



# DaVinci Resolve 8

Configuration Guide for Windows

1 March 2012

# Table of Contents

---

Understanding DaVinci Resolve for Windows	3
Hardware Configurations	4
Storage	8
Video Capture and Playback	10
Windows Power Configuration	11
Installing the Resolve Application	12
Updating Third Party Drivers for Resolve	13
Linking Resolve Software to Hardware	14
Configuring Third Party Control Panels	15
Building a Resolve	16
What to buy	33
Certified Components	34
DaVinci Resolve Control Surface - Dimensions and Weights	41
Warranty	42



## 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.



### ASUS P9X79 PRO Motherboard

The ASUS P9X79 PRO motherboard is perfect for Resolve users who want to build a powerful 2D color grading system for SD and HD at the lowest possible cost. This motherboard is designed to fit in a standard ATX chassis which is widely available in desktop and rackmount models worldwide. It provides fast image processing using two, single-width, PCIe3x16 slots on a shared PCIe bus. One of these slots is used for the GUI and the other for image processing. This motherboard is widely available from resellers worldwide. Resolve users who want to build a system that can be upgraded for 2K, 4K or 3D in the future should not choose this configuration.



### 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.
- Two x16 lane PCIe 2.0 slots are required for GPU cards. Some GPU cards require double width slots and some may require auxiliary power connections.
- x8 lane PCIe 2.0 slots are preferred for RED Rocket cards or a host bus adapter (HBA) card. However x4 lane PCIe 2.0 slots can be used.
- A x4 lane PCIe or faster slot is required for the DeckLink HD Extreme 3D+ card. An additional port is required if you choose to install its HDMI bracket for HDMI monitoring.
- Fast storage connected by SATA, SAS or Fiber Channel.
- NVIDIA driver 280.26.
- 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, Quadro 5000, Quadro 6000, Tesla C2075 and GeForce GTX 580 3072 MB.
- DeckLink HD Extreme 3D+ card or UltraStudio SDI for monitoring. If using an UltraStudio SDI, your computer needs a USB 3.0 host controller uPD720200 with the latest Renesas Electronics USB 3.0 drivers and firmware installed.
- A hardware control panel including: DaVinci Resolve Control Surface, Avid Artist Color, JLC Cooper Eclipse CX, Tangent Devices Element or Tangent Devices WAVE.



### 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 as well as the UltraStudio SDI.

### 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.

Media storage should be formatted in the standard Windows NTFS disk format unless you are using a storage area network (SAN).

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.

In addition to supporting NTFS for direct attached storage, Resolve for Windows supports the Quantum StorNext file system for use with a 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. 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.

## Video Capture and Playback

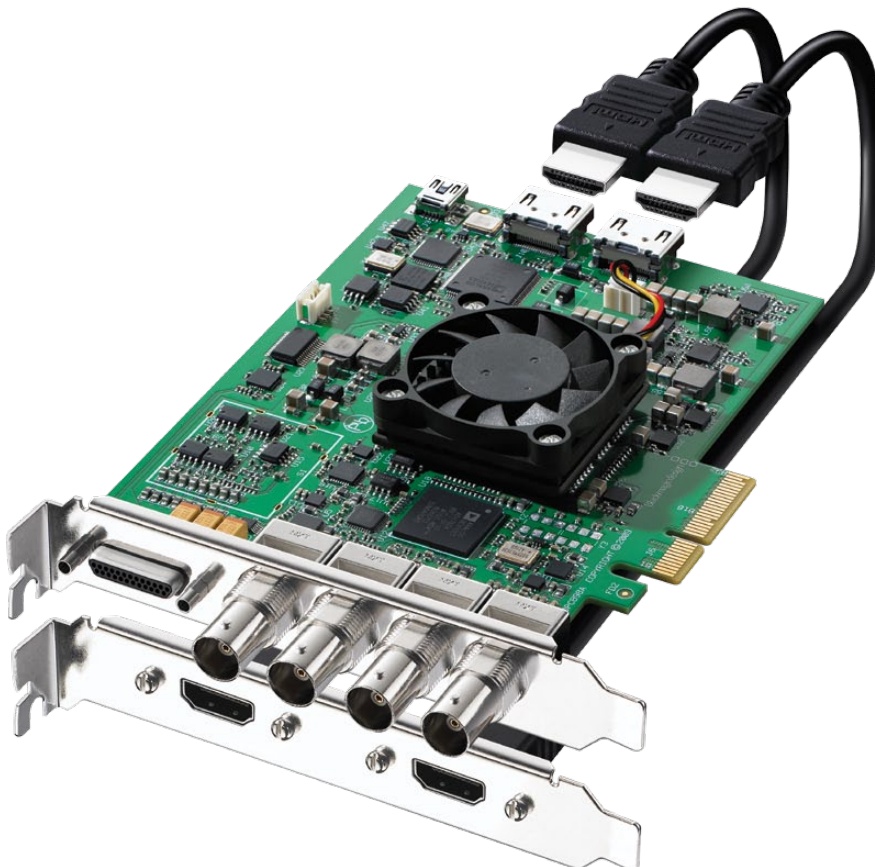
Resolve on a Windows PC uses a DeckLink card or UltraStudio as the standard hardware for video and audio ingest and playback.

The DeckLink card requires a x4 lane PCI Express slot and 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 UltraStudio SDI connects via USB 3.0 and supports SDI and HD-SDI video with 8 channels of audio. It also features HDMI audio and video monitoring, external sync and VTR control via a RS-422 connection. All features are included as standard.

The Blackmagic SDI 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 DeckLink owners can connect the second SDI output directly to the grading monitor.

Resolve 8.2 and newer no longer require specific Desktop Video drivers for Resolve. Simply download and install the latest Desktop Video drivers from the support page at [www.blackmagic-design.com](http://www.blackmagic-design.com) after installing the Resolve software.



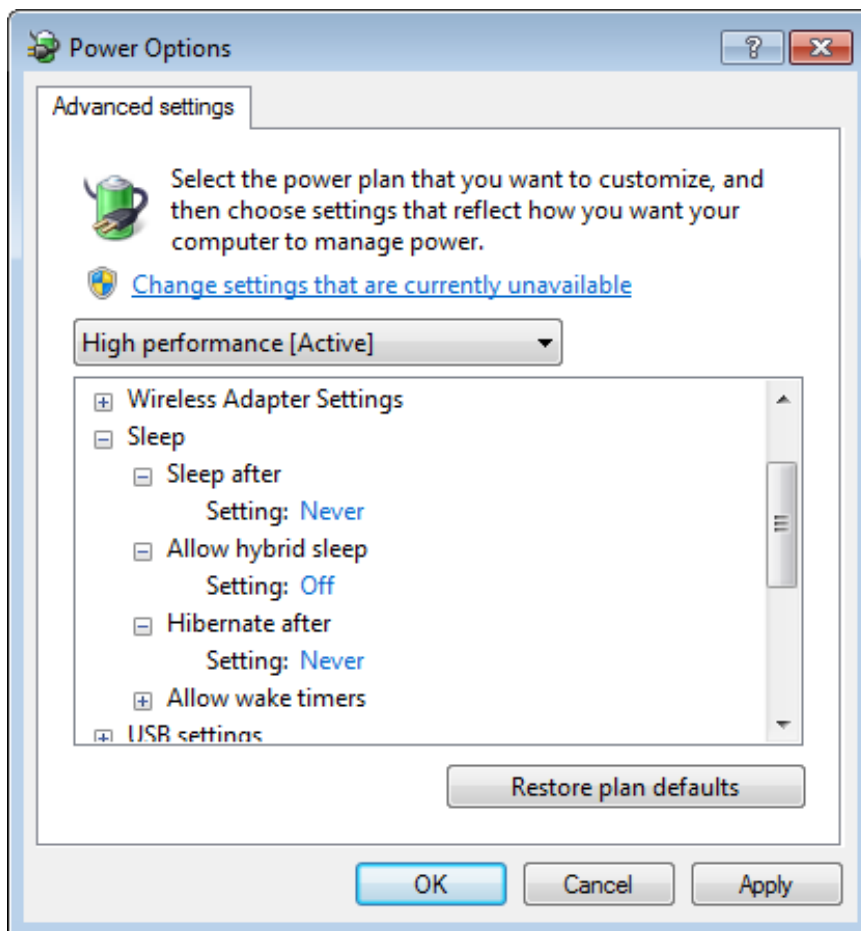
# Windows Power Configuration

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. →

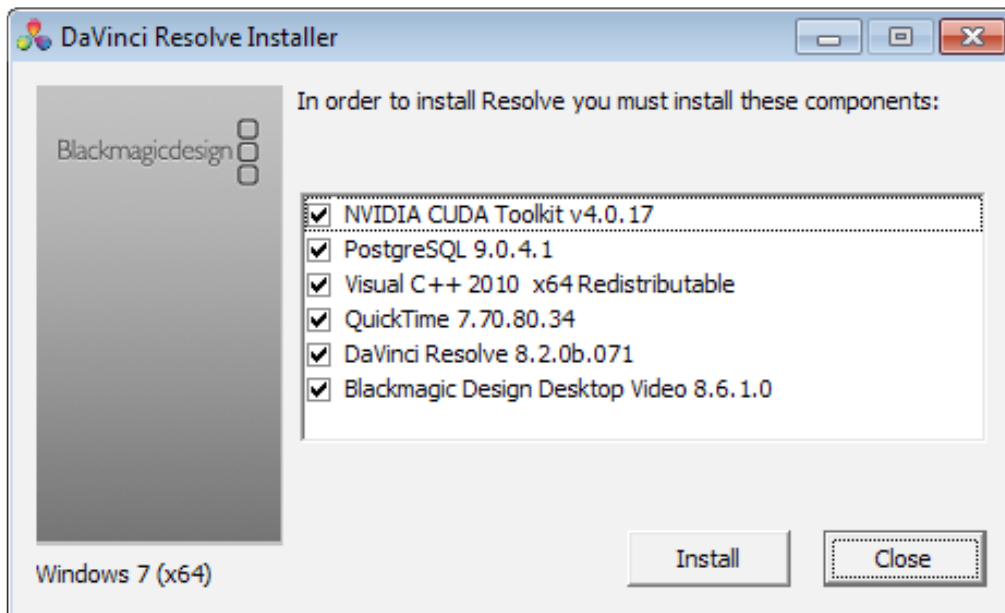
To install DaVinci Resolve, insert the Resolve DVD or open the downloaded installer. Double-click the 'Resolve Installer' icon and follow the onscreen prompts to install the software.

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 wish to use these applications with a DeckLink card or UltraStudio SDI, install the latest Desktop Video drivers after installing your video editing applications. The Blackmagic Desktop Video drivers install 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.



## Updating Third Party Drivers for Resolve

The DaVinci Resolve software installs drivers for hardware from Blackmagic Design and third parties. With the exception of Desktop Video, 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](http://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 1.4.19.0. The current certified RED Rocket firmware is version 1.1.16.5. They are available for download from [www.red.com/support/all/downloads](http://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.

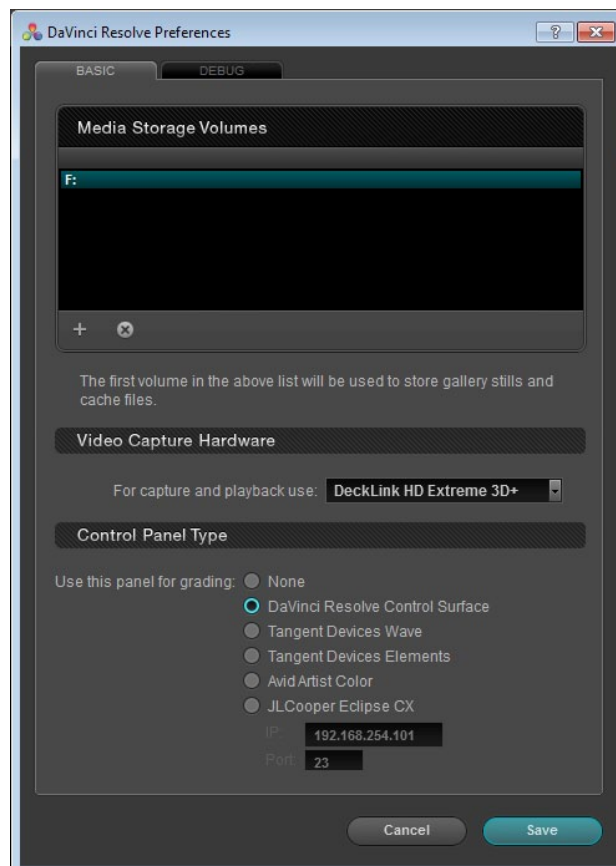
Click on the "+" (add) button to add a volume, folder or mount point to the list of disk storage for your media. The first location in the storage list will become the default location for images, all proxies, cached files and gallery stills. This location will usually be an internal or external disk 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, JLCopper Eclipse CX, Tangent Devices Element 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.

The Tangent Devices Element Bundle is a set of four USB panels which connect to your PC 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 Tangent Hub is installed, plug the panels in to your PC and they will work with Resolve. The Tangent Hub installer for Windows can be downloaded from <http://www.tangentdevices.co.uk/support.asp>.

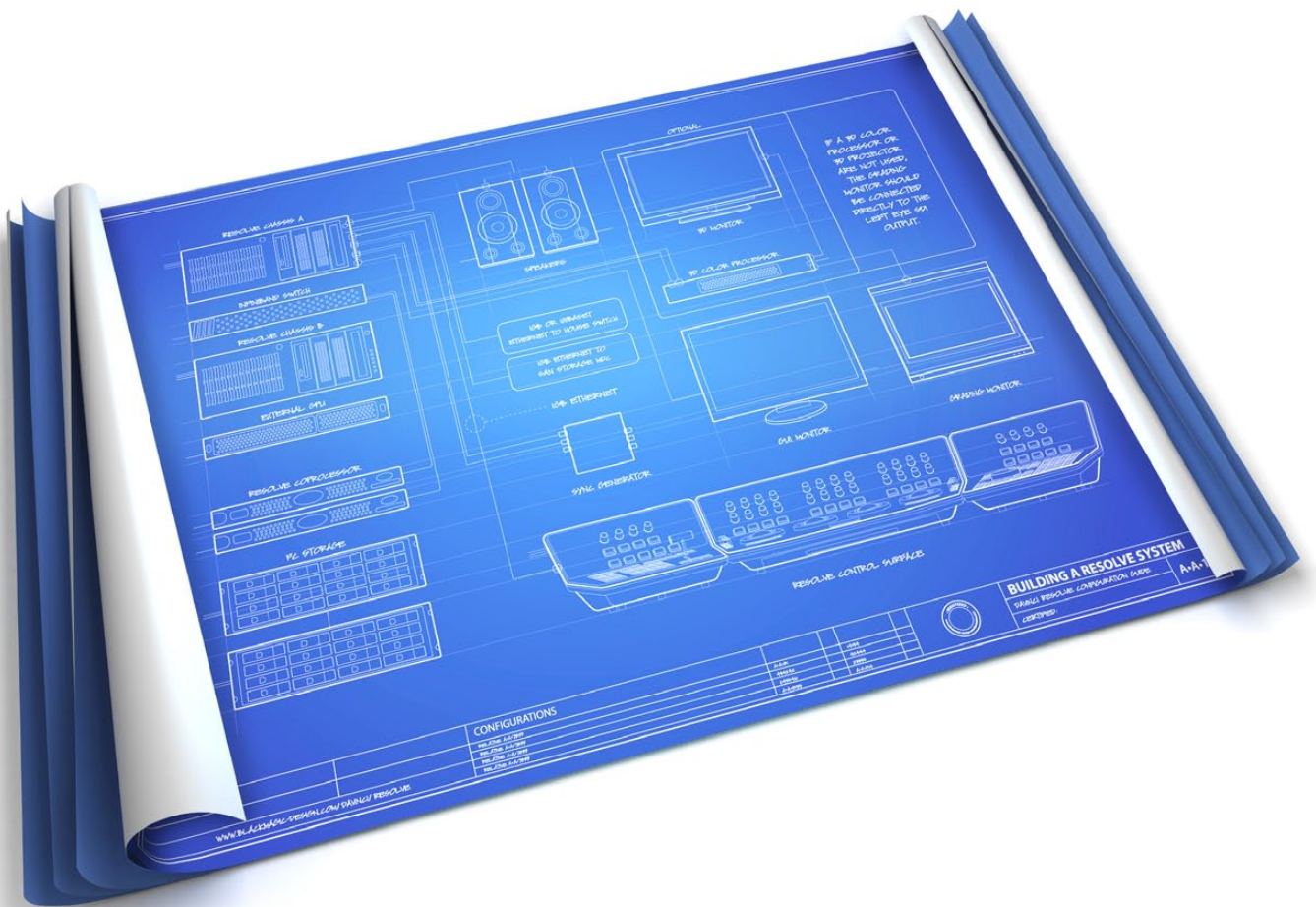
If using a JLCooper Eclipse CX, follow the Eclipse CX documentation to connect and configure it with an Ethernet port on your PC. Then launch Resolve, use the Preferences to select the Eclipse CX panel and click 'save'. If you have changed the IP address or port from the default panel settings, enter 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 for HD

## Good for SD, HD.

- ✓ Good for SD, HD in realtime
- ✓ YUV 4:2:2 HD
- ✓ Lowest cost hardware

Resolve with 1 GPU for HD is suitable for work in SD and HD in realtime. It is perfect for Resolve users who need a powerful color grading system for SD and HD at the lowest possible cost. This Resolve configuration supports realtime, uncompressed, YUV 4:2:2 video image processing in 2D up to HD 1080i60.

Compressed and raw media from digital cameras can also be used in realtime and RED r3d decoding can be performed in realtime at a lower resolution and de-bayer quality.

The Blackmagic Design UltraStudio SDI is certified for SDI video and audio ingest and playback with the Resolve with 1 GPU for HD. UltraStudio SDI also provides low cost HDMI monitoring and connects to the computer's USB 3.0 port.

If you need to work with more demanding video formats including HD 1080p50 and 1080p60 video, dual link RGB 4:4:4 or even 3D video, you will need to choose a Resolve configuration which features a DeckLink HD Extreme 3D+ capture card.

The computer currently certified for this configuration uses the ASUS P9X79 PRO motherboard and an Intel Core i7 processor. Some ATX computer chassis provide as many as 10 disk bays for plenty of low cost, internal, SATA disk storage. Alternatively, external eSATA and USB 3.0 disk arrays can be used.

**Notes:** Motherboard slot 1 is closest to the CPU.

Additional PCI Express cards, such as capture, storage and RED Rocket cards, must not be added to slot 3 as they will slow down the performance of the GUI and GPU cards.

It is very important you have installed the latest USB 3.0 software drivers and firmware for your motherboard before installing your UltraStudio SDI. Please visit the ASUS website.

### Where to install your hardware

ASUS P9X79 PRO Motherboard

Motherboard Slot	Board	Function
1	NVIDIA Quadro 600	GUI
2	--leave blank--	
3	--leave blank--	
4	RED Rocket card or spare	Optional RED r3d processing
5	NVIDIA GeForce GTX 580	Image processing
6	--blocked--	

# Building a Resolve with 1 GPU for HD

## 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 JLCopper ECLIPSE CX, plus  
1 x DaVinci Resolve Software for Windows  
or  
1 x Tangent Devices Element Bundle, 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

**Chassis:** Generic ATX chassis such as  
Cooler Master HAF 932 Advanced  
**Motherboard:** ASUS P9X79 PRO  
**CPU:** Intel Core i7-3960X 3.3 GHz  
**RAM:** 16GB (4 x 4GB RAM)  
PC3-12800 DDR3-1600 SDRAM  
**Hard Disk:** 1 x SATA 7200 1TB  
**DVD Drive:** 1 x DVD-RW drive, SATA, Black  
**Power Supply:** 1000W or greater ATX PSU  
such as Corsair Professional Series HX1050  
**Operating System:** Windows 7 Pro with SP1, 64-bit

### Graphics Processor for GUI

1 x NVIDIA Quadro 600 (for 2D only)

### Graphics Processor for CUDA GPU

1 x NVIDIA GeForce GTX 580 3072 MB

### Capture Hardware

Blackmagic Design UltraStudio SDI

### 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

### Storage Options - Internal

4 x 7200rpm SATA hard disks connected to the motherboard SATA controller

### Storage Options - External

4 x 7200rpm SATA hard disk array connected via eSATA

or

4 x 7200rpm SATA hard disk array connected via USB 3.0

### Optional Codec Support

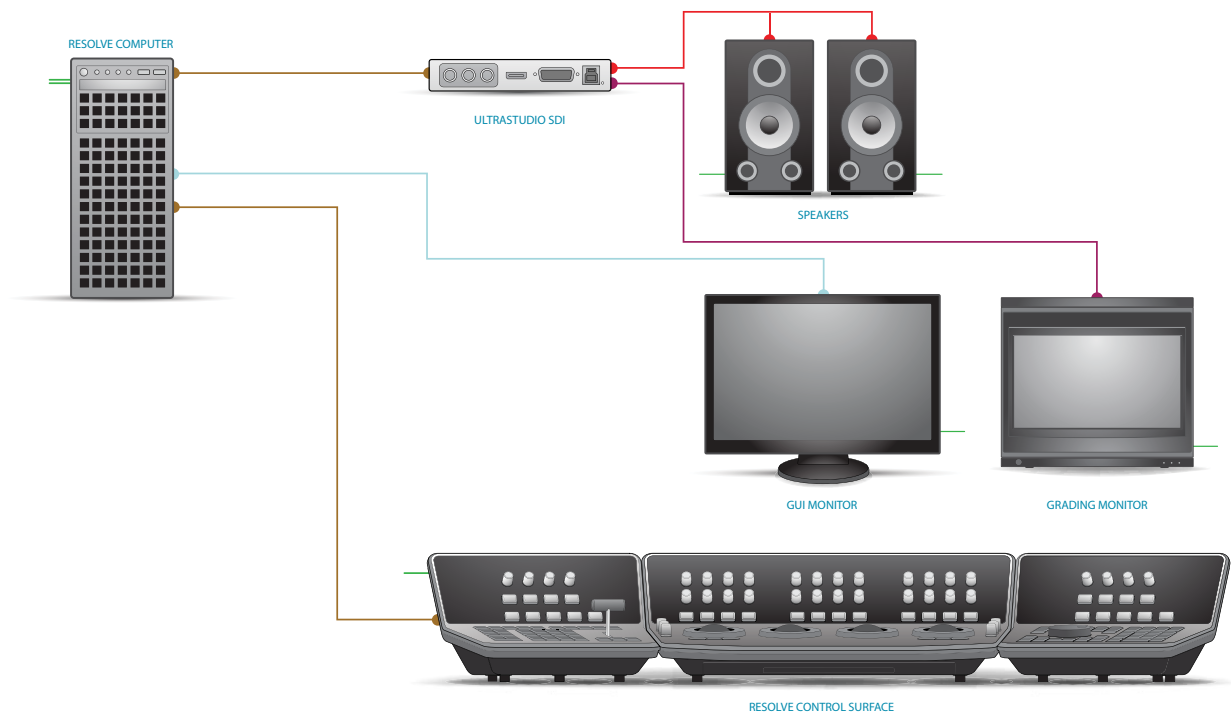
1 x RED Rocket PCIe hardware card for accelerated processing of RED r3d files.

# Building a Resolve with 1 GPU for HD

## Connection Diagram



### 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 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 NVIDIA GeForce GTX 580 3072 MB is the most powerful and lowest cost GPU card for Resolve. NVIDIA Quadro and Tesla cards provide less performance to Resolve but can be used if other software on the same computer requires Quadro or Tesla cards.

## 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 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 JLCopper ECLIPSE CX, plus  
 1 x DaVinci Resolve Software for Windows  
 or  
 1 x Tangent Devices Element Bundle, 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

### Capture Card

Blackmagic Design DeckLink HD Extreme 3D+

### 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 Quadro 4000, or  
 1 x NVIDIA Quadro 5000, or  
 1 x NVIDIA Quadro 6000, or  
 1 x NVIDIA Tesla C2075, or  
 1 x NVIDIA GeForce GTX 580 3072 MB

### 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

# Building a Resolve with 1 GPU

## Shopping List

---

### USB Peripherals

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

### Optional Codec Support

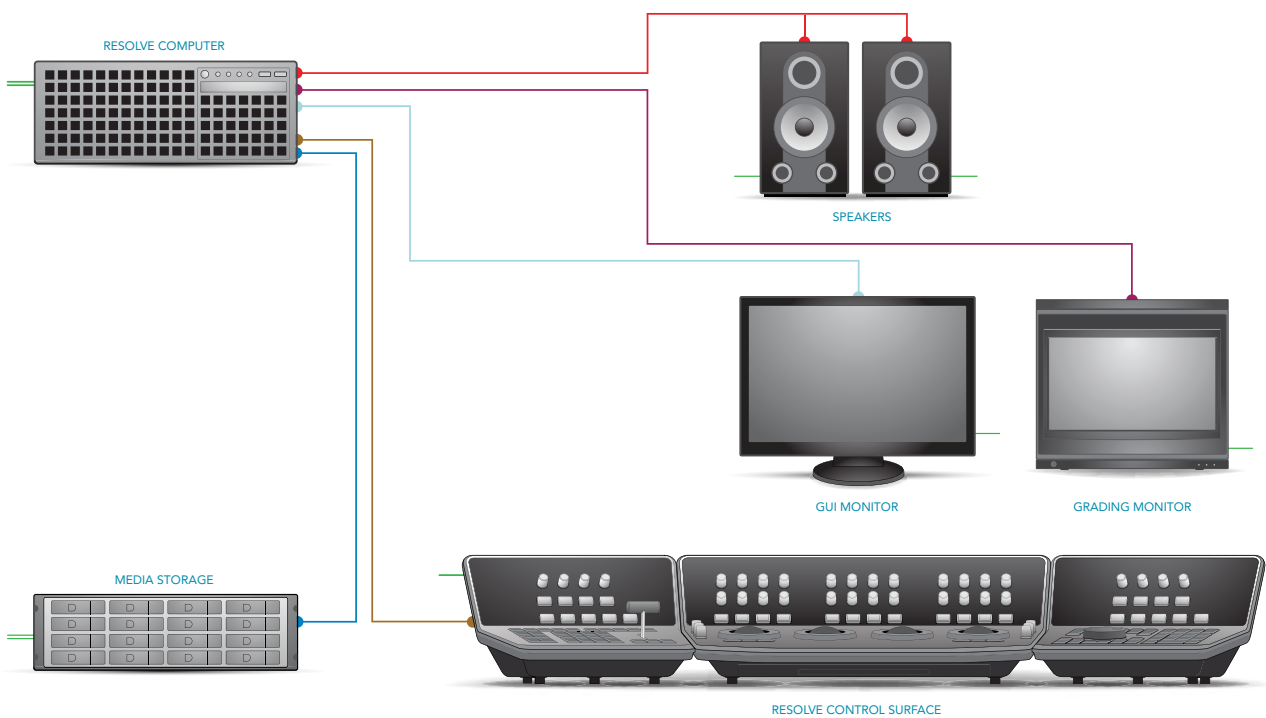
1 x RED Rocket PCIe hardware card for 2D, or  
2 x RED Rocket PCIe hardware cards for 3D,  
or for image resolutions greater than 4K,  
for accelerated processing of RED r3d files.

# Building a Resolve with 1 GPU

## Connection Diagram



### 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.

The NVIDIA GeForce GTX 580 3072 MB is the most powerful and lowest cost GPU card for Resolve. NVIDIA Quadro and Tesla cards provide less performance to Resolve but can be used if other software on the same computer requires Quadro or Tesla cards.

## 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  
 or  
 1 x Avid Artist Color, plus  
 1 x DaVinci Resolve Software for Windows  
 or  
 1 x JLCopper ECLIPSE CX, plus  
 1 x DaVinci Resolve Software for Windows  
 or  
 1 x Tangent Devices Element Bundle, 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 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

2 x NVIDIA Quadro 4000, or  
 2 x NVIDIA Quadro 5000, or  
 2 x NVIDIA Quadro 6000, or  
 2 x NVIDIA Tesla C2075, or  
 2 x NVIDIA GeForce GTX 580 3072 MB

### 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

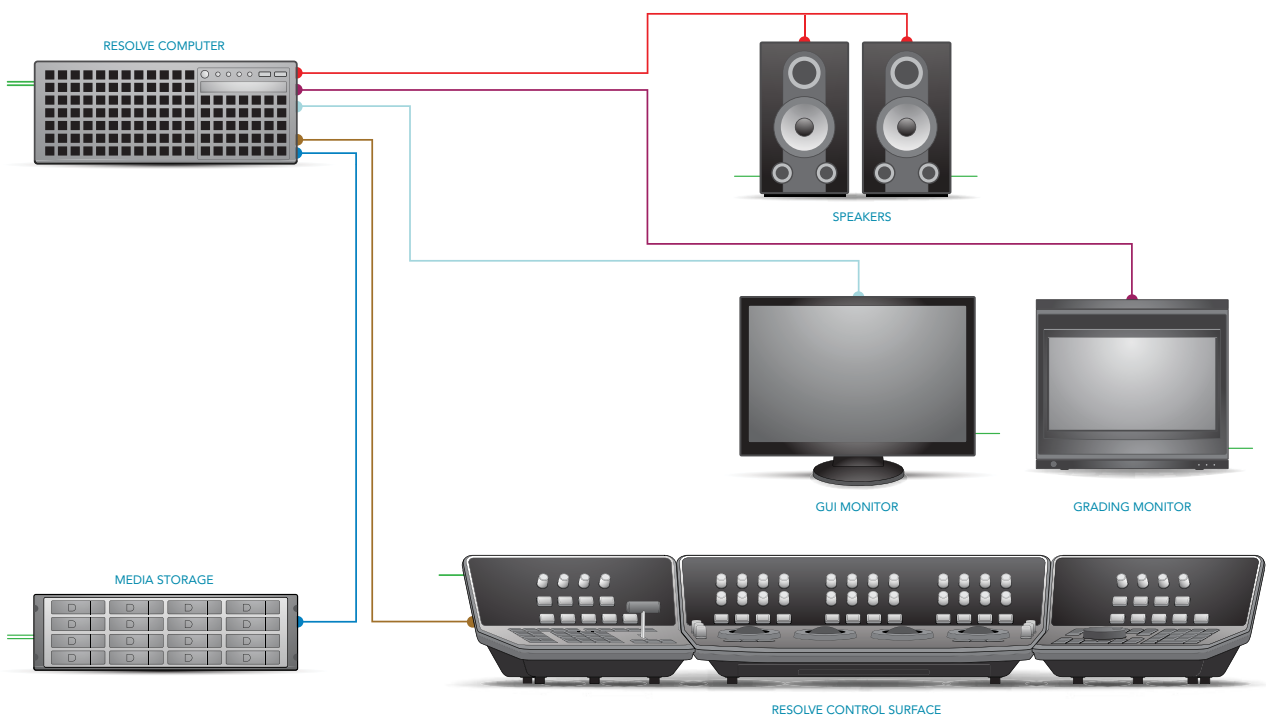
1 x RED Rocket PCIe hardware card for 2D, or  
 2 x RED Rocket PCIe hardware cards for 3D,  
 or for image resolutions greater than 4K,  
 for accelerated processing of RED r3d files.

# Building a Resolve with 2 GPUs

## Connection Diagram



### 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.

The NVIDIA GeForce GTX 580 3072 MB is the most powerful and lowest cost GPU card for Resolve. NVIDIA Quadro and Tesla cards provide less performance to Resolve but can be used if other software on the same computer requires Quadro or Tesla cards.

### 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 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 JLCopper ECLIPSE CX, plus  
 1 x DaVinci Resolve Software for Windows  
 or  
 1 x Tangent Devices Element Bundle, 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 Quadro 4000, or  
 4 x NVIDIA Quadro 5000, or  
 4 x NVIDIA Quadro 6000, or  
 4 x NVIDIA Tesla C2075, or  
 4 x NVIDIA GeForce GTX 580 3072 MB

### 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

# Building a Resolve with 4 GPUs

## Shopping List

---

### USB Peripherals

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

### Optional Codec Support

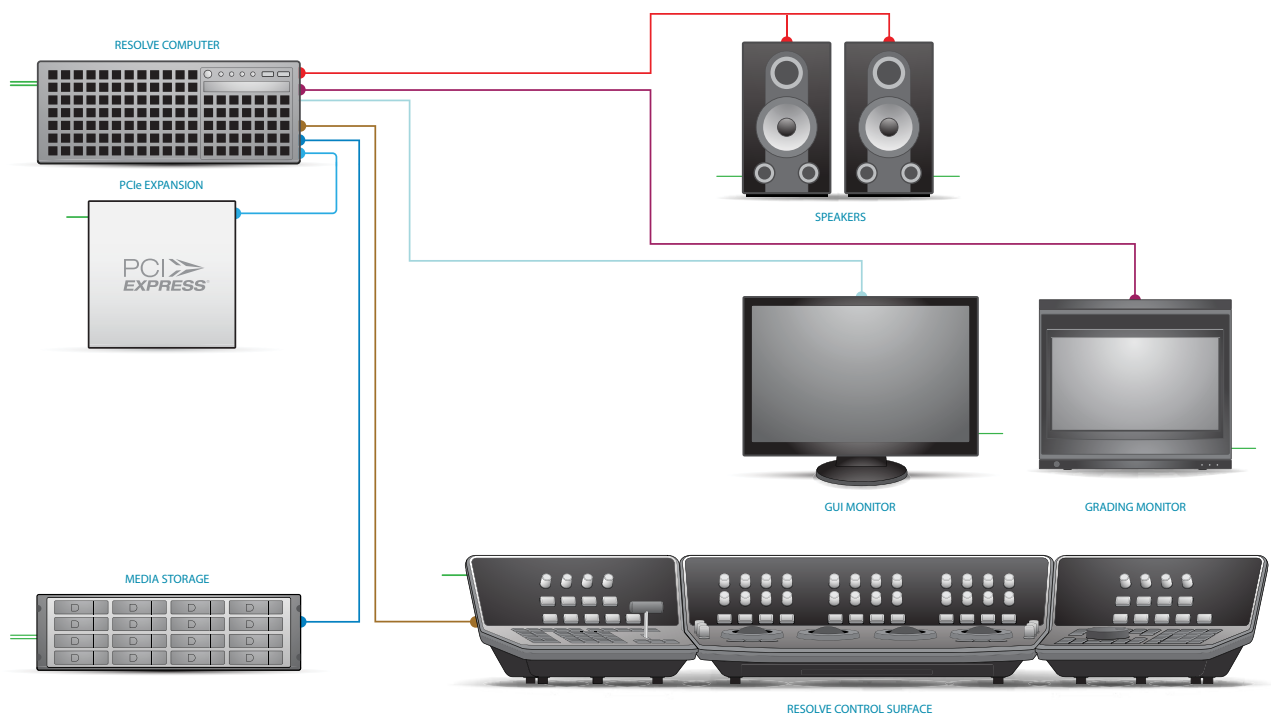
1 x RED Rocket PCIe hardware card for 2D, or  
2 x RED Rocket PCIe hardware cards for 3D,  
or for image resolutions greater than 4K,  
for accelerated processing of RED r3d files.

# Building a Resolve with 4 GPUs

## Connection Diagram



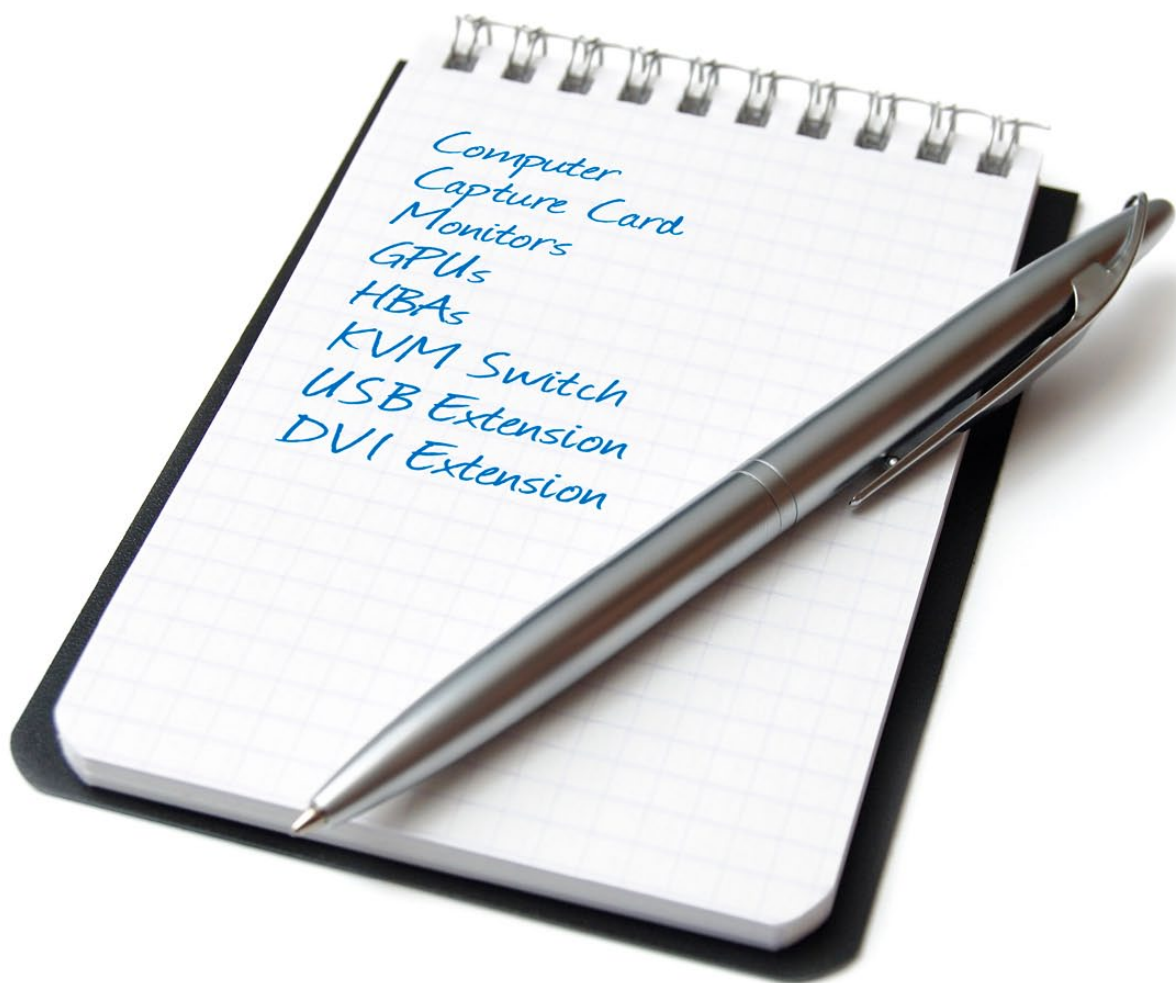
### Connections for a DaVinci Resolve Control Surface with USB



- 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](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

### Motherboard

#### **ASUS P9X79 PRO**

[http://www.asus.com/Motherboards/Intel\\_Socket\\_2011/P9X79\\_PRO/](http://www.asus.com/Motherboards/Intel_Socket_2011/P9X79_PRO/)

Where to Buy

<http://shop.asus.com/>

---

### ATX Chassis

#### **Cooler Master HAF 932 Advanced**

[http://www.coolermaster.com/product.php?product\\_id=6693](http://www.coolermaster.com/product.php?product_id=6693)

Where to Buy

<http://www.coolermaster.com/where.php>

---

### ATX Power Supply

#### **Corsair Professional Series HX1050**

<http://www.corsair.com/professional-series-hx1050-80plus-silver-certified-modular-power-supply.html>

Where to Buy

<http://www.corsair.com/wheretobuy/>

---

## 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](http://www.nvidia.com/object/workstation_wtb_channel.html)

#### **NVIDIA Tesla C2075 video card**

<http://www.nvidia.com/object/personal-supercomputing.html>

#### Where to Buy

<http://www.tigerdirect.com/applications/SearchTools/item-details.asp?EdpNo=1399165&CatId=3596>

#### **NVIDIA GeForce GTX 580 video card with 3072 MB GDDR5 SDRAM**

<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](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](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/](http://www.jlcooper.com/cgi/jlcshop_ns.cgi?task=purch/)

#### 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)

#### 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)

---

### Monitor

#### 26" GUI Monitor

Similar to Model: LCD2690WUXI2-BK

[http://www.nec-display.com/ap/en\\_display/lcd2690\\_2/](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](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/>

#### **Blackmagic Design UltraStudio SDI**

<http://www.blackmagic-design.com/products/ultrastudiosdi/>

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 and Hub

#### **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/products/usb/how\\_to\\_buy\\_a.php](http://www.icron.com/products/usb/how_to_buy_a.php)

## Certified Components

### 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>

---

### 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/>

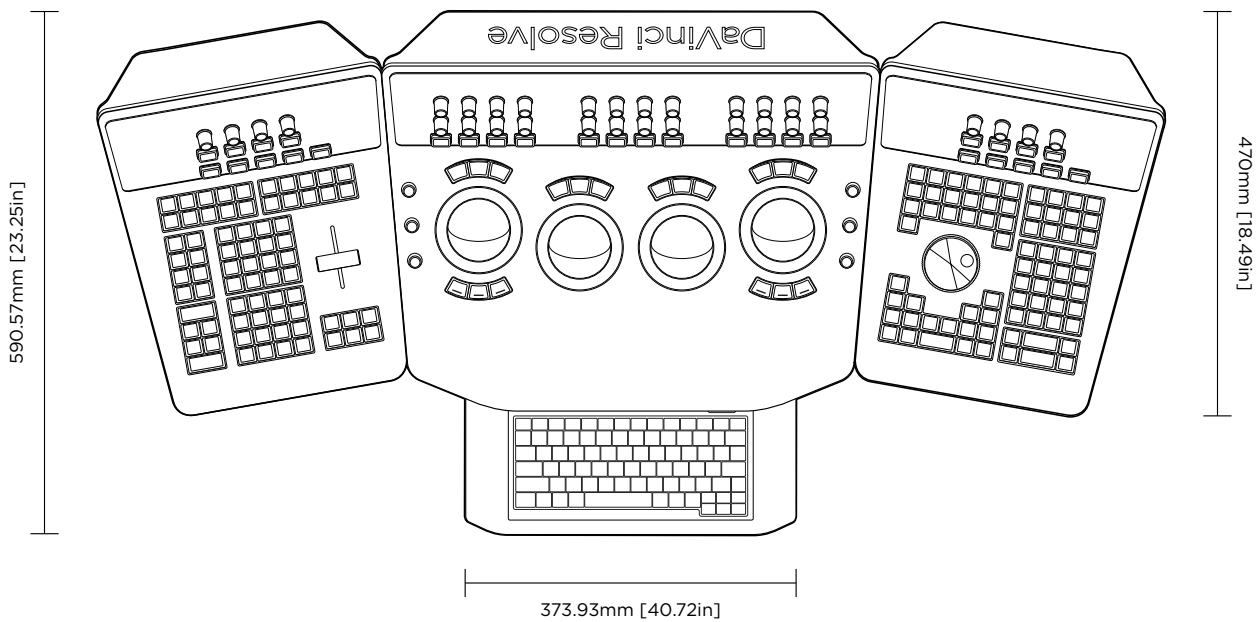
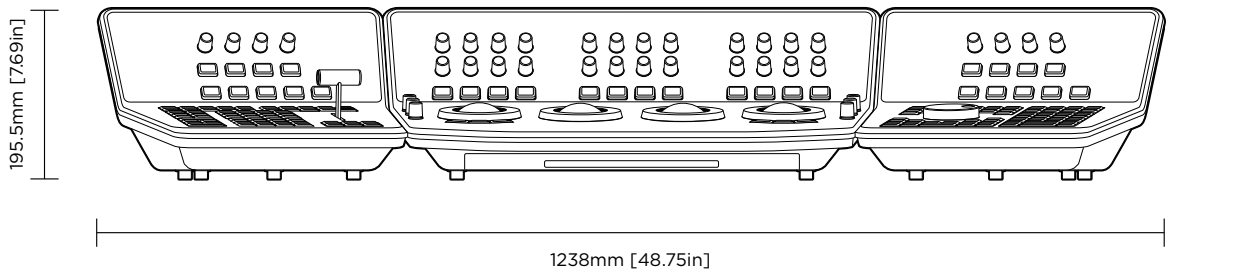
#### Where to Buy

<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 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 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.

Copyright 2012 Blackmagic Design. All rights reserved. 'Blackmagic Design', 'DaVinci', 'Resolve', 'DeckLink', 'HDLink', 'Videohub', 'DeckLink', and 'Leading the creative video revolution' are registered trademarks in the US and other countries. All other company and product names may be trade marks of their respective companies with which they are associated.

Thunderbolt and the Thunderbolt logo are trademarks of Intel Corporation in the U.S. and/or other countries.