



# DaVinci Resolve 10

Configuration Guide for MAC OS X

September 2013

# Table of Contents

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DaVinci Resolve for Mac	4
Selecting Hardware Configurations	5
Which Mac?	6
GUI Monitor	8
Graphics Processing Unit	8
PCIe and Thunderbolt™ Expanders	8
UHD and 4K-DCI Image Processing	9
Connecting a Calibrated Grading Monitor	10
File System and Media Storage	11
Important note about Solid State Disk (SSD) speeds	12
Installing the DaVinci Resolve Application	13
Updating Third Party Drivers for Resolve	14
Systems with NVIDIA CUDA GPUs	14
NVIDIA drivers	14
CUDA drivers	14
Systems with RED Rocket	15
Rocket drivers and firmware	15
First Time You Start Resolve	16
Configuring Third Party Control Panels	17
Assembling Hardware for DaVinci Resolve	18
DaVinci Resolve on MacBook Pro with Retina Display	19
Shopping List	20
Connection Diagram	24
DaVinci Resolve on iMac	25
Shopping List	26
Connection Diagram	31
DaVinci Resolve on Mac Pro	32
Choosing graphics cards for your Mac Pro	35
Where to install your hardware for basic 2012 Mac Pro configurations	36
Where to install your hardware for 2012 Mac Pro and PCIe expansion chassis configurations	37
Connection Diagram	46

# Table of Contents

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Using a Mac as the DaVinci Resolve database server	47
DaVinci Resolve Control Surface	48
Dimensions and Weights	48
Warranty	49



## DaVinci Resolve for Mac



Building the world's highest performing color grading system is simple with this easy to follow guide.

DaVinci Resolve features the Emmy™ award winning color correction technology that uses 32 bit float based YRGB image paths for the highest quality possible. So it is essential to build a Resolve system with high performance computer hardware.

All Resolve systems require at least one high performance graphics processor (GPU). Resolve can utilize multiple GPUs within the one system.

For your grading monitor or projector Resolve also supports the range of Blackmagic Design video I/O cards to provide a SDI output to your calibrated grading display.

Whether you are just starting your grading career, building a post production facility or upgrading your existing Resolve suite, this guide contains important information which will help you buy and configure your DaVinci Resolve system.

## Selecting Hardware Configurations

**DaVinci Resolve is configurable for different operational requirements based around the performance you need and the available hardware options:**

DaVinci Resolve for Mac operates on current Intel based Mac Pro, iMac and Retina MacBook Pro computers. The system you select or build may be based on what you already have and can update, or a specific operational or technical requirement. Either way, the hardware configuration you select has a significant impact on the performance of the overall system, as Resolve will use all the available resources to provide the fastest possible processing.

As it is essential to build a Resolve system with high performance computer hardware, this document lists certified hardware models and general hardware criteria so you can choose between a certified and supported system or build one to fit your own, specific needs and budget.

If your projects are SD or low resolutions for the web, you could use a lower powered system compared to the needs of a client supervised 2K or 4K grading session for a TVC or feature film. For low to medium budget HD projects quite often the mid-range powered systems are sufficient.

Resolve offers a number of user settings, which will optimize playback performance on lower powered systems, or for timelines that have many color grading layers, known in Resolve as nodes. After you finish your grade, you can force your delivery quality to the highest available option before rendering. This may take longer than real time but give you the best finishing image quality. So selecting your platform defines not only the speed which can playback and grade but also the time to render your timeline.

The Blackmagic Design support team will most likely be able to help you if the Resolve system is in one of the certified configurations documented in this guide. They are less likely to be able to help should alternative configurations be used.







## Which Mac?

### MacBook Pro

To give you some guidance on the performance of systems, the 2012 and 2013 15" MacBook Pro with Retina Display is supported, with some processing limitations based on the onboard GPU capabilities, and with its excellent portability it's often found in the field and used for on set work. A Thunderbolt™ connection can be used for video ingest and high speed disk storage.

While the 13" model may appear to be suitable due to its high screen resolution, it does not have an appropriate GPU for Resolve. The older 2010/11 17" MacBook Pros are also supported but these system have quite limited GPU performance compared to the new MacBook Pro with Retina Display. The previous 15" MacBook Pro is not supported as its screen resolution does not meet Resolve's minimum spec of 1680x1050.

### iMac

The current model iMac can provide faster image processing than a MacBook Pro due to the availability of faster CPUs and GPUs in the top models.

An iMac provides a flexible and simple desktop workhorse for real time previewing and grading material up to and including HD video. A Thunderbolt connection can be used for ingest of video and high speed disk storage for your media.

The latest iMac can process images with higher resolutions than HD but real time performance should not be expected and at some stage your grades will reach the limits of the GPUs/CPUs. Older model iMacs will reach these GPU/CPU limits at lower resolutions and with fewer color grading nodes.

Previous generation (prior to 2010) iMac computers contain GPUs with a very small amount of GPU RAM so these models are not recommended for use with Resolve.

Very limited performance is possible on the 2010 and 2011 top of the line iMac's however these systems will not be suitable for any temporal processing or images greater than HD resolution.



## Mac Pro

This guide details configurations for the 2012 Mac Pro and older models. The guide will be updated to include the new 2013 Mac Pro when they become available.

DaVinci Resolve 10 includes support for the OpenCL GPUs including the features that previously were only available on CUDA based GPUs.

DaVinci Resolve continues to support the CUDA based image processing for Mac, Windows and Linux OS systems.

### Mac Pro - 2012

A 2012 Mac Pro with multiple disks is recommended if you will be working with projects in resolutions higher than HD or if you are ingesting video from a tape deck. If you are grading stereoscopic projects the Mac Pro is more suitable than the iMac as you can add more image processing GPUs with more GPU RAM and disks for the stereoscopic image stream.

The key benefits of the 2012 Mac Pro include dual CPUs, easily expandable RAM and the four PCIe slots,

which permit you to add a RAID controller for storage and to add extra GPUs via a PCIe expander chassis.

Resolve is multi GPU aware and while it will operate on a single GPU sharing the GUI and image processing operations, having one or more separate image processing GPUs will significantly improve operational speed.

This configuration is possible by connecting a PCIe expander chassis into one of the fast x16 slots of the Mac Pro motherboard and placing up to four image processing GPUs in that expander. Details of board combinations and slot positions, which are important, are detailed later in this guide.

The 2012 Mac Pro is currently shipping from Apple with an option for the AMD/ATI Radeon HD5770 or the HD 5870 GUI GPU. These GPUs are ok for the Resolve GUI but we recommend either replacing them with a single fast GeForce CUDA based GPU if you are planning to use the same GPU for image processing and GUI, or using the HD 5770 for the GUI and a separate CUDA GPU for image processing.



## GUI Monitor

The Resolve GUI is optimized for 2560x1440 screen resolution but will work with a MacBook Pro 15- inch Hi-Res (1680 x 1050) Widescreen Display and also 1920 x 1080 and higher screen resolutions. If you are using the Macbook Pro 15" with Retina display, select the "Scaled for more space" mode. Mac Pro users can connect a second monitor to the GUI GPU and within the Resolve application place the video scopes on this monitor.

## Graphics Processing Unit

The Graphics Processing Unit (GPU) provides the backbone to Resolve's industry leading performance. Resolve requires a powerful GPU as all image processing is performed in 32 bit floating point precision. You can use the same GPU for the GUI but this will of course limit the GPU ability to process images in real time.

We generally recommend the fastest GPU or GPUs with the most GPU RAM that you can afford within the limits of the supported hardware.

DaVinci Resolve 10 will operate on both CUDA and OpenCL based GPUs and in the current model Mac Pro you can use an ATI/AMD GUI GPU and NVIDIA CUDA image processing GPUs.

## PCIe and Thunderbolt™ Expanders

The 2012 MacPro offers connection to an external expander chassis via its PCIe interface. This permits extra GPUs to be installed for use by the unique processing controller in DaVinci Resolve. While there are a number of expanders available on the market only a few have been tested and certified for use with DaVinci Resolve.

Please refer to the PCIe Expander details later in this guide for details.

At this time there are no Thunderbolt expanders certified for use with GPUs however you can use a ThunderBolt expander for a fibre channel adapter, storage interface or raid controller, video card or even a Red Rocket. The shopping list later in this guide details tested models and configurations.



## UHD and 4K-DCI Image Processing

With the increasing use of digital cameras, many colorists want to grade UHD, 4K-DCI or higher resolutions in real time. While some cameras provide UHD or 4K or higher capture resolutions they usually store the images as compressed data as this takes less storage space and bandwidth.

However for grading, the compressed data needs to be decompressed to the full RGB per pixel bit depth which will use four or more times the processing power of a HD image for the same real time grading performance. The GPU RAM therefore becomes a very important factor when dealing with UHD and 4K-DCI timelines.

A 2012 Mac Pro with a current model GPU and 3GB or more of GPU RAM can play UHD and 4KDCI resolution images using a HD resolution timeline and displayed on a HD monitor. After you have completed your grade simply change the timeline resolution for a UHD or 4K-DCI render.

You can also grade and display UHD/4K-DCI images if you connect a PCIe expander to your Mac Pro, with extra image processing GPUs, and use either the DeckLink 4K Extreme or UltraStudio 4K video I/O card to connect to your 4K-DCI grading monitor. However with this current MacPro real time playback is not always achievable.

There are many potential speed limits within this 4K pipeline so depending on the clip codec, CPU speed and number of cores, system RAM, the number of GPUs, their core count and GPU RAM, motherboard slot speed, disk speed, etc. each of these can affect the full 4K playback grade and display in real time.

For facilities that require full UHD or 4K-DCI playback, grading and monitoring in real time we currently recommend consideration of the fastest Linux or Windows configurations we list in the respective configuration guides or a short wait for the new Mac Pro.





## Connecting a Calibrated Grading Monitor

All colorists grading for TV or film deliverables will need to use a proper calibrated grading monitor connected to a SDI video I/O card for 2D or 3D monitoring. This video output device will utilize a Thunderbolt port in the latest MacBook Pro, iMac and the future 2013 MacPro computers or PCIe slot in a 2012 Mac Pro.

DaVinci Resolve supports the Blackmagic Design range of DeckLink and UltraStudio video I/O devices for SDI video and embedded audio ingest and playback. The same device is used for connecting your calibrated grading monitor. Users can loop a single feed from the VTR to the grading monitor or connect the second SDI output directly to the grading monitor.

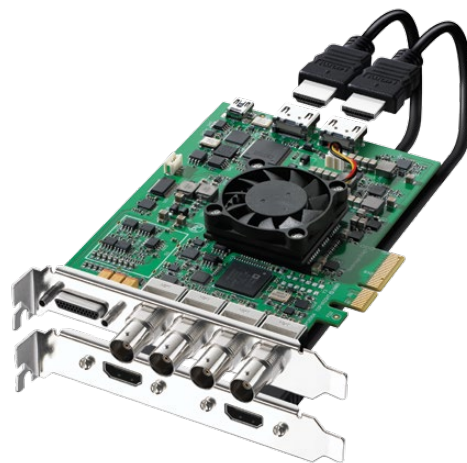
DaVinci Resolve also supports the DeckLink 4K Extreme video card and if your facility has a UHD/4K display that accepts a single 6G SDI or two 3G SDI cables you can use this DeckLink card to connect to your monitor. Alternatively you can use the BMD demultiplexer to convert these dual SDI connections to four 1.5G SDI feeds.

The UltraStudio 4K offers a variety of input and output connections in a rack mount chassis and is connected via Thunderbolt to the MacBook Pro, iMac and 2013 MacPro computer.

You can also use the UltraStudio Mini Recorder and Mini Monitor with DaVinci Resolve however there is no ingest or tape transport controls available with these devices.

These DeckLink and UltraStudio capture and playback devices support SD, HD, 2K, UHD and 4K SDI video with up to 16 channels of audio. Many also feature HDMI and analog audio and video outputs, external sync and VTR control via a RS-422 connection.

For DaVinci Resolve to use the DeckLink or UltraStudio you will need to install the latest Desktop Video drivers, which are available from the support page at [www.blackmagicdesign.com](http://www.blackmagicdesign.com).



## File System and Media Storage

DaVinci Resolve for Mac supports a number of internal and external storage systems however almost any storage, designed for Mac OS X and high bandwidth media, will be suitable for use.

A current model MacBook Pro or iMac can be connected directly to a Thunderbolt disk array for SD and HD video. Thunderbolt disk arrays provides fast, high capacity disk storage and are easily expandable as your media storage needs grow. Alternatively, replacing the internal hard drive, with the biggest SSD you can afford, will make a substantial improvement to Resolve's performance. Please read the "Important note about Solid State Disk (SSD) speeds" on the following page.

If you have a 2012 Mac Pro, while external disk arrays can provide much higher performance by using more disks, the four internal disk bays in the Mac Pro can provide adequate performance for SD and compressed HD video.

An external disk array and a RAID or HBA card could be used for additional disk performance and storage, especially with 2K, UHD and 4K media. The RAID or HBA card will usually occupy PCIe slot three or four.

Facilities with SAN based shared storage can work concurrently with projects that are being graded in other Mac, Windows or Linux suites.

The most common connection method for the SAN storage is via dual 8Gbit Fiber Channel. This can be direct or via a FC switch. The 2012 MacPro can use an internal FC HBA and the MacBook Pro or iMac can use a Thunderbolt to Fibre channel adapter to connect to a SAN.

Resolve supports the Quantum StorNext file system so you can connect the DaVinci Resolve system to a Storage Area Network (SAN). We have certified the standard StorNext system version 4.3 and legacy 3.5.2. Please seek guidance from your local Quantum support office.

If you plan on using a SAN please do so in conjunction with your local distributor and/or your storage subsystem vendor.

The Preferences option under the Resolve menu is where you can add or remove internal and external disk storage for use with Resolve. The first volume in the list will be used to store gallery stills and cache files so this should be a drive that is always on your Resolve system.





## Important note about Solid State Disk (SSD) speeds

Some models of SSD cannot save video data at the speed indicated by the manufacturer because the disk uses hidden data compression to reach these higher write speeds. This data compression technique can only save data at the manufacturer's claimed speed when storing simple files or simple data, such as blank data.

Video data includes video noise, and more random pixel data which does not compress much, so the true speed of the disk is seen.

Some SSD's can have up to 50% lower write speed than the manufacturer's claimed speed, so even though the disk specifications claim an SSD is fast enough to handle video, in reality the disk is not fast enough for real time video data capture.

Hidden data compression mostly affects capture and often these disks can still be used for real time playback.

The Blackmagic Disk Speed Test, a Mac OS X and Windows 8 application, can be used to measure accurately if your SSD will be able to handle uncompressed video capture and playback.

Blackmagic Disk Speed Test uses data to simulate the storage of video so you get results similar to what you will see when capturing video to a disk. This will let you find models of SSDs that work well for video capture. In our testing, we have found larger newer models of SSDs, and larger capacity SSDs are generally faster. Blackmagic Disk Speed Test also tests the speed of disks connected to eSATA docks and other interfaces, which can affect disk performance.

Disk Speed Test is installed when you install the latest Desktop Video drivers for your Blackmagic Design capture hardware. Disk Speed Test can also be used even if no capture hardware is present.

## Installing the DaVinci Resolve Application

After selecting and configuring your hardware there are just a few steps starting with the DaVinci Resolve Installer:

Installing or updating Resolve is essentially the same process. Log in as the user that will be operating Resolve.

You will need an Administrator password to install the software on your system and we recommend that DaVinci Resolve be installed into the standard Applications folder on your startup hard disk. Insert the Resolve DVD or open the downloaded disk image and when the installer window opens, doubleclick the 'Resolve Installer' icon and follow the onscreen prompts to install the software.

The installation process takes just a couple of minutes. When the installation has been completed we suggest you restart your Mac. After the software has been installed and your Mac has restarted, you may wish to add the application icon to your dock to make Resolve easy to launch.

For the full version of DaVinci Resolve, the included USB dongle contains the Resolve for Mac license and must be connected to your computer before launching the Resolve software.

For Resolve to use the DeckLink card or UltraStudio 3D for video I/O you will need to install the latest Desktop Video drivers. These are available from the support page at [www.blackmagicdesign.com](http://www.blackmagicdesign.com).

If you use Apple Final Cut Pro, Avid Media Composer or Adobe Premiere Pro on the same Mac as Resolve, and you wish to use these applications with a DeckLink or UltraStudio, install the latest Desktop Video drivers after installing your editing applications. Blackmagic Desktop Video drivers install associated easy setup options and presets for a number of editing applications.





## Updating Third Party Drivers for Resolve

DaVinci Resolve uses a number of third party drivers which you may need to install or update depending on the DaVinci Resolve and OS version and also the hardware configuration you are using.

For systems using AMD/ATI GPUs, drivers are included in the Mac OS X so these don't need updating. If you are using DaVinci Resolve from the App Store this also uses the drivers within OSX, even if you have CUDA GPUs.

Systems using NVIDIA GPUs, and not the App Store version of DaVinci Resolve, will need to have the correct NVIDIA and CUDA driver to operate the GPUs. While Resolve will check the CUDA version on your system you may have to update it after any OS updates.

If you install a RED Rocket card you will need the correct card firmware and drivers for the card.

### Systems with NVIDIA CUDA GPUs

The following information is for Macs using NVIDIA CUDA capable GPUs. Please skip past this section if your Mac only contains GPUs from AMD/ATI and you don't have the App Store version of DaVinci Resolve.

There are two parts to successful operation of your NVIDIA CUDA based GPUs.

#### NVIDIA drivers

If you use Mac OS X 10.8.4 or newer then Apple generally supplies with the OS the NVIDIA drivers for current shipping GPUs. Drivers shipped with older versions of the OS X may not support the new GPUs. You may need to check compatibility and download and install the NVIDIA driver for your GPU.

Older GPUs may also need specific drivers. For example, if you have a Quadro 4000 for your GUI

GPU you will need to visit the NVIDIA download site to get the correct NVIDIA driver to install.

#### CUDA drivers

If your Mac has NVIDIA GPUs and does not have CUDA installed the DaVinci Resolve installer will load the latest CUDA drivers suitable for Resolve. If however your system already has a newer CUDA driver that Resolve needs, the DaVinci Resolve installer will not update this driver as this may cause problems with other applications you have that use CUDA.

It is important to use the version of the CUDA driver that is certified for use with Resolve. Please refer to the Resolve readme corresponding to the version of Resolve for the specific certified CUDA driver.

If the message, "WARNING: No CUDA Acceleration Hardware Detected," appears when you launch Resolve and your Mac contains the recommended NVIDIA GPUs and NVIDIA drivers for those GPUs, you will need to quit Resolve and update the correct CUDA drivers.

After quitting Resolve, go to the Apple menu and choose System Preferences. Then click on the CUDA icon to reveal the CUDA Preferences and note the installed CUDA driver version.

If the installed drivers are older than the certified version listed on the Resolve installer readme, avoid clicking on the "Install CUDA Update" button and instead visit [www.nvidia.com/object/mac-driver-archive.html](http://www.nvidia.com/object/mac-driver-archive.html) to download the certified CUDA driver version.

Once the certified CUDA drivers are installed, you will be able to successfully launch DaVinci Resolve.

## Systems with RED Rocket

DaVinci Resolve and DaVinci Resolve Lite can perform RED R3D decoding at various resolutions and debayer qualities based on the performance of your computer hardware, particularly the CPU speed and number of cores. Real time R3D decoding can be performed without a RED Rocket card but at reduced resolution and debayer quality. As newer generations of faster computers become available, the real time R3D CPU based decoding performance will increase.

If a single RED Rocket card is installed in your system, playback of full resolution and premium debayer quality of 2K files can be achieved as can premium debayer quality of 4K files at half resolution.

MacBook Pro and iMac Resolve systems can use the RED Rocket card in a Thunderbolt expander to playback premium debayered 4K images at half resolution. See the MacBook Pro and iMac sections for expander details.

With the full version of Resolve multiple RED Rockets can be used with the 2012 Mac Pro when installed in a PCIe expander.

### Rocket drivers and firmware

If you have a RED Rocket card installed inside your Mac or via an expander you will need to manually install the RED Rocket drivers and firmware from the RED website for use with Resolve.

It is important to use the version of the RED Rocket driver and firmware that is certified for use with Resolve.

Please refer to readme file that is supplied with each version of Resolve for the specific certified drivers and Rocket firmware that is correct for that version of DaVinci Resolve.

The drivers and firmware are available for download from [www.red.com/downloads](http://www.red.com/downloads).

You can verify operation of the RED Rocket by selecting and deselecting the card in Preferences Page -> System Overview.

When decoding R3D images using premium debayer and half resolution decode compare the playback speed with the Rocket enabled and disabled.

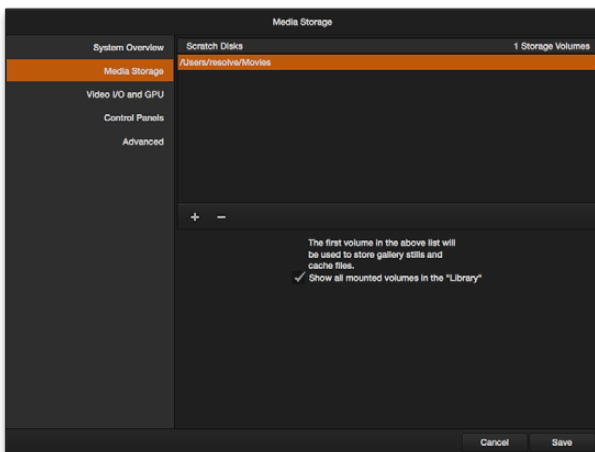
With the Rocket disabled DaVinci Resolve will use the CPUs to perform the software decompression and debayer. The CPU performance is usually slower but often provides pleasing image quality results so you can select the appropriate mode per your need.

## First Time You Start Resolve

There are three hardware items to configure when you first start the Resolve application. Open the Hardware Setup by selecting the Preferences window from the DaVinci Resolve application menu.

The first tab shows the System Overview where you can verify that Resolve has found your GPUs and any Red Rocket cards if installed.

The first location in the storage list will become the primary location for images, all proxies, cached files and gallery stills. This location will usually not be your system disk but a specially installed permanent disk for media. Often it's an internal or external RAID disk array and it needs plenty of storage capacity.



Click on the "+" (add) button to add a volume, folder or mount point to the list of disk storage for your media. Click on the "-" (remove) button to remove a volume, folder or mount point from the list of disk storage.

We recommend you identify your primary drive now and then add and remove other drives as needed but don't change the primary drive until you have considered how to back up and restore your stills.

In the Video I/O and GPU tab select which capture and playback device you will use for SDI monitoring. Depending on your workflow, this device may also be connected to a VTR or camera.

If you are using Resolve Live, the Video I/O and GPU tab includes the option to select the video input capture device.

In the Control Panel tab choose which control panel hardware you have connected to your Mac. DaVinci Resolve for Mac supports the current USB 2.0 generation of DaVinci Resolve Control Surface but can also be used with the Avid Artist Color, JLCopper Eclipse CX and Tangent Devices WAVE and Element control panels. Details on connection follow this section.

The Advanced tab is generally not required by most facilities as it's for specific system configurations. You should leave this blank unless directed otherwise.

After changing any of these preferences select save and restart the DaVinci Resolve application.

## Configuring Third Party Control Panels

You can use DaVinci Resolve with your mouse and keyboard, with a pen and tablet and also with one of the supported third party control panels. DaVinci Resolve supports the Avid Artist Color, JLC Cooper Eclipse CX, or either of the Tangent Devices WAVE or Element control panels.

Refer to the instructions from the panel vendor and review with the directions below to configure the panel to work with DaVinci Resolve.

After first starting the Resolve application, open the Hardware Setup tab by selecting 'Preferences' from the DaVinci Resolve application. In the Hardware settings window, select the Control Panel tab and select the control panel you have connected to your Mac. Save the updated preferences and restart the DaVinci Resolve application.

The Tangent Devices WAVE control panel is a USB device and requires no special configuration for use with DaVinci Resolve. Just plug it in to your Mac and select in Resolve. The Tangent Devices Element Bundle is a set of four USB panels that connect to your Mac via a 4-port USB 2.0 hub. You will need to download and install the 'Tangent Hub support pack' to use the panels with DaVinci Resolve. Once the Tangent Hub is installed, plug the panels into your Mac and select in Resolve. The Tangent Hub installer for Mac OS X can be downloaded from <http://www.tangentdevices.co.uk/support.asp>

If using a JLC Cooper Eclipse CX, follow the Eclipse CX documentation to connect and configure it with an Ethernet port on your Mac. Then launch Resolve, use the Preferences to select the Eclipse CX panel and click "Save." If you have changed the IP address or port from the default panel settings, enter the IP address and port number for your panel and then click "Save." Restart the DaVinci Resolve application and you will see the panel menus as soon as the application starts.

The Avid Artist Color panels installation is generally quite straight forward. If your Mac is connected to a network with a DHCP server, just connect an Ethernet cable from the panel to the same network switch. Install the EUcontrol application that comes with the panel, or download it from the Avid support site.

Launch the application and you will notice the E icon towards the right side of the top menu bar. When the icon is solid, the panel is communicating with the EUcontrol application and, once selected in the DaVinci Resolve preferences, the panel will display Resolve menus at the next restart of the Resolve application.

If you are not using a DHCP server, refer to the Avid Artist Color installation instructions for setting the IP address of the panel and Mac. It should take just 30 seconds to set.





# DaVinci Resolve on MacBook Pro with Retina Display

## Suitable for SD and HD

- ✓ Suitable for on-set, pre-grade, preview and training
- ✓ Grading monitor and external storage via Thunderbolt™

The retina MacBook Pro 15" is suitable for on-set, pre-grade, previewing and training. It can provide a preview of material in HD and apply shot by shot 'look' grades on HD images so the project file can be exported to other faster hardware platforms such as the iMac or Mac Pro. Real time performance is not guaranteed.

Some of the image processing operations like temporal noise reduction need high GPU RAM and so these operations might not be available on GPUs with limited RAM such as is on the retina MacBook Pro. You can however use the retina MacBook Pro for Resolve Live on set grading and preview of many camera images.

As with other Resolve configurations, the retina MacBook Pro 15" benefits from being used with the DaVinci Resolve Control Surface but can also be used with any of the certified third party control panels.

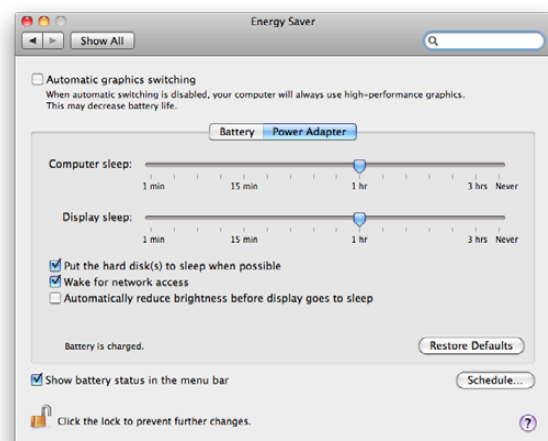
A Thunderbolt disk array provides fast, high capacity disk storage for current MacBook Pro computers and is recommended with the retina MacBook Pro.

All compressed files, including Apple ProRes and RED R3D, are decompressed by the CPU prior to image processing by the GPU. If you are mainly working with compressed files, consider using a MacBook Pro with faster CPUs so that real time grading is not impeded by slow CPU processors.

### Setup

The Resolve interface like many premium applications requires a high GUI resolution. To maximize usability on the retina MacBook Pro 15" we recommend you use the "Scaled for more space" option. For the older MacBook Pro with a 15-inch high resolution display (Order this option at initial purchase) the GUI should be set to a 1680 x 1050 resolution. The older MacBook Pro with a 17-inch display should be set to 1920x1200.

The current MacBook Pro contains two GPUs; one for high performance graphics and the other for better battery life. It is essential to enter the Energy Saver preferences, in the System Preferences of Mac OS X, and select the high performance graphics option. Failing to do so will render Resolve unusable. On the mid 2010 and newer models, including the new retina display MBP, disable the "Automatic graphics switching" checkbox.



Disable the "Automatic graphics switching" checkbox on the certified, Mid 2010 and newer MacBook Pro models.

# DaVinci Resolve on MacBook Pro with Retina Display

## Shopping List

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### Software

#### DaVinci Resolve for Mac

<http://www.blackmagicdesign.com>

#### Where to Buy

<http://www.blackmagicdesign.com/resellers/>

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### Control Panel

#### DaVinci Resolve Control Surface

(Note: includes the DaVinci Resolve software)

<http://www.blackmagicdesign.com/davinciresolve>

#### Where to Buy

<http://www.blackmagicdesign.com/resellers/>

### Alternatives with a different feature set

#### Avid Artist Color

<http://www.avid.com/products/Artist-Color>

#### Where to Buy

[http://euphonix.avid.com/artist/ux/euphonix/artist\\_sales.php](http://euphonix.avid.com/artist/ux/euphonix/artist_sales.php)

#### JLCooper's Eclipse CX

[http://www.jlcooper.com/\\_php/family.php?fam=eclipseseries](http://www.jlcooper.com/_php/family.php?fam=eclipseseries)

#### Where to Buy

[https://jlcooper.com/secure/\\_php/store.php?view=info&store=retail](https://jlcooper.com/secure/_php/store.php?view=info&store=retail)

#### Tangent Devices WAVE

[http://www.tangentdevices.co.uk/products\\_wave.asp](http://www.tangentdevices.co.uk/products_wave.asp)

#### Where to Buy

[http://www.tangentdevices.co.uk/reseller\\_list.asp](http://www.tangentdevices.co.uk/reseller_list.asp)

#### Tangent Devices Element Bundle

[http://www.tangentdevices.co.uk/products\\_element.asp](http://www.tangentdevices.co.uk/products_element.asp)

#### Where to Buy

[http://www.tangentdevices.co.uk/reseller\\_list.asp](http://www.tangentdevices.co.uk/reseller_list.asp)

# DaVinci Resolve on MacBook Pro with Retina Display

## Shopping List

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### Capture Card

Blackmagic Design UltraStudio 4K

#### Alternatives with a different feature set

Blackmagic Design UltraStudio 3D

Blackmagic Design UltraStudio Express

Blackmagic Design Intensity Extreme

Blackmagic Design Mini Monitor

Blackmagic Design Mini Recorder

(Note: HD-SDI I/O and HDMI output is supported by Resolve)

<http://www.blackmagicdesign.com/products/>

#### Where to Buy

<http://www.blackmagicdesign.com/resellers/>

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### Computer

Apple MacBook Pro 15" with Retina display

Early 2013 and Mid 2012, 2.66GHz Intel Core i7 or faster

<http://www.apple.com/macbook-pro/specs-retina/>

Operating System: Mac OS X 10.8.4 or later, 64 bit kernel

RAM: 16GB recommended

Internal Drive: 512GB SSD

#### Where to Buy

<http://store.apple.com/>

#### Alternatives with a different feature set

Apple MacBook Pro, 15-inch with 1680 x 1050 Hi-Res Widescreen

<http://www.apple.com/macbookpro/specs.html>

# DaVinci Resolve on MacBook Pro with Retina Display

## Shopping List

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### Optional USB 2.0 Keyboard

Logickeyboard Apple DaVinci Resolve Model: LKBU-RESOLVE-AM89-US

<http://www.logickeyboard.com/shop/apple-davinci-resolve-2952p.html>

**Where to Buy**

<http://www.logickeyboard.com/shop/apple-davinci-resolve-2952p.html>

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### Optional USB 2.0 Extender

ICRON USB 2.0 Ranger 2204

[http://www.icron.com/products/usb\\_new/usb20-ranger-2204-cat5-extender.php](http://www.icron.com/products/usb_new/usb20-ranger-2204-cat5-extender.php)

**Where to Buy**

<http://www.icron.com/where-to-buy/>

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### Optional Direct Attached External Storage

Multiple alternative options shown

PROMISE Pegasus R4, 4 Bay RAID

[http://www.promise.com/storage/raid\\_category.aspx?region=en-US&m=1169&&rsn=47](http://www.promise.com/storage/raid_category.aspx?region=en-US&m=1169&&rsn=47)

PROMISE Pegasus R6, 6 Bay RAID

[http://www.promise.com/storage/raid\\_category.aspx?region=en-US&m=1169&&rsn=47](http://www.promise.com/storage/raid_category.aspx?region=en-US&m=1169&&rsn=47)

**Where to Buy**

[http://www.promise.com/where2buy/where2buy\\_region.aspx?region=en-US&m=178](http://www.promise.com/where2buy/where2buy_region.aspx?region=en-US&m=178)

# DaVinci Resolve on MacBook Pro with Retina Display

## Shopping List

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### Optional ThunderBolt Expansion

(Note: The ThunderBolt expansion is not suitable for GPU use but some models can be used for a Red Rocket or storage HBA)

Multiple alternative options shown

#### Magma ExpressBox 3T

<http://www.magma.com/expressbox-3t>

#### Magma ExpressBox 1T

<http://www.magma.com/expressbox-1t>

#### Where to Buy

<http://www.magma.com/where-to-buy>

#### Sonnet ECHO-EXP2F

<http://www.sonnettech.com/product/echoexpresschassis.html>

#### Where to Buy

<http://www.sonnettech.com/wheretobuy/search/index.php>

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### Optional RED R3D Decoder Card

#### RED Rocket

<http://www.red.com/>

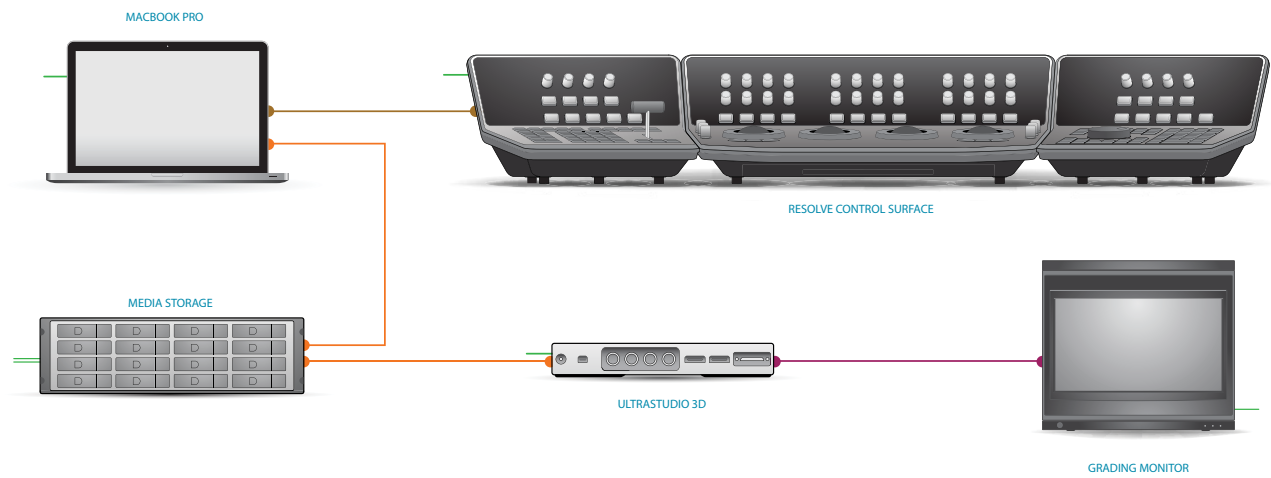
#### Where to Buy

<http://www.red.com/store/workflow>



# DaVinci Resolve on MacBook Pro

## Connection Diagram



- Thunderbolt
- DVI
- USB
- HD-SDI
- PCI-E Extender
- Storage Connection
- Reference
- Audio
- RS422
- Electrical Power

# DaVinci Resolve on iMac

## Suitable for HD and higher resolutions

- ✓ Real time processing of HD images
- ✓ Preview, grade and render 4K images
- ✓ Grading monitor and external storage via Thunderbolt™

The late 2012 27" iMac provides a flexible and simple desktop workhorse for real time previewing, grading and finishing material up to and including HD. It can also provide a good platform to review and grade higher resolution than HD images which you can render at slower than real time in the iMac. Alternatively use it as a grading station, then move the project to a faster hardware platform such as the MacPro for rendering.

As this iMac utilizes a NVIDIA CUDA GPU it can provide faster image processing than previous models. It's important to use the model with 2GB or more of GPU memory.

Performance of the previous model iMacs will be lower than the 2012 27" iMac due not only to the CPU but also the GPU type used in those models.

As with other Resolve configurations, the Resolve on iMac benefits from being used with the DaVinci Resolve Control Surface but can also be used with any of the certified third party control panels.

All compressed files, including Apple ProRes and RED R3D, are decompressed by the CPU prior to image processing by the GPU. If you are mainly working with compressed files, consider using an iMac with faster CPUs so that real time grading is not impeded by slow CPUs.

A Thunderbolt disk array provides fast, high capacity disk storage for this iMac and is recommended.

### Setup

The Resolve interface requires a high GUI resolution, which is available on the 21.5" and 27" late 2012 iMacs without user intervention.

Building a DaVinci Resolve on a 2012 iMac is the simplest of configurations. Just install the application, panels, media drive, verify your GPU drivers and start grading.

The most important item to check if you are installing DaVinci Resolve on an older Mac is to confirm you are using the 64bit kernel, not 32bit. You can check your system by using information from this Apple support page: <http://support.apple.com/kb/HT3770> and switch your system to use the 64bit kernel if its currently on 32bit with information on this Apple support page: <http://support.apple.com/kb/HT3773>

# DaVinci Resolve on iMac

## Shopping List

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### Software

#### DaVinci Resolve for Mac

<http://www.blackmagicdesign.com>

#### Where to Buy

<http://www.blackmagicdesign.com/resellers/>

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### Control Panel

#### DaVinci Resolve Control Surface

(Note: includes the DaVinci Resolve software)

<http://www.blackmagicdesign.com/davinciresolve>

#### Where to Buy

<http://www.blackmagicdesign.com/resellers/>

### Alternatives with a different feature set

#### Avid Artist Color

<http://www.avid.com/products/Artist-Color>

#### Where to Buy

[http://euphonix.avid.com/artist/ux/euphonix/artist\\_sales.php](http://euphonix.avid.com/artist/ux/euphonix/artist_sales.php)

#### JLCooper's Eclipse CX

[http://www.jlcooper.com/\\_php/family.php?fam=eclipseseries](http://www.jlcooper.com/_php/family.php?fam=eclipseseries)

#### Where to Buy

[https://jlcooper.com/secure/\\_php/store.php?view=info&store=retail](https://jlcooper.com/secure/_php/store.php?view=info&store=retail)

#### Tangent Devices WAVE

[http://www.tangentdevices.co.uk/products\\_wave.asp](http://www.tangentdevices.co.uk/products_wave.asp)

#### Where to Buy

[http://www.tangentdevices.co.uk/reseller\\_list.asp](http://www.tangentdevices.co.uk/reseller_list.asp)

#### Tangent Devices Element Bundle

[http://www.tangentdevices.co.uk/products\\_element.asp](http://www.tangentdevices.co.uk/products_element.asp)

#### Where to Buy

[http://www.tangentdevices.co.uk/reseller\\_list.asp](http://www.tangentdevices.co.uk/reseller_list.asp)

# DaVinci Resolve on iMac

## Shopping List

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### Capture Card

Blackmagic Design UltraStudio 4K

#### Alternatives with a different feature set

Blackmagic Design UltraStudio 3D

Blackmagic Design UltraStudio Express

Blackmagic Design Intensity Extreme

Blackmagic Design Mini Monitor

Blackmagic Design Mini Recorder

(Note: HD-SDI I/O and HDMI output is supported by Resolve)

<http://www.blackmagicdesign.com/products/>

#### Where to Buy

<http://www.blackmagicdesign.com/resellers/>

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### Computer

#### Apple iMac 27"

Late 2012, 3.4GHz Intel Core i7 or faster

GPU: NVIDIA GeForce GTX 680MX with 2GB of GDDR5 memory

RAM: 16GB recommended

Internal Drive: 3TB Fusion drive

Operating System: Mac OS X 10.8.4 or later, 64 bit kernel

<http://www.apple.com/imac/specs/>

#### Where to Buy

<http://store.apple.com/>

# DaVinci Resolve on iMac

## Shopping List

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### Alternatives with a different feature set

#### Apple iMac 27"

Late 2012, 3.2GHz Intel Core i5 or faster <http://www.apple.com/imac/specs/>  
GPU: NVIDIA GeForce GTX 680MX with 2GB of GDDR5 memory

#### Alternative with reduced performance

Some of the image processing operations like temporal noise reduction need high RAM and so these operations might not be available on GPUs with limited RAM

#### Apple iMac 27"

Late 2012, 3.2GHz Intel Core i7 or faster <http://www.apple.com/imac/specs/>  
GPU: NVIDIA GeForce GTX 675MX with 1GB of GDDR5 memory

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### Optional USB 2.0 Keyboard

Logickeyboard Apple DaVinci Resolve Model: LKBU-RESOLVE-AM89-US  
<http://www.logickeyboard.com/shop/apple-davinci-resolve-2952p.html>

#### Where to Buy

<http://www.logickeyboard.com/shop/apple-davinci-resolve-2952p.html>

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### Optional USB 2.0 Extender

#### ICRON USB 2.0 Ranger 2204

[http://www.icron.com/products/usb\\_new/usb20-ranger-2204-cat5-extender.php](http://www.icron.com/products/usb_new/usb20-ranger-2204-cat5-extender.php)

#### Where to Buy

<http://www.icron.com/where-to-buy/>



# DaVinci Resolve on iMac

## Shopping List

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### Optional Direct Attached External Storage

Multiple alternative options shown

#### PROMISE Pegasus R4, 4 Bay RAID

[http://www.promise.com/storage/raid\\_series.aspx?region=en-US&m=1040&sub\\_m=sub\\_m\\_8&rsn1=40&rsn3=47&statistic=pegasus](http://www.promise.com/storage/raid_series.aspx?region=en-US&m=1040&sub_m=sub_m_8&rsn1=40&rsn3=47&statistic=pegasus)

#### PROMISE Pegasus R6, 6 Bay RAID

[http://www.promise.com/storage/raid\\_series.aspx?region=en-US&m=1040&sub\\_m=sub\\_m\\_8&rsn1=40&rsn3=47&statistic=pegasus](http://www.promise.com/storage/raid_series.aspx?region=en-US&m=1040&sub_m=sub_m_8&rsn1=40&rsn3=47&statistic=pegasus)

#### Where to Buy

[http://www.promise.com/where2buy/where2buy\\_region.aspx?region=en-US&m=178](http://www.promise.com/where2buy/where2buy_region.aspx?region=en-US&m=178)

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### Optional ThunderBolt Expansion

(Note: The ThunderBolt expansion is not suitable for GPU use but can be used for a Red Rocket or storage HBA)

Multiple alternative options shown

#### Magma ExpressBox 3T

<http://www.magma.com/expressbox-3t>

#### Magma ExpressBox 1T

<http://www.magma.com/expressbox-1t>

#### Where to Buy

<http://www.magma.com/where-to-buy>

#### Sonnet ECHO-EXP2F

<http://www.sonnettech.com/product/echoexpresschassis.html>

#### Where to Buy

<http://www.sonnettech.com/wheretobuy/search/index.php>

# DaVinci Resolve on iMac

## Shopping List

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### Optional RED R3D Processing Card

RED Rocket

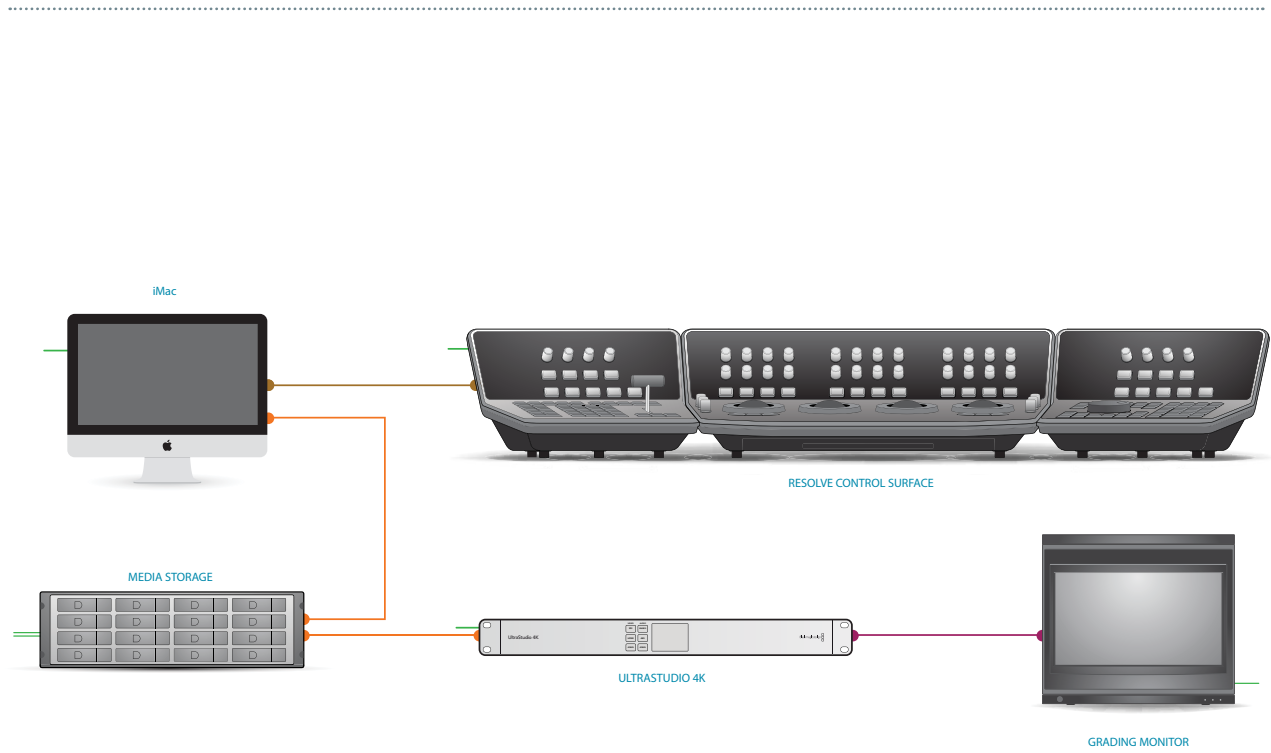
<http://www.red.com/>

**Where to Buy**

<http://www.red.com/store/workflow>

# DaVinci Resolve on iMac

## Connection Diagram



- Thunderbolt
- DVI
- USB
- HD-SDI
- PCI-E Extender
- Storage Connection
- Reference
- Audio
- RS422
- Electrical Power

# DaVinci Resolve on Mac Pro

## Recommended for HD and 2K

- ✓ Great for HD and 2K in real time
- ✓ 4K playback performance depending on configuration
- ✓ Internal, external and SAN storage options

The 2012 Mac Pro offers four PCIe slots for installation of cards and therefore there are many possible configurations to consider. The resolution, type of source files and complexity of your grades will have a significant effect on the system demands. We recommend you should build your DaVinci Resolve on the 2012 Mac Pro based on your expected operational requirements.

With the appropriate GPU configuration Resolve works in SD and HD in real time and full quality on any certified Mac Pro. Resolve software can easily work in 2K and even 4K although some older Mac Pro models do not have sufficient performance to work in 4K at full quality and in real time. There are configurations listed below specifically for 4K operation if most of your work is in 4K.

DaVinci Resolve on 2012 Mac Pro configurations are in two basic groups. The first performs all the processing within the Mac Pro chassis, the second uses a PCIe expander chassis to increase the number of PCIe slots. Note that the increased number of slots does not increase the PCIe capabilities of the slots nor the machine speed capabilities so card selection and placement within all the available slots is important.

When using the 2012 Mac Pro, significantly faster overall performance can be obtained using the 12-core model with a PCIe expander that's fitted with multiple image processing GPUs. This leaves the Mac Pro motherboard to hold the GUI GPU, expander HBA, DeckLink video I/O card and a storage RAID controller or interface to the SAN.

### Older Mac Pro systems

Just as there are limitations in performance with all older platforms, older model Mac Pros have limitations which ultimately restrict the number of real time color correction nodes, the timeline resolution and even debayer and decompression speeds of source media.

The DaVinci Resolve application can work with the 2010 and 2009 series Mac Pro for uncompressed SD and HD in real time and full quality. When working in HD, you may need to set the "Video bit depth" to "8 bit" in the Video Monitoring preferences of the Project Settings screen.

You may see references on the internet indicating the ATI Radeon HD 5770 card requires a Mid 2010 Mac Pro for compatibility despite many customers successfully using this card with 2009 series Mac Pros. This card is suitable for the GUI GPU but not recommended for image processing.

The most important item to check if you are installing DaVinci Resolve on an older Mac is to confirm you are using the 64bit kernel, not 32bit. You can check your system by using information from this Apple support page: <http://support.apple.com/kb/HT3770> and switch your system to use the 64bit kernel if its currently on 32bit with information on this Apple support page: <http://support.apple.com/kb/HT3773>

### Internal Configurations

As the 2012 Mac Pro has only four PCIe 2.0 slots, two at x16 speed (one of which is a double wide slot) and two at x4 speed and also has limited power connectors for additional cards, selecting and placing your cards within the MacPro requires some compromises.

Most critically is the selection and positioning of the GPUs. If your planned configuration is with a single shared GPU for GUI and image processing you should be replacing the standard GUI GPU that comes with the 2012 MacPro with a significantly faster one, keeping in mind that the Mac OS X needs a supported graphics card which can be used for the GUI during the initial boot phase and for general operation.

This card selection also depends on the OS version you are using. The NVIDIA Quadro K5000 for Mac is certified with Mac OS X 10.8.4 but not older versions. It requires a double-wide slot and a single six pin power connection.

Alternatively you can consider the GTX680. This card, unless specifically listed for Mac, will not provide a GUI during the initial computer boot and you should be sure to use the model that has no more than two six-pin power connectors. Avoid models that require one six-pin and one eight pin connection.

You will also have to independently purchase an additional internal power connector cable for cards requiring two six-pin connectors.

There are a number of cards that will work as shared GUI and image processing GPUs but their performance is quite limited and not recommended for new installations as a shared GPU. The standard ATI Radeon HD 5770 and 5870, and the Quadro 4000 are examples.

With the double-wide slot used for the GPU, the remaining PCIe 2.0 x16 slot can be used for another GPU for the GUI, the DeckLink card or a RED Rocket depending you're your needs.

In the next section of this guide there are examples of shared GPU configurations.

## Expander Configurations

While a single shared GPU for both GUI and image processing is supported, Resolve is optimized for using more than a one GPU for image processing.

Many of the compromises of the internal configuration in the 2012 Mac Pro can be reduced, but not eliminated, with a PCIe expander connected to slot two of your Mac Pro motherboard. As mentioned previously the increased number of slots does not increase the PCIe capabilities of the slots nor the machine's speed capabilities so card selection and placement within all the available slots is important.

By using one of the PCIe 2.0 x16 slots for the expander and placing up to four image processing GPUs in the expander the remaining motherboard slots can be used for the GUI GPU, DeckLink and storage HBA or raid controller.

It's quite important for the GUI GPU to be in the remaining PCIe 2.0 x16 slot and given the other cards in the Mac Pro will not likely need additional external power you can use a GPU that utilizes the 2012 Mac Pro motherboard power connectors. The GUI monitor must remain connected to the GUI GPU card so that DaVinci Resolve does not use the GUI GPU for image processing.

There are a number of potential combinations for the GUI GPU and processing GPUs. It's a good idea however to have the same type and even the same model of image processing GPUs within the system

as the slowest performer of your group will dictate the fastest speed the system can operate. There are also literally hundreds of possible slot configurations between the Mac Pro and the PCI Express expansion chassis.

While we expect that many slot configurations should work fine we have certified and recommend a few configurations and suggest that you use the Slot Configuration tables in this section for guidance.

### RED Rocket installation and use

While DaVinci Resolve and DaVinci Resolve Lite can both decode and debayer RED R3D files using the CPUs in real time at 1/4 or 1/2 resolution, you can achieve real time 2K resolution playback and grading with premium debayer quality with the addition of a RED Rocket card. If you using an internal configuration, only slots 3 or 4 should be used for the RED Rocket, which may also prevent the use of a HBA, RAID or capture card.

For expander systems, place the GPUs in the x16 slots that are available and the Rocket card in any remaining x8 or x16 slot. Note: You can add additional Rocket cards with the full version of Resolve. This is ideal for higher resolution source images as two RED Rocket cards are needed for 5K R3D playback and three for stereo image playback.

## Choosing graphics cards for your Mac Pro

While Resolve 10 supports CUDA and OpenCLbased image processing GPUs, including features previously only available on CUDA like noise reduction, for the 2012 Mac Pro we have only qualified support for NVIDIA CUDA GPUs. OpenCL GPUs will be reviewed at a later date and may be included in subsequent guides.

When using a 2012 Mac Pro without a PCI Express expansion chassis, the choice of graphics cards for the Resolve GUI and GPU is limited by the width of the cards, the number of auxiliary PCIe power connections they require and whether new cards will be purchased or existing cards reused.

Slots 1 and 2 in the Mac Pro are suitable for graphics cards as they provide maximum bandwidth and run the cards at full speed. Slot 1 is double-width and slot 2 is single-width. Some graphics cards only need a single-width PCIe slot whereas others require a double-width slot.

The Mac Pro provides two auxiliary PCIe power connections. The number of power connections required by a graphics card might be 2, 1 or none.

When choosing GUI and GPU cards for your Mac Pro, ensure the total number of auxiliary PCIe power connections is no more than 2, and that no more than 1 of these cards requires a double-width slot. The table below shows the slot-width and power connections required for supported graphics cards.

The ATI Radeon HD 5770 is a standard graphics card with the 2010 and 2012 series of Mac Pro computers. It is suitable for the GUI to connect your computer monitor.

You have the option within Resolve of using a single GPU to perform both the GUI and image processing functions leaving the other slot free for another card. In this case we recommend replacing the ATI Radeon HD 5770 with a much faster CUDA GPU as listed below.

Physical requirements of graphics cards suitable for internal use within the Mac Pro using OS X 10.8.4

Board	Required width of PCIe slots	Auxiliary PCIe power connections	Function
ATI Radeon HD 5770	2	1	GUI
NVIDIA Quadro 4000	1	1	GUI
NVIDIA Quadro K5000	2	2*	Shared GPU
NVIDIA GeForce GTX 680	2	2*	Shared GPU

\*Be sure to select the GPUs that use only two six-pin power connectors, not the cards that use a six pin and also an eight pin.

Note:

- If you use a single shared GPU for both image processing and the GUI we recommend the fastest CUDA GPU available at the time that's supported on Mac OS X. The GTX 670 is a low cost starting point for single GPU systems with more expensive GTX series cards generally performing better.
- The computer boot screen is not always available with all GPUs.
- ATI Radeon HD5770 is not supported with four image processing GPUs.



## Where to install your hardware for basic 2012 Mac Pro configurations

### MAC PRO SLOT CONFIGURATION Dedicated GUI GPU and dedicated GPU for image processing

Slot	Board	Function
1	Single or double width GPU	GPU for image processing
2	Single width GPU	GPU for GUI
3	DeckLink capture card	Video & audio I/O
4	HBA or RAID card	Storage interface

### MAC PRO SLOT CONFIGURATION Single shared GPU for GUI and image processing, with RED Rocket for R3D files

Slot	Board	Function
1	Single or double width GPU	Shared GPU for GUI and image
2	RED Rocket	R3D Decoder card
3	DeckLink capture card	Video & audio I/O
4	HBA or RAID card	Storage interface

### MAC PRO SLOT CONFIGURATION Single shared GPU for GUI and 4K image processing, with DeckLink 4K Extreme

Slot	Board	Function
1	Single or double width GPU	Shared GPU for GUI and image
2	DeckLink 4K Extreme capture card	4K Video & audio I/O
3	DeckLink HDMI interface	4K HDMI output
4	HBA or RAID card	Storage interface

## Where to install your hardware for 2012 Mac Pro and PCIe expansion chassis configurations

### EXPANDED SLOT CONFIGURATION using 2x GPU cards for 3D stereoscopic image processing

Slot	Mac Pro	Slot	CUBIX PCI Express Expander
1	Single or double width GPU	1	Double width GPU
2	CUBIX PCIe x16 card	2	
3	DeckLink capture card	3	Double width GPU
4	HBA or RAID card	4	

### EXPANDED SLOT CONFIGURATION using 3x GPU cards and DeckLink 4K Extreme for 4K monitoring

Slot	Mac Pro	Slot	CUBIX PCI Express Expander
1	Single or double width GPU	1	Double width GPU
2	CUBIX PCIe x16 card	2	Double width GPU
3	DeckLink 4K Extreme capture card	3	Double width GPU
4	HBA or RAID card	4	

### EXPANDED SLOT CONFIGURATION using 2x GPU cards and 2x RED Rocket cards for 3D stereoscopic image processing of RED R3D files

Slot	Mac Pro	Slot	CUBIX PCI Express Expander
1	Single or double width GPU	1	Double width GPU
2	CUBIX PCIe x16 card	2	RED Rocket card
3	DeckLink capture card	3	Double width GPU
4	HBA or RAID card	4	RED Rocket card

### EXPANDED SLOT CONFIGURATION using 2x GPU cards and 1x RED Rocket card image processing of RED r3d files

Slot	Mac Pro	Slot	Cyclone PCI Express Expander
1	Single or double width GPU	J7	Double width GPU
2	Cyclone PCIe x16 card	J6	-- blocked --
3	DeckLink capture card	J5	Double width GPU
4	HBA or RAID card	J4	-- blocked --
		J3	RED Rocket card
		J2	
		J1	

# DaVinci Resolve on Mac Pro

## Shopping List

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### Software

#### DaVinci Resolve for Mac

<http://www.blackmagicdesign.com>

#### Where to Buy

<http://www.blackmagicdesign.com/resellers/>

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### Control Panel

#### DaVinci Resolve Control Surface

(Note: includes the DaVinci Resolve software)

<http://www.blackmagicdesign.com/products/davinciresolve>

#### Where to Buy

<http://www.blackmagicdesign.com/resellers/>

### Alternatives with a different feature set

#### Avid Artist Color

<http://www.avid.com/products/Artist-Color>

#### Where to Buy

[http://euphonix.avid.com/artist/ux/euphonix/artist\\_sales.php](http://euphonix.avid.com/artist/ux/euphonix/artist_sales.php)

#### JLCooper's Eclipse CX

[http://www.jlcooper.com/\\_php/family.php?fam=eclipseseries](http://www.jlcooper.com/_php/family.php?fam=eclipseseries)

#### Where to Buy

[https://jlcooper.com/secure/\\_php/store.php?view=info&store=retail](https://jlcooper.com/secure/_php/store.php?view=info&store=retail)

#### Tangent Devices WAVE

[http://www.tangentdevices.co.uk/products\\_wave.asp](http://www.tangentdevices.co.uk/products_wave.asp)

#### Where to Buy

[http://www.tangentdevices.co.uk/reseller\\_list.asp](http://www.tangentdevices.co.uk/reseller_list.asp)

#### Tangent Devices Element Bundle

[http://www.tangentdevices.co.uk/products\\_element.asp](http://www.tangentdevices.co.uk/products_element.asp)

#### Where to Buy

[http://www.tangentdevices.co.uk/reseller\\_list.asp](http://www.tangentdevices.co.uk/reseller_list.asp)

# DaVinci Resolve on Mac Pro

## Shopping List

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### Capture Card

Blackmagic Design DeckLink 4K Extreme

#### Alternatives with a different feature set

Blackmagic Design DeckLink HD Extreme 3D+

Blackmagic Design DeckLink Studio

(Note: HD-SDI I/O and HDMI output is supported by Resolve)

<http://www.blackmagicdesign.com/products/>

#### Where to Buy

<http://www.blackmagicdesign.com/resellers/>

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### Computer

Apple Mac Pro

Mid 2012, 2.4GHz 12-Core or faster

<http://www.apple.com/macpro/specs.html>

Operating System: Mac OS X 10.8.4, 64 bit kernel

RAM: 16GB or more recommended

#### Where to Buy

<http://store.apple.com/>

#### Alternatives with a different feature set

Mid 2012, 3.2GHz Quad-Core or faster

Mid 2010, Two 2.66GHz 6-Core or faster

Mid 2010, Two 2.4GHz Quad Core or faster

# DaVinci Resolve on Mac Pro

## Shopping List

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### GUI Monitor

Apple LED Cinema Display 27"

<http://www.apple.com/displays/>

**Where to Buy**

<http://store.apple.com/>

### Alternatives with a different feature set

Any monitor meeting the following criteria:

- DVI-D or Mini DisplayPort input
  - IPS or TFT LCD flat panel with black bezel
  - 2560x1440 is the preferred screen resolution, 1920 x 1080 and higher screen resolutions are also supported.
- 

### Graphics Processor for GUI

ATI Radeon HD 5770 for Mac

<http://www.amd.com/us/products/desktop/graphics/ati-radeon-hd-5000/hd-5770/Pages/ati-radeon-hd-5770-overview.aspx>

**Where to Buy**

<http://store.apple.com/us>

### Alternative with a different feature set

NVIDIA GeForce GTX 680 for Mac with 2048 MB GDDR5 SDRAM

<http://www.evga.com/Products/Product.aspx?pn=02G-P4-3682-KR>

**Where to Buy**

<http://www.evga.com/Products/WhereToBuy.aspx>

NVIDIA Quadro K5000 for Mac

<http://www.nvidia.com/object/quadro-k5000-mac.html>

**Where to Buy**

[http://www.nvidia.com/object/workstation\\_wtb\\_channel.html](http://www.nvidia.com/object/workstation_wtb_channel.html)

# DaVinci Resolve on Mac Pro

## Shopping List

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### Internal Graphics Processor for Shared GUI and Image Processing

Multiple options shown below for Mac OS X 10.8.4 supported CUDA based GPUs  
For installation within the MacPro as a single shared GPU

#### **NVIDIA GeForce GTX 680 for Mac with 2048 MB GDDR5 SDRAM**

<http://www.evga.com/Products/Product.aspx?pn=02G-P4-3682-KR>

#### **Where to Buy**

<http://www.evga.com/Products/WhereToBuy.aspx>

#### **NVIDIA Quadro K5000 for Mac with 4GB GDDR5 SDRAM**

<http://www.nvidia.com/object/quadro-k5000-mac.html>

#### **NVIDIA GeForce GTX 680 with 4GB GDDR5 SDRAM**

<http://www.geforce.com/hardware/desktop-gpus/geforce-gtx-680>

#### **Where to Buy**

[http://www.nvidia.com/object/workstation\\_wtb\\_channel.html](http://www.nvidia.com/object/workstation_wtb_channel.html)

Note: As the GTX 680 for Windows card is not recognized by the MAC EFI process no boot screen will appear. The GTX-680 for Mac does show the boot screen.

# DaVinci Resolve on Mac Pro

## Shopping List

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### External Graphics Processor for Image Processing

Multiple options shown below for Mac OS X 10.8.x supported CUDA based GPU  
For installation externally to the MacPro in an approved PCIe expander chassis

#### **NVIDIA GeForce GTX TITAN with 6GB GDDR5 SDRAM**

<http://www.geforce.com/hardware/desktop-gpus/geforce-gtx-titan>

#### **NVIDIA GeForce GTX 780 with 3GB GDDR5 SDRAM**

<http://www.geforce.com/hardware/desktop-gpus/geforce-gtx-780>

#### **NVIDIA GeForce GTX 690 with 4GB GDDR5 SDRAM**

<http://www.geforce.com/hardware/desktop-gpus/geforce-gtx-690>

#### **NVIDIA GeForce GTX 680 with 4GB GDDR5 SDRAM**

<http://www.geforce.com/hardware/desktop-gpus/geforce-gtx-680>

#### **NVIDIA Quadro K5000 for Mac with 4GB GDDR5 SDRAM**

<http://www.nvidia.com/object/quadro-k5000-mac.html>

#### **Where to Buy**

[http://www.nvidia.com/object/workstation\\_wtb\\_channel.html](http://www.nvidia.com/object/workstation_wtb_channel.html)

#### **NVIDIA GeForce GTX 680 for Mac with 2048 MB GDDR5 SDRAM**

<http://www.evga.com/Products/Product.aspx?pn=02G-P4-3682-KR>

#### **Where to Buy**

<http://www.evga.com/Products/WhereToBuy.aspx>



# DaVinci Resolve on Mac Pro

## Shopping List

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### Optional PCI Express Expansion

#### CUBIX GPU-Xpander Desktop ELITE

Model: XPDT-X16-ELDHE (Hi-flow exhaust - recommend for up to 4 GPUs)

<http://www.cubix.com/gpu-xpander-desktop>

#### Where to Buy

<http://www.cubix.com/catalog/buy-xpander-desktop>

### Alternative

#### Cyclone Microsystems PCIe2-2707

Order number: 600-2707-1-15-S

[http://www.cyclone.com/products/expansion\\_systems/600-2707.php](http://www.cyclone.com/products/expansion_systems/600-2707.php)

#### Where to Buy

<http://www.buycyclonemicro.com/>

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### Optional USB 2.0 Keyboard

#### Logickeyboard Apple DaVinci Resolve Model: LKBU-RESOLVE-AM89-US

<http://www.logickeyboard.com/shop/apple-davinci-resolve-2952p.html>

#### Where to Buy

<http://www.logickeyboard.com/shop/apple-davinci-resolve-2952p.html>

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### Optional USB 2.0 Extender

#### ICRON USB 2.0 Ranger 2204

[http://www.icron.com/products/usb\\_new/usb20-ranger-2204-cat5-extender.php](http://www.icron.com/products/usb_new/usb20-ranger-2204-cat5-extender.php)

#### Where to Buy

<http://www.icron.com/where-to-buy/>

# DaVinci Resolve on Mac Pro

## Shopping List

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### Optional Direct Attached External Storage

Multiple alternative options shown

**Accusys A08S-PS, 8 Bay RAID**

<http://www.accusys.com.tw/products/storage/a08s-ps.html>

**Accusys A12S2-PS, 12 Bay RAID**

<http://www.accusys.com.tw/products/storage/a12s2-ps.html>

**Where to Buy**

<http://www.accusys.com.tw/where-to-buy/dealer-agent.html>

**CalDigit HDPro2, 8 Bay RAID**

<http://www.CalDigit.com/HDPro2/>

**Where to Buy**

<http://www.caldigit.com/purchase.asp>

**Facilis Technology TerraBlock, 24 Bay RAID**

<http://www.facilis.com/products.html>

**Where to Buy**

<http://www.facilis.com/howtobuy.htm>

# DaVinci Resolve on Mac Pro

## Shopping List

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### Optional Fiber Channel SAN External Storage

Rorke Data Galaxy Aurora, 36 Bay RAID

<http://www.rorke.com/solutions/galaxy/aurora>

#### Where to Buy

<http://www.rorke.com/about/contact>

#### Alternative

Oxygen Tec O2 24 bay enclosure

Model: 4K24FS

[http://www.oxygentec.com/newWeb/pro/display.asp?id=232&chanpin=true&type=cp\\_jieshao&name\\_cn=%B2%FA%C6%B7%BD%E9%C9%DC&shuxingid=12&daili=](http://www.oxygentec.com/newWeb/pro/display.asp?id=232&chanpin=true&type=cp_jieshao&name_cn=%B2%FA%C6%B7%BD%E9%C9%DC&shuxingid=12&daili=)

#### Where to Buy

[http://www.oxygentec.com/newWeb/news/display\\_about.asp?id=95](http://www.oxygentec.com/newWeb/news/display_about.asp?id=95)

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### Optional HBA for Fiber Channel SAN External Storage

ATTO 8Gbps Dual Channel PCIe Fiber Channel HBA

Model: CTFC-82EN-000

<http://www.attotech.com/products/product.php?cat=1&scat=1&prod=2&sku=CTFC-82EN-000>

#### Where to Buy

<http://www.attotech.com/howtobuy/find-reseller.php>

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### Optional RED R3D Decoder Card

RED Rocket

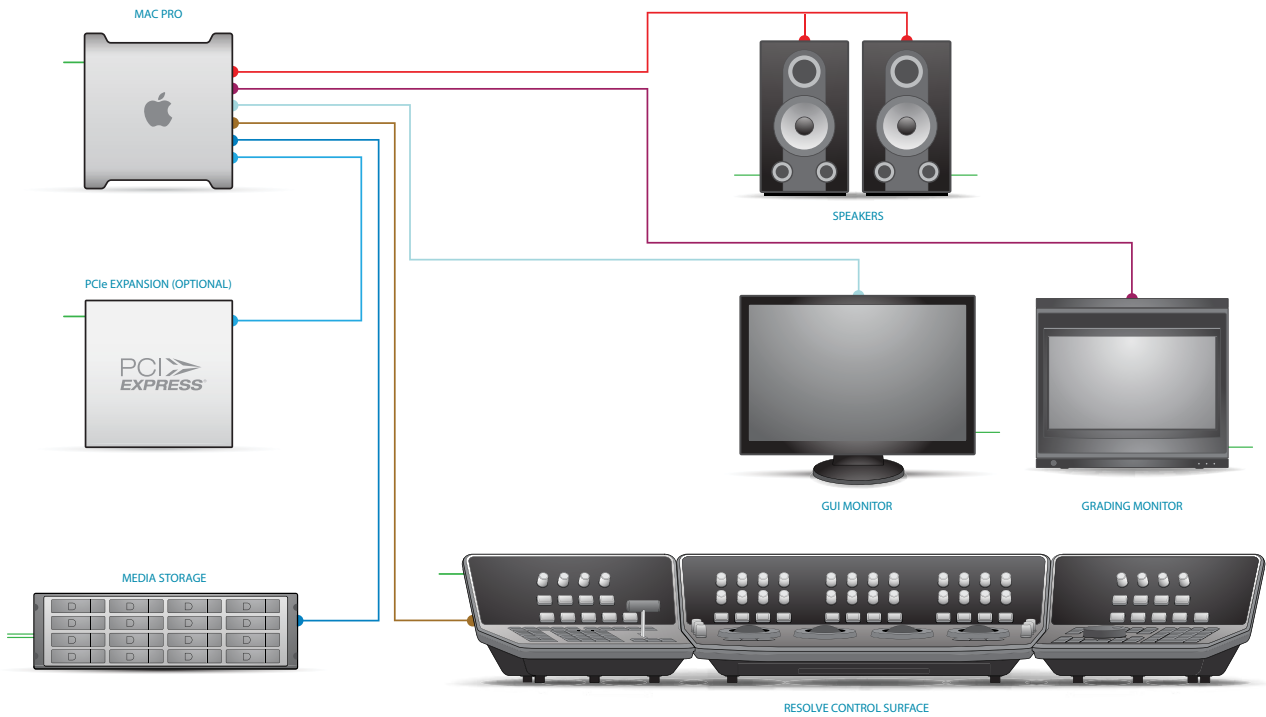
<http://www.red.com/>

#### Where to Buy

<http://www.red.com/store/workflow>

# DaVinci Resolve on Mac Pro

## Connection Diagram



- Thunderbolt
- DVI
- USB
- HD-SDI
- PCI-E Extender
- Storage Connection
- Reference
- Audio
- RS422
- Electrical Power

## Using a Mac as the DaVinci Resolve database server

For facilities that have a number of DaVinci Resolve systems you can share projects and the project databases by using the PostgreSQL database supplied with the full version of DaVinci Resolve and a Remote Database Server. This option is not available for DaVinci Lite users.

This database server, for example a Mac Mini, iMac or a Mac Pro is connected to your grading systems via gigabit Ethernet. The configuration requires the use of the Mac 'Terminal' application so this procedure is designed for an IT professional. This must be a dedicated Mac as permanent and continuous access is required by each of your connected grading systems.

To set up a DaVinci Resolve remote database server on a Mac OS X computer:

1. Using the DaVinci Resolve for Mac DVD, install the Resolve application on the Mac that you plan to use as the remote database server. You are not going to run Resolve on this machine so you don't need to install special cards, or have a dongle connected, but our application installer will set up the database structure, which is configured for Resolve.
2. Once you have installed the software and restarted the system, you need to set up the permissions and access to the PostgreSQL server application running on this machine. Be sure to follow the instructions carefully.
  - From the Applications/Utilities folder open Terminal and type
    - sudo su - postgres

- At the prompt enter the computer's administrator password, then return

- You should see "postgres\$" followed by the cursor; next type

- cp /Library/PostgreSQL/8.4/data/pg\_hba.conf/Library/PostgreSQL/8.4/data/pg\_hba.conf.backup

- In the next step you will add your local IP network range, e.g. 192.168.1.0 so change the IP address below to suit your range and type

- echo "host all all 192.168.1.0/24 md5" >> /Library/PostgreSQL/8.4/data/pg\_hba.conf

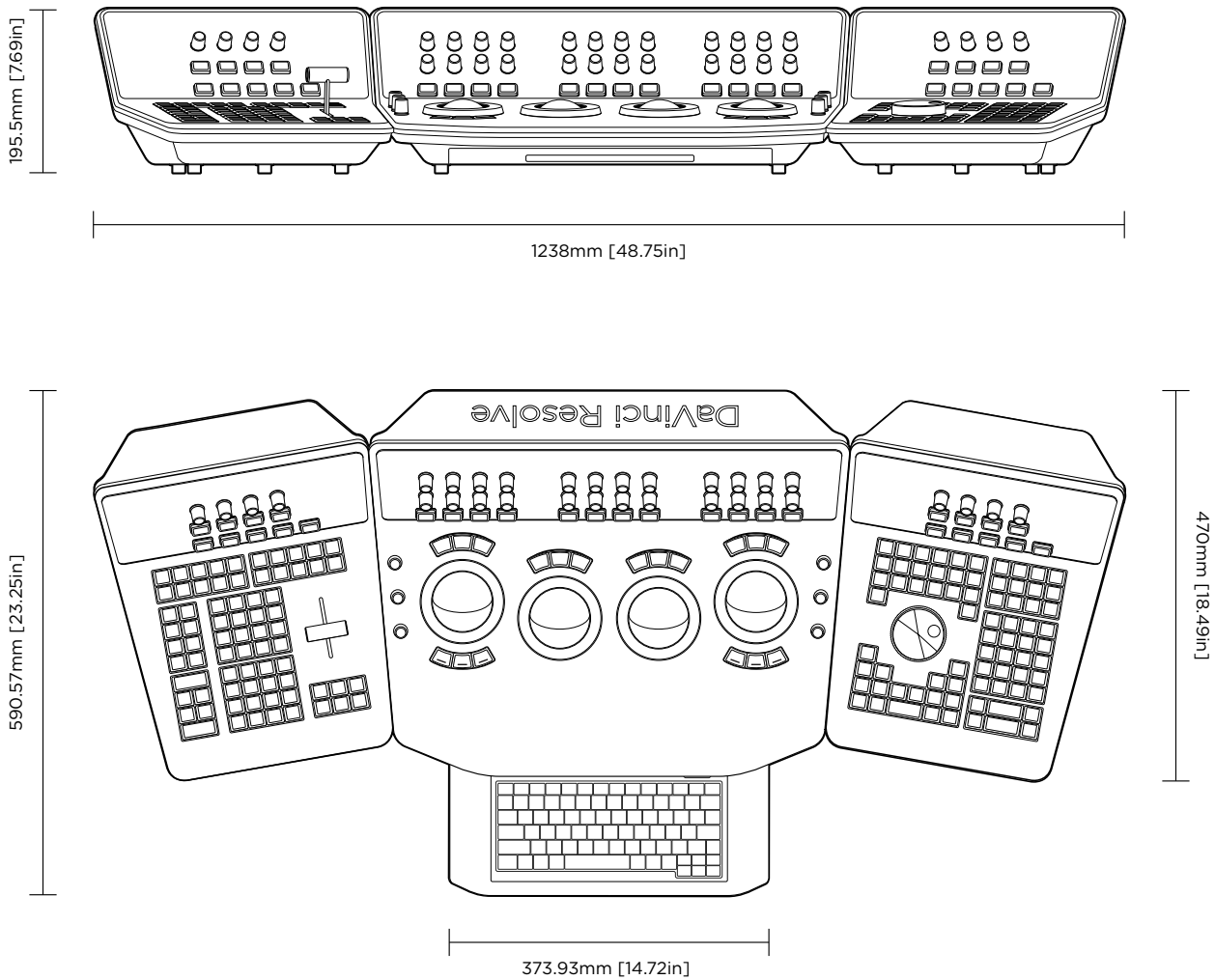
- Then restart the Mac.

3. You now have a remote database server that you can connect to your Resolve systems via your standard IP network. The PostgreSQL application will run automatically so be sure to leave this Mac on whenever you wish to connect to your Resolve.
4. On each of your Resolve systems, use the database manager to connect to the databases on the remote database server using the IP address to identify the server.
5. You can continue to use the local database on your Resolve or 'Select' the remote database to share projects with other Resolve systems.

# DaVinci Resolve Control Surface

## Dimensions and Weights

	HEIGHT	WIDTH	DEPTH	WEIGHT
CENTER PANEL	195.5mm (7.69in)	574.1mm (22.60in)	460.7mm (18.14in)	12.2kg (26.9lb)
LEFT PANEL	195.5mm (7.69in)	333.5mm (13.13in)	421.8mm (16.60in)	4.8kg (10.6lb)
RIGHT PANEL	195.5mm (7.69in)	333.5mm (13.13in)	421.8mm (16.60in)	4.8kg (10.6lb)





# Warranty

## 12 Months Limited Warranty

Blackmagic Design warrants that DaVinci Resolve control surface will be free from defects in materials and workmanship for a period of 12 months from the date of purchase. If a product proves to be defective during this warranty period, Blackmagic Design, at its option, either will repair the defective product without charge for parts and labor, or will provide a replacement in exchange for the defective product. Periodical updates to the operational software are not included under this warranty.

In order to obtain service under this warranty, you the Customer, must notify Blackmagic Design of the defect before the expiration of the warranty period and make suitable arrangements for the performance of service. The Customer shall be responsible for packaging and shipping the defective product to a designated service center nominated by Blackmagic Design, with shipping charges pre paid. Customer shall be responsible for paying all shipping charges, insurance, duties, taxes, and any other charges for products returned to us for any reason.

This warranty shall not apply to any defect, failure or damage caused by improper use or improper or inadequate maintenance and care. Blackmagic Design shall not be obligated to furnish service under this warranty: a) to repair damage resulting from attempts by personnel other than Blackmagic Design representatives to install, repair or service the product, b) to repair damage resulting from improper use or connection to incompatible equipment, c) to repair any damage or malfunction caused by the use of non Blackmagic

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