

# NootedRed

The AMD iGPU kernel extension.

## iGPU compatibility

The entire Vega Raven ASIC family ( `Ryzen 1xxx (Athlon Silver/Gold)` to `5xxx` , and `7x30` series).

## macOS compatibility

`macOS 10.15` to `macOS 14` . Don't request any lower macOS version; it's not possible to go below `10.15` as the iGPU logic was introduced in that version, and in lower macOS versions there's no RDNA code (used for DCN and VCN).

## Prerequisites

- ⚠

Your system must not have a `GCN 5` or `RDNA` AMD dGPU.
- ✓

They can be disabled using the `-wegnoegpu` boot arg or the `disable-gpu` device property.
- !

Increase VRAM size.
- i

`512MiB` minimum, `1GiB+` for proper functionality.
- !

Disable Legacy Boot, also known as CSM and Boot Mode.
- i

Otherwise you will meet kernel panics like `Failed to get VBIOS from VRAM` .
- !

Remove `WhateverGreen.kext` .
- i

NRed conflicts with it.
- i

Use `MacBookPro16,3` , `iMac20,1` or `iMacPro1,1` SMBIOS
- ⚠

`MacPro7,1` might result in a black screen.
- i

Do your macOS updates (the minor ones, not necessary to go e.g. `macOS 11` -> `macOS 12` )

## Backlight functionality

Usually only works on laptops.

- ✓

`SSDT-PNLF.aml`
- ✓

`SSDT-ALS0.aml` if you have no Ambient Light Sensor
- ✓

`SMCLightSensor.kext`
- ✓

`BrightnessKeys.kext` for keyboard brightness control (some vendors might require custom SMC kexts)

## Frequently asked questions

These entries are not in any particular order.

## Why's development not as active now?

Project's alive. I'm just overwhelmed. There were several problems caused by two members of our team, and they had to be kicked out.

## What happened to NRed's commit history? Weren't there like a thousand commits before?

As mentioned previously, the "controversy" with those two ex-team-members. They didn't contribute much to the project and it was deemed that they should not gain publicity from it.

## Catalina doesn't work with NRed on my computer; I get stuck on a black screen or restart after black screen

Known issue. We don't know the problem yet; it works on most systems. You'll have to be patient for now.

## My external display's audio appears, but no audio comes out of it

Known issue. We don't know the problem yet; it works on most system. You'll have to be patient for now (again).

## My HDR-enabled display boots to a black screen with flashing backlight

Disable HDR either from the BIOS, a tool like `Smokeless-UMAF` or by connecting to the computer remotely and doing it from macOS' settings.

## My OLED display cannot have its brightness adjusted

As far as we know, the code in the AMD kexts simply cannot handle OLED displays. Use an app like Lunar in order to achieve this.

## I cannot adjust my brightness on Catalina

Catalina has no brightness control code. Use an app like Lunar, I guess.

## Chrome, Chromium-based browsers and apps like Sublime Text cause graphical artefacts amongst other problems

Known issue, but unknown cause.

For the browsers you can disable `GPU Rasterisation` inside `chrome://flags` as a workaround or just use Safari.

Anything else will likely require complete neutralisation of GPU/Hardware acceleration.

If you can't even open the (chromium-based) browser because of the issue, you can launch via the following:

```
> open -a Google\ Chrome --args --disable-gpu
```

## Constant freezes and crashes on Ventura and newer

With the `RestrictEvents` kext you can put `revblock=media` in your boot args to reduce this to a minimal amount. The issue seems to be excessive usage of compute by various macOS services like image analysis.

Cause of the compute dysfunctionality spanning across all macOS versions remains unknown.

## Do I just drag and drop this kext and we're good?

Yes, as long as you've done the prerequisites as described [here](#).

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