DSF Toolbox

Manual Version 1.31

Content

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Important Information

Copyright

Acknowledgment

DSF Toolbox is based on wxWidgets.

Disclaimer

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1. Overview

The *DSF Toolbox* is a set of tools to work with files in the DSF file format for DAZ Studio 4.0 and 4.5 content. It contains three tools for conversions between the DSF and the OBJ format. It allows you to translate a DSF geometry file into OBJ format and to generate UV and morph files in DSF format from OBJ format. Furthermore, the hidden clone morphs (used by auto-fit) may be transferred to regular morphs. There are also two editors for DSF files, one to modify the channel settings of morphs and other controllers, and one to edit the generic asset info. Finally, it provides a quick way to (de)compress DSF and DUF files.

1.1. User Interface

The *DSF Toolbox* is separated into seven tabs: one for the options, and one for each tool:

- *Options*: common options for all or several tools; application version info
- *Dsf2Obj*: converts a DSF geometry file into an OBJ geometry file
- *Obj2UV*: creates a DSF UV set file from an OBJ geometry file
- *Obj2Morph*: creates a DSF morph file from a morphed OBJ geometry file
- *Clone2Morph*: creates a DSF morph file from a DSF clone morph file
- *Channel*: editor for channel and presentation data in DSF controller files
- *Asset Info*: editor for asset info data in DSF files
- *Compress*: (de)compresses DSF and DUF files

Note: You can change the size of the *DSF Toolbox* window. If some parts of the interface are overlapping or not visible, please enlarge the window.

1.2. Selecting Files and Folders

Whenever you have to specify a file or folder from the file system, there is a button *File* or *Folder* to open a selection dialog. You can also select the main input file by drag'n'drop from a file manager like Windows Explorer or Mac Finder.

Unfortunately, the content of DAZ Studio files can't be determined by the file extension. Instead, the content type depends on the location where the DSF file is stored. DSF files with geometry and figure data are stored below the *data* folder of the DAZ Studio content folder. Morph files have to be located in or below a folder with the name *Morphs* located in the same folder as the geometry DSF file, UV sets in or below the folder *UV Sets*.

Note: Because the name and path of a DSF file are also used as internal identifiers, saving a DSF file with a different name is not supported. Also, you should not rename or move DSF files after you created them.

Note: *DSF Toolbox* supports compressed OBJ files (OBZ). However, only few other tools and applications can read or write OBZ files. E.g. Poser may use OBZ for file references, but not for geometry import.

1.3. Options

The options in the *Options* tab affect all or several tools.

DSF Asset Info

This is the asset info for DSF files generated by *DSF Toolbox* in the *Obj2UV* and *Obj2Morph* tabs. You may set *author*, *email* address, and *website* as well as a *revision* number, or you may leave any of these fields empty. If you enable *Set time stamp*, the time and date of creation is included in the asset info.

Scale Factor

The scale factor is used when converting geometries between DSF and OBJ in the *Dsf2Obj* and *Obj2Morph* tabs. You may select *DAZ Studio* to leave the scaling unchanged, *Poser* for the appropriate scaling for Poser, or *Custom* to enter any other scaling factor. The custom value is the factor by which an OBJ geometry is enlarged or a DSF geometry is reduced for conversion.

Other Options

Enable *Use file format compatible with DAZ Studio 4.0* to create files that also work with DAZ Studio 4.0. Otherwise, the files use the format for DAZ Studio 4.5.

If you enable *Use compression for created files*, the files created by DSF toolbox are compressed for smaller file size, but are no longer directly readable by text editors. (This option does not affect files that are modified only by DSF toolbox.)

Enable *Keep backup when overwriting files* to keep the last version as backup file when saving a created or modified file. Any existing backups are deleted. (It is **not** recommended to disable this.)

Enable *Assume figure id is same as file name* to use the file name (without path/extension) as figure id. Otherwise, the DSF file is loaded to extract the figure id, which may take a moment. (The figure id is required in the *Obj2UV* tab for DAZ Studio 4.0 format only.)

Enable *Unload file when leaving tab* to free memory by unloading the currently loaded file in the *Channel* or *Asset Info* tab if you switch to another tab.

2. Conversion Tools

The four conversion tools all work in a similar way: You enter the input file(s) and the output file, select some options, and finally click the *Create* button to create the output file based on these settings.

There is also a batch mode for each tool. The *Batch* checkbox toggles between the single file mode and the batch mode. In batch mode, you can add several files to the file list. Right click into the list for a context menu to remove all or selected files from the list. For output, you select a folder where the converted files are stored with the same file name as the input file.

Important: Be sure to read section 1.2 about selecting the correct DSF files and file locations.

2.1. DSF to OBJ

In the *Dsf2Obj* tab, you can convert a DSF figure or geometry file into an OBJ geometry file. Optionally, you may apply a morph to the geometry. You can select to include groups, material regions, and an UV mapping in the OBJ file. For the UV-mapping, enable *Use default* to use the default set or select one of the DSF files with an UV set for the input geometry. Leave the field blank for no UV mapping. In batch mode, it's not possible to apply a morph or to use a different UV set than the default.

Note: When you specify the input file with the *File* button or by drag'n'drop, the drop down list for the UV sets is filled automatically with all available UV sets. Otherwise, use the *Init* button to initiate the drop down list.

Note: The created OBJ geometry preserves the original vertex and polygon order. It may be used as starting point for your own morphs and UV maps to create with DSF Toolbox after altering the geometry. It can be used also together with the CR2 exporter of DAZ Studio 4.

Creating an OBJ for a Genesis CR2

It's pretty simple to use *Dsf2Obj* to create the OBJ required by the CR2 exporter when creating a Poser version of Genesis. In the options, set the *scale factor* to *Poser*. Select the Genesis figure DSF file (/data/DAZ 3D/Genesis/Base/Genesis.dsf in the DAZ Studio content folder) as input. Include groups, materials, and the UV set of your choice. Store the OBJ or OBZ file in the geometries folder of one of your Poser runtimes. Then, select this OBJ file during the CR2 export.

2.2. OBJ to UV

In the *Obj2UV* tab, you can create an UV set as an DSF file. It is important, that the OBJ input file has the same vertex and polygon order as the original geometry. If the polygon order was changed, you can specify the geometry DSF file to correct the polygon order. Otherwise, leave the DSF geometry input blank for faster conversion. Optionally, you can specify a name for the UV set, otherwise the output file name is used.

When using the file format for DAZ Studio 4.0, you have to specify a target figure, which is not loaded for conversion, but only to set identifiers in the generated DSF file. The first field is for the internal figure id, the second for the figure file id. Click on the *File* button to select the DSF file with the figure data to determine these ids.

2.3. OBJ to Morph

In the *Obj2Morph* tab, you create a morph from a morphed OBJ geometry file. It is important that the morphed OBJ input file has the same point order as the DSF geometry. In addition, you have to specify the file for the DSF geometry and a channel template (see below). The name of the morph is the same as the output file name.

Note: In DS, set "Resolution Level" to "Base" before exporting an OBJ to create morphs.

With *Adjust joints* enabled, the morph will adjust the joints to the modified shape. This is necessary only for extreme morphs that change the overall proportions.

If you enable *Set details in "Channel" tab*, the created DSF is loaded in the *Channel* tab where you can modify all channel settings. Please note that in this case the DSF file is **not** saved until you do so with the *Save DSF* button in the *Channel* tab.

Note: The *details* option is not available in batch mode. Instead, you can edit the generated files in the *Channel* tab afterwards if required.

Channel Templates

Because there are so many different channel and presentation parameters, you cannot set them in the *Obj2Morph* tab directly. Instead, you define templates with typical values. You can select a template from the *Channel Template* drop down list. To create a new template or to edit an existing template, enter the name for the template and click on the *Add/Edit* button. If the name is not yet used, a new template is created. In any case, the *Channel* tab is shown where you can edit the parameters and save the template (see below). Use the *Delete* button to delete the selected template.

2.4. Clone to Morph

In the *Clone2Morph* tab, you can translate the clone morphs (used by the auto-fit tool) into regular morphs. All you have to do is to select a clone morph file as input and a new file as output.

Because the clone morphs are made from figures with a different rigging, you should enable *Adjust joints* to adjust the rigging to the morph shape. Otherwise, the figure will not bend correctly.

If you enable *Set details in "Channel" tab*, the created DSF is loaded in the *Channel* tab where you can modify all channel settings. Please note that in this case the DSF file is **not** saved until you do so with the *Save DSF* button in the *Channel* tab.

Note: Genesis includes the clone shapes for Victoria 4, Michael 4, and Kids 4 in the folder data/DAZ 3D/Genesis/Base/Morphs/DAZ 3D/Base. (The other clone files in that folder are **not** what they seem, they are just doubles of V4 and M4.)

3. Editing Tools

The editing tools for the channel parameters and the asset info have the same structure. They can be used with single files or to modify several files at once. They have the following buttons:

- *Load DSF*: Load a single DSF file for editing.
- *Save DSF*: Saves a previously loaded single DSF file.
- *Set in DSF*: Applies modifications to several DSF files at once.
- *Reset*: Resets all parameters. If a single file was loaded, it is unloaded.

The checkboxes in the leftmost column (and for *Maximum*) indicate, whether a particular parameter is used or not. For the other checkboxes, the undetermined state means that a parameter is not used.

Notes:

- Most parameters are text only and may be blank.
- Don't use the quotation mark sign " in any text fields or you will destroy the file formatting.
- When using drag'n'drop, dropping a single file will load it in the editor, while dropping several files will modify all of them (even if there is nothing selected to modify).
- The editors load and save the complete DSF file. Don't switch between editors while editing the same file or one editor will overwrite the changes of the other.
- The *Channel* editor is also used for morph channel templates and details of created morphs.

Editing a Single File

When you load a single file for editing with the *Load DSF* button, the editor indicates which parameters are present in the DSF file and which values they have. You can modify any value and add any missing parameter. However, it's not possible to remove a parameter. Marking an existing parameter as unused will only leave it unmodified. The changes are applied when you save the file with the *Save DSF* button.

Modifying Several Files

Mark any parameter you want to change as a used parameter and enter the desired value. Then, use the *Set in DSF* button or drag'n'drop to apply these modifications to any number of files.

3.1. Channel Editor

The *Channel* editor allows to change the values for all parameters in a morph or other controller DSF file. Most of these values can be changed also inside of DAZ Studio, but only for the current scene. The meaning and correct values for most parameters should be straightforward.

Remarks:

- *Value*, *Minimum*, *Maximum*, and *Sensitivity* must be real numbers.
- *Region* depends on the target figure. The drop down list contains the regions for Genesis.
- *Group* should start with a slash sign /. Further slashes separate sub-groups.
- I have no idea, where *Label* and *Description* are shown or used in DAZ Studio.
- *Large icon* and *Small icon* should be PNG images with a path relative to data.
- *Large icon* should be 147x185 with appropriate transparency to not overlap with the slider.
- *Small icon* should be 39x39 with appropriate transparency to not overlap with the slider.
- *Small icon* seems to be ignored if there is no *Large icon*.
- Click on the *Color gradient* buttons to select a color. Click on *None* to reset the colors. (If no colors are set, the user defined color without gradient is used instead in DAZ Studio 4.0, but black is used in DAZ Studio 4.5.)

3.2. Asset Info Editor

The *Asset Info* editor allows to change the values for the info data that may be included in any DSF or DUF file.

Remarks:

- All fields are text and may have any value.
- *File*, *ID*, and *type* can't be changed, they are for information only.
- If the file is compressed, this is indicated by showing *(zip)* next to *File*.
- Click on *Defaults* to set author, email, website, and revision to the values from *Options*.
- Click on *Now* to set the current time and date in the *Modified* field.

4. Compression Tool

DSF and DUF files are text files, but may be compressed to save disk space. In the *Compress* tab, you can quickly *compress* or *decompress* these files.

There are three ways to select files for (de)compression:

- With the *File* button, you can select one or several files.
- With the *Folder* button, you can select a folder.
- You can *drag'n'drop* any number of files or folders.

When you select a folder, all files with the extension DSF or DUF in this folder are (de)compressed. Enable the option *Include sub-folders* to include also all DSF and DUF files from sub-folders of the selected folder.

Because (de)compression doesn't change the content of the files and is reversible, it's usually not necessary to keep a backup. That's why the *Compress* tab doesn't use the *backup* setting from the *Options* tab, but has its own option to *keep backup*s.

Version History

Version 1.0, 16.12.2011

Initial release

Version 1.1, 20.08.2012

Bugfix:

- Obj2UV always showed an error message

Changes:

- read/write compressed DSF
- option to compress created DSF
- asset info indicates compressed DSF files
- new tab to (de)compress DSF files
- added extension DUF in file filters
- file format changed to be compliant with DS 4.5
- option to use DS 4.0 compatible file format

Version 1.2, 17.05.2013

Bugfixes:

- Obj2Morph: fixed problem with wrong parent id in morphs
- Obj2Morph: adjust joints only worked for Genesis
- Clone2Morph: fixed problem with format of newer clone files

Changes:

- full Unicode support
- user-dependent location for configuration file and templates
- changed time format to ISO 8601
- Dsf2Obj: optionally, apply morph when creating OBJ

Version 1.3, 10.03.2014

Bugfixes:

- large numbers (+/-4.2e+9) were written wrong in DSON files
- DSON files with quotation marks in strings were not read
- Clone2Morph didn't work with Genesis 2 Male
- adjust morph: also calculate end point

Changes:

- improved joint adjustment for morphs
- progress dialogs with cancel for channel, asset info, and compress batch changes

Version 1.31, 22.02.2015

Bugfix:

- files didn't load if there is no space between a number and the following closing bracket