DaVinci Resolve 8

Configuration Guide for Windows

7 December 2011

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Understanding DaVinci Resolve for Windows

The world's highest performing color grading system is now made simple. You can now build your own DaVinci Resolve with this easy to follow guide.

DaVinci Resolve 8.2 for Windows operates on certified, Intel-based computers running the 64-bit edition of Windows 7 Professional. All Resolve systems require a high performance graphics processor for the GUI, a GPU for image processing and disk storage. Resolve supports dual link capture devices for SDI monitoring.

This guide contains important information which will help you configure your Windows computer as a DaVinci Resolve color grading system including recommended hardware configurations. It also guides you through loading the DaVinci Resolve software.

Hardware Configurations

Resolve is configurable for different operational requirements based around the performance you need and the available hardware options. →

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

HP Z800 Workstation

The HP Z800 Workstation provides a flexible and simple workhorse for previewing and grading material up to and including 4K video. It can be used as a desktop tower or rack-mounted and contains a single power supply. It provides fast image processing using two, single-width, PCIe2 x16 slots. One of these slots is used for the GUI and the other for image processing Additional image processing power can be added using a PCIe expansion chassis. This computer is widely available from resellers worldwide.

Supermicro SuperServer 7046GT-TRF

The Supermicro SuperServer 7046GT-TRF is a more powerful configuration suitable for stereoscopic grading and 4K video. It can be used as a desktop tower or rack-mounted and contains redundant power supplies. It provides very fast image processing using up to four, double-width, PCIe2 x16 slots for greater throughput and flexibility. One of these slots is used for the GUI and the remainder can be used for image processing. Additional image processing power can be added using a PCIe expansion chassis. This computer is generally available from resellers who specialize in server computers.

Generic Windows Workstation

If you don't need guaranteed performance, and don't need a tested and supported system, you can build a generic Resolve for Windows system. Your system must meet the following criteria:

- Windows 7 Pro with SP1, 64-bit
- 12 GB RAM or higher
- NVIDIA GPU for the GUI card. The lower cost NVIDIA Quadro 600 can be used with 2D video. The Quadro 4000 can be used with 2D and 3D video.
- One or more NVIDIA CUDA capable cards for image processing. The following certified cards are listed in order of increasing power: Quadro 4000, GeForce GTX 580, Quadro 5000 and Quadro 6000.
- NVIDIA driver 280.26
- DeckLink HD Extreme 3D+ card for monitoring
- Fast storage connected by SATA, SAS or Fiber Channel
- A hardware control panel including: DaVinci Resolve Control Surface, Avid Artist Color, JLCooper Eclipse CX or Tangent Devices WAVE

Direct Attached Storage

A RAID card and internal drives is all you will need for storage for SD and HD. Alternatively an external disk array and HBA card could be used for additional disk performance and storage, especially with uncompressed HD and 2K video. 4K compressed images can also be played and graded in real time.

SAN Storage

Resolve facilities with SAN based shared storage can use a fiber channel connection to work on projects that are being graded in other Mac, Windows or Linux suites.

SDI Monitoring

All colorists will want to use a proper grading monitor, connected to an SDI capture device, for 2D and 3D monitoring. Resolve for Windows supports the Blackmagic Design DeckLink HD Extreme 3D+ card.

Graphics Processors

Resolve for Windows requires certified NVIDIA CUDA-based GPU cards. Multiple CUDA GPU cards provide faster image processing and also support advanced features such as noise reduction.

GUI Monitor

The Resolve application is optimized for 1920 x 1200 screen resolution but will work with 1920 x 1080 and higher screen resolutions.

RED r3d Decoding

DaVinci Resolve is capable of decoding RED r3d files without additional hardware. The maximum resolution and de-bayer quality at which realtime decoding is performed depends on the power of your computer's CPUs. As newer generations of faster computers become available, realtime r3d decoding performance will increase.

Extra realtime performance can be achieved by adding RED Rocket hardware. When a single RED Rocket card is installed, full resolution, premium de-bayer quality of 2K media can be accomplished, as can premium de-bayer quality of 4K files at half resolution. If 4K or higher resolution r3d files need to be processed in real time and at maximum quality, we recommend dual RED Rocket cards and a Resolve with 4GPUs be used.

4K

With the increasing use of digital cameras, many colorists want to grade 4K or higher resolutions in real time. These cameras provide 4K or higher capture resolutions but store the images as compressed data. While this takes less storage space and bandwidth, the compressed data needs the full image processing bandwidth once the images are decompressed for grading. Full size RGB 4K resolution images can be played back by Resolve for Windows but the disk, GPU and computer may not provide real time playback.

If your PC is fast enough, 4K images can be played back in real time by Resolve, processed and resized as required while grading, and reviewed on a 2K or HD grading monitor. Any files written to disk will always be full resolution and full quality regardless of the choice of monitoring hardware used.

On slower configurations, the PC can pre-generate HD proxies from the 4K source images for grading, and then render using the high resolution source images as needed.

For realtime performance with r3d files, two RED Rocket cards should be used when working with 3D stereoscopic video or when working with resolutions higher than 4K.

Building a Resolve

Detailed hardware configuration information is provided in the section “Building a Resolve”. Newer, faster hardware models will provide greater performance than those mentioned in this guide. Finally, the “Certified Component” list details everything you will require to build a DaVinci Resolve color grading system using your Windows PC.

Storage

The Preferences option under the Resolve menu lets you can add or remove internal and external disk storage for use with Resolve.

We have certified a number of internal and external storage systems. However almost any storage, designed for Windows and high bandwidth media, will be suitable for use with Resolve.

Replacing traditional hard drives with the biggest SSDs you can afford will offer a substantial improvement to Resolve's performance. Please read the "Important note about Solid State Disk (SSD) speeds" on the following page.

Resolve facilities with SAN based shared storage can use a fiber channel connection to work on projects that are being graded in other Mac, Windows or Linux suites.

Resolve supports the Quantum StorNext file system so you can connect the Resolve for Windows PC to a Storage Area Network (SAN). The most common connection method for the SAN storage is via dual 8Gbit Fiber Channel connections to a FC card in the Resolve PC. This can be direct or via a FC switch.

If you plan on using a SAN please do so in conjunction with your local distributor and/or your storage subsystem vendor. We have certified the Bright Systems, DVS and standard StorNext system version 3.5.2. Please seek guidance from your local Quantum support office.

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.

Use Blackmagic Disk Speed Test 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 SSD that work well for video capture. In our testing, we have found larger newer models of SSD, and larger capacity SSD's 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. Please check our web site at www.blackmagic-design.com and click the support page to download the latest version of Blackmagic Disk Speed Test.

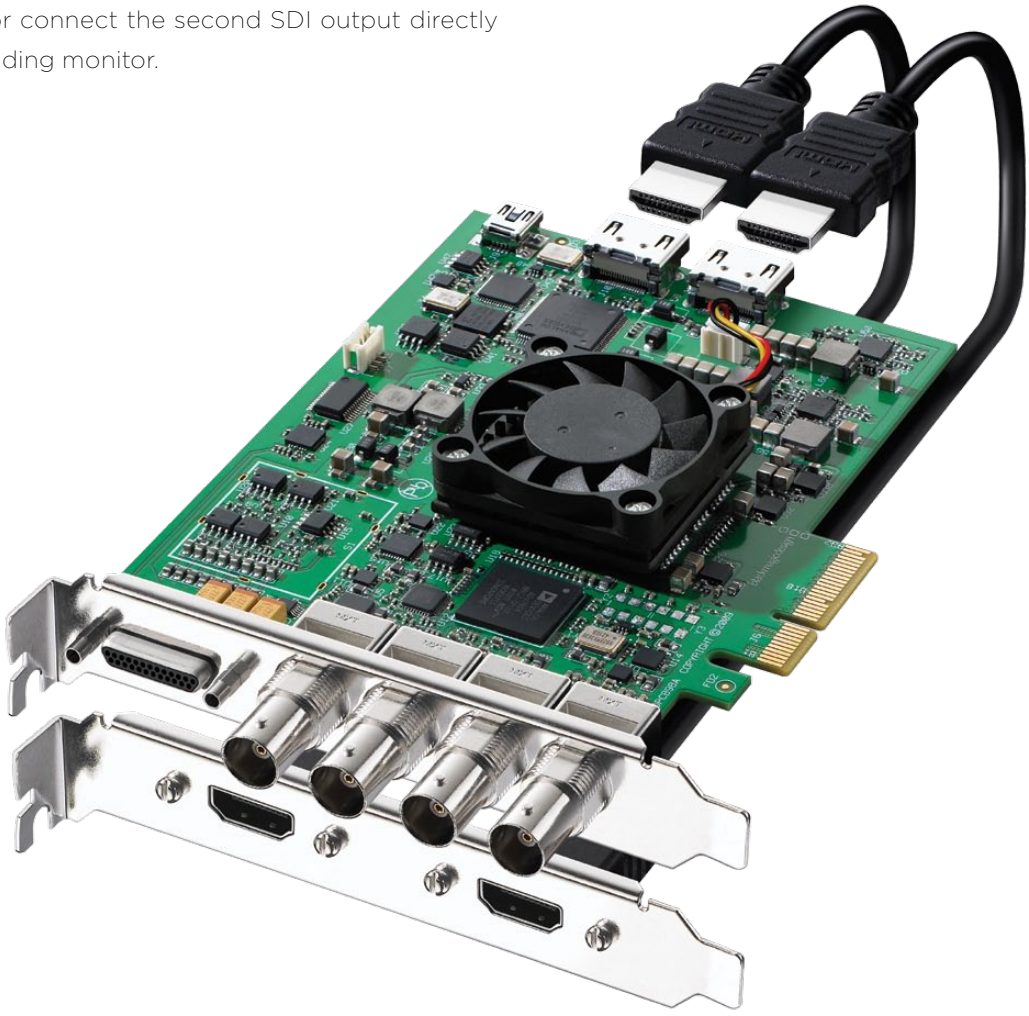
Video Capture and Playback

Resolve on a Windows PC uses a dual link DeckLink card, as the standard hardware for video and audio ingest and playback.

The DeckLink card supports SD, HD, 2K and 3Gb/s SDI video with 16 channels of audio. It also features analog audio and video, HDMI audio and video, external sync and VTR control via a RS-422 connection. All features are included as standard.

The DeckLink output is used for the grading monitor feed and also for the video output to the VTR. Users can loop a single feed from the VTR to the grading monitor or connect the second SDI output directly to the grading monitor.

The Resolve installer installs certified Blackmagic Desktop Video drivers for Resolve and other driver versions should not be used. If you have accidentally installed separate drivers, go to the Programs and Features control panel, select the Desktop Video Drivers, click on Uninstall and follow the onscreen prompts. After restarting the computer, go to the Programs and Features control panel, select DaVinci Resolve, click on Uninstall and follow the onscreen prompts. Then reinstall the DaVinci Resolve software.



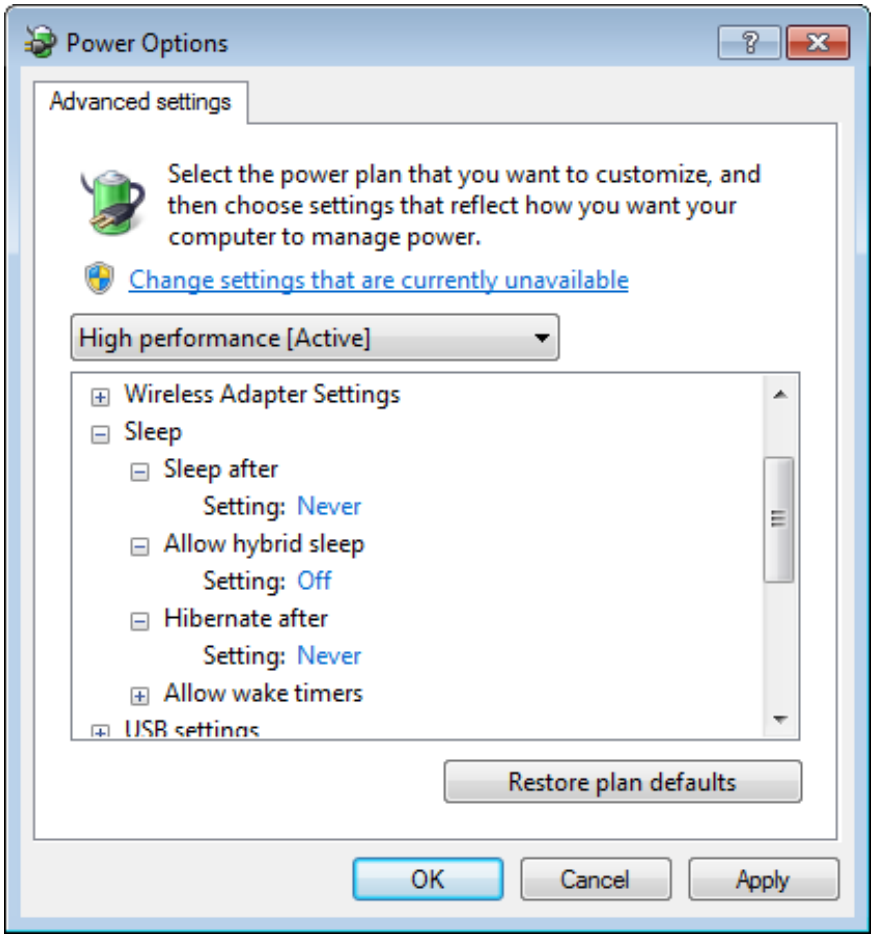
Windows Power Configuration

Resolve is a demanding application and it is important to ensure your PC is configured to avoid going in to sleep or hibernation modes.

From the Control Panel in Windows, click on Power Options. Under "Select a power plan", click "Show additional plans" and then click "High Performance".

Click "Change plan settings" and ensure the computer is set to "Never" sleep.

Click "Change advanced power settings" and ensure all the "Sleep" settings are set to "Never" or "Off". Click "Apply", "OK", "Save changes" and close out of the control panel.



Installing the Resolve Application

The DaVinci Resolve Installer. →

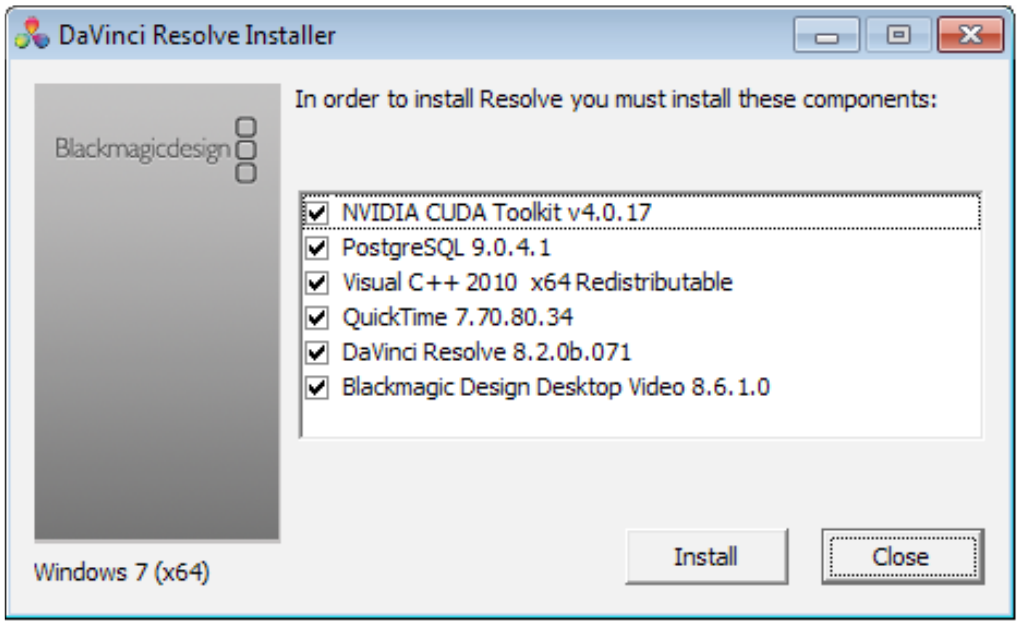
To install DaVinci Resolve, insert the Resolve DVD or open the downloaded installer. Double-click the 'Resolve Installer' icon and follow the onscreen prompts to install the software.

We recommend that Resolve be installed into the standard Programs folder on your startup hard disk. The installation process takes just a couple of minutes. When the installation has been completed, you will be prompted to restart your PC. The installer will add the application to the program short cut list so it's easy to launch Resolve.

The included USB dongle contains the Resolve for Windows license and must be connected to your computer before launching the Resolve software.

If you use Avid Media Composer or Adobe Premiere Pro on the same PC as Resolve, and you wish to use these applications with a DeckLink card, install Resolve last. The Resolve installer includes Blackmagic Desktop Video drivers and associated easy setups and presets for Media Composer 6.0 and Premiere Pro CS5.x.

The Resolve installer also includes support for Avid DNxHD® MXF files and an Apple ProRes QuickTime decoder so you can play ProRes files in the QuickTime format.



Updating Third Party Drivers for Resolve

The DaVinci Resolve software installs drivers for hardware from Blackmagic Design and third parties. With the exception of NVIDIA CUDA and RED Rocket drivers, avoid manually updating drivers. You should also avoid updating beyond Windows 7 Pro SP1 until a new version of this guide is made available on the Blackmagic Design website.

CUDA

The following CUDA update information is for PCs using any CUDA-capable GPUs. If your PC does not already have them installed, the NVIDIA Toolkit will be installed by the DaVinci Resolve installer.

Your PC must also have NVIDIA CUDA drivers installed and it is important to use the version of the CUDA driver that is certified for use with Resolve 8.2. The current certified NVIDIA CUDA driver is version 280.26. Any time you add a new NVIDIA GPU to your computer, you will need to reinstall the NVIDIA CUDA driver so that Windows and Resolve can recognize the new card.

If a new version of the CUDA drivers is released, avoid updating until compatibility with Resolve has been verified.

If the message, "WARNING: No CUDA Acceleration Hardware Detected," appears when you launch Resolve, even though your PC contains certified NVIDIA GPUs, quit Resolve and update the NVIDIA driver to version 280.26 which is available from the NVIDIA support web site. Visit www.nvidia.com/drivers to download the certified drivers.

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

RED

If you have a RED Rocket card installed in your Windows PC, you will need to manually install the RED Rocket drivers and firmware from the RED website for use with Resolve 8.2.

The current certified RED Rocket driver is version 1.4.14.0. The current certified RED Rocket firmware is version 1.1.15.4. They are available for download from www.red.com/support/all/downloads.

Linking Resolve Software to Hardware

There are three hardware items to configure when you first start the Resolve application. Click the DaVinci Resolve menu and choose Preferences. The DaVinci Resolve Preferences window will open and reveal the 'Basic' tab.

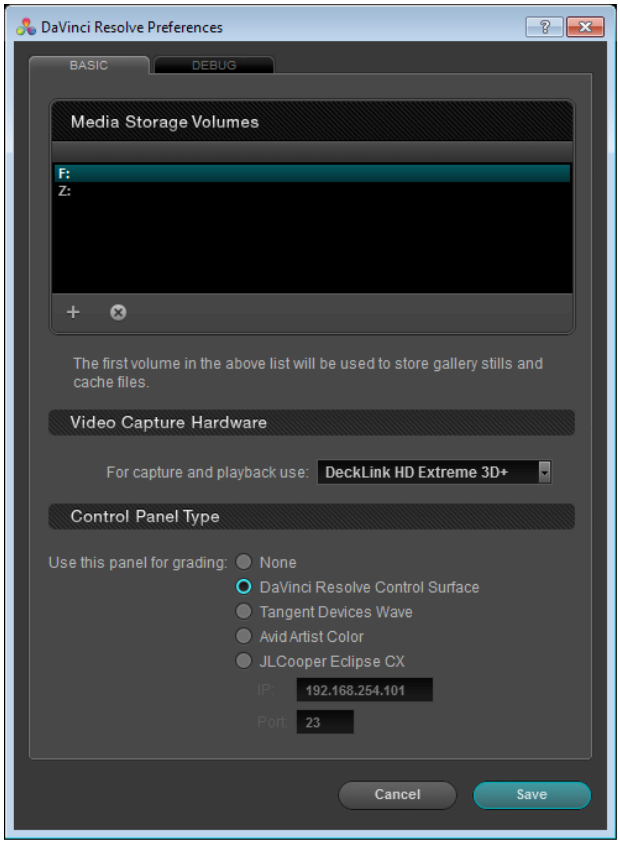
Click on the "+" (add) button to add a volume, folder or mount point to the list of disk storage for your media. The first location in the storage list will become the default location for images, all proxies, cached files and gallery stills. This location will usually be an internal or external disk array. It should have plenty of storage capacity and be permanently connected to your PC.

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

Select which capture device you will use for SDI monitoring.

Finally, choose which control panel hardware you have connected to your PC. DaVinci Resolve for Windows supports the current USB 2.0 generation of DaVinci Resolve Control Surface but can also be used with the Avid Artist Color, JLCooper Eclipse CX and Tangent Devices WAVE control panels.

After changing any of these preferences and clicking "Save", you will be prompted to restart the Resolve application.



Configuring Third Party Control Panels

The Tangent Devices WAVE is a USB device and requires no special configuration for use with Resolve. Just plug it in to your PC and it will work with Resolve.

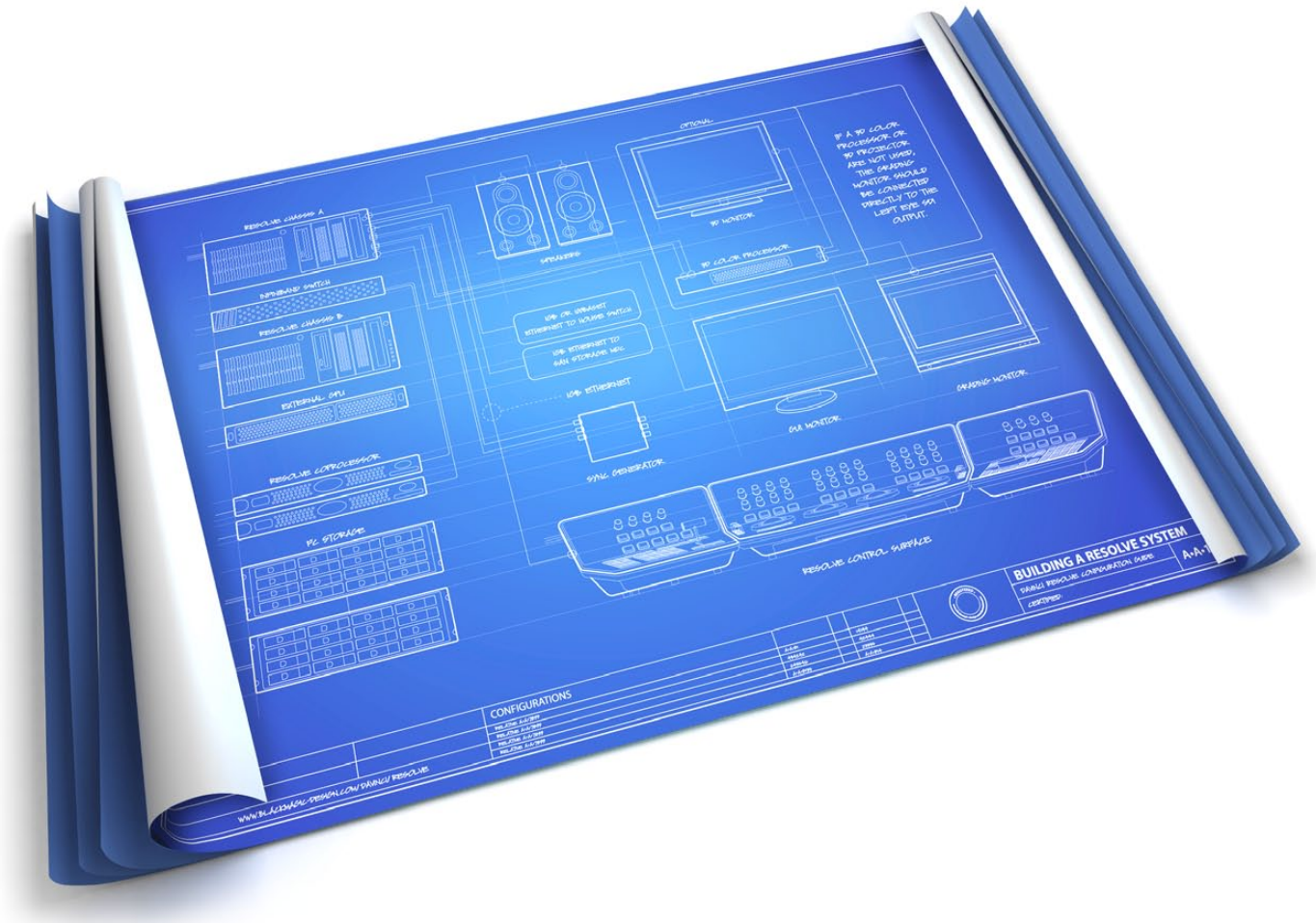
If using a JLCooper Eclipse CX, follow the Eclipse CX documentation to connect and configure it with an Ethernet port on your PC. Then launch Resolve, use the Preferences to select the Eclipse CX panel and click 'save'. If you have changed the IP address or port from the default panel settings, enter 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 PC is connected to a network with a DHCP server, just connect an Ethernet cable from the panel to the same network switch. Install the EUcon application that comes with the panel, or download it from the Avid support site. Launch the application and you will notice the E icon in the System Tray. When the icon is lit, the panel is communicating with the EUcon 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 PC. It should take just 30 seconds to set.

Building a Resolve

Building a DaVinci Resolve is as simple as knowing where to find the certified parts. To help make it easy, we have listed all of the parts you need to build your DaVinci Resolve and where to find your nearest supplier.



Building a Resolve with 1 GPU

Good for SD, HD, 2K.

- ✓ Good for SD, HD, 2K in realtime
- ✓ Good for 3D in HD, 2K in realtime
- ✓ YUV 4:2:2 HD Stereoscopic 3D output for each eye

Resolve with 1 GPU is the most basic configuration of Resolve for work in SD, HD and 2K in realtime. It can be used in 4K but not in realtime.

Compressed and raw media from digital cameras can also be used in realtime. Resolve can perform realtime RED r3d decoding at full 2K resolution and premium de-bayer quality, when RED Rocket hardware is installed, or at a lower resolution and de-bayer quality without hardware.

The two computers currently certified for the 1 GPU configuration are the HP Z800 Workstation and the Supermicro SuperServer 7046GT-TRF.

Notes: The lower cost NVIDIA Quadro 600 can be used for the GUI graphics processor if working in 2D only. The NVIDIA Quadro 4000 is required if working with 3D stereoscopic video.

The lower cost NVIDIA GeForce GTX 580 should usually be used for the image processing GPU. However the NVIDIA Quadro 5000 or 6000 should be considered if planning to upgrade the hardware to a 4K-capable system in the future.

Where to install your hardware

HP Z800 Workstation

Motherboard Slot	Board	Function
1	DeckLink HD Extreme 3D	Video & Audio I/O
2	NVIDIA Quadro 600 or 4000	GUI
3	DeckLink HDMI Bracket	Optional HDMI output
4	RED Rocket card 1 or spare	Optional RED r3d processing
5	NVIDIA CUDA GPU	Image processing
6	--blocked--	
7	HBA or RAID card	Storage interface

Building a Resolve with 1 GPU

Good for SD, HD, 2K.

Supermicro SuperServer 7046GT-TRF

Motherboard Slot	Board	Function
1		
2	RED Rocket card 2 or spare	Optional RED r3d processing
3		
4	HBA or RAID card	Storage interface
5		
6	RED Rocket card 1 or spare	Optional RED r3d processing
7	--blocked--	
8	NVIDIA CUDA GPU	Image processing
9	DeckLink HDMI Bracket	Optional HDMI output
10	NVIDIA Quadro 600 or 4000	GUI
11	DeckLink HD Extreme 3D	Video & Audio I/O

Building a Resolve with 1 GPU
Shopping List

Control Panel and Software
1 x DaVinci Resolve Control Surface with USB
or
1 x Avid Artist Color, plus
1 x DaVinci Resolve Software for Windows
or
1 x JLCooper ECLIPSE CX, plus
1 x DaVinci Resolve Software for Windows
or
1 x Tangent Devices WAVE, plus
1 x DaVinci Resolve Software for Windows

Computers and Chassis
1 x HEWLETT-PACKARD COMPUTER:
Computer: HP Z800 Workstation
CPU: 2x Intel Xeon X5660 2.8 GHz
RAM: 12GB (6 x 2GB) DDR3-1333 ECC RAM
Hard Disk: 1 x SATA 7200 1TB
DVD Drive: 1 x DVD-RW drive, SATA, Black
Operating System: Windows 7 Pro with SP1, 64-bit
or
1 x SUPERMICRO COMPUTER:
Computer: Supermicro SuperServer 7046GT-TRF Black 4RU Rackmountable/Tower
CPU: 2x Intel Xeon X5650 2.67 GHz
RAM: 12GB (6 x 2GB) PC3-10667 ECC Reg DDR3-1333 SDRAM
Hard Disk: 1 x SATA 7200 1TB
DVD Drive: 1 x DVD-RW drive, SATA, Black
Operating System: Windows 7 Pro with SP1, 64-bit

Graphics Processor for GUI
1 x NVIDIA Quadro 600 (for 2D only), or
1 x NVIDIA Quadro 4000

Graphics Processor for CUDA GPU
1 x NVIDIA GeForce GTX 580, or
1 x NVIDIA Quadro 4000, or
1 x NVIDIA Quadro 5000, or
1 x NVIDIA Quadro 6000

Capture Card
Blackmagic Design DeckLink HD Extreme 3D+

HBAs
ATTO Celerity FC-82EN 8Gbps Dual Channel FC
Model: CTFC-82EN-000

GUI Monitor
Any monitor meeting the following criteria:
- DVI-D or DisplayPort input
- IPS or TFT LCD flat panel with black bezel
- 1920 x 1200 is the preferred screen resolution. 1920 x 1080 and higher screen resolutions are also supported
- 1000:1 contrast ratio or better
- 8ms response time or better
- 16 million colors or better

DVI Extension
GEFEN DVI Extender
Model: CAB-HDTV-100MM
(for up to 1920 x 1200 resolution monitors)

Keyboard & Mouse
USB Keyboard & Mouse for the Resolve GUI server
USB Mouse for the Resolve Control Surface

USB Peripherals
1 x USB 2.0 Extender for the Resolve Control Surface
Model: ICRON USB 2.0 Ranger 2204

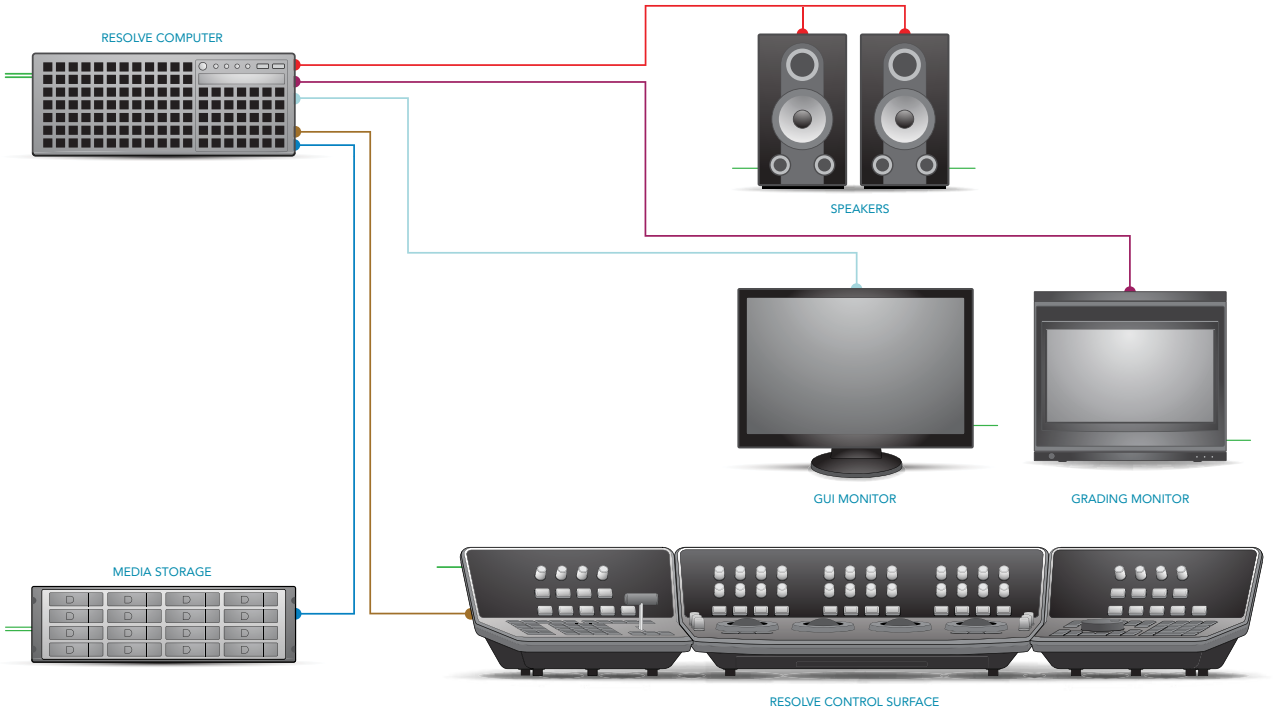
Optional Codec Support
1 x RED Rocket PCIe hardware card for 2D, or
2 x RED Rocket PCIe hardware cards for 3D,
or for image resolutions greater than 4K,
for accelerated processing of RED r3d files.

Building a Resolve with 1 GPU

Connection Diagram

USB 2.0

Connections for a DaVinci Resolve Control Surface with USB



- HDMI
- DVI
- USB
- HD-SDI
- PCI-E Extender
- InfiniBand
- Storage Connection
- Ethernet
- Reference
- Audio
- RS422
- Electrical Power

Building a Resolve with 2 GPUs

Better for SD, HD, 2K. Good for 4K.

- ✓ Better for SD, HD, 2K in realtime
- ✓ Good for 4K in realtime
- ✓ Better for 3D in HD, 2K in realtime
- ✓ YUV 4:2:2 HD Stereoscopic 3D output for each eye

Resolve with 2 GPUs is better for work in SD, HD and 2K in realtime and provides twice the grading performance of the 1 GPU configuration. It can be used in 4K with monitoring in 2K or HD in realtime.

Compressed and raw media from digital cameras can also be used in realtime. Resolve can perform realtime RED r3d decoding at full 2K resolution and premium de-bayer quality, when RED Rocket hardware is installed, or at a lower resolution and de-bayer quality without hardware.

The Supermicro SuperServer 7046GT-TRF is the only computer currently certified for the 2 GPU configuration as it has sufficient, high speed, double-width slots for all necessary cards.

Notes: The lower cost NVIDIA Quadro 600 can be used for the GUI graphics processor if working in 2D only. The NVIDIA Quadro 4000 is required if working with 3D stereoscopic video.

Colorists working in SD, HD and 2K only require the lower cost NVIDIA GeForce GTX 580 image processing GPU. However the NVIDIA Quadro 5000 or 6000 should be used if working in 4K.

Where to install your hardware

Supermicro SuperServer 7046GT-TRF

Motherboard Slot	Board	Function
1	RED Rocket card 2 or spare	Optional RED r3d processing
2	HBA or RAID card	Storage interface
3		
4	RED Rocket card 1, or spare	Optional RED r3d processing
5	--blocked--	
6	NVIDIA CUDA GPU	Image processing
7	--blocked--	
8	NVIDIA CUDA GPU	Image processing
9	DeckLink HDMI bracket	Optional HDMI output
10	NVIDIA Quadro 600 or 4000	GUI
11	DeckLink HD Extreme 3D	Video & Audio I/O

Building a Resolve with 2 GPUs
Shopping List

Control Panel and Software
1 x DaVinci Resolve Control Surface with USB
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1 x DaVinci Resolve Software for Windows
or
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1 x DaVinci Resolve Software for Windows
or
1 x Tangent Devices WAVE, plus
1 x DaVinci Resolve Software for Windows

Computers and Chassis
1 x SUPERMICRO COMPUTER:
Computer: Supermicro SuperServer 7046GT-TRF Black 4RU Rackmountable/Tower
CPU: 2x Intel Xeon X5650 2.67 GHz
RAM: 12GB (6 x 2GB) PC3-10667 ECC Reg DDR3-1333 SDRAM
Hard Disk: 1 x SATA 7200 1TB
DVD Drive: 1 x DVD-RW drive, SATA, Black
Operating System: Windows 7 Pro with SP1, 64-bit

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2 x NVIDIA Quadro 5000, or
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Capture Card
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GUI Monitor
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or for image resolutions greater than 4K,
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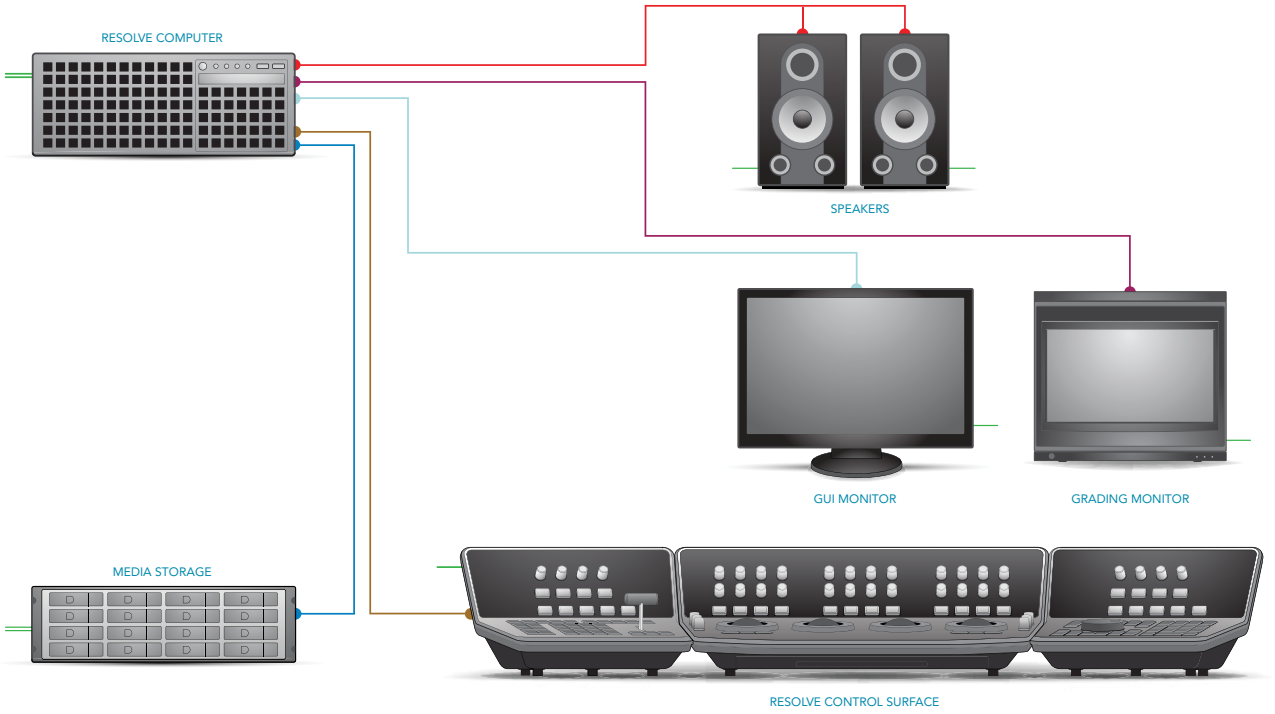
Building a Resolve with 2 GPUs
Connection Diagram

USB 2.0

Connections for a DaVinci Resolve Control Surface with USB



- HDMI
- DVI
- USB
- HD-SDI
- PCI-E Extender
- InfiniBand
- Storage Connection
- Ethernet
- Reference
- Audio
- RS422
- Electrical Power

Building a Resolve with 4 GPUs

Best for SD, HD, 2K and 4K.

- ✓ Best for SD, HD, 2K, 4K in realtime
- ✓ Best for 3D in HD, 2K in realtime
- ✓ YUV 4:2:2 HD Stereoscopic 3D output for each eye

Resolve with 4 GPUs is recommended for heavy realtime work in SD, HD, 2K and even 4K. It includes four dedicated GPUs which provide plenty of power for lots of windows, defocus and blurs in realtime in SD, HD and 2K. With sufficient disk bandwidth, it can be used for 4K grading with monitoring in 2K or HD.

Compressed and raw media from digital cameras can also be used in realtime. Resolve can perform realtime RED r3d decoding at full 2K resolution and premium de-bayer quality, when RED Rocket hardware is installed, or at a lower resolution and de-bayer quality without hardware.

The two computers currently certified for the 4 GPU configuration are the HP Z800 Workstation and the Supermicro SuperServer 7046GT-TRF. Both computers use an external PCIe expansion chassis to house the four CUDA GPUs.

Notes: The lower cost NVIDIA Quadro 600 can be used for the GUI graphics processor if working in 2D only. The NVIDIA Quadro 4000 is required if working with 3D stereoscopic video.

Colorists working in SD, HD and 2K only require the lower cost NVIDIA GeForce GTX 580 image processing GPU. However the NVIDIA Quadro 5000 or 6000 should be used if working in 4K.

Where to install your hardware

HP Z800 Workstation

Motherboard Slot	Board	Function
1	DeckLink HD Extreme 3D	Video & Audio I/O
2	NVIDIA Quadro 600 or 4000	GUI
3	DeckLink HDMI Bracket	Optional HDMI output
4	RED Rocket card 1 or spare	Optional RED r3d processing
5	CUBIX PCIe x16 connector card	Connect to PCIe expansion chassis
6	--blocked--	
7	HBA or RAID card	Storage interface

Slot	CUBIX GPU-Xpander Desktop 4		
4	NVIDIA CUDA GPU	2	NVIDIA CUDA GPU
3	NVIDIA CUDA GPU	1	NVIDIA CUDA GPU

Building a Resolve with 4 GPUs

Recommended for SD, HD, 2K. Better for 4K.

Supermicro SuperServer 7046GT-TRF

Motherboard Slot	Board	Function
1		
2	RED Rocket card 2 or spare	Optional RED r3d processing
3		
4	HBA or RAID card	Storage interface
5		
6	RED Rocket card 1 or spare	Optional RED r3d processing
7	--blocked--	
8	CUBIX PCIe x16 connector card	Connect to PCIe expansion chassis
9	DeckLink HDMI Bracket	Optional HDMI output
10	NVIDIA Quadro 600 or 4000	GUI
11	DeckLink HD Extreme 3D	Video & Audio I/O

Slot	CUBIX GPU-Xpander Desktop 4		
4	NVIDIA CUDA GPU	2	NVIDIA CUDA GPU
3	NVIDIA CUDA GPU	1	NVIDIA CUDA GPU

Building a Resolve with 4 GPUs
Shopping List

Control Panel and Software
1 x DaVinci Resolve Control Surface with USB
or
1 x Avid Artist Color, plus
1 x DaVinci Resolve Software for Windows
or
1 x JLCooper ECLIPSE CX, plus
1 x DaVinci Resolve Software for Windows
or
1 x Tangent Devices WAVE, plus
1 x DaVinci Resolve Software for Windows

Computers and Chassis
1 x HEWLETT-PACKARD COMPUTER:
Computer: HP Z800 Workstation
CPU: 2x Intel Xeon X5660 2.8 GHz
RAM: 12GB (6 x 2GB) DDR3-1333 ECC RAM
Hard Disk: 1 x SATA 7200 1TB
DVD Drive: 1 x DVD-RW drive, SATA, Black
Operating System: Windows 7 Pro with SP1, 64-bit
or
1 x SUPERMICRO COMPUTER:
Computer: Supermicro SuperServer 7046GT-TRF Black 4RU Rackmountable/Tower
CPU: 2x Intel Xeon X5650 2.67 GHz
RAM: 12GB (6 x 2GB) PC3-10667 ECC Reg DDR3-1333 SDRAM
Hard Disk: 1 x SATA 7200 1TB
DVD Drive: 1 x DVD-RW drive, SATA, Black
Operating System: Windows 7 Pro with SP1, 64-bit

Graphics Processor for GUI
1 x NVIDIA Quadro 600 (for 2D only), or
1 x NVIDIA Quadro 4000

Graphics Processor for CUDA GPU
4 x NVIDIA GeForce GTX 580, or
4 x NVIDIA Quadro 4000, or
4 x NVIDIA Quadro 5000, or
4 x NVIDIA Quadro 6000

PCIe Expansion
1 x CUBIX GPU-Xpander Desktop 4

Capture Card
Blackmagic Design DeckLink HD Extreme 3D+

HBAs
ATTO Celerity FC-82EN 8Gbps Dual Channel FC
Model: CTFC-82EN-000

GUI Monitor
Any monitor meeting the following criteria:
- DVI-D or DisplayPort input
- IPS or TFT LCD flat panel with black bezel
- 1920 x 1200 is the preferred screen resolution. 1920 x 1080 and higher screen resolutions are also supported
- 1000:1 contrast ratio or better
- 8ms response time or better
- 16 million colors or better

DVI Extension
GEFEN DVI Extender
Model: CAB-HDTV-100MM
(for up to 1920 x 1200 resolution monitors)

Keyboard & Mouse
USB Keyboard & Mouse for the Resolve GUI server
USB Mouse for the Resolve Control Surface

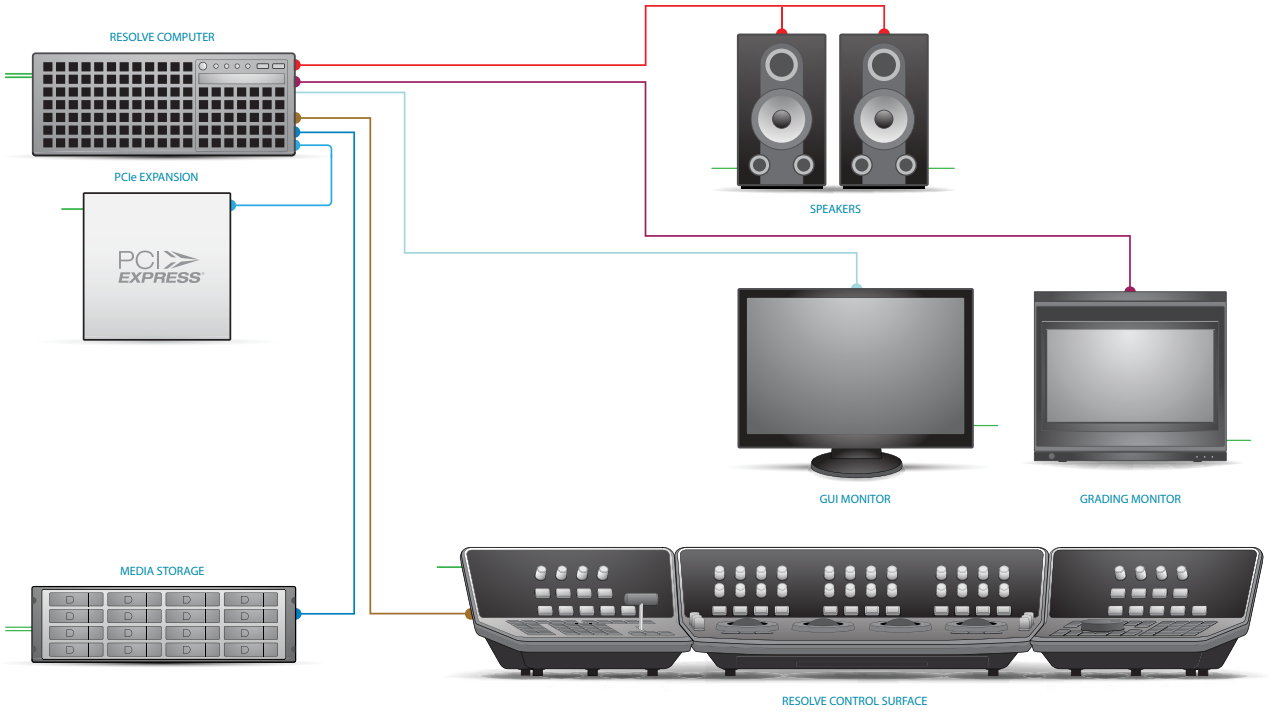
USB Peripherals
1 x USB 2.0 Extender for the Resolve Control Surface
Model: ICRON USB 2.0 Ranger 2204

Optional Codec Support
1 x RED Rocket PCIe hardware card for 2D, or
2 x RED Rocket PCIe hardware cards for 3D,
or for image resolutions greater than 4K,
for accelerated processing of RED r3d files.

Building a Resolve with 4 GPUs
Connection Diagram

USB 2.0

Connections for a DaVinci Resolve Control Surface with USB



- HDMI
- DVI
- USB
- HD-SDI
- PCI-E Extender
- InfiniBand
- Storage Connection
- Ethernet
- Reference
- Audio
- RS422
- Electrical Power

What to buy

Building a DaVinci Resolve is as simple as knowing where to find the certified parts. To help make it easy, we have listed all of the parts you need to build your DaVinci Resolve for Windows and where to find your nearest supplier.

Certified Components

Computer

HP Z800 Workstation

http://h10010.www1.hp.com/wwpc/pscmisc/vac/us/en/sm/workstations/z800.html

Where to Buy

http://www.hp.com/sbso/buyguides/pg_workstations/workstation-finder.html?jumpid=re_r2910_workstationfinder/4Q08workstationFinderTool/1-57H2D/100708|smbstore

Supermicro SuperServer 7046GT-TRF (Black)

http://www.supermicro.com/products/system/4U/7046/SYS-7046GT-TRF.cfm

Where to Buy

Asia and The Middle East

http://www.supermicro.com/wheretobuy/asia.cfm

Europe

http://www.supermicro.com/wheretobuy/europe.cfm

North America

http://www.supermicro.com/wheretobuy/namerica.cfm

Central America

http://www.supermicro.com/wheretobuy/camerica.cfm

South America

http://www.supermicro.com/wheretobuy/samerica.cfm

Australia, New Zealand and Africa

http://www.supermicro.com/wheretobuy/others.cfm

GSA Certified Distributors

http://www.supermicro.com/wheretobuy/gsa.cfm?rgn=173&typ=DS

Certified Components

GPU

NVIDIA Quadro 600 video card

http://www.nvidia.com/object/product-quadro-600-us.html

NVIDIA Quadro 4000 video card

http://www.nvidia.com/object/product-quadro-4000-us.html

NVIDIA Quadro 5000 video card

http://www.nvidia.com/object/product-quadro-5000-us.html

NVIDIA Quadro 6000 video card

http://www.nvidia.com/object/product-quadro-6000-us.html

Where to Buy

http://www.nvidia.com/object/workstation_wtb_channel.html

NVIDIA GeForce GTX 580

http://www.nvidia.com/object/product-geforce-gtx-580-us.html

Where to Buy

http://www.nvidia.com/object/buy_now_results_ci.html?id=GFGTX580

Software

DaVinci Resolve for Windows

http://www.blackmagic-design.com/products/davinciresolve/

Where to Buy

http://www.blackmagic-design.com/resellers/

Microsoft Windows 7 Professional with SP1, 64-bit

http://windows.microsoft.com/en-US/windows7/products/home/

Where to Buy

http://www.microsoftstore.com/store/msstore/home

Certified Components

Control Panel

DaVinci Resolve Control Surface
http://www.blackmagic-design.com/davinci/

Where to Buy
http://www.blackmagic-design.com/resellers/

Avid Artist Color
http://www.avid.com/products/Artist-Color

Where to Buy
http://euphonix.avid.com/artist/ux/euphonix/artist_sales.php

JLCooper's Eclipse CX
http://www.jlcooper.com/pages/eclipse.html/

Where to Buy
http://www.jlcooper.com/cgi/jlcshop_ns.cgi?task=purch/

Tangent Devices WAVE
http://www.tangentdevices.co.uk/products_wave.asp

Where to Buy
http://www.tangentdevices.co.uk/reseller_list.asp

Monitor

26" GUI Monitor
Similar to Model: LCD2690WUXI2-BK
http://www.nec-display.com/ap/en_display/lcd2690_2/

Where to Buy

North America
http://www.necdisplay.com/LocateDealer/

Latin America
http://www.nec-display.com/ap/contact/index.html

Europe, Middle East & Africa
http://www.nec-display-solutions.co.uk/p/uk/en/buy/trade.xhtml?e=e1s1

Certified Components

DVI Extension

GEFEN DVI Extender

Model: CAB-HDTV-100MM

http://www.gefen.com/kvm/dcable.jsp?prod_id=5403

Where to Buy

http://www.gefen.com/dealers/worldmap.jsp

Capture and Playback

Blackmagic Design DeckLink HD Extreme 3D+

http://www.blackmagic-design.com/products/decklinkhdextreme/

Where to Buy

http://www.blackmagic-design.com/resellers/

RED r3d Processing Card

RED Rocket

http://www.red.com/

Where to Buy

http://www.red.com/store/775-0001

USB 2.0 Extender

ICRON USB 2.0 Ranger 2204

http://www.icron.com/products/usb20-ranger-2204-cat5-extender.php

Where to Buy

http://www.icron.com/products/usb/how_to_buy_a.php

USB 2.0 Keyboard

Logickeyboard - Windows DaVinci Resolve

Model: LKBU-RESOLVE-AM89-US

http://www.logickeyboard.com/shop/davinci-resolve-904c1.html

Where to Buy

http://www.logickeyboard.com/shop/davinci-resolve-904c1.html

Certified Components

Direct Attached Storage

Accusys A08S-PS, 8 Bay RAID

http://www.accusys.com.tw/A08/A08/Overview.html

Where to Buy

http://www.accusys.com.tw/where/index.htm

Fiber Channel SAN

Rorke Data 12 Bay RAID Enclosure

Model: Galaxy Aurora LS

http://www.rorke.com/aurora.cfm

Rorke Data 24 Bay RAID Enclosure

Model: Galaxy Aurora

http://www.rorke.com/aurora.cfm

Where to Buy

http://www.rorke.com/contact-sales-form.cfm

Quantum File System

Quantum StorNext V3.5.2

http://www.quantum.com/Products/Software/StorNext/Index.aspx

http://www.quantum.com/ServiceandSupport/SoftwareandDocumentationDownloads/SNMS/Index.aspx#Documentation

Where to Buy

http://www.quantum.com/WheretoBuy/Index.aspx

Certified Components

HBA

ATTO Celerity FC-82EN 8Gbps Dual Channel FC

Model: CTFC-82EN-000

http://www.attotech.com/products/product.php?sku=CTFC-82EN-000

ATTO Celerity FC-84EN 8Gbps Quad Channel FC

Model: CTFC-84EN-000

http://www.attotech.com/products/product.php?sku=CTFC-84EN-000

Where to Buy

North America

http://www.attotech.com/howtobuy/partners.php?partnerreid=1

South America

http://www.attotech.com/howtobuy/partners.php?partnerreid=3

Europe, Middle East & Africa

http://www.attotech.com/howtobuy/partners.php?partnerreid=4

Asia Pacific

http://www.attotech.com/howtobuy/partners.php?partnerreid=5

PCI Express Expansion

CUBIX GPU-Xpander Desktop 4

Model: XPDT-X16-4-INT (International)

Model: XPDT-X16-4-OSV (North America)

http://www.cubixgpu.com/Products/Desktop/

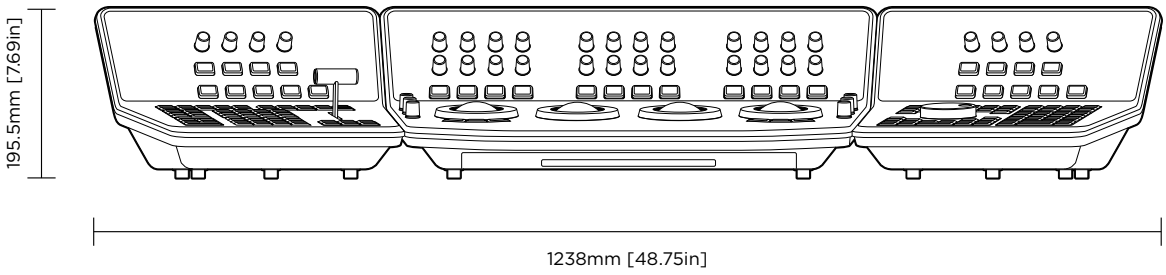
Where to Buy

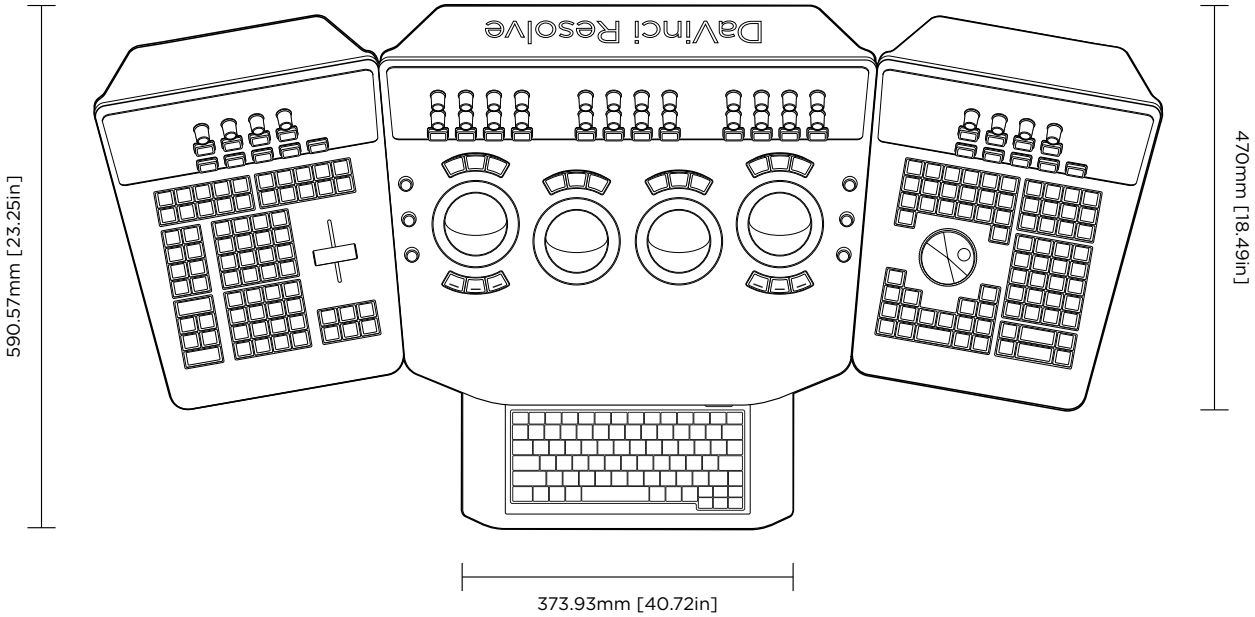
https://www.cubixgpu.com/Partners

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 changes, 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 Design parts or supplies, or d) to service a product that has been modified or integrated with other products when the effect of such a modification or integration increases the time or difficulty of servicing the product. THIS WARRANTY IS GIVEN BY BLACKMAGIC DESIGN IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED. BLACKMAGIC DESIGN AND ITS VENDORS DISCLAIM ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. BLACKMAGIC DESIGN'S RESPONSIBILITY TO REPAIR OR REPLACE DEFECTIVE PRODUCTS IS THE WHOLE AND EXCLUSIVE REMEDY PROVIDED TO THE CUSTOMER FOR ANY INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES IRRESPECTIVE OF WHETHER BLACKMAGIC DESIGN OR THE VENDOR HAS ADVANCE NOTICE OF THE POSSIBILITY OF SUCH DAMAGES. BLACKMAGIC DESIGN IS NOT LIABLE FOR ANY ILLEGAL USE OF EQUIPMENT BY CUSTOMER. BLACKMAGIC IS NOT LIABLE FOR ANY DAMAGES RESULTING FROM USE OF THIS PRODUCT. USER OPERATES THIS PRODUCT AT OWN RISK.