

# External AMD Graphics on macOS High Sierra

Support for external AMD Graphics on macOS High Sierra will be beta until spring 2018. Note that you will not be able to obtain support from Apple or AMD for external graphics under macOS at this time. ***Beginning with macOS 10.13.4, we expect Apple to drop external graphics support for Thunderbolt 2 and Thunderbolt Macs.*** If you have any issues using any Sonnet product, please contact Sonnet customer service at [support@sonnettech.com](mailto:support@sonnettech.com). Be sure to save and attach a System Report .spx file.

## Compatible Macs

Check the eGFX Mac Compatibility chart on the last page to see whether you have a Macintosh with beta support for external AMD Graphics. All Macs with Thunderbolt 3 have plug-and-play support for one or two external graphics cards.

With macOS 10.13.3 (but with 10.13.4), many Thunderbolt 2 and Thunderbolt Macs work with one external AMD graphics card, for which you will also need a [Thunderbolt cable](#) and an [Apple Thunderbolt 3 \(USB-C\) to Thunderbolt 2 Adapter](#). (This Adapter is reversable and will also work from a Thunderbolt 2 Mac to a Thunderbolt 3 peripheral.) ***If you have a Thunderbolt 2 or Thunderbolt Mac, you will not be able to continue to use external graphics if you update macOS to 10.13.4.***

## Compatible AMD graphics

These configurations are plug-and-play compatible with macOS High Sierra 10.13.3.

*Breakaway Puck with Radeon RX 570*

*Breakaway Box 350 with Radeon RX 470, 480, 570, 580*

*Breakaway Box 550 with Radeon RX 470, 480, 570, 580, Vega 56*

*Breakaway Box 650 with Vega<sup>1</sup> 64, 64 Frontier Edition, WX9100*

(XFX cards are not recommended. They use a custom BIOS that can crash macOS).

## Setup

1. If you have a Breakaway Box, plug the compatible graphics card into the Box, plug the auxillary power connectors to the card, and close the Box.
2. Plug in power to your Breakaway Box or Puck. If your Breakaway Box has a power switch, turn it on. [Note: The Box or Puck will not turn on until it is connected to an active computer via Thunderbolt.] Connect you Breakaway Box or Puck via Thunderbolt to your computer. and boot macOS. Booting may take longer than normal; be patient. If you have a Mac Pro or Mac mini note the special instructions below.
  - a. Mac Pro: you must use one of the bottom ports.
  - b. Mac mini: you must connect a monitor to the built-in HDMI port until logged in.
3. Set up your monitor(s). [Note: As of macOS 10.13.3, internal/ built-in video is not accelerated by the external graphics card.]

Set the external monitor as the main monitor to obtain graphics acceleration for games and many other applications. Open **System Preferences:Displays**, select **Arrangement** and drag the menu bar to the external monitor. Drag the monitors to mimic the physical arrangement.

4. Note the following restrictions:
  - a. External graphics does not currently accelerate the internal display on iMac or MacBook Pro. Applications that use OpenCL, such as Davinci Resolve, do take advantage of external GPUs.
  - b. An AMD external graphics card may not identify itself correctly. The Sapphire RX 580 Pulse 8GB bundled in the Breakaway Box 350 Developer Edition is identified correctly in macOS as “Radeon RX 580”. Any other GPU is identified incorrectly, such as “AMD R9 XXX”.
  - c. Hot-plug and un-plug of the external graphics requires returning to the login screen.
  - d. A Vega or WX9100 card cannot be hot unplugged. You must shut down to unplug.
  - e. If you mirror an internal and external display, internal graphics will be used.
  - f. Closed clamshell mode is not fully functional.
  - g. Boot Camp is not supported.
  
5. Please share your experience with the community by visiting our Breakaway Box blog on our Facebook page at <https://www.facebook.com/SonnetTech/>

## Troubleshooting

### **The Card Is Not Recognized**

Check whether you plugged in the auxillary power connector(s) to the top (or sometimes rear) of the external graphics card.

### **Monitor’s Full Resolution Is Not Available**

Open **System Preferences:Monitors**. Option-click the **Scaled** button. All the available resolutions should appear.

### **External Monitor Has Black Screen or Multiple Monitors Fail to Appear**

Log out and log in again. If that doesn’t work, restart. If that doesn’t work, [reset your NVRAM](#). Check that you have a compatible Mac on the Mac compatibility list.

<sup>1</sup>Liquid-cooled editions are not supported.

Sonnet Technologies Breakaway Box and Breakaway Puck AMD Compatibility <sup>(3)</sup>				macOS	macOS
Mac Pro <sup>(1)</sup>	Model	Internal discrete Graphics	TB <sup>(2)</sup>	10.13.3	10.13.4
Late 2013	6,1	dual AMD FirePro D300, D500 or D700	2	✓	No
<b>MacBook Pro</b>					
13-inch, Early, Late 2011	8,1	Intel HD Graphics 3000	1	✓	No
15-inch, Early, Late 2011	8,2	Intel HD Graphics 3000 & AMD Radeon HD 6490M, 6750M or 6770M	1	✓	No
17-inch, Early, Late 2011	8,3	Intel HD Graphics 3000 & AMD Radeon HD 6750M or 6770M	1	✓	No
13-inch, Mid 2012	9,1	Intel HD Graphics 4000	1	✓	No
15-inch, Mid 2012	9,2	Intel HD Graphics 4000 & NVIDIA GeForce GT 650M	1	No	No
15-inch, Retina, Mid 2012, Early 2013	10,1	Intel HD Graphics 4000 & NVIDIA GeForce GT 650M	1	No	No
13-inch, Retina, Late 2012, Early 2013	10,2	Intel HD Graphics 4000	1	✓	No
13-inch, Retina, Late 2013, Mid 2014	11,1	Intel Iris 5100	2	✓	No
15-inch, Retina, Late 2013, Mid 2014	11,2 or 11,3	Intel Iris Pro 5200 & optionally NVIDIA GeForce GT 750M	2	No	No
15-inch, Retina, Mid 2015	11,4 or 11,5	Intel Iris Pro 5200 & optionally AMD Radeon R9 M370X	2	No	No
13-inch, Retina, Early 2015	12,1	Intel Iris Graphics 6100	2	✓	No
13-inch, 2016, Two Thunderbolt 3 Ports	13,1	Intel Iris Graphics 540	3	✓	✓
13-inch, 2016, Four Thunderbolt 3 Ports	13,2	Intel Iris Graphics 550	3	✓	✓
15-inch, 2016	13,3	Intel HD Graphics 530 & AMD Radeon Pro 450, 455, or 460	3	✓	✓
13-inch, 2017, Two Thunderbolt 3 Ports	14,1	Intel Iris Graphics 640	3	✓	✓
13-inch, 2017, Four Thunderbolt 3 Ports	14,2	Intel Iris Graphics 650	3	✓	✓
15-inch, 2017	14,3	Intel HD Graphics 630 & AMD Radeon Pro 555, or 560	3	✓	✓
<b>iMac</b>					
21.5-inch ,Mid 2011	12,1	AMD Radeon HD 6770M or Radeon HD 6970M	1	Unknown	No
27-inch, Mid 2011	12,2	AMD Radeon HD 6770M or Radeon HD 6970M	1	Unknown	No
21.5-inch, Late 2012	13,1	NVIDIA GeForce GT 640M or 650M	1	No	No
27-inch, Late 2012	13,2	NVIDIA GeForce GTX 660M, 675MX or 680MX	1	No	No
21.5-inch, Late 2013	14,1 or 14,3	Intel HD Graphics 4000	1	✓	No
27-inch, Late 2013	14,2	NVIDIA GeForce GT 755M, 775M or 780M	1	No	No
21.5-inch, Mid 2014	14,4	Intel HD Graphics 5000	1	✓	No
27-inch, Retina 5K, Late 2014	15,1	AMD Radeon R9 M290X or M295X	2	✓	No
27-inch, Retina 5K, Mid 2015	15,1	AMD Radeon R9 M290	2	✓	No
21.5-inch, Late 2015	16,1	Intel HD Graphics 6000 or Iris Pro Graphics 6200	2	✓	No
21.5-inch, Retina 4K, Late 2015	16,2	Intel Iris Pro Graphics 6200	2	✓	No
27-inch, Retina 5K, Late 2015	17,1	AMD Radeon R9 M380, M390, M395, or M395X	2	✓	No
21.5-inch, Mid 2017	18,1	Intel Iris Plus Graphics 640	3	✓	✓
21.5-inch, Retina 4K, Mid 2017	18,2	AMD Radeon Pro 555 or 560	3	✓	✓
27-inch, Retina 5K, Mid 2017	18,3	AMD Radeon Pro 570, 575 or 580	3	✓	✓
27-inch, iMac Pro 2017	1,1	AMD Radeon Vega 56 or 64	3	✓	✓
<b>Mac Mini<sup>(4)</sup></b>					
Mid 2011	5,1, 5,2 or 5,3	Intel HD Graphics 3000	1	✓	No
Mid 2011	5,1 or 5,2	AMD Radeon HD 6630M	1	No	No
Late 2012	6,1 or 6,2	Intel HD Graphics 4000	1	✓	No
Late 2014	7,1	Intel HD Graphics 5000, or Intel Iris 5100	2	✓	No
<b>MacBook Air</b>					
11-inch, Mid 2011	4,1	Intel HD Graphics 3000	1	✓	No
13-inch, Mid 2011	4,2	Intel HD Graphics 3000	1	✓	No
11-inch, Mid 2012	5,1	Intel HD Graphics 4000	1	✓	No
13-inch, Mid 2012	5,2	Intel HD Graphics 4000	1	✓	No
11-inch, Mid 2013, Early 2014	6,1	Intel HD Graphics 5000	1	✓	No
13-inch, Mid 2013, Early 2014	6,2	Intel HD Graphics 5000	1	✓	No
11-inch, Early 2015	7,1	Intel HD Graphics 6000	2	✓	No
13-inch, Early 2015	7,2	Intel HD Graphics 6000	2	✓	No
13-inch, June 2017	7,2	Intel HD Graphics 6000	2	✓	No

<sup>(1)</sup>If you are connecting to a Mac Pro, use one of the bottom Thunderbolt ports.

<sup>(2)</sup>Thunderbolt 3 Macs will continue to have Apple Support for external graphics. We expect Apple to discontinue external graphics on Thunderbolt 2 and Thunderbolt Macs beginning with macOS 10.13.4. To continue to enjoy external graphics in the future, you will need to upgrade to a Thunderbolt 3 Mac.

<sup>(3)</sup>Currently, the Radeon RX470, RX480, RX570, RX580, Vega 56, Vega 64, Vega Frontier Edition, and WX 9100 are compatible GPUs. Check installation instructions to assure you have Breakaway Box with suitable power.

<sup>(4)</sup>If you are connecting external graphics to a Mac mini, you must have a monitor connected to the built-in HDMI port until you have logged in.