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ESTIMATED TIME TO COMPLETE THE TUTORIAL
1 HOUR

With the Disc
Tutorial files:
- Tutorial screenshots

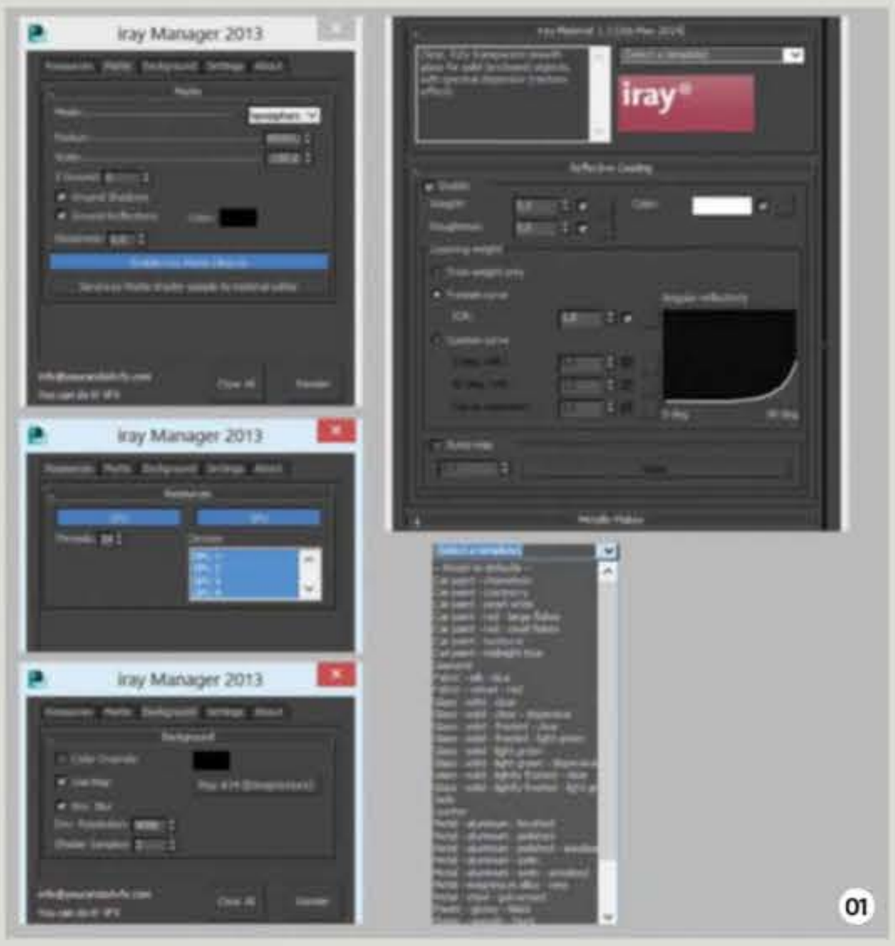
Render with 3ds Max

“How can I achieve photrealistic car renders with 3ds max and iray?”

Here you'll learn a fast and intuitive way to produce renders with 3ds Max and iray on the base of high-res HDRIs. As this is not so easy to achieve with the onboard tools of 3ds Max itself, these steps will fully outline how you can achieve fast results with the help of two very handy and free tools.

iray has a very powerful shading model, and as such can produce a great car paint shader. As such you can set up the HDRI scene very intuitively. The outcome of this process will be a photoreal scene that can be rendered on either a GPU or a CPU.

To kick things off we have to download and install the two helper tools. The first is the iray manger script that can be downloaded here: www.youcandoitvfx.com/?page_id=12. With this tool installed we can easily determine whether we prefer to render on a CPU, a GPU, or both and we also have access to a special HDRI Projection mode that is not accessible inside 3ds Max at the moment. The second tool we have to download for photoreal car renders is the iray material 1.3 from here: ftp://ftp.nvidia-arc.com/pub/iray_material_plugin_1.3_Max2014.zip. This is a material plug-in specifically for iray that makes layered materials available. It provides a huge bunch of material presets and also presets for car paints.



01 Set up the iray manager and materials

growing community at www.3dartistonline.com

LightWave

Eugenio Villarreal
www.flickr.com/artecnl

Eugenio is a graphic designer as well as an environment artist and matte painter. He also loves to make textures and has a big interest in traditional painting methods and styles

3D-Coat

Pierre Rogers
www.sketchzombie.com

Pierre is a native of Chicago and works as a character artist. He specialises in hard-surface sculpting techniques and this issue explains some quick retopology tips

Send us all of your 3D problems and we'll get them sorted. There are four methods to get in touch with our team of expert advisors...

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02 Set up the base scene

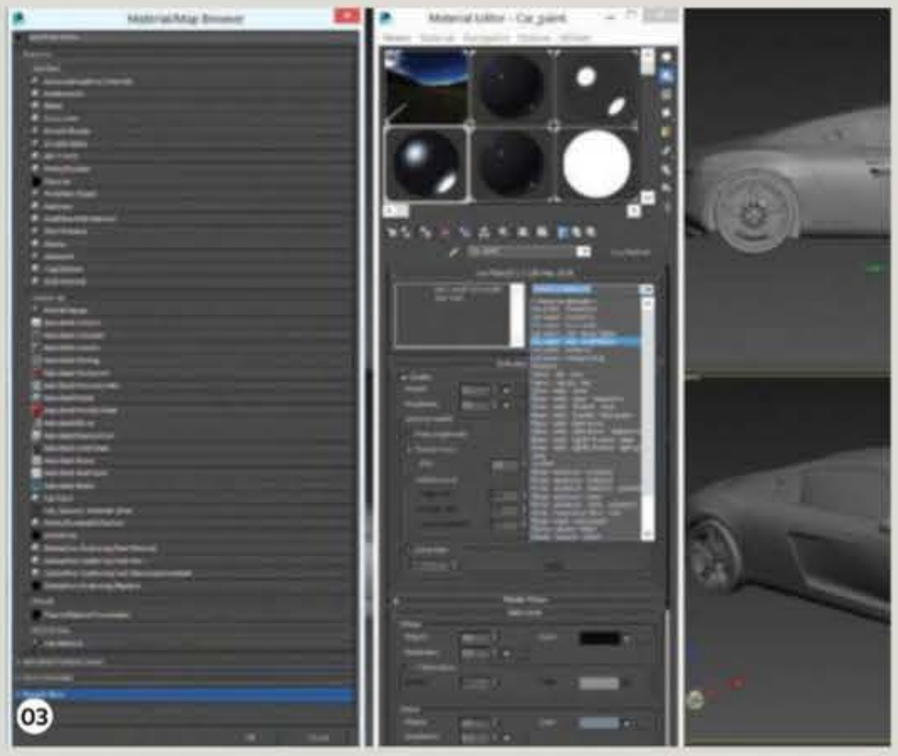
Next, import or open the car model. In my case I'm using the final 3D model of my tutorial book: *3D car modelling with Rhinoceros* (www.ak3d.de/all/3d_car_tutorial_book_animation) where you'll find the finished 3D model available, but any model will do. Move the model into five groups: the chassis and the four wheels. After placing the pivot point of the front wheels, we can turn them for a perfect pose. We also have to create an Omni light. This turns the standard light function from 3ds Max off.

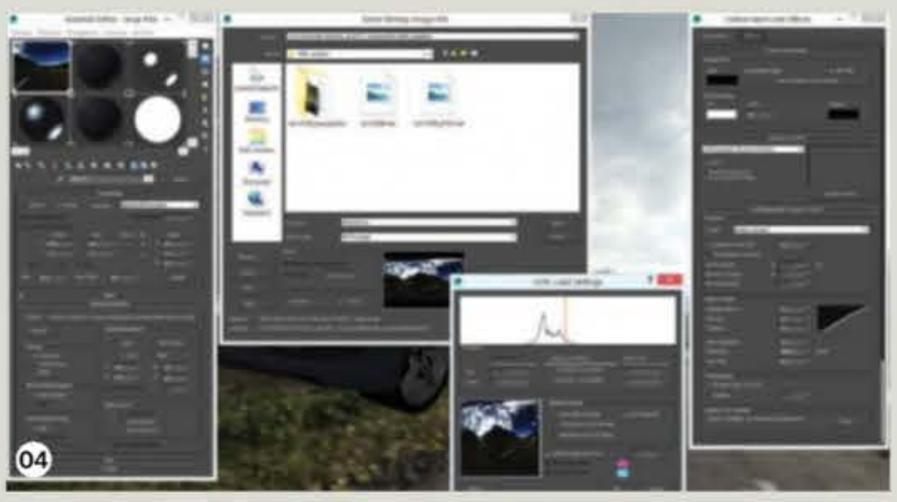
03 Make an iray material

To place materials much faster, we can place the different car parts on various layers with their material name as the layer name. Next open the Material Editor and then the Map/Material browser and search for the iray material. Choose a preset, place it next to the material layer and fine-tune the parameters. For example, here I've picked the Red Car Paint preset and changed the colour to a grey. Now select the objects on the layer and assign the material to that layer. Repeat this step for every material layer.

04 HDRI setup

Open the Environment dialog, choose Use Map and select a Bitmap slot. Drag this Bitmap slot to a Material Editor field and select an HDRI in the Browser field. For the colour you can choose Real Pixel 32-bit and leave the values as they are. Switch the Projection mode to Hemisphere and close the Material Editor. In the Exposure Settings, pick the mental ray Photographic Exposure tool and switch on the Affect Maps and Environment checkbox. Now click into a viewport, hit Alt+B to open the Viewport Background menu and choose to see the Environment Map.





05 Render and fine-tune

Now we can start rendering the scene. To do this, open up the Environment dialog and the Material Editor and start fine-tuning the various settings. First look at the HDRI background and set up the Exposure level to a decent value so that the details of the background image remain visible. Next set up the white point and contrast settings until the image reaches an acceptable level. We can even add a vignette effect at this stage. As soon as the background is looking good, start to refine the iray material settings. Just change these and re-render the scene until each material looks as high-quality as possible.

06 Final settings

We can finish up with a handy trick. Start the iray manager script, switch the Projection Mode to Hemisphere and tick on the boxes for Shadow Ground and Glossy Ground. This finally transforms the HDR image so that the car stands on the ground with a correct shadow and even reflection on the street. Next, fine-tune the values for Ground Scale, Environment Scale and the Reflection Glossiness, then render the scene constantly until the result looks perfect. Finally we'll render the scene as an HDR file and choose a decent Sampling value, such as 2,000. From this point onwards, any postproduction steps can be completed using Photoshop or After Effects.

3D car modelling with Rhinoceros

This is a 624-page complete step-by-step guide on how to model an R8 in high quality, with mainly A-class surfaces using Rhinoceros. It is the perfect addition to this rendering tutorial, as you will learn how to create a photorealistic 3D model of a complex-shaped car on the base of just the blueprint. You will learn how to construct the whole model from scratch up to the quality as the renderings on this page. Each working step is illustrated with a screenshot, the used tool with an icon and a description what to do. It's available to buy online at http://ak3d.de as a hardcover book or as a PDF file for download.

• **DID YOU KNOW?** • All tutorial files can also be downloaded from: **www.3dartistonline.com/files**