Gradient Material Functions

Procedurally generated gradients to add to your materials, eliminating the need for textures and saving memory.

The Gradient functions produce procedurally generated gradients made from Texture coordinate expressions. They save memory over having to create a texture-based gradient.

Gradient Functions

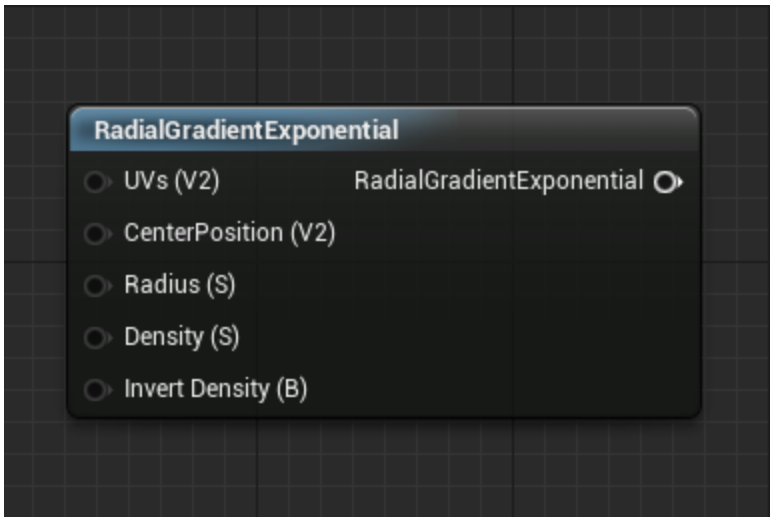
Below is a list of the gradient functions.

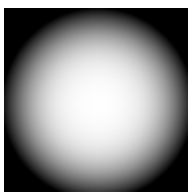
Radial Gradient Exponential

The **RadialGradientExponential** function uses UV channel 0 to produce a radial gradient, giving the user the ability to adjust the radius and offset the center point.

Item	Description
Inputs	

Item	Description
UVs (Vector 2)	Allows the ability to control where the gradient resides and how much it covers of the 0-1 space.
CenterPosition (Vector2)	A 0-1 based offset for the position of the gradient's center.
Radius (Scalar)	The size of the radial gradient from its center. The default of 0.5 puts the edges of the gradient at about the edge of the texture space.
Density (Scalar)	Adjusts the hardness of the resultant gradient generated by the Function. The higher the number means the sharper the gradient.
Invert Density (Boolean)	Inverts white into black and black into white for the gradient.



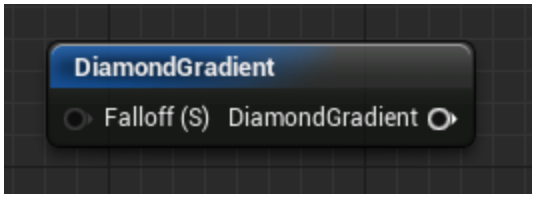


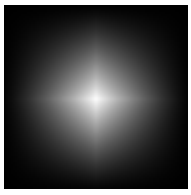
Default Output Result

Diamond Gradient

The **DiamondGradient** function uses UV channel 0 to produce a radial gradient, giving the user the ability to adjust the falloff rate of the gradient.

Item	Description
Inputs	
Falloff (Scalar)	Boosts gradient contrast by controlling how quickly the gradient shifts from white to black.





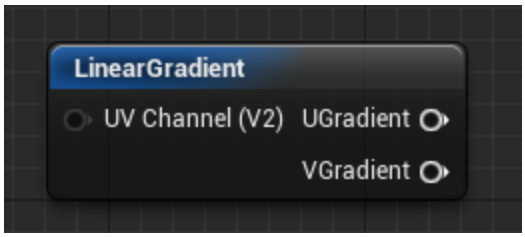
Default Output Result

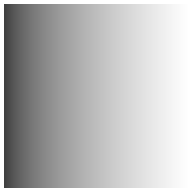
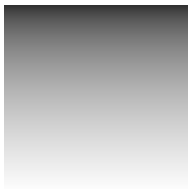
Linear Gradient

The **LinearGradient** function uses UV channel 0 to generate a linear gradient in either the U or V direction, depending on which output is used.

Item	Description
Outputs	
UGradient	Outputs a linear gradient in the U direction.

Item	Description
VGradient	Outputs a linear gradient in the V direction.

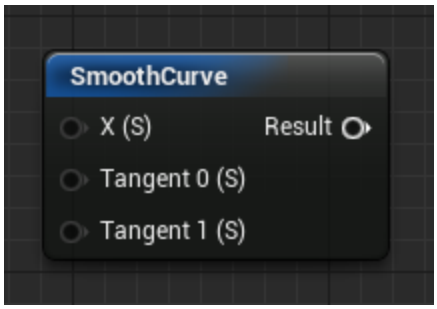


	Default U Output Result
	Default V Output Result

Smooth Curve

The **SmoothCurve** function takes in an existing texture channel or gradient and uses a procedural curve to control the transition from dark to light. The user can adjust the tangents of this curve to change the result.

Item	Description
Inputs	
Tangent 1 (Scalar)	Controls the angle of the second tangent of the curve.
X (Scalar)	The incoming texture channel or gradient.
Tangent 0 (Scalar)	Controls the angle of the first tangent of the curve.

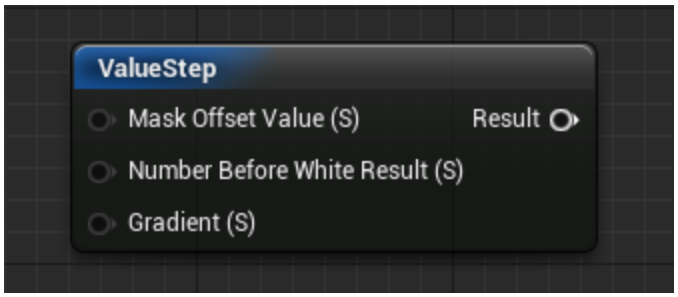



Default Output Result

Value Step

The **ValueStep** function takes in an existing texture channel or gradient and outputs a pure black and white image based on inputs from the user. The result is a mask that represents what portion of the gradient equals the value of the inputs.

Item	Description
Inputs	
Mask Offset Value (Scalar)	Offsets where the black spots are placed on the result.
Number Before White Result (Scalar)	Controls the upper limit of values that output to black. For example, if you have a gradient that goes from 0-10 and you set this value to 9, then all values between 0-9 will be black. 10 will be white.
Gradient (Scalar)	Takes in a gradient with values above 1.



	
Default Output Result	