# V-Ray Commands in Rhino

This page provides information about the V-Ray commands executable in Rhino.

## Overview

V-Ray for Rhino has a number of set commands executable through the main Rhino Command window. Below is a list of all commands.

All **vis** commands are now obsolete. Use the **vray** commands instead.

## vrayCamClippingCommands

| vray Command | Description |
| --- | --- |
| **vrayBatchRender** | Activates the Batch render tool. |
| **vrayCamClipping** | Turns on the camera clipping. Objects or parts of the objects outside of the near and far clipping planes are ignored during rendering.<br><br>Near=0: Sets or unsets the near clipping range. Numbers can be entered or points can be picked in the viewport.<br>Far=1: Sets or unsets the far clipping range. Numbers can be entered or points can be picked in the viewport.<br>Both=2: Sets or unsets the near and far clipping range. |
| **vrayCamFocus** | Activates the camera focus distance tool. |
| **vrayCamGuessVertical** | V-Ray guesses the amount of lens shift that has occurred and compensates it accordingly. Note that this command is not usable in any default orthogonal view. |
| **vrayChangeDefaultScene** [1] | Allows setting up the default V-Ray options based on the type of project - studio for product design or exterior for architectural visualization. |
| **vrayClipper** | Create=0: Creates a Clipper. |
| | Apply=1: A pop-up window prompts you to apply an existing Clipper. |
| | Remove=2: Removes and existing Clipper. |
| **vrayCosmos** | Chaos Cosmos delivers a 3D content library with hundreds of high-quality models, materials, and HDRI skies that work seamlessly with both V-Ray and Vision engines.<br>Browser = 0: Opens the Chaos Cosmos Browser.<br>Import = 1: Loads a specific Cosmos asset based on its name or package ID into the current project. If multiple versions of the asset exist, the unique Revision IDs can be used to differentiate between each one.<br>Update = 2: Select a Cosmos asset based on its name or package ID to be updated to its latest version. If multiple versions of the asset exist, the unique Revision IDs can be used to differentiate between each one.<br>Download = 3: Download a Cosmos asset specified by its name or package ID. If a multiple versions of the asset package exist and a specific one is needed, it can be targeted by using the Revision ID.<br>Status = 4: Prints the status of the Chaos Cosmos Browser (connected / disconnected).<br>Disconnect/Connect = 5: Disconnects/Connects the Chaos Cosmos Browser app. |
| **vrayDisplacement** | Create=0 Creates a new displacement asset and applies it to the currently selected object. |
| | Apply=1 Applies an existing displacement asset to the currently selected object. |
| | Remove=2 Removes the displacement from the currently selected object. |
| **vrayEdit** | Allows you to select and edit any asset in the scene. |
| | Materials - toggle, default = true. Allows selecting materials in NeUI based on the current selection in Rhino. |
| | Objects - toggle, default = true. Allows selecting geometries in NeUI (fur, clipper, lights, etc..) based on the current selection in Rhino. |
| | |

| | |
|---|---|
| | Select - list. Selection filter based on the current selection in Rhino and the Materials and Objects toggles.<br><br>All - default. Selects all assets that will be acquired from the selection.<br>Most - Selects the first most referred from the assets that will be acquired from the selection.<br>First - Selects the first asset from the assets that will be acquired from the selection.<br>Only - Selects the first and only asset from the assets that will be acquired from the selection. If multiple assets are acquired the command fails. |
| **vrayEnscape** | Renderable=on/off - Enables the support for Enscape materials and assets. When disabled, Enscape data in the scene will be ignored. |
| **vrayExport VRScene** | Exports the current scene into a *.vrscene* file. |
| | StripPaths=on/off – When enabled, all file paths of the assets in the vrscene are stripped down to file names. Conversion of the paths from absolute to relative allows safe vrscene transfer, as long as its asset files are moved to the same directory. |
| | HexArrays=on/off – Compresses geometry data in binary form to reduce its size, so it is preserved without any chance of round off errors. |
| | HexTransforms=on/off – Compresses object transformation data in binary form to reduce its size, so it is preserved without any chance of round off errors. |
| | StandardViews = on/off – When enabled, all Standard camera views are exported. |
| | NamedViews = on/off – When enabled, all Named Views are exported. |
| **vrayFur** | Create=0: Creates and applies V-Ray Fur to the selected object. |
| | Apply=1: Adds an already created V-Ray Fur from a pop-up window to a selected object. |
| | Remove=2: Removes an existing V-Ray fur form a selected object. |
| **vrayImport Material** | Imports .vrmat assets. |
| **vrayInfinite Plane** | Creates a V-Ray Infinite Plane. |
| **vrayLight** | Create = 0: Creates a V-Ray Light.<br>(Rectangular = 0, Sphere = 1, Directional = 2, Spot = 3, IES = 4, Omni = 5, Dome = 6, Sun = 7) |
| | Convert = 1: Converts Rhino lights to V-Ray lights. |
| | Remove = 2: Converts V-Ray lights to Rhino lights. |
| **vrayLightMesh** | Create=0: Creates a Mesh Light. |
| | Apply=1: Applies a Mesh Light to a selection. |
| | Remove=2: Removes Mesh light properties from a selection. |
| **vrayLightSunFromDirect** | Converts a directional light into a Sun light. |
| **vrayLoadSettings** | File=0: Loads a *.vropt* file with render settings. |
| | DefaultProduct=1: Loads a default *.vropt* file. You can choose between the default settings or a custom file. |
| **vrayMtlFromRhino** | Converts Rhino materials applied to selected objects into V-Ray materials. |
| **vrayProxyExport** | Exports a geometry as *.vrmesh* file and shows the Export Proxy window. |
| **vrayProxyImport** | Lets you import a *.vrmesh* or *.abc* file into the scene. |
| **vrayRecord Animation** | In Rhino 5, V-Ray Next automatically acquires animation data from Rhino. This command is useful only for choosing a Rhino animation over a previously set V-Ray Timeline animation in Grasshopper (via the Render in Project component). Creates a TexSky in the Environment map slot (automatically set to Rhino Document sun). Synchronizes V-Ray's environment with the current Rhino environment.<br><br>In Rhino 6, the command is replaced by the Animation Source option as the animation does not need to be pre-recorded. |
| **vrayRender** | Production=0: Starts a Production render and displays the VFB. |
| | Interactive=1: Starts an Interactive render. If it is rendering, stops the render. |
| | Cloud=2: Starts a Render on the Cloud. |
| | Last=3: Starts rendering in accordance with the last type of render used. |

| | |
|---|---|
| | Stop=4: Stops the current render process. |
| | Sync=5: Starts a Production render and can not be stopped from the command line. (it will block the UI until the rendering is over) |
| **vrayRender Window**[2] | Similar to RenderWindow, RenderInWindow, and RenderBlowup commands, but it uses the Render Output settings as basis for region calculations instead. The region is specified in absolute image coordinates of its upper-left and lower-right corners. Manually drawing regions in the viewport is also supported. |
| | Region=0: Renders a region of the image in the VFB. The specified region matches a manual-drawn region in the VFB, masking out the rest of the image. The masked out region appears black. This mode is suitable for image compositing. |
| | CroppedRegion=1: Renders a region of the image in the VFB. The specified region matches a manual-drawn region in the VFB, cutting out the rest of the image. |
| | CropRegionBlowup=2: Renders a region of the image in the VFB. The specified region matches a manual-drawn region in the VFB, cutting out the rest of the image. The image height is altered so that the image aspect ratio matches the region aspect ratio, and the region width is scaled up to match the image width. |
| **vrayScatter** | Used for scattering either real or proxy geometry. It has create, apply, and remove options: |
| | Create = 0: Converts objects to Scatter hosts. Object type can be surface, polysurface, mesh and extrusion, excluding InfinitePlane and Proxy special object type. If the selected objects are special objects, the tag is detached. A new Scatter object is created in NeUI and its tag is attached to the selected geometry. |
| | Apply = 1: Applies the Scatter modifier to the selected objects. Enter or select the name of one of the Scatter objects available in the scene. |
| | Remove = 2: Removes the Scatter modifier from the selected objects. Detaches the special object tag from the Scatter Host surface. |
| **vraySelID** | Selects object by given ID value. |
| **vraySetMtlID** | Random=0: Generates random colors based on the seed parameter |
| | Black=1: Sets the ID color to Black (0,0,0) |
| | SelectionOnly=Off: Material ID Colors are applied to all objects. |
| | SelectionOnly=On: Material ID Colors are applied only to selected objects. Select the objects in the scene first, and then start the vraySetMtlID command to use properly this option. |
| | **When Random=0 is selected, the following randomization properties are available:** |
| | Seed=-1: Random color distribution. Different numerical inputs result in various randomizations. |
| | Stable=On: Makes sure that the same materials names receive the same colors every time. |
| | Stable=Off: Materials names receive different random colors every time. |
| | BlackOnly=On: The Black ID color is modified according to the parameters above. |
| | BlackOnly=Off: Changes only the objects with ID Color set to black to random colors and keeps the rest as is. |
| **vraySetObjectID** | Constant=0: Sets the same object ID for all the selected objects. |
| | Ordered=1: Orders objects' IDs in a sequence from Min to Max. |
| | Random=2: Sets random values as objects' IDs in the range of Min to Max. |
| **vrayShowAssetEditor** | Opens the Asset Editor. |
| **vrayShowCosmos** | Opens the Chaos Cosmos Browser. |
| **vrayShowFilePathEditor** | Opens the File Path Editor. |
| **vrayShowVFB** | Opens VFB without mutating the option. |
| | ShowOnRender=Off: Set the option to OFF and show the VFB. |
| | ShowOnRender=On: Set the option to On and show the VFB. |
| **vrayTexture PreviewSettings** | BakeResolution - number. Sets a resolution for the procedural textures' baked images for the viewport preview. |
| | MatchBitmapResolution = on/off: When enabled, baked viewport preview of texture networks containing a bitmap matches the bitmap resolution. |
| | ImageQuality - number. Changes the .jpg file quality of the baked images used for the viewport preview. Setting a lower value reduces the project file size. |

| | |
|---|---|
| **vrayVantage** | Opens V-Ray Vantage. |
| **vrayVPRSettings** | Scaling=0: Changes the viewport size. |
| | Reset=1: Re-enables the V-Ray Interactive display mode (Viewport rendering). |

## Notes

1 – The default preset used is the Studio one and it remains the same unless changed to ArchVis. These presets do not affect the render quality presets.

The **Revert to Default Render Settings** button from the bottom of the Settings panel in the Asset Editor restores the settings preset chosen upfront by the command.

In order to get proper results by the ArchVis preset, the Rhino Sun has to be turned on. You can do this through **Asset Editor > Lights > Rhino Sun Document**. The **Revert to Default Render Settings** button also turns the Sun on.

2 – Rhino's commands **RenderWindow, RenderInWindow,** and **RenderBlowup** are supported and function the same way as in Rhino Renderer.