png
- ► Raider.png
- ► Smuggler.png

Pirate role images can also include alternate versions as described above for standard race images (i.e. append "**_a**" to the default filename, e.g. "Raider_a.png").

CHARACTER IMAGES

Characters that have been predefined in a character file (characters folder) can use images stored in the **images\units\characters** folder under your custom theme.

Figure 5. Character images folder
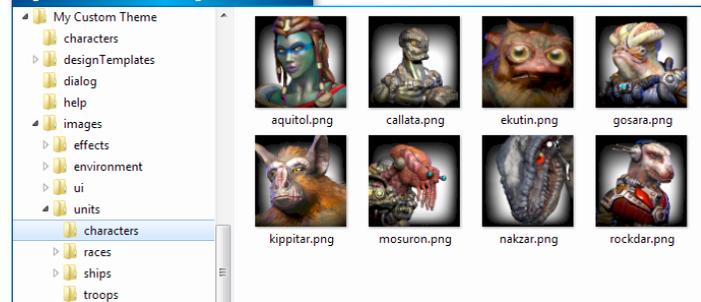
Character images can have any filename, but must be PNG image files. Ideally character images should have transparent backgrounds, although this is not required.

All character images should be perfectly square in shape, i.e. width and height should be the same length. These images should ideally be at least 200 pixels wide and high, with the head and shoulders filling most of the frame.

TROOP IMAGES

Customized troop images should be placed in the **images\units\troops** folder under your custom theme.

Each alien race uses a set of troop images that includes a unique image for each troop type (Infantry, Armored, Planetary Defense, Special Forces, Pirate Raiders). Thus a full "family" of troop images for a race would include:

- ► Troop_X.png (Infantry units)
- ► Troop_X_Armored.png (Armored units)
- ► Troop_X_Artillery.png (Planetary Defense units)
- ► Troop_X_SpecialForces.png (Special Forces units)
- ► Troop_X_PirateRaider.png (Pirate Raider units)

Figure 6. Troop images folder
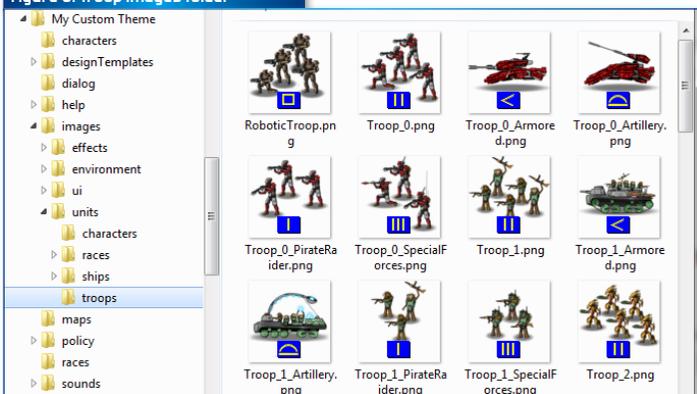
In the above examples "X" should be replaced with the number corresponding to the alien race that the troop family belongs to, e.g. "Troop_3.png", "Troop_3_Armored.png", etc.

Although a specific image size is not enforced, ideally troop images should be kept to a size of 80 x 80 pixels. Their backgrounds should be fully transparent.

Note that you do not have to supply all troop images in your theme. Any missing images will fall-back to the default Distant Worlds troop images from the images\units\troops folder under the root game folder.

FLAG SHAPES

You can also customize the flag symbols used for empires.

Place your custom empire flag symbol files in the images\ui\flagShapes folder. Flag symbols should be PNG image files with a fully transparent background. The symbol shape itself should be white (RGB 255,255,255).

The flag symbol images should be sized in an aspect ratio of 5:3, i.e. the width should be 1.667 times the height. Thus all of the following image sizes are valid:

- ▶ 100 x 60 pixels
- ▶ 125 x 75 pixels
- ▶ 200 x 120 pixels

Figure 7. Flagshapes folder
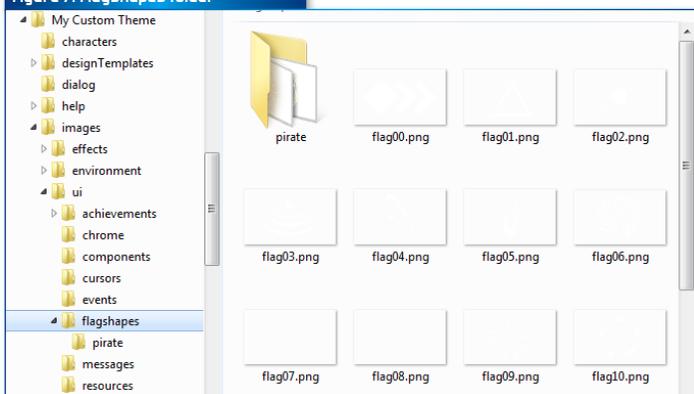
You can also include custom pirate flag shapes. These are stored in the **pirate** subfolder under the flagShapes folder.

For examples of proper flag images see the default flag designs in the images\ui\flagShapes folder under the root game folder.

FLAG ORDERING AND SELECTION IN THE GAME

The flags are sorted by filename order, and thus are presented that way in the "Your Empire" step of the "Start a New Game" screen. The order of the flags also relates to which design is used for an alien race as defined by the "DefaultFlagDesign" setting in the race file.

Note that if at least 30 pirate flag shapes are present, then the first 18 pirate flags are considered to be more traditional aggressive pirate styles and are thus used for Raider and Mercenary pirate factions. The remaining designs are treated as more neutral and are thus used for Balanced and Smuggler pirate factions.

NO IMAGE FALLBACK FOR FLAG IMAGES

Note that if you supply any custom flag images in your theme, then you must also include all of the default flag images from the default folder under the root game folder.

In other words, if you have a folder named **images\ui\flagshapes** in your theme then Distant Worlds will not fall-back to the default flag images.

You must instead supply the complete set of flag images in your custom **images\ui\flagshapes** folder.

PLANET SURFACE MAPS

Planetary surface maps are displayed as a background in the Ground Report screen. You can customize the images that are displayed here by providing a images\environment\planetMaps folder in your theme.

These maps are full-color images (no transparent background) of size 1024 x 768 pixels.

The full list of possible planetary surface maps is as follows:

- ► Continental1.png (continental planet)
- ► Continental2.png (continental planet)
- ► Continental3.png (continental planet)

Figure 8. Planet Surface Maps folder
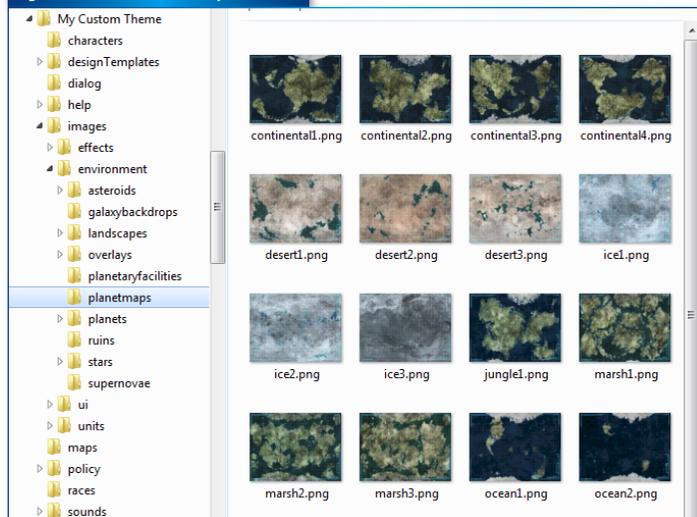
- ► Continental4.png (continental planet)
- ► Jungle1.png (continental planet)
- ► Ice1.png (ice planet)
- ► Ice2.png (ice planet)
- ► Ice3.png (ice planet)
- ► Marsh1.png (swamp planet)
- ► Marsh2.png (swamp planet)
- ► Marsh3.png (swamp planet)
- ► Ocean1.png (ocean planet)
- ► Ocean2.png (ocean planet)
- ► Desert1.png (desert planet)
- ► Desert2.png (desert planet)
- ► Desert3.png (desert planet)
- ► Volcanic1.png (volcanic planet)
- ► Volcanic2.png (volcanic planet)

Note that all of the above images are optional – if you do not supply an item it will fall-back to the default image in the **images\environment\ planetmaps** folder under the root game folder.

PLANETARY LANDSCAPE IMAGES

Planetary landscape images display the surface of a planet, moon or asteroid from the perspective of someone standing at ground-level. These images give more flavour to each planet. They are displayed in the following places in the game:

- ► in the Galaxy Map screen when you select a planet, moon or asteroid (bottom-right panel)
- ► as the background when talking to another empire in the Diplomacy screen
- ► as the background when viewing characters in the Characters screen

Planetary landscape images are found in the **images\environment\landscapes** folder. Subfolders further group the images by planet type.

These images should be PNG files of any size up to 1024 x 768 pixels. They should have a 4:3 aspect ratio (width to height).

Each file should be named **landscape_X.png**, where X is the sequential number of the file, e.g. **landscape_2.png**

Each planetary type subfolder should only contain the following numbers of files. Any additional images will be unused:

- ▶ **BarrenRock**: 4 images, named landscape_0.png to landscape_3.png
- ▶ **Continental**: 4 images, named landscape_0.png to landscape_3.png
- ▶ **Forest**: 1 image, named landscape_0.png (this folder is UNUSED)
- ▶ **FrozenGasGiant**: 2 images, named landscape_0.png to landscape_1.png
- ▶ **GasGiant**: 6 images, named landscape_0.png to landscape_5.png
- ▶ **IceGlacial**: 3 images, named landscape_0.png to landscape_2.png
- ▶ **MarshySwamp**: 3 images, named landscape_0.png to landscape_2.png
- ▶ **Ocean**: 2 images, named landscape_0.png to landscape_1.png

Figure 9. Planetary landscapes folder
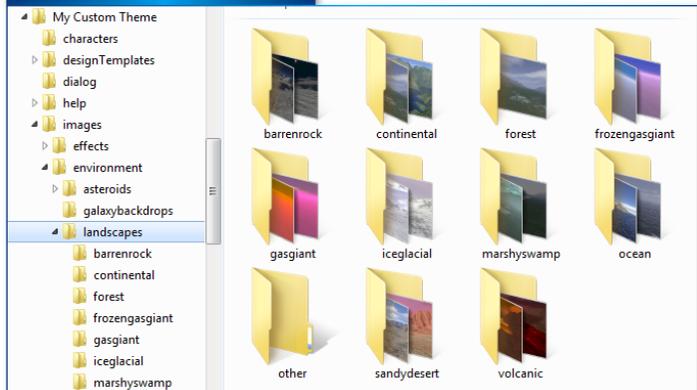
- ▶ **SandyDesert**: 3 images, named landscape_0.png to landscape_2.png
- ▶ **Volcanic**: 2 images, named landscape_0.png to landscape_1.png

Note that all of the above images are optional – if you do not supply an item it will fall-back to the default image in the **images\environment\landscapes** folder under the root game folder.

ADDITIONAL 'OTHER' FOLDER FOR CUSTOM LANDSCAPE IMAGES

Figure 10. Change planet landscape image in Game Editor

In addition to the above default landscape image folders, your theme may also contain a folder named '**other**' that stores custom landscape images (**images\environment\landscapes\other**).

These custom landscape images are not assigned to planets, moons or asteroids when generating a new galaxy. But they can be manually assigned using the Game Editor, thus allowing you to customize planets in a custom galaxy map.

As with the default landscape images above, custom landscape images in the **other** folder should be PNG files of any size up to 1024 x 768 pixels. They should have a 4:3 aspect ratio (width to height).

The image files in the **other** folder can have any name. All PNG image files in the folder will be loaded into the game.

RUIN IMAGES

You can add your own custom Ruin images in the **images\environment\ruins** folder.

The ruin image filenames should be named "**ruin_X.png**", where X is a sequential numeric value.

The default ruin images are found in the images\environment\ruins folder under the root game folder. These images are numbered from 0 to 15 (ruin_0.png to ruin_15.png) and are used to display all of the randomly-generated ruins in the game.

You can replace these default ruin images by supplying your own versions of these files in your theme in the **images\environment\ruins** folder. In addition you can add extra ruin images to your theme.

Any custom ruin images that you add (numbered 16 or higher) will not be used in randomly-generated ruins. However you can edit ruins in the Game Editor to change the image to one of your custom ruin images. This is especially useful when designing a custom Galaxy Map (see section "Galaxy Maps" in this Modding Guide).

Ruin images should be PNG files. Ideally they should just contain the image of the actual building/ruins on a transparent background.

The images can be any size. The largest size they will appear in the game is when you encounter ruins while exploring. In this case the ruins image will be scaled to approximately 360 pixels in width and height. So there is no benefit in making your ruin images much larger than this.

Figure 11. Ruin images folder
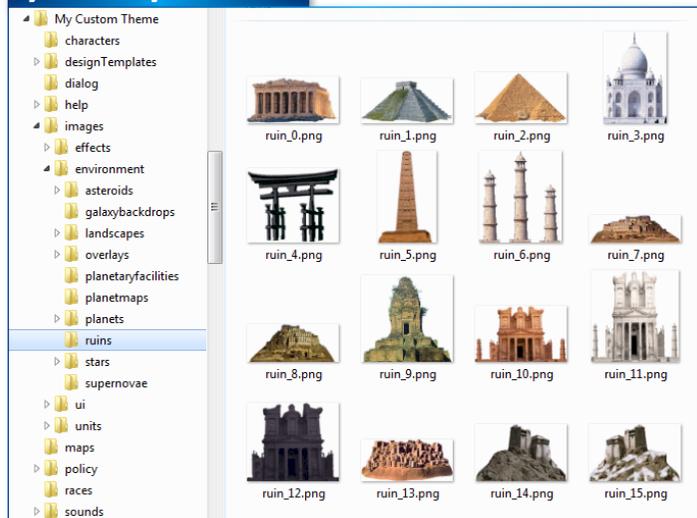
PLANETARY FACILITY AND WONDER IMAGES

You can replace existing facility images or add your own new custom facility images in the **images\environment\planetaryfacilities** folder.

The facility image filenames should be named "**facility_X.png**", where X is a sequential numeric value, e.g. facility_0.png, facility_1.png, etc.

Facility images are referenced in the **facilities.txt** file. The PictureRef value for each facility determines which image is used to display the facility or wonder.

Facility images should be PNG files. The images should be 300 pixels in width and height, which is the largest size that they appear in the game.

Figure 12. Planetary Facility and Wonder images folder
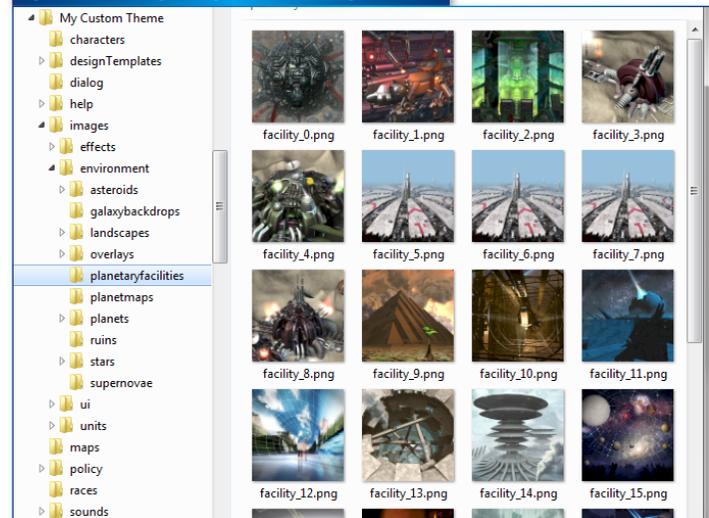
CUSTOMIZED NAME FILES

Various sets of names in the game can be customized.

These name files generally contain simple comma-delimited values. Each file contains specific instructions for customizing its contents. Simply copy the original files from the root game folder into the root of your customized theme folder and edit these copies with your desired values.

Customizable name files include the following:

▶ **systemNames.txt**: used to assign star system names when generating a new galaxy. If there are insufficient names, then they will be reused, but with suffixes like "Major", "Minor", etc.

▶ **designNames.txt**: default names for new military ship designs. Multiple sets of names are present in the file – one set per line. Each alien race is assigned one of these name sets using the value "Design names index" in their race file in the races folder.

▶ **characterNames.txt**: First and last names for randomly generated characters. These are arranged by alien race family – the first line contains a comma-delimited list of first names, the second line contains a comma-delimited list of last names.

▶ **shipNames.txt**: optional set of comma-delimited names used to name each new ship or base in the player's empire. The names are arranged by ship- or base-type, e.g. Escort, Frigate, ExplorationShip, MiningStation, etc.

▶ **colonyNames.txt**: optional set of comma-delimited names used to name each new colony established in the player's empire.

MUSIC

Music can be customized by adding MP3 files to the sounds\music subfolder under your custom theme.

If at least two MP3 music files are present in the music subfolder then these music files will be used instead of the default Distant Worlds music.

You can place as many MP3 files in this folder as desired – they will be played in random order. To specify which music file is played as the theme, name the file "DistantWorldsTheme.mp3".

Note that the music files must be in MP3 format, no other format files will be played (WMA, MIDI, OGG, etc).

SOUND EFFECTS

In Distant Worlds Universe you can alter all of the in-game sound effects by including the sounds\effects folder in your theme.

Sound effects should be WAV files. They can be any bit depth or sample rate. Ideally they should be mono channel, but stereo effects are also supported.

In your modded sounds\effects folder you should include any altered sound effect files that you want to use. Any sound effects missing from your theme will fall-back to the default sound effects under the root game folder.

You can also add new sound effects for some items:

▶ Weapon components: refer to files in the sounds\effects folder by using the SoundEffectFilename value in the components.txt file

▶ Fighter weapons: refer to files in the sounds\effects folder by using the WeaponSoundEffectFilename value in the fighters.txt file

SHIP DESIGN TEMPLATES

All ships and bases in Distant Worlds are based on designs. Designs specify which components are present on a ship or base, thus defining its functions and capabilities.

Figure 13. Design Templates folder
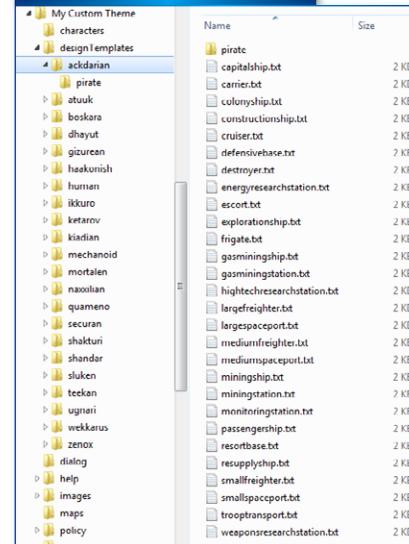
In turn, designs are generated based on design templates. Design templates specify at a high level what each design should include. Which components are actually included in each design depends on the current technology level and construction size of the empire.

You can use design templates to focus each alien race in different areas, further emphasizing their technology choices. For example some races may choose to use Ion Weapons extensively. Thus their design templates would

specify these weapon types. Other races may focus on gravity weapons, missiles or other tech. Their design templates would reflect these preferences.

Note that you should match the tech focuses on a race in their Empire Policy file (ResearchDesignTechFocus1-6) with the components selected in their design templates so that these components actually appear in their ship and base designs. Each AI empire will follow the tech focuses from their Empire Policy when selecting new Research projects.

Design template files are optional. If you do not supply a set of design template files for a race, then the ship designs of that race will use a default set of built-in generic design templates.

FOLDER STRUCTURE

Design template files should be stored in the **designTemplates** folder. Each race has its own sub-folder with design template files for each ship and base type.

Each race can also have a **pirate** sub-folder for storing design templates when the race is playing as a pirate. These pirate versions can thus be different from the standard design templates for the race, possibly emphasizing typical pirate technology like Assault Pods, Tractor Beams, etc.

FILE FORMAT

The name of each design template file in a race sub-folder should match a specific ship or base type, e.g. resortbase.txt, frigate.txt, etc.

Each design template file specifies the quantities of each component type that should be added to a design for that type of ship or base. These quantities are laid out as a set of name-value pairs. The named component type is at the left, and the quantity of the component is on the right, preceded by a semi-colon character (;).

Note that some component types are automatically added to new designs, and thus do not need to be specified in the template. This includes items like Command Centers, Life Support, Hab Modules and HyperDrives.

To ensure that you include all of the component types, you may find it easier to base new templates on existing files from the designTemplates folder in the root Distant Worlds game folder.

For a full list of components that can be included in a design template file, along with their related codes, please see **Appendix: Design Template Component Types**

Figure 14. Design Template file format
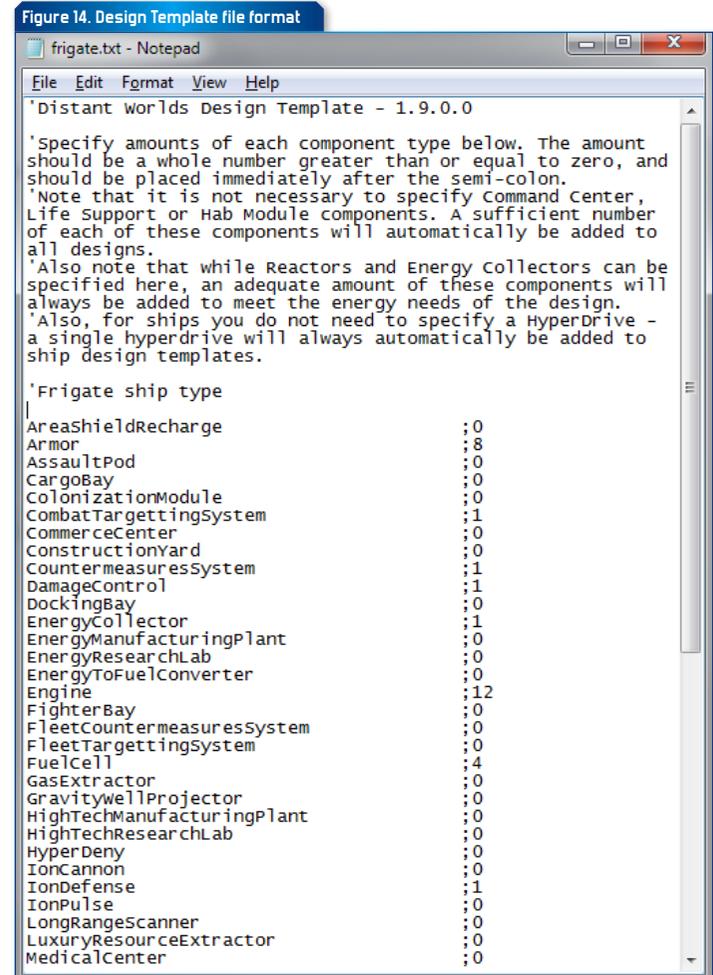
INCLUDE ALL ESSENTIAL COMPONENTS

Note that it is up to you to satisfy the minimum requirements for a given type of ship or base so that it will properly function. Failing to specify required

component types in a template could cause all designs based on the template to not function properly, e.g. all bases always need docking bay components, spaceports always need construction yard components, etc.

For guidance on which components are required in a particular type of ship or base, check the warnings in the in-game Design Editor when designing a new ship or base.

OPTIONAL IMAGE SCALING

You can also optionally include an extra attribute in the design template file to override the default ship image scaling used in the game.

With this override you specify that all ships or bases using the design template will be drawn in the game at a particular scale. The scaling can be one of the following types:

▶ **Absolute**: all designs based on the template will be drawn scaled to the specified absolute pixel size (when at 100% zoom level)

▶ **Scaled**: all designs based on the template will be drawn scaled the specified factor larger or smaller than the default scaling

To use image scaling in a design template add either of the following lines in the design template file:

ImageScaling   Absolute 300
ImageScaling   Scaled 2.5

Figure 14. Design Template file format

```
'Carrier ship type

ImageScaling              ;Absolute 300

AreaShieldRecharge        ;0
Armor                     ;20
AssaultPod                ;0
CargoBay                  ;0
ColonizationModule        ;0
CombatTargettingSystem    ;1
CommerceCenter            ;0
ConstructionYard          ;0
CountermeasuresSystem     ;1
DamageControl             ;1
```

The actual numeric values used for scaling should be within the following ranges:

▶ Absolute: between 10 and 1000

▶ Scaled: between 0.05 and 10.0

ALIEN RACES

You can customize the alien races in Distant Worlds by adding files to the races subfolder.

The existing races folder contains files that define all of the default races in Distant Worlds. Copy one of these files into your customized theme folder and then edit this copy to create your own customized alien race.

Figure 15. Design Template Image Scaling
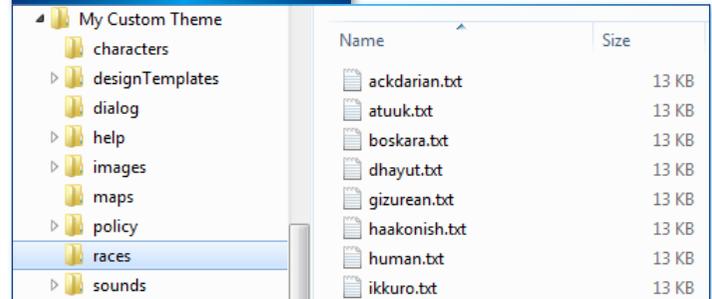
Each race file records all of the details for a single race.

Each line contains separate name-value pairs. The left-most part of the line has the name, then a tab and semi-colon, then the value.

Each value in the race file is described in detail below:

NAME	DESCRIPTION
Name	Name of the race
PictureIndex	Index of the picture used for this race from race pictures contained in images\units\races folder
RaceFamily	The RaceFamilyID of the race family that this race belongs to. Should match a race family in raceFamilies.txt
ReproductionRate	The default rate of annual population growth. This rate is also modified by other external factors. Valid range from 1.0 to 1.5
Intelligence	The intelligence level of the race. Normal = 100. Valid range from 50 to 150
Aggression	The aggression level of the race. Normal = 100. Valid range from 50 to 150
Caution	The caution level of the race. Normal = 100. Valid range from 50 to 150
Friendliness	The friendliness level of the race. Normal = 100. Valid range from 50 to 150
Loyalty	The loyalty level of the race. Normal = 100. Valid range from 50 to 150
DesignsPictureFamilyIndex	Index of default ship pictures used for this race from ship pictures contained in images\units\ships folder. Valid range is 0 to 50. Ensure that a matching ship image family folder exists for the specified index
DesignNamesIndex	Index into default ship design names from the designNames.txt file. Valid range is 0 to 50. Ensure that a matching design name set exists for the specified index
ShipMaintenanceSavings	Percentage rate of savings on maintenance costs for ships and bases. Valid range from 0 to 100.

TroopMaintenanceSavings	Percentage rate of savings on maintenance costs for troops. Valid range from 0 to 100.
ResourceExtractionBonus	Percentage rate of speed increase for all mining operations. Valid range from 0 to 100.
WarWearinessAttenuation	Percentage rate of reduction in war weariness. Valid range from 0 to 100.
SatisfactionModifier	Percentage rate of happiness bonus at colonies. Valid range from 0 to 100.
ResearchBonus	Percentage rate of speed increase for research. Valid range from 0 to 100.
EspionageBonus	Percentage rate of skill bonus for all intelligence missions. Valid range from 0 to 100.
TradeBonus	Percentage rate of bonus for colony income. Valid range from 0 to 100.
OverallShipDesignFocus	What this race focuses on when designing new ships and bases. Note that this focus can be overridden by Empire Policy settings. 0=Balanced, 1=Speed/Agility, 2=Power, 3=Efficiency
TechFocus1	Which technologies this race focuses on when choosing new tech to research and when designing new ships and bases. Note that this focus can be overridden by Empire Policy settings. 0=None, 1=Beams, 2=Phasers, 3=Rail Guns, 4=Torpedoes, 5=Bombard Weapons, 6=Missiles, 7=Area Weapons, 8=Ion Weapons, 9=Fighters, 10=Armor, 11=Shields, 12=Reactors, 13=Main Thrust Engines, 14=Vectoring Engines, 15=HyperDrives, 16=Hyper Disruption, 17=Construction, 18=Damage Control, 19=Targetting, 20=Countermeasures, 21=Sensors, 22=Medicine, 23=Recreation, 24=Tractor Beams, 25=Assault Pods, 26=Graviton Beams, 27=Gravity Area Weapons, 28=Super Beam Weapons, 29=Super Area Weapons
TechFocus2	Which technologies this race focuses on when choosing new tech to research and when designing new ships and bases. Note that this focus can be overridden by Empire Policy settings. 0=None, 1=Beams, 2=Phasers, 3=Rail Guns, 4=Torpedoes, 5=Bombard Weapons, 6=Missiles, 7=Area Weapons, 8=Ion Weapons, 9=Fighters, 10=Armor, 11=Shields, 12=Reactors, 13=Main Thrust Engines, 14=Vectoring Engines, 15=HyperDrives, 16=Hyper Disruption, 17=Construction, 18=Damage Control, 19=Targetting, 20=Countermeasures, 21=Sensors, 22=Medicine, 23=Recreation, 24=Tractor Beams, 25=Assault Pods, 26=Graviton Beams, 27=Gravity Area Weapons, 28=Super Beam Weapons, 29=Super Area Weapons
NativePlanetType	Native planet type for this race. The race can naturally colonize this type of planet 0=Continental, 1=MarshySwamp, 2=Desert, 3=Ocean, 4=Ice, 5=Volcanic
SpecialComponent	Special race-specific technology that this race has access to. -1=NONE, 0 or greater = ComponentID of special component (from components.txt file). Be careful not to set a special component that is also required by other races
SpecialGovernment	Special government style -1=NONE, 0 or greater = GovernmentID of special government (from governments.txt file)
PreferredStartingGovernment	Which government this race prefers to start the game with -1=No Preference, 0 or greater = GovernmentID of preferred government (from governments.txt file)

DisallowedGovernments	Comma-separated list of GovernmentID values that this race cannot normally use. Each value must match a government in governments.txt. Note that you should not exclude ALL government types for the race
CanChangeGovernment	Y/N value. Determines whether race can manually change governments during the game
Expanding	Indicates whether this race will colonize new planets or not (Y/N). Set this to 'N' to create a static empire that does not colonize
CanBePirate	Indicates whether this race can be a pirate faction or not (Y/N)
CanBeNormalEmpire	Indicates whether this race can be a normal empire or not. (e.g. may set as only a pirate, but not a normal empire) (Y/N)
Playable	Indicates whether this race can be selected by the player as their empire's race at start of game or not (Y/N)
PeriodicChangeInterval	Number of years between change to racial characteristics (defined below). 0=no periodic changes
PeriodicChangeLength	Number of years that changes to racial characteristics last (defined below). 0=no periodic changes
PeriodicFactorsGrowth	Periodic change to growth rate (i.e. growth rate when periodic changes are active). Valid range from 1.0 to 2.0
PeriodicFactorsAggression	Periodic change to aggression level (i.e. aggression level when periodic changes are active). Valid range from 50 to 200.
PeriodicFactorsCaution	Periodic change to caution level (i.e. caution level when periodic changes are active). Valid range from 50 to 200.
PeriodicFactorsFriendliness	Periodic change to friendliness level (i.e. friendliness level when periodic changes are active). Valid range from 50 to 200.
PeriodicChangeCycleEvent	Race event that occurs during change cycle: 0=None, 1-28=events (see Appendix: Race Event Types)
ShipSizeFactorCivilian	Resize factor for maximum civilian ship sizes. This means that civilian ships can be built either larger or smaller than normal. Valid range from 0.7 to 2.0
ShipSizeFactorMilitary	Resize factor for maximum military ship sizes. This means that military ships can be built either larger or smaller than normal. Valid range from 0.7 to 2.0
DisallowedResearchArea1	Technology area that this race cannot research 0=None, 1=Torpedoes, 2=Missiles, 3=Area Weapons, 4=Ion Weapons, 5=Fighters, 6=Armor, 7=Hyper Disruption, 8=Sensors
DisallowedResearchArea2	Technology area that this race cannot research 0=None, 1=Torpedoes, 2=Missiles, 3=Area Weapons, 4=Ion Weapons, 5=Fighters, 6=Armor, 7=Hyper Disruption, 8=Sensors
DisallowedResearchArea3	Technology area that this race cannot research 0=None, 1=Torpedoes, 2=Missiles, 3=Area Weapons, 4=Ion Weapons, 5=Fighters, 6=Armor, 7=Hyper Disruption, 8=Sensors
DisallowedComponentIds	Comma-separated list of component Id values that cannot be researched by this race. Any component Id values here must exist in the components.txt file for the theme
AdditionalIntelligenceAgents	Number of extra intelligence agents allowed above normal limit. This also increases the number of intelligence agent characters that this race starts the game with. Valid range from 0 to 5.

ConstructionSpeedFactor	Increase or decrease construction speed. Faster construction speeds can especially affect colonization, allowing fast building of new colony ships. Valid range from 0.3 to 3.0
DefaultPrimaryColor	Main color of empire flag and empire territory Valid color values from 0-19 (See Appendix: Color Values)
DefaultSecondaryColor	Secondary color of empire flag Valid color values from 0-20 (See Appendix: Color Values)
DefaultFlagDesign	Symbol shape on empire flag Valid values from 0-40 If custom images are specified in the images\ui\flagshapes folder then valid range is from zero to maximum number of flags. See the "Flag Shapes" section earlier in this document for details
HomeSystemName	Name of ancient home system. This is not necessarily the name of the race's starting home system
TroopStrength	Raw strength of new troops for this race. Valid range from 50 to 200.
TroopName	Default troop name for Infantry troop types, e.g. if 'Strike Battalion' then troops named '1st Strike Battalion', etc
TroopNameArmored	Default troop name for Armored troop types, e.g. if 'Strike Battalion' then troops named '1st Strike Battalion', etc
TroopNamePlanetaryDefense	Default troop name for Planetary Defense troop types, e.g. if 'Strike Battalion' then troops named '1st Strike Battalion', etc
TroopNameSpecialForces	Default troop name for Special Forces troop types, e.g. if 'Strike Battalion' then troops named '1st Strike Battalion', etc
Resource1Type	Which resource provides the bonus to this race. -1=NONE, 0-XX = specific ResourceID value (must match resource in resources.txt file)
Resource1Effect	The effect of the resource on this race at colonies. 0=None, 1=HappinessBonus, 2=DevelopmentBonus, 3=ConstructionSpeedIncrease, 4=RecruitedTroopStrengthIncrease, 5=ResearchBonusWeapons, 6=ResearchBonusEnergy, 7=ResearchBonusHighTech, 8=PopulationGrowthRate, 9=WarWearinessReduction, 10=IncomeBonus, 11=BaseMaintenanceLowered
Resource1Amount	Amount of resource effect, may be a percentage value HappinessBonus: value from 0-20 DevelopmentBonus: value from 0-20 ConstructionSpeedIncrease: percentage from 0-100 RecruitedTroopStrengthIncrease: value from 0-100 ResearchBonusWeapons: percentage bonus from 0-10 ResearchBonusEnergy: percentage bonus from 0-10 ResearchBonusHighTech: percentage bonus from 0-10 PopulationGrowthRate: percentage from 0-100 WarWearinessReduction: percentage decrease from 0-100 IncomeBonus: percentage from 0-100 BaseMaintenanceLowered: percentage from 0-100

Resource1AppliesOnlyToSource	Specifies whether the resource effect only applies when the resource is naturally occurring at a colony (i.e. mined at the colony) (Y/N)
Resource2Type	Which resource provides the bonus to this race. -1=NONE, 0-XX = specific ResourceID value (must match resource in resources.txt file)
Resource2Effect	The effect of the resource on this race at colonies. 0=None, 1=HappinessBonus, 2=DevelopmentBonus, 3=ConstructionSpeedIncrease, 4=RecruitedTroopStrengthIncrease, 5=ResearchBonusWeapons, 6=ResearchBonusEnergy, 7=ResearchBonusHighTech, 8=PopulationGrowthRate, 9=WarWearinessReduction, 10=IncomeBonus, 11=BaseMaintenanceLowered
Resource2Amount	Amount of resource effect, may be a percentage value HappinessBonus: value from 0-20 DevelopmentBonus: value from 0-20 ConstructionSpeedIncrease: percentage from 0-100 RecruitedTroopStrengthIncrease: value from 0-100 ResearchBonusWeapons: percentage bonus from 0-10 ResearchBonusEnergy: percentage bonus from 0-10 ResearchBonusHighTech: percentage bonus from 0-10 PopulationGrowthRate: percentage from 0-100 WarWearinessReduction: percentage decrease from 0-100 IncomeBonus: percentage from 0-100 BaseMaintenanceLowered: percentage from 0-100
Resource2AppliesOnlyTo-Source	Specifies whether the resource effect only applies when the resource is naturally occurring at a colony (i.e. mined at the colony) (Y/N)
Resource3Type	Which resource provides the bonus to this race. -1=NONE, 0-XX = specific ResourceID value (must match resource in resources.txt file)
Resource3Effect	The effect of the resource on this race at colonies. 0=None, 1=HappinessBonus, 2=DevelopmentBonus, 3=ConstructionSpeedIncrease, 4=RecruitedTroopStrengthIncrease, 5=ResearchBonusWeapons, 6=ResearchBonusEnergy, 7=ResearchBonusHighTech, 8=PopulationGrowthRate, 9=WarWearinessReduction, 10=IncomeBonus, 11=BaseMaintenanceLowered
Resource3Amount	Amount of resource effect, may be a percentage value HappinessBonus: value from 0-20 DevelopmentBonus: value from 0-20 ConstructionSpeedIncrease: percentage from 0-100 RecruitedTroopStrengthIncrease: value from 0-100 ResearchBonusWeapons: percentage bonus from 0-10 ResearchBonusEnergy: percentage bonus from 0-10 ResearchBonusHighTech: percentage bonus from 0-10 PopulationGrowthRate: percentage from 0-100 WarWearinessReduction: percentage decrease from 0-100 IncomeBonus: percentage from 0-100 BaseMaintenanceLowered: percentage from 0-100
Resource3AppliesOnlyTo-Source	Specifies whether the resource effect only applies when the resource is naturally occurring at a colony (i.e. mined at the colony) (Y/N)

Condition1Type	Race-specific Victory Condition type
	0=None, 1-59=specific condition (See Appendix:Race Victory Condition Types)
Condition1Value	Value used to modify condition, e.g. percentage threshold
Condition1Proportion	Percentage proportion of overall race victory value – all conditions should total to 100%
Condition1AdditionalData	Any extra information required by the specific condition type
	PlanetTypes: 0=None, 1=Continental, 2=MarshySwamp, 3=Ocean, 4=Desert, 5=Ice, 6=Volcanic
	CreatureTypes: 0=None, 1=GiantKaltor, 2=SpaceSlug, 3=SandSlug, 4=Ardilus, 5=SilverMist
	ResearchIndustry: 0=None, 1=Weapons, 2=Energy, 3=HighTech
	Wonder: -1=None, 0-XX=PlanetaryFacilityID of wonder from facilities.txt file
Condition2Type	Race-specific Victory Condition type
	0=None, 1-59=specific condition (See Appendix:Race Victory Condition Types)
Condition2Value	Value used to modify condition, e.g. percentage threshold
Condition2Proportion	Percentage proportion of overall race victory value – all conditions should total to 100%
Condition2AdditionalData	Any extra information required by the specific condition type
	PlanetTypes: 0=None, 1=Continental, 2=MarshySwamp, 3=Ocean, 4=Desert, 5=Ice, 6=Volcanic
	CreatureTypes: 0=None, 1=GiantKaltor, 2=SpaceSlug, 3=SandSlug, 4=Ardilus, 5=SilverMist
	ResearchIndustry: 0=None, 1=Weapons, 2=Energy, 3=HighTech
	Wonder: -1=None, 0-XX=PlanetaryFacilityID of wonder from facilities.txt file
Condition3Type	Race-specific Victory Condition type
	0=None, 1-59=specific condition (See Appendix:Race Victory Condition Types)
Condition3Value	Value used to modify condition, e.g. percentage threshold
Condition3Proportion	Percentage proportion of overall race victory value – all conditions should total to 100%
Condition3AdditionalData	Any extra information required by the specific condition type
	PlanetTypes: 0=None, 1=Continental, 2=MarshySwamp, 3=Ocean, 4=Desert, 5=Ice, 6=Volcanic
	CreatureTypes: 0=None, 1=GiantKaltor, 2=SpaceSlug, 3=SandSlug, 4=Ardilus, 5=SilverMist
	ResearchIndustry: 0=None, 1=Weapons, 2=Energy, 3=HighTech
	Wonder: -1=None, 0-XX=PlanetaryFacilityID of wonder from facilities.txt file
Condition4Type	Race-specific Victory Condition type
	0=None, 1-59=specific condition (See Appendix:Race Victory Condition Types)
Condition4Value	Value used to modify condition, e.g. percentage threshold
Condition4Proportion	Percentage proportion of overall race victory value – all conditions should total to 100%

Condition4AdditionalData	Any extra information required by the specific condition type
	PlanetTypes: 0=None, 1=Continental, 2=MarshySwamp, 3=Ocean, 4=Desert, 5=Ice, 6=Volcanic
	CreatureTypes: 0=None, 1=GiantKaltor, 2=SpaceSlug, 3=SandSlug, 4=Ardilus, 5=SilverMist
	ResearchIndustry: 0=None, 1=Weapons, 2=Energy, 3=HighTech
	Wonder: -1=None, 0-XX=PlanetaryFacilityID of wonder from facilities.txt file
Condition5Type	Race-specific Victory Condition type
	0=None, 1-59=specific condition (See Appendix:Race Victory Condition Types)
Condition5Value	Value used to modify condition, e.g. percentage threshold
Condition5Proportion	Percentage proportion of overall race victory value – all conditions should total to 100%
Condition5AdditionalData	Any extra information required by the specific condition type
	PlanetTypes: 0=None, 1=Continental, 2=MarshySwamp, 3=Ocean, 4=Desert, 5=Ice, 6=Volcanic
	CreatureTypes: 0=None, 1=GiantKaltor, 2=SpaceSlug, 3=SandSlug, 4=Ardilus, 5=SilverMist
	ResearchIndustry: 0=None, 1=Weapons, 2=Energy, 3=HighTech
	Wonder: -1=None, 0-XX=PlanetaryFacilityID of wonder from facilities.txt file
RaceEvent1Type	Race Event Type
	0=None, 1-29=specific event (See Appendix: Race Event Types)
RaceEvent1Frequency	Proportion of time event will be triggered when chance arises, i.e. how frequently the event occurs. Higher values mean more frequently, lower values mean less frequently. Default = 1.0, valid range from 0 to 10.0
RaceEvent2Type	Race Event Type
	0=None, 1-29=specific event (See Appendix: Race Event Types)
RaceEvent2Frequency	Proportion of time event will be triggered when chance arises, i.e. how frequently the event occurs. Higher values mean more frequently, lower values mean less frequently. Default = 1.0, valid range from 0 to 10.0
CharacterRandomAppear- anceChanceLeader	Random appearance chance for Leader characters: Minimum=0, Normal=1.0, Maximum=5.0
CharacterRandomAppear- anceChanceAmbassador	Random appearance chance for Ambassador characters: Minimum=0, Normal=1.0, Maximum=5.0
CharacterRandomAppear- anceChanceGovernor	Random appearance chance for Colony Governor characters: Minimum=0, Normal=1.0, Maximum=5.0
CharacterRandomAppear- anceChanceAdmiral	Random appearance chance for Fleet Admiral characters: Minimum=0, Normal=1.0, Maximum=5.0
CharacterRandomAppear- anceChanceGeneral	Random appearance chance for Troop General characters: Minimum=0, Normal=1.0, Maximum=5.0
CharacterRandomAppear- anceChanceScientist	Random appearance chance for Scientist characters: Minimum=0, Normal=1.0, Maximum=5.0
CharacterRandomAppear- anceChanceIntelligenceAgent	Random appearance chance for Intelligence Agent characters: Minimum=0, Normal=1.0, Maximum=5.0

CharacterRandomAppearanceChancePirateLeader	Random appearance chance for Pirate Leader characters: Minimum=0, Normal=1.0, Maximum=5.0
CharacterRandomAppearanceChanceShipCaptain	Random appearance chance for Ship Captain characters: Minimum=0, Normal=1.0, Maximum=5.0
CharacterStartingTraitLeader	Default starting character trait for Leaders 0=None, 1-95=specific trait (See Appendix: Character Traits)
CharacterStartingTraitAmbassador	Default starting character trait for Ambassadors 0=None, 1-95=specific trait (See Appendix: Character Traits)
CharacterStartingTraitGovernor	Default starting character trait for Colony Governors 0=None, 1-95=specific trait (See Appendix: Character Traits)
CharacterStartingTraitAdmiral	Default starting character trait for Fleet Admirals 0=None, 1-95=specific trait (See Appendix: Character Traits)
CharacterStartingTraitGeneral	Default starting character trait for Troop Generals 0=None, 1-95=specific trait (See Appendix: Character Traits)
CharacterStartingTraitScientist	Default starting character trait for Scientists 0=None, 1-95=specific trait (See Appendix: Character Traits)
CharacterStartingTraitIntelligenceAgent	Default starting character trait for Intelligence Agents 0=None, 1-95=specific trait (See Appendix: Character Traits)
CharacterStartingTraitPirateLeader	Default starting character trait for Pirate Leaders 0=None, 1-95=specific trait (See Appendix: Character Traits)
CharacterStartingTraitShipCaptain	Default starting character trait for Ship Captains 0=None, 1-95=specific trait (See Appendix: Character Traits)
ResearchColonizationCostFactorContinental	The cost factor for researching Continental colonization. This can be used to increase or reduce the cost of researching colonization for a particular planet type, e.g. the race may be poorly-suited to colonizing a particular type of planet, so the research cost factor is increased. Valid range from 0.2 to 5.0
ResearchColonizationCostFactorMarshySwamp	The cost factor for researching Marshy Swamp colonization. This can be used to increase or reduce the cost of researching colonization for a particular planet type, e.g. the race may be poorly-suited to colonizing a particular type of planet, so the research cost factor is increased. Valid range from 0.2 to 5.0
ResearchColonizationCostFactorOcean	The cost factor for researching Ocean colonization. This can be used to increase or reduce the cost of researching colonization for a particular planet type, e.g. the race may be poorly-suited to colonizing a particular type of planet, so the research cost factor is increased. Valid range from 0.2 to 5.0
ResearchColonizationCostFactorDesert	The cost factor for researching Desert colonization. This can be used to increase or reduce the cost of researching colonization for a particular planet type, e.g. the race may be poorly-suited to colonizing a particular type of planet, so the research cost factor is increased. Valid range from 0.2 to 5.0
ResearchColonizationCostFactorIce	The cost factor for researching Ice colonization. This can be used to increase or reduce the cost of researching colonization for a particular planet type, e.g. the race may be poorly-suited to colonizing a particular type of planet, so the research cost factor is increased. Valid range from 0.2 to 5.0

ResearchColonizationCostFactorVolcanic	The cost factor for researching Volcanic colonization. This can be used to increase or reduce the cost of researching colonization for a particular planet type, e.g. the race may be poorly-suited to colonizing a particular type of planet, so the research cost factor is increased. Valid range from 0.2 to 5.0
ColonyConstructionSpeedFactorContinental	The speed at which new colony ships are built at Continental colonies. This can be used to increase colony ship construction speed at the race's native planet type. Valid range from 0.2 to 5.0
ColonyConstructionSpeedFactorMarshySwamp	The speed at which new colony ships are built at Marshy Swamp colonies. This can be used to increase colony ship construction speed at the race's native planet type. Valid range from 0.2 to 5.0
ColonyConstructionSpeedFactorOcean	The speed at which new colony ships are built at Ocean colonies. This can be used to increase colony ship construction speed at the race's native planet type. Valid range from 0.2 to 5.0
ColonyConstructionSpeedFactorDesert	The speed at which new colony ships are built at Desert colonies. This can be used to increase colony ship construction speed at the race's native planet type. Valid range from 0.2 to 5.0
ColonyConstructionSpeedFactorIce	The speed at which new colony ships are built at Ice colonies. This can be used to increase colony ship construction speed at the race's native planet type. Valid range from 0.2 to 5.0
ColonyConstructionSpeedFactorVolcanic	The speed at which new colony ships are built at Volcanic colonies. This can be used to increase colony ship construction speed at the race's native planet type. Valid range from 0.2 to 5.0
ColonyPopulationPolicyGrowthFactorExterminate	Bonus to population growth at a colony when a foreign race is being exterminated through the Exterminate colony population policy. Valid range from 0.2 to 5.0
ImmuneNaturalDisastersAtColonyType	The race can usually avoid natural disasters at specified colony type 0=None, 1=Continental, 2=MarshySwamp, 3=Ocean, 4=Desert, 5=Ice, 6=Volcanic
SpaceportArmorStrengthFactor	Bonus to armor strength for space ports built at colonies. Valid range from 0.3 to 3.0
KnownStartingGalacticHistoryLocations	Number of special historical locations known by the race at the start of the game. Locations include restricted areas like Weapons Testing Ranges, special Research Facilities, secret Supply Depots, etc. Valid range from 0 to 10.
TourismIncomeFactor	Bonus factor to all tourism income at resort bases and other tourist destinations. Valid range from 0.2 to 5.0
FreeTradeIncomeFactor	Bonus factor to all trade transaction fees at space ports, colonies and mining stations. Valid range from 0.2 to 5.0
MigrationFactor	General rate of migration between colonies for this race. Valid range from 0.2 to 5.0
TroopRegenerationFactor	Rate of troop regeneration after taking damage in battles. Valid range from 0.2 to 5.0
PirateDefaultPlaystyle	Default pirate playstyle of the race 0=Balanced, 1=Raider, 2=Mercenary, 3=Smuggler
DesignsPictureFamilyIndexPirates	Designs picture family index when race is Pirate: index of default ships pictures used for this race from ship pictures contained in images\units\ships folder. Valid range is 0 to 50. Ensure that a matching ship image family folder exists for the specified index. -1 means default random pirate ship images

RACE BIASES

Each alien race can have a preset natural feeling towards each other alien race. These preset biases can be positive or negative. They allow you to represent historical friendliness or animosity, or to show natural affinity of races in the same race family.

These preset biases are defined in the file **raceBiases.txt** found in the root of the theme folder.

The raceBiases.txt file is structured as a series of rows and columns that form a grid. Each row in the file defines the natural bias feelings of one race to each other race.

The structure of each row is defined as follows:

VALUE	DESCRIPTION
Index Number	The index number that determines which column represents bias values for this race
Race Name	The name of the race for which this row defines bias values. This must match the name of one of the races defines in the races folder
Bias values 1-XX	Each bias value (column) in the row is how the named race feels towards the race matching the index number for the column
	Note that the minimum bias value is -50 and the maximum is +50

IMPORTANT NOTE ABOUT RACE BIASES

If you add custom races in your theme then you must also provide an updated **raceBiases.txt** file that contains bias values for each new race.

Otherwise bias values may be undefined for the new races, or may even be incorrect, or make other race bias values incorrect.

RACE FAMILIES

Alien races are grouped into race families in Distant Worlds. Races of the same family often share the same characteristics and usually have a natural affinity towards each other.

All of the race families in Distant Worlds are defined in the file **raceFamilies.txt** found in the root game folder.

Each line in the file defines a single race family with comma-separated data, up to a maximum of 30 race families (0-29).

Each comma-separated value is defined in detail below:

NAME	DESCRIPTION
Race Family ID	Unique numeric ID value of the race family. Must be between 0 and 29
Name	Name of the race family
Special Function Code	Numeric value that defines any special consideration for race family: 0=NOTHING, 1=Shakturi Likes, 2=Shakturi Hates

RACE FAMILY BIASES

Each race family can have a preset natural feeling towards each other race family. These preset biases can be positive or negative. They allow you to represent friendliness or animosity between race families, or to show natural affinity of race families.

These preset biases are defined in the file **raceFamilyBiases.txt** found in the root of the theme folder.

The **raceFamilyBiases.txt** file is structured as a series of rows and columns that form a grid. Each row in the file defines the natural bias feelings of one race family to each other race family.

Figure 17. Race Family Biases file layout

```
'#, Name,            0,   1,   2,   3,   4,   5,   6

0,  Humanoid,       10,   0, -10,   0,   0,   0,   0
1,  Ursidian,        0,  10,   0,   0,   0,   5,   0
2,  Insectoid,     -10,   0,  10,   5, -10, -10, -10
3,  Reptilian,       0,   0,   5,  10,   5,   0,   0
4,  Amphibian,       0,   0, -10,   0,  10,   0,   0
5,  Rodent,          0,   0, -10,   0,   0,  10,   0
6,  Machine,        10,   0, -10,   0,   0,   0,   0
```

The structure of each row is defined as follows:

NAME	DESCRIPTION
Index Number	The index number that determines which column represents bias values for this race family
Race Family Name	The name of the race family for which this row defines bias values. This must match the name of one of the race families defined in the **raceFamilies.txt** file
Bias values 1-XX	Each bias value (column) in the row is how the named race family feels towards the race family matching the index number for the column
	Note that the minimum bias value is -50 and the maximum is +50

ALIEN RACE DIALOG

The default speech of each alien race is supplied in text files in the **dialog** folder. This is the text that appears in conversations with other races initiated from the Diplomacy screen (F5).

To customize dialog for an alien race in your theme, add your own dialog subfolder under your custom theme. Then for each alien race you wish to customize, add a new dialog file named after the race, e.g. boskara.txt.

The file **base_dialog.txt** in the default game dialog folder contains all of the conversation messages used in the game for each race. This file can serve
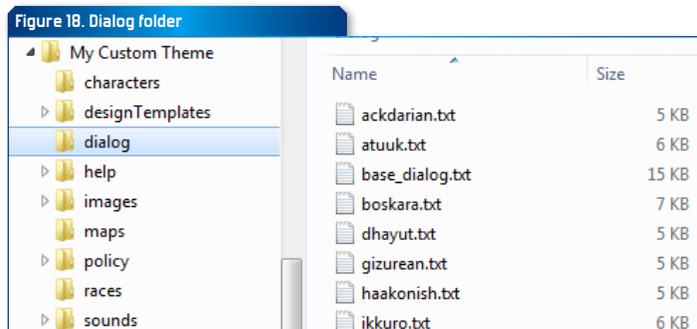
as a useful template for making your own custom dialog files. Simply copy the base_dialog.txt file to your theme's dialog folder, rename it for your new alien race, and then modify the messages for your race.

Note that all messages in dialog text files are optional – if you omit a message then the alien race will fall-back to using the matching message from the base_dialog.txt file.

EMPIRE POLICY

You can customize how each alien race plays the game by adding files to the policy subfolder.

The existing policy folder contains files that define how all of the default races behave. Copy one of these files into your customized theme folder and edit this copy to create your own customized empire policy. Alternatively you can edit policy in-game in the Empire Policy screen and then save the policy as a file using the "Save As" button.

Each policy file records the empire policy for a single race.

You can also add customized policy for when a race is playing as a pirate faction. To do this, place the modified policy file in the **pirate** subfolder.

Each line contains separate name-value pairs. The left-most part of the line has the name, then a tab and semi-colon, then the value.

Each value in the empire policy file is described in detail below:

Figure 18. Dialog folder

Figure 19. Policy folder
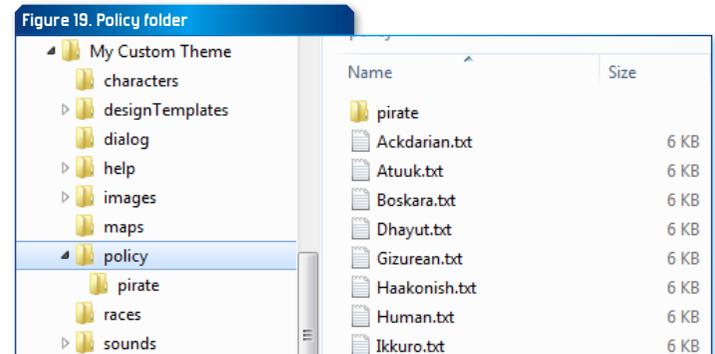
NAME	DESCRIPTION
ImmediatelyRecruitNewTroopsWhenColonize	Y/N value
ColonyAllowFacilityCloningFacility	Y/N value
ColonyAllowFacilityFortifiedBunker	Y/N value
ColonyAllowFacilityGiantIonCannon	Y/N value
ColonyAllowFacilityPlanetaryShield	Y/N value
ColonyAllowFacilityRegionalCapital	Y/N value
ColonyAllowFacilityRoboticTroopFoundry	Y/N value
ColonyAllowFacilityTerraformingFacility	Y/N value
ColonyAllowFacilityTroopTrainingCenter	Y/N value
ColonyAllowFacilityArmoredFactory	Y/N value
ColonyAllowFacilitySpyAcademy	Y/N value
ColonyAllowFacilityScienceAcademy	Y/N value
ColonyAllowFacilityNavalAcademy	Y/N value
ColonyAllowFacilityMilitaryAcademy	Y/N value
ColonyFacilityPopulationThresholdCloningFacility	Numeric value in millions, e.g. 500 means 500 million
ColonyFacilityPopulationThresholdFortifiedBunker	Numeric value in millions, e.g. 500 means 500 million
ColonyFacilityPopulationThresholdGiantIonCannon	Numeric value in millions, e.g. 500 means 500 million
ColonyFacilityPopulationThresholdPlanetaryShield	Numeric value in millions, e.g. 500 means 500 million
ColonyFacilityPopulationThresholdRegionalCapital	Numeric value in millions, e.g. 500 means 500 million
ColonyFacilityPopulationThresholdRoboticTroop-Foundry	Numeric value in millions, e.g. 500 means 500 million
ColonyFacilityPopulationThresholdTerraform-ingFacility	Numeric value in millions, e.g. 500 means 500 million
ColonyFacilityPopulationThresholdTroopTrain-ingCenter	Numeric value in millions, e.g. 500 means 500 million
ColonyFacilityPopulationThresholdArmoredFactory	Numeric value in millions, e.g. 500 means 500 million
ColonyFacilityPopulationThresholdSpyAcademy	Numeric value in millions, e.g. 500 means 500 million
ColonyFacilityPopulationThresholdScienceAcademy	Numeric value in millions, e.g. 500 means 500 million
ColonyFacilityPopulationThresholdNavalAcademy	Numeric value in millions, e.g. 500 means 500 million
ColonyFacilityPopulationThresholdMilitaryAcademy	Numeric value in millions, e.g. 500 means 500 million
ColonyPopulationThresholdTroopRecruitment	Numeric value in millions, e.g. 500 means 500 million
ColonyTaxRateIncreaseWhenAtWar	Y/N value
ColonyTaxRateLargeColony	0=Zero, 1=Low, 2=Normal, 3=High
ColonyTaxRateMediumColony	0=Zero, 1=Low, 2=Normal, 3=High

ColonyTaxRateSmallColony	0=Zero, 1=Low, 2=Normal, 3=High
MilitaryConstructionLevel	0=Low, 1=Normal, 2=High
ConstructionMilitaryCapitalShip	Percentage proportion of military construction for Capital Ships
ConstructionMilitaryCarrier	Percentage proportion of military construction for Carriers
ConstructionMilitaryCruiser	Percentage proportion of military construction for Cruisers
ConstructionMilitaryDestroyer	Percentage proportion of military construction for Destroyers
ConstructionMilitaryEscort	Percentage proportion of military construction for Escorts
ConstructionMilitaryFrigate	Percentage proportion of military construction for Frigates
ConstructionMilitaryTroopTransport	Percentage proportion of military construction for Troop Transports
ConstructionSpaceportLargeColonyPopulation-Threshold	Numeric value in millions, e.g. 500 means 500 million
ConstructionSpaceportMediumColonyPopulation-Threshold	Numeric value in millions, e.g. 500 means 500 million
ConstructionSpaceportSmallColonyPopulation-Threshold	Numeric value in millions, e.g. 500 means 500 million
ConstructionSpaceportMinimumDistance	Minimum distance between spaceports Numeric value in thousands, e.g. 700 means 700 thousand
DiplomacySendGiftsUpToAmount	Numeric value
DiplomacyTradeSanctionsUseBlockades	Y/N value
FleetMilitaryProportionForFleets	Percentage proportion of military ships assigned to fleets
FleetStrikeForceTypicalSize	Typical number of ships in small fleets
FleetTypicalSize	Typical number of ships in large fleets
IntelligenceAllowMissionDeepCover	Y/N value
IntelligenceAllowMissionInciteRevolution	Y/N value
IntelligenceAllowMissionSabotageColony	Y/N value
IntelligenceAllowMissionSabotageConstruction	Y/N value
IntelligenceAllowMissionStealGalaxyMap	Y/N value
IntelligenceAllowMissionStealOperationsMap	Y/N value
IntelligenceAllowMissionStealTechData	Y/N value
IntelligenceAllowMissionStealTerritoryMap	Y/N value

IntelligenceAllowMissionAssassinateCharacter	Y/N value
IntelligenceAllowMissionDestroyBase	Y/N value
IntelligenceCounterIntelligenceProportion	Percentage proportion of intelligence agents assigned to Counter-Intelligence
IntelligenceUseEspionageAgainstEmpireWhen	0=Anytime, 1=Disliked, 2=No Treaty, 3=Trade Sanctions or War, 4=At War
IntelligenceUseSabotageAgainstEmpireWhen	0=Anytime, 1=Disliked, 2=No Treaty, 3=Trade Sanctions or War, 4=At War
ResearchDesignAutoRetrofit	Y/N value
ResearchDesignOverallFocus	0=Balanced, 1=Speed and Agility, 2=Raw Power, 3=Energy Efficiency
ResearchDesignTechFocus1	0=None, 1=Beams, 2=Phasers, 3=Rail Guns, 4=Torpedoes, 5=Bombard Weapons, 6=Missiles, 7=Area Weapons, 8=Ion Weapons, 9=Fighters, 10=Armor, 11=Shields, 12=Reactors, 13=Main Thrust Engines, 14=Vectoring Engines, 15=HyperDrives, 16=Hyper Disruption, 17=Construction, 18=Damage Control, 19=Targetting, 20=Countermeasures, 21=Sensors, 22=Medicine, 23=Recreation, 24=Tractor Beams, 25=Assault Pods, 26=Graviton Beams, 27=Gravity Area Weapons, 28=Super Beam Weapons, 29=Super Area Weapons
ResearchDesignTechFocus2	0=None, 1=Beams, 2=Phasers, 3=Rail Guns, 4=Torpedoes, 5=Bombard Weapons, 6=Missiles, 7=Area Weapons, 8=Ion Weapons, 9=Fighters, 10=Armor, 11=Shields, 12=Reactors, 13=Main Thrust Engines, 14=Vectoring Engines, 15=HyperDrives, 16=Hyper Disruption, 17=Construction, 18=Damage Control, 19=Targetting, 20=Countermeasures, 21=Sensors, 22=Medicine, 23=Recreation, 24=Tractor Beams, 25=Assault Pods, 26=Graviton Beams, 27=Gravity Area Weapons, 28=Super Beam Weapons, 29=Super Area Weapons
ResearchDesignTechFocus3	0=None, 1=Beams, 2=Phasers, 3=Rail Guns, 4=Torpedoes, 5=Bombard Weapons, 6=Missiles, 7=Area Weapons, 8=Ion Weapons, 9=Fighters, 10=Armor, 11=Shields, 12=Reactors, 13=Main Thrust Engines, 14=Vectoring Engines, 15=HyperDrives, 16=Hyper Disruption, 17=Construction, 18=Damage Control, 19=Targetting, 20=Countermeasures, 21=Sensors, 22=Medicine, 23=Recreation, 24=Tractor Beams, 25=Assault Pods, 26=Graviton Beams, 27=Gravity Area Weapons, 28=Super Beam Weapons, 29=Super Area Weapons
ResearchDesignTechFocus4	0=None, 1=Beams, 2=Phasers, 3=Rail Guns, 4=Torpedoes, 5=Bombard Weapons, 6=Missiles, 7=Area Weapons, 8=Ion Weapons, 9=Fighters, 10=Armor, 11=Shields, 12=Reactors, 13=Main Thrust Engines, 14=Vectoring Engines, 15=HyperDrives, 16=Hyper Disruption, 17=Construction, 18=Damage Control, 19=Targetting, 20=Countermeasures, 21=Sensors, 22=Medicine, 23=Recreation, 24=Tractor Beams, 25=Assault Pods, 26=Graviton Beams, 27=Gravity Area Weapons, 28=Super Beam Weapons, 29=Super Area Weapons

ResearchDesignTechFocus5	0=None, 1=Beams, 2=Phasers, 3=Rail Guns, 4=Torpedoes, 5=Bombard Weapons, 6=Missiles, 7=Area Weapons, 8=Ion Weapons, 9=Fighters, 10=Armor, 11=Shields, 12=Reactors, 13=Main Thrust Engines, 14=Vectoring Engines, 15=HyperDrives, 16=Hyper Disruption, 17=Construction, 18=Damage Control, 19=Targetting, 20=Countermeasures, 21=Sensors, 22=Medicine, 23=Recreation, 24=Tractor Beams, 25=Assault Pods, 26=Graviton Beams, 27=Gravity Area Weapons, 28=Super Beam Weapons, 29=Super Area Weapons
ResearchDesignTechFocus6	0=None, 1=Beams, 2=Phasers, 3=Rail Guns, 4=Torpedoes, 5=Bombard Weapons, 6=Missiles, 7=Area Weapons, 8=Ion Weapons, 9=Fighters, 10=Armor, 11=Shields, 12=Reactors, 13=Main Thrust Engines, 14=Vectoring Engines, 15=HyperDrives, 16=Hyper Disruption, 17=Construction, 18=Damage Control, 19=Targetting, 20=Countermeasures, 21=Sensors, 22=Medicine, 23=Recreation, 24=Tractor Beams, 25=Assault Pods, 26=Graviton Beams, 27=Gravity Area Weapons, 28=Super Beam Weapons, 29=Super Area Weapons
ResearchDesignAutoUpgradeFighters	Y/N value
WarAttacksAllowColonyBombardment	0=At every opportunity, 1=Against empires we intensely dislike, 2=Against empires with Diabolical reputation, 3=Never
WarAttacksAllowPlanetDestroying	0=At every opportunity, 1=Against empires we intensely dislike, 2=Against empires with Diabolical reputation, 3=Never
WarAttacksHarassEnemies	Y/N value
TradeWithOtherEmpires	Y/N value
EngageInTourism	Y/N value
NewColonyPopulationPolicyYourRaceFamily	0=Assimilate, 1=Do Not Accept, 2=Resettle, 3=Enslave, 4=Exterminate
NewColonyPopulationPolicyAllRaces	0=Assimilate, 1=Do Not Accept, 2=Resettle, 3=Enslave, 4=Exterminate
ImplementEnslavementWithPenalColonies	Y/N value
HomeworldDefensePriority	Numeric value between 0.5 and 4.0 Normal = 1.0
ColonizeContinentalPriority	Numeric value between 0.5 and 4.0 Normal = 1.0
ColonizeMarshySwampPriority	Numeric value between 0.5 and 4.0 Normal = 1.0
ColonizeOceanPriority	Numeric value between 0.5 and 4.0 Normal = 1.0
ColonizeDesertPriority	Numeric value between 0.5 and 4.0 Normal = 1.0

ColonizeIcePriority	Numeric value between 0.5 and 4.0 Normal = 1.0
ColonizeVolcanicPriority	Numeric value between 0.5 and 4.0 Normal = 1.0
ColonizeRuinsPriority	Numeric value between 0.5 and 4.0 Normal = 1.0
ControlRestrictedResourcesPriority	Numeric value between 0.5 and 4.0 Normal = 1.0
ResearchPriority	Numeric value between 0.5 and 4.0 Normal = 1.0
TradePriority	Numeric value between 0.5 and 4.0 Normal = 1.0
AlliancePriority	Numeric value between 0.5 and 4.0 Normal = 1.0
SubjugationPriority	Numeric value between 0.5 and 4.0 Normal = 1.0
TourismPriority	Numeric value between 0.5 and 4.0 Normal = 1.0
ExplorationPriority	Numeric value between 0.5 and 4.0 Normal = 1.0
WarWillingness	Numeric value between 0.5 and 4.0 Normal = 1.0
BreakTreatyWillingness	Numeric value between 0.5 and 4.0 Normal = 1.0
InvasionOverkillFactor	Numeric value between 0.5 and 4.0 Normal = 1.0
ShipBattleCautionFactor	Numeric value between 0.5 and 4.0 Normal = 1.0
ProtectLeaderAtAllCosts	Y/N value
PrioritizeBuildWonderId	-1=None, 0-XX=PlanetaryFacilityID of wonder from facilities.txt file
ResearchIndustryFocus	0=None, 1=Weapons, 2=Energy, 3=HighTech
DefaultMilitaryFleeWhen	1=Enemy Military Sighted, 2=Attacked, 3=Shields at 50%, 4=Shields at 20%, 5=Never
DesignUpgradeEscort	Y/N value
DesignUpgradeFrigate	Y/N value
DesignUpgradeDestroyer	Y/N value

DesignUpgradeCruiser	Y/N value
DesignUpgradeCapitalShip	Y/N value
DesignUpgradeTroopTransport	Y/N value
DesignUpgradeCarrier	Y/N value
DesignUpgradeResupplyShip	Y/N value
DesignUpgradeExplorationShip	Y/N value
DesignUpgradeColonyShip	Y/N value
DesignUpgradeConstructionShip	Y/N value
DesignUpgradeSmallSpacePort	Y/N value
DesignUpgradeMediumSpacePort	Y/N value
DesignUpgradeLargeSpacePort	Y/N value
DesignUpgradeResortBase	Y/N value
DesignUpgradeGenericBase	Y/N value
DesignUpgradeEnergyResearchStation	Y/N value
DesignUpgradeWeaponsResearchStation	Y/N value
DesignUpgradeHighTechResearchStation	Y/N value
DesignUpgradeMonitoringStation	Y/N value
DesignUpgradeDefensiveBase	Y/N value
DesignUpgradeSmallFreighter	Y/N value
DesignUpgradeMediumFreighter	Y/N value
DesignUpgradeLargeFreighter	Y/N value
DesignUpgradePassengerShip	Y/N value
DesignUpgradeGasMiningShip	Y/N value
DesignUpgradeMiningShip	Y/N value
DesignUpgradeGasMiningStation	Y/N value
DesignUpgradeMiningStation	Y/N value
CaptureTargetConditionShip	0=never (always destroy), 1=when high tech or larger than we can build, 2=when stronger than target, 3=always capture
CaptureTargetConditionBase	0=never (always destroy), 1=when base in own territory, 2=when base in own or neutral territory, 3=when stronger than target, 4=always capture
OfferPirateAttackMissions	0=never, 1=when at war with empire, 2=when dislike empire, 3=whenever opportune target available
BidOnPirateAttackMissions	Y/N value
BidOnPirateDefendMissions	Y/N value

OfferDefensivePirateMissions	0=never, 1=to pirates we trust (evaluation >= +15), 2=to any pirates with protection arrangement
OfferDefensivePirateMissionsSituation	0=never, 1=when at war, 2=whenever appropriate
AcceptPirateSmugglingMissions	Y/N value
OfferSmugglingPirateMissions	0=never, 1=when at war and have resource shortage at location, 2=whenever have resource shortage at location
PirateSmugglerFreighterLevel	Pirate construction level for freighters 0=None, 0.5=Low, 1.0=Normal, 1.5=High
PirateSmugglerMiningLevel	Pirate construction level for mining ships 0=None, 0.5=Low, 1.0=Normal, 1.5=High
PirateSmugglerPassengerLevel	Pirate construction level for passenger ships 0=None, 0.5=Low, 1.0=Normal, 1.5=High
CaptureEnlistMilitaryShip	0=Always Enlist, 1=Enlist when high tech or larger than we can build, 2=Enlist when NOT high tech or larger than we can build, 3=Never Enlist (always disassemble)
CaptureDisassembleMilitaryShip	0=Always immediately scrap for money, 1=Disassemble at base when high tech or larger than we can build, otherwise immediately scrap for money, 2=Always disassemble at base for tech and resources
CaptureEnlistCivilianShip	0=Always Enlist, 1=Enlist when high tech or larger than we can build, 2=Enlist when NOT high tech or larger than we can build, 3=Never Enlist (always disassemble)
CaptureDisassembleCivilianShip	0=Always immediately scrap for money, 1=Disassemble at base when high tech or larger than we can build, otherwise immediately scrap for money, 2=Always disassemble at base for tech and resources
CaptureEnlistBase	0=Always Enlist, 1=Scrap when not research station, 2=Always scrap
UpgradeEnlistedMilitaryShips	Y/N value
UpgradeEnlistedCivilianShips	Y/N value
TroopRecruitInfantryLevel	0.5=Low, 1.0=Normal, 1.5=High
TroopRecruitArmorLevel	0.5=Low, 1.0=Normal, 1.5=High
TroopRecruitArtilleryLevel	0.5=Low, 1.0=Normal, 1.5=High
TroopRecruitSpecialForcesLevel	0.5=Low, 1.0=Normal, 1.5=High
TroopUseDefaultTransportLoadout	Y/N value
TroopDefaultTransportLoadoutInfantry	Numeric value between 0 and 1.0 Normal = 0.25

TroopDefaultTransportLoadoutArmor	Numeric value between 0 and 1.0 Normal = 0.5
TroopDefaultTransportLoadoutArtillery	Numeric value between 0 and 1.0 Normal = 0
TroopDefaultTransportLoadoutSpecialForces	Numeric value between 0 and 1.0 Normal = 0.25
TroopGarrisonMinimumPerColony	Minimum number of troop units at each colony
TroopGarrisonLevel	0=None, 0.5=Low, 1.0=Normal, 1.5=High
UseExplorationShipsToScoutEnemySystems	Y/N value indicating whether empire will use exploration ships to scout enemy systems when at war
BuildPlanetDestroyers	Y/N value indicating whether empire will design and build planet destroyer projects once it has required technology

CHARACTERS

You can predefine characters for each alien race by adding files in the characters subfolder.

The existing characters folder under the root game folder contains files that define starting characters for all of the default races. Copy one of these files into your customized theme folder and edit this copy to create your own customized set of characters.

Each character file records the predefined characters for a single race.

Each line in the file records all of the details for a single character. The distinct values in the line are separated by commas. These values are defined as follows:

Figure 20. Characters folder

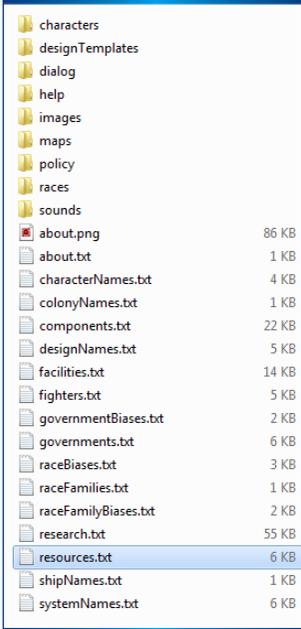| VALUE	DESCRIPTION
Appearance Order	The order that this character appears in the game relative to other characters.
	A value of "?" means that the character appears in random order.
	A value of "-" means that the character is only generated by a game event – this character will never appear randomly during the game.
	A value of zero (0) means that the character is present at the start of the game.
	Note that characters of different roles are generated in random order in the game, so a General with appearance order of 5 may appear before a Scientist with an appearance order of 3.
	In other words, appearance order is only strictly applied to characters within the same role
Name	The name of the character
Role	The type of character, selected from one of the following values: 1=Faction Leader, 2=Ambassador, 3=Colony Governor, 4=Fleet Admiral, 5=Troop General, 6=Intelligence Agent, 7=Scientist, 8=Pirate Leader, 9=Ship Captain
Picture Filename	Optional name of a unique image file used to represent this character. Only PNG image files are supported. The filename should include the file type suffix (.png).
	The image file itself should be placed in the images\units\characters subfolder.
	If no image is specified then the appropriate race image will be used
Race Override	Optional name of the race for this character, if different from the default race for the file. Name must match a race name found in the races folder
Skill Type 1	A character skill type, appropriate to the character role
	?=random skill appropriate for role, 0=None, 1 to 50=specific skill type (see Appendix: Character Skills)
Skill Level 1	The level of the skill defined above. Should be set between -100 and +100, or use ? to select a random skill level between 1 and 20
Skill Type 2	A character skill type, appropriate to the character role
	?=random skill appropriate for role, 0=None, 1 to 50=specific skill type (see Appendix: Character Skills)

Skill Level 2	The level of the skill defined above. Should be set between -100 and +100, or use ? to select a random skill level between 1 and 20
Skill Type 3	A character skill type, appropriate to the character role
	?=random skill appropriate for role, 0=None, 1 to 50=specific skill type (see Appendix: Character Skills)
Skill Level 3	The level of the skill defined above. Should be set between -100 and +100, or use ? to select a random skill level between 1 and 20
Skill Type 4	A character skill type, appropriate to the character role
	?=random skill appropriate for role, 0=None, 1 to 50=specific skill type (see Appendix: Character Skills)
Skill Level 4	The level of the skill defined above. Should be set between -100 and +100, or use ? to select a random skill level between 1 and 20
Trait Type 1	A character trait that modifies the characters skill levels. The selected trait should be appropriate to the character role.
	Note that you should not specify opposing positive and negative traits, e.g. Paranoid and Trusting
	?=random trait appropriate for role, 0=None, 1 to 95=specific trait type (see Appendix: Character Traits)
Trait Type 2	A character trait that modifies the characters skill levels. The selected trait should be appropriate to the character role.
	Note that you should not specify opposing positive and negative traits, e.g. Paranoid and Trusting
	?=random trait appropriate for role, 0=None, 1 to 95=specific trait type (see Appendix: Character Traits)
Trait Type 3	A character trait that modifies the characters skill levels. The selected trait should be appropriate to the character role.
	Note that you should not specify opposing positive and negative traits, e.g. Paranoid and Trusting
	?=random trait appropriate for role, 0=None, 1 to 95=specific trait type (see Appendix: Character Traits)

RESOURCES

Figure 21. Resource file location

Figure 21. Resource file location

characters	
designTemplates	
dialog	
help	
images	
maps	
policy	
races	
sounds	
about.png	86 KB
about.txt	1 KB
characterNames.txt	4 KB
colonyNames.txt	1 KB
components.txt	22 KB
designNames.txt	5 KB
facilities.txt	14 KB
fighters.txt	5 KB
governmentBiases.txt	2 KB
governments.txt	6 KB
raceBiases.txt	3 KB
raceFamilies.txt	1 KB
raceFamilyBiases.txt	2 KB
research.txt	55 KB
resources.txt	6 KB
shipNames.txt	1 KB
systemNames.txt	6 KB

Natural resources can be mined at various locations throughout the galaxy. They can then be used to construct ships and bases, or can be consumed by your empire's colonies as they grow and develop.
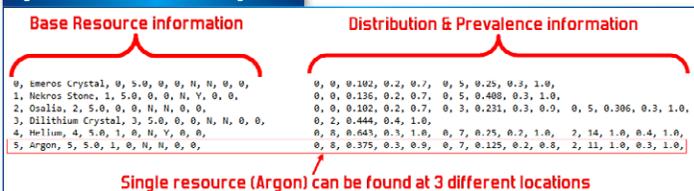
All of the resources used in Distant Worlds are defined in the file **resources. txt** found in the root game folder.

Each line in the file defines a single resource with comma-separated data, up to a maximum of 80 resources (0-79).

The first part of the line defines the base information for the resource: it's unique ID value, it's name, the image used to display it, etc.

The last part of the line defines the distribution and prevalence information for the resource, i.e. where it is found (e.g. at desert planets or moons, at hydrogen gas clouds, at gas giant planets, etc).

Figure 22. Resource file line layout

Base Resource information   Distribution & Prevalence information

```
0, Emeros Crystal, 0, 5.0, 0, 0, N, N, 0, 0,     0, 0, 0.102, 0.2, 0.7,   0, 5, 0.25, 0.3, 1.0,
1, Nekros Stone, 1, 5.0, 0, 0, N, Y, 0, 0,       0, 0, 0.136, 0.2, 0.7,   0, 5, 0.408, 0.3, 1.0,
2, Osalia, 2, 5.0, 0, 0, N, N, 0, 0,             0, 0, 0.102, 0.2, 0.7,   0, 3, 0.231, 0.3, 0.9,   0, 5, 0.306, 0.3, 1.0,
3, Dilithium Crystal, 3, 5.0, 0, 0, N, N, 0, 0,  0, 2, 0.444, 0.4, 1.0,
4, Helium, 4, 5.0, 1, 0, N, Y, 0, 0,             0, 8, 0.645, 0.3, 1.0,   0, 7, 0.25, 0.2, 1.0,    2, 14, 1.0, 0.4, 1.0,
5, Argon, 5, 5.0, 1, 0, N, N, 0, 0,              0, 8, 0.375, 0.3, 0.9,   0, 7, 0.125, 0.2, 0.8,   2, 11, 1.0, 0.3, 1.0,
```

Single resource (Argon) can be found at 3 different locations

BASE RESOURCE INFORMATION

NAME	DESCRIPTION
ID	Unique numeric ID value of resource. Must be between 0 and 79
Name	Name of the resource
PictureRef	Index of the picture used for this resource from resource images found in **images\ui\resources** folder
Base Price	Base price of resource when buying and selling. Note that the actual price fluctuates based on galaxy supply and demand
Resource Type	0=Mineral, 1=Gas, 2=Luxury
SuperLuxuryBonusAmount	Numeric value that indicates special development bonus for colonies with this luxury resource, range from 0 to 50. If this resource is NOT a super-luxury resource then set this value to 0 (zero)
IsFuel	Y/N value indicating whether this is a fuel resource that is used in reactors to power a ship or base
IsImportantPreWarpResource	Y/N value indicating whether this resource is important to have in the home system of prewarp empires (Age of Shadows)
ColonyGrowthResourceLevel	Numeric value indicating level of resource required for growth at colonies, range from 0 (not required) to 1.0 (lots of this resource required). This allows you to define important resources that are consumed by colonies and thus must be available for them to grow
ColonyManufacturingLevel	Numeric value indicating whether resource is a manufactured resource at colonies. When greater than zero then resource is not naturally occurring but rather is manufactured at sufficiently developed colonies. Value indicates required population and development level before resource may randomly appear at a colony: value = population in billions * development level

DISTRIBUTION AND PREVALENCE INFORMATION

After defining the base information for a resource as outlined above, you must then define the distribution and prevalence information for the resource, i.e. where it is found.

Each resource can have multiple locations where it can appear in the galaxy. Each location is contained on the same line. Simply separate each location with a comma.

NAME	DESCRIPTION
Location Type	0=Planet/Moon, 1=Asteroid, 2=Gas Cloud
Location SubType	0=Continental, 1=Marshy Swamp, 2=Ocean, 3=Desert, 4=Ice, 5=Volcanic, 6=Barren Rock, 7=Gas Giant, 8=Frozen Gas Giant, 9=Metal (asteroid), 10=Ammonia (gas cloud), 11=Argon (gas cloud), 12=Carbon Dioxide (gas cloud), 13=Chlorine (gas cloud), 14=Helium (gas cloud), 15=Hydrogen (gas cloud), 16=Nitrogen Oxygen (gas cloud), 17=Oxygen (gas cloud)
Prevalence Value	Chance of resource appearing at this type of planet/moon/asteroid/gas cloud. Range from 0 (0% chance) to 1.0 (100% chance). NOTE: when resource is super luxury then Prevalence Value instead indicates how many sources in average galaxy of 700 stars, i.e. 1.0 means single source in 700-star galaxy
Abundance Minimum	Minimum abundance of resource at this type of planet/moon/asteroid/gas cloud. Range from 0 (0% abundance) to 1.0 (100% abundance). Actual abundance at each location is random value between Minimum and Maximum
Abundance Maximum	Maximum abundance of resource at this type of planet/moon/asteroid/gas cloud. Must be higher than Minimum value above. Range from 0 (0% abundance) to 1.0 (100% abundance). Actual abundance at each location is random value between Minimum and Maximum

SPECIAL NOTES ON RESOURCES

The following special rules apply to defining resources:

▶ be sure NOT to define both gas and mineral resources at the same location, e.g. do not set Gas Giant planets to have both gas and mineral resources

COMPONENTS

Components are used to construct ships and bases. All of the components used in Distant Worlds are defined in the file **components.txt** found in the root game folder.

Each line in the file defines a single component with comma-separated data, up to a maximum of 170 components (0-169).

The first part of the line defines the base information for the component: it's unique ID value, it's name, the image used to display it, etc.

The last part of the line defines the resources used to manufacture the component. There can be up to 5 different strategic resources used to manufacture a component.

Figure 23. Component file line layout

BASE COMPONENT INFORMATION

NAME	DESCRIPTION
ID	Unique numeric ID value of component. Must be between 0 and 169
Name	Name of the component
PictureRef	Index of the picture used for this component from component images found in **images\ui\components** folder
Special Image Index	Index value mapping to a special image set used by the component. The different image sets for each component type are specified below: ► EngineMainThrust: engine thrust image index (images\effects\enginethrusters folder) ► HyperDrive: hyper jump enter/exit animation image index (images\effects\hyperenter and images\effects\hyperexit folders) ► WeaponAreaDestruction: area weapon image index (images\effects\weapons folder) ► WeaponBeam: beam weapon image index (images\effects\weapons folder) ► WeaponBombard: torpedo weapon image index (images\effects\weapons folder) ► WeaponIonCannon: beam weapon image index (images\effects\weapons folder) ► WeaponIonPulse: area weapon image index (images\effects\weapons folder) ► WeaponMissile: torpedo weapon image index (images\effects\weapons folder) ► WeaponPointDefense: beam weapon image index (images\effects\weapons folder) ► WeaponRailGun: beam weapon image index (images\effects\weapons folder) ► WeaponSuperArea: area weapon image index (images\effects\weapons folder) ► WeaponSuperBeam: beam weapon image index (images\effects\weapons folder) ► WeaponTorpedo: torpedo weapon image index (images\effects\weapons folder)

Sound Effect Filename	Filename of sound effect used when weapon fired (applies only to weapon components). File must be present in sounds\effects folder
Type	Numeric code that specifies the type of component as specified in the following list: 0=AreaShieldRecharge, 1=Armor, 2=AssaultPod, 3=CargoBay, 4=ColonizationModule, 5=CommandCenter, 6=CommerceCenter, 7=ConstructionYard, 8=Countermeasures, 9=CountermeasuresFleet, 10=DamageControl, 11=DockingBay, 12=EnergyCollector, 13=EnergyToFuel, 14=EngineMainThrust, 15=EngineVectoring, 16=ExtractorGasExtractor, 17=ExtractorLuxury, 18=ExtractorMine, 19=FighterBay, 20=FuelCell 21=HabModule, 22=HyperDeny, 23=HyperDrive, 24=HyperStop, 25=LifeSupport, 26=LongRangeScanner, 27=ManufacturerEnergyPlant, 28=ManufacturerHighTechPlant 29=ManufacturerWeaponsPlant, 30=MedicalCenter 31=PassengerCompartment, 32=ProximityArray, 33=Reactor, 34=RecreationCenter, 35=ResearchLabEnergy, 36=ResearchLabHighTech, 37=ResearchLabWeapons, 38=ResourceProfileSensor, 39=ScannerJammer, 40=Shields, 41=Stealth, 42=Targetting, 43=TargettingFleet, 44=TraceScanner, 45=TroopCompartment, 46=WeaponAreaDestruction, 47=WeaponAreaGravity, 48=WeaponBeam, 49=WeaponBombard, 50=WeaponGravityBeam, 51=WeaponIonCannon, 52=WeaponIonDefense, 53=WeaponIonPulse, 54=WeaponMissile, 55=WeaponPhaser, 56=WeaponPointDefense, 57=WeaponRailGun, 58=WeaponSuperArea, 59=WeaponSuperBeam, 60=WeaponTorpedo, 61=WeaponTractorBeam
Size	Numeric value of component size. The size of a ship or base is determined by the total size of all components in the ship or base
Energy Used	Static energy used by component per second (i.e. constant energy consumption, even when component is not being actively used)

Value1	Numeric value with unique meaning for each component type as detailed below
Value2	Numeric value with unique meaning for each component type as detailed below
Value3	Numeric value with unique meaning for each component type as detailed below
Value4	Numeric value with unique meaning for each component type as detailed below
Value5	Numeric value with unique meaning for each component type as detailed below
Value6	Numeric value with unique meaning for each component type as detailed below
Value7	Numeric value with unique meaning for each component type as detailed below

MEANINGS OF VALUE1-7 FOR EACH COMPONENT TYPE

COMPONENT TYPE	MEANINGS OF VALUE1-7
Area Shield Recharge	Value1=recharge range, Value2=maximum recharge amount, Value3=energy required for full recharge to maximum amount, Value4-7 unused
Armor	Value1=rating, Value2=reactive rating, Value3-7 unused
Assault Pod	Value1=Assault strength, Value2=Boarding range, Value3=energy consumed per launch, Value4=movement speed, Value5=shield penetration, Value6=launch rate in milliseconds, Value7 unused
Cargo Bay	Value1=cargo storage capacity, Value2-7 unused
Colonization Module	Value1=population amount for new colony in millions, Value2-7 unused
Command Center	Value1=maintenance savings percentage, Value2-7 unused
Commerce Center	Value1=Trade bonus percentage, Value2-7 unused
Construction Yard	Value1=construction speed, Value2-7 unused
Countermeasures	Value1=countermeasures bonus percentage, Value2-7 unused
Damage Control	Value1=damage reduction percentage, Value2=seconds to repair one damaged component, Value3-7 unused

Docking Bay	Value1=cargo throughput capacity, Value2-7 unused
Energy Collector	Value1=energy collection rate, Value2-7 unused
Energy To Fuel	Value1=fuel production rate, Value2-7 unused
Engine – Main Thrust	Value1=maximum thrust, Value2=energy usage per second at maximum thrust, Value3=cruise thrust, Value4=energy usage per second at cruise thrust, Value5-7 unused
Engine – Vectoring	Value1=thrust, Value2=energy usage per second, Value3-7 unused
Extractors	Value1=extraction rate, Value2-7 unused
Fighter Bay	Value1=fighter storage capacity, Value2=fighter repair rate (in percentage points per second, manufacture rate is half repair rate), Value3-7 unused
Fleet Countermeasures	Value1=countermeasures bonus percentage for fleet, Value2-7 unused
Fleet Targeting	Value1=targeting bonus percentage for fleet, Value2-7 unused
Fuel Cell	Value1=fuel storage capacity, Value2-7 unused
Gravity Well Projector / HyperStop	Value1=unused, Value2=hyper stopping range, Value3-7 unused
Hab Module	Value1=ship/base support size, Value2-7 unused
Hyper Deny	Value1=unused, Value2=hyper deny range, Value3=energy used when operational, Value4-7 unused
Hyper Drive	Value1=top speed, Value2=energy usage per second, Value3=typical jump initiation time in seconds, Value4-7 unused
Ion Defense	Value1=ion defense strength, Value2-7 unused
Life Support	Value1=ship/base support size, Value2-7 unused
Long Range Scanner	Value1=scan range, Value2-7 unused
Manufacturer	Value1=manufacturing speed, Value2-7 unused
Medical Center	Value1=effectiveness, Value2-7 unused
Passenger Compartment	Value1=passenger capacity, Value2-7 unused
Proximity Array	Value1=scan range, Value2=hyper jump tracking chance percentage, Value3-7 unused

Reactor	Value1=energy output per second, Value2=energy storage capacity, Value3=fuel units required to charge to full capacity, Value4=fuel resource ID, Value5-7 unused
Recreation Center	Value1=recreation value, Value2-7 unused
Research Labs	Value1=research output, Value2-7 unused
Resource Profile Sensor	Value1=scan range, Value2-7 unused
Scanner Jammer	Value1=jamming power, Value2-7 unused
Shields	Value1=maximum strength, Value2=recharge rate per second, Value3-7 unused
Stealth	Value1=stealth rating, Value2-7 unused
Targeting	Value1=targeting bonus percentage, Value2-7 unused
Trace Scanner	Value1=scan range, Value2=scan power, Value3-7 unused
Tractor Beam	Value1=pulling/pushing power, Value2=range, Value3=energy consumed per firing, Value4=projection speed, Value5=power loss per 100 units range, Value6=fire rate in milliseconds, Value7 unused
Troop Compartment	Value1=troop size capacity, Value2-7 unused
Weapons	Value1=damage amount, Value2=range, Value3=energy consumed per firing, Value4=movement speed, Value5=damage loss per 100 units range, Value6=fire rate in milliseconds, Value7=bombard damage amount
Weapons – Area Gravity	Value1=damage amount, Value2=firing range (to epicenter), Value3=energy consumed per firing, Value4=expansion speed (Value2 / Value4 = firing duration), Value5=pull range from epicenter, Value6=fire rate in milliseconds, Value7=damage range from epicenter

RESOURCES TO MANUFACTURE COMPONENT

After defining the base information for a component as outlined above, you must then define the strategic resources required to manufacture the component. Note that luxury resources should not be used in components.

Each component can have up to 5 resources (along with amounts) used in its manufacturing. Each required resource is defined on the same line. Simply separate each resource and amount by a comma.

NAME	DESCRIPTION
Resource ID	ID value of required resource. Must match a resource defined in **resources.txt**
Amount	Numeric amount of resource needed for manufacturing a single component. Must be between 1 and 32767

RESEARCH

Research tech trees for Distant Worlds are defined in the file research.txt found in the root game folder.

Each research project is defined by multiple labelled lines of information. The most important data is defined in a line labelled "PROJECT", with other labelled lines as needed. Possible lines are as follows:

Figure 24. Research file location

- ▶ PROJECT: basic project information (this line must always be present for a project)

- ▶ COMPONENTS: any components that are unlocked by the project

- ▶ COMPONENT IMPROVEMENTS: any improvements to previously-research components (i.e. component upgrades)

- ▶ FIGHTERS: new fighter types that are unlocked by the project

- ▶ FACILITY: a new planetary facility or wonder

- ▶ ABILITIES: new abilities enabled by the project, e.g. build new ship type, colonize new planet type, increased construction size

- ▶ PLAGUE CHANGE: defines new values for a single plague from the **plagues.txt** file
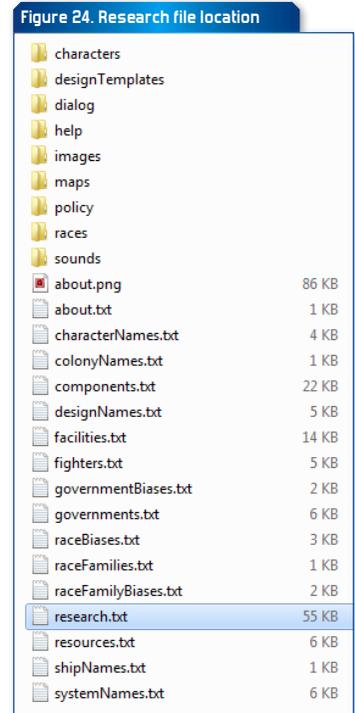
► PARENTS: parent research projects that lead to this project, i.e. the path to this project (this line is required, unless it is a root project)

A single research project must have at least the PROJECT line, and then as many other different labelled lines as needed for the project.

All of the labelled lines under a PROJECT line are considered part of that project until the next PROJECT line in the file. In other words, subsequent labelled lines are grouped together for the same research project.

Each of these labelled lines is explained in more detail below.

Figure 25. Research file layout

PROJECT LINE

The PROJECT line is always required for a research project. It marks the beginning of the project definition. All subsequent labelled lines (Components, Abilities, Parents, etc) are included in the project until the next PROJECT line, which then marks the start of a new project.

It is comprised of a list of comma-separated values as follows:

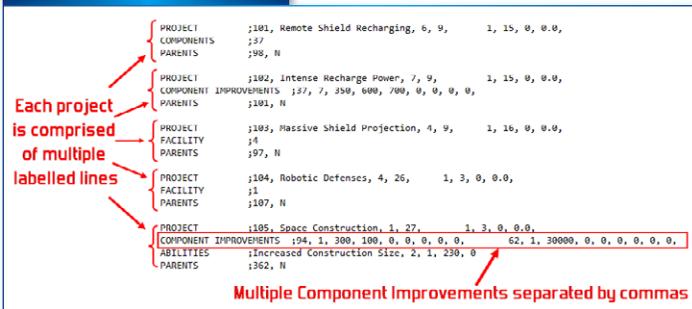| NAME	DESCRIPTION
Project ID	Unique numeric value identifying the project
Name	Name of the research project
Tech Level	Numeric value that defines how advanced the project is, which determines the default research cost of the project. This corresponds to the 'column' that this project is displayed at in the tech tree, tech level 0 is at far left, tech level 7 is at far right. Each single additional tech level doubles the default research cost of the project.

Row	The vertical position of the project in the tech tree, starting from 1 at the top
Industry	0=Weapons, 1=Energy, 2=HighTech
Category	0=Armor, 1=AssaultPod, 2=Computer, 3=Construction, 4=EnergyCollector, 5=Engine, 6=Extractor, 7=Fighter, 8=Habitation, 9=HyperDisrupt, 10=HyperDrive, 11=Labs, 12=Manufacturer, 13=Reactor, 14=Sensor, 15=ShieldRecharge, 16=Shields, 17=Storage, 18=WeaponArea, 19=WeaponBeam, 20=WeaponGravity, 21=WeaponIon, 22=WeaponPointDefense, 23=WeaponSuperArea, 24=WeaponSuperBeam, 25=WeaponTorpedo
Special Function Code	0=NONE, 1=PreWarp tech that is already research when starting game as PreWarp empire, 2=primitive hyperdrive tech (warp bubble) that must be unlocked before can be researched, 3=superweapon
Base Cost Multiplier Override	Multiplier factor for modifying the default research cost of the project. Project cost is related to Tech Level - each single additional tech level doubles the default research cost of the project. Base Cost Multiplier Override can be used to make projects more or less expensive than normal

COMPONENTS LINE

The COMPONENTS line is an optional line that defines components that are unlocked by the research project.

It is comprised of a list of comma-separated Component ID values. Each ComponentID must match a component from the **components.txt** file.

You can include a maximum of 4 components in a single research project.

COMPONENT IMPROVEMENTS LINE

The COMPONENT IMPROVEMENTS line is an optional line that defines improvements or upgrades to existing components. You can include a maximum of 4 component improvements in a single research project.

It is comprised of a list of comma-separated values as follows:

NAME	DESCRIPTION
ComponentID	ComponentID value of the component that this improvement is for. This should match a component from the **components.txt** file
Tech Level	The relative tech level of the component improvement. This should match the Tech Level of the research project itself (Tech Level in PROJECT line)
Value1	Improved/upgraded value for component Value1 relevant to the component type
Value2	Improved/upgraded value for component Value2 relevant to the component type
Value3	Improved/upgraded value for component Value3 relevant to the component type
Value4	Improved/upgraded value for component Value4 relevant to the component type
Value5	Improved/upgraded value for component Value5 relevant to the component type
Value6	Improved/upgraded value for component Value6 relevant to the component type
Value7	Improved/upgraded value for component Value7 relevant to the component type

NOTE: for a comprehensive list of meanings for Values1-7 for each component type, please see the heading '*Meanings of Value1-7 for each component type*' in the **Components** section

FIGHTERS LINE

The FIGHTERS line is an optional line that defines new fighter types that are unlocked by the research project.

It is comprised of a list of comma-separated Fighter ID values. Each FighterID must match a fighter from the **fighters.txt** file.

You can include a maximum of 2 fighters in a single research project.

FACILITY LINE

The FACILITY line is an optional line that defines a new planetary facility or wonder that is enabled by the research project.

It is comprised of a single PlanetaryFacilityID value. The PlanetaryFacilityID must match a planetary facility or wonder from the **facilities.txt** file.

You can only have a single planetary facility or wonder in a single research project.

ABILITIES LINE

The ABILITIES line is an optional line that defines new abilities enabled by the research project. It is comprised of a list of comma-separated values as follows:

NAME	DESCRIPTION
Name	Name of the ability
Type	0=Ship Boarding, 1=Colonize New Planet Type, 2=Increased Construction Size, 3=Enable New Ship Type, 4=Population Growth Rate at planet type, 5=Troops
Level	Numeric value defining the relative level of the ability when compared to other abilities of the same type, i.e. the highest ability will be used
Value	Ability value specific to the ability type. Detailed meanings for each ability type explained below: ▶ when Type is 0 (**Ship Boarding**): value greater than zero defines percentage bonus to boarding attack strength (e.g. 25 means +25% bonus when boarding enemy ships), value less than zero defines percentage bonus to boarding defense strength (e.g. -25 means +25% bonus defending against enemy boarding) ▶ when Type is 1 (**Colonize New Planet Type**): 1=Continental, 2=Marshy Swamp, 3=Ocean, 4=Desert, 5=Ice, 6=Volcanic ▶ when Type is 2 (**Increased Construction Size**): maximum size ship that can be built (e.g. size 300). Maximum construction size for Bases not at colonies is always 3 times larger. Bases at colonies have no construction size limit ▶ when Type is 3 (**Enable New Ship Type**): Value is UNUSED ▶ when Type is 4 (**Population Growth Rate at planet type**): 1=Continental, 2=Marshy Swamp, 3=Ocean, 4=Desert, 5=Ice, 6=Volcanic ▶ when Type is 5 (**Troops**): for all troop types when value is zero then means Enable new Troop Type, for Infantry, Armored and Special Forces troop types value greater than zero means percentage bonus to attack strength (e.g. 25 means +25% attack strength), values less than zero means percentage bonus to defense strength (e.g. -25 means +25% defense strength). For Planetary Defense troop type value greater than zero defines additional percentage bonus to damage amount against invading troops, value greater than zero defines additional percentage bonus to intercept chance against invading troops
Related Object Index	Extra sub type for some ability types as explained further below: when Type is 3 (**Enable New Ship Type**): 0=Carrier, 1=Resupply Ship when Type is 5 (**Troops**): 0=ALL Troop Types, 1=Infantry troop type, 2=Armored troop type, 3=Planetary Defense troop type, 4=Special Forces troop type

PLAGUE CHANGE LINE

The PLAGUE CHANGE line is an optional line that defines changes to a plague from the **plagues.txt** file.

It is comprised of a list of comma-separated values as follows:

NAME	DESCRIPTION
PlagueID	PlagueID value of the plague that this change is for. This should match a plague from the **plagues.txt** file
Description	Textual description of this plague change
MortalityRate	Numeric value defining the rate of population loss caused by the plague, measured in population lost per second. Should be in range between 1 and 100,000,000
InfectionChance	Numeric value that determines the chance of the plague spreading to other nearby colonies. Higher values means higher chance of spreading. Should be in range of 0 to 1000
Duration	Numeric value that defines the typical average duration of the plague at a colony, measured in seconds. Thus a value of 300 means 6 months of game time. Should be in range of 1 to 1200
ExceptionMortalityRate	Numeric value defining the rate of population loss caused by the plague for the Exception Race (defined in **plagues.txt**), measured in population lost per second. Should be in range between 1 and 100,000,000
ExceptionInfectionChance	Numeric value that determines the chance of the plague spreading to other nearby colonies for the Exception Race (defined in **plagues.txt**). Higher values means higher chance of spreading. Should be in range of 0 to 1000
ExceptionDuration	Numeric value that defines the typical average duration of the plague at a colony for the Exception Race (defined in **plagues.txt**), measured in seconds. Thus a value of 300 means 6 months of game time. Should be in range of 1 to 1200

It is comprised of a single PlanetaryFacilityID value. The PlanetaryFacilityID must match a planetary facility or wonder from the **facilities.txt** file.

You can only have a single planetary facility or wonder in a single research project.

PARENTS LINE

The PARENTS line defines parent research projects that lead to this project, i.e. the path to this project.

This line is normally required for a research project. However if the project is a root, or starting project, then it will have no parents, and thus does not need a PARENTS line.

The PARENTS line is a list of multiple parent research projects, each one comprised of comma-separated values as follows:

NAME	DESCRIPTION
Parent Project ID	ProjectID value indicating the parent research project. Must match another project in this research.txt file
Required Parent	Y/N value indicating whether must first research this parent project (Y) or is optional path (N)

PLAGUES

Plagues can infect colonies and reduce their population. Plagues can also spread to other nearby colonies. Plague outbreaks can occur randomly or can be triggered by a game event.

All of the plagues in Distant Worlds are defined in the file **plagues.txt** found in the root game folder.

Each line in the file defines a single plague with comma-separated data, up to a maximum of 50 plagues (0-49).

Each comma-separated value is defined in detail below:

NAME	DESCRIPTION
PlagueID	Unique numeric ID value of plague. Must be between 0 and 49
Name	Name of the plague
PictureRef	Numeric index value mapping to the image used to display the plague (**images\ui\plagues** folder)

MortalityRate	Numeric value defining the rate of population loss caused by the plague, measured in population lost per second. Should be in range between 1 and 100,000,000
InfectionChance	Numeric value that determines the chance of the plague spreading to other nearby colonies. Higher values means higher chance of spreading. Should be in range of 0 to 1000
Duration	Numeric value that defines the typical average duration of the plague at a colony, measured in seconds. Thus a value of 300 means 6 months of game time. Should be in range of 1 to 1200
NaturalOccurrenceLevel	Numeric value that determines how often this plague naturally strikes at colonies compared to other plagues. Higher values mean more frequent outbreaks. A value of zero means no natural occurrences. Should be between 0 and 10
CanCompletelyEliminatePopulation	Y/N value indicating whether plague can completely eliminate the population at a colony. If set to N then population will not drop below 10 million at an infected colony
ExceptionRaceName	The name of a race that has different values for mortality, infection and length. This should match a race in the races folder. Otherwise leave blank if the plague affects all races the same way
ExceptionMortalityRate	Numeric value defining the rate of population loss caused by the plague for the Exception Race (defined by ExceptionRaceName), measured in population lost per second. Should be in range between 1 and 100,000,000
ExceptionInfectionChance	Numeric value that determines the chance of the plague spreading to other nearby colonies for the Exception Race (defined by ExceptionRaceName). Higher values means higher chance of spreading. Should be in range of 0 to 1000

ExceptionDuration	Numeric value that defines the typical average duration of the plague at a colony for the Exception Race (defined by ExceptionRaceName), measured in seconds. Thus a value of 300 means 6 months of game time. Should be in range of 1 to 1200
SpecialFunctionCode	0=NONE, 1=Xaraktor Virus (Researchable and Deployable)
Description	An extended textual description of the plague. Should be no longer than 200 characters

FIGHTERS

Fighters launch from carriers and bases to attack and defend. All of the fighters in Distant Worlds are defined in the file **fighters.txt** found in the root game folder.

Each line in the file defines a single fighter with comma-separated data, up to a maximum of 30 fighters (0-29).

Each comma-separated value is defined in detail below:

NAME	DESCRIPTION
FighterID	Unique numeric ID value of fighter. Must be between 0 and 29
Name	Name of the fighter
Type	0=interceptor that primarily targets enemy fighters, 1=bomber that primarily targets enemy ships and bases
Tech Level	Numeric value that defines relative tech level of fighter. AI will always build the researched fighter or bomber with the highest tech level
Energy Capacity	Maximum stored energy capacity of reactor
Energy Recharge Rate	Energy output rate of reactor
Top Speed	Top speed of fighter. Top speed is used when attacking, but otherwise fighter moves at half of top speed
Top Speed Energy Consumption Rate	Energy consumption rate when travelling at top speed. Energy consumption at half speed is half of this value

Acceleration Rate	Rate of acceleration for fighter (speed increase per second). Valid range from 5 to 100
Turn Rate	Turn angle per second in radians. Valid range from 0.5 to 6.28
Engine Exhaust Image Index	Index value mapping to engine thrust image in folder images\effects\enginethrusters
Shields Capacity	Maximum shields capacity
Shield Recharge Rate	Rate of shield recharge per second
Damage Repair Rate	Rate of damage repair per second. Value of 1 means can repair 10% of damage per second. Valid range from 0 to 10
Countermeasure Modifier	Percentage value of countermeasures bonus for avoiding enemy weapons fire. Valid range is from 0 to 99
Targeting Modifier	Percentage value of targeting bonus when attacking enemy targets. Valid range is from 0 to 99
Weapon Type	0=beam weapon, 1=torpedo weapon, 2=missile weapon
Weapon Image Index	Index value mapping to weapons image as specified below: ▶ Beam weapons: beam weapon image index (images\effects\weapons folder) ▶ Torpedo or Missile weapons: torpedo weapon image index (images\effects\weapons folder)
Weapon Damage	Damage amount of weapon
Weapon Range	Range of weapon
Weapon Energy Required	Energy consumed when firing weapon
Weapon Speed	Speed of weapon when travelling to target
Weapon Damage Loss	Damage loss per 100 units range
Weapon Fire Rate	Fire rate in milliseconds
Weapon Sound Effect Filename	filename of sound effect used when weapon fires (sounds\effects folder)

PLANETARY FACILITIES AND WONDERS

Planetary facilities and wonders are built at colonies and provide various bonuses. All of the planetary facilities and wonders in Distant Worlds are defined in the file **facilities.txt** found in the root game folder.

Each line in the file defines a single planetary facility with comma-separated data, up to a maximum of 50 facilities (0-49).

Each comma-separated value is defined in detail below:

NAME	DESCRIPTION
Planetary Facility ID	Unique numeric ID value of planetary facility. Must be between 0 and 49
Name	Name of the planetary facility or wonder
Type	Numeric code specifying the type of facility as specified in the following list: 0=TroopTrainingCenter, 1=RoboticTroopFoundry, 2=CloningFacility, 3=PlanetaryShield, 4=GiantIonCannon, 5=RegionalCapital, 6=FortifiedBunker, 7=TerraformingFacility, 8=WONDER, 9=PirateBase, 10=PirateFortress, 11=ArmoredFactory, 12=MilitaryAcademy, 13=SpyAcademy, 14=NavalAcademy, 15=ScienceAcademy, 16=PirateCriminalNetwork
Wonder Type	Numeric code specifying the type of wonder as specified in the following list (only relevant when Type=8 (Wonder)): 0=NONE 1=EmpirePopulationGrowth: boost population growth throughout entire empire 2=EmpireHappiness: boost happiness throughout entire empire 3=EmpireResearchWeapons: boost weapons research for empire 4=EmpireResearchEnergy: boost energy research for empire 5=EmpireResearchHighTech: boost hightech research for empire 6=EmpireIncome: boost colony income throughout empire 7=ColonyPopulationGrowth: boost population growth for single colony 8=ColonyHappiness: boost happiness for single colony 9=ColonyDefense: increase defensive bonus for single colony 10=ColonyConstructionSpeed: increase ship and base construction speed for single colony 11=ColonyIncome: boost income for single colony 12=RaceAchievement: special race-specific wonder, usually tied to race victory conditions

PictureRef	Index value mapping to image used to display facility (**images\ environment\planetaryfacilities** folder)
Build Cost	Cost to build facility at a colony
Maintenance Cost	Annual maintenance cost of facility
Value1	Numeric value with unique meaning for each facility type as detailed below
Value2	Numeric value with unique meaning for each facility type as detailed below
Value3	Numeric value with unique meaning for each facility type as detailed below
Description	Extended textual description of facility. Should be no longer than 200 characters

MEANINGS OF VALUE1-3 FOR EACH FACILITY TYPE

FACILITY TYPE	MEANINGS OF VALUE1-3
TroopTrainingCenter	Value1-3=UNUSED
RoboticTroopFoundry	Value1-3=UNUSED
CloningFacility	Value1-3=UNUSED
PlanetaryShield	Value1-3=UNUSED
GiantIonCannon	Value1=ComponentID of ion cannon weapon component (must match an Ion Beam component found in **components.txt**), Value2-3=UNUSED
RegionalCapital	Value1-3=UNUSED
FortifiedBunker	Value1=defensive bonus percentage, Value2-3=UNUSED
TerraformingFacility	Value1=rate of planetary damage repair - 1000 means repair 100% of damage in one year (lower values mean slower rate of damage repair), Value2-3=UNUSED
PirateBase	Value1=empire research bonus percentage, Value2=colony income bonus percentage, Value3=colony corruption increase percentage
PirateFortress	Value1=empire research bonus percentage, Value2=colony income bonus percentage, Value3=colony corruption increase percentage

ArmoredFactory	Value1-3=UNUSED
MilitaryAcademy	Value1 means percentage value increase in appearance chance for troop generals, Value2-3=UNUSED
SpyAcademy	Value1 means percentage value increase in appearance chance for spies, Value2-3=UNUSED
NavalAcademy	Value1 means percentage value increase in appearance chance for fleet admirals, Value2-3=UNUSED
ScienceAcademy	Value1 means percentage value increase in appearance chance for scientists, Value2-3=UNUSED
PirateCriminalNetwork	Value1=empire research bonus percentage, Value2=UNUSED, Value3=colony corruption increase percentage
WONDER EmpirePopulationGrowth	Value1=colony development bonus percentage, Value2=empire population growth bonus percentage, Value3=Colony Type where can be built: 0=ANY, 1=Continental, 2=MarshySwamp, 3=Desert, 4=Ocean, 5=Ice, 6=Volcanic
WONDER EmpireHappiness	Value1=colony development bonus percentage, Value2=empire happiness bonus percentage, Value3=Colony Type where can be built: 0=ANY, 1=Continental, 2=MarshySwamp, 3=Desert, 4=Ocean, 5=Ice, 6=Volcanic
WONDER EmpireResearchWeapons	Value1=colony development bonus percentage, Value2=weapons research bonus percentage, Value3=Colony Type where can be built: 0=ANY, 1=Continental, 2=MarshySwamp, 3=Desert, 4=Ocean, 5=Ice, 6=Volcanic
WONDER EmpireResearchEnergy	Value1=colony development bonus percentage, Value2=energy research bonus percentage, Value3=Colony Type where can be built: 0=ANY, 1=Continental, 2=MarshySwamp, 3=Desert, 4=Ocean, 5=Ice, 6=Volcanic

WONDER EmpireResearchHighTech	Value1=colony development bonus percentage, Value2=high-tech research bonus percentage, Value3=Colony Type where can be built: 0=ANY, 1=Continental, 2=MarshySwamp, 3=Desert, 4=Ocean, 5=Ice, 6=Volcanic
WONDER EmpireIncome	Value1=colony development bonus percentage, Value2=empire income bonus percentage, Value3=Colony Type where can be built: 0=ANY, 1=Continental, 2=MarshySwamp, 3=Desert, 4=Ocean, 5=Ice, 6=Volcanic
WONDER ColonyPopulationGrowth	Value1=colony development bonus percentage, Value2=colony population growth bonus percentage, Value3=Colony Type where can be built: 0=ANY, 1=Continental, 2=MarshySwamp, 3=Desert, 4=Ocean, 5=Ice, 6=Volcanic
WONDER ColonyHappiness	Value1=colony development bonus percentage, Value2=colony happiness bonus percentage, Value3=Colony Type where can be built: 0=ANY, 1=Continental, 2=MarshySwamp, 3=Desert, 4=Ocean, 5=Ice, 6=Volcanic
WONDER ColonyDefense	Value1=colony development bonus percentage, Value2=colony defensive bonus percentage, Value3=Colony Type where can be built: 0=ANY, 1=Continental, 2=MarshySwamp, 3=Desert, 4=Ocean, 5=Ice, 6=Volcanic
WONDER ColonyConstructionSpeed	Value1=colony development bonus percentage, Value2=construction speed bonus percentage, Value3=Colony Type where can be built: 0=ANY, 1=Continental, 2=MarshySwamp, 3=Desert, 4=Ocean, 5=Ice, 6=Volcanic
WONDER ColonyIncome	Value1=colony development bonus percentage, Value2=colony income bonus percentage, Value3=Colony Type where can be built: 0=ANY, 1=Continental, 2=MarshySwamp, 3=Desert, 4=Ocean, 5=Ice, 6=Volcanic
WONDER RaceAchievement	Value1=colony development bonus percentage, Value2=UNUSED, Value3=Colony Type where can be built: 0=ANY, 1=Continental, 2=MarshySwamp, 3=Desert, 4=Ocean, 5=Ice, 6=Volcanic

GOVERNMENTS

Governments can be adopted by an empire and provide various bonuses. All of the governments in Distant Worlds are defined in the file governments.txt found in the root game folder.

Each line in the file defines a single government with comma-separated data, up to a maximum of 30 governments (0-29).

Each comma-separated value is defined in detail below:

NAME	DESCRIPTION
Government ID	Unique numeric ID value of government. Must be between 0 and 29
Name	Name of the government
Corruption	Level of corruption, 1.0 = normal, less than 1.0 means lower, more than 1.0 means higher (range from 0 to 3.0)
War Weariness	Rate of increase for war weariness, 1.0 = normal, less than 1.0 means lower, more than 1.0 means higher (range from 0 to 3.0)
Maintenance Costs	Ship and base maintenance costs, 1.0 = normal, less than 1.0 means lower, more than 1.0 means higher (range from 0 to 3.0)
Approval Rating	Colony population approval, 1.0 = normal, less than 1.0 means lower, more than 1.0 means higher (range from 0 to 3.0)
Population Growth	Colony population growth rate, 1.0 = normal, less than 1.0 means lower, more than 1.0 means higher (range from 0 to 3.0)
Research Speed	Empire research speed, 1.0 = normal, less than 1.0 means lower, more than 1.0 means higher (range from 0 to 3.0)
Troop Recruitment	Colony troop recruitment rate, 1.0 = normal, less than 1.0 means lower, more than 1.0 means higher (range from 0 to 3.0)
Trade Bonus	Income from trade, 1.0 = normal, less than 1.0 means lower, more than 1.0 means higher (range from 0 to 3.0)
Leader Replacement Likeliness	Likelihood of leader replacement, 1.0 = normal, less than 1.0 means lower, more than 1.0 means higher (range from 0 to 3.0)

Leader Replacement Disruption Level	Disruption level in empire when leader is replaced, 1.0 = normal, less than 1.0 means lower, more than 1.0 means higher (range from 0 to 3.0)
Leader Replacement Boost	Economic and happiness boost when leader is replaced, 1.0 = normal, less than 1.0 means lower, more than 1.0 means higher (range from 0 to 3.0)
Leader Replacement Character Pool	0=NONE, 1=Colony Governors, 2=Fleet Admirals and Troop Generals, 3=Scientists
Leader Replacement Typical Manner	0=replacement, 1=coup d'état, 2=election
Stability	Range from 0 to 3.0. 1.0=normal, less than 1.0=unstable, more than 1.0=very stable (this refers to resistance to foreign-instigated revolutions)
Population's Concern over Own Reputation	Range from 0 to 2.0. 1.0=normal, less than 1.0=unconcerned, more than 1.0=very concerned
Importance of Other Empire's Reputations	Range from 0 to 2.0. 1.0=normal, less than 1.0=less important, more than 1.0=more important
Special Function Code	0=NONE, 1=nationalize private sector
Availability	0=all empires, 1=race-specific, 2=ancient guardians, 3=shakturi
Empire Name Adjectives	A list of 5 comma-separated adjectives that can be used to name an empire with this government (adjectives are prefixed at the start of the empire name)
Empire Name Nouns	A list of comma-separated nouns that can be used to name an empire with this government (nouns are suffixed at the end of the empire name)

GOVERNMENT BIASES

Each government can have a preset natural feeling towards each other government. These preset biases can be positive or negative. They allow you to represent governmental friendliness or animosity, or to show natural affinity of government styles.

These preset biases are defined in the file **governmentBiases.txt** found in the root of the theme folder.

The governmentBiases.txt file is structured as a series of rows and columns that form a grid. Each row in the file defines the natural bias feelings of one government to each other government.

Figure 26. Government Biases file layout

```
'#, Name,                  0,   1,   2,   3,   4,   5,   6,   7,   8,   9,  10,  11,  12
0, Despotism,              7,   0,   5,   0, -10,  11,   0,  16,   0,  -5,   0,   0,   5
1, Feudalism,              0,  11,  13,   7,   4,   0,  12,   0,   0,   6,   0,   0,   0
2, Monarchy,               4,  12,  11,   2,   8,  -7,  12,   0,   0,   0,   0,  -6,   0
3, Republic,              -5,   7,   1,  12,  12, -12,  19,  -4,   0,   6,   6,   0,  -2
4, Democracy,             -8,   0,   7,  12,  12, -14,  20,  -5,   0,   6,  12,   0,  -4
5, Military Dictatorship, 13,   0,   0, -14, -17,   6,  -5,  22,   0,  -6, -12,   0,  12
6, Way of the Ancients,  -10,   0,   7,  16,  17, -20,  18, -30,   0,   6,  14, -12, -12
7, Way of Darkness,       16,   0,   0, -19, -22,  18, -30,  -8,   0,   0, -16,   0,  13
8, Technocracy,            0,   0,   0,   4,   6,   0,  10,   0,   8,   2,   6,   0,   0
9, Mercantile Guild,      -6,   6,   0,   7,  12, -11,  12, -15,   6,   8,   6,   0, -12
10, Utopian Paradise,     -8,   0,   0,   6,   8, -12,  12, -16,   0,   0,  12, -10,  -6
11, Hive Mind,             6,   0,   8,  -7, -12,  12,   0,  18,   0,  -5,   0,  24,   0
12, Corporate Nationalism, 7,   0,   4,   0, -10,  11,  -6,  16,   0, -10,   0,   0,   8
```

The structure of each row is defined as follows:

VALUE	DESCRIPTION
Index Number	The index number that determines which column represents bias values for this government
Government Name	The name of the government for which this row defines bias values. This must match the name of one of the governments defined in the **governments.txt** file
Bias values 1-XX	Each bias value (column) in the row is how the named government feels towards the government matching the index number for the column
	Note that the minimum bias value is -30 and the maximum is +30

GALAXY MAPS

In Distant Worlds Universe you can create custom galaxy maps that can be used when starting new games. This means that instead of generating a new galaxy for each game, you can use a predefined galaxy map where the star systems and planets are the same each time.

MAKING A NEW GALAXY MAP

To create a custom galaxy map you simply start a new game, generating a new galaxy of the desired shape and size. Once in the game you can then enter the Game Editor and alter the galaxy to your liking, adding and removing star systems, planets, asteroids, etc.

Figure 27. The Game Editor now allows altering more data in your game

In Distant Worlds Universe the Game Editor has been extended to allow better definition of custom galaxy maps and scenarios.

New features include:

- ▶ editing pirate factions (in addition to normal empires)
- ▶ changing which pictures are used for planets, moons, asteroids and ruins
- ▶ adding specific troop types (Infantry, Armored, etc) to ships, bases and colonies
- ▶ editing pirate control at colonies

- ▶ editing planetary facilities and wonders
- ▶ adding introductory text to the galaxy and to each faction (shows up when selecting scenarios and factions from Start a New Game screen)
- ▶ defining events and actions on objects in the game (see section "Events and Actions" for more details)

Once you have the galaxy the way you want it, simply save the game as usual.

USING A GALAXY MAP

You can make the new galaxy map available for play in two ways:

- ▶ using the map as a scenario in a theme
- ▶ or simply loading the map instead of generating a new galaxy

USING A MAP AS A SCENARIO IN A THEME

You can add maps to a theme by adding a maps subfolder in the theme. Then drop your saved games into the maps folder.

When you start a new game while the theme is active, a preliminary screen will appear allowing you to select:

Figure 28. Galaxy Maps folder
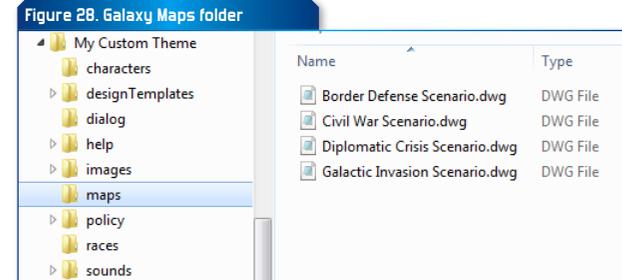
- ▶ a map from the maps folder
- ▶ which predefined faction to play as from the map

Introductory text can be added in the Game Editor to both maps and factions. This allows you to have more meaningful scenario names in the list of playable maps. It also provides a way to describe each faction, along with their goals, etc.

Scenario maps would typically also have custom events and actions to trigger a storyline that the player can follow. These events and actions are defined in the Game Editor as described in more detail in the section "Events and Actions".

Figure 29. a playable map from a theme, along with a faction to play from the map
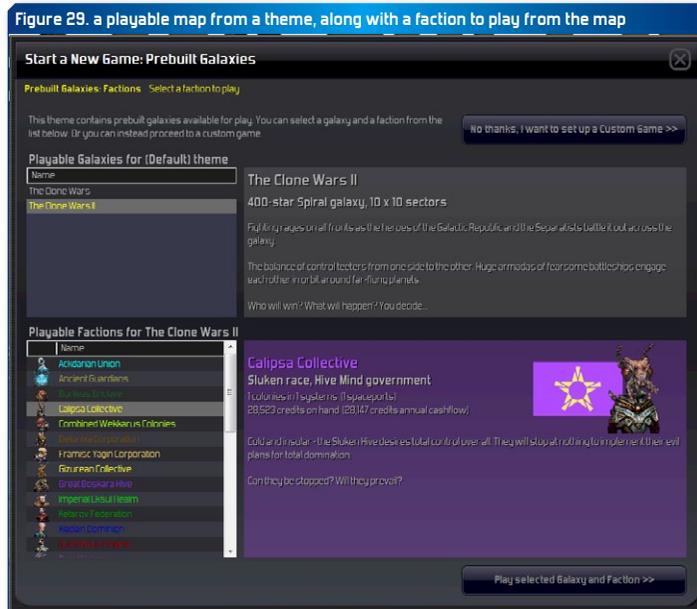
USING ANY SAVED GAME AS A MAP IN A CUSTOM GAME

Instead of generating a new galaxy for a game, you can select an existing saved game as a map. In the Galaxy step of the 'Start a New Game' screen, you can browse for saved games (defaults to the maps subfolder).

You can also choose to clear and regenerate resources, scenery and research bonuses, space creatures, ruins, and special locations. This means that you can use an already-defined map (layout of stars, planets, etc) while having random placement of resources, ruins, etc in your new game.

You then proceed through the remaining steps of the 'Start a New Game' screen to setup the rest of your game, with new empires, etc.

Figure 30. Instead of setting up a new galaxy, select a saved game to use as a galaxy in a new game
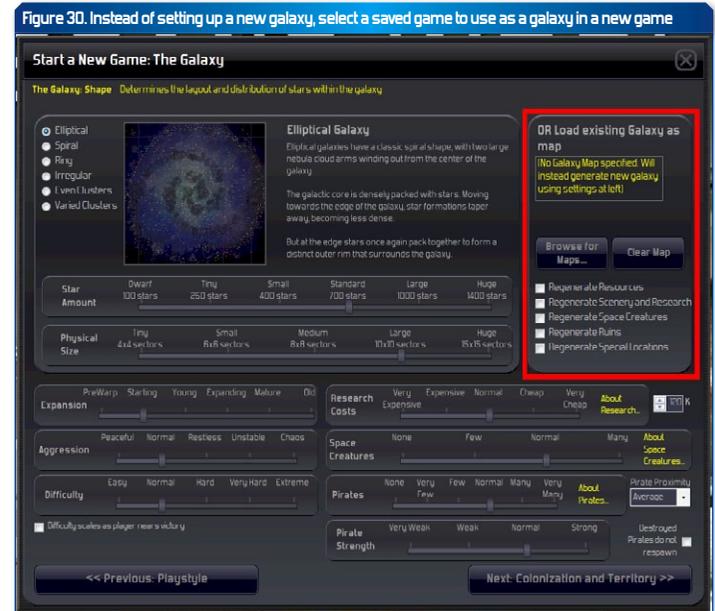
EVENTS AND ACTIONS

Distant Worlds Universe provides a game event system that allows you to create a pre-made galaxy map with a set of built-in events and actions. You can use these tools to tell a story, leading a player through a series of events that trigger actions in the game.

SETTING GAME EVENTS, TRIGGERS AND ACTIONS IN THE GAME EDITOR

To add a game event in the editor, first select an object to add the event to. Valid objects for events include:

► Planets, moons, asteroids

► Any ship or base

► Space creatures

Each object can only have a single event attached to it.

Double-click the object to open its editing panel, then click the button at the bottom of the editing panel labelled "Add Event"

This will open another panel that allows you to define what type of event this is. The event type could be:

- ► Destroy – valid for ships, bases, planets, moons, asteroids and space creatures

- ► Capture – valid for ships, bases and colonies

- ► Build – valid for planets, moons and asteroids

- ► Investigate – valid for abandoned ships or bases and ruins
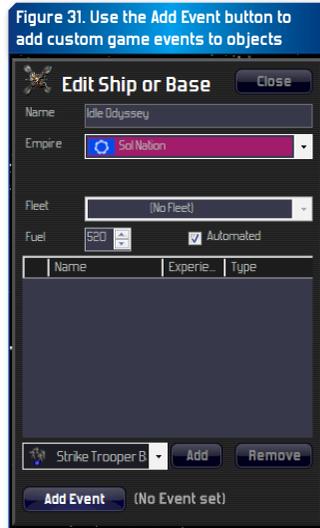
You can also add a title and description to the event. This text will be used in the pop-up message that appears when the event is triggered.

Figure 31. Use the Add Event button to add custom game events to objects

Figure 32. Define the event trigger type
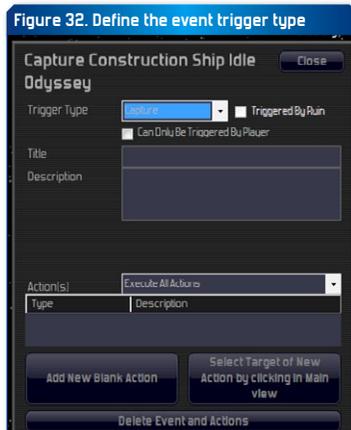
You can then add actions that occur when the event is triggered. You can add actions in two ways:

- ► Add a blank action without a specific target

- ► Select an action target by clicking on it in the main view

ADDING A BLANK ACTION WITHOUT A SPECIFIC TARGET

Some action types do not have a specific target. For example, finding monetary treasure simply gives the defined amount of credits to the empire that triggers the event.

Other action types that do not have a specific target include:

Figure 33. Some actions do not require a target

- ► Change Empire Government

- ► Change a race bias value

- ► Empire Declares War On Trigger Empire

- ► End Plague at all empire colonies

- ► Enemy Fleet Defects To Trigger Empire

- ► Find Money Treasure

- ► Intercept Resource

- ► Learn About Special Location

- ► Learn Exploration Info

- ► Learn new Government Type

- ► Learn Tech

- ► Make Empire Contact

- ► Pirate Faction Joins Trigger Empire

- ► Split Empire Civil War

- ► Split Empire Peacefully

- ► Unlock Tech

- ► Change an empire's reputation

- ► Change an empire's evaluation of another empire

- ► Initiate a treaty between two empires
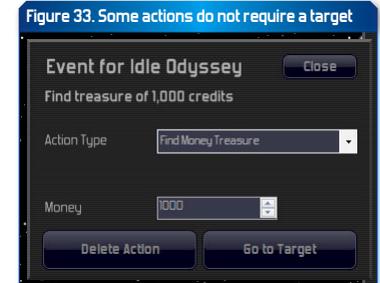
- ▶ Break a treaty between two empires

- ▶ Start trading super luxury resources between two empires

- ▶ Stop trading super luxury resources between two empires

- ▶ Send a general message to an empire

- ▶ An empire sends a message to another empire

- ▶ Research bonus in specific project

- ▶ Unlock tech for specific empire

- ▶ Empire declares war on specific empire

- ▶ Victory condition bonus

- ▶ Intergalactic civilian convoy

- ▶ Intergalactic military convoy

- ▶ Kill character

- ▶ Character changes empire

- ▶ Character changes role

- ▶ Character changes image

SELECTING AN ACTION TARGET BY CLICKING ON IT IN THE MAIN VIEW

Many action types require a target to act upon. For example, building a new planetary facility requires a colony to build the facility at.

For these action types you must select an action target by doing the following:

Figure 34. Other actions occur at a specific target location

- ▶ first click the button labelled 'Select Target of New Action by clicking in Main view'

- ▶ the mouse cursor will change to a target symbol

- ▶ find the target of the action in the main view and click on it
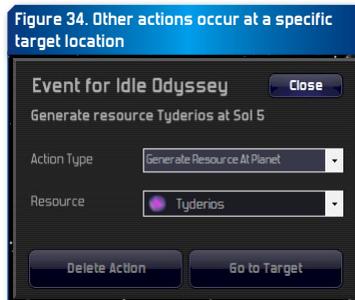
- ▶ if the target is valid a new Action panel will open, allowing you to select the action type and to define all of the remaining information for the action

Once you have supplied all of the information for the action, click the Close button to save the action. The new action will appear in the Action list in the Event panel.

Action types that require a specific target include:

- ▶ Acquire a ship or base

- ▶ Destroy a ship or base

- ▶ Acquire a colony

- ▶ Build new Planetary Facility

- ▶ Destroy a Planetary Facility

- ▶ Disaster at a Colony

- ▶ End Plague at a colony

- ▶ Generate new ship or base at a planet

- ▶ Generate Creature Swarm at a planet

- ▶ Generate a New Empire at planet

- ▶ Generate a New Pirate Faction at a planet

- ▶ Generate Pirate Ambush at a planet

- ▶ Generate Refugee Fleet at a planet

- ▶ Generate Resource at a planet

- ▶ Learn About a Lost Colony

- ▶ Remove Resource at a planet

- ▶ Reveal the location of a planet, ship or base

- ▶ Sleeping Race Awoken at a planet

- ▶ Start Plague at a planet

- ▶ Send a Fleet Attack against a target

- ▶ Send a Planet Destroyer attack against a target

- ▶ Generate a character at a location

EXTENDING THE GALACTOPEDIA

You can add your own custom Galactopedia articles to the help folder in your theme.

All Galactopedia articles should be in MHTML format. This allows for rich formatting of articles, with features like images, tables, bullet-points and more.

Figure 35. Galactopedia folder
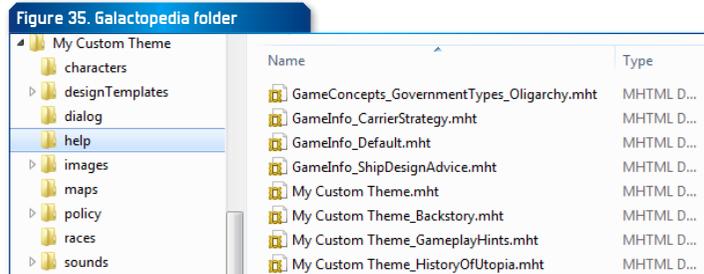
The easiest way to create or edit MHTML files is using Microsoft Word. MHTML files can be viewed in Internet Explorer and some other browsers.

There are three types of articles that can be added to the Galactopedia:

► Articles for alien races, resources, or governments

► Theme-related articles that provide additional information about the theme

► General-purpose articles that provide additional tips and strategy guides for the game

ARTICLES FOR ALIEN RACES, RESOURCES AND GOVERNMENTS

The Galactopedia will automatically search for articles for some items, and if they exist will add them to the index.

Note that you must still manually create the articles. The Galactopedia will find the articles if they exist, but it will not automatically create the articles for you.

► **Alien Races**: the Galactopedia will attempt to locate an article named **Race_(RACENAME).mht** for each alien race in your

theme. E.g. you would have an article named **Race_Octopus.mht** for your Octopus race.

► **Resources**: the Galactopedia will attempt to locate an article named **Resource_(RESOURCENAME).mht** for each resource in your theme. E.g. you would have an article named **Resource_Moon Stone.mht** for your Moon Stone resource.

► **Governments**: the Galactopedia will attempt to locate an article named **GameConcepts_GovernmentTypes_(GOVERNMENTNAME).mht** for each government in your theme. E.g. you would have an article named **GameConcepts_GovernmentTypes_Oligarchy.mht** for your Oligarchy government.

THEME-RELATED ARTICLES

You can add any number of articles for your theme by naming the files with the name of your theme as a prefix, followed by an underscore, e.g. **My Custom Theme_YourArticle.mht**

To make one of your articles the top-level article for the theme, simply name the article with your theme name e.g. **My Custom Theme.mht**. This article will appear when you click the theme category in the Galactopedia index.

The name of the topic that shows in the Galactopedia is derived from the filename of the article. Spaces are added whenever capital letters are encountered in the filename. Thus if you include a custom theme-related Galactopedia article named **THEMENAME_TheHistoryOfTheMainRace.mht**, then a Galactopedia entry named "The History Of The Main Race" will appear in the index, and in the related topics from the top-level theme article.

GENERAL-PURPOSE ARTICLES

You can add any other general-purpose articles to the Galactopedia by naming the files with the name "GameInfo" as a prefix, followed by an underscore, e.g. **GameInfo_ShipDesignAdvice.mht**

These articles might be to provide additional tips and strategy guides for the game. All of these articles will be grouped together under the Game Info category in the Galactopedia index.

To make one of your general-purpose articles the top-level article for the Game Info category, simply name the article GameInfo_Default.mht. This article will appear when you click the theme category in the Galactopedia index.

The name of the topic that shows in the Galactopedia is derived from the filename of the article. Spaces are added whenever capital letters are encountered in the filename. Thus if you include a custom general-purpose Galactopedia article named **GameInfo_ShipDesignAdvice.mht**, then a Galactopedia entry named "Ship Design Advice" will appear in the index, and in the related topics from the top-level Game Info article.

APPENDICES

APPENDIX: DESIGN TEMPLATE COMPONENT TYPES

Below is a list of all component types that can be included in a design template file. Use the code in the left column to specify the type of component.

Note that each component will only be included in a design when it has been researched.

See the section "Ship Design Templates" for more details.

COMPONENT TYPE CODE	ADDITIONAL DETAILS
AreaShieldRecharge	
Armor	
AssaultPod	
CargoBay	
ColonizationModule	
CombatTargettingSystem	
CommerceCenter	
ConstructionYard	
CountermeasuresSystem	
DamageControl	Includes RepairBot components when researched
DockingBay	
EnergyCollector	
EnergyManufacturingPlant	

EnergyResearchLab	
EnergyToFuelConverter	
Engine	Refers to main thrust engines used for forward movement
FighterBay	
FleetCountermeasuresSystem	
FleetTargettingSystem	
FuelCell	
GasExtractor	
GravityWellProjector	
HighTechManufacturingPlant	
HighTechResearchLab	
HyperDeny	
IonCannon	
IonDefense	
IonPulse	
LongRangeScanner	
LuxuryResourceExtractor	
MedicalCenter	
MiningEngine	
PassengerCompartment	
PointDefense	
ProximityArray	
Reactor	
RecreationCenter	
ResourceProfileSensor	
ScannerJammer	
Shields	
StealthCloak	
TraceScanner	
TroopCompartment	
VectoringEngine	Refers to directional vectoring engines used for turning
WeaponArea	
WeaponBeam	

WeaponBombard	
WeaponMissile	
WeaponPhaser	
WeaponRailGun	
WeaponsManufacturingPlant	
WeaponsResearchLab	
WeaponSuperBeam	
WeaponTorpedo	
WeaponTractorBeam	
WeaponGravitonBeam	
WeaponAreaGravity	

APPENDIX: RACE EVENT TYPES

CODE	NAME	EVENT DESCRIPTION
0	NO EVENT	Used to specify no race event
1	A Fine Vintage	One year Happiness bonus to all colonies that produce Nepthys wine
2	Darkhul	Devastating attack from sea monster at an Ocean colony
3	The Great Hunt	Troops trained at colonies are stronger than normal
4	Suppressed Knowledge	Current research project progress set back
5	Shakturi Artifact	Advances progress of current weapons research project
6	Warrior Wave	One year bonus to troop recruitment speed and strength at colonies
7	Swarms	New troop transport full of troops appears in orbit around your capital
8	Crazed Cannibalism	Population reduced at a colony
9	Metamorphosis	During a periodic race change cycle, one of your characters gains or loses a character trait
10	Strength In Numbers	Small ships have lower maintenance costs for one year

11	Xenophobic Riots	Population policy of one colony changed to Exterminate foreign races for a period
12	Xenophobia	Cannot use Assimilate population policy at any colony for one year
13	Destiny	A character gains a new character trait
14	Natural Harmony	A colony has an improvement to its natural quality
15	Security Concerns	A character is removed and replaced with a new Intelligence Agent
16	Never Surrender	War weariness level reduced for your empire
17	Scientific Breakthrough	Free crash research project initiated for current research project
18	Forced Retirement	Your Leader or a Colony Governor is replaced by a new character
19	Todash Galactic Championships	One year development bonus for all colonies and lower war weariness
20	Historical Knowledge	Uncover secret galactic history location
21	Isolationists	All diplomatic relations with other empires have their 'first contact' penalty reset to maximum
22	Grand Performance	One year Diplomacy bonus with another empire
23	Friends In Many Places	Contact with a new empire or reveal of territory map of another empire
24	Lucky	Avert a natural disaster at a colony
25	Supreme Warrior	A great Troop General character appears
26	Death Cult	Exterminate population policy enforced for one year at a colony
27	Creative Reengineering	Free crash research in a current research project
28	Predictive History	For one year: avert natural disasters at colonies, more accurate targeting in ship battles, better counter-intelligence, development bonus at all colonies
29	Historical Discovery	Research boost when explore ruins

APPENDIX: RACE VICTORY CONDITION TYPES

Progress towards reaching each type of race victory condition is measured in several different ways:

- ► Absolute – the condition must be met completely. Meeting the condition earns 100%, failing to meet it earns 0%

- ► Proportional – progress towards meeting the condition is measured proportionally, e.g. if the condition requires controlling all 3 of the largest ocean colonies in the galaxy, controlling 1 of them earns 33%

- ► Ranked – progress towards meeting the condition is measured by comparing which empires have best met the condition. Progress is then awarded based on empire ranking.
  The following structure is used:

  - ► best empire(s) that have met the condition earn 100%

  - ► second-place empires earn 50%

  - ► third-place empires earn 33%

CODE	RACE VICTORY CONDITION	VALUE, ADDITIONAL DATA AND EXPLANATION	PROGRESS TYPE
0	NONE	Used to indicate no selected victory condition	
1	Control Your Homeworld	Retain control of your empire's starting colony	Absolute
2	Control X% of all Y colonies in the galaxy	X is any percentage value and Y is a planet type: 0=None, 1=Continental, 2=MarshySwamp, 3=Ocean, 4=Desert, 5=Ice, 6=Volcanic	Proportional
3	Control the X largest Y colonies in the galaxy	X is any whole number value and Y is a planet type: 0=None, 1=Continental, 2=MarshySwamp, 3=Ocean, 4=Desert, 5=Ice, 6=Volcanic	Proportional
4	Control the most Ruins in the galaxy	Control the most ruins in the galaxy by colonizing planets or moons with them	Proportional
5	Have the Largest Population in the galaxy	Your empire has the largest total population	Proportional
6	Have the Happiest Population in the galaxy	Your empire's colonies have the highest average happiness	Proportional
7	Control the most Homeworlds in the galaxy	Home worlds means starting colonies for each empire. Control as many of these as possible by taking over other empire's homeworlds	Ranked
8	Own the largest Capital Ship in the galaxy	Largest capital ship as measured by ship size	Ranked
9	Have the most Spaceports in the galaxy	Includes count of all small, medium and large space ports	Proportional
10	Have the most Mining Stations in the galaxy	Includes count of all mining stations and gas mining stations	Proportional
11	Have the most Resort Bases in the galaxy		Proportional
12	Destroy the most enemy ships and bases in the galaxy		Proportional
13	Destroy the most enemy troops in the galaxy		Proportional
14	Destroy X times more enemy ships and bases than you lose	X is any numeric value. If X is 1 (one) then simply destroy more enemy ships or bases than you lose	Absolute
15	Destroy X times more enemy troops than you lose	X is any numeric value. If X is 1 (one) then simply destroy more enemy troops than you lose	Absolute
16	Destroy the most Creatures by Type	Creature Types as follows: 0=None, 1=GiantKaltor, 2=SpaceSlug, 3=SandSlug, 4=Ardilus, 5=SilverMist	Proportional

17	Lose the fewest ships and bases in the galaxy		Ranked
18	Lose the fewest troops in the galaxy		Proportional
19	Carry out the highest number of successful Intelligence Missions in the galaxy		Proportional
20	Intercept the most enemy Intelligence Missions in the galaxy		Proportional
21	Conquer the most enemy colonies		Proportional
22	Exterminate or Enslave the most people in the galaxy		Proportional
23	Enslave other races at your colonies: X% of your empire's population	X is any percentage value	Proportional
24	Build specific galactic Wonder	Wonder Types as follows: 0-XX=PlanetaryFacilityID of specific wonder from **facilities.txt**	Absolute
25	Keep your empire's Leader alive		Absolute
26	Have the most Scientists in the galaxy		Proportional
27	Have the most experienced Admiral in the galaxy	Admiral experience is measured by total level of all skills	Ranked
28	Have the most experienced General in the galaxy	General experience is measured by total level of all skills	Ranked
29	Perform the Least Research in the galaxy	Research amount is calculated by total cost of all projects researched, traded or stolen	Proportional
30	Perform the Most Research in the galaxy	Research amount is calculated by total cost of all projects researched, traded or stolen	Proportional

31	Have the most Completed Research Branches in the galaxy	A completed research branch means that all of the projects in a research area are completed, e.g. all Construction technology	Ranked
32	Have the most Completed Research Branches in the galaxy by Industry	Research Industry Types: 0=None, 1=Weapons, 2=Energy, 3=HighTech A completed research branch means that all of the projects in a research area are completed, e.g. all Construction technology	Ranked
33	Earn the highest amount of Trade Bonuses in the galaxy		Proportional
34	Earn the most Tourist Income in the galaxy		Proportional
35	Earn the most Trade Income in the galaxy		Proportional
36	Have the highest Private Revenue in the galaxy		Proportional
37	Control X location(s) supplying Restricted Resources	X is any whole number Restricted resources include: Korabbian Spice, Loros Fruit, Zentabia Fluid	Proportional
38	Have the largest military in the galaxy	Largest military is measured by total size of all an empire's military ships	Proportional
39	Have the largest military amongst non-allied empires	Non-allied empires means empires that you do not have a Mutual Defense Pact or Protectorate with. Largest military is measured by total size of all an empire's military ships	Proportional
40	Have the most troops in the galaxy		Proportional

41	Have the most troops amongst non-allied empires	Non-allied empires means empires that you do not have a Mutual Defense Pact or Protectorate with	Proportional
42	Make Mutual Defense Pacts with X% of all empires in the galaxy	X is any percentage value	Proportional
43	Make Free Trade Agreements, Mutual Defense Pacts or Protectorates with X% of all empires in the galaxy	X is any percentage value	Proportional
44	Start the fewest Wars in the galaxy	This means wars that you initiate, not wars that other empires declare on you	Ranked
45	Break the fewest Treaties in the galaxy	This means treaties (Free Trade Agreements, Mutual Defense Pacts or Protectorates) that you break via cancellation, trade sanctions or war. This does not include treaties that are ended by the other empire	Ranked
46	Have the fewest Treaties in the galaxy	This means have the least Free Trade Agreements, Mutual Defense Pacts or Protectorates in the galaxy. This only applies to current treaties and does not consider past treaties	Ranked
47	Spend the most time at War in the galaxy		Proportional
48	Spend the least time at War in the galaxy		Proportional
49	Subjugate the most empires in the galaxy	This includes both current and past subjugations	Proportional
50	Have the longest-lasting Mutual Defense Pact in the galaxy		Proportional
51	Have the longest-lasting Free Trade Agreement in the galaxy		Proportional
52	Explore the most systems in the galaxy		Proportional
53	Explore X% of the galaxy	X is any percentage value	Proportional
54	Mine the most Luxury resources in the galaxy		Proportional
55	Mine the most Strategic resources in the galaxy		Proportional
56	Build the most Military ships in the galaxy	This includes all military ships that your empire constructs, whether they exist now or not	Proportional
57	Build the most Civilian ships in the galaxy	This includes all civilian ships that your empire constructs, whether they exist now or not	Proportional
58	Build the most Bases in the galaxy	This includes all bases of any sort that your empire constructs, whether they exist now or not	Proportional
59	Produce the most Colony Manufactured resources in the galaxy	Colony Manufactured resources are special resources that only appear at colonies of sufficient population and development	Proportional

APPENDIX: CHARACTER SKILLS

CODE	SKILL	APPLIES TO
0	NONE	
1	Diplomacy	Leader, Ambassador, Pirate Leader
2	Colony Income	Leader, Governor
3	Trade Income	Leader, Ambassador, Governor, Pirate Leader
4	Tourism Income	Leader, Ambassador, Governor, Pirate Leader
5	Colony Corruption Reduction	Leader, Governor
6	Colony Happiness	Leader, Governor

7	Population Growth Rate	Leader, Governor
8	Mining Rate	Leader, Governor, Pirate Leader
9	Troop Recruitment Rate	Leader, Governor, General
10	Military Ship Construction Speed	Leader, Governor, Pirate Leader
11	Civilian Ship Construction Speed	Leader, Governor, Pirate Leader
12	Colony Ship Construction Speed	Leader, Governor
13	Facility Construction Speed	Leader, Governor, Pirate Leader
14	Weapons Research	Leader, Scientist, Pirate Leader
15	Energy Research	Leader, Scientist, Pirate Leader
16	High Tech Research	Leader, Scientist, Pirate Leader
17	Espionage	Leader, Ambassador, Intelligence Agent, Pirate Leader
18	Counter-Espionage	Leader, Ambassador, Intelligence Agent, Pirate Leader
19	Sabotage	Intelligence Agent
20	Concealment	Intelligence Agent
21	PsyOps	Intelligence Agent
22	Assassination	Intelligence Agent
23	Military Ship Maintenance Savings	Leader, Pirate Leader, Ship Captain
24	Military Base Maintenance Savings	Leader, Governor, Pirate Leader
25	Civilian Ship Maintenance Savings	Leader, Pirate Leader
26	Civilian Base Maintenance Savings	Leader, Governor, Pirate Leader
27	Troop Maintenance Savings	Leader, Governor, General
28	War Weariness Reduction	Leader, Governor
29	Targeting	Admiral, Pirate Leader, Ship Captain
30	Countermeasures	Admiral, Pirate Leader, Ship Captain
31	Ship Maneuvering	Admiral, Pirate Leader, Ship Captain

32	Fighters	Admiral, Pirate Leader, Ship Captain
33	Ship Energy Usage	Admiral, Pirate Leader, Ship Captain
34	Weapons Damage	Admiral, Pirate Leader, Ship Captain
35	Weapons Range	Admiral, Pirate Leader, Ship Captain
36	Shield Recharge Rate	Admiral, Pirate Leader, Ship Captain
37	Damage Control	Admiral, Pirate Leader, Ship Captain
38	Repair Bonus	Admiral, Pirate Leader, Ship Captain
39	Hyperjump Speed	Admiral, Pirate Leader, Ship Captain
40	Troop Ground Attack	General
41	Troop Ground Defense	General
42	Troop Experience Gain	General
43	Troop Recovery Rate	General
44	Troop Strength Armor	General
45	Troop Strength Infantry	General
46	Troop Strength Special Forces	General
47	Troop Strength Planetary Defense	General
48	Smuggling Income	Ship Captain, Pirate Leader
49	Smuggling Evasion	Ship Captain, Pirate Leader
50	Boarding Assault	Ship Captain, Pirate Leader

APPENDIX: CHARACTER TRAITS

CODE	TRAIT	EFFECTS	APPLIES TO
0	NONE		
1	Paranoid	Increased Counter-Espionage Reduced Diplomacy, Colony Happiness	Leader, Ambassador, Governor, Pirate Leader
2	Trusting	Reduced Counter-Espionage Increased Diplomacy, Colony Happiness	Leader, Ambassador, Governor, Pirate Leader

3	Peace Through Strength	Increased Troop Recruitment Rate, Military Ship Construction Speed Reduced Colony Happiness	Leader, Governor, Pirate Leader
4	Pacifist	Reduced Troop Recruitment Rate, Military Ship Construction Speed Increased Colony Happiness	Leader, Governor, Pirate Leader
5	Expansionist	Increased High Tech Research, Colony Ship Construction Speed	Leader, Governor, Pirate Leader
6	Isolationist	Increased Weapons Research Reduced Colony Ship Construction Speed	Leader, Governor, Pirate Leader
7	Diplomat	Increased Diplomacy	Leader, Ambassador, Pirate Leader
8	Obnoxious	Reduced Diplomacy	Leader, Ambassador, Pirate Leader
9	Famous	Increased Colony Happiness, Tourism Income	Leader, Ambassador, Governor, Pirate Leader
10	Disliked	Reduced Colony Happiness, Tourism Income	Leader, Ambassador, Governor, Pirate Leader
11	Good Administrator	Increased Colony Income	Leader, Governor
12	Poor Administrator	Reduced Colony Income	Leader, Governor
13	Bean Counter	Increased Colony Corruption Reduction Reduced Colony Happiness	Leader, Governor
14	Generous	Reduced Colony Corruption Reduction Increased Colony Happiness	Leader, Governor
15	Engineer	Increased High Tech Research, Civilian Ship Construction Speed	Leader, Governor, Pirate Leader

16	Luddite	Reduced High Tech Research, Civilian Ship Construction Speed	Leader, Governor, Pirate Leader
17	Free Trader	Increased Trade Income, Civilian Ship Construction Speed	Leader, Ambassador, Governor, Pirate Leader
18	Protectionist	Reduced Trade Income, Civilian Ship Construction Speed	Leader, Ambassador, Governor, Pirate Leader
19	Environmentalist	Increased Population Growth Rate Reduced Mining Rate	Leader, Governor, Pirate Leader
20	Industrialist	Reduced Population Growth Rate Increased Mining Rate	Leader, Governor, Pirate Leader
21	Inspiring Presence	Slowly increases the skills of all other characters at the same location or in the same fleet	Leader, Ambassador, Governor, Admiral, General, Scientist, Intelligence Agent, Pirate Leader, Ship Captain
22	Demoralizing	Slowly decreases the skills of all other characters at the same location or in the same fleet	Leader, Ambassador, Governor, Admiral, General, Scientist, Intelligence Agent, Pirate Leader, Ship Captain
23	Organized	Increased Military Ship Construction Speed, Civilian Ship Construction Speed, Colony Ship Construction Speed	Leader, Governor, Pirate Leader
24	Disorganized	Reduced Military Ship Construction Speed, Civilian Ship Construction Speed, Colony Ship Construction Speed	Leader, Governor
25	Health Oriented	Increased Population Growth Rate, Colony Happiness Reduced Colony Income	Leader, Governor

26	Labor Oriented	Reduced Population Growth Rate, Colony Happiness Increased Colony Income	Leader, Governor
27	Spiritual	Increased Colony Happiness Reduced Diplomacy	Leader, Ambassador, Governor, Pirate Leader
28	Logical	Reduced Colony Happiness Increased Diplomacy	Leader, Ambassador, Governor, Pirate Leader
29	Good Strategist	Increased Troop Maintenance Savings, Military Ship Maintenance Savings	Leader, Governor, Pirate Leader
30	Poor Strategist	Reduced Troop Maintenance Savings, Military Ship Maintenance Savings	Leader, Governor, Pirate Leader
31	Uninhibited	Increased Colony Happiness Reduced Colony Corruption Reduction, Diplomacy	Leader, Ambassador, Governor, Pirate Leader
32	Measured	Reduced Colony Happiness Increased Colony Corruption Reduction, Diplomacy	Leader, Ambassador, Governor, Pirate Leader
33	Addict	Reduced Colony Corruption Reduction, Diplomacy	Leader, Ambassador, Governor, Pirate Leader
34	Sober	Increased Colony Corruption Reduction, Diplomacy	Leader, Ambassador, Governor, Pirate Leader
35	Courageous	Increased War Weariness Reduction, Troop Recruitment Rate	Leader, Governor
36	Weak	Reduced War Weariness Reduction, Troop Recruitment Rate	Leader, Governor
37	Tolerant	Increased Trade Income, Diplomacy	Leader, Ambassador, Governor, Pirate Leader
38	Xenophobic	Reduced Trade Income, Diplomacy	Leader, Ambassador, Governor, Pirate Leader
39	Eloquent Speaker	Increased Colony Happiness, Diplomacy	Leader, Ambassador, Governor, Pirate Leader
40	Poor Speaker	Reduced Colony Happiness, Diplomacy	Leader, Ambassador, Governor, Pirate Leader

41	Corrupt	Reduced Colony Corruption Reduction, Trade Income, Tourism Income	Leader, Ambassador, Governor, Pirate Leader
42	Lawful	Increased Colony Corruption Reduction, Trade Income, Tourism Income	Leader, Ambassador, Governor, Pirate Leader
43	Lazy	All existing skills reduced	Leader, Ambassador, Governor, Admiral, General, Scientist, Intelligence Agent, Pirate Leader, Ship Captain
44	Energetic	All existing skills increased	Leader, Ambassador, Governor, Admiral, General, Scientist, Intelligence Agent, Pirate Leader, Ship Captain
45	Linguist	Increased Diplomacy, Tourism Income	Ambassador
46	Tongue Tied	Reduced Diplomacy, Tourism Income	Ambassador
47	Technical	Increased Military Ship Construction Speed, Civilian Ship Construction Speed, Colony Ship Construction Speed, Facility Construction Speed	Governor
48	Non Technical	Reduced Military Ship Construction Speed, Civilian Ship Construction Speed, Colony Ship Construction Speed, Facility Construction Speed	Governor
49	Good Tactician	All existing skills increased	Admiral, General, Pirate Leader, Ship Captain
50	Poor Tactician	All existing skills reduced	Admiral, General, Pirate Leader, Ship Captain
51	Strong Attacker (Space)	Increased Targeting, Ship Maneuvering, Weapons Damage	Admiral, Pirate Leader, Ship Captain

52	Poor Attacker (Space)	Reduced Targeting, Ship Maneuvering, Weapons Damage	Admiral, Pirate Leader, Ship Captain
53	Strong Defender (Space)	Increased Countermeasures, Ship Maneuvering, Shield Recharge Rate	Admiral, Pirate Leader, Ship Captain
54	Poor Defender (Space)	Reduced Countermeasures, Ship Maneuvering, Shield Recharge Rate	Admiral, Pirate Leader, Ship Captain
55	Drunk	All existing skills reduced	Admiral, General, Pirate Leader, Ship Captain
56	Tough Discipline	All existing skills increased	Admiral, General, Pirate Leader, Ship Captain
57	Lax Discipline	All existing skills reduced	Admiral, General, Pirate Leader, Ship Captain
58	Local Defense Tactics	Increased Targeting and Countermeasures when fleet is near a colony or base of your empire	Admiral, Pirate Leader, Ship Captain
59	NOT IMPLEMENTED		
60	Good Logistician (Space)	Increased Ship Energy Usage Savings	Admiral, Pirate Leader, Ship Captain
61	Poor Logistician (Space)	Reduced Ship Energy Usage Savings	Admiral, Pirate Leader, Ship Captain
62	Natural Leader (Space)	Increased Weapons Damage, Damage Control, Targeting, Countermeasures	Admiral, Pirate Leader, Ship Captain
63	Skilled Navigator	Increased Hyper jump Speed	Admiral, Pirate Leader, Ship Captain
64	Poor Navigator	Reduced Hyper jump Speed	Admiral, Pirate Leader, Ship Captain
65	Strong Attacker (Ground)	Increased Ground Attack Strength	General

66	Poor Attacker (Ground)	Reduced Ground Attack Strength	General
67	Strong Defender (Ground)	Increased Ground Defense Strength	General
68	Poor Defender (Ground)	Reduced Ground Defense Strength	General
69	Good Logistician (Ground)	Increased Troop Maintenance Savings	General
70	Poor Logistician (Ground)	Reduced Troop Maintenance Savings	General
71	Natural Leader (Ground)	Increased Ground Attack Strength, Ground Defense Strength, Troop Recruitment Rate, Troop Experience Gain	General
72	Good Recruiter	Increased Troop Recruitment Rate	General
73	Poor Recruiter	Reduced Troop Recruitment Rate	General
74	Careful Attacker	Reduced Ground Attack Strength Increased Ground Defense Strength, Troop Recovery Rate	General
75	Reckless Attacker	Increased Ground Attack Strength Reduced Ground Defense Strength, Troop Recovery Rate	General
76	Double Agent	Reduced Espionage, Counter-Espionage, Sabotage, Concealment, PsyOps, Assassination	Intelligence Agent
77	Creative	Increases the chance of a critical research success or failure	Scientist
78	Methodical	Decreases the chance of a critical research success or failure	Scientist

79	Foreign Spy	Significantly increases the success rate of other empires 'Steal Tech' espionage missions against your empire	Scientist
80	Patriot	Significantly decreases the success rate of other empires 'Steal Tech' espionage missions against your empire	Scientist
81	Ultra Genius	Increases the research output of your empire	Scientist
82	Uninhibited (Intelligence)	Reduced PsyOps, Concealment	Intelligence Agent
83	Measured (Intelligence)	Increased PsyOps, Concealment	Intelligence Agent
84	Addict (Intelligence)	Reduced Espionage, Counter-Espionage, Sabotage, PsyOps, Concealment	Intelligence Agent
85	Sober (Intelligence)	Increased Espionage, Counter-Espionage, Sabotage, PsyOps, Concealment	Intelligence Agent
86	Courageous (Intelligence)	Increased Espionage, Counter-Espionage, Sabotage, PsyOps, Concealment, Assassination	Intelligence Agent
87	Weak (Intelligence)	Reduced Espionage, Counter-Espionage, Sabotage, PsyOps, Concealment	Intelligence Agent
88	Tolerant (Intelligence)	Increased Concealment Reduced Counter-Espionage	Intelligence Agent
89	Xenophobic (Intelligence)	Increased Counter-Espionage Reduced Concealment	Intelligence Agent
90	Eloquent Speaker (Intelligence)	Increased PsyOps	Intelligence Agent

91	Poor Speaker (Intelligence)	Reduced PsyOps	Intelligence Agent
92	Corrupt (Intelligence)	Reduced Espionage, Counter-Espionage, Sabotage, PsyOps, Concealment, Assassination	Intelligence Agent
93	Lawful (Intelligence)	Increased Counter-Espionage Reduced Espionage, Sabotage, PsyOps, Concealment, Assassination	Intelligence Agent
94	Smuggler	Increased Smuggling Income, Smuggling Evasion, Damage Control, Countermeasures	Ship Captain
95	Bounty Hunter	Increased Boarding Assault, Weapons Damage, Targeting	Ship Captain

APPENDIX: COLOR VALUES

CODE	COLOR
0	Navy
1	Blue
2	Light Blue
3	Aqua
4	Dark Green
5	Green
6	Light Green
7	Lime Green
8	Yellow
9	Orange
10	Red
11	Brown-Red

CODE	COLOR
12	Dark Brown
13	Brown
14	Tan
15	Purple
16	Violet
17	Plum
18	Pink
19	Light Pink
20	White
21	Khaki
22	Deep Pink

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