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[Visit the YafaRay website](#)

[YafaRay User Guide Map](#)

[YafaRay Crash Course](#)

YafaRay4tS



YafaRay is a free open source Monte Carlo raytracing engine produced by the YafaRay Team. Raytracing is a rendering technique for generating realistic images by tracing the path of light through a 3D scene. YafaRay4tS is an open source scripting project created by members of the trueSpace community to add functionality to trueSpace7.61 for exporting YafaRay formatted XML files for reading by the YafaRay render engine. Please note that YafaRay4tS is provided without warranty or guarantee of fitness for any purpose. It is provided "as is" and any use of this software is done at your own risk.

YafaRay4tS - Features Overview



YafaRay4tS is implemented as an XML exporter that uses batch scripting to interface with YafaRay command line XML interface.

The YafaRay4tS user interface exposes the YafaRay render settings for you, so that you can have full control over the output produced. Included in the YafaRay4tS distribution are several features to make using YafaRay with trueSpace easier. This ranges from several optional Viewers to see your rendered results, to the YafaRay specific Light objects and YafaRay specific Direct3D materials for use inside trueSpace. Care was taken in designing the scene export to allow it to support as many of the built in trueSpace geometry types as possible, ranging from Sub-division surfaces to Morph objects. While vertex normals are not supported by YafaRay, YafaRay4tS does allow for an auto-smoothing angle to be set on a per object basis.

YafaRay4tS - Panels

While an icon interface is included with YafaRay4tS for convenience, most of the render settings work is done in the YafaRay4tS user interface panels. The YafaRay4tS project has focused on implementing as much of the full YafaRay features set as is possible from within trueSpace. As can be seen, YafaRay4tS is well on the way to complete YafaRay support! Much thought has gone into placing the YafaRay features and settings into logical groupings of panel elements to make the interface easier to use without sacrificing the full customizability and power of the YafaRay render engine

Lighting Method - At the top of each panel is the lighting method that will be used by the YafaRay render engine. When you choose a lighting method from this combo control from the Stack, it will switch to that lighting method aspect. Every lighting method has a common Anti-Aliasing Settings, General Settings, Output - Render File, and their relevant settings. This does not work from the Link Editor.

-- Anti-Aliasing Settings --

Filter - 3 Anti-Aliasing reconstruction filters to use when resampling:

Gaussian - Slight blurring

Mitchell-Netravali - Improves sharpness of the edges Default

Box - Equal weighting of all samples.

Min Sample - Number of samples to use on first Anti-Aliasing pass.

Pixel Width - Width of Anti-Aliasing pixel filter. [0-8]

Passes - Maximum number of Anti-Aliasing passes.

Inc Sample - Number of samples for additional Anti-Aliasing passes.

Threshold - Color threshold for additional Anti-Aliasing samples in next pass.

-- General Settings --

Ray Depth - Amount of times that rays can be reflected in specular surfaces or pass through transparent surfaces.

Transparent Shadow depth - Amount of transparent surfaces that shadow rays can get through to find light sources.

Gamma In - The default gamma value for all colors, lights and textures.

This value is used to convert these values to linear color space used by the Yafaray renderer.

Gamma Out - The gamma value target for the rendered image.

CPU Threads - Number of CPU threads used by YafaRay. [-1] All threads.

This number should be equal to the number of CPU threads in your computer or minus one if you find that using all the

CPU threads bogs down your computer.

Normal Shadows / Transparent Shadows - Switches from Normal to Transparent Shadows.

Save Alpha - Exports an alpha file in addition to the RGB output file.

Z - Channel - Enable the Depth Channel in the output file.

Clamp RGB - Color depth is reduced to a low dynamic range before Anti-Aliasing filtering.

-- Output - Render File --

View - If enabled YafaRay will render the Workspace view.

Camera - If enabled YafaRay will render the set Camera view.

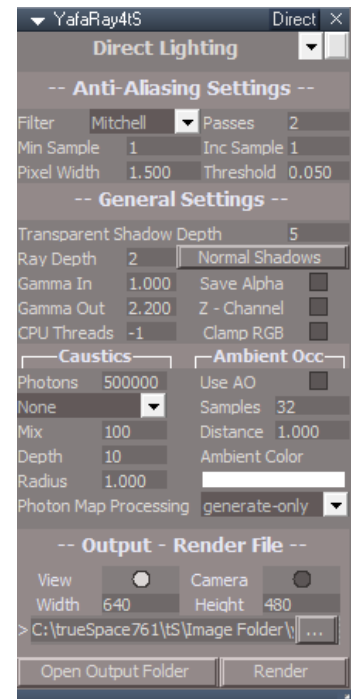
Width - The width of the image rendered.

Height - The height of the image rendered.

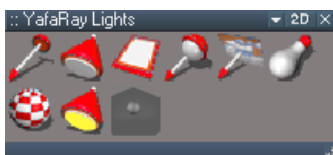
> File name for rendered image output. This is where the rendered results will be saved.

Open Output Folder - Opens the folder entered into the above path.

Render - Exports XML file and spawns the YafaRay renderer.



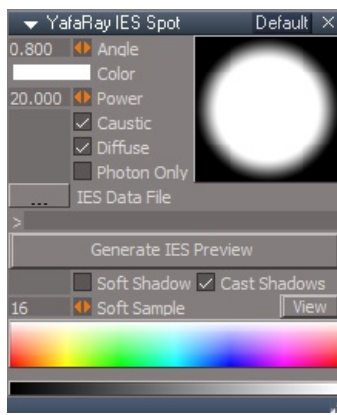
YafaRay Lights



YafaRay lights differ from trueSpace's built-in light objects so a set of lights has been created for YafaRay4tS to make it easy and intuitive to set up lights from within the trueSpace scene editing environment. The custom YafaRay specific light objects are available via a light library that is installed into the trueSpace main libraries when YafaRay4tS is installed.



Also an icon fly out for easy access to the custom light objects has been added to the YafaRay4tS toolbar next to the YafaRay Render and Settings icons fly out. All of the YafaRay light types are represented from within trueSpace. Each of the light objects has settings panels that will show up in the trueSpace's stack view panel tab, exposing the YafaRay specific light settings for easy editing.



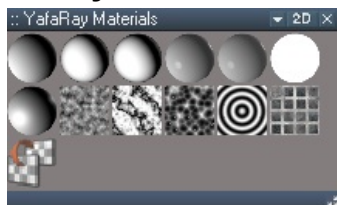
While it is impossible to accurately represent YafaRay photo realistic lighting from within trueSpace's real time viewport, care was taken to get as close an approximation as was practical. For example the YafaRay4tS light objects include built-in scripting so that adjusting the YafaRay parameters for power and size will cause the amount of light generated in the real time display to be updated as the values are changed. Also each light includes a convenient color picker for the light's color and a Color aspect for advanced color options.

YafaRay4tS Setup Library

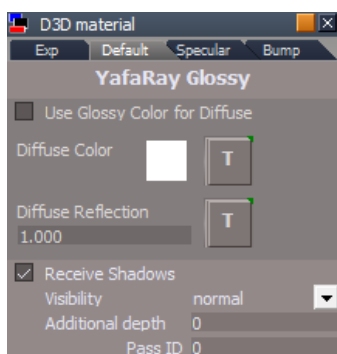


YafaRay4tS.RsScn with YafaRay Light setup and a YafaRay Camera. YafaRay4tS toolbar.RsObj script that reloads the toolbar. YafaRayVolume.RsObj Volume Region object for Uniform and Height Fog. YafaRay Camera.RsObj includes a script to select DOF distance and additional settings. EntryPoint.RsObj A YafaRay EntryPoint Camera. When the scene loads the view will switch to this Camera's view. In the YafaRay4tS/ Camera aspect, with this camera selected, select the Set Camera button. when rendering from a Camera View. Several objects that are used to create a D3D Preview of the Background. Tiff Loader.RsObj for loading and displaying Tiff images in trueSpace.

YafaRay Materials Library



Included with YafaRay4tS are custom trueSpace Direct3D materials. These materials mirror the YafaRay materials Shiny Diffuse, Glossy, Coated Glossy, Glass, Rough Glass, Blend, Texture Map in with which you can add an Image, Procedural Clouds, Marble, Wood, Voronoi, plus one special Light Material used to indicate that an object is to be used as an object light. Also included is a Blend Material Collection (3D Object) used with the YafaRay Blend material for blending two materials together.



By using Direct3D materials the user is able to get rudimentary feedback within the trueSpace real time display as to how the materials will look when rendered. It also allows for the user to use the built-in trueSpace tools for applying and inspecting the material. The YafaRay material settings have been added to the material panel so that they can be easily edited when viewing the material in trueSpace's Material Editor. Unfortunately because of the limitations of DirectX9 reflections and refraction cannot be simulated in the real time viewport. Instead, specular faking and specular mapping are implemented in the DirectX materials to help give the impression of reflective surfaces.

New Update - Clinton Reese @Clintons 3D Creations has single handedly brought the newest version of YafaRay v3.3.0 to YafaRay4tSv0.9.9 for trueSpace 7.61 and trueSpace 7.61 Standalone.

Almost all of the code has been revamped making it more efficient and fixed several items that were not working properly. He has developed a D3D Preview that closely matches YafaRay rendered results for Workspace's D3D real time view. All of the Background types and Materials, including his newly developed Blend, Texture Map, and Procedurals materials, are created with just a few clicks of a D3D Preview button. He has integrated YafaRay4tS into Workspace's Offline Renderer. Be sure to read the Beta Releases in the History page for all of the improvements and additions.

Beta Releases

YafaRay4tS version: 0.9.9

Tuesday, December 24, 2019

Add Model view animations to the render
 Render simple non-compiled D3D shaders as Glossy materials
 Internal viewer tif display support via external plugin Tif Loader
 Works with the latest Unofficial Update lights
 Incorporated the YafaRay4tS Scene Utilities
 Render Displays update
 YafaRay materials UI update

YafaRay4tS version: 0.9.0

Wednesday, July 11, 2018

Uses YafaRay v3.3.0
 Updated D3D preview to more closely match the rendered result
 New integrated render buttons
 Updated materials with texture maps for all compatible attributes
 Added blend values for texture maps
 Updated draw parameters
 New blend material
 New procedural texture maps - clouds, marble, voronoi and wood
 New YafaRay camera
 Updated IES lights
 Now works with standard trueSpace lights
 Enhanced light color picker
 New toolbar buttons for YafaRay camera, smoothing, volume primitive
 Sphere light exports scale instead of the size attributes
 Constant default color matches tS default background color
 New support for resizable iOptDisplay window not limited by resolution or image aspect ratio
 iOptDisplay
 New animation preview system
 New option to turn off caustic photons and diffuse photons for each light source.
 New background cast shadows option and background sun shadow option.
 New smart blur value for image based lighting
 New photon map saving and loading
 Additional rays on materials
 Russian roulette for path tracing
 New Denoise option

YafaRay4tS version: 0.8.0

Sunday, Jan 31, 2016

Partial save timer - save file while rendering to see progress
 Tile rendering options - linear or random for bucket style renders
 Custom text for the Draw PARAM's option
 New material options are at the bottom of the materials
 Pass ID is used with the render passes
 Visibility can be set to normal, shadow only, no shadows, invisible
 Receive Shadows uncheck so material does not get shadows

Threads default to -1

Render Passes

Check "enable" to turn on render passes
 Use the dropdown to select render passes
 RenderPassList.txt contains a list of all possible passes that can be typed into any slot. The channel isn't limited to the dropdown list selections. The
 RenderPassList.txt can be found in the trueSpace directory.

The Multi-Layer option at the bottom only applies to the exr file format YafaRay 0.1.2 Beta support:

YafaRay4tS version: 0.7.5

Sunday, July 24, 2011

trueSpace 7.61 version required and is not backwards compatible.

Improved skeletal meshes/Actors with animation support.

Skeletal meshes and Characters, will export if you apply SDS to the mesh. The first Level of SDS is the preferred method unless the mesh is already subdivided.

Skeletal meshes will also export if you apply a morph to the character. Apply morph then right click to immediately exit the tool.

Support for multiple materials on one mesh.

Fixed mesh normals for better glass objects.

Spotlight and Omni light power exports the same as Blender with a export power = power^2 .

Area and Sphere lights have a render option to make them visible.

Area light has a new mesh so when the mesh is at (0, 0, 0) the resulting light is also at (0, 0, 0).

Adjusted light attenuation parameters to make the preview more closely match the render.

Does not lose camera selection if the scene name changes.

Glass material absorption value was not connected so value was never used.

Added a strength control to the glass material to control the D3D transparency preview (no effect on the final render).

Bump map preview for materials.

Changed the default render parameters to match Blender's UI values.

YafaRay4tS materials default to the corresponding Blender material default values.

Added a global input gamma that is applied to colors, lights and textures to translate them to linear color space used by YafaRay.

Gamma value does not affect the display in trueSpace 3D viewport.

Added DarkTide's sun sky background option.

Added support for rendering to the OpenEXR file format (exr).

New aspects for each Lighting Method.

YafaRay4tS Settings button shows the YafaRa4tS panel's presently used Lighting Method aspect in the Stack.

YafaRay4tS Export and Render button no longer shows the YafaRa4tS panel in the Stack with the LMB.

YafaRay4tS Export and Render button shows the YafaRa4tS panel's presently used Lighting Method aspect in the Stack with the RMB.

Diffuse Reflect Map fixed in new improved Yaf Coated Glossy and Yaf Glossy materials.

New improved YafaRay4tS Spot light with Hotspot generator.

Updated YafaRay4tS Help file.

New tS7.61 YafaRay4tS Installer script.

YafaRay 0.1.2 Beta support:

Requires YafaRay version 0.1.2 beta to be setup with YafaRay4tSv0.7.5 and the YafaRay 0.1.2 xml format - beta checkbox enabled, located in the Setup aspect.

Only one version of YafaRay can be installed at one time.

New file formats hdr, jpg, png and tif.

Save Alpha located in the Lighting Method aspects. - Exports an alpha file in addition to the rgb output file.

Z - Channel option works.

Z - Channel option works.

New Volume Region mesh: Uniform and Height Fog work with the YafaRay Volume.RsObj

Support for normal map textures.

Rough Glass material.

Photon only and soft shadow parameters for the Spot light.

IES Light with preview.

SPPM lighting method (not working at this time for the xml renderer, YafaRay version 0.1.2-Beta2).

YafaRay4tS version: 0.7.0

Thursday, June 11, 2009

trueSpace 7.61 version required and is not backwards compatible.

Animation rendering is now supported. Support is included for sequential image batch rendering to occur in the background while you continue working inside trueSpace.

YafaRay4tS version: 0.6.1

Tuesday, May 5, 2009

Setup directories now handled correctly, and YafaRay4tS will guess YafaRay install location if not found at location specified.

Texture handling fixed. This fixes the mirror color texture bug for Shiny Diffuse material

TGA Viewer app added

internal viewer panel added

Support for custom external viewer added.

Lights, Materials, setup objects moved into separate libraries.

Light objects changed to quadratic falloff and the export values adjusted accordingly.

Scripts added to Area and Sphere light objects to have size affect visual display brightness.

Gamma scripting for real time texture display in materials now adjusts relative render target value.

Help file added.

Fixed a bug with Glass Material absorption toggle not working. Also added option for absorption dist. of 0.0 to set logarithmic absorption.

Yaf(a)Ray4tS version: 0.6.0

Saturday, February 14, 2009

Full geometry support with UV mapping

Support for all YafaRay light types.

HDRI, IBL, and background shader support

Photon mapping, Caustics, GI, and Final Gather

Fog

Multi-threaded rendering

Mapped versions of the following YafaRay materials:

Glossy

Coated Glossy

Shiny Diffuse

Glass

Rendering from View or Camera

Limitations:

This current version of Yaf(a)Ray4tS doesn't support Skinned (Actor/Skeleton) objects.

Fog currently is non-functional.

Animation is not supported.

Multiple materials on a single object are not supported at this time

YafaRay4tS

YafaRay4tS was created to work in trueSpace7.61 'Workspace'
 Tested with the YafaRay v3.3.0 render engine

trueSpace 7.61 Unofficial Updates

YafaRay4tSv0.9.9 is fully incorporated into trueSpace7.61 and trueSpace7.61Std
 No installation is necessary if you apply these updates:
 trueSpace7.61 Full Version
 trueSpace 7.61 Standalone

YafaRay Installation

1.) Download the YafaRay v3.3.0 render engine from one of these sites:
 YafaRay Standalone YafaRay for Blender

Unzip the file and copy the 'yafaray_v3' folder:

Examples:

[YafaRay Standalone](#)

C:\Program Files\yafaray_v3

C:\trueSpace761\ts\yafaray_v3

C:\trueSpace761Std\yafaray_v3

* For Blender users look at the Blender instructions below.

YafaRay4tS Installation**Prerequisites:**

Clinton3dPlugin.rxs

- Clintons3dPlugin.rsx

C3DPersistentv2.RsObj - C3D Persistence Autoload.RsObj

Optional

Clintons3dPluginExt.rsx - Tif image loader for trueSpace7.61

OptDetector.dll

- iOpt Detectors

The OptDetector.dll must be Installed and Loaded from the Workspace's Package Manager.

Note: If you want to use OptDetector for several installed versions of trueSpace7.61 you only need to install one OptDetector plugin, which can be shared.

Example: Install to your C: / drive. Then copy the 3 OptDetectors libraries to your trueSpace Rs Main Libraries folder.

Warning: After you Reset to Default Context from Workspace the OptDetector's plugin will require that the 3 OptDetectors libraries load again.

Next if you have previously installed YafaRay4tS before, Uninstall YafaRay4tS from the Add & Remove program in the Windows Control Panel first!

2.) Install and Load the Clinton3dPlugin.rxs and Clintons3dPluginExt.rsx plugins from Workspace's Package Manager and reboot trueSpace 7.61

3.) Install the C3DPersistentv2RsObj

4.) [Extract All] of the files from the YafaRay4tS zip file

5.) Open trueSpace7.61 and from the Workspace's File menu, Load the YafaRay4tS_Installer.RsObj from where you extracted the files.

WARNING: Do not Drag and Drop into trueSpace, only use Workspace's File menu!

6.) From the YafaRay4tS Installer panel select the [Install] button.

You should see a Question message asking:

"Your existing YafaRay4tS Libraries will be replaced with updated versions."

"Would you like to continue?"

If not select your keyboard keys Alt + Tab to bring the message forward. Selecting [Yes] will start the installation and selecting [No] will cancel the installation.

7.) From Workspace in the Stack/Panel - YafaRay4tS/Setup aspect

Set the 'YafaRay Installation Path' to the yafaray-xml.exe file where you have installed YafaRay v3.3.0

Examples:

[YafaRay Standalone](#)

C:\Program Files\yafaray_v3\bin\yafaray-xml.exe

C:\trueSpace761\ts\yafaray_v3\yafaray-xml.exe

C:\trueSpace761Std\yafaray_v3\yafaray-xml.exe

Blender

C:\Program Files\Blender Foundation\Blender\2.79\scripts\addons\yafaray_

v3\bin\yafaray-xml.exe

BforArtists

C:\Program Files\Bforartists 1.0.0\2.79\scripts\addons\yafaray_

v3\bin\yafaray-xml.exe

YafaRay4tS/ Setup - YafaRay Installation Path

Installation Defaults:

If copied to the above examples, the 'YafaRay Installation Path' will be set automatically.

If copied to the trueSpace folder, any folder with 'yafaray' in the name will be found so it's

not limited to 'yafaray_v3' specifically.

Note: If you want to use YafaRay4tS for several installed versions of trueSpace7.61 you only need

one 'YafaRay Installation Path' that can be shared. Install to C:\Program Files [Recommended]

8.) Set the 'Output - Render File' to where you want to render an image or images.

Examples:

C:\trueSpace761\ts\Image Folder\yaf_test.png

C:\trueSpace761Std\Image Folder\yaf_test.png

C:\Temp\yaf_test.png

9.) Select the [Save Settings] button to save your directories into the default YafaRay4tS object.

10.) Position the YafaRay4tS toolbar and save your Layout.

Congratulations you've finished your YafaRay4tS setup!

* For Vray users look at the Vray instructions below.

YafaRay4tS Uninstall

If you have any content saved in the YafaRay libraries, they will be deleted, so save anything you want into a different library.

1.) Open trueSpace7.61 and from the Workspace's File menu, Load the YafaRay4tS_Installer.RsObj from where you extracted the YafaRay4tS files

2.) Select the [Uninstall] button.

You should see a tS761 Question message asking:

"Your existing YafaRay4tS Libraries will be deleted."

"Would you like to continue?"

If not Select your keyboard keys Alt + Tab to bring the message forward. Selecting [Yes] will uninstall the installation and selecting [No] will cancel the installation.

Developer notes:

If you 'Reset to Default Context' in trueSpace7.61 you will not have to reinstall YafaRay4tS

After a 'Reset to Default Context'

Right click any of the Offline Render icons to load the YafaRay4tS panel

* For Vray users look at the Vray instructions at the bottom.

The **YafaRay4tS Scene Utilities** in the YafaRay4tS toolbar can be used to update an existing scene.

YafaRay sample scenes for trueSpace7.61 - YafaRay4tS v0.9.7 Scenes for trueSpace7.61

Vray:

If you have Vray Installed and Loaded and you want to switch to YafaRay4tS as the Renderer

1.) In the 'Offline renderers' panel select Yafaray as the Renderer

2.) Right click any of the Offline Render icons to load the YafaRay4tS panel

Blender:

1.) To install for Blender copy the "yafaray" folder into the AddOns folder inside Blender

2.) Start Blender

3.) File > User Preferences

4.) Add-ons

5.) Find and activate yafaray via the checkbox

6.) Select the Save User Settings button

Note: The YafaRay site says YafaRay is no longer compatible with Windows XP, but it does work in trueSpace 7.61

They must be referring to running with Blender on Windows XP.

YafaRay User Guide

-- YafaRay Setup --

YafaRay Installation Path - Path to yafaray-xml.exe file.
Use the File browse dialog button.

Use Custom Temporary Directory - Path to the Custom Directory.
Directory for storing generated XML file and temporary YafaRay output image. Default working directory is the same as the output image directory. Use this option if you want to use a different directory from the final image output directory.

Use Custom XML Export file - Use the File browse dialog button for selecting custom XML file export location.
Use a custom filename and directory for the generated XML file. This is useful when generating multiple XML files for batch rendering.

Export XML - Creates an XML file without rendering.
If "Delete XML file after render" is checked, you will have to use the Export XML before using the Render XML each time.

Render XML - Renders the Custom XML Export file.

Delete XML file after render **render** - Deletes the generated XML file on render completion.

-- YafaRay4tS Setup --

Leave console window open after render - If checked the console window will stay open after the render completes.

By default the console window will close after the render completes. Selecting this option will leave the console open so that the user can scroll through the YafaRay render engine output messages.

Start console window minimized - If checked the console window open then minimizes.
With this option checked the console window will no longer pop-up when the render engine is spawned. This is very helpful when batching a sequence of renders. Leaving console open after render is the only way to see warnings or errors from the YafaRay renderer.

Disable All Viewers - Disables all Viewers

Internal Viewer - If enabled the Display floating panel view opens when the render completes.
The Display is a trueSpace floating panel that displays the rendered image in a fixed 320x240 [4:3] pixel ratio.
Any rendered image using a different pixel ratio will be distorted, but will render properly.

iOptDetector Viewer - If enabled a trueSpace window frame view opens when the render completes.
Requirement: The iOptDetector plugin must be Installed and Loaded from the Package Manager.

External Viewer - If enabled the TGA Viewer opens when the render completes.

> Default path: C:\trueSpace761\tS\TGA_Viewer.exe

Requirement: The Output- Render File format must be in the Truevision Targa (*.tga) file format.

From the TGA Viewer - File menu, you can save the rendered image as PNG, JPG, BMP and GIF file formats.

Also supports a Custom Viewer.

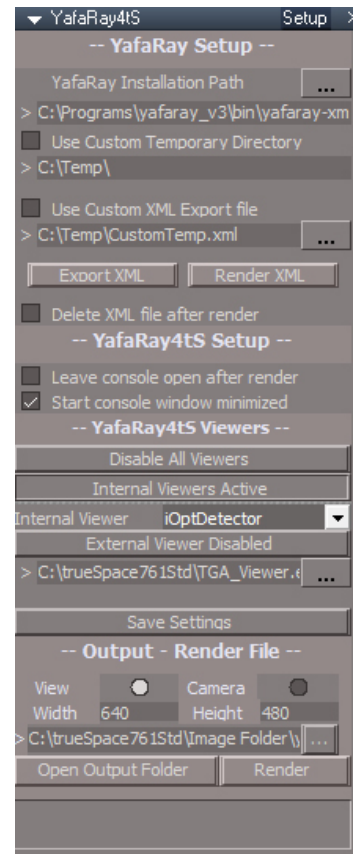
Opens a user specified image viewer when the render completes. Use the File browse dialog button to enter the path where it is located.

This can also be used to open an Image Editor that is registered to open with the rendered image file format.

Example: C:\trueSpace761\tS\Image Folder\yaf_test.tga

External Viewers should not be used when rendering an Animation!

Save Settings - Saves your preferred current settings within trueSpace and to the trueSpace directory that will reload after Resetting the Default Context.



-- Output - Render File --

View - If enabled YafaRay will render the Workspace view.

Camera - If enabled YafaRay will render the set Camera view.

Width - The width of the image rendered.

Height - The height of the image rendered.

> File name for rendered image output. This is where the rendered results will be saved.

Open Output Folder - Opens the folder entered into the above path.

Render - Exports XML file and spawns the YafaRay renderer.

File Formats - PNG is the default file format. Additional file formats are EXR, HDR, JPEG, and TIF.

YafaRay4tS User Interface

YafaRay4tS Toolbar



After installing the YafaRay4tS toolbar it is important to save or update your trueSpace layout.

LMB = Left Mouse Button

RMB = Right Mouse Button



YafaRay4tS Settings

LMB = Opens the Default aspect in the Stack/Panel

RMB = Opens the Setup aspect in the Stack/Panel

Inserts the YafaRay4tS object into the current scene if it is not present



YafaRay4tS Help

LMB = Opens this help file

RMB = Opens the About aspect in the Stack/Panel

Inserts the YafaRay4tS object into the current scene if it is not present



YafaRay4tS Scene Utilities

LMB = Opens the YafaRay4tS Scene Utilities

See below for details



Infinite

LMB = Activates the Light tool widget

RMB = Opens the Lights preferences panel in the Stack/Panel



Area Light

LMB = Activates the Light tool widget

RMB = Opens the Lights preferences panel in the Stack/Panel



Directional Light

LMB = Activates the Light tool widget

RMB = Opens the Lights preferences panel in the Stack/Panel



Sun Light

LMB = Activates the Light tool widget

RMB = Opens the Lights preferences panel in the Stack/Panel



Point Light

LMB = Activates the Light tool widget

RMB = Opens the Lights preferences panel in the Stack/Panel



Spot Light

LMB = Activates the Light tool widget

RMB = Opens the Lights preferences panel in the Stack/Panel

**Sphere Light**

LMB = Activates the Light tool widget

RMB = Opens the Lights preferences panel in the Stack/Panel

**IES Spot Light**

LMB = Activates the Light tool widget

RMB = Opens the Lights preferences panel in the Stack/Panel

**YafaRay Camera**

LMB = Activates the Camera tool widget

RMB = Opens the Camera aspect in the Stack/Panel

**Smooth Normals**

LMB = Apply Smooth Normals to selected object with the value entered in the Default aspect.

RMB = Removes Smooth Normals to the selected object and opens the Default aspect in the Stack/Panel

**YafaRay Volume**

LMB = Inserts a YafaRay Volume object into the scene

**Render Scene**

LMB = Renders scene

RMB = Opens the current Lighting Method aspect in the Stack/Panel

**Render Object**

LMB = Renders selected object

RMB = Opens the current Lighting Method aspect in the Stack/Panel

**Render Portion**

LMB = Renders portion of screen

RMB = Opens the Camera aspect in the Stack/Panel

RMB select in 3D Space to deactivate

**Render Animation**

LMB = Opens the Render to File

RMB = Opens the Animation aspect in the Stack/Panel

**Render to File**

LMB = Opens the Render to File

RMB = Opens the current Lighting Method aspect in the Stack/Panel

If you lose the YafaRay4tS toolbar, open the YafaRay4tS Setup library and load the YafaRay4tS toolbar to automatically restore it.

YafaRay4tS Scene Utilities

Import and Export

For importing and exporting YafaRay4tS scene files

Process Imported Scene

Replaces the YafaRay4tS panel in the scene with all of the existing settings, excluding the YafaRay Installation Path. If

the Output Render File path does not exist, a default path will be assigned. Updates the texture paths based on the path in the Texture Source Folder.

Gather Textures for Sharing

Copies all of textures in the scene to the Texture Source Folder.

Update YafaRay4tS

For updating previous versions of YafaRay4tS scenes to the current version.

YafaRay4tS Panel

Replaces the YafaRay4tS panel in the scene with all of the existing settings, excluding the YafaRay Installation Path. It

does not update the Output Render File path.

YafaRay Materials

Replaces all of the YafaRay Materials in the scene with the current YafaRay Materials.

YafaRay Lights

Replaces all of the YafaRay Lights in the scene with the current YafaRay Lights.

YafaRay Cameras

Replaces all of the YafaRay Cameras in the scene with the current YafaRay Cameras.

D3D Materials - Opens the D3D Material Converter

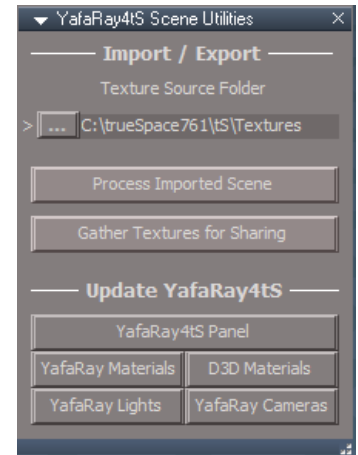
In order to render in YafaRay4tS, all existing materials in the scene must be converted to a **D3D Shader**.

From the Default aspect in the D3D Material Converter, uncheck **Selected Only**, and select the **Convert** button.

After all of the scene materials are converted to **D3D Shaders**, you can convert all of the scene materials to **YafaRay Materials**.

From the YafaRay4tS aspect in the D3D Material Converter, uncheck **Selected Only**, and select the **Convert** button.

None of the D3D Preview settings are transferred to the updated YafaRay4tS panel



Default

- Render Settings -

Clay Render - Enables Clay Render

Renders all materials with a White Diffuse Material

Smooth Normals - Enter the amount of smoothing for the selected object

Everything is hard edged by default in the YafaRay renderer

Input Color Space - Color processing types for all textures:

LinearRGB - Linear with no color processing for HDR/EXR files.

sRGB - Color processing with Gamma 2.2. [Recommended]

XYZ - Experimental color processing.

- Denoise Settings -

Denoise - Enables Denoise

Chrominance - Color Noise control

Luminance - Brightness Noise control

Mix - Proportion of Denoise and original image

- Draw Parameter -

Log Draw Parameter - Logs rendered results to a html file where you rendered the image.

Enter comments that appears in the html file.

- Bucket Rendering -

Tile Order

Centre - Build image from the center

Random - Build image randomly

Linear - Build image from top to bottom

Tile Size - Size of the tiles used for rendering

Save Time - Number of seconds between partial render saves.

Off/ On - **Off** sets the Save Time to 0. **On** sets the Save Time to 6.

Can be used to observe a long render to see if things are going well.

Results during the render can be seen in Windows Explorer and in the optional OptDetector Viewer.

Do not set too low because your machine may not be able to save quickly enough.

Important: Set to zero to stop the timer.

Open Render Pass - Select this button to Open/Close the Render Pass floating panel.

- Scene Settings -

Scene Brightness - Alters the D3D light's Attenuation to match YafaRay renders

Open Scene Utilities - Opens YafaRay4tS Scene Utilities for processing scenes to get them ready for sharing and rendering.

Make Names Unique - Renames renderable items that have the same name to avoid material definition conflicts.

-- Output - Render File -

View - If enabled YafaRay will render the Workspace view.

Camera - If enabled YafaRay will render the set Camera view.

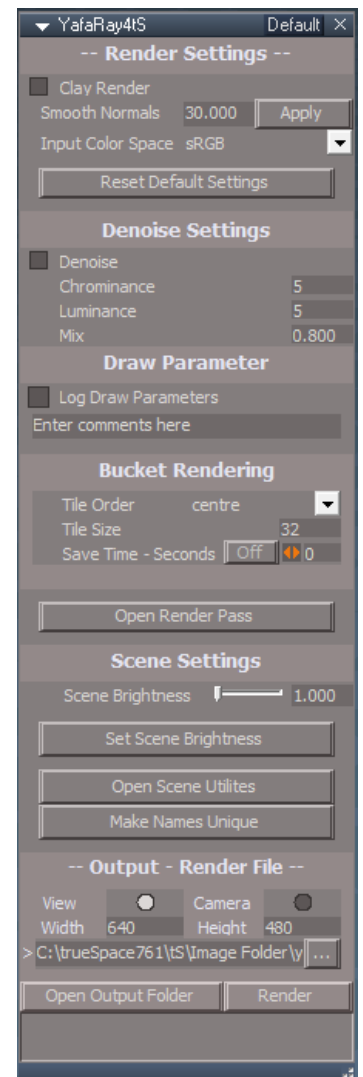
Width - The width of the image rendered.

Height - The height of the image rendered.

> File name for rendered image output. This is where the rendered results will be saved.

Open Output Folder - Opens the folder entered into the above path.

Render - Exports XML file and spawns the YafaRay renderer.



Camera

-- Camera Settings --

Camera - Camera that has been set to render from.

Set Camera - Sets the selected Camera.

Aspect Ratio - Pixel aspect ratio.

Camera Type - Camera type for YafaRay to use.

Convert Camera -> YafaraCamera - Converts a standard trueSpace camera to a YafaRay Camera.

- Perspective/Architect -

Aperture - Aperture size.

DOF - Depth of Field.

Type - Bokeh type.

Bias - Bokeh bias.

Rotation - Bokeh rotation.

- Orthographic -

Scale - Horizontal size of image plane.

- Angular -

Angle - Horizontal opening angle of the camera.

Max Angle - Maximum angle visible.

Circular - Blend out areas outside the Max Angle 'Circular Iris'.

Mirrored - Mirror X-direction. Use for generating Light Probe images.

- Area Render -

Area Render - Enables Area Render. Used to render a portion of the view.

X Start - Left starting coordinate.

Y Start - Top starting coordinate.

Width - Width of view area to be rendered.

Height - Height of view area to be rendered.

-- Output – Render File --

View - If enabled YafaRay will render the Workspace view

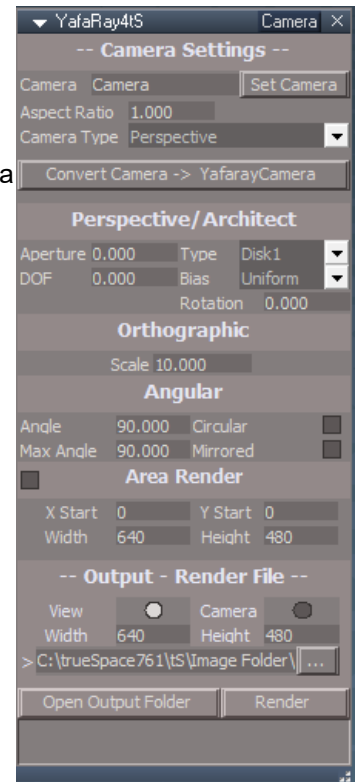
Camera - If enabled YafaRay will render the Camera view

Width - The width of the image rendered

Height - The height of the image rendered

> - File name for image output. This is where the rendered results will be saved

Render - Exports XML file and spawns the YafaRay renderer



[Camera Settings](#)

Background

-- Background Settings --

Background Type - Background Shaders:

None - Disable Background use.

Image - Use with a HDR or EXR file.

Enable **Use IBL** and enter the path to the image before selecting **Preview**.

Gradient - Enables a gradient background type composed of two sky colors above the horizon and two colors below it.

Sun Sky - Enables a background type that approximates the full spectrum of daylight for various atmospheric

conditions. Uses colors differently than the more advanced Dark Tide Sun Sky.

Dark Tide Sun Sky - Enables a background type that approximates the full spectrum of daylight for various atmospheric conditions.

Constant - Enables a background type that casts light with a single color.

Color - Color to use for Constant background shader.

Power - Power of light cast by the background.

Transparent - Render Background as Transparent.

Materials Transparent Refraction - Materials refract the Transparent Background.

Transparent must be selected for this option to work.

Preview - Makes a D3D Preview in the Workspace scene by inserting a Sphere and Lights if **Use IBL** is enabled.

The Sphere and Lights are inside the YafaRay4tS.RsObj, and are not used by YafaRay.

Preview Scale - Sets the size of the Preview Sphere.

Casts Shadows - Background light casts shadows.

- Image HDRI/ IBL -

Use IBL - Use the background as a Lighting Source.

Probe - Sets background image type to Light Probe.

Sphere - Sets background image type to Spherical Projection.

Smart Blur - Reduce noise when using HDRI textures for lighting.

IBL samples - Number of samples to be taken when doing lighting calculations from background image.

Rotation - Horizontal rotation of background image.

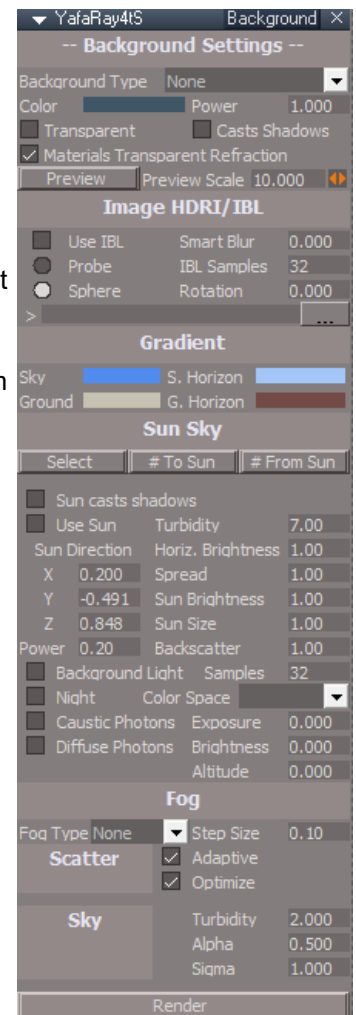
- Gradient -

Sky - Zenith color.

Ground - Ground color.

Sky Horizon - Sky horizon color.

Ground Horizon - Ground horizon color.



[Background Settings](#)

-Sun Sky -

Select - Select the light inside the YafaRay node used to represent the Sun.

It can be moved but not rotated. It always points to the center of the scene.

To Sun - Transfers the Sun Direction numbers to the position of the Preview Sun Light.

From Sun - Transfers the Sun Light position from the Preview Sun Light to the Sun

Sun Casts Shadows - Enables Sun Sky shadows

Use Sun - Enables Sun

Sun Direction - X, Y, Z component of the Sun's vector position.

Power - Amount of Sun light added to the scene.

Background Light - Enables background light calculations.

Horizon Brightness - Controls the brightness of the horizon colors.

Spread - Controls the edge transition of the horizon.

Sun Brightness - Controls the brightness of the sun.

Sun Size - Controls the size of the sun.

Backscatter - Controls the sun's color appearance and the halo around it.

Samples - Reduces Noise and better glossy Reflection.

Darktide adds additional controls to the Sun Sky. The controls below are only for Darktide. Controls above are for both Sun Sky and Darktide Sun Sky

Darktide Sun Sky

Night - Renders the scene with the Sun acting as the Moon.

Caustic Photons - Enables the generation in the Photon Map.

Diffuse Photons - Enables the generation in the Photon Map.

Turbidity - Controls the density of particles in the air. The higher the value the more sunlight will be diffused into the sky.

Color Space - Color processing types for the Background.

CIE (D50)

CIE (E)

sRGB (D50)

sRGB (D65)

Exposure - Lighting multiplier.

Brightness - Controls the brightness of the sky.

Altitude - Adjustment relative to the Background center.

If Altitude increases, the Background Horizon lowers.

Fog

Fog Type - Selects the fog types:

None - Disables Fog.

Scatter - Enables Scatter.

Sky - Enables Sky.

[Darktide Sunsky](#)

[Volumetrics](#)

Step Size - Sets the step size value.

Single Scatter

Adaptive - Turns adaptive fog calculation on.

Optimize - Turns optimize on.

Sky

Turbidity - Fog density.

Alpha - Fog alpha parameter.

Sigma - Fog sigma parameter.

Animation

-- Animation Settings--

Set From Timeline - Sets the Start and End frames from the scene's Start and Stop frames.

Set From Keyframes - Sets the Start and End frames from the scene's Keyframes or the selected object in Object

Render mode.

Start Frame - Frame to start rendering from.

End Frame - Last frame to render.

Start Number - Number start with for file sequence.

Zero Padding - Number of leading zeros to use when padding the number for the file name.

Start - Batch Render - Exports the XML files for the frame range specified in **Start Frame** to **End Frame** and spawns the YafaRay renderer to render the frames sequentially in the background. After the images are rendered, the generated XML files are deleted.

Delete XML file after render - Delete the generated XML file on render completion.

Start console window minimized - If checked the console window open then minimize.

With this option checked the console window will no longer pop-up when the render engine is spawned. This is very helpful when batching a sequence of renders.

-- Output – Render File –

View - If enabled YafaRay will render the Workspace view

Camera - If enabled YafaRay will render the Camera view

Width - The width of the image rendered.

Height - The height of the image rendered.

> - File name for image output. This is where the rendered results will be saved

Open Output Folder - Open windows explorer to the rendered image

Render Animation - Exports the XML file and spawns the YafaRay renderer

Cancel Render - Cancels the animation render

Model Processing - Render animations from an opened Model view

Model Mesh Processing - Renders Model objects mesh animations: NURBS, Metaballs, and Deformations

Protect Workspace - Opens Protect Workspace

Sequence Player

Plays a sequence of images in a loop

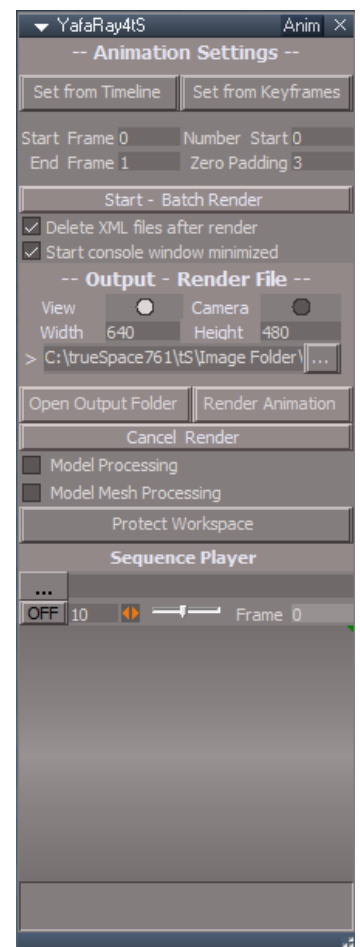
File Dialog - File browse dialog for selecting the first image in a sequence of images

Off / On - Stop / Play

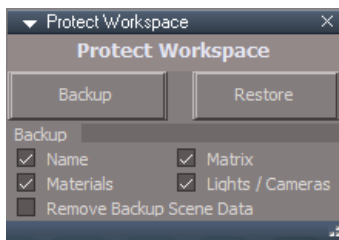
Enter the amount of images in the sequence of images

Slider control sets the speed of the playback

Right click the display to Reset



Protect Workspace



Backup - Performs a backup of the scene

Restore - Restores the Backup

Name - Protects changes to object names

Materials - Protects conversion of Workspace materials to Lightworks materials

Matrix - Protects changes to transformation attributes

Lights /Cameras - Protects changes to Light's Angle, and Camera's FOV attributes

Remove Backup Scene Data - Removes all of the backup data nodes from the scene when restoring

Model Processing

Steps to process Model animations from the **Anim** aspect, with the main view in Workspace and no Model view open

- 1.) Check **Model Processing**
- 2.) Select the **Protect Workspace** button, **Backup** button, and Save your scene
- 3.) Switch the main view to Model and open a new Workspace 3D Window
- 4.) Select the **Render Animation** button
- 5.) When the render has completed, switch the main view to Workspace
- 6.) Select the **Restore** button

Model Mesh Processing

Steps to process Model mesh animations, NURBS, Metaballs, or Deformations from the **Anim** aspect, with the main view in Workspace and no Model view open

- 1.) Check **Model Processing** and **Model Mesh Processing**
- 2.) Select the **Protect Workspace** button, **Backup** button, and Save your scene
- 3.) Switch the main view to Model and open a new Workspace 3D Window
- 4.) Select the **Render Animation** button
- 5.) When the render has completed, switch the main view to Workspace
- 6.) Select the **Restore** button

WARNING! Rendering with Model Mesh Processing

Switching layouts will crash trueSpace if you do not Exit trueSpace first.

Rendering with the main view in Workspace and a new Model view will also crash trueSpace.

IMPORTANT! Close Model before using Protect Workspace - Backup or Restore

Lighting Methods

Lighting Methods

Common Lighting Controls

All the lighting methods have 3 sections in common. Anti-Aliasing, General and Output - Render File.

-- Anti-Aliasing Settings --

Filter - 3 Anti-Aliasing reconstruction filters to use when resampling:

Gaussian - Slight blurring

Mitchell-Netravali - Improves sharpness of the edges Default

Box - Equal weighting of all samples.

Min Sample - Number of samples to use on first Anti-Aliasing pass.

Pixel Width - Width of Anti-Aliasing pixel filter. [0-8]

Passes - Maximum number of Anti-Aliasing passes.

Inc Sample - Number of samples for additional Anti-Aliasing passes.

Threshold - Color threshold for additional Anti-Aliasing samples in next pass.

-- General Settings --

Ray Depth - Amount of times that rays can be reflected in specular surfaces or pass through transparent surfaces.

Transparent Shadow depth - Amount of transparent surfaces that shadow rays can get through to find light sources.

Gamma In - The default gamma value for all colors, lights and textures.

This value is used to convert these values to linear color space used by the Yafaray renderer.

Gamma Out - The gamma value target for the rendered image.

CPU Threads - Number of CPU threads used by YafaRay. [-1] All threads.

This number should be equal to the number of CPU threads in your computer or minus one if you find that using all the CPU threads bogs down your computer.

Normal Shadows / Transparent Shadows - Switches from Normal to Transparent Shadows.

Save Alpha - Exports an alpha file in addition to the RGB output file.

Z - Channel - Enable the Depth Channel in the output file.

Clamp RGB - Color depth is reduced to a low dynamic range before Anti-Aliasing filtering.

-- Output - Render File --

View - If enabled YafaRay will render the Workspace view.

Camera - If enabled YafaRay will render the set Camera view.

Width - The width of the image rendered.

Height - The height of the image rendered.

> File name for rendered image output. This is where the rendered results will be saved.

Open Output Folder - Opens the folder entered into the above path.

Render - Exports XML file and spawns the YafaRay renderer.

Direct Lighting

- Caustics -

Photons - Number of Caustic Photons to use.

Caustic Photon Method - Caustics Photon Method types:

None - No Caustics Photons are rendered.

Path + Photons - Mix of a Caustic Photon Map and Path tracing Caustic rays are rendered.

Photons - Fast photon map is used to render caustics. Path tracing caustics rays are not rendered.

Path - Path tracing caustics rays are rendered.

Mix - Maximum number of photons to be mixed for caustic calculation.

Depth - Maximum number of scattering events for photon shooting.

Radius - Blur radius for photons.

Photon Map Processing - Types of Caustic Photon Map Processing to generate:

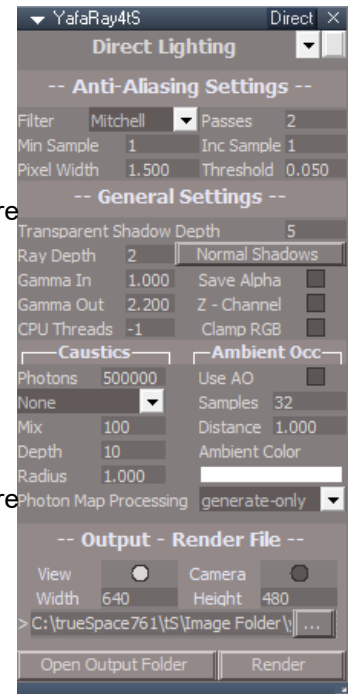
Generate Only - Generates the Caustic Photon Map in the scene.

Generate Save - Generates and Saves a **yaf_test_caustic.photonmap** file to where you rendered the image.

Load - Loads the **yaf_test_caustic.photonmap** file from where you rendered the image.

Reuse Previous - Reuses the previously generated Caustic Photon Map from memory.

When loading a saved map, it is very IMPORTANT to ensure they match the scene and ONLY for camera changes.



- Ambient Occlusion -

Use AO - Enables Ambient Occlusion.

Samples - Number of samples to use for Ambient Occlusion.

Distance - Blur radius.

AO Color - Color for Ambient Occlusion output. Useful for testing the AO effect.

YafaRay Ambient Occlusion

Photon Mapping

- Diffuse Photons -

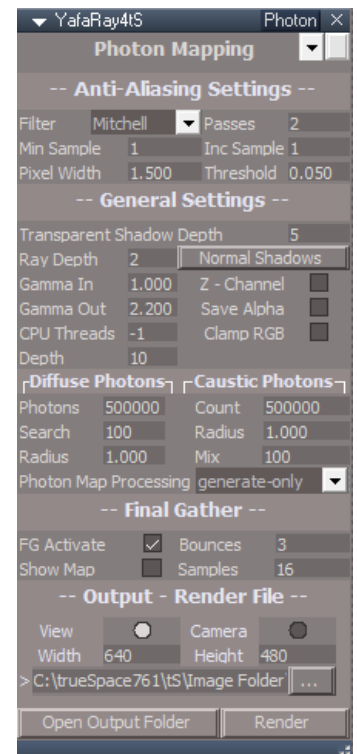
- Photons** - Number of photons to use.
Search - Maximum number of non-caustic photons to be filtered.
Radius - Blur radius for photons.
AO Color - Color for Ambient Occlusion output. Useful for testing the AO effect.

- Caustics Photons -

- Count** - Number of photons to use.
Radius - Blur radius for photons.
Photon Map Processing - Types of Caustic Photon Map Processing to generate:
 Generate Only - Generates the Caustic Photon Map in the scene.
 Generate Save - Generates and Saves a **yaf_test_caustic.photonmap** file to where you rendered the image.
 Load - Loads the **yaf_test_caustic.photonmap** file from where you rendered the image.
 Reuse Previous - Reuses the previously generated Caustic Photon Map from memory.
 When loading a saved map, it is very IMPORTANT to ensure they match the scene and ONLY for camera changes.

- Final Gather --

- FGActive** - Enable Final Gather (Photon Mapping only).
Show Map - Directly show radiance map (disables final gathering step).
Bounces - Number of bounces to recuse the Final Gather.
Samples - Number of samples to use for Final Gather.



Pathtracing

-- Caustics Options --

Caustic Photon Method - Caustics Photon Method types:

None - No Caustics Photons are rendered.

Path + Photons - Mix of a Caustic Photon Map and Path tracing Caustic rays are rendered.

Photons - Fast photon map is used to render caustics. Path tracing caustics rays are not rendered.

Path - Path tracing caustics rays are rendered.

YafaRay Path Tracing

-- Photon Options --

Photons - Number of photons to use.

Depth - Maximum number of scattering events for photon shooting.

Mix - Maximum number of photons to be mixed for caustic calculation

Radius - Blur radius for photons.

Photon Map Processing - Types of Caustic Photon Map Processing to generate:

Generate Only - Generates the Caustic Photon Map in the scene.

Generate Save - Generates and Saves a **yaf_test_caustic.photonmap** file to where you rendered the image.

Load - Loads the **yaf_test_caustic.photonmap** file from where you rendered the image.

Reuse Previous - Reuses the previously generated Caustic Photon Map from memory.

When loading a saved map, it is very IMPORTANT to ensure they match the scene and ONLY for camera changes.

YafaRay Photon Mapping

-- Path Options --

Photon Bounces - Number of photon (Caustics) bounces to calculate for.

Path Samples - Number of samples to use when Pathtracing. This setting is only used by the Pathtracing lighting method.

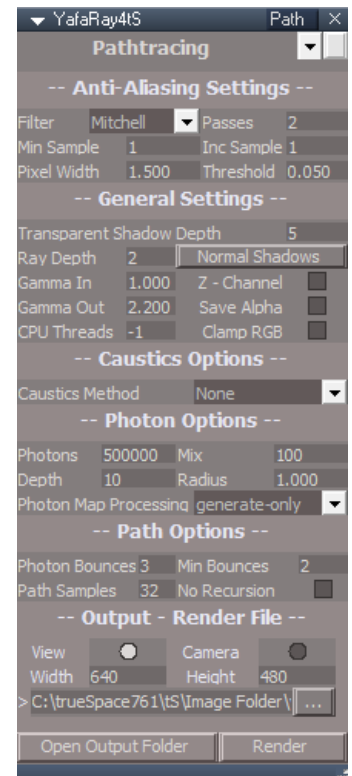
Min Bounces -

If this parameter is set to 0, russian roulette will be enabled.

If set to the same value specified in depth (max bounces), russian roulette will be disabled

If set to a value between 0 and max bounces, then russian roulette will only start be applied after this number of bounces, so we can get decent sampling in dark areas for example and get a good speedup with less noise.

No Recursion - Turn off recursion for Pathtracing lighting method.

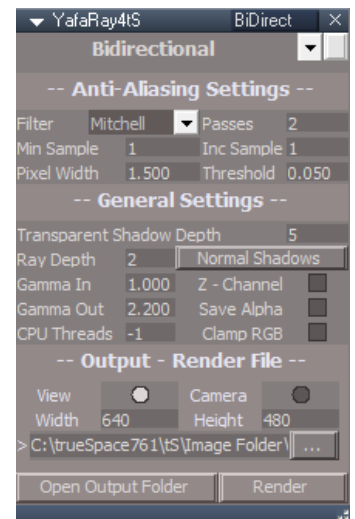


Bidirectional

“constructs random rays from the camera and from light sources, and connect each others' bounces with visibility rays to ensure they are mutually visible.”

“It combines advantages from both path tracing (unbiased) and photon mapping (caustics).”

“Unstable”



SPPM Lighting

Stochastic Progressive Photon Mapping

-- Additional Settings

Photons - Number of photons to use.

SPPM Passes - Number of passes.

Bounces - Number of bounces.

Radius Factor - Radius to search for diffuse photons.

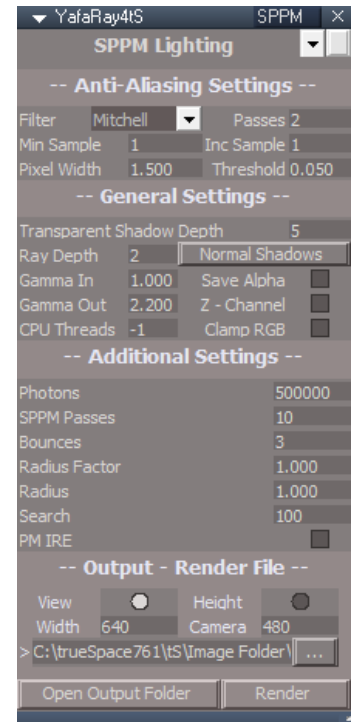
Search - Maximum number of diffuse photons to be filtered.

PM IRE- Initial radius estimation.

[Tutorial - Introduction to SPPM](#)

“SPPM—and other progressive photon mapping methods more generally—cut down the memory used to store a photon map for lighting.”

From <https://www.reedbeta.com/blog/new-ideas-in-raytracing/>



YafaRay4tS Lights [Lights](#)

All YafaRay4tS lights have a built in Color Picker. Select the Color aspect for advanced color options.

Infinite Light



Color - Light color.

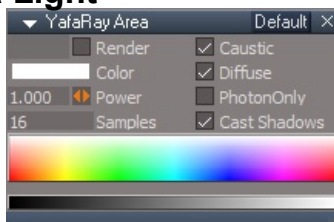
Power - Intensity multiplier.

Caustic - Enable light to shoot Caustic Photons.

Diffuse - Enable light to shoot Diffuse Photons.

Photon Only - No direct light.

Area Light



Render - Make the light visible in the rendered output.

Color - Light color.

Power - Intensity multiplier.

Samples - Number of samples for shadows.

Caustic - Enable light to shoot Caustic Photons.

Diffuse - Enable light to shoot Diffuse Photons.

Photon Only - No direct light.

Directional Light



Color - Light color.

Power - Intensity multiplier.

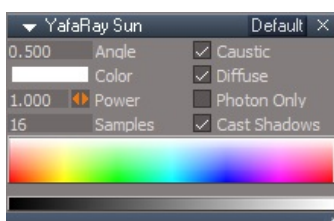
Size - Light cylinder radius in world units.

Caustic - Enable light to shoot Caustic Photons.

Diffuse - Enable light to shoot Diffuse Photons.

Photon Only - No direct light.

Sun Light



Angle - Angle of shadow casting cone.

Color - Light color.

Power - Intensity multiplier.

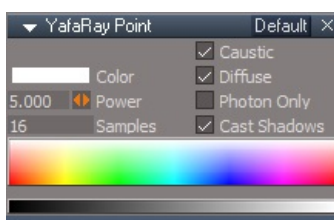
Samples - Number of samples used for calculating lighting and shadows.

Caustic - Enable light to shoot Caustic Photons.

Diffuse - Enable light to shoot Diffuse Photons.

Photon Only - No direct light.

Point Light



Color - Light color.

Power - Intensity multiplier.

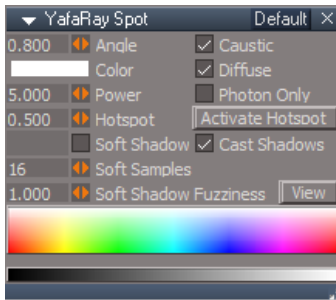
Samples - Number of samples used for calculating lighting and shadows.

Caustic - Enable light to shoot Caustic Photons.

Diffuse - Enable light to shoot Diffuse Photons.

Photon Only - No direct light.

Spot Light



Angle - Angle of shadow casting cone.

Color - Light color.

Power - Intensity multiplier.

Hotspot - Angle of the light cone hotspot.

Soft Shadows - Enable soft shadows.

Soft Samples - Number of samples used for calculating lighting and shadows.

Soft Shadow Fuzziness - Amount of blurring to the Soft Shadow.

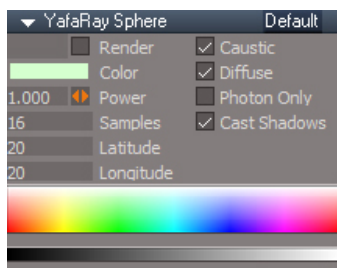
Caustic - Enable light to shoot Caustic Photons.

Diffuse - Enable light to shoot Diffuse Photons.

Photon Only - No direct light.

View - View from light. With light selected adjust the location of the light with the View Widget.

Sphere Light



Render - Make the light visible in the rendered output.

Color - Light color.

Power - Intensity multiplier.

Samples - Number of samples used for calculating lighting and shadows.

Caustic - Enable light to shoot Caustic Photons.

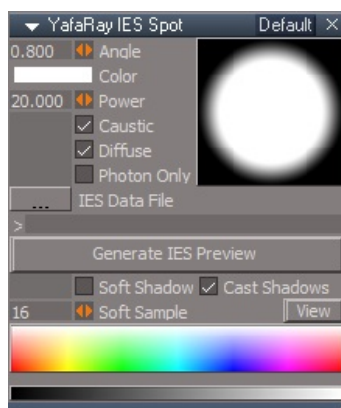
Diffuse - Enable light to shoot Diffuse Photons.

Photon Only - No direct light.

Latitude - mesh detail for the Render option.

Longitude - mesh detail for the Render option.

IES Spot Light



Angle - Angle of shadow casting cone.

Color - Light color

Power - Intensity multiplier.

Caustic - Enable light to shoot Caustic Photons.

Diffuse - Enable light to shoot Diffuse Photons.

Photon Only - No direct light.

IES Data File - Use the File dialog to select an IES Data file to use.

Example: C:\trueSpace761\ts\SupportFiles\IES Files

Generate IES Preview - Generates the IES light in the Workspace scene.

Soft Shadows - Enable soft shadows.

Samples - Number of samples used for calculating lighting and shadows.

View - View from light. With light selected adjust the location of the light with the View Widget.

YafaRay4tS Materials

YafaRay Shiny Diffuse

- Diffuse -

Color - Diffuse Color.

T - LMB - Opens Texture Mapping / RMB - Opens Settings

Use Oren-Nayar - Enables the Oren-Nayar specular reflectance model.

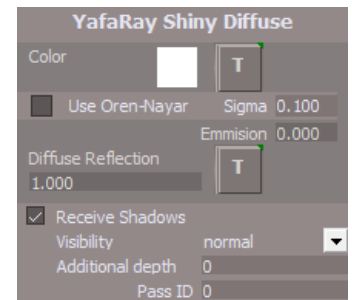
Sigma - Oren-Nayar micro facet distribution parameter.

Emission - Adds brightness to the material regardless of lighting.

Does not actually cast any light into the scene.

Diffuse Reflection - Amount of Diffuse reflection.

T - LMB - Opens Texture Mapping / RMB - Opens Settings



Per Material settings:

Receive Shadows - Surface will receive shadows.

Visibility - Visibility options:

Normal - Render all.

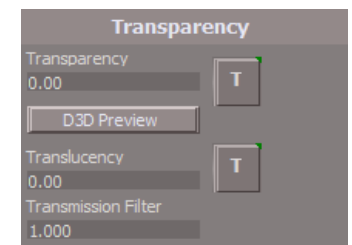
Invisible - Render only reflections and shadows.

Shadow only - Render shadows only.

No Shadows - Render without shadows.

Additional depth - Amount of raytracing depth.

Pass ID - Material ID used in the Render Pass.



- Transparency -

Transparency - Amount of transparency. [0-1]

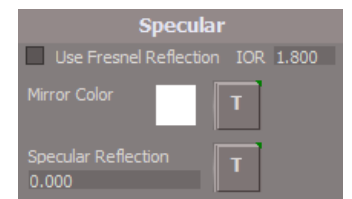
T - LMB - Opens Texture Mapping / RMB - Opens Settings

Transparency D3D Preview - Enables Transparency for D3D Preview.

Translucency - Amount of translucency. [0-1]

T - LMB - Opens Texture Mapping / RMB - Opens Settings

Transmission Filter - Controls amount of tinting for light passing through the material.



- Specular -

Use Fresnel Refl. - Enables Fresnel reflection.

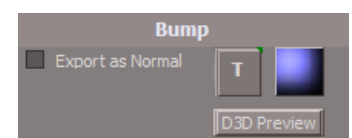
IOR - Index of Refraction. Controls the strength of the Fresnel effect.

Mirror Color - Mirror color multiplier

T - LMB - Opens Texture Mapping / RMB - Opens Settings

Specular Reflection - Amount of specular reflection.

T - LMB - Opens Texture Mapping / RMB - Opens Settings



- Bump -

Export as Normal -

T - LMB - Opens Texture Mapping /

RMB - Opens Settings

D3D Preview - Creates a Bump / Normal Map preview for the Workspace scene.

The preview has no effect on the final render.

[Shiny Diffuse](#)

YafaRay Glossy

- Diffuse -

Use Glossy Color for Diffuse - Enable Glossy color for Diffuse.

Diffuse Color - Diffuse color.

T - LMB - Opens Texture Mapping / **RMB** - Opens Settings

Diffuse Reflection - Amount of diffuse reflection.

T - LMB - Opens Texture Mapping / **RMB** - Opens Settings

Per Material settings:

Receive Shadows - Surface will receive shadows.

Visibility - Visibility options:

Normal - Render all.

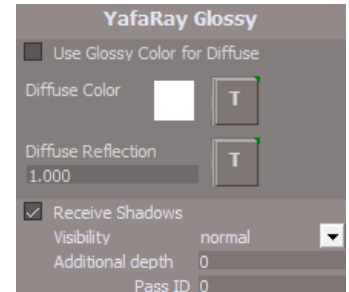
Invisible - Render only reflections and shadows.

Shadow only - Render shadows only.

No Shadows - Render without shadows.

Additional depth - Amount of raytracing depth.

Pass ID - Material ID used in the Render Pass.



- Specular -

Glossy Color - Glossy color multiplier.

T - LMB - Opens Texture Mapping / **RMB** - Opens Settings

Glossy Reflection - Amount of glossy reflection.

T - LMB - Opens Texture Mapping / **RMB** - Opens Settings

Specular Exponent - Amount of blur in the glossy reflection.

T - LMB - Opens Texture Mapping / **RMB** - Opens Settings

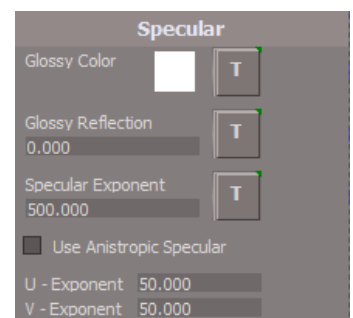
Use Anisotropic Specular - Enables Anisotropic Specular.

The Exponent value is divided into vertical and horizontal components. By using a different value for each component.

The reflection will take an anisotropic oval shape.

U Exponent - Amount horizontal reflection.

V Exponent - Amount vertical reflection.



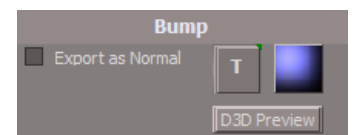
- Bump -

Export as Normal - Enable export as normal.

T - LMB - Opens Texture Mapping / **RMB** - Opens Settings

D3D Preview - Creates a Bump / Normal Map D3D Preview.

The D3D Preview has no effect on the YafaRay render.



Glossy

YafaRay Coated Glossy

“Coated Glossy is a Glossy material with a transparent coating layer on top”

- Diffuse -

Use Glossy Color for Diffuse - Enable Glossy color for Diffuse.

Diffuse Color - Diffuse color.

T - LMB - Opens Texture Mapping / **RMB** - Opens Settings

Diffuse Reflection - Amount of diffuse reflection.

T - LMB - Opens Texture Mapping / **RMB** - Opens Settings

Per Material settings:

Receive Shadows - Surface will receive shadows.

Visibility - Visibility options:

Normal - Render all.

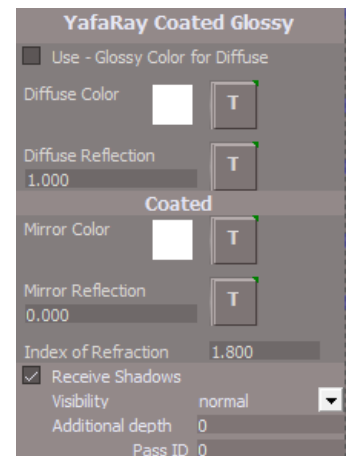
Invisible - Render only reflections and shadows.

Shadow only - Render shadows only.

No Shadows - Render without shadows.

Additional depth - Amount of raytracing depth.

Pass ID - Material ID used in the Render Pass.

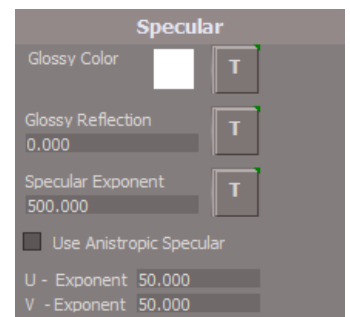


- Coated -

Mirror Color - Mirror color multiplier.

Mirror Reflection - Amount of reflection.

Index of Refraction - Amount of reflection to the coated surface.



- Specular -

Glossy Color - Glossy color multiplier.

T - LMB - Opens Texture Mapping / **RMB** - Opens Settings

Glossy Reflection - Amount of glossy reflection.

T - LMB - Opens Texture Mapping / **RMB** - Opens Settings

Specular Exponent - Amount of blur in the glossy reflection.

T - LMB - Opens Texture Mapping / **RMB** - Opens Settings

Use Anisotropic Specular - Enables Anisotropic Specular.

The Exponent value is divided into vertical and horizontal components. By using a different value for each component. The reflection will take an anisotropic oval shape.

U Exponent - Amount horizontal reflection.

V Exponent - Amount vertical reflection.

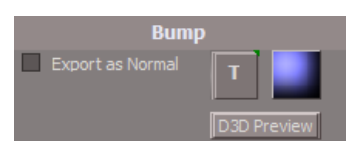
- Bump -

Export as Normal - Enable export as normal.

T - LMB - Opens Texture Mapping / **RMB** - Opens Settings

D3D Preview - Creates a Bump / Normal Map D3D Preview.

The D3D Preview has no effect on the YafaRay render.



[Coated Glossy](#)

YafaRay Glass

- Real Glass -

IOR - Index of Refraction. Controls the strength of the Fresnel effect.

Use Absorption - Enables Absorption.

Absorption Color - Absorption color.

Absorption Distance - Amount of distance of the absorption color.

Dispersion - Amount of dispersion of the separation of white light into different colors.

- Fake Glass -

Use Fake Shadows - Enables Fake Shadows.

Filter Color - Filter color.

Use instead of Absorption for uniform glass. Also needed to tint Transparent Shadows when Fake Shadows and Transparent Shadows are enabled.

T - LMB - Opens Texture Mapping / **RMB** - Opens Settings

Mirror Color - Color of Reflections.

T - LMB - Opens Texture Mapping / **RMB** - Opens Settings

Transmission Filter - Controls amount of tinting for light passing through the material.

1 = Blends with Absorption, if enabled.

0 = No blending with Absorption, if enabled.

Alpha strength - Amount of alpha displayed in the D3D Preview.

Per Material settings:

Receive Shadows - Surface will receive shadows.

Visibility - Visibility options:

Normal - Render all.

Invisible - Render only reflections and shadows.

Shadow only - Render shadows only.

No Shadows - Render without shadows.

Additional depth - Amount of raytracing depth.

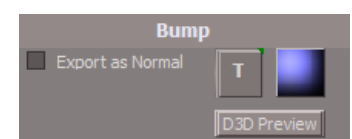
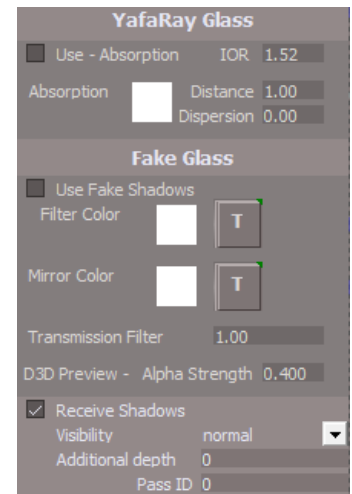
Pass ID - Material ID used in the Render Pass.

- Bump -

Export as Normal - Export as Normal verses Bump.

T - LMB - Opens Texture Mapping / **RMB** - Opens Settings

D3D Preview - Creates a Bump / Normal Map D3D Preview.



Glass

YafaRay Rough Glass

- Real Glass -

IOR - Index of Refraction. Controls the strength of the Fresnel effect.

Use Absorption - Enables Absorption.

Absorption Color - Absorption color.

Absorption Distance - Amount of distance of the absorption color.

Dispersion- Amount of dispersion of the separation of white light into different colors.

Exponent- Amount of exponent.

T - LMB - Opens Texture Mapping / **RMB** - Opens Settings

- Fake Glass -

Use Fake Shadows - Enables Fake Shadows.

Filter Color - Filter color.

Use instead of Absorption for uniform glass. Also needed to tint Transparent Shadows when Fake Shadows and

Transparent Shadows are enabled.

T - LMB - Opens Texture Mapping / **RMB** - Opens Settings

Mirror Color - Color of Reflections.

T - LMB - Opens Texture Mapping / **RMB** - Opens Settings

Transmission Filter - Controls amount of tinting for light passing through the material.

1 = Blends with Absorption, if enabled.

0 = No blending with Absorption, if enabled.

Alpha strength - Amount of alpha displayed in the D3D Preview.

Per Material settings:

Receive Shadows - Surface will receive shadows.

Visibility - Visibility options:

Normal - Render all.

Invisible - Render only reflections and shadows.

Shadow only - Render shadows only.

No Shadows - Render without shadows.

Additional depth -Amount of raytracing depth.

Pass ID - Material ID used in the Render Pass.

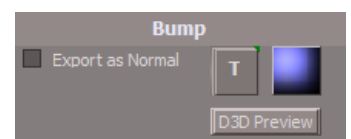
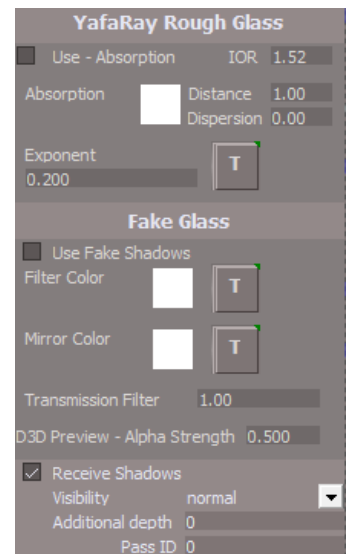
- Bump -

Export as Normal - Enable export as normal.

T - LMB - Opens Texture Mapping / **RMB** - Opens Settings

D3D Preview - Creates a Bump / Normal Map D3D Preview.

The D3D Preview has no effect on the YafaRay render.



Rough Glass

YafaRay Blend

Blend - Amount of blending between two materials.

T - LMB - Opens Texture Mapping / RMB - Opens Settings
Controls the blend with a texture, this will override the Blend slider.
Select **Update D3D Preview**

Blend Material Collection - Opens the Blend Material Collection.

Update D3D Preview- Generates D3D Preview of the blended materials.

Update Material Lists - Updates the Material List 1 and 2 from the Blend Material Collection.

Material List 1 - Select the BlendMaterial# for the first material to be blended.

Material List 2 - Select the BlendMaterial# for the second material to be blended.

Per Material settings:

Receive Shadows - Surface will receive shadows.

Visibility - Visibility options:

Normal - Render all.

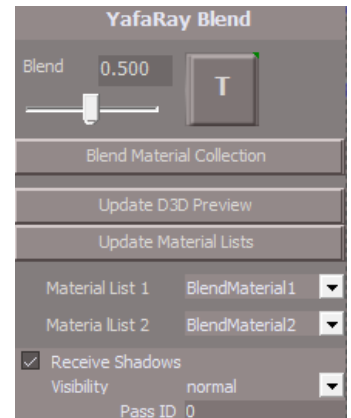
Invisible - Render only reflections and shadows.

Shadow only - Render shadows only.

No Shadows - Render without shadows.

Pass ID - Material ID used in the Render Pass

YafaRay Blend Mapping



Blend Material Collection

Reset - Removes all of the spheres in the collection except for the first two original spheres.

Add Material - Adds a new sphere to the collection, selects it, activates the Inspect tool, and adds a BlendMaterial# to the Material combo control.

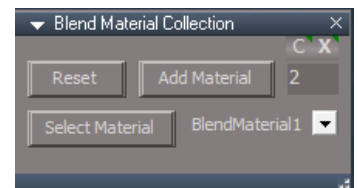
Select Material - Selects the BlendMaterial# in the present Material combo control and activates the Inspect tool.

BlendMaterial - Each material in the collection has a panel where you can enter a description of the material for further references.

C - LMB = Camera view of the collection. **RMB** = Previous view

X - LMB = Remove - Blend Material Collection from the scene

Adding a **YafaRay Blend** material to the **Blend Material Collection** is not supported!



Steps to apply a YafaRay Blend material

1. The easiest way to apply a **YafaRay Blend** material is to select your Object first.
2. Load the **YafaRay Blend** material from the library into the D3D Material Editor.
3. Select **Blend Material Collection**
This loads the required Blend Material Collection into the scene and selects BlendMaterial1.
4. Load a YafaRay material from the library into the D3D Material Editor.
BlendMaterial1 will be painted with your selected material or if needed use the Paint tool.
5. Right click another sphere in the collection and then left click with the Inspect tool.
6. Load a YafaRay material from the library and Paint the sphere if needed.
7. Using the Inspect tool, left click your object and select **Update D3D Preview**.
8. Adjust the amount of **Blend** between the two blended materials.
9. Right click in 3D Space to exit the Inspect tool.

You can also manually select a BlendMaterial# with the **Select Material** button.

Ensure that any sphere in the collection is not painted with a **YafaRay Blend** material.

Requirements: In order to use **YafaRay Blend** materials, the **Blend Material Collection** must be included with your scene.

Only one Blend Material Collection is supported per scene.

You cannot rename the Blend Material Collection.

Using different **YafaRay Blend** materials for different objects, must be included in the Blend Material Collection.

The Blend Material Collection supports up to 25 materials.

The Blend Material Collection does not render and is completely transparent to the YafaRay render engine.

Blend Material

YafaRay Light Material

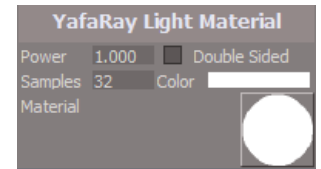
Power- Amount of the Material color Intensity.

Samples- Amount used to sample the Soft Shadow.

Double Sided - Enables the light on the backside of all faces.

Color- Material color.

YafaRay Object Mesh Light



[Mesh Light](#)

Texture Mapping

Gamma - Amount of Gamma for the Image Map

Attribute Name - Used for the Yafaray render engine

Image Use the File browse dialog button to choose an Image file

None - Removes Texture Mapping

Image - Enables the use of an Image

Clouds - Enables the use of a procedural Clouds

Marble - Enables the use of a procedural Marble

Wood - Enables the use of a procedural Wood

Voronoi - Enables the use of a procedural Voronoi

Switch - Generates the Texture Map

Or select the image to generate the Texture Map

Blend- Amount of blending between the Blend color and the Material color

Color - Blend and or Procedural texture color

X Offset - Texture Map U/X offset

Y Offset - Texture Map V/Y offset

Z Offset - Texture Map Z offset

X Scale - Texture Map U/X scale

Y Scale - Texture Map V/Y scale

Z Scale - Texture Map Z scale

Texture Coordinates - object mapping coordinates

Global - the texture uses the scene's Global 3D coordinates for mapping

UV - UV coordinates are used for texturing

Generated - the texture uses the object's local space.

Projection - shape of the projection, Use plain for UV mapping

plain
cube
tube
sphere

Negative - produces a negative of the texture.

NoRGB - Converts a texture into a gradient, the two extremes of the gradient scale being Material main color and color set in Color Swatch.

Blend Mode

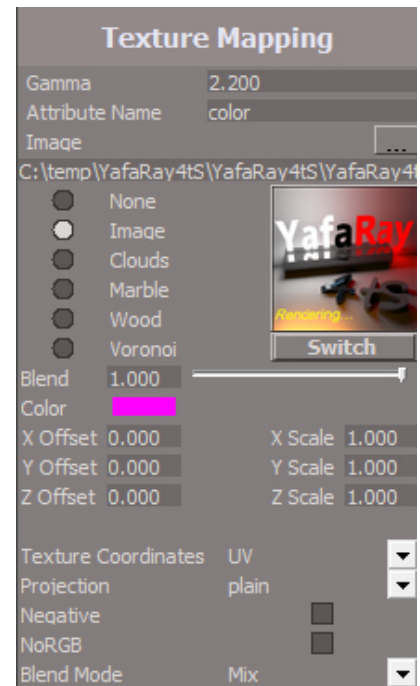
Add
Darken
Difference
Lighten
Mix
Multiply
Overlay
Screen
Subtract

Note about: The YafaRay material's **T** button

LMB - Opens this Texture Mapping panel where you can enable one of the above options

RMB - Opens Settings for any assigned Procedural - Texture Map

There is no Settings for None or Image



[Texture Mapping](#)

YafaRay4tS Procedurals

Image Cloud

- Color** - Enable Color Noise.
- Depth** - Amount of Noise detail.
- Hard** - Soft / Hard Noise strength.
- Size** - Amount of Noise size.
- X Size** - Amount of Pixels in Width
- Y Size** - Amount of Pixels in Height

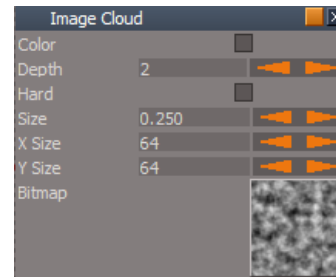


Image Marble

- Depth** - Amount of Noise detail.
- Hard** - Soft / Hard Noise strength.
- Shape** - band types:
 - Sin - Shape of veins.
 - Saw - Shape of veins.
 - Triangle - Shape of veins.
- Sharpness** - Noise definition types:
 - Soft** - Soft defined marble.
 - Sharp** - Sharp defined marble.
 - Sharper** - Sharper defined marble.
- Size** - Amount of Noise size.
- Turbulence** - Amount of turbulence for bands.
- X Size** - Amount of Pixels in Width.
- Y Size** - Amount of Pixels in Height.

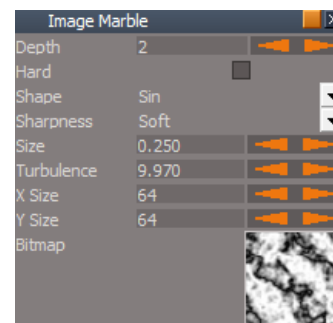


Image Wood

Hard - Soft / Hard Noise strength.

Shape - Band types:

Sin - Shape of waves.

Saw - Shape of waves.

Triangle - Shape of waves.

Size - Amount of Noise size.

Turbulence - Amount of turbulence for bands or rings.

Wood Type - band types:

Band Noise - Use Bands with Noise.

Band - Use Bands.

Ring Noise - Use Rings with Noise.

Ring - Use Rings.

X Size - Amount of Pixels in Width.

Y Size - Amount of Pixels in Height.

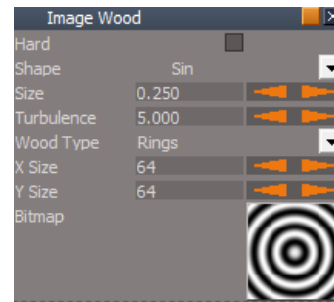


Image Voronoi

Color Type - Noise types:

Intensity - Intensity only.

Position - Position only.

Position and Outline - Position and Outline only.

Position, Outline, and Intensity - All three types.

Distance Metric - Distance between cells types:

ActualDistance

Chebychev

Distance Squared

Manhattan

Minovsky 1/ 2

Minovsky 4

Intensity - Amount of intensity applied to the image.

Size - Amount of Cell size.

Weight 1 - Amount of distance between each cell based on the distance metric.

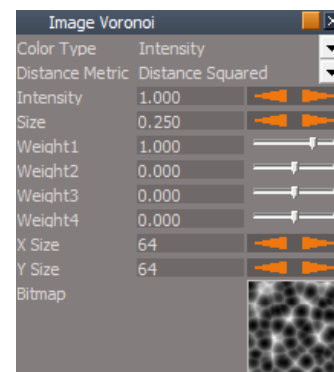
Weight 2 - Amount of distance between each cell based on the distance metric.

Weight 3 - Amount of distance between each cell based on the distance metric.

Weight 4 - Amount of distance between each cell based on the distance metric.

X Size - Amount of Pixels in Width.

Y Size - Amount of Pixels in Height.



Procedural Texture Types