

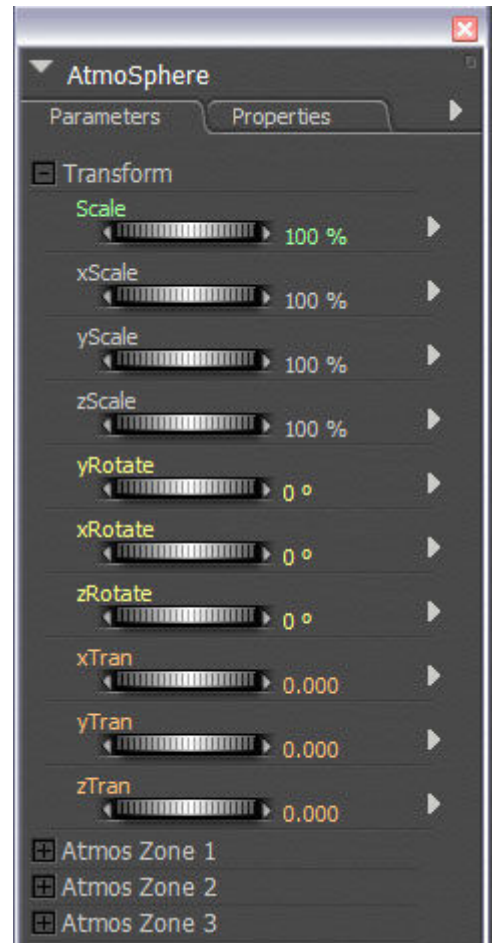
Runtime DNA's 'TerraDome' AtmoSphere Advanced User Guide

One of the most complex pieces of the TerraDome system is the Advanced AtmoSphere figure, and it's material system. To make the system easier to use, we have constructed a dial system into the figure that will directly control the materials without you ever having to enter the material room.

Another advantage of the dial system is that Atmos Poses can be made to easily apply materials to all three zones through a simple pose - at the same time maintaining the powerful dial system!

Let's take a look at the Dial system:
Switch to the BODY Element of the AtmoSphere Advanced Figure

By default the dials are collapsed.





Open Atmos Zone 1's Menu:

These are the "Base" set of Dials for Zone 1.

[Density Texture] - This controls the Density or Strength of the Texture Component of the Overall effect. To make the gradient's smooth effect stronger, lower this number. Raise it to make the texture's effect more apparent.

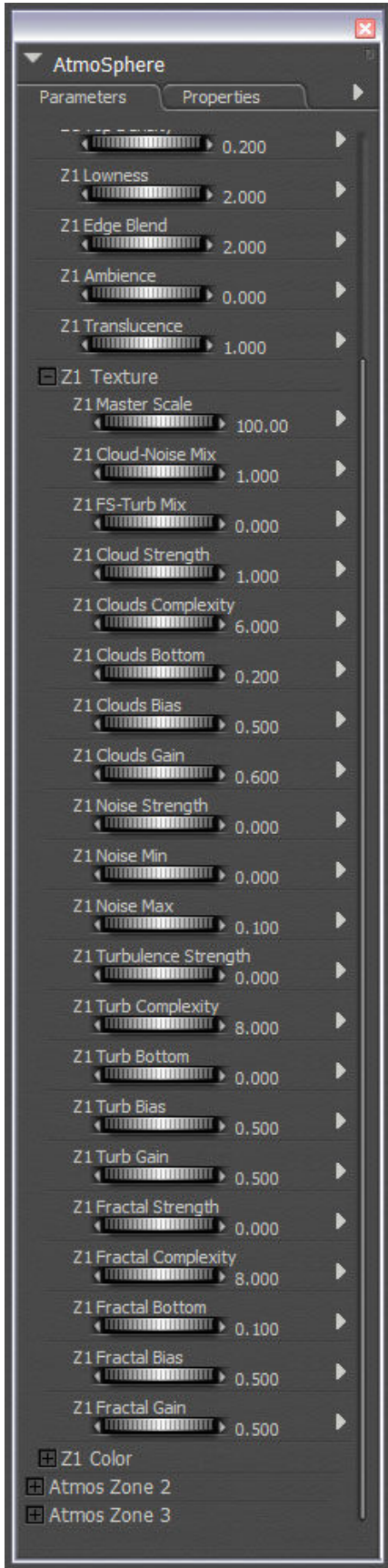
[Density Gradient] - This is the other component of the overall effect - This controls the strength of the gradient on the whole effect of the material. To make the texture's effect stronger, lower this value.

[Top/Mid/Bottom Density] - These control the Density of the 3 heights of the effect. You can adjust these numbers to get a variety of different effects. For instance to remove the overall effect from the bottom to make an AtmoSphere blend in with a ground layer better, you can set the bottom density to 0.1 or 0.01 (Try to avoid Zero, it makes some small mathematical issues along the way)

[Lowness] - This controls the height of the overall effect. The higher the value of this dial, the "lower" the fog or effect gets to the ground. This can be used to make the overall effect tighter or looser as you need it, without adjusting the Top/Mid/Bottom Density.

[Edge Blend] - This is a compensation effect so that as the AtmoSphere wraps to the side, it gets weaker, yet as long as the camera is pointing at it, it remains at full strength. This is for blending purposes.

[Ambience] & [Translucence] - These two dials control the "Brightness" of the overall effect. Normally the value of the two combined should be 1.0 - 1.2 - for darker colors (see below) you can adjust these higher. We have the default set to All Translucence, because it has a slightly more realistic look for what we are using it for (mainly when backlit) - both can be used easily. NOTE - Low values will muddy the effect of the AtmoSphere.



That covers the "Base" Set.

Now open the Texture Group:

The Texture component is actually made up of 4 procedural texture nodes - there are no texture maps used on the Atmosphere at all. The Textured look is done by blending these 4 nodes together with options for their various effects as well as how they are blended etc. This is the most complicated aspect of the system, but with a little practice you will be able to get a large number of effects from this single shader and dial system!

The four textures components are: Clouds , Noise, Turbulence, and Fractal-Sum (Fractal)

The Dials:

[Master Scale] - This controls all of the Scales of the textures through one value. This was done as a ease of use factor.

[Cloud-Noise Mix] - This controls the strength of the combination of the Cloud and Noise Nodes in relation to the total texture's effect. Setting this to 1 "Turns on" the Cloud and Noise combination - This must be set to 1 if you wish the Cloud and or noise effect to show on the texture.

[Turb-FS Mix] - This controls the strength of the combination of the Turbulence and Fractal Nodes in relation to the total texture's effect. Setting this to 1 "Turns on" the Turbulence and Fractal combination - This must be set to 1 if you wish the Turbulence and or Fractal effect to show on the texture.

[Strength Dials] - There are 4 dials that control the strength or visibility of the 4 texture components - These are Cloud Strength, Noise Strength, Turbulence Strength, and Fractal Strength. These dials control the "mix" of the

individual components of the texture. In order for one of the components to show in the texture effect you need to set a value for not only one of these strength dials, but also the appropriate "Mix" Dial above. If you leave the mix at 0, the strength dials will have no effect.

[Texture Component Dials] - For your ease of use, we have set all of the appropriate texture node components as dials, so you can control them without entering the material room. We will briefly go over what these components are for: (These are for Clouds, Turbulence, and Fractal, Noise has it's own 2 special dials.)

[Complexity] - This sets how complex or detailed that the component is. The higher the value, the more complex that the effect will be. The lower the value the more "Blurred" or simple the effect will be.

[Bottom] - The Bottom values set the "Bottom" or Lowest value that the node will use when building it's effect. Basically what this means is that the higher the number used the higher the starting point of the texture - 0 = pure black and 1 = pure white - so 0.5 would be 50% grey. So depending on what the other two values are set at (Gain and Bias) it sets the range of values that the texture node will use to generate it's effect.

[Bias] - Bias controls the shift between dark and light. 0.5 would mean that the shift is the same from the mid point to the light and the dark ranges of the overall color range. 0 means that the dark values are favored, and 1 means that the light values are favored - the essentially sets the "center" of the range of values that your texture will use. Low values mean more dark spots, High means more light spots. Light spots = atmosphere, and Dark = gaps or thinness of the atmosphere.

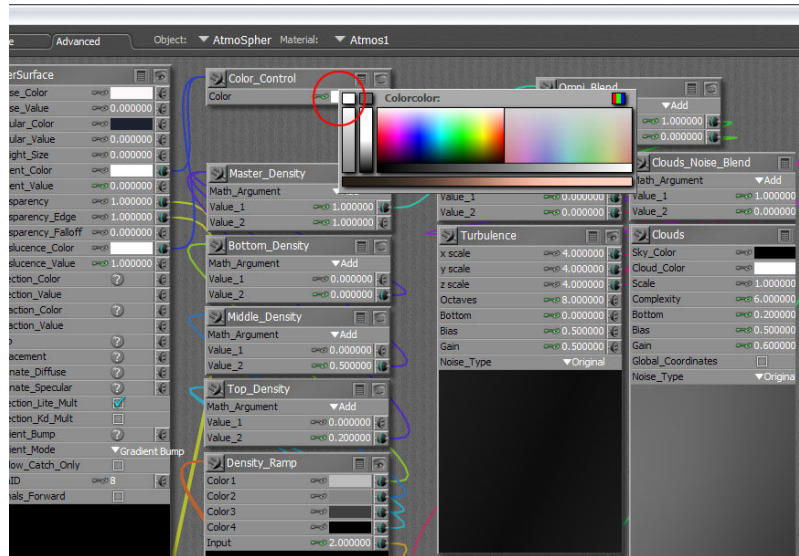
[Gain] - Gain controls the Contrast between the light and dark values of the range that the texture node will use. I know that this sounds a lot like Bias, but there is a difference when used. We are not math heads, so I will just leave it that lower values make the overall effect darker, and higher values make it lighter (stronger in the terms of this system)

[Noise Min and Max] - These are special to the noise texture. Min sets the minimum value that the noise will use to be generated. 0 = black, 1 = white. Max is similar, but sets the high end. The difference between them sets the "graininess" of the texture effect. 0 Min 0.1 Max gives you a soft effect, where 0 Min 0.5 Max is a very grainy effect.



Finally we have the 3 Color Dials - Red, Green, and Blue.

These set the Values for the RGB components of the color of the Atmosphere. For most applications, you will want to keep it white - 1,1,1



But if you do want to use color, it is simpler to go into the material room and adjust the single color field with a color picker. You can do this by going into the material room, selecting the Atmos layer you want to add color to, and clicking on the white box on the Color_Control Node. This will give you a color picker that you can use to set these three dial values. They were included so that mainly poses for the AtmoSphere can be made.

In closing - the power of this shader system is far wider than shown in the 10 poses that we have supplied with the set - Just about any effect can be generated with some thought and careful set up of the various values.

We hope you enjoy this exciting feature of the RDNA TerraDome System!

Colm and Traveler