V-Ray

Name:	V-Ray 01.05.29
Produced:	ASGVis, USA
Operating system:	Windows, Mac,
Native filetype:	
Description:	Photo-real rendering software
Next version release:	
Homepage:	Chaos Group
See also:	Rendering Engines
	3DS Max
	Rhino
Link:	LEARN, The Catalogue
	Official Support Post a question to Media Centre
Introduction:	V-Ray is the renderer of choice for creating photo-realistic and very accurate renders. V-Ray is a ray tracing renderer and it's pairing with Rhino is especially favoured.
Primary functions:	V-Ray is primarily a visualisation tool. Its main functions include: 1. **Rendering single frames** 2. **Rendering sequential frames for customisation** 3. **Creating irradiance maps** Similar to V-Ray in terms of functionality is Mental Ray. Also HyperShot which is Rhino's default renderer. Other rendering engines are Indigo, Flamingo, Penguin and Maxwell Renderer. However, Flamingo is a non-realistic renderer producing scanline quality images. Penguin is non-realistic as well and deals primarily with unique "tone shading". It is possible that Bongo for Rhino will also provide some animation rendering.
Primary outputs:	V-Ray's output naturally focus on visuals: 1. **Printing** of renders produced in V-Ray. Essentially, either the user produces images which are just quick, default renders great for exploring options and conceptual design work. Or, the user produces specific final photorealist renders. 2. **Video** files can be produced from image sequences taken from V-Ray. These image sequences can be compiled in QuickTime Pro, for example, as MOV files. Outputting from V-Ray is significantly improved by tools which allow batch rendering and network rendering. This means that large scale rendering jobs can be achieved. If your scene has a lot of materials and/or many faces in it V-Ray may take a long time to render it. Remember to therefore hide any faces that don't need to be seen. This will help to speed up the rendering time. In terms of the quality of the render image outputted, V-Ray has such a wealth of terms and options, that getting beyond a "default" (standard white) image can be a challenge. One handy and relatively quick way of getting beyond this is to take advantage of the preloaded render settings the software offers. This produces a range of aesthetics. However, the range, by being preloaded, still have a kind of generic aesthetic, which means that a customised look is still challenging to obtain. The only real solution is to get familiar with the software! This requires a bit of time and attention but excellent results and very specific image aesthetics can be achieved.
Usability:	Usability with V-Ray is hard to evaluate as each program that this rendering engine is paired with customises the interface through which the engine is accessed. This being said V-Ray is usually the most popular rendering engine for Rhino. It is comparable to the pairing and popularity of 3DS Max + Mental Ray (however Max runs well and is popular with V-Ray as well). Therefore, we will look primarily at the usability of V-Ray when employed to render Rhino models. In Rhino V-Ray is delivered via separate pop-up boxes of graphic menus for 1. materials and 2. rendering settings. Material editing is easy and the pop-up box provides a handy preview. Render settings are much harder to navigate as understanding the terminology and expanding the collapsible panels to see all the options often takes the entire length of the screen. Having said that, all that the user is doing is adjusting values, which doesn't in itself require much prior knowledge. It is easy to play around on V-Ray. However, if a specific effect is desired, knowledge of the terminology is necessary. A very good guide to this can be found here. Render output is largely limited to raster formats such as JPEG, BMP and PNG. A series of which can be used to compile an animation sequence, though given that Rhino does not have a key frame animation option the export options are largely limited to single frames sequences rather than video. Render settings can be saved and custom settings can be loaded. (VISOPT) For larger resolution rendering the software is able to save an irradiance map (light calculations, not final render) which can be loaded for the final render. Though the output is a V-Ray RAW image file which requires a separate converter which then converts to an EXR file which can be opened in Photoshop. For information on RAW file conversion see Bridge. V-Ray is compatible with many programs including SketchUp, 3DS Max, Maya, Rhino and Blender.

Strengths /weaknesses:	Over and above those strengths and weaknesses listed already, V-Ray at present is: + + Excellent for achieving highly customised render quality and render aesthetic. + + Very good at conducting simple renders with just standard materials and global illumination. Good for quick renders at conceptual stages. + + Excellent in terms of lighting and depth of field. - A bit overwhelming sometimes due to having so many rendering settings. Compared to V-Ray, a renderer such as Mental Ray is easier to adjust and quicker to render.
Learning support:	Good software tutorials can be found online. Many of them are geared towards teaching V-Ray paired with Max, which means that there will be some differences in use and layout of the renderer interface when it is paired with Rhino. Note that: 1. Rhino offers a V-Ray manual which is very helpful and goes through example of lighting and material in combination with sample files. Found here. 2. The official website provides downloadable materials, scenes and render settings. 3. Many forums provide downloadable materials also. 4. Spot3D is a good resource. 5. The official manual for V-Ray is good. To get you started MakeLAB suggest the following tutorials: Beginner A Beginner B Beginner C Beginner D You will also likely find interesting: Intermediate A Intermediate B Intermediate C Advanced A: Depth of Field and Bokeh Effects Advanced B: ASGvis Webinars
Additional:	"The physical camera option is perhaps most interesting as it's able to simulate depth of field. Also the real time rendering (when introduced) will be great as it'll make adjusting settings easier (with prior experience with real time rendering in Hypershot I found it a lot easier to make changes to the default by having a real-time preview of the render." V-Ray sometimes produces error messages without giving a specific reason for them. Usually it is because the resolution for the render is set too high, or the geometry is too complex. This site has detailed steps for working around this with irradiance maps. However, this doesn't always resolve the issue.
References:	
External links:	
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