

3D Studio Geometry Import Converter

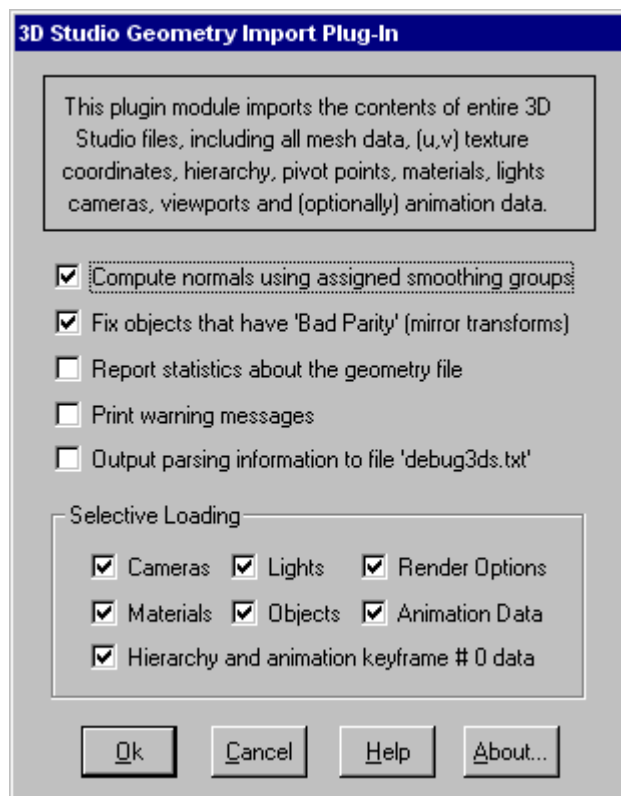
This geometry import converter reads in Autodesk 3D Studio '.3ds' binary format files in their entirety. The converter extracts and converts all 3D Studio data to equivalent NuGraf internal data representations. An imported .3ds file should render exactly as it would in 3D Studio (including all textures, the background color scheme and any atmospheric effects). Import of all animation data is also supported in specific versions of Okinos NuGraf Rendering System and PolyTrans programs.

You may notice that a .3ds file takes longer to load into NuGraf than with 3D Studio. The reason for this is that the geometry data is optimized as it is being loaded into NuGraf; in particular, redundant texture and U/V tangent coordinates are deleted, and bad texture coordinates are eliminated. These optimizations will significantly reduce the amount of memory that the geometry data consumes. Also, U and V tangent vectors are automatically computed if texture coordinates are specified for the geometry (these vectors are required for bump mapping).

IMPORTANT::

You must add a directory path to the location on your hard disk where the 3D Studio or 3D Studio MAX texture map images are stored (usually in 'c:\3ds4\maps'). This directory path can be specified by the **Preferences/Configure File Search Paths** menu option located within the main program. Add the new directory path within the **Texture Bitmaps Search Path**. If you do not set up this path properly then the NuGraf renderer will not be able to find the texture images referenced by the .3ds files. Also, export filters which must reference these bitmap files will not be able to locate them either.

Dialog Box Options



Compute Normals Using Assigned Smoothing Groups

If this checkbox is check-marked (the default) then vertex normals will automatically be

computed based on the smoothing information associated with each object in the 3D Studio file. This smoothing operation will allow the imported objects to appear smooth when rendered. If this checkbox is un-checked then no smoothing will be performed resulting in objects which appear to be flat shaded when rendered.

Fix Objects that have Bad Parity (X axis Mirror Transforms)

If this checkbox is check-marked then special code will be enabled which will be used to detect and correct for the infamous **Bad Parity** problem within 3D Studio files. Bad Parity is a Kinetix buzzword to mean that an X axis mirror transform has been applied to the object in 3D Studio r4. If this mirror transform is not detected then imported objects may not end up in their correct locations. This option is enabled by default but you can disable it if animated objects have objects that appear to be out of place.

Report Statistics About the Geometry File

If this checkbox is check-marked then parsing statistics will be displayed in the message window after the 3D Studio file has been imported.

Print Warning Messages

If this checkbox is check-marked then warning messages from the 3D Studio file parser will be printed out to the message window.

Output Parsing Information to File debug3ds.txt

If this checkbox is check-marked then the contents of the 3D Studio binary file will be verbosely described and output to the file **debug3ds.txt**.

Selective Loading

The following checkboxes allow all or only some parts of the 3D Studio file to be loaded:

Cameras

If checkmarked, then load in the camera definitions.

Lights

If checkmarked, then load in the light definitions.

Render Options

If checkmarked, then load in the background render options (colors, bitmaps, etc.), the depth-cueing parameters and the fog parameters.

Materials

If checkmarked, then load in all of the material definitions.

Objects

If checkmarked, then load in all of the objects.

Animation Data

If this checkbox is enabled then all the animation keyframe data from the 3D Studio file will be imported into the program. This animation data can then be exported to the export file formats which currently support output animation data. This capability is only available when running this converter with Okinos PolyTrans or NuGraf Rendering System software. If this option is grayed-out then animation import has not been licensed for your version of these software packages.

Hierarchy and Animation Keyframe #0 Data

If checkmarked, then all the hierarchy and pivot point information is loaded in from the 3D Studio file. In addition, animation data from the first keyframe is loaded and applied to the objects so that they are positioned properly in space. If this option is un-checkmarked then no hierarchy information is loaded (all objects will be attached to a single null node).

