

Mandala shader

Developer: Viktoras Dobrovolskis

Website: <https://viktorzin.com>

Contact/Support Email: viktorzin@viktorzin.com

The Mandala shader can generate a dynamic mandala from any provided base texture or image. The Base texture is being copied multiple times, rotated, and then blended with the rest to create the mandala.

the more mandala layers are added, the more color the image loses. this happens because the layers are blended together by using a common image blending technique called "lighten", that is commonly found in image manipulation software. it compares two pixels and takes the lighter one. The Color Correction settings are added to counteract this behaviour.

Basic Mandala Setup:

Create a new Material and set the shader to MandalaShaders / Mandala.

Set a Main Mandala Source Texture.

Add Mandala Layers

Adjust the Mandala Rotation shift

Adjust the Mandala Scale shift.

Mandala Properties:

_MandalaTex *"Main Mandala Source"*

This is the Texture that will be used for generating the mandala.

_UseMagicAlpha *"User generated Alpha Map"*

Uses an Alpha map that is internally generated from Luminance, if set to true.

Uses the _AlphaTex AlphaMap if set to false.

_AlphaTex *"Alpha Map"*

A custom Alpha map can be added here. the shader reads the alpha channel of the inserted texture

_ColorMultiplier *"Color Multiplier"*

adds a color tint to the generated Mandala

_MandalaLayers *"Mandala Layer Count"*

sets the amount of Layers that will be blended together to generate the mandala

_MandalaRotationShift *"Mandala Rotation Shift"*

manipulates the mandala layer rotation. this is useful for defining the look of the mandala, or for animation effects.

MandalaScaleShift *"Mandala Scale Shift"*

manipulates the texture scale. this is useful for defining the look of the mandala, or for animation effects.

Darken *"Darken"*

Makes dark pixels darker.

Gamma *"Gamma"*

controls the overall brightness of the image. standard setting is 1.

Lighten *"Lighten"*

Makes light pixels lighter. standard setting is 1.

Desaturate *"Desaturate"*

blends the generated mandala colors between the original colors, and the luminance values of the mandala.

How to control the shader variables with code:

To access a shader variable you need to access the meshes material:

```
GameObject MandalaObject;  
Material MandalaMat;
```

```
MandalaMat = MandalaObject.GetComponent<Renderer>().material;
```

to manipulate material values you can use material methods like:

```
SetFloat();
```

```
SetInt();
```

```
SetVector();
```

```
SetColor();
```

```
SetTexture();
```

```
SetTextureScale();
```

```
SetTextureOffset();
```

these are all Unity standard methods.

you have to pass the property ID or string identifier and the new value.

the string identifier is the internal Shader Property name that is provided above and contains a "_",

for example "**MandalaTex**".

it is NOT the descriptive text that is visible in the Unity Inspector.

An Example:

If the main Mandala Source Texture needs to be changed then the call would be:

```
MandalaMat.SetTexture("_MandalaTex", myTexture);
```