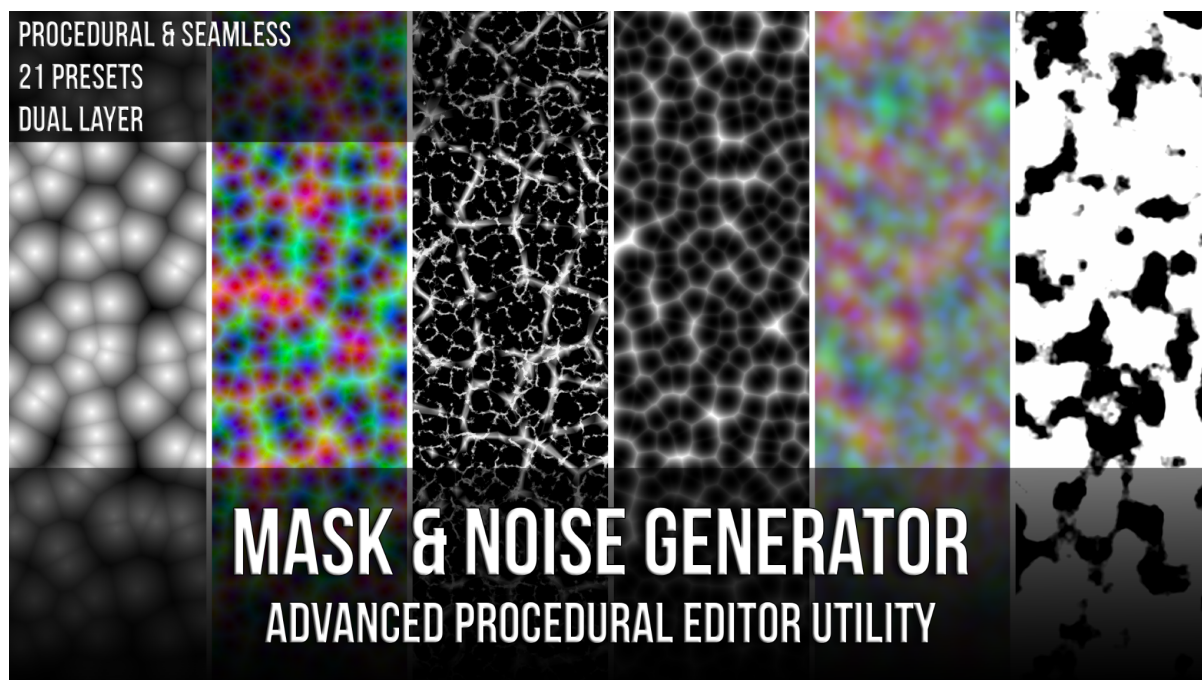


Mask & Noise Generator

Advanced Procedural Editor Utility

Documentation



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1. Overview

The **Mask & Noise Generator** is an advanced procedural Editor Utility designed to create highly customizable, completely seamless noise textures and masks directly within Unreal Engine.

Powered by custom HLSL nodes, this tool allows you to generate high-quality textures without leaving the editor. It features a robust dual-layer system, allowing you to blend two distinct noise patterns together. Whether you need simple white noise, complex fractal Voronoi cracks, or specialized RGB-packed masks, this tool provides full manual control alongside a rich library of presets.

Note: This is an Editor-Only utility and has absolutely no impact on your game's runtime performance.

Note: In version 5.7 and newer, generated textures might initially appear black. To fix this, briefly switch the compression setting to 'Default' and then back to 'Masks'.

2. Key Features

- **Seamless HLSL Generation:** All noise types are mathematically calculated to be perfectly tileable.
 - **Dual-Layer System:** Blend two separate noise generators using various blend modes (Multiply, Add, Overlay, etc.).
 - **Advanced Modifiers:** Full control over octaves, lacunarity, persistence, clipping, and contrast.
 - **Editor Utility Widget:** A clean, organized visual interface with a live preview window.
 - **21 Built-in Presets:** Instantly generate complex masks like Brushed Metal, Grunge Overlays, or Voronoi RGB.
 - **Toolbar Integration:** Quick access via a dedicated button in the Level Editor Toolbar.
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3. Installation & Setup

1. Add the asset pack to your project via the Epic Games Launcher / Fab Library.
 2. Enable the **"Editor Scripting Utilities"** plugin if not already enabled ([Edit > Plugins](#)).
 3. Once installed, a new button will automatically appear in your main **Level Editor Toolbar** to launch the tool.
 4. **Alternative Method:** If you prefer not to use the Toolbar, you can open the tool manually by navigating to [/All/Game/MaskGenerator/Blueprints/Widgets](#), right-clicking the [EUW_MaskGenerator](#) file, and selecting **"Run Editor Utility Widget"**.
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4. Using the Mask & Noise Generator (UI Workflow)

Click the Toolbar button to open the main interface. The UI is divided into intuitive categories:

4.1. Global Settings

- **Preset Selector:** Choose from 21 pre-configured setups to instantly populate all parameters.
- **Offset X / Y:** Shifts the global position of the generated noise.
- **Rotation:** Rotates the entire noise pattern.
- **Use Layer 2 (Boolean):** Enables the second noise layer, allowing you to blend two different setups together.

4.2. Layer Settings (Layer 1 & Layer 2)

Both layers share the same robust parameter set, split into three sub-categories:

Base Shape

- **Noise Type:** Choose from *Value Noise*, *Perlin Noise*, *Cellular (Voronoi)*, *Cellular (Cracks)*, or *White Noise*.
- **Seed:** Integer (0-1000) to randomize the noise pattern.
- **Noise Tiling (X/Y):** Controls the scale of the noise.
- **Uniform Noise Tiling:** When enabled, adjusting the X value automatically sets the Y value to match, keeping the scale uniform.

Fractal Details

- **Octaves (1-8):** The number of detail layers. Higher values create more complex, noisy results.
- **Lacunarity (2-8):** The detail scaling factor. Determines how much smaller the noise pattern becomes with each successive octave.
- **Persistence (0.1 - 1.0):** The detail intensity. Controls how strongly the finer octaves influence the final image.

Value Modifiers

- **Black Point:** Clips the dark values (Subtract). Perfect for punching isolated islands, spots, or cracks out of a continuous pattern.
- **Contrast:** Edge multiplier. High values create extremely sharp, crisp transitions between black and white.
- **Midtones:** Shifts the mid-level brightness (Gamma/Power). Values above 1 darken the image, values below 1 brighten it.
- **Invert:** Inverts the final result. Turns white spots into black holes and vice versa.
- **Split RGB:** Bypasses all modifiers and packs the first 3 pure noise octaves separately into the R, G, and B channels (useful for creating optimized, multi-use packed textures).

4.3. Blend Settings (Requires Layer 2 to be active)

- **Blend Mode:** Determines how Layer 1 and Layer 2 are combined. Available modes:
 - *Normal (Overwrite)*
 - *Multiply (Darken & Mask)*
 - *Add (Brighten & Combine)*
 - *Overlay (Boost Contrast)*
 - *Lighten (Keep Brightest)*
 - *Darken (Keep Darkest)*
- **Opacity Layer 2:** Sets the opacity of the second layer

4.4. Preview

- **Select Preview:** Dropdown to select which preview image is displayed (*Layer 1, Layer 2, or Final Mask*).
- **Preview Tiling:** Changes the tiling of the preview image (Visual only; does not affect the final saved texture).
- **Update Preview Automatically:** Automatically refreshes the preview image after every parameter change. *Performance Tip: Since this creates a temporary texture for every adjustment, consider disabling this boolean if you are making rapid, continuous changes.*
- **Update Preview (Button):** Manually refreshes the preview if auto-update is disabled.

4.5. Save Settings

- **Texture Size (X/Y):** Sets the resolution of the final exported texture.
- **Uniform Texture Size:** Forces X and Y to match for square textures.
- **Save Name:** The desired file name for your new texture.
- **Save Path:** The target directory. Must follow the standard Unreal Engine path format (Default: */Game/MaskGenerator/Textures/GeneratedMasks/*).
- **Save Texture (Button):** Generates and saves the texture to your Content Browser.

5. Presets & Customization

5.1. Included Presets

The tool includes 21 presets, located in

/All/Game/MaskGenerator/Data/DataAssets/Presets:

- *Brushed Metal, Cobblestone Height, Cracked Desert Mud, Digital Glitch, Double Layer Cracks, Drywall, Grunge Overlay, Grunge RGB, Hammered Copper, Heavy Rust Holes, Large Dirt Splatters, Micro Dust, Organic Veins, Paint Peeling, Pumice, Rain Puddles, Shattered Asphalt, Small Dirt Splatters, Voronoi RGB, Water Ripples, Wood Grain.*

5.2. Creating Custom Presets

You can easily extend the tool with your own setups:

1. Navigate to the Presets folder mentioned above.
 2. Right-click an existing Data Asset and select **Duplicate**.
 3. Rename the duplicated asset and open it to adjust the saved variables.
 4. Your new preset will automatically appear in the widget's Global Settings dropdown.
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6. Miscellaneous

Removing the Toolbar Button

If you prefer not to have the generator pinned to your main Toolbar:

1. Open the Blueprint `EUB_MaskGeneratorCore` located in `/All/Game/MaskGenerator/Blueprints/Utilities`.
 2. Locate the "Event Run" node.
 3. Disconnect the execution pin from the rest of the logic, compile, and save.
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7. Support

If you have any questions, please send an email to support@geamgames.com