

# Distingo – Terrain in Detail

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*Version 1.0.1.0*

## Overview

Distingo is a shader package that will give you more control over your terrain textures.

You will have dynamic access to a number of attributes for each texture used in your terrain.

There is a near and far UV multiplier to help reduce tiling in your terrain textures. This is also controlled by a master near and far cut off giving you even more control. You can even have the terrain render the cut off values so you can see how they graduate over distance.

The ability to increase the power of the normal maps, this can result in stronger lighting effects on your terrain textures.

Directly alter the smoothness and metallic attributes of the textures too.

Future versions of Distingo are intended to utilize tessellation for even more detail for close up terrain textures.

In this version of Distingo, now allows you to apply the Distingo lighting calculations to Mesh Terrains. You will need a slat map for this to work, but other than that, it will work just the same as the Distingo shaders applied to a Unity Terrain.

At the time of writing, the latest version of [Gaia](#) is able to export its terrains as Mesh's as well as export the corresponding splat maps for the terrain too.

## Prerequisites

The shaders require shader model 4.0 as a minimum requirement, failing this Distingo should fall back in the same way as the Unity Terrain Shader.

## Use

Simply create your terrain, and add the Distingo Terrain Script and you will be given an editor similar to this



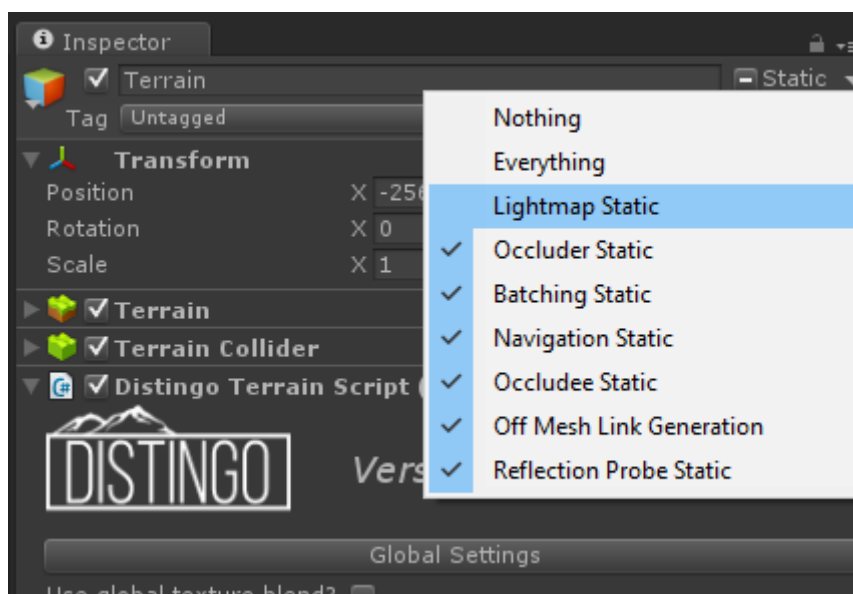
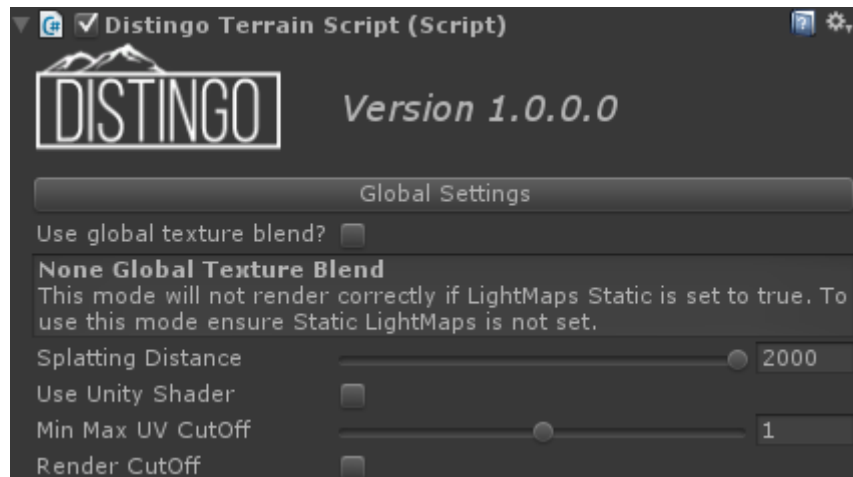
Above the texture channels you have a number of configuration options:-

## Global Settings

This section holds parameters that will have an impact across the whole terrain regardless of texture

### Use Global Texture Blend? (UGTB)

If this is not selected then each texture channel can have an occlusion texture applied to it, due to the extra textures being passed in the pipeline, it means that the Statis LightMap option needs to be disabled or the material will not render correctly.



If it is enabled, then a blend texture can be applied as well as an occlusion map, this will be applied to the whole terrain.



### Splatting Distance

This alters the terrains base map distance, please see [the Unity documentation](#) for a detailed description of this.

### Use Unity Shader

If set to true, Distingo will use the regular calculations that Unity uses out of the box and will not apply ANY of the Distingo parameters to the terrain.

### Min Max UV Cutoff

To help avoid tiling in your terrain you can set a min and max uv value for each texture channel. This alters how the texture is tiled when near and far from the camera. This slider allows you to alter the gradient of this change over distance.

### Render CutOff

When set to true Distingo will render in green over your terrain the cut off range so you can see instantly how the drop off occurs from min to max.

### \*Blend Texture

This is the texture to be alpha blended over the terrain. You may want to apply a flow map to the terrain for example, this would be where you put the flow map texture. The blend is done with the following calculation:

$$\text{Color} = \text{Color} + (\text{BlendColor} * \text{BlendColor.Alpha} * \text{BlendPower})$$

As you can see the textures alpha is also taken into account.

### \*Occlusion Texture

An occlusion texture can be applied across the whole terrain. This is due to the blend texture option not having access to texture layer occlusion, so an overall occlusion map can be given here.

### \*Blend Power

If a blend texture is given, you can alter the level at which this texture is blended with the terrain using this slider.

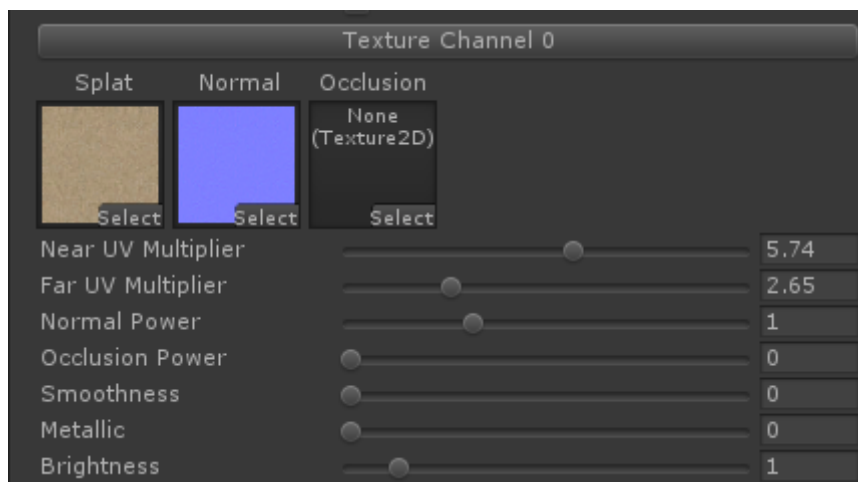
### \*Occlusion Power

If an occlusion texture is given, you can later the level of occlusion that is applied with this slider.

**\*Only applied if “Use global texture blend?” is true.**

## Texture Channels

Selecting a Texture Channel will give you something like this **Note: “Use global texture blend?” is off**



### Splat

This is the splat texture being used by the terrain in this channel. It cannot be edited here, and must be changed in the Terrain menu.

### Normal

This is the normal map being used on this texture channel, as above it cannot be edited here.

### Occlusion

Only present if “Use global texture blend?” is false. This will apply an occlusion map to the texture channel.

### Near UV Multiplier

You can also alter the Near UV Multiplier, this is the amount the texture’s uv is multiplied when it is close to the camera, adjust this to alter the tiling when close to the terrain.

### Far UV Multiplier

Does the same as above, but for distant texture uv’s

### Normal Power

This is used to alter the strength of the normal map applied. This can result in some strong lighting effects.

### Occlusion Power

If an occlusion map is in use, this alters the amount of occlusion used.

### Smoothness

Alters the PBR smoothness for this channel

### Metallic

Alters the PBR metallic value for this channel.

### Brightness

This is used to increase or decrease the texture channels brightness.

## Important Notes

The textures on terrain are organized into batches of 4, each set of 4 or less textures are rendered one after the other with separate splat maps, by Unity's terrain engine. Editing these data channels on texture's will also affect the corresponding texture in the other groups of 4. So, say I have 8 textures, altering the values (not the textures) in Texture Channel 0 also changes them in Texture Channel 4, altering 3 will alter 7, conversely, altering 5 will also alter 1

## Feedback

Questions, suggestions and support can be obtained for this component by emailing **[support@Randomchaos.co.uk](mailto:support@Randomchaos.co.uk)** or using the [support forum](#).

I hope you enjoy this component and have as much fun using it as I had writing it

**Charles Humphrey – Randomchaos Ltd**