

Intro to Blender Mesh Modeling-World

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This is another short paper just to show you how to add a little color to your World backdrop for rendering, and also how to hang up an image back there.



These are the Windows you'll be using in this paper. The 3D View Type and Two sub-Panels of the Buttons Type Window-Panels with those being the sub-Panels of World and Texture.

Texture is where you load the Image for your World Backdrop, and World where you chose a color for the World backdrop or setup the Image for display.



For my backdrop I created a scenery image using the **Free Scenery Generating Program Terragen**.

Terragen can be found at (As of the writing of this paper January 2007.)

<http://www.planetside.co.uk/terrigen/>

And since it is free and an excellent program you may wish to download it if you do not already have a copy.

Color your World

First go to your *Buttons Window Type- Shading- World* sub-Panel and look for the area called '*World*'.



1) Choose a predefined World, name your World, or 'X' delete the selected World. 'F' saves even if unused.

2) **Ho(rizon)** color: set color box or RGB sliders.

3) **Ze(nith)** color: set color box or RGB sliders.

4) **Amb(ient)** light color: RGB sliders.

5) **Exp(osure)** exponential color correction for light.

Think in terms of a 35mm Camera's exposure, which controls the amount of light striking the film

allowing you to over or under expose it. In **Blender** it only works at **Over Exposing**.

Range is color amount mapped on color 1.0 and deals with how ambient color affects the render. Try different settings to see the effect, but reset to Default when finished testing.



Now make two sharply different colors for your **Horizon** and **Zenith** values, such as maybe blue and yellow. Unfortunately screen capture would not allow me grab images of the preview window showing the affects of the buttons so watch Preview

to see changes.

After doing that notice the 3 buttons of **Real-Blend-Paper**, and first click **Blend** after which you should see in Preview a ramp going up of your **Horizon to Zenith** colors. Here the bottom of your view is considered the Horizon line.

Leaving Blend on now click **Real** and you'll see your Horizon color running across the middle of your Preview window, and ramping both up and down toward the Zenith color. Real here *means real horizon line* of the 3D World of Blender.

Leave both Blend and Real on then click on **Paper** and you'll see much more a ramp going up and down. The explanation: Blender normally considers that you are inside a 3D World, as if surrounded by a giant globe. So the ramp goes all the way from the bottom to the top of this Globe you're in, but your field of view limits how much of the Globe you can see at one time.

Now what **Paper** does is it tells Blender you are not in a Globe, but that the backdrop is like a flat sheet of paper whose image area equals the view area. This becomes more important when using a **World image** to see the whole image on Full Render.

World Image

If you do not have a **Buttons Window setup for Texture**, switch your World panel into a Texture one.

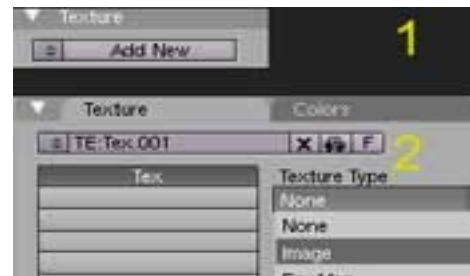


Now look in the **Preview Panel for Texture** and notice Mat(erial)-World- Lamp buttons. Since you are working on a World image **select the World button.**

Now in the Texture Area do **1) Add New.**

- 2) It changes to give you a Name(renaming) bar with 'X' delete, (car) auto rename, and 'F' save if unassigned.

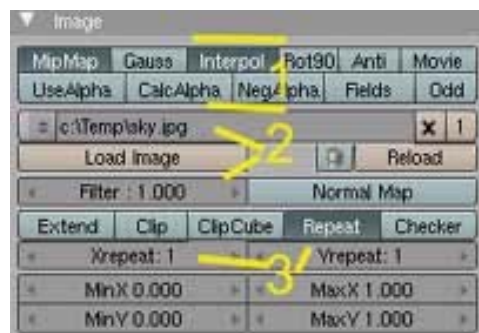
Off to the right side is **Texture Type** where from a list you will select **Image**.



The **Image sub-Panel** now shows (talked about a bit more in my Materials paper).

- 1) Image options: **mainly worry about these MipMap**-if your not going to a Game Engine and need MipMaps turn off. **Anti(alias)** on/off for Image. **Movie** to use a Movie (see Materials paper). **Fields** if using Video.

- 2) **Name(Renaming) Bar** with 'X' delete. **Load Image** button, normally there is no Name bar showing till you load your **Image**. Clicking **Load Image** brings up standard Blender file explorer in another window to locate your **Image**.
- 3) **Repeat** turns on XY tiling, the Xrepeat and Yrepeat Inputs is where you set the values. Min and Max XY deal with offsetting and **Image**.



Note: *Look at the Materials Paper for more on using a Movie as Image*

TEXTURE AND INPUT

Open backup your **World sub-Panel**, where Blender will automatically put your selected Image into the **Texture and Input sub-Area** texture list.

- 1) Look at Left side to see list of textures associated with the World. More than one can be used and the order on the list does matter, with up/down arrow icons aiding in moving items around (Again See Materials).

Clear deletes selected from texture list, use small up/down button to **Clear's** left to see list of currently loaded **Images**.

The center section of greenish Buttons deal with UV mapping, but since all we want is Our image in the World , View is fine. dXYZ and sizeXYZ deal with scaling and UVW offsetting for when using a 3D Procedural shader.



MAP TO

Now click the Tab for **'Map To'**, and your main interest here is to press the **Hori(zon)** button on. This makes your newly loaded Image your Horizon value.

Pink Bar area deals with 3D –No RGB Procedurals.

Mix how the Image is mixed with current values.

Col(or) is blend amount between Image and Horizon color values, 0=color/1=Image

Simply having 'Hori' selected and Mix set to Mix will be enough to get your Image to show on Full Render.



Image on a **Paper** World.

One last thing, remember Blender has you in a Globe World so your image is stretched around this Globe. Here you want instead Blender to just hang your

Resulting Render



STARS:



To activate simply click icon button, first value **Star Dist(ance)** is the minimum distance between stars. **Min(imum) Distance** for the camera to Stars.

Size is average screen dimension of Stars on render, bigger number bigger size.

Col(or)noise 0 = no colored stars all are a horizon tinged grey scale. 1= wide spectrum of vibrant star colors.

Stars are simply calculated and layered over other values.



MIST:

Most other 3D programs call this 'FOG', but in Blender the name *Mist* is used.



- 1) **Mist**- effect on/off button
- 2) **Qua**(dratic), **Lin**(ear), and **Sqr**(square) deal with the mathematical fall off value of the *Mist*. **Linear** straight line progression, **Quadratic** or $\frac{1}{4}$ ratio based on distance and **Square** for square of distance.
- 3) **Sta**: for start distance of *Mist* from camera. Should not be 0.
Di: distance of *Mist*.
Hi: height of *Mist*, or lessening of *Mist*

density with increasing height.

Misi: Mist intensity or thickness/density of *Mist*.

Your *Mist* color is based on your *Horizon* Color and *Zenith* Color if using Blend.

Important

1) The problem with *Mist* and a *World Image*; if you want to see a *World Image* in Blender it takes over as the **Horizon Color for the World**. But *Mist* is based on *Horizon Color*, so with *Mist* on it tries to use the *World Image* as the *Mist Color*.

Also since there is no geometry actually used to tell Mist how far away the World Image is; Blender can not calculate a *Mist value* against it.

So if you want to use an **Image** in your background, **and** use **Mist** as well you need to create a piece of geometry such as a plane which your Image is applied and UV mapped to as a Material. And you use only a color for your Horizon in World.

- 2) *Mist Does Not* show in 3D View, so you must **full render** to see the effect making a camera in your scene necessary.
- 3) There are no quick settings for *Mist*; it's a lot of testing and tweaking values to get what you want.

Mist Examples

