

# BIZON BOX



PATENT PENDING

## User Guide

[www.BIZON-TECH.com](http://www.BIZON-TECH.com)

# User Guide

## 1. GRAPHICS CARD (GPU) INSTALLATION

Note: This section is for BizonBox without graphics card. If you have BizonBox with graphics card included skip this section and go to section N2.

1.1. Open the case by unscrewing the four screws on the bottom side of the BizonBOX.

1.2. Remove the GPU housing by sliding it out of the case.

1.3. Unscrew the two screws holding graphics card PCIe bracket in place.

**WARNING:** Ensure you ground yourself to avoid damaging the GPU and continue to the next steps.

1.4. Carefully place the GPU into the available PCIe slot and gently apply downward pressure to fully seat the GPU in place. **ENSURE THE GPU IS FULLY SEATED.**

1.5. Secure the GPU to the PCIe bracket by tightening the two screws loosened up in Step 1.3.

1.6. Connect power to the PCIe connector(s) at the top of the GPU

### Notes:

- 6-pin, 6 + 6-pin, 8-pin, and 6 + 8-pin GPU powered cards are compatible.
- GPUs without PCIe power connection cannot be used with the BizonBOX.
- The power connector must match the connection on the GPU.

– *DO NOT CONNECT 6-pin connector to 8-pin connector. Damage to the graphics card and power supply will occur.*

– *All of the connectors on graphics card should be used.*

a. Connect one 6-pin connector, if your graphics card has a single 6-pin connector.

b. Connect one 8-pin connector, if your graphics card has a single 8-pin connector.

c. Connect both 6-pin connectors, if your graphics card has two 6-pin connectors.

d. Connect one 6-pin and one 8-pin connector, if your graphics card has one 6-pin and one 8-pin connector.

Example: 6-pin to 6-pin, 8-pin to 8-pin

**WARNING:** 200 W power supply provide 6-pin + 8-pin PCIe connections. 400 W power supply provide 8-pin + 8-pin PCIe connections. Available power combinations that can be used are different:

**200W (GTX 960, 970, 980, 1060, 1070, 1080):** 1 x 6-pin or 1 x 8-pin or 6-pin + 6-pin

**WARNING:** Do not use the 6-pin and 8-pin connections at the same time. The BizonBOX, power supply, and/or GPU can be DAMAGED. 6-pin + 6-pin connections can be used at the same time.

## » Technical Support

**E-Mail:** [support@bizon-tech.com](mailto:support@bizon-tech.com)

# User Guide

If your GPU requires 6-pin + 8-pin PCIe power connections, you must upgrade to the 400 W power supply that can use the following combinations:

**400 W (GTX 9xx, 10xx, TITAN X):** 1 x 6-pin or 1 x 8-pin or 6-pin + 6-pin or 6-pin + 8-pin or 8-pin + 8-pin.

1.7. Close the case by inserting inner GPU housing back into the BizonBOX and tighten four screws on the bottom side.

**WARNING:** Be careful with the power cables connected to the GPU and ensure you are carefully reseating the GPU within the BizonBOX without pinching or stretching any of the cables.

## 2. CONNECTING BIZON BOX (MACOS/OS X)

### BizonBOX 2S Technical requirements:

- BizonBOX 2S: Mac with Thunderbolt 2 or Thunderbolt 1 port.
- OS X Yosemite 10.10.3 or later.
- Beta versions are not supported.

### BizonBOX 3 Technical requirements:

- BizonBOX 3: Mac with Thunderbolt 3 port.
- macOS Sierra 10.12.1 or later.
- Beta versions are not supported.

### NVIDIA GTX 10xx-Series requirements:

- macOS Sierra 10.12.4 or later.

2.1. Using included power supply only, connect the power supply to the power connector located on the rear of the BizonBOX.

2.2. Shut down your Mac and connect the BizonBOX using the included Thunderbolt cable.

### Notes:

- The second Thunderbolt port of BizonBOX cannot be used to daisy chain other devices.
- The BizonBOX must be connected directly to a dedicated Thunderbolt port of your Mac.
- Please read Section 7-8 if you are using Mac Pro or MacBook 2016.

## 3. ACTIVATING BIZON BOX IN MACOS/OS X

- Boot your computer into Recovery Mode by holding `CMD + R` on your keyboard as your computer boots up (see photo N1).
- Open Terminal.
- Enter the command: `csrutil disable`
- Restart computer.



Photo N1

# User Guide

3.1. When OS X will boot up, download the BizonBOX Device Manager application here: <http://bizon-tech.com/bizonboxmac.zip>

**NOTE: This application is for BizonBOX only. Don't use with any other products. Damage to the hardware or operating system may occur.**

3.2. Unzip the 'bizonboxmac.zip'. **Go to BIZONBOX folder.**

You will find **bizonbox.prefPane** file.

Click **RIGHT MOUSE BUTTON** and choose "Open" from menu . This will install BizonBOX Device Manager application (Z-Manager).

3.3. Go to BizonBox in System Preferences (see photo N2).

– Press "**Step 1**" button. Enter the administrator password.

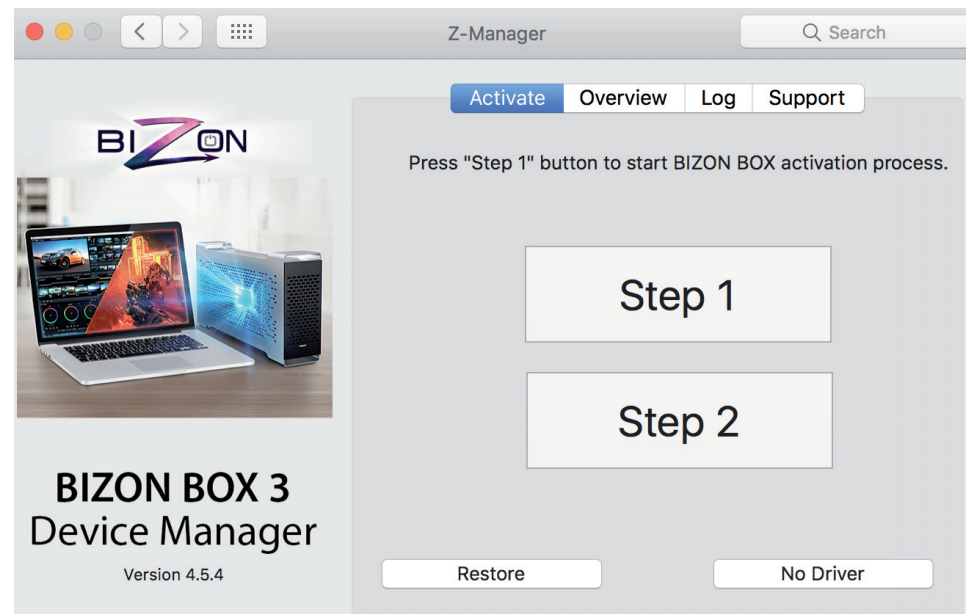


Photo N2

– Wait for process to be completed. Restart your computer.

– After reboot run BIZON BOX Device Manager again.

– Press "**Step 2**" button. Enter the administrator password. After few seconds enter the administrator password once again.

– Restart your computer.

**NOTE: If there are any error messages during activation, contact technical support: [support@bizon-tech.com](mailto:support@bizon-tech.com)**

3.4. Ensure OS X boots correctly after restart.

3.5. Shut down your computer.

3.6. Connect your monitor to an available port on the GPU within the BizonBOX.

3.7. Power on the computer.

3.8. To take advantage of GPU acceleration, you will need to run some applications through the BizonBOX using an external monitor as your primary display.

**NOTE: THERE ARE SOME EXCEPTIONS THAT ALLOWS YOU TO BYPASS EXTERNAL MONITOR REQUIREMENT AND USE ONLY INTERNAL MONITOR (MACBOOK, IMAC). GO TO SECTION N6 FOR MORE DETAILS.**

– Make sure each display is properly connected and powered on.

– From the Apple (🍏) menu, choose System Preferences.

– From the View menu, choose Displays.

– Click the Arrangement tab (see photo N3).

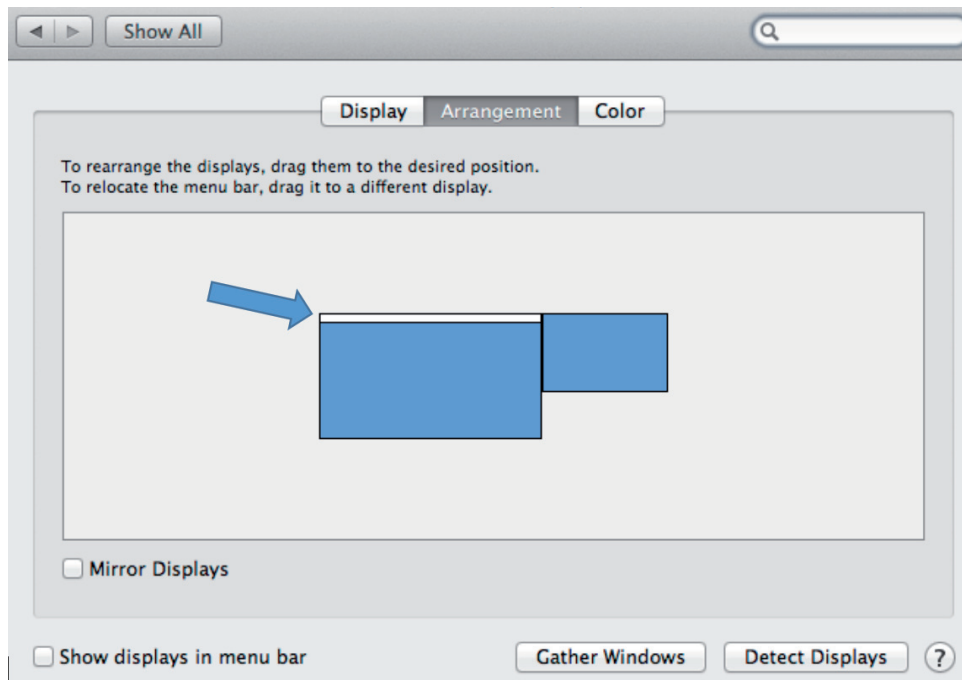


Photo N3

– In the Displays pane of System Preferences, each blue box represents a display that is currently connected. The size of each box is relative to the current resolution of the display it represents.

– In the example pictured below, the larger box on the left represents an external display, while the smaller box on the right is the built-in display of a MacBook Pro.

– The white bar at the top of the left blue box represents the menu bar you see at the top of your display. Menu bar placement determines which display is treated as the primary display in OS X.

– To change your primary display, click and drag the white bar from one blue box to another.

### 3.9. Activation complete.

## 4. NVIDIA CUDA SUPPORT

Install the latest CUDA drivers available here:

<http://www.nvidia.com/object/mac-driver-archive.html>

If you use Adobe Premiere or Adobe After Effects, you will need to activate CUDA Mercury Playback Engine using the instructions found in the 'cuda.rtf' file within the 'BIZONBOX' folder.

For other applications no further actions required.

## 5. CONNECTING BIZONBOX (WINDOWS VIA BOOTCAMP)

### Technical requirements:

- Mac with Thunderbolt port.
- Windows 8.1, Windows 10.

5.1. Connect the monitor to any available port on the external video card. Connect BizonBOX to Thunderbolt 3 port.

5.2. Turn on the computer.

5.3. Boot Windows normally.

5.4. Download the latest drivers to support your graphics card Windows 10.

NVIDIA: <http://www.nvidia.com/Download/index.aspx?lang=en-us>

AMD: <http://support.amd.com/en-us/download>

5.5. Install drivers.

5.6. Reboot.

5.7. You'll see an image on the external monitor.

**5.8. Activation complete.**

## **6. USING INTERNAL DISPLAY FOR EGPU ACCELERATION**

Applicable for iMac, MacBook only.

It depends on your Mac configuration and operating system.

### **Mac with integrated GPU only (Intel HD, Intel Iris, Intel Iris Pro)**

macOS/OS X: Internal or external monitor support.

Windows: Internal or external monitor support.

### **Mac with Integrated + discrete GPU (AMD, NVIDIA)**

macOS/OS X: Internal or external monitor support.

Windows: External monitor only.

### **6.1 More details about macOS/OS X**

To take advantage of acceleration, you will need to connect the graphics card within the BizonBOX to an external monitor, but there is some exceptions.

When using an external monitor, acceleration is supported in all cases when you connect directly to the GPU housed within the BizonBOX (e.g. DVI, HDMI, DisplayPort; depending on GPU support).

There are some exceptions that allows you to bypass external monitor requirement and use only internal monitor:

### **1. BizonBOX EX (Internal Display Activator for BizonBOX)**

Activator for BizonBOX is a small device which allows you to use BizonBOX in macOS/OS X without connecting external monitor. It's a solution for those who do not want to run applications on external monitor and prefer using MacBook internal display. Only for OS X. No Windows support.

Order here: <https://bizon-tech.com/us/bizonbox-internaldisplay.html>

### **2. Applications with manual GPU selection**

Most production/creative applications provide you the option to select GPU acceleration within the application's preferences.

These applications do not require an external monitor to take advantage of GPU acceleration, no matter your hardware configuration/setup. Here are some applications that do not require an external monitor to take advantage of GPU acceleration: DaVinci Resolve, Adobe Premiere Pro, Adobe After Effects, Octane Render, SketchUP, and many more.

The abovementioned applications are able to utilize graphics acceleration with the BizonBOX without an external monitor; proper configuration within the specific application's preferences is required.

Using an external graphics card with the BizonBOX allows for complex color corrections, statistical computations, 2K/4K footage edits, 2D/3D rendering processes using the most basic and baseline of Macintosh hardware (i.e. Integrated Intel Iris graphics).

### **More details about Windows:**

The eGPU in the BizonBOX can be used on either the internal or external displays.

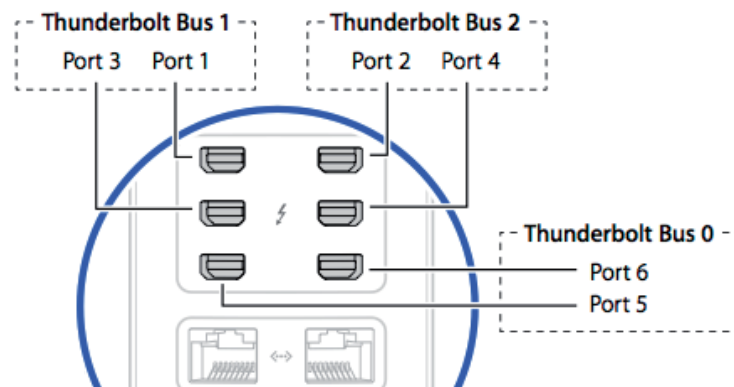
# User Guide

Using the internal monitor only, your hardware must be: Intel HD 4000 or higher, Intel Iris, or Intel Iris Pro and include NVIDIA Optimus technology. If your hardware includes integrated graphics paired with a discrete GPU, this acceleration option is NOT possible. NVIDIA Optimus technology is only compatible with Windows 8.1 and Windows 10.

## 7. MAC PRO LATE-2013 NOTES

### MAC OS:

Connect the BizonBOX to the Port 5-6. See photo.



## 8. MACBOOK PRO 2016 NOTES

15-Inch:

Connect the BizonBOX to the left Thunderbolt port that is closest to the user. Connect the power cord to the right thunderbolt port.

13-Inch: Any port.

### MAC OS:

15-inch: Go to System Preferences → Energy Saver. Disable Automatic graphics card switching.

13-inch: No additional actions required.

### WINDOWS:

Using Windows on the MacBook Pro 2016 requires some additional steps to use the BizonBOX.

### Install

1. Download <https://bizon-tech.com/a/macbook2016-win.zip> and unzip.
2. MacBook 2016 13-inch with Touch Bar users:  
Go to «MacBook 2016 13-inch Touch Bar» folder and move dsdt folder to C:  
  
MacBook 2016 13-inch without TouchBar users:  
Go to «MacBook 2016 13-inch» folder and move dsdt folder to C:  
  
MacBook 2016 15-inch with Touch Bar users:  
Go to «MacBook 2016 15-inch Touch Bar» folder and move dsdt folder to C:
3. Go to dsdt folder. Right click (important) on start.bat and choose «Run as Administrator».
5. After few seconds process will be completed. Reboot your system. Activation complete.

### Uninstall

1. Open dsdt folder, right click on uninstall.bat and choose Run as Administrator. 2. Reboot your system.