

Render

This page provides details on the Render rollout in the V-Ray Asset Editor.

Overview

The Render rollout provides convenient access to common Rendering functions such as choosing the render devices or turning on and off V-Ray Interactive and Progressive mode. You are also able to choose from several Quality presets as well.

Many of the options in the Advanced rollouts are controlled by the combination of selections in the Render rollout. Depending on **CPU/GPU**, **Interactive/Production**, and **Progressive/Bucket** options change the exposed options in other rollouts.


Changing the **Quality** preset sets a number of options with appropriate values for the selected preset. Generally, the Quality presets work for a wide variety of scenes and you do not need to adjust the settings any further.

UI Path

||V-Ray Asset Editor|| > **Settings** > **Render**

Parameters

Engine – Switches between the CPU, CUDA(GPU), and RTX(GPU) rendering engine.

The devices used by the GPU engine to perform the raytracing calculations, can be specified via the menu available on the right .

If V-Ray GPU cannot find a supported CUDA device on the system, it silently falls back to CPU code.

If V-Ray GPU cannot find a supported RTX device on the system, the process stops.

The Computer CPU is also listed as "C++/CPU" in the CUDA device list and can participate in rendering (Hybrid rendering). For more information, see the [Hybrid Rendering with CPUs and the CUDA Engine](#) section below.

The RTX engine type is not supported on macOS.

The RTX engine type only works with NVidia RTX cards.

For more information on GPU rendering engines, see the [GPU Rendering](#) page.

Progressive – Enables the Progressive image sampling mode. With this mode active, a noisy image appears in the VFB at first and its quality improves over time.

Quality – Controls the rendered image quality by changing the **Raytrace** and **Global Illumination** settings. If any of the controlled settings is manually modified and no longer corresponds to the current quality preset value, the **Custom** quality is automatically selected.

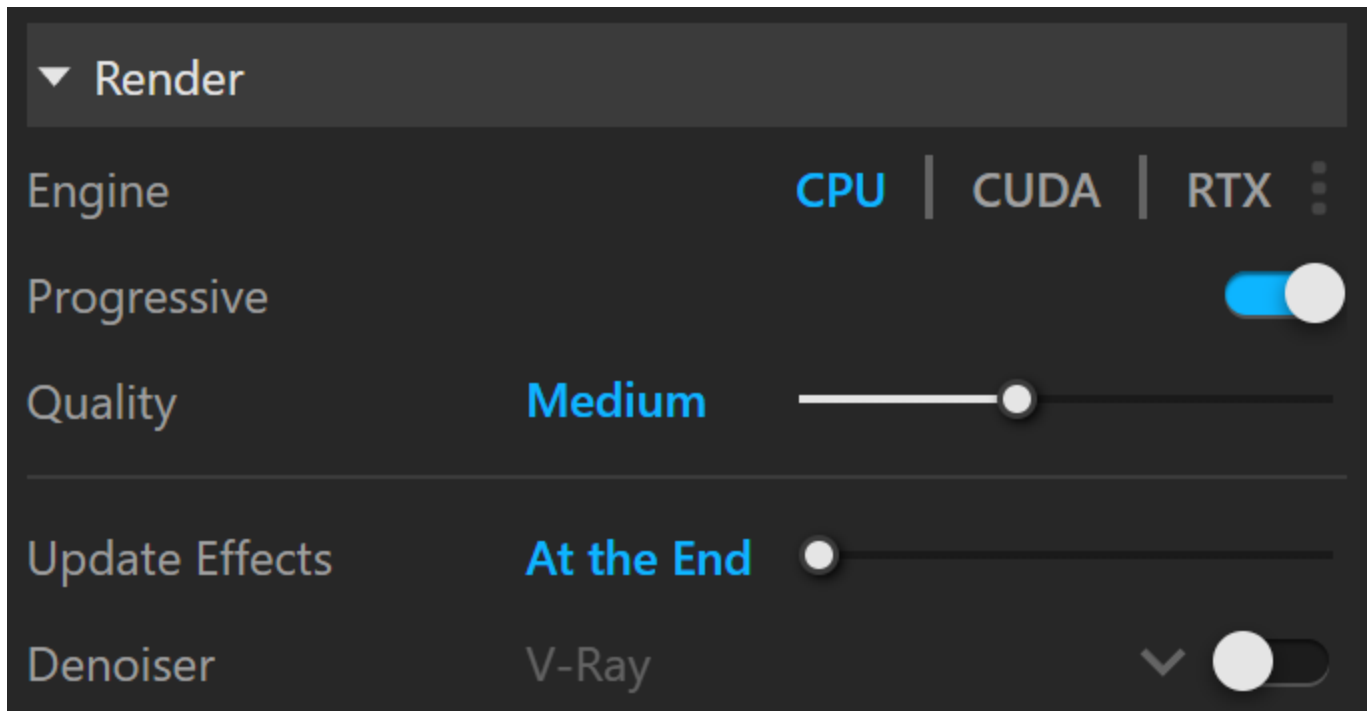
Update Effects – Controls the regularity of post effects updates during progressive rendering - Denoiser, Lens Effects, Lighting Analysis. The steps go as follows:

At the End (0% of maximum frequency) disables progressive updates. Instead, effects are applied after the render process is finished (but not if it is manually cancelled).

Rapid (100% of maximum frequency) causes updates as often as possible.

Rarely, **Often** and **Very Often** are medium steps increasing the updates.

Denoiser – Enables the Denoiser Render Element. Additional render elements are created automatically and appear in the VFB channel stack. When enabled, you can switch between NVIDIA AI denoiser or the V-RAY denoiser. For more information, see the [Denoiser](#) page.



Hybrid Rendering with CPUs and the CUDA Engine

Starting in 3.60, V-Ray GPU can perform hybrid rendering with the CUDA engine utilizing both the CPU and NVIDIA GPUs. V-Ray can now execute the CUDA source on the CPU, as though the CPU was another CUDA device. To enable the hybrid rendering mode, simply enable the **C++/CPU** device from the list of CUDA devices.

The hybrid rendering mode does not require any special drivers. Furthermore, you can use the CPU as a CUDA device even if you don't have an NVIDIA GPU and/or NVIDIA drivers installed. Meaning, this mode can be used on computers that don't even have GPUs. The hybrid render engine running on a CPU supports the same features as the regular V-Ray GPU CUDA engine.

More info about the nature of Hybrid rendering is available at the blog post [Understanding V-Ray Hybrid rendering](#).

References

The NVIDIA CUDA developer zone: <https://developer.nvidia.com/category/zone/cuda-zone>