

MK Glow

General rule: If possible, always use a **Linear Color Space, Color Grading and HDR** to get the **best** results.



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1.0 Setup / Install

Right after the import the Install Wizard should open (“*Window/MK/Glow/Install Wizard*”).

1. Choose your Render Pipeline (Built-in_Legacy, Built-in_PPSV2, LWRP, URP, HDRP).
2. Click the Import Package button.

The basic setup should be complete.

1.1 Legacy Image Effects (Built-in)

1. Enable HDR (optional, but highly recommended).
Navigate to: Project Settings => Graphics => disable the default tier settings. Enable “Use HDR” on each tier and set R11G11B10 as the rendertarget HDR format.
2. Attach the MK Glow component to your rendering camera

1.2 Post Processing Stack V2 (Built-in) and LWRP

1. Enable HDR (optional, but highly recommended).
if using PPSV2 on the Built-in Renderpipeline:
Navigate to: Project Settings => Graphics => disable the default tier settings. Enable “Use HDR” on each tier and set R11G11B10 as the rendertarget HDR format.
if using PPSV2 on the LWRP:
On your Lightweight Render Pipeline Asset enable HDR via Quality => HDR. By default the LWRP is using multiple of those assets. It's recommended to enable hdr on every of them.
2. On your Post Processing Stack V2 Profile add the “MK/MKGlow” component

1.3 URP (2D & 3D)

1. Enable HDR (optional, but highly recommended).
On your Universal Render Pipeline Asset enable HDR via Quality => HDR.
By default the URP is using multiple of those assets. It's recommended to enable hdr on every of them.
2. On your Universal Render Pipeline Renderer Asset add the custom
Renderer Feature: MK Glow Renderer Feature
3. On your Volume component add the Glow component via
"Post-processing/MK/MKGLow"

Note: On the Scriptable Renderer Feature you have the option to enable a "Global" mode. This will skip the whole post processing api and volumes, which can be useful in some cases.

1.4 HDRP

In order to use custom post processing on the HDRP you need a 2019.3+ Unity Editor version and one of the latest builds of the HDRP.

1. Add MKGlow to your custom post processing under HDRP Default/Global Settings on the "Before Post Process" List. Navigate to it via: Edit > Project Settings > HDRP Default/Global Settings.
2. On your Volume component add the Glow component via
"Post-processing/MK/MKGLow"

1.5 How to make things glow

MK Glow operates based on pixel brightness. The general rule here is: The brighter a pixel gets, the more visible is the glow (after thresholding and filters). After that the brightness of the pixel gets multiplied by the global intensity on the MK Glow component.

Therefore it is highly recommended to use a shader that is capable of emission. Simply raise the emission as high as you like.

Default shaders you can use:

Built-in RP: Standard Shader.

URP 3D: URP Lit Shader.

URP 2D: MK/Glow/URP 2D/Sprite Shaders

HDRP: HDR Lit Shader

Each of those shaders offers emission by default, which you can use to precisely control the glow.

Custom Shaders:

You are free to use any shader you like. There is no special requirement otherwise than being able to raise the color brightness high enough.

2.0 Debugging

For debugging you have the DebugView option on the inspector. You can inspect every rendering step which is done while rendering.

None:	Normal rendering is done
Raw Bloom / Lens Flare / Glare:	Shows the parts, which are glowing
Bloom / Lens Flare / Glare:	Shows the finished result of a rendering step
Composite	Shows the combined final result

3.0 Differences between Workflows

3.1 Natural

The Natural Workflow is based on a more realistic behavior. No color cutoff, just like in real life. This workflow should give you the most realistic results. Additionally it's super simple to set up.

1. **Adjust the Emission.** You can simply raise the emission on your materials to make them glow.

The Natural Workflow is a good choice if you want a very realistic outcome.

3.2 Threshold

The Threshold Workflow is based on the brightness of the pixels and a threshold value.

1. **Setup your threshold.** The left part of the threshold slider defines your color cutoff, while the right part defines your maximum brightness of the resulting glow. Threshold values are represented in the gamma space.
2. **Adjust the Emission.** You can simply raise the emission on your materials to make them glow.

The Threshold Workflow is a good choice if you want a more artistic and selective control over the glow.

3.3 Selective (Deprecated)

The Selective Workflow allows you to apply a glow effect per object.

This workflow is based on Unity's Replacement Rendering feature (not available in custom render pipelines (URP, HDRP)).

1. **Set your Render Layer.** Controls which layers are redrawn by the Replacement Rendering feature. The recommended setting for the selective Render Layer is *"Everything"* to avoid Z-Issues.
2. **Apply a *"MK/Glow/Selective"* shader** to the material that is supposed to glow. All shader features are using the exact same raw glow map. The raw glow map can be viewed, by setting the debug view to *"raw"*.
3. Adjust your glowing material. Add a glow texture to define which parts should glow and setup the material as you wish.

This workflow is deprecated by now, but still inside the plugin because of backwards compatibility. Since the render pipelines came out no proper user experience could be guaranteed. Therefore it's recommended to switch over the Threshold Workflow.

You can achieve a kind of *"Selective"* feel using the Threshold Workflow and a threshold value of ~ 1.5 or higher. This will filter only really bright parts of your rendered image.

4.0 Mobile Setup

Post-processing especially on mobile can have heavy performance impacts. However MK Glow has a really good trade-off in terms of quality and performance for mobile.

The following **settings** are recommended for **mobile devices**:

Render Priority	Performance / Balanced
Quality	High / Medium
Anti Flicker	Balanced
Bloom Scattering	~5

5.0 FAQ

Q: MK/Glow/Selective/Standard Shader is not visible or throwing a MetaPass Error

A: Fix: Right Click on the “_MK/Glow/Shaders/VariantsSelective” folder and select “reimport”

Q: Selective Workflow doesn't work when using a Custom Render Pipeline

A: Currently it's impossible to use the Selective Workflow on custom render pipelines. The Replacement rendering feature, which is required for the selective workflow seems to not get called on SRPs.

Q: How to make Screen Spaced UI glow

A: In order to make Screen Spaced UI work, your Render Mode of the Canvas has to be set to “Screen Space - Camera”, otherwise no Post-processing is applied to Screen Spaced Elements.

6.0 Feedback / Get in touch

Do you have some cool stuff to show?

I would love to see your results (high resolution screenshots / videos) using the shader!

Questions, bug reports, feature requests, feedback:

Feel free to get in touch via support@michaelkremmel.de.