

Strata StudioPro Geometry Import Converter

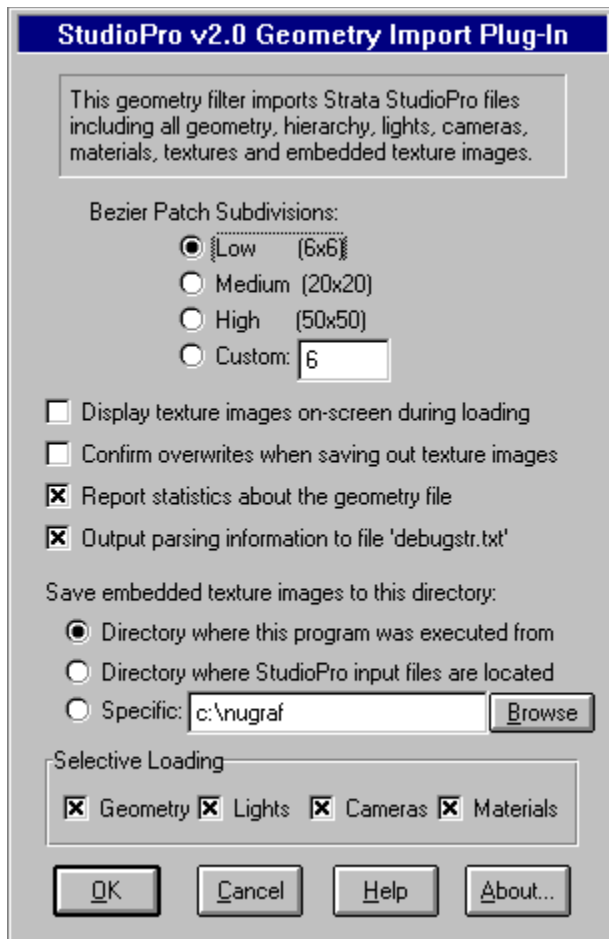
This geometry import converter reads files which are in the **Strata StudioPro** v1.50 and v1.75 file format. This converter is probably one of the most complete Strata StudioPro file readers next to that of the one included with Strata StudioPro itself. You will find that most StudioPro models are of quite high quality, with good use of bezier patches (for high resolution modeling) and good use of shading + texture mapping to give realistic rendered results.

This converter reads in almost every aspect of a StudioPro file so that the file can be rendered with little or no modifications by the NuGraf renderer, or exported and rendered faithfully with an external renderer such as Autodesk's 3D Studio. All in all this is one of the more complex import converters. See the end of the this file which describes which entities are handled by this converter.

NOTES:

1. If you are converting a Strata StudioPro file which was obtained from an Apple Macintosh machine then you must manually add the **.vis** file extension to these files.
2. There is a good chance that this converter will not work on future files saved from Stratas StudioPro program. This is due to the fact that the StudioPro file format does not allow unknown chunks to be skipped over. At such a time this converter will be updated with the file format information must be officially obtained from Strata Corporation.
3. Strata StudioPro files are unusual because they embed the texture images right inside the scene file itself (almost all other file formats do not do this). This converter extracts these embedded images and stores them on disk as TIFF files with the first few letters of the texture image filename coming from that of the original StudioPro input filename. The directory where these filenames are stored is controlled with the **Save Embedded Texture Images to this Directory** option described below.
4. Please be wary of any StudioPro files which were not written out by the Strata StudioPro program itself - many of such files are corrupt or written in a non-standard method. For example, the StudioPro files on Viewpoint Datalabs **5 Free for Siggraph 95** are some such examples - they have placed each and every polygon within its own object definition rather than placing all polygons within one object; in addition, many of these example models have incorrect entity offsets that are completely illegal. This converter tries to detect such bad files and will try to read the files if possible.

CONVERTER OPTIONS:



The following information explains the various options on the dialog box:

Bezier Patch Subdivisions

Many StudioPro models are created using Bezier patches rather than polygons. Bezier patches are stored in the file using a mathematical description of a smooth surface instead of a rough approximation by polygons.

During the export process (say, when exporting a StudioPro file format to 3D Studio), these Bezier patches must be converted to polygons. The **Bezier Patch Subdivisions** parameter specifies how finely to subdivide these bezier patches when turning them into polygonalized surfaces. Higher numbers created more polygons, and thus smoother surfaces, but at the expense of larger exported files and longer rendering times.

The program defaults to **low** (6x6 subdivisions). A good way of determining if you need to increase this subdivision level is check to see if the exported file is being rendered properly in the destination renderer. In many cases StudioPro bezier patches are highly curved which causes non-planar polygons to appear in the exported file; these non-planar polygons are illegal in many rendering programs. **To solve this non-planar polygon problem, just increase the number of subdivisions** (so that the bezier patch surface is turned into many more smaller polygons).

Low	= 6x6 = 36 polygons per Bezier patch.
Medium	= 20x20 = 400 polygons per Bezier patch.
High	= 50x50 = 2500 polygons per Bezier patch.

Custom = User defined. If you enter a number greater than 1 in this type-in box then the bezier patch will be subdivided into the square of this number. For example, if you enter 4 then 16 polygons will be used. If you enter 10 then 100 polygons will be used.

Display texture on-screen during loading

Strata StudioPro files are unusual because they embed the texture images right inside the scene file itself (almost all other file formats do not do this). This converter extracts these embedded images and stores them on disk as TIFF files to the directory specified by the **Save Embedded Texture Images to this Directory** option described below.

If this checkbox is enabled then the extracted bitmap images will be displayed in a window while the file is being loaded.

Confirm overwrites when saving out texture images

Strata StudioPro files are unusual because they embed the texture images right inside the scene file itself (almost all other file formats do not do this). This converter extracts these embedded images and stores them on disk as TIFF files to the directory specified by the **Save Embedded Texture Images to this Directory** option described below.

If this checkbox is enabled then the program will first confirm whether a texture file (which is being extracted from the StudioPro file and saved to disk) should be overwritten. If the user does not want the file, which already exists on disk, to be overwritten then the converter will skip it. If this checkbox is not enabled then any potential file overwrites will not be confirmed.

Report statistics about the geometry file

If this checkbox is enabled then the converter will report the number of objects, polygons, cameras, lights and materials created.

Output parsing information to the file debugstr.txt

If this checkbox is check-marked then the contents of the Strata StudioPro file will be verbosely described and output to the file **debugstr.txt**.

Save Embedded Texture Images to this Directory

Strata StudioPro files are unusual because they embed the texture images right inside the scene file itself (almost all other file formats do not do this). This converter extracts these embedded images and stores them on disk as TIFF files to the directory specified by this option.

Directory where this program was executed from

The extracted TIFF images will be saved in the directory where this program began execution (which is usually the same as where this program is located on disk). This is not a preferable option since this directory will eventually become cluttered with TIFF images extracted from StudioPro files.

Directory where Strata StudioPro input files are located

The extracted TIFF images will be saved in the same directory where the Strata StudioPro input file was read from. This is the default but in general you should store the TIFF files in a common textures directory.

Specific (+Browse button)

The extracted TIFF images will be saved in the directory indicated by the type-in edit box. If no directory is shown, or you want to change the current output directory, then the **Browse** button can be pressed to select the desired destination directory.

Selective Loading

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

Geometry

If checkmarked, then load in all of the object geometry.

Lights

If checkmarked, then load in the lights.

Cameras

If checkmarked, then load in the cameras.

Materials

If checkmarked, then load in the materials and textures.

Currently Support StudioPro Entities

TCONE
TCUBE
TBEZIERMESH
TBEZIERPATCH
TDISC
TENTITY
TINSTANCE
TGROUP
TCAMERA
TMODEL
TMESH
TDIRECTIONALLIGHT
TPOSITIONALLIGHT
TBULEMICMESH
TSELECTIVEMESH
TORDEREDBEZIERMESH
TSPHERE
TSPOTLIGHT
TIMAGEMAP
TRGBIMAGEMAP
T2DRECT
TATTRIBUTE
T2DPOLYLINE
T2DHOLE
T2DPOLYGON
TSHADER
TMETALSHADER
TPOLYLINE
THOLE
TPOLYGON
TSURFACEMAP

Currently Non-Supported StudioPro Entities

T3DPAINT
TCUBEROUNDED
TEXTERNAENTITY
TSKINENTITY
TSKINENTITYNEW
TTRIANGLE

TSMOOTHTRIANGLE
TBLENDINGSHADER
TEXTERNALSHADER
TENVIRONMENT
TSHADERENVIRONMENT
TEXTERNALENVIRONMENT
THORIZONENVIRONMENT
TPICTUREENVIRONMENT
TRGBENVIRONMENT
TLAYER
TLINKAGES
T2DENTITY
T2DBEZIERCURVE
T2DBEZIERHOLE
T2DBEZIERREGION
TCLOSEDRIB
TOPENRIB
T2DGROUP
T2DOVAL
T2DROUNDRECT
TQUICKDISPLAYLIST

