



Installation and Operation Manual

Blackmagic MultiDock

August 2019

English, 日本語, Français, Deutsch, Español, 中文,
한국어, Русский, Italiano, Português and Türkçe.



Languages

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Welcome

Blackmagic MultiDock is an extremely fast SSD and HDD docking solution that lets you mount up to 4 x 2.5" drives on your Mac or Windows PC. Using USB-C and Thunderbolt technology, Blackmagic MultiDock is capable of handling multiple simultaneous commands between drives, and gives you reliable video editing, color grading and transfer of your media. SSDs have no moving parts, so they are very fast and unbelievably robust. You can even stripe drives as a RAID for increased performance!

This instruction manual contains all the information you need to start using your Blackmagic MultiDock disk array.

Please check the support page at www.blackmagicdesign.com for the latest version of this manual and support notes. Keeping up to date will always ensure you get all the latest features. When downloading software, please register with your information so we can keep you updated when new software is released. We are constantly working on new features and improvements, so we would love to hear from you!

A stylized, handwritten signature in black ink that reads "Grant Petty". The script is fluid and cursive.

Grant Petty

CEO Blackmagic Design



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Getting Started

Introducing MultiDock

Blackmagic MultiDock is an attractive rack mountable docking station that lets you simultaneously mount up to 4 x 2.5" Solid State Drives or Hard Disk Drives to your computer.

Blackmagic MultiDock and Blackmagic MultiDock 10G are perfect for video post production tasks such as editing, color grading, or any task that requires large video files to be stored on multiple drives. By minimizing the time spent swapping external drives, Blackmagic MultiDock allows you more time to focus on your creative work.

Blackmagic MultiDock uses USB 3.1 and Thunderbolt™ 2 technology, which provides a super fast connection to your computer up to 10 and 20Gb/s respectively. Each drive bay has a completely independent SATA 3 disk interface for high performance. Blackmagic MultiDock 10G can even be configured as two independent docks so you can access the drives from two separate pieces of equipment.

A RAID can be configured by simply plugging in multiple disks and using your operating system disk utility software to “stripe” or “mirror” the disks into a single storage volume.

This operation manual is designed to give you all the information you need to help you get the most out of your Blackmagic MultiDock.



Blackmagic MultiDock 10G provides USB 3.1 read and write speeds up to 10Gb/s



Blackmagic MultiDock provides Thunderbolt 2 data transfer speeds up to 20Gb/s



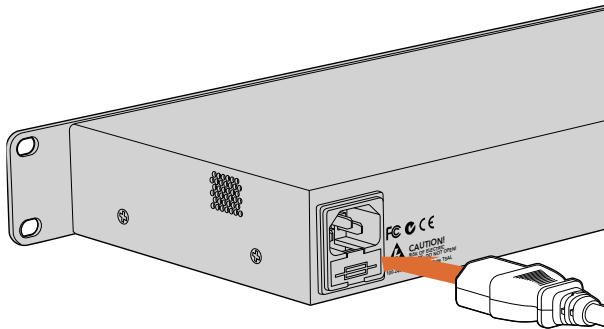
Connecting to your Computer

The first thing you'll want to do is power your Blackmagic MultiDock and connect to your computer!

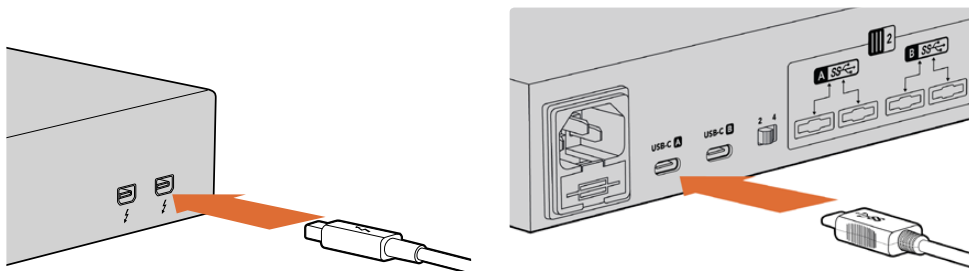
Plug your power source into Blackmagic MultiDock's mains power input using a standard IEC cable and connector. The power indicator on the front panel will illuminate when power is supplied.

On Blackmagic MultiDock 10G, connect the USB-C A port to your computer via a USB-C cable. The switch on the rear of the unit lets you configure Blackmagic MultiDock 10G as a single dock using all four drives, or as two independent dual-drive docks. This means you can access two drives from two separate computers via the two separate USB-C ports. Refer to the 'Configuring Blackmagic MultiDock 10G' section for more information.

On the original Blackmagic MultiDock, connect one of the Thunderbolt ports to your computer's Thunderbolt port using a Thunderbolt cable. If your computer only has a single Thunderbolt port, you can use the additional Thunderbolt port on your MultiDock to attach a RAID or other device.



Connect your power supply to Blackmagic MultiDock using a standard IEC power cable and connector.



Connect Blackmagic MultiDock to your Mac or Windows PC using a Thunderbolt or USB-C cable

Plugging in your Drives

Blackmagic MultiDock uses formatted 2.5" SSDs and HDDs.

To plug in your drive:

- 1 Hold the drive so its gold SATA contacts are facing down and towards the drive bay.
- 2 Gently push the drive into the drive bay until you feel it slot into place.



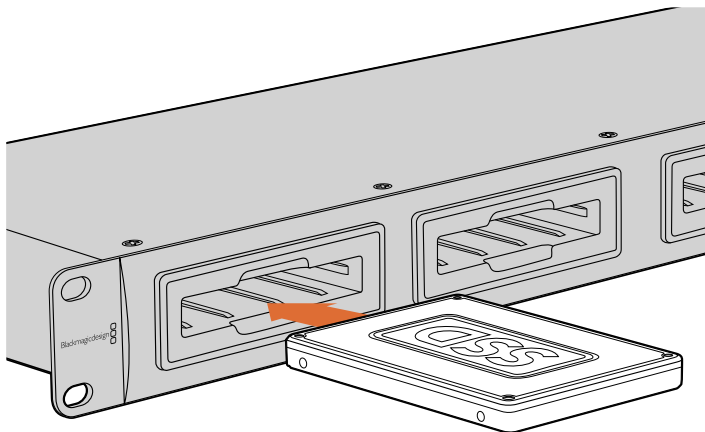
The drive bay's red LED will briefly illuminate when a drive is detected. When a solid state drive or hard disk drive is being read or written to, the drive bay's LED will flash according to the level of disk activity.

When plugging in formatted SSDs or HDDs, they will be recognized by your computer and mounted.

On Mac OS, your drives will appear on your desktop.

To find your drive on a Windows PC, click the File Explorer icon in the task bar and navigate to 'this PC' in the left hand column.

Now that you have plugged in your power source, connected to a computer and plugged in your drives, you can start using Blackmagic MultiDock.

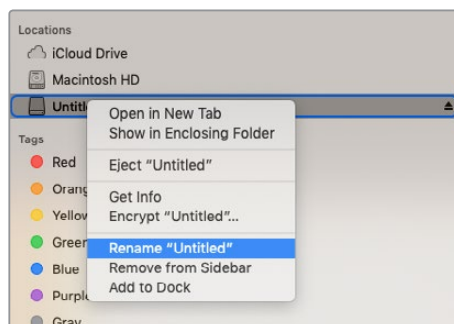


Plug SSDs or HDDs into any of Blackmagic MultiDock's 4 drive bays.

Using Blackmagic MultiDock

Identifying Drives

Blackmagic MultiDock has 4 independent drive bays. We recommend naming or renaming your drives so you can easily identify them. You can name your drives when formatting using the Disk Utility application on Mac OS, or Windows Disk Management on Windows. Renaming your drive is as easy as right clicking on your drive in Mac OS Finder or Windows File Explorer. It's also helpful to physically label your drives so you can visually identify the drive in each drive bay.



You can easily rename your drives using Finder in Mac OS or Windows File Explorer



Formatting Drives

You can use any 2.5" SSD or HDD with Blackmagic MultiDock. New drives need to be formatted so your computer can read and write to the them. Your Blackmagic MultiDock formats drives using the HFS+ and exFAT formats. These disk formats allow large file sizes and long video clips captured as single files.

HFS+

This format is also known as Mac OS Extended and is natively supported by Mac OS. HFS+ supports “journaling” which means your data is more likely to be recovered in the rare event of corruption, or a hardware or software malfunction.

ExFAT

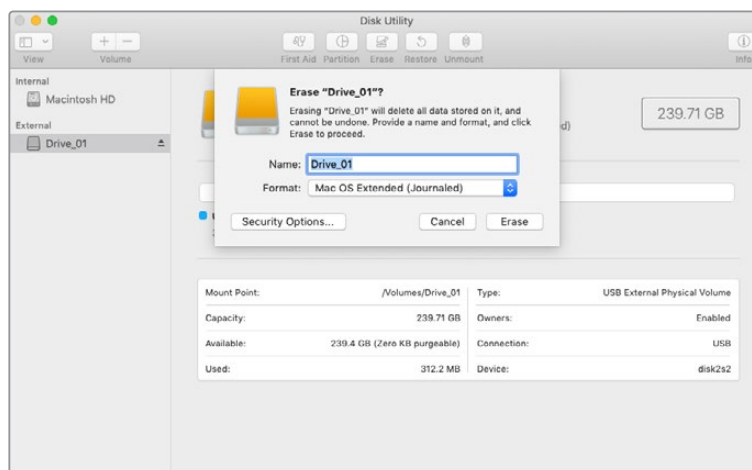
This format is supported natively by Mac OS and Windows. ExFAT does not support journaling which means data is less likely to be recovered in the event of corruption, or a hardware or software malfunction.

You can format drives at any time, even if you already have data written on them. However, formatting a drive deletes all its data so be sure to back up anything important on your drive before it is formatted.

Formatting your Drives on Mac OS

The Disk Utility application included with Mac OS can format a drive in the HFS+ or exFAT formats.

- 1 Go to applications/utilities and launch Disk Utility.
- 2 On the left of the window you'll see a list of icons for your connected drives. Click on the disk icon for your new drive.
- 3 Select the 'erase' tab in Disk Utility's top menu.
- 4 Type a 'name' for the new volume.
- 5 Select Mac OS Extended (Journaled) or exFAT from the 'format' drop down menu and then click 'erase'. Your new drive will quickly be formatted and made ready for use with Blackmagic MultiDock.

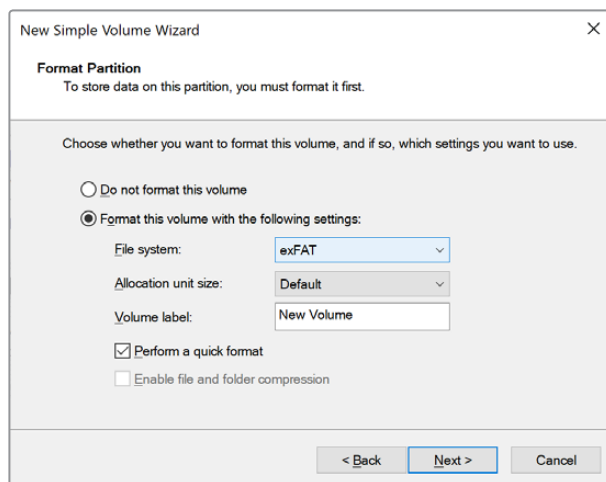


Use Disk Utility on Mac OS to format, or erase, your drive in the Mac OS Extended (Journaled) or exFAT format.

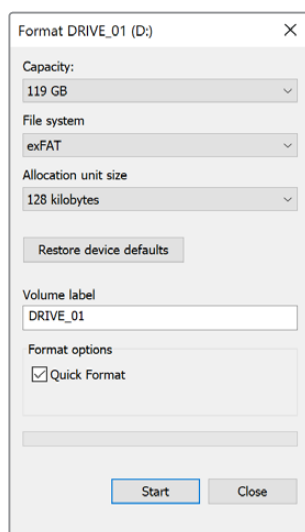
Formatting your Drives on Windows

Windows uses the Disk Management application to format a new drive in the exFAT format.

- 1 Plug your new drive into Blackmagic MultiDock.
- 2 Go to Control Panel/System and Security/Administrative Tools/Computer Management/Disk Management.
- 3 Right click on your new drive from the list of connected drives and select New Simple Volume. New unformatted drives will be described as Unallocated.
- 4 A window will open asking for the volume size. Leave the volume size defaulted to the drive's maximum capacity. Click Next.
- 5 Assign a drive letter and click Next.
- 6 Set the file system to exFAT. Type a volume label, select 'Perform a quick format' and click Next. Your new drive will quickly be formatted and made ready for use with Blackmagic MultiDock.



Use Volume Wizard on Windows to format your drive.



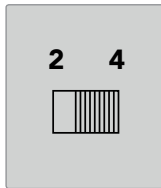
You can also format drives in the exFAT format using the Format dialog box feature in Windows. It can be found by right clicking on the drive's icon.



Configuring Blackmagic MultiDock 10G

Blackmagic MultiDock 10G can be configured as a single unit with 4 drives, or as two independent dual-drive docks. This means you can have two separate devices connected to your MultiDock with each USB-C ports controlling two drive bays. For example, you may have two computers, or two Blackmagic HyperDeck Extreme 8K HDRs, recording and playing back files simultaneously using one single Blackmagic MultiDock 10G!

On the rear panel you will see a drive bay configuration switch. To configure your Blackmagic MultiDock 10G as a single unit with 4 drives, set the configuration switch to '4' and connect your cable to the USB port labelled 'USB-C A'. To configure your MultiDock as two separate dual-drive units, set the switch to '2'. The 'USB-C A' port will now access only the first two drive slots and you can connect to the third and fourth drive slots via the 'USB-C B' port.

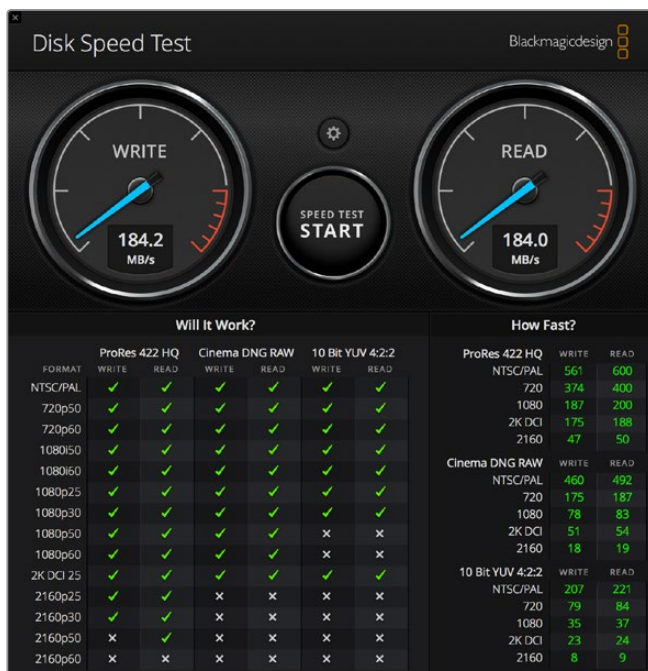


Set the drive bay configuration switch on the rear panel to 2 or 4 to operate your MultiDock as a single 4 bay unit, or as two independent dual-drive units.

Fast SSDs for Video

You can use any 2.5" SSD or HDD with Blackmagic MultiDock for every day tasks. When working with video files using higher resolutions and lower compression rates, such as compressed 4K and 8K video, we recommend using an SSD with high write speeds. For higher compression rates, such as ProRes LT or H.265 Low, lower write speeds are needed.

You can use Blackmagic Disk Speed Test to measure the read and write performance of your storage media to make sure it is fast enough for your needs. Disk Speed Test is included with Desktop Video software or available as a standalone application via the App store for macOS.



Setting up a RAID for High Speed Performance and Data Security

Blackmagic MultiDock supports two of the most common RAID configurations, RAID 0 and RAID 1. A RAID, or Redundant Array of Independent Disks, can provide increased speeds or stronger data security. For example, RAID level 0 stripes your drives together so they are recognized by your computer as one single drive to increase performance. RAID level 1 configures two drives so one is always mirrored by the other, which increases data security.

NOTE Striping your drives as a RAID shares data over a set of drives which requires careful management. It's also worth noting that if you're striping drives as a RAID, stripe only a set of SSDs or a set of HDDs, not a combination of both.

RAID Level 0 for High Speed Performance

When using HDDs for uncompressed video capture and playback, it's beneficial to stripe 2 to 4 drives together as a RAID. Sharing the data amongst a pair of drives doubles the total capacity, plus decreases their workload, so you get faster performance. Similarly, configuring 3 or 4 drives as a RAID level 0 triples or quadruples their total drive capacity. For example, a computer will recognize 4 x 1 terabyte drives striped using RAID 0 as one single 4 terabyte drive.

When drives are striped together in a RAID set, be careful not to unplug any of the drives while your computer is powered, otherwise you may lose all your data. When using RAID, eject the drives and disconnect the MultiDock from your computer before removing or swapping drives.

SSDs can also be striped together as RAID 0, however, performance increases are generally limited to workflows using large sequential files, such as reading and writing Ultra HD, 4K, or uncompressed video files. For general every day tasks, the performance increase is negligible so you should probably use single SSDs.

When detecting drives, Blackmagic MultiDock looks for drive names, not drive bays, therefore a set of drives configured as a RAID can be plugged into any of Blackmagic MultiDock's 4 drive bays.

RAID Level 1 for Data Security

Blackmagic MultiDock has 4 drive bays which let you configure 2 pairs of mirrored SSDs or HDDs. A mirrored pair of drives are recognized as one single drive. Using RAID level 1 gives you an immediate back up as you write data to the drive. If one drive fails, the other is instantly available.

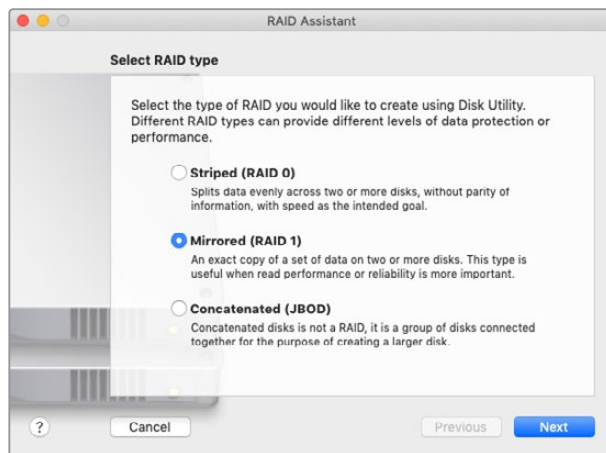
Configuring a RAID using Mac OS and Windows

To configure a RAID, use the RAID Assistant tool in Disk Utility on Mac OS. On Windows, you can configure a RAID on the original Blackmagic MultiDock using Windows Disk Management utility.

You'll find the Mac OS Raid Assistant by launching applications/utilities/disk utility and selecting 'RAID assistant' from the file menu. Windows Disk Management can be opened by opening the control panel, then selecting Administrative Tools/Computer Management/Storage/Disk Management.



For detailed information on how to configure a RAID, refer to your operating system's online support.



Select 'mirrored' using RAID assistant on Mac OS to configure your drives as RAID 1.

Unplugging your Drives

Make sure your drives have been properly ejected before removing them from their drive bays. HDDs have longer initialize and shut down times compared to SSDs. This is because HDDs use spinning discs to store data which take time to reach speed.

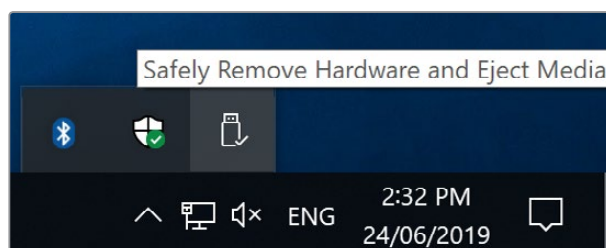
Ejecting a drive on Mac OS

Right click on the drive icon on your desktop and select "eject [drive_name]". Blackmagic MultiDock's drive bay LED will flash briefly and your drive will disappear from the desktop. Your drive is now ready to be unplugged from Blackmagic MultiDock.

Ejecting a drive on a Windows PC

Click on the 'Safely Remove Hardware and Eject Media' icon at the bottom right of your desktop. A list of drives and devices will appear above the icon. Click on the drive you wish to eject. Blackmagic MultiDock's drive bay LED will flash briefly, and your drive will disappear from the device list on the desktop. Your drive is now ready to be unplugged from Blackmagic MultiDock.

NOTE When using a RAID it's important eject the drives before unplugging the RAID set. Never unplug a drive from a RAID set while the computer is operating or you'll risk data loss.



Always eject your media before unplugging from your computer.



Help

Getting Help

The fastest way to obtain help is to go to the Blackmagic Design online support pages and check the latest support material available for your video assist.

Blackmagic Design Online Support Pages

The latest manual and support notes can be found at the Blackmagic Design support center at www.blackmagicdesign.com/support.

Blackmagic Design Forum

The Blackmagic Design forum on our website is a helpful resource you can visit for more information and creative ideas. This can also be a faster way of getting help as there may already be answers you can find from other experienced users and Blackmagic Design staff which will keep you moving forward. You can visit the forum at <https://forum.blackmagicdesign.com>

Contacting Blackmagic Design Support

If you can't find the help you need in our support material or on the forum, please use the "Send us an email" button on the support page to email a support request. Alternatively, click on the "Find your local support team" button on the support page and call your nearest Blackmagic Design support office.



Regulatory Notices

Disposal of Waste of Electrical and Electronic Equipment Within the European Union.



The symbol on the product indicates that this equipment must not be disposed of with other waste materials. In order to dispose of your waste equipment, it must be handed over to a designated collection point for recycling. The separate collection and recycling of your waste equipment at the time of disposal will help conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city recycling office or the dealer from whom you purchased the product.

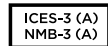


This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operation of this product in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at personal expense.

Operation is subject to the following two conditions:

- 1 This device may not cause harmful interference.
- 2 This device must accept any interference received, including interference that may cause undesired operation.

ISED Canada Statement



This device complies with Canadian standards for Class A digital apparatus.

Any modifications or use of this product outside its intended use could void compliance to these standards.

This equipment has been tested for compliance with the intended use in a commercial environment. If the equipment is used in a domestic environment, it may cause radio interference.



Safety Information

For protection against electric shock, the equipment must be connected to a mains socket outlet with a protective earth connection. In case of doubt contact a qualified electrician.

To reduce the risk of electric shock, do not expose this equipment to dripping or splashing.

Product is suitable for use in tropical locations with an ambient temperature of up to 40°C.

Ensure that adequate ventilation is provided around the product and that it is not restricted.

When rack mounting, ensure that the ventilation is not restricted by adjacent equipment.

No operator serviceable parts inside product. Refer servicing to your local Blackmagic Design service center.



Use only at altitudes not more than 2000m above sea level.

State of California statement

This product can expose you to chemicals such as trace amounts of polybrominated biphenyls within plastic parts, which is known to the state of California to cause cancer and birth defects or other reproductive harm.

For more information go to www.P65Warnings.ca.gov.



Warranty

12 Month Limited Warranty

Blackmagic Design warrants that this product 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.

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.

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