PxrMultiTexture

PxrMultiTexture was built to reference up to 10 textures, blend them in various ways and allow for various map selection methods.

Like all texture style nodes, this node takes a manifold which describes a 2D domain to apply a the texture to. The default behavior, if no manifold is attached, is to apply over the s,t domain defined on the geometry.

> PxrMultiTexture is only compatible with PxrRoundCube, PxrTileManifold, PxrRandomTextureManifold, and PxrHexTileManifold. Other manifolds are NOT usable with this pattern.

PxrMultiTexture doesn't support Texture atlas format files: it makes no sense for its usage. This plugin does support RTX procedural texture plugins, though.

Input Parameters

Multi Manifold

Provides the domain over which to apply the textures, through either PxrRoundCube or PxrTileManifold. If not connected, it will defaults to s,t.

> This input is only compatible with nodes providing a "resultMulti" output, like PxrRoundCube, PxrTileManifold, PxrRandomTextureManifold, and PxrHexTileManifold.

> Note : When using the PxrHexTileManifold, we don't support multiple textures.

Textures

Filename (0 to 9)

The filename of the texture. You should have at least one texture in slot 0.

Texture Parameters

These parameters are valid for all textures (0 to 9).

First Channel Offset

Offsets the first channel to be looked up.

Usually, you want to start with channel 0 (RGB of RGBA texture), but if you are using a multi-channel openexr texture, you may need to point to the correct channel.

Let's say we have a texture containing 9 channels organised in 3 RGB groups (diff.r, diff,g, diff.b, spec.r, spec.g, spec.b, ior.r, ior.g, ior.b). If you want to read the "spec" RGB channels, you will have to set firstChannel to 3.

Invert T

Inverts the t parameter for the texture lookup.

Filter

Selects different reconstruction filters that can be used during texture lookups. The filters available for PxrTexture are:

Value	Filter
0	Nearest
1	Box
2	Bilinear
3	Bspline
6	Gaussian

7	Lagrangian

Blur

Specifies how much to blur the image retrieved from the texture file.

Mip Interpolate

Selects whether to interpolate between adjacent resolutions in the multi-resolution texture, resulting in smoother transitions between levels.

Missing Color

If there is an error opening the texture, use this color.

Missing Alpha

If there is an error opening the texture, use this alpha.

Linearize

Apply the reverse sRGB transform your texture. If you are painting textures in sRGB space (default for most paint packages) but viewing your data in data linear space, your textures will look washed out. This will apply the sRGB transform to your texture, which should make it appear visually linear again.

Advanced Settings

MipBias

Bias mip selection chosen for rendering to either a higher (negative integers) or lower resolution (positive integers) selection.

MaxResolution

Clamp mip selection to a preferred maximum level. This may prevent the highest resolutions from being rendered depending on your selection.

OptimizeIndirect

Sets texture filter to Box (inexpensive) on indirect hits instead of the selected filter used for other visible effects.

Randomize

Manifold patterns outputting a multi manifold encode which texture should be used using a 2D coordinate system. PxrMultiTexture can use those coordinates to compute a random seed to drive local variations.

Random Source

For each object to get a different variation, you need to select something unique about them to create a unique seed. You have a choice between the object's id and the object's name.
These attributes are created by the software outputting the RIB and depending on your host, one may work better than the other.

Value	Source	Depends on
`0`	Object id	`Attribute "identifier" "float id"`
`1`	Object Name	`Attribute "identifier" "string name"`

Seed

When set to zero, all PxrMultiTexture patterns using the same manifold will compute the same random seed. If you want one of these patterns to compute a different variation, set the randomSeed to a non-zero value:

Hue

Limit random hue shift. Ranges from 0 (no variation) to 1 (full variation).

Saturation

Limit random saturation scale. Ranges from 0 (no variation) to 1 (full variation).

Luminance

Limit random luminance scale. Ranges from 0 (no variation) to 1 (full variation).

Gamma

Limit random gamma variation. Ranges from 0 (no variation) to 1 (full variation).

Hue Mode

How the color hue will be randomized:

Value	Mode	Descrition
0	Centered	The variation will be centered around the current value
1	Additive	the variation will be added to the current value
2	Substractive	the variation will be substracted from the current value

Saturation Mode

How the color saturation will be randomized:

Value	Mode	Descrition
0	Centered	The variation will be centered around the current value
1	Additive	the variation will be added to the current value
2	Substractive	the variation will be substracted from the current value

Luminance Mode

How the color luminance will be randomized:

Value	Mode	Descrition
0	Centered	The variation will be centered around the current value
1	Additive	the variation will be added to the current value
2	Substractive	the variation will be substracted from the current value

Gamma Mode

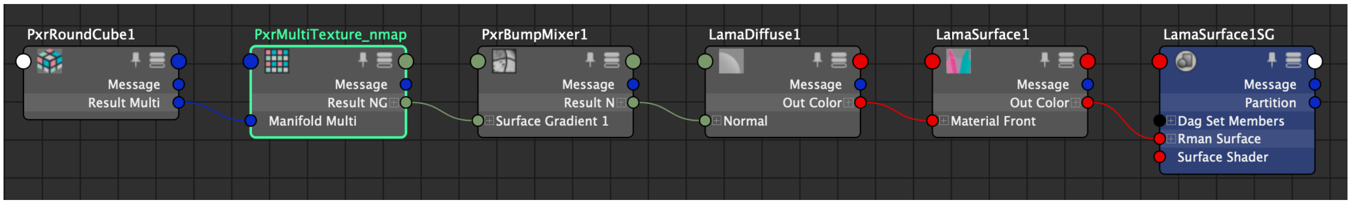
How the color gamma will be varied:

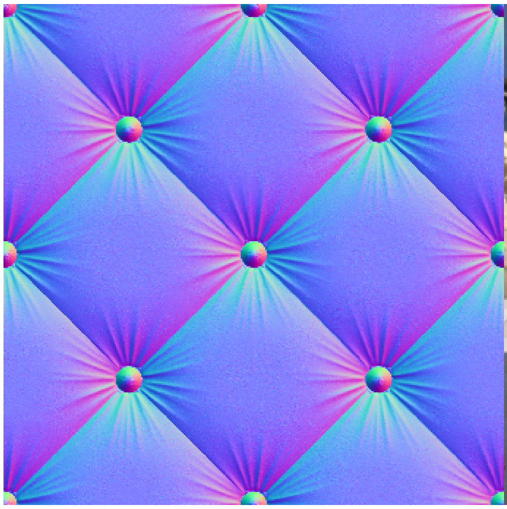
Value	Mode	Descrition
0	Centered	The variation will be centered around the current value
1	Additive	the variation will be added to the current value
2	Substractive	the variation will be substracted from the current value

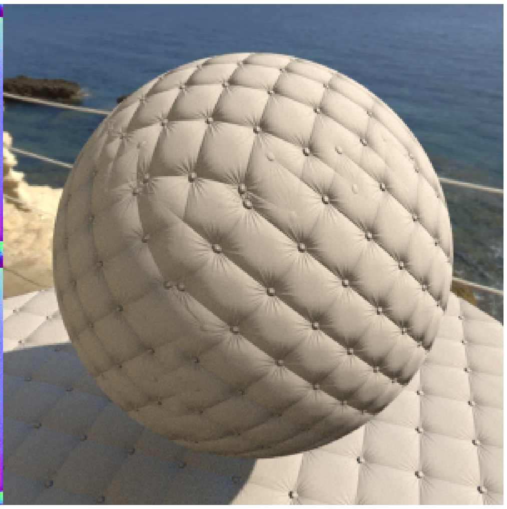
Bump Output

Textures are Normal Maps

Sets input textures as Normal Maps. This allows you to use the **resultNG** output, like in this triplanar mapping example.







Orientation

Some texturing applications offer different orientations. You can also go manual to try to fix your normal maps appearance

Flip X

Invert the bump orientation - concave becomes convex and vice versa

Flip Y

Invert the bump orientation - concave becomes convex and vice versa

Adjust Output

Color Scale

A multiplier for the color values in a texture, can be used to adjust brightness or manipulate individual color channels

Color Offset

Apply an offset to the result, shifting the colors of the result

Saturation

Increase (greater than one) or decrease (less than one) the saturation of the texture result

Alpha Scale

A multiplier for the alpha channel, useful when the alpha is used to drive a parameter

Alpha Offset

An offset for the alpha channel, useful when the alpha is used to drive a parameter

Hexagonal Tiling

Show Grid

Display current HexTile grid

Grid Color

Set the color of the displayed HexTile grid

Match C++ patterns

Match RenderMan 23 C++ scenes but may slow down your render. Use only when necessary

Output Parameters

resultRGB

The filtered color result. Note that all results are looked up starting at the *startChannel* offset.

resultR

The R channel result

resultG

The G channel result

resultB

The B channel result

resultA

If alpha is present and resultRGB is connected it returns the channel after RGB. If RGB is not connected it returns the first channel.

resultNG

Outputs a bump mapping surface gradient that can be used by PxrBumpMixer.