# Texture Doctor User's Manual

Version 1.0

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## Introduction

Texture Doctor is an easy to use tool for inspecting Flight Simulator textures and converting them between various formats. It supports FS2004 and FSX.

Texture Doctor allows you to list textures contained in one particular texture folder, several texture folders (e.g. all aircraft textures), or all textures installed in FS together with texture size and format information.

You can sort the list by different criteria. For example, you can sort the list by the texture format and then easily find all textures not in the DXT format.

When browsing the list, you will see a preview of the texture currently selected.

Texture Doctor allows you to easily converts any number of textures between various formats. The built-in backup functions allows you to undo such conversions as well.

Requires the ImageTool program available from either FSX SDK or FS2004 SDK.

## Setting up the program

Simply run the installer to install the program. After the installation, you can start Texture Doctor from the Windows **Start** menu (under **FlightSimTools.com**).

Texture Doctor requires the **ImageTool** program from the Flight Simulator SDK. Users of FSX Deluxe edition have the FSX SDK as part of their FSX installation. Users of the FSX Standard edition and users of FS2004 should use the FS2004 Terrain SDK. It can be freely downloaded from Microsoft from the following URL:

http://support.microsoft.com/kb/555857

During startup, Texture Doctor automatically tries to locate ImageTool. If this fails, you will be prompted to enter it's location during the first startup. You can also always specify the location from inside the program by clicking the **ImageTool path** button.

To uninstall the program, use the Windows Control Panel.

## Examining textures installed

To start Texture Doctor, launch it using the Start menu. If you are using Windows Vista with UAC enabled and plan to convert textures, you may have to run Texture Doctor as administrator, because only administrators are permitted to modify the files in the Program Files folder (where all aircraft and most scenery textures reside).

After you start Texture Doctor, you will be prompted for the Flight Simulator version to use. After that, the program will collect the listing of all textures installed in FS, which may take some time. In the final step, it will extract format and size information from all texture files (the progress of this will be shown in the status line at the bottom of the Texture Doctor window).

The main window has the following layout:
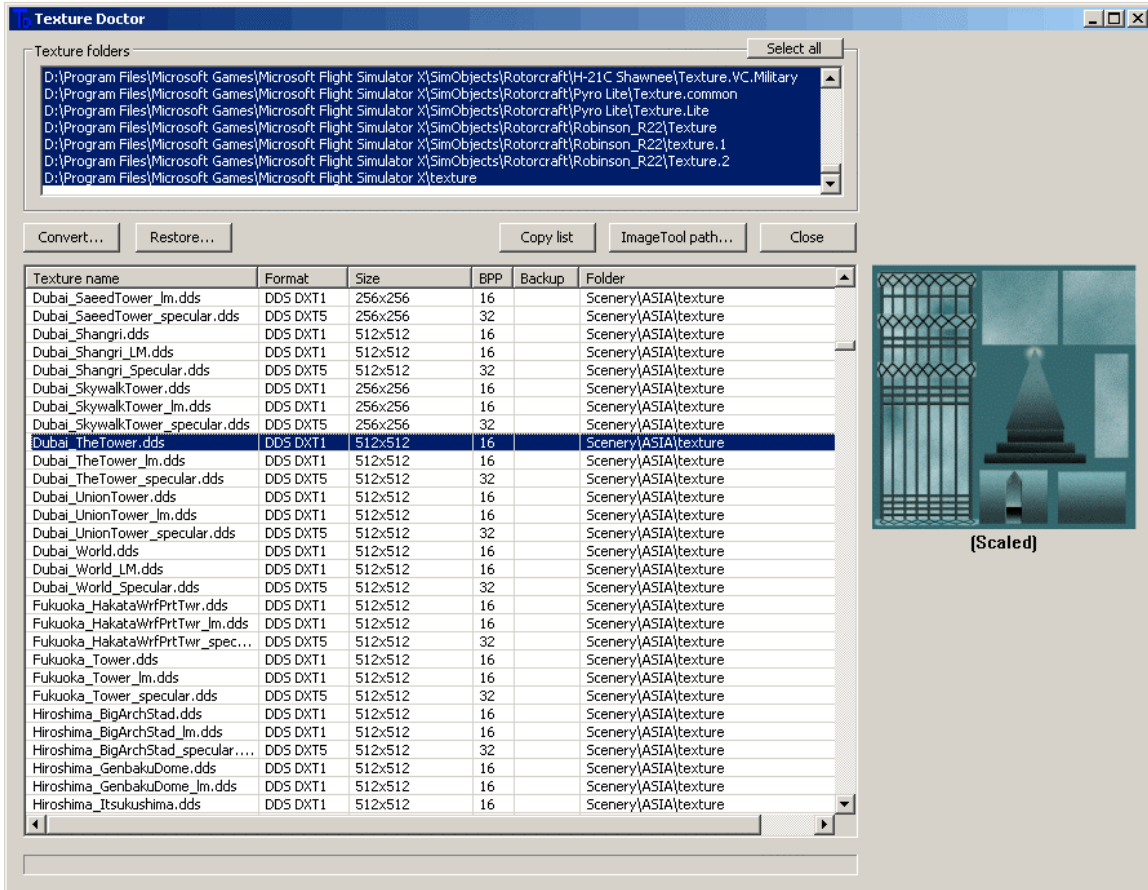


There are two lists, a list of **Texture folders** above and a list of **Texture files** below.

The **Texture folders** list contains all folders with textured found in the FS installation – this includes both aircraft and scenery textures. You can select one or multiple texture folders to explore in this list. The **Select all** button selects all folders.

The **Texture files** list contains the listing of all texture files in the folders selected. For every texture file, it shows the following information:

| Texture name | Name of the texture file |
|---|---|
| Format | Texture format (see below) |
| Size | Size of the texture, in pixels |
| BPP | Bits-per-pixel. This determines how many color gradations the texture file can contain and also has effect on the file size. Note that increasing bits per pixel for an existing will not make colors nicer, because the color information has already been lost earlier. |
| Backup | A * in this column indicates the texture has been converted to another format with Texture Doctor and the original (unconverted) texture is still available as backup. |
| Folder | The folder where the texture file resides. Subfolders of the main FS program folder are shown without the absolute path (e.g. **texture** means the main **texture** folder). |

The following texture formats can appear:

| DXT1 | Compressed texture format used in FS2004 and above. The transparency information ("alpha") is contained in a single bit, so that a pixel can be either transparent or opaque, but without any gradations of transparency. Most FS2004 textures are in the DXT3 format. |
|---|---|
| DXT3 | Compressed texture format used in FS2004 and above. Unlike DXT1, this format can hold varying gradations of transparency. Compared with DXT1, DXT3 textures occupy twice as much disk space and graphics memory, thus this format is only desirable when there is transparency information. |
| DXT5 | Compressed texture format used in FSX. It is similar to DXT3, except that the transparency information is stored with a higher quality. FS2004 doesn't support this format and may crash if it encounters a DXT5 texture. |
| DDS DXT1 | DXT1 texture stored in a slightly different format. Used by FSX only. |

| DDS DXT3 | DXT3 texture stored in a slightly different format. Used by FSX only. |
|---|---|
| DDS DXT5 | DXT5 texture stored in a slightly different format. Used by FSX only. |
| BMP | Uncompressed bitmap file. This format was used for textures prior to FS2004 and is still widely found in many add-ons. Textures in this format do not have mipmaps (reduced-resolution images used for smooth display from greater distance), which can lead to jitter on the surface.<br><br>Textures in this format no longer work with FSX SP2 or Acceleration Pack. |
| FS5 R8 | Texture format that was originally introduced with Flight Simulator 5 back in 1993. Textures in this format are still occasionally found in scenery files. This format no longer works with FSX SP2 or Acceleration Pack. |
| Unknown | This means Texture Doctor was unable to determine the file format. It can mean a non-texture file in a texture folder, such as a readme. |

When you select a texture file in the **Texture files** list, a small preview of it appears next to the textures list.

The **Copy list** button copies the list of texture files to the clipboard. You can paste it into Excel.

## Finding textures that match a certain criteria

You can sort the list of texture files by clicking on individual column headers. This allows you to easily find textures based on certain criteria.

For example, to find all textures in the uncompressed BMP format, select all texture folders by clicking on the **Select all** button first. This will fill the list with all textures installed in Flight Simulator. After that, click on the **Format** header, to sort the list based on the texture format. Then simply scroll the list to the first texture in the BMP format, which will be followed by all others in the same format.

Note: It is recommended to wait until Texture Doctor has finished scanning all texture files before using the sort function. Otherwise, textures not yet scanned will appear in the "Unknown format" section. The list will not be automatically re-sorted once Texture Doctor has collected information about these textures.

## Converting textures into a different format

There are many reasons to convert textures into a different format.

If you have legacy textures in the BMP or R8 format, converting them into DXT1 or DXT3 can both improve the image quality (greatly reduces jitter) and performance (the

compressed texture takes less graphics memory and is natively supported by nearly all graphics cards).

You may want to convert a texture back into the BMP format, edit it with your favorite graphics editor and convert it back into the original format.

Different graphics cards have varying performance with different texture formats. You may achieve better performance by converting the textures to another format.

With FSX, you may be able to achieve better performance by converting textures to the corresponding DDS formats. In this case, remember not to share the converted textures with any FS2004 users, because they would no longer work with FS2004.

With Texture Doctor it is very easy to convert textures, so you can simply experiment. Using the built-in restore function, you can always go back to the original textures if you don't like the results.

**To convert** one or several textures into another format, select them in the list and press the right mouse button. A context menu will appear showing the formats available. Select the desired new format. The textures selected will be converted into the new format, the progress will be shown in the status line at the bottom of the window. Instead of the context menu, you can also use the **Convert** button in the window.

During conversion, Texture Doctor automatically bakes backup copies of the old texture files. They are placed into the **Texture Doctor Backups** subfolder of the corresponding texture folder. Backups allow you to easily undo any conversions. If there is a backup for a file already, Texture Doctor will not overwrite it during subsequent conversions. An asterisk will appear in the **backup** column next to converted files, meaning a backup is available.

Note that if you are using ImageTool from the FS2004 SDK, the conversion into DDS formats will not be available.

**To restore** one or several textures using the backup, select them in the list, press the right mouse button and select **Restore from backup** from the context menu. When you restore a texture from a backup, the backup file will disappear.

To remove backups, navigate to the texture folder(s) in question with Windows Explorer and remove **Texture Doctor Backup** subfolders. After doing so, you will no longer able to restore any textures you converted.

To see a list of all textures you converted with Texture Doctor (provided you still have backups available), simply select all texture folders and then sort the list of textures using the **backup** column. Converted textures will appear at the top of the list.