

## General tips and tricks

Contributed by  
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Not every small trick needs an entire tutorial. Here is a collection of some small helpful tricks. Please post what you like.  
(1) Secondary ray bias Sometimes it is useful to model intersecting objects. If no bias is used, than Vray marks the intersection black. To avoid this black artifact it helps to set a secondary ray bias and a bias in the shadow properties of all lights.

- Secondary Ray Bias against artifacts of intersecting objects:
  - (2) The best basic book about rendering ... .. can be found here - <http://www.3drender.com/>. It's a must for every beginner.
  - (3) Multilayer materials - an example
    - Example of a material with textured layers (the line around the mirror show the rhino geometrie):
    - (4) Image Based Lighting (IBL) The V-Ray for Rhino texture editor can be used to load high dynamic range images (HDR) as GI and Background maps of your scene environment. The HDR image will be used to illuminate the geometry in your scene. To understand more about IBL, see Paul Debevec's website and a tutorial he has made tutorial.

### Files

- Download Starting Scene File
- Download HDR File

### Steps

- In the V-Ray for Rhino RenderOptions > EnvironmentSettings?, select the "m" button to use a map instead of a floating point color.
- In the V-Ray for Rhino Texture Editor, in the Common section, set the map type as Bitmap.
- Under the Bitmap section, choose "m" and locate the a0020.hdr file. (Currently only HDR file types are supported)
- Select Environment mapping type from the UVW section. Choose the Mirror\_Ball mapping type for this HDR image.
- Use the Multiplier to control the amount of light being transmitted by the HDR image. In this case we set it to 1.5.
- Follow steps 2-5 for setting the reflection map.

(5) Flat glass for architecture or ... Don't use caustics for architectural exteriors. For windows, a single surface with an reflection (fresnel) layer only is usually good enough. For flat glass, like that found in glass cabinets with a light color, use an additional refraction layer. Set the IOR to 1 and enable affect shadows. So the glass acts like a semi-transparent object without refractions and a colored shadow. (6) Full adaptive image sampling Many quality options use the parameter "subdivs". This parameter controls the quality of soft shadows, blurry reflections/refractions, and the DOF (Depth of Field)effect. All these parameter can be ignored if Vray is set to Full adaptive mode. In this mode, the Vray engine is using so many samples (see attached screenshot - 0 .. 50 samples), that a specific noise threshold is reached. Recommended 0 ... 100 samples. If the user gets the feeling that too many samples slow down the calculation too much, fewer samples can be set - 0..50 or 0 .. 20.

The full adaptive mode doesn't influence the IM prepasses. If the arealight option "store with IM" is used, than the subdivs of the arealight must be extra controled - for example set at 9 or 12 or 16. This values are used for the IM prepasses.

- AdaptiveSampling?.jpg:
  - (7) Brushed Metal A basic material for design work - brushed metal. But which parameter is more important: glossiness (blur) or anisotropie? The test renderings should give the answer.
    - Test of different parameters of anisotropic reflections:
    - (8) Color mapping - Reinhard The "Reinhard" color mapping mode can be used for any rendering between "linear" and "exponential". If the burn value is 1, than the linear mode is used. But often details are lost in the brightest areas of the image. A lower burn value gives a shift in direction of the exponential mode. A burn value of 0 lets VfR keep all image details, but the image could look dull. A good starting value is 0.5.
    - (9) 3GB memory switch

copy-pasted from the Vray forum (by Candelero):

"" In order to help our users, here is how the 3GB switch can be setup. This has been discussed a lot in the forum, though there are still users finding problems with it.

First, an additional line has to be added in the < boot.ini > file.

The < boot.ini > file is actually a protected system file, which is hidden from the Windows OS by default. To make it accessible:

- (\*) Open the Explorer ;
- (\*) Tools - Folder Option ;
- (\*) View - Tab ;
- (\*) Uncheck the < Hide protected operating system files > ;
- (\*) Look for the < boot.ini > in the C:\ root folder ;
- (\*) Open it using Notepad.exe (or any other editing application) ;
- (\*) Copy the last line, which ends with "... /fastdetect" ;
- (\*) Paste it in a new line and replace that with "... /3GB" ;
- (\*) You may want to add some text between the brackets, to know which Windows is the one with the 3GB ;

Here is a typical < boot.ini > and how it looks like:

```
[boot loader] timeout=30 default=multi(0)disk(0)rdisk(0)partition(1)\WINXP [operating systems]
multi(0)disk(0)rdisk(0)partition(1)\WINXP="Microsoft Windows XP Professional" /fastdetect
multi(0)disk(0)rdisk(0)partition(1)\WINDOWS="Microsoft Windows XP Professional 3GB" /3GB
```

Important:

There are some CPU and MB configurations, which also do not allow this extension to run properly. If you have encountered this, please report the hardware specifications. Thank you !

For more info on the topic, refer to: <http://www.microsoft.com/whdc/system/platform/server/PAE/PAEmem.msp>

Best regards, nikki Candelerio ""

Comment by Micha: The boot.ini can be easy edited by the tool MSCONFIG. Click on Start, then Run. In the Run dialog box type "msconfig" and press enter to start the MSCONFIG utility.