Installation and Operation Manual
Blackmagic Cameras

Blackmagicdesign

Welcome to Blackmagic Cameras

Thank you for purchasing your Blackmagic Camera!

We have worked hard to produce three cameras that have been designed from the ground up to fit any kind of workflow. Our new Pocket Cinema Camera is a Super 16 digital film camera with 13 stops of dynamic range that is small enough to take anywhere. The Cinema Camera records uncompressed CinemaDNG RAW files for pristine images and our new Production Camera 4K is a Super 35 Ultra HD 4K camera with a global shutter and 6G-SDI output.

Our cameras are designed to produce files that are "flat", which means they preserve the wide dynamic range from the sensor, as well as standard file formats that work with all video software. This allows you to make creative decisions by using the included DaVinci color correction software!
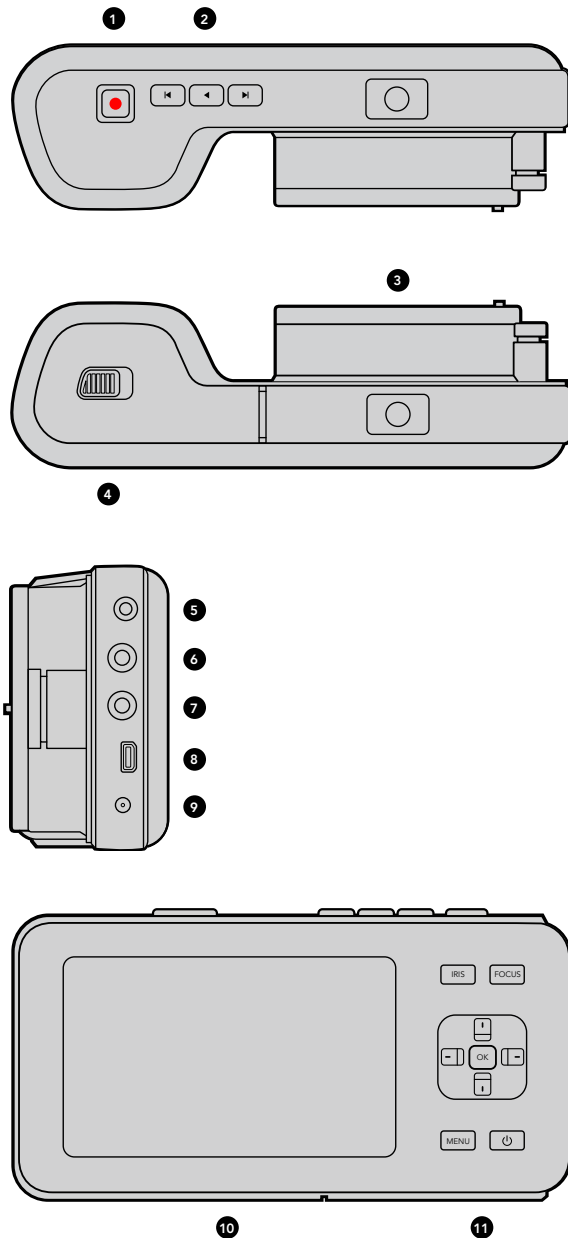
We think this means you get a cinema style shooting experience where you capture and preserve more of the image so you have as many creative options as possible. We have also included large screens on our cameras for easy focus and metadata entry. We hope you connect to our cameras in creative ways and produce some amazing looking images! We are extremely excited to see what creative work you produce!

Grant Petty

Grant Petty
CEO Blackmagic Design

Contents

Blackmagic Cameras

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Introducing Blackmagic Cameras

Blackmagic Pocket Cinema Camera Features

1. RECORD BUTTON

Press this button to record clips to your SD card. See page 9.

2. TRANSPORT CONTROL

Use these buttons to play, skip or shuttle clips. See page 10.

3. LENS MOUNT

Micro Four Thirds lens mount for a wide selection of lenses. See page 6.

4. BATTERY TERMINAL

Open the battery door via the release button to:

- Insert and remove the rechargeable Lithium Ion battery. See page 6.
- Insert a SDHC or SDXC card for recording. See page 8.
- Access the USB Mini-B port for software configuration and updates. See page 39.

5. LANC REMOTE

The 2.5mm stereo jack for LANC remote control supports record start and stop, iris control, and manual focus. See page 15.

6. HEADPHONES

3.5 mm stereo headphone jack connection. See page 15.

7. AUDIO IN

3.5mm stereo jack for mic or line level audio. See pages 15 and 19.

8. HDMI OUT

Micro HDMI port for monitoring or outputting video to a switcher. See page 15.

9. POWER

0.7mm 12 – 20V DC input for power and battery charging. See page 15.
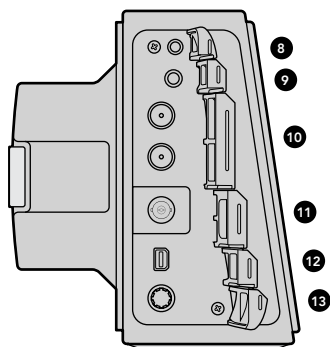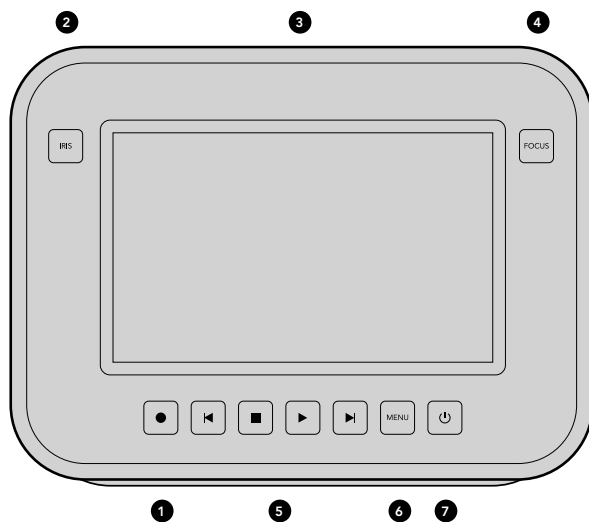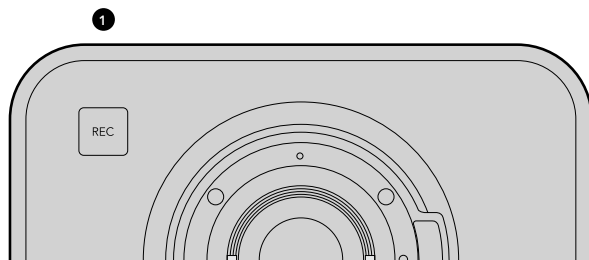
10. LCD

Watch the LCD while recording or playing back a clip. See page 25.

11. CONTROL BUTTONS

Use these buttons for power, menu navigation, iris control, focus peaking, auto focus and LCD zoom. See page 17.

Blackmagic Cinema Camera and Production Camera 4K Features

1. RECORD BUTTON

Record clips to your SSD. See page 9.

2. IRIS BUTTON

The Iris button activates electronic iris control on the EF Cinema Camera and the Production Camera 4K. Adjust the aperture of your lens by pressing the forward and reverse skip/shuttle playback buttons. See page 10.

3. TOUCHSCREEN LCD

Watch the LCD monitor while recording or playing back a clip, or when using the menu. See page 26.

4. FOCUS BUTTON

Press the Focus button for focus peaking on the LCD. See page 24.

5. TRANSPORT CONTROLS

Press these buttons to stop, skip/shuttle, or play your clips. See page 10.

6. MENU BUTTON

Access the menu on the LCD. See page 17.

7. POWER BUTTON

Press the power button to turn on the Blackmagic Cinema camera. Press and hold the button to turn the camera off. See page 7.

8. LANC REMOTE

The 2.5mm stereo jack for LANC remote control supports record start and stop, iris control and manual focus. See page 16.

9. HEADPHONES

3.5 mm stereo headphone jack connection. See page 16.

10. AUDIO IN

2 x 1/4 inch balanced TRS phono jacks for mic or line level audio. See pages 16 and 19.

11. SDI OUT

SDI output for connecting to a switcher or to DaVinci Resolve via capture device for live grading. See pages 16 and 33.
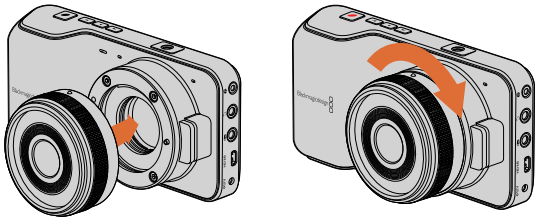
12. THUNDERBOLT CONNECTION

Use the Thunderbolt connection for UltraScope waveform monitoring and streaming HD video to a Thunderbolt compatible computer. See pages 16 and 27.
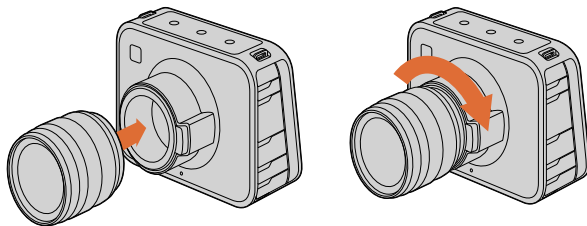
13. POWER

12 – 30V DC input for power supply and battery charging. See pages 7 and 16.
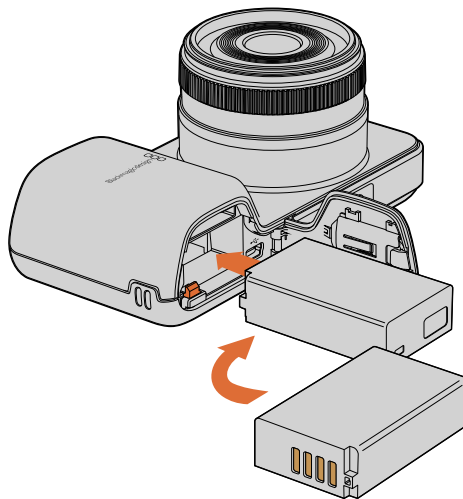
Getting Started

Attaching and removing a lens on Pocket Cinema Camera

Attaching and removing a lens on Cinema Camera and Production Camera 4K

Inserting the battery into Pocket Cinema Camera

Attaching a Lens

Getting started with your Blackmagic Camera is as simple as attaching a lens and turning the camera on. To remove the protective dust cap from the lens mount, hold down the locking button and rotate the cap counterclockwise until it is released. We recommended you always turn off your Blackmagic Camera prior to attaching or removing a lens.

To attach a lens:

Step 1. Align the dot on your lens with the dot on the camera mount. Many lenses have either a blue, red or white dot or some other indicator.

Step 2. Twist the lens clockwise until it locks into place.

Step 3. To remove the lens, hold down the locking button, rotate the lens counterclockwise until its dot or indicator reaches the 12 o'clock position and gently remove.

When no lens is attached to the camera, the sensor is exposed to dust and other debris so you'll want to keep the dustcap on whenever possible.

Turning Your Camera On

Pocket Cinema Camera

Before you can operate Pocket Cinema Camera, you need to insert the battery.

Step 1. On the under side of the camera, push the door release towards the lens to access the battery terminal.

Step 2. With the gold contacts facing into the terminal and the white arrow facing the lens, hook the lip of the battery under the orange tab and insert the battery until you feel it press into place. Push the orange tab to release the battery.

Step 3. Close the door to the battery terminal and slide the door release to the right to lock it.

Step 4. Press the power button on the bottom right of the back panel. The status strip will appear along the bottom of the LCD.

Step 5. Press and hold the power button to switch off the camera.

Congratulations! You are now ready to insert an SD card and start recording!
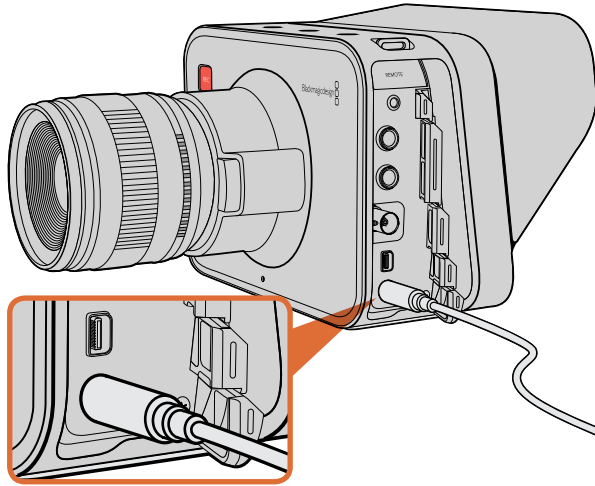
Use the supplied DC adapter to charge the internal battery and power the camera.
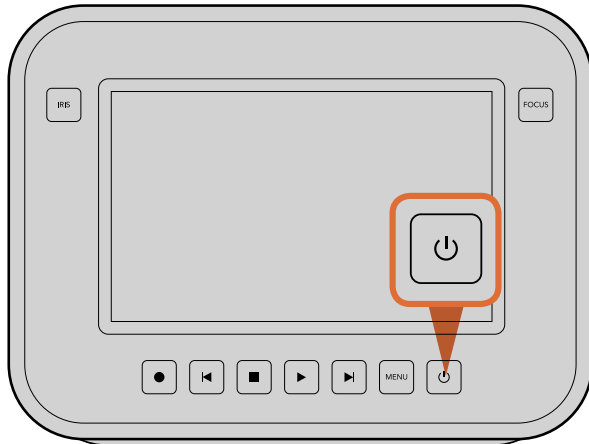
Press and hold the power button to turn the camera on or off.

Cinema Camera & Production Camera 4K

Cinema Camera and Production Camera 4K have internal batteries that can be charged using the supplied DC adapter. The camera can be charged and operated while connected via DC power and will switch between power sources without any interruption.

You can also charge the camera via a powered USB connection, however it takes longer to charge so we recommend using the DC adapter when possible.

Step 1. Press the power button below the touchscreen. The status strip will appear along the bottom of the LCD.

Step 2. Press and hold the power button to switch off the camera.

Congratulations! You are now ready to insert an SSD and start recording!

Inserting a SD card into the Pocket Cinema Camera

Inserting a SD Card

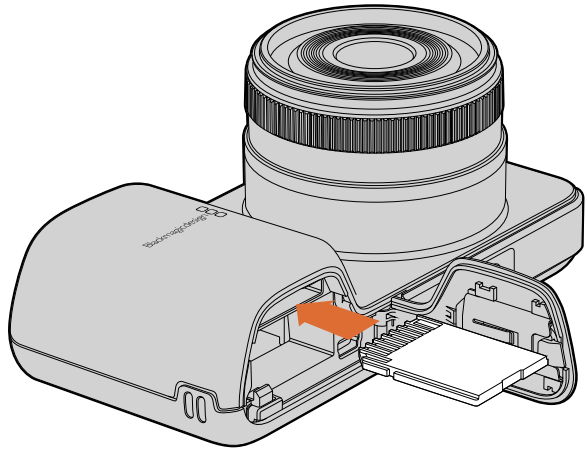You can insert a SDXC or SDHC card into Blackmagic Pocket Cinema Camera:

Step 1. On the under side of the camera, push the door release towards the lens to access the battery terminal.

Step 2. With the gold contacts on the SD card facing towards the lens, insert the SD card until you feel it lock into place. Push on the SD card to release it.

Step 3. Close the door to the battery terminal and slide the door release to the right to lock it.

Step 4. Power on the camera. The status strip will display a moving dot while the camera checks the SD card and then it will say READY.

The supplied SD card is for software installation only and not suitable for video recording. You'll find a list of recommended SD cards on page 14.
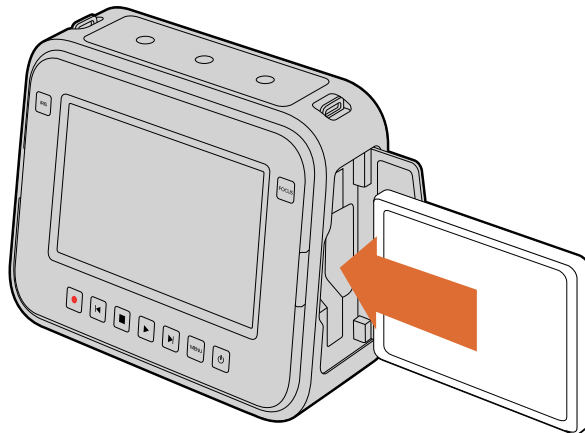
Inserting a SSD into the Cinema Camera and the Production Camera 4K

Inserting a SSD

You can insert a 2.5" 9.5 mm SSD formatted in either the HFS+ or exFAT file systems into Cinema Camera and Production Camera 4K:

Step 1. Open the SSD door on the right hand side of the camera.

Step 2. With the gold SATA contacts facing towards the camera door, insert the SSD until you feel it press into place. Close the SSD door.

Step 3. Power on the camera. The status strip will display a moving dot while the camera checks the SSD and then it will say READY.

You'll find a list of recommended SSDs on page 11.
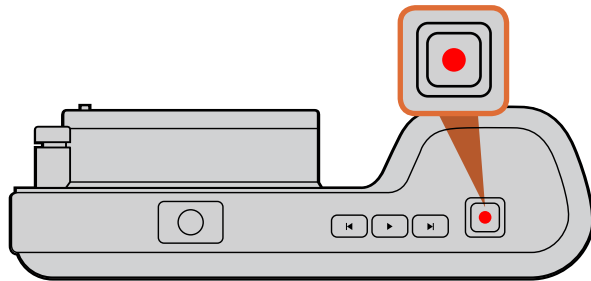
Press the REC button on the top of Pocket Cinema Camera
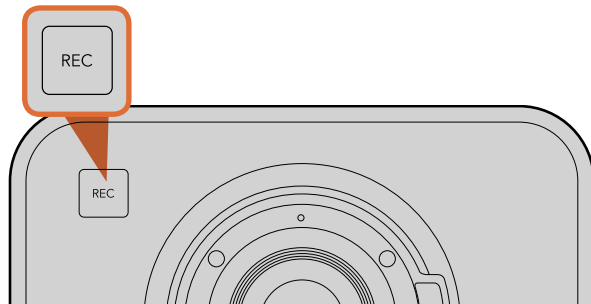
Press the REC button on the front face

or

on the transport control on the back of Cinema Camera and Production Camera 4K.
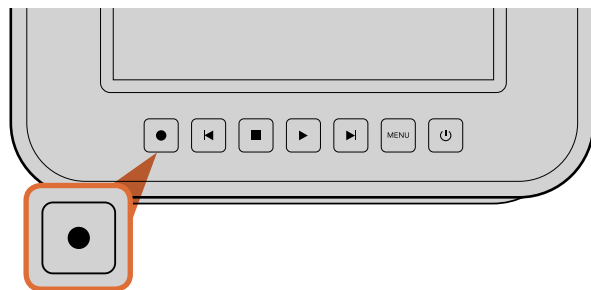
Recording

Press the REC button on your camera to begin recording immediately. Press REC again to stop recording.

Choosing the Recording Format

Blackmagic cameras record to several different formats, depending on which model you are using. You may decide to experiment to see which format best suits your workflow.

Blackmagic Pocket Cinema Camera	Blackmagic Cinema Camera	Blackmagic Production Camera 4K
Apple ProRes 422 (HQ)	Apple ProRes 422 (HQ)	Apple ProRes 422 (HQ)
Lossless compressed CinemaDNG RAW	CinemaDNG RAW 2.5K	Visually lossless compressed CinemaDNG RAW
	Avid DNxHD	

On Blackmagic Pocket Cinema Camera you can choose to record to Apple ProRes 422 (HQ) or lossless compressed CinemaDNG RAW video formats.

On Blackmagic Cinema Camera you can record in Apple ProRes 422 (HQ), CinemaDNG RAW 2.5K, or Avid DNxHD video formats.

On Blackmagic Production Camera 4K you can record Ultra HD 4K in visually lossless compressed CinemaDNG RAW or Apple ProRes 422 (HQ) video formats.

To select the desired video format:

Step 1.   Press the MENU button.

Step 2.   Select the REC menu and use the selection arrows to set the desired recording format.

Step 3.   Press the MENU button to exit.

Your camera is now ready to record in the video format you have selected. The current recording format is shown on the left of the status strip on the LCD.
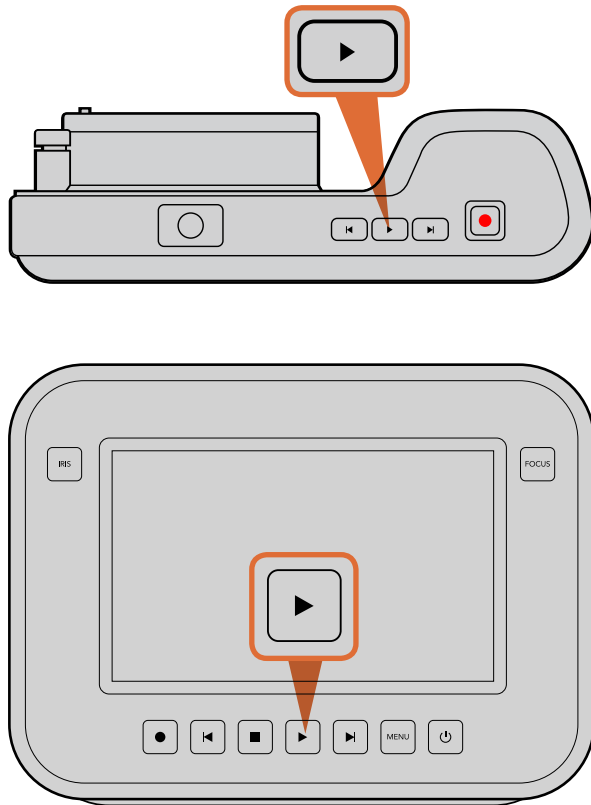
To immediately view your recorded clip on a Blackmagic Camera simply press the Play button on the transport controls.

Blackmagic Cameras Supported Video Formats

Blackmagic Pocket Cinema Camera	Blackmagic Cinema Camera	Blackmagic Production Camera 4K
1920 x 1080p23.98	1920 x 1080p23.98	3840 x 2160p23.98
1920 x 1080p24	1920 x 1080p24	3840x2160p24
1920 x 1080p25	1920 x 1080p25	3840 x 2160p25
1920 x 1080p29.97	1920 x 1080p29.97	3840 x 2160p29.97
1920 x 1080p30	1920 x 1080p30	3840 x 2160p30
	1920 x 1080i50 output	1920 x 1080p23.98
	1920 x 1080i59.94 output	1920 x 1080p24
		1920 x 1080p25
		1920 x 1080p29.97
		1920 x 1080p30
		1920 x 1080i50 output
		1920 x 1080i59.94 output

Playing Back Clips

Once you have recorded your video, you can use the transport control buttons on the camera to play back your video on the LCD.

Press the play button once for instant playback and you'll see your video on the LCD and on any display connected to the HDMI or SDI output. Hold down the forward or reverse buttons to fast forward or reverse through the clip. Playback will finish when the end of the current clip is reached.

The controls of your camera work just like a CD player, so pressing the forward button will skip to the start of the next clip. Press the reverse button once to go to the start of the current clip or press twice to skip back to the start of the previous clip.

Intel 335 Series 240GB SSD

Sandisk Extreme 480GB SSD

Kingston HyperX 240GB SSD

Choosing a Fast SSD

When working with high data rate video it's important to carefully check the SSD you would like to use. This is because some SSDs 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 recording.

In our testing, we have found larger newer models of SSD and larger capacity SSDs are generally faster. SSDs recommended for 2.5K CinemaDNG RAW and ProRes Ultra HD 4K video recording include:

- Digistor – 128GB SSD Professional Video Extreme
- Digistor – 240GB SSD Professional Video Series
- Digistor – 480GB SSD Professional Video Series
- Intel 335 Series 240GB SSD
- Intel 520 Series 240GB SSD
- Intel 520 Series 480GB SSD
- Kingston 120GB SSDNow V+200
- Kingston 240GB SSDNow V+200
- Kingston HyperX 240GB
- OCZ 240GB Deneva 2 (firmware 2.22)
- OCZ 240GB Vertex 3
- OCZ 480GB Vertex 3
- OWC Mercury Extreme Pro 6G SSD
- PNY 240GB Prevail SSD (firmware 5.0.2)
- Sandisk Extreme 480GB.

Please check the tech notes on the Blackmagic Design website for the latest information.

If you find an SSD that isn't fast enough for 2.5K CinemaDNG RAW or Ultra HD 4K, try a faster SSD or switch to a compressed HD recording format such as ProRes or DNxHD. These recording formats have a lower data rate and are easier for the SSD to handle.
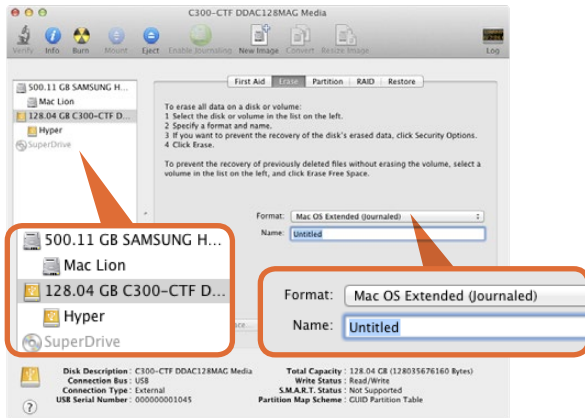
Use Disk Utility on Mac OS X to erase your SSD in the Mac OS Extended (Journaled) or exFAT format.

Use the Format dialog box feature in Windows to format your SSD in the exFAT format.

Preparing SSDs for Recording

SSDs used by Cinema Camera and Production Camera 4K must be formatted as either HFS+ or exFAT. These disk formats allow long clips to be recorded in single files.

HFS+ is also known as Mac OS Extended. It is the recommended format as it supports "journaling". In the event of a hardware or software malfunction, data on a journaled SSD is more quickly recovered and less likely to be corrupted in the first place. HFS+ is natively supported by Mac OS X.
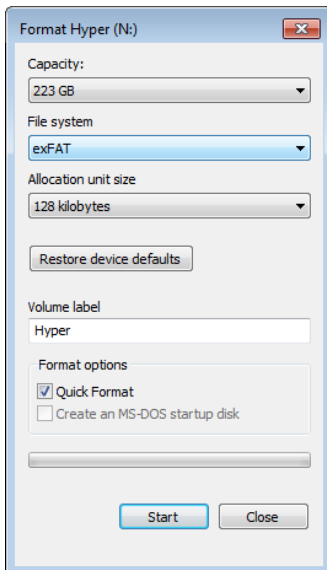
ExFAT is supported natively by Mac OS X and Windows without needing to purchase any additional software. However exFAT does not support journaling which means data is more prone to corruption, and less likely to be recovered in the event of a hardware or software malfunction.

Preparing SSDs on a Mac OS X computer

The Disk Utility application included with Mac OS X can format a drive in the HFS+ or exFAT formats. Make sure you back up anything important from your SSD as you will lose everything on it when it is formatted.

Step 1. Connect the SSD to your computer with an external dock or cable adapter and dismiss any message offering to use your SSD for Time Machine backups.

Step 2. Go to Applications/Utilities and launch Disk Utility.

Step 3. Click on the disk icon of your SSD and then click the Erase tab.

Step 4. Set the Format to "Mac OS Extended (Journaled)" or "exFAT".

Step 5. Type a Name for the new volume and then click Erase. Your SSD will quickly be formatted and made ready for use.

Preparing SSDs on a Windows computer

The Format dialog box can format a drive in the exFAT format on a Windows PC. Make sure you back up anything important from your SSD as you will lose everything on it when it is formatted.

Step 1. Connect the SSD to your computer.

Step 2. Open the Start Menu or Start Screen and choose Computer. Right-click on your SSD.

Step 3. From the contextual menu, choose Format.

Step 4. Set the file system to "exFAT" and the allocation unit size to 128 kilobytes.

Step 5. Type a volume label, select "Quick Format" and click "Start".

Step 6. Your SSD will quickly be formatted and made ready for use.

Use Disk Speed Test to find out the performance of your media drives.

Disk Speed Test interface.

Checking Disk Speed

Blackmagic Disk Speed Test is a fun to use application that measures the read and write performance of storage media in video formats.

If you have ever wondered whether your hard drive is suitable for playback ("read") of a particular video format, you can use Disk Speed Test to find out the performance of your media drives with a single click of the Start button! Disk Speed Test will even show you how many streams of video your storage is capable of handling!

Disk Speed Test is included free in the Blackmagic Camera Software Utility supplied with your Blackmagic Cinema Camera and Production Camera 4K. The Blackmagic Camera Software Utility can also be downloaded from our website free of charge.

Preparing SD Cards for Recording

SD cards used by Pocket Cinema Camera must be formatted as HFS+ or exFAT. These disk formats allow long clips to be recorded in single files. ExFAT is supported by both Windows and Mac OS X computers.

Preparing SD Cards on a Mac OS X computer

The Disk Utility application included with Mac OS X can format your SD card in the HFS+ or exFAT format. Make sure you back up anything important from your SD card as you will lose everything on it when it is formatted.

Step 1. Plug your SD card into your computer's SD card slot or SD card reader.

Step 2. Go to Applications/Utilities and launch Disk Utility.

Step 3. Click on the disk icon of your SD card and then click the Erase tab.

Step 4. Set the Format to "Mac OS Extended (Journaled)" or "exFAT".

Step 5. Type a Name for the new volume and then click Erase. Your SD card will quickly be formatted and made ready for use.

Preparing SD Cards on a Windows computer

The Format dialog box can format a drive in the exFAT format on a Windows PC.

Step 1. Plug your SD card into your computer's SD card slot or SD card reader.

Step 2. Open the Start Menu or Start Screen and choose Computer. Right-click on your SD card.

Step 3. From the contextual menu, choose Format.

Step 4. Set the file system to "exFAT" and the allocation unit size to 128 kilobytes.

Step 5. Type a volume label, select "Quick Format" and click "Start".

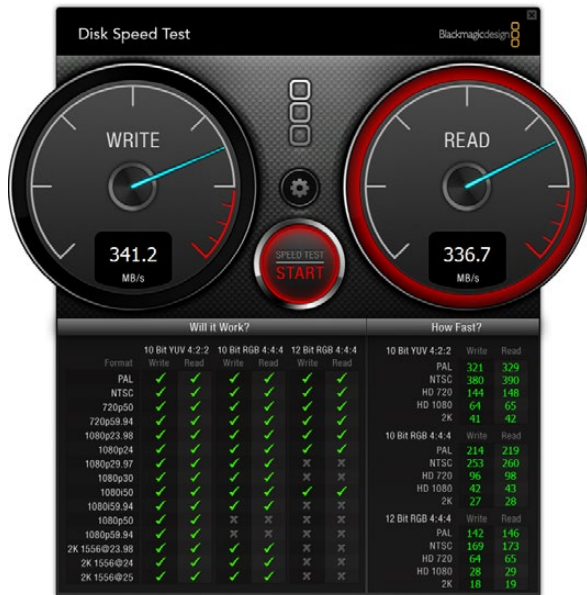**Step 6.** Your SD card will quickly be formatted and made ready for use.

Choosing a Fast SD Card

It's important to use SDHC and SDXC cards with the Blackmagic Pocket Cinema Camera as these cards are rated for fast data speeds and support larger storage sizes.

SDHC and SDXC cards recommended for lossless compressed CinemaDNG RAW and Apple ProRes 422 (HQ) video recording include:

- Sandisk 64GB Extreme
- Sandisk 64GB Extreme Pro
- Sandisk 128GB Extreme

Please check the tech notes on the Blackmagic Design website for the latest information.
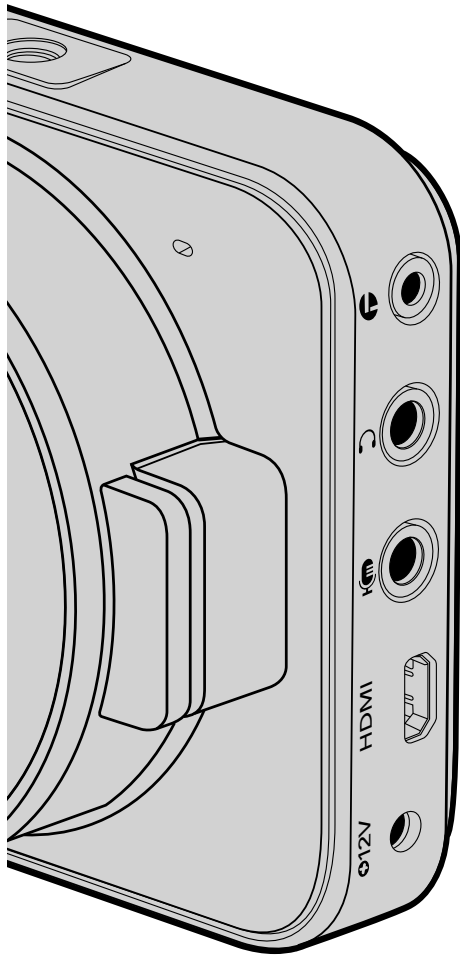
Blackmagic Pocket Cinema Camera

LANC Remote Control

The remote port on your camera can be used to remotely control record starting and stopping, iris adjustments and manual focus adjustments when using a compatible lens.

The port is a 2.5 mm stereo jack which uses the standard LANC protocol.

Headphones

Monitor your audio while recording or playing back clips by plugging your headphones into the 3.5mm stereo headphones jack.

Audio In

The 3.5mm stereo audio connector accepts microphone or line level audio. It's important to select the appropriate seting or your audio may sound too quiet or too loud. The camera will automatically switch to line level if the audio is too loud for a sustained period.

HDMI Out

The micro HDMI port of your Pocket Cinema Camera outputs 10-bit 4:2:2 HD video at 1920 x 1080 while recording. It can be used to output video to routers, monitors, capture devices, broadcast switchers and other HDMI devices.

Power

Use the 0.7mm 12 – 20V DC input for connecting your power supply and to charge the battery.

USB

Use the USB port to connect your Blackmagic Pocket Camera to your computer and update the internal software. The USB port can be found inside the battery compartment.
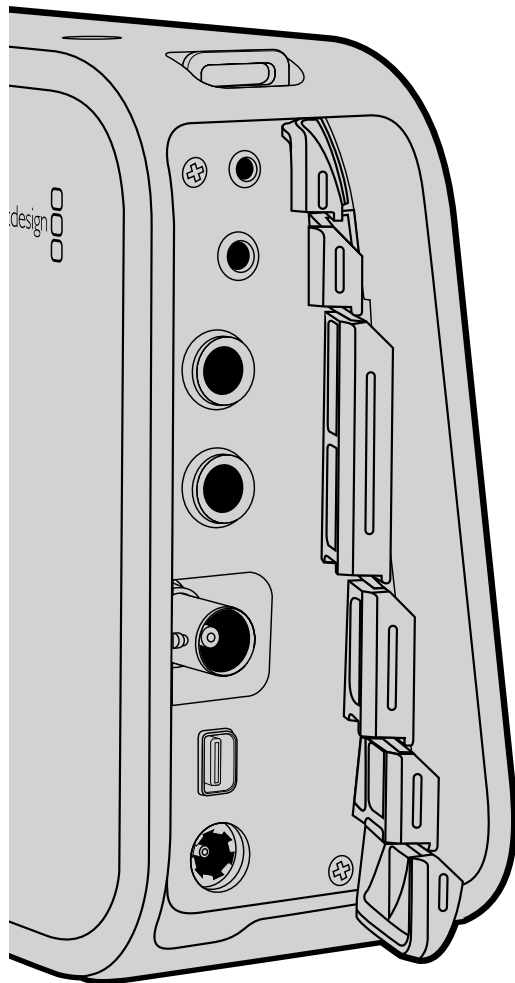
Blackmagic Cinema Camera and Production Camera 4K

LANC Remote Control

The remote port on your camera can be used to remotely control record starting and stopping, iris adjustments and manual focus adjustments when using a compatible lens.

The port is a 2.5 mm stereo jack which uses the standard LANC protocol.

Headphones

Monitor your audio while recording or playing back clips by plugging your headphones into the 3.5mm stereo headphones jack.

Audio In

The 1/4 inch TRS Phone audio connectors accept microphone or line level audio. It's important to select the appropriate setting or your audio may sound too quiet or too loud. The camera will automatically switch to line level if the audio is too loud for a sustained period.

SDI Out

Blackmagic Cinema Camera supports 3G-SDI so it can be used to output uncompressed 10-bit 4:2:2 video to routers, monitors, SDI capture devices, broadcast switchers and any other SDI devices.

Production Camera 4K supports 6G-SDI, so it can be used to connect to any SDI monitor as well as 4K switchers such as ATEM Production Studio 4K.

Thunderbolt

When connected to a Mac OS X or Windows computer with Thunderbolt technology, your Cinema Camera or Production Camera 4K can be used as a powerful solution for waveform monitoring and color correction. Regardless of which recording format you choose on the camera, the Thunderbolt port always outputs HD1080p video in the uncompressed 10-bit format, which is compatible with a wide range of popular video software.

Power

Use the 12 – 30V DC input for connecting your power supply and to charge the internal battery.
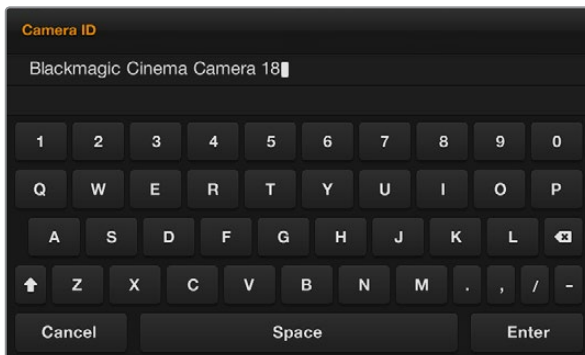
USB

Use the USB port to connect your Blackmagic Cinema Camera or Production Camera 4K to your computer and update the internal software. Open the SSD door to access the USB port.

The Camera Settings screen

You can change the camera ID with the onscreen keyboard

Camera Settings

To configure settings on your Blackmagic camera, press the MENU button.

Pocket Cinema Camera

Use the up and down buttons to highlight each settings menu. Press OK to enter a settings menu. Use the left and right directional arrows to adjust values and the up and down arrows to move between settings. Press Menu again to return to selecting between main settings pages. Press Menu again to exit.

Cinema Camera & Production Camera 4K

Tap or slide the relevant arrows and icons on the touchscreen to change values or switch between settings menus.

Camera ID

If you're using more than one Blackmagic Camera, it can be helpful to set a camera ID which will be included with any metadata recorded with your clips. You can change the camera ID with the onscreen keyboard. When you have finished entering a new camera ID, select the Enter button to save the new camera ID or select Cancel to discard any changes.

Setting Date and Time

To set date and time on your Pocket Cinema Camera, select the + or - buttons to change the year, month and day settings.

Time is set to 24 hour format on Blackmagic Cameras. To set the time, select the + and - keys to make adjustments to the time. If you are traveling with your Blackmagic Camera, you will need to manually change the date and time to local time zones.

If you have your Blackmagic Camera stored for a length of time, the clock may become inaccurate. It is always a good idea to check the time and date prior to recording. If you connect the camera via USB to your computer and run the Blackmagic Camera Utility, the camera time will also be synced with your computer's time.

The Camera Settings screen

ISO

ISO settings are helpful when you are shooting in a variety of light conditions. The optimum ISO setting for the Pocket Cinema Camera and Cinema Camera is 800ASA. For Production Camera 4K choose the lowest ISO for the available lighting conditions.

Depending on your situation, however, you may choose a lower or higher ISO setting. For example, in low light conditions 1600ASA would be suitable but may introduce some visible noise. In bright conditions 400ASA would be best to record richer colors.

Adjust the ISO settings using the arrow icons in the menu.

White Balance

Your Blackmagic Camera includes 6 white balance presets for a variety of color temperature conditions. These are:

- 3200K for tungsten light
- 4500K for fluorescent light
- 5000K, 5600K, 6500K and 7500K for a variety of daylight conditions such as time of day

Adjust the White Balance settings using the arrow icons in the menu.

Shutter Angle

Shutter angle compliments the ISO setting by regulating the amount of light on the sensor. 360 degrees is considered wide open and will retain a significant amount of motion blur. This would be best for low light conditions as it allows the maximum light onto the sensor. However, it is best suited to low action sequences as motion blur will be obvious otherwise.

While 180 degrees is commonly regarded as a normal shutter angle, you may need to use a Shutter Angle of 172.8 degrees to minimize flickering lights when shooting 24p in countries with 50 hertz power supplies. You can use any shutter angle to shoot 24p in countries with 60 hertz power supplies and most people will choose 180 degrees for a normal look.

Adjust the Shutter Angle settings using the arrow icons in the menu.
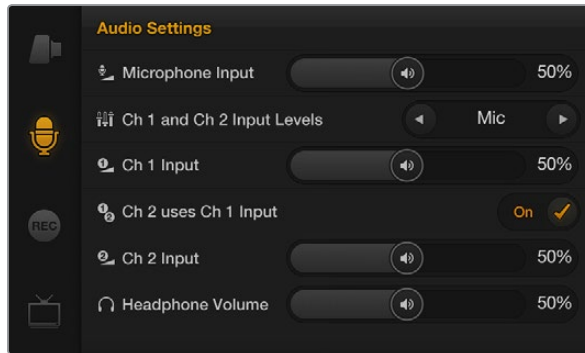
The Audio Settings screen

🎤 Audio Settings

To adjust audio input and audio monitoring settings on your Blackmagic Camera, press the MENU button and select the microphone icon to the left of the display.

Microphone Input

Microphone input adjusts the recording levels of the built in microphone. Move the audio slider left or right to increase or decrease levels. Pocket Cinema Camera has an external stereo microphone and Cinema Camera and Production Camera 4K have external mono microphones. The external microphones record to audio channels 1 and 2 when no external audio source is connected.

Channel 1 and 2 Input Levels

External audio connectors accept audio at microphone level or line level. It's important to select Mic or Line level audio as appropriate to avoid your external audio sounding almost inaudible or too hot and distorted.

Set the external audio input levels by using the left and right arrows. To prevent damage, the camera will automatically switch to line level input if the input levels are over the limit for a sustained period of time.

Channel 1 Input Level

Move the audio slider icon left or right to increase or decrease levels for channel 1. The external audio input overrides the built in microphone and is recorded to audio channel 1.

Channel 2 uses Channel 1 Input

Select On if you only have channel 1 input and want to record the same external audio to channels 1 and 2. You can leave this set to Off if you only want to record one channel of audio.

Channel 2 Input Level

Move the audio slider icon left or right to increase or decrease levels for channel 2. The external audio input overrides the built in microphone and is recorded to audio channel 2.

Headphone and Speaker Volume

When headphones are connected, a headphone icon will be displayed. When no headphones are detected, a speaker icon will be displayed. Headphones will always be active when recording or playing back, however speakers will only work when playing back. Move the volume slider left or right to increase or decrease audio monitoring levels.
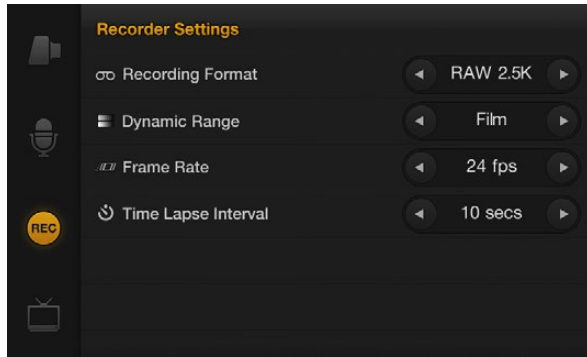
The Recorder Settings screen

Recorder Settings

The recorder settings are used to set the video format recorded to your SD card or SSD. Press the MENU button and touch the REC icon to access the recorder settings menu.

Recording Format

Pocket Cinema Camera

Touch the left and right arrow buttons to switch between Apple ProRes 422 (HQ) or lossless compressed CinemaDNG RAW recording formats.

Cinema Camera

Touch the arrow icons to switch between CinemaDNG RAW 2.5K, Apple ProRes 422 (HQ) or Avid DNxHD recording formats.

Production Camera 4K

Touch the arrow icons to switch between HD or Ultra HD 4K Apple ProRes 422 (HQ) or visually lossless compressed CinemaDNG RAW recording formats.

Dynamic Range

Blackmagic Cameras have two dynamic range settings:

Film

The film setting shoots video using a log curve and gives you 13 stops of dynamic range on both Pocket Cinema Camera and Cinema Camera, or 12 stops on Production Camera 4K. The Film dynamic range setting maximises the information in your video signal to help you get the most out of color grading software, such as DaVinci Resolve. When recording in CinemaDNG RAW formats, only the Film dynamic range setting will be available.

Video

The video setting uses the REC709 standard for high definition video. This lets you work faster by recording directly to the compressed video formats your camera supports, which are compatible with popular post production software.

Adjust the dynamic range settings using the arrow icons in the menu.
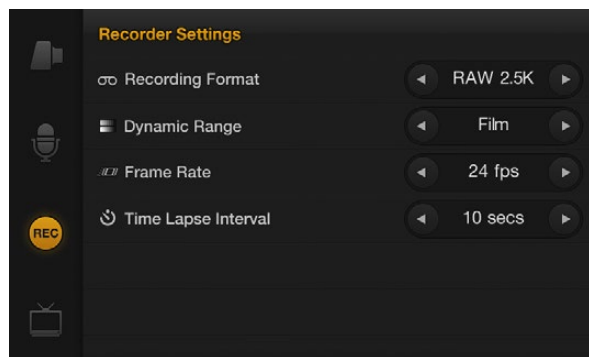
The Recorder Settings screen

Frame Rate

Your Blackmagic Camera has five different frame rate settings for shooting common film and video frame rates: 23.98 fps, 24 fps, 25 fps, 29.97 fps, 30 fps.

Adjust the frame rate setting using the arrow icons in the menu.

Time Lapse Interval

This setting allows you to record a still frame at the following intervals:

Frames: 2 - 10

Seconds: 1 - 10, 20, 30, 40, 50

Minutes: 1 - 10

For example, you can set the camera to record a still frame every 10 frames, 5 seconds, 30 seconds, 5 minutes etc.

The Time Lapse feature offers many creative options. For example, if the Time Lapse interval is set to record a frame at 2 frame intervals, this will give your recorded video a high speed effect when played back.

The format of each still frame is based on your recording format, so if you set the camera to record in ProRes, the Time Lapse setting will maintain this format. The frame rate will be based on the video frame rate you have set the camera to, i.e., 24fps, so your time lapse footage can be incorporated into your workflow easily.

When the REC button is pressed in Time Lapse mode, a "TIME LAPSE" message will replace the timecode in the status strip and on the SDI or HDMI output for 2 seconds before reverting back to the normal timecode display. The timecode counter will only change when a frame of video is recorded, meaning the rate of timecode increments depends on the Time Lapse interval setting.

Use the arrow icons to choose a Time Lapse interval or leave it set to Off if you do not want to use the Time Lapse feature.

File Naming Convention

Pocket Cinema Camera

Pocket Cinema Camera uses the following file naming convention when recording video.

[Camera ID]_[Reel Number]_[yyyy-mm--dd]_[hhmm]_C[Clip number].mov

The table below shows an example of how this would appear on the LCD:

BMC01_1_2012-08-08_1631_C0002.mov	QuickTime Movie Filename
BMC01_1_2012-08-08_1631_C0002.mov	Camera ID
BMC01_**1**_2012-08-08_1631_C0002.mov	Reel Number
BMC01_1_**2012-08-08**_1631_C0002.mov	Date (2012 Aug 08)
BMC01_1_2012-08-08_**1631**_C0002.mov	Time (16:31pm - 24hrs)
BMC01_1_2012-08-08_1631_**C0002**.mov	Clip Number

For CinemaDNG files, the folder of the image sequence will also be named the same way.

Blackmagic Cinema Camera and Production Camera 4K

Clips are recorded to your SSDs in the CinemaDNG RAW format or to a ProRes or DNxHD QuickTime movie, depending upon which recording format you have chosen. Blackmagic Cinema Camera and Production Camera 4K use the following file naming convention when recording video.
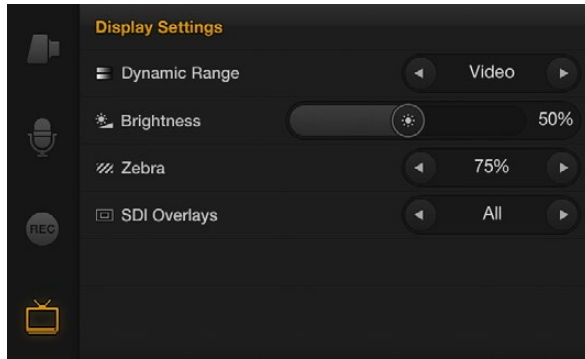
[Camera ID]_[Reel Number]_[yyyy-mm--dd]_[hhmm]_C[Clip number].mov

The table below shows an example of how this would appear on the camera's touchscreen:

BMC01_1_2012-08-08_1631_C0002.mov	QuickTime Movie Filename
BMC01_1_2012-08-08_1631_C0002.mov	Camera ID
BMC01_**1**_2012-08-08_1631_C0002.mov	Reel Number
BMC01_1_**2012-08-08**_1631_C0002.mov	Date (2012 Aug 08)
BMC01_1_2012-08-08_**1631**_C0002.mov	Time (16:31pm - 24hrs)
BMC01_1_2012-08-08_1631_**C0002**.mov	Clip Number

For CinemaDNG files, the folder of the image sequence will also be named the same way.

Display Settings screen on Cinema Camera and
Production Camera 4K

SDI/HDMI Overlays set to display on an external monitor

Display settings

To adjust the display settings for the LCD, press the MENU button and select the television icon.

Dynamic Range

The LCD allows you to view your video as you are recording. You can set the dynamic range of the LCD by selecting Video or Film.

The dynamic range setting of the LCD is independent to the dynamic range set in the recorder settings. Some people prefer to monitor video with the LCD set to Video even when the recording format is set to Film.

Adjust the dynamic range setting of the LCD using the arrow icons in the menu.

Brightness

Move the slider icon left or right to adjust brightness settings for the LCD.

Zebra

Blackmagic Cameras have a zebra feature which gives an indication of exposure levels. Diagonal lines will appear across any part of the video that exceeds the zebra exposure level.

Turn zebra on and select the desired zebra warning level by using the left and right arrows.

SDI/HDMI Overlays

You can monitor your video on an external display using the HDMI port on Pocket Cinema Camera, or the SDI port on Cinema Camera and Production Camera 4K.

The SDI or HDMI Overlays setting lets you display useful information on your monitor. Use the arrow icons to select which overlays to display on your SDI or HDMI feed.

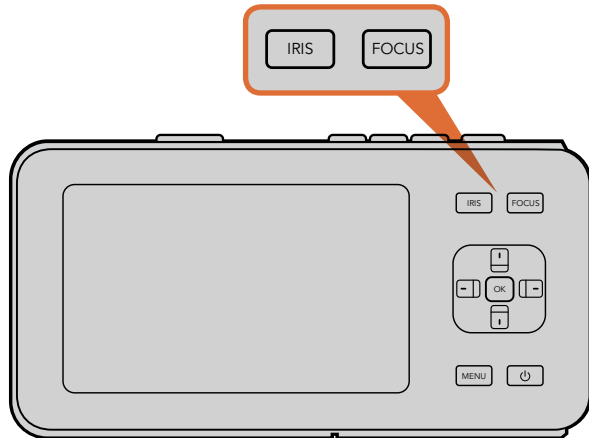**All:** displays both frame guides and recording information.

Status: displays only the recording information, such as f-stop number, frame rate, battery life etc.

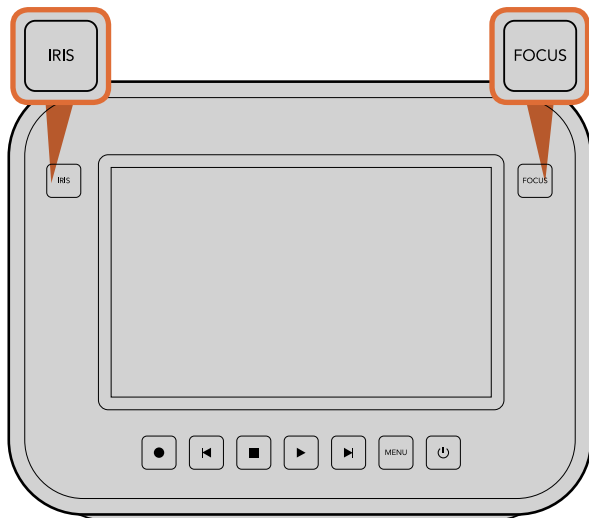**Guides:** displays only the frame guides.

Off: gives you a clean feed.

On Pocket Cinema Camera, press the IRIS button, then use the up and down directional buttons to adjust aperture control. Press the FOCUS button for focus peaking.

On Cinema Camera and Production Camera 4K, press the IRIS button, then use the transport controls to adjust aperture control. Press the FOCUS button for focus peaking.

Adjusting Settings

Blackmagic Pocket Cinema Camera, Cinema Camera EF and Production Camera 4K support electronic lens control, which allows you to adjust lens controls from the camera such as aperture and autofocus. Cinema Camera MFT has a passive lens mount if you want to use manual lenses without electronic control. The focus peaking feature creates a yellow edge around the sharpest parts of the image so you can easily confirm your focus. Focus peaking is only visible on the LCD and does not affect your recorded picture.

Iris Button

When using Video dynamic range settings, a single press of the Iris button will set an average exposure based on the highlights and shadows in your shot. When using Film dynamic range settings, pressing the IRIS button sets your exposure to the brightest highlight in your shot.

To set your aperture manually on Pocket Cinema Camera press the up and down directional buttons on the back panel.

To set your aperture manually on Cinema Camera and Production Camera 4K press the forward and reverse buttons on the transport controls.

Focus Button on Pocket Cinema Camera

When using Pocket Cinema Camera with an autofocus lens press the FOCUS button for focus peaking or autofocus. Press the FOCUS button once to auto focus. Press the FOCUS button twice for focus peaking.

When using a manual lens, press the FOCUS button once for focus peaking.

Focus Button on Cinema Camera and Production Camera 4K

When using Blackmagic Cinema Camera or Production Camera 4K, press the FOCUS button for focus peaking.

Focus Zoom

When using Pocket Cinema Camera, press OK twice to zoom in for adjusting focus at the 1:1 pixel scale. Press OK twice again to zoom out.

On Cinema Camera and Production Camera 4K, double tap the touchscreen display to zoom into the image for adjusting focus at the 1:1 pixel scale. Double tap the display again to zoom out.

Image Stabilizer

Pocket Cinema Camera, Cinema Camera EF and Production Camera 4K support the image stabilizer (IS) feature found in many active lenses. Simply set the Stabilizer switch to ON to use it with your camera. If your lens also features a Stabilizer Mode switch, set it to the appropriate mode for still shots or for movement.

When using battery power, the camera will only activate the image stabilizer while recording, as the lens draws additional power from the camera to operate the image stabilizer. When external power is connected to the camera, the image stabilizer will be active any time you set the lens' stabilizer switch to ON.

Status Strip

Your chosen settings are always displayed on a status strip, which runs the length of the LCD, showing a convenient summary of the camera's current settings.

RAW 2.5K   f5.6   24fps   No SSD 00:00:00:00   800ASA   180°   5600K ▭ 100%
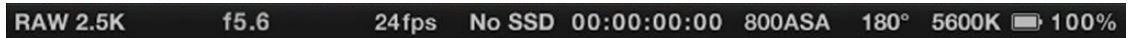
Battery Life Indicator

When the remaining charge drops below 25% capacity, the status strip will show the battery status in red to warn you that battery life is running low.

SD/SSD Activity Icons

The status strip displays important information showing the state of the inserted media.

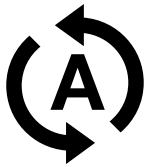|	
Moving Dots	When you see the moving dots, the camera is checking and preparing the media.
No SD/SSD	This means no media is detected or present in the camera.
Ready	Ready to Record.
Rec	Recording.
Rec flashing	Dropped Frames were detected.
Disk Full	Flashes when SD card or SSD is almost full.
Playback mode	Shows play, fast forward and reverse icons.
Time	During capture, this shows the duration of the current shot. When playing back clips from an SD card or SSD, this shows the time of the clip.

RAW 2.5K   f5.6   24fps   No SSD 00:00:00:00 800ASA   180° 5600K ▭ 100%

1   2   3   4   5   6   7   8   9

1. Recording Format
2. F-Stop
3. Frame Rate
4. SD/SSD Status
5. Timecode

6. ISO Setting
7. Shutter Angle
8. White Balance
9. Battery Life Indicator

The Slate

Select the auto-increment icon if you want the scene, shot or take number to auto-increment.
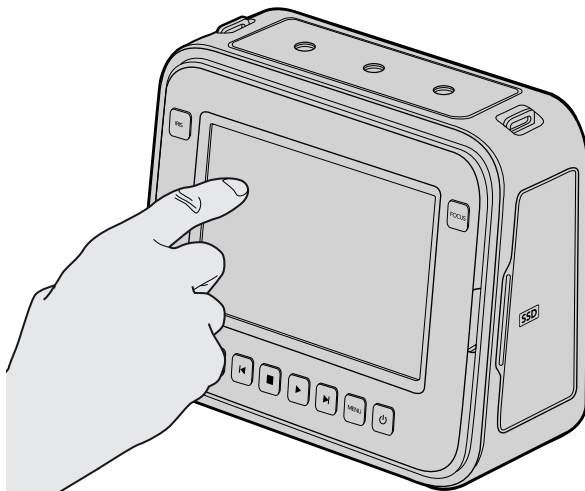
On Cinema Camera and Production Camera 4K you can simply tap the display once with your finger and the slate will appear.

What is the Slate?

The LCD on your Blackmagic camera has many purposes, one of which is to allow you to easily log metadata directly into the camera using the Slate feature. Metadata is stored in the recorded files and is easily accessed by editing software.

Pocket Cinema Camera

Step 1. Press OK once to make the slate appear.

Step 2. Use the directional buttons to select the text that you wish to change and press OK. An onscreen keyboard will appear. Use the directional buttons to select characters on the keyboard and press OK to confirm each character selection.

Step 3. Once you have typed in the desired information, select Save and press OK to return to the metadata screen.

Step 4. If you want the scene, shot or take number to auto-increment, select the corresponding auto-increment icon so it is illuminated and press OK.

Entering words into the Keywords field allows them to be used as search terms in your library database. This may be particularly useful for large projects with lots of material. The use of keywords narrows down the number of clips to search through, saving valuable time when you are editing.

All metadata is compatible with popular software such as Final Cut Pro X and DaVinci Resolve.

Cinema Camera & Production Camera 4K

Step 1. Tap the touchscreen once to make the slate appear.

Step 2. To enter or change details, tap the text you wish to change and an onscreen keyboard will appear. Type in the desired information and press the save button.

Step 3. If you want the scene, shot or take number to auto-increment, tap the corresponding auto-increment icon so it is illuminated. Tap it again if you want to turn off the auto-increment feature.

Entering words into the Keywords field will allow you to use them as search terms in your library database. This may be particularly useful for large projects where you have lots of material. The use of keywords narrows down the number of clips to search through, saving valuable time when you are editing.

All metadata is compatible with popular software such as Final Cut Pro X and DaVinci Resolve.
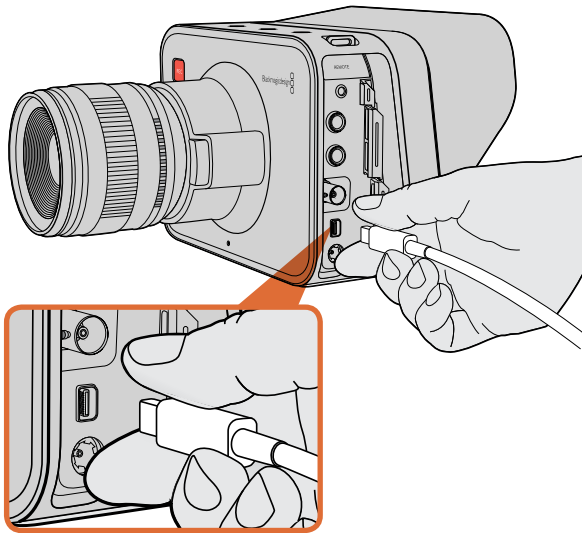
Connect to your computer via the Thunderbolt port of your Cinema Camera or Production Camera 4K.

Waveform Monitoring using Thunderbolt

When connected to a Mac OS X or Windows computer with Thunderbolt technology, your Cinema Camera or Production Camera 4K can be used as a powerful solution for waveform monitoring and color correction. Regardless of which recording format you choose on the camera, the Thunderbolt port always outputs HD1080p video in the uncompressed 10-bit format.

The Blackmagic Camera Utility installs Blackmagic UltraScope software for waveform monitoring of your camera during recording and playback. Blackmagic UltraScope allows you to monitor almost every aspect of the video you record with your Cinema Camera or Production Camera 4K.
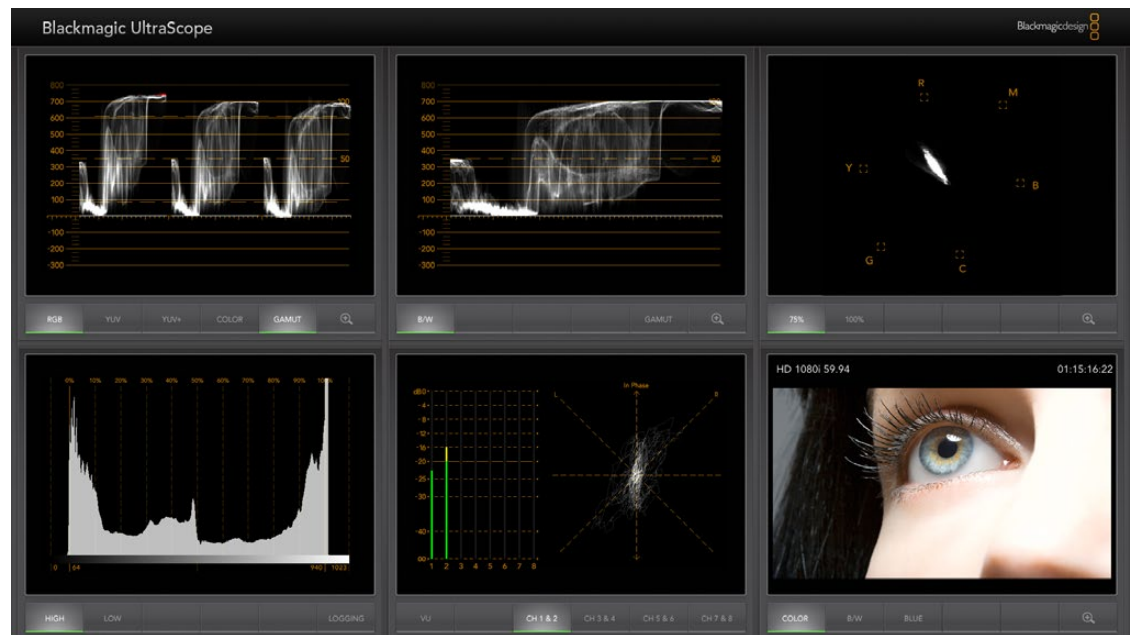
Blackmagic UltraScope software gives you accurate waveform monitoring via Thunderbolt.

Blackmagic UltraScope

Using Blackmagic UltraScope

What is Blackmagic UltraScope?

Blackmagic UltraScope software provides waveform monitoring of the video output from your Cinema Camera or Production Camera 4K. You can plug your camera into any compatible Mac OS X and Windows notebook computer via Thunderbolt technology!

Previously, broadcast quality television and post production scopes were incredibly expensive and bulky solutions that only let you see one scope at a time on a tiny screen! Some scopes look ugly and don't really look good in front of your client. With Blackmagic UltraScope, you get 6 wonderful scopes that let you monitor all aspects of your video signal, which is perfect for checking levels on your camera while shooting. Any adjustments made to the camera can immediately be seen with Blackmagic UltraScope!

Simply connect a Thunderbolt cable from your camera to a Thunderbolt port on your computer and away you go!

Installation Requirements

The Blackmagic UltraScope software interface requires a computer display with a minimum resolution of 1280 x 800 pixels to view two scopes simultaneously. Blackmagic Design recommends viewing all 6 scopes simultaneously by using a computer display resolution of 1920 x 1200 or 1920 x 1080 pixels.

Please see the support pages at www.blackmagicdesign.com for a comprehensive list of the latest minimum system requirements for Blackmagic UltraScope.

Full Screen view

2-Up view

Understanding Blackmagic UltraScope Views

Blackmagic UltraScope has two different views available depending on your workflow needs and screen resolution. You have the choice of viewing six displays in "Full Screen" view, or for more compact viewing, choose any 2 displays in "2-up" view.

The display view can be selected from the `View` menu.

Choose `Full Screen` to enter Full Screen view. If this option is unchecked, 2-up view will be displayed. You can quickly switch between Full Screen view and 2-up view by using the hot key CMD-F on Mac OS X.

In 2-up view, select the desired left and right scopes by opening the `View` menu or by right-clicking anywhere in the UltraScope window. Make your selections from the `Left View` and `Right View` menu options.

If you want the scopes to swap sides, select the left or right view and set it to be the same as the other view. The scopes will swap sides because the 2-up view never displays the same scope in both the left and right views.

Screen Resolution Requirements for Display Views

- Full Screen view: 1920 x 1200 pixels or 1920 x 1080 pixels. If your monitor doesn't support these resolutions, then Full Screen view will not be available.
- 2-up view: minimum resolution of 1280 x 800 pixels.
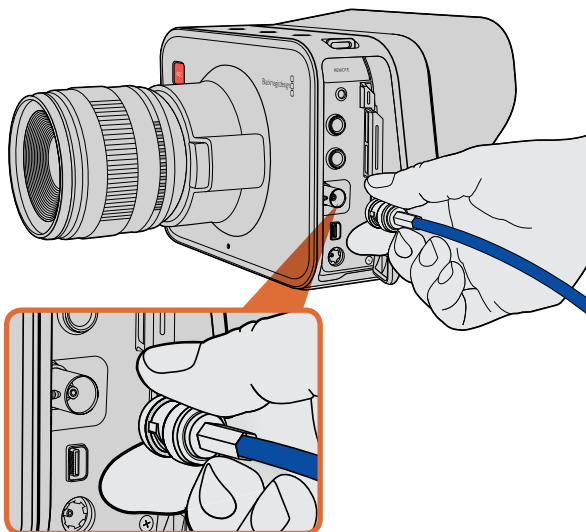
Connect a SDI cable from the BNC port of your Cinema Camera or Production Camera 4K to any SDI device.

Monitoring using SDI

Blackmagic Cinema Camera supports 3G-SDI so it can be used to output uncompressed 10-bit 4:2:2 video to routers, monitors, SDI capture devices, broadcast switchers and other SDI devices.

Production Camera 4K supports 6G-SDI, so it can be used to connect to any SDI monitor as well as 4K switchers such as ATEM Production Studio 4K.

Connecting to Video Switchers

The SDI output allows you to use your camera as a television production camera. You can connect the SDI output directly to production switchers for studio work or to ATEM Camera Converters to convert your signal to optical so you can send it hundreds of meters to a broadcast truck for live production on location.

If you have selected to record in 25 fps or 29.97 fps on the Blackmagic Cinema Camera, and set the SDI overlays to Off, the SDI output will be set to 1080i50 and 1080i59.94 respectively. This allows you to work with most switchers, which only support interlaced high definition formats.

Connecting to Monitors

Although you can use the camera's LCD to monitor your image, SDI monitoring can be really handy if the camera is mounted in a way where accessing the LCD is tricky or impractical, such as secured high up for a bird's eye view shot, on a car mount or crane.

The SDI Overlays setting in the Display Settings menu lets you display useful information for monitoring, such as frame guides, recording information and camera settings on your SDI feed.

Connect the SDI output to SDI monitors for full 10-bit uncompressed monitoring. You can also connect to Blackmagic SmartScope Duo for live waveform monitoring.

Alternatively, you may simply want a clean SDI feed so you can just focus on getting the best cinematic shots. To do this, set the SDI overlays to Off.
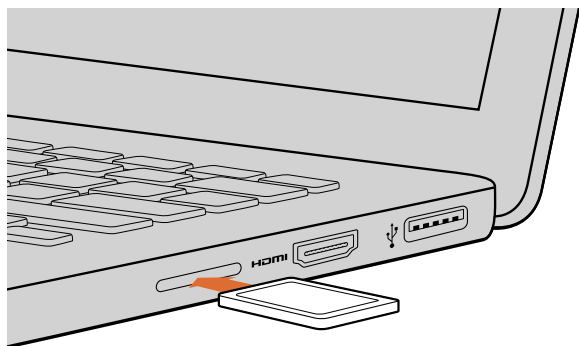
Post Production Workflow
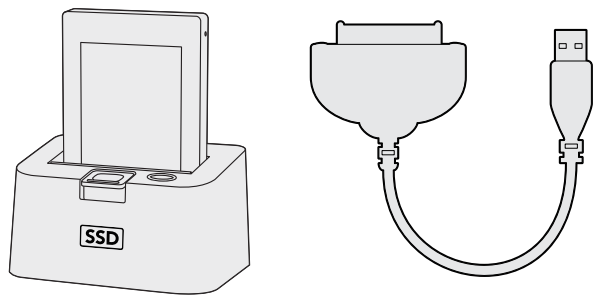
Edit directly from the SSD by removing it from your camera and mounting it on your computer using an eSATA Thunderbolt dock or USB 2.0 docking cable.

Insert your SD card into any computer with an SD card slot to access your clips immediately.

Working with Files from SSDs

To import your clips from a SSD:

Step 1. Remove the SSD from your Cinema Camera or Production Camera 4K.

Step 2. You can mount the SSD to your Mac OS X or Windows computer using either an eSATA or Thunderbolt dock. You can also use an eSATA to USB adapter cable to plug the SSD straight into a USB port on your computer. However, USB 2.0 is not fast enough to edit video in real time so this is not a recommended way to transfer files.

Step 3. Double click on the SSD to open it and you should see a list of QuickTime movie files or folders that contain your CinemaDNG RAW image files. Depending on the format you chose to record in, you might have a mixture of files, but they will all use the same naming convention.

Step 4. Now you can simply drag the files you want from the SSD onto your desktop or another hard drive, or you can access the files straight from the SSD using your NLE software. CinemaDNG RAW files are saved to the SSD as separate DNG images for each frame. This is an open format and you can use many software applications to view your RAW 2.5K images as a video sequence.

Step 5. Before you unplug the SSD from your computer, it's always a good idea to eject the SSD safely using either Mac OS X or Windows first.

Working with Files from SD Cards

You can access your ProRes or CinemaDNG files straight from your SD card with any Mac OS X or Windows computer that features an SD card slot or by using an SD card reader.

Step 1. Remove the SD card from your Pocket Cinema Camera and insert it into the SD card slot of your computer, or SD card reader. The SD card can be accessed the same way as you would an external hard drive, USB drive or any other media storage device attached to your computer.

Step 2. Double click on the SD card to open it and you should see a list of QuickTime movie files or folders which contain your CinemaDNG RAW image files. Depending on the format you chose to record in, you might have a mixture of files and folders, but they will all use the same naming convention.

Step 3. Now you can simply drag the files you want from the SD card onto your desktop or another hard drive, or you can access the files straight from the SD card using your NLE software.

Step 4. Before you physically remove the SD card from the SD card slot, it's always a good idea to eject the SD card safely using either Mac OS X or Windows first.

VIDEO DATA

RAW FILM DATA
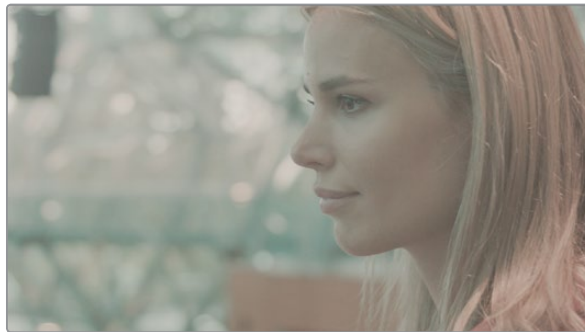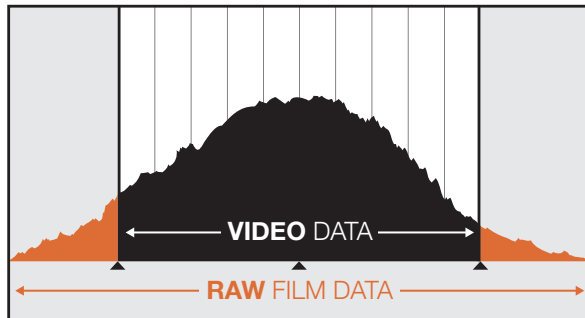
RAW Wide Dynamic Range - With Blackmagic Cinema Camera, a wide dynamic range is captured with all details preserved
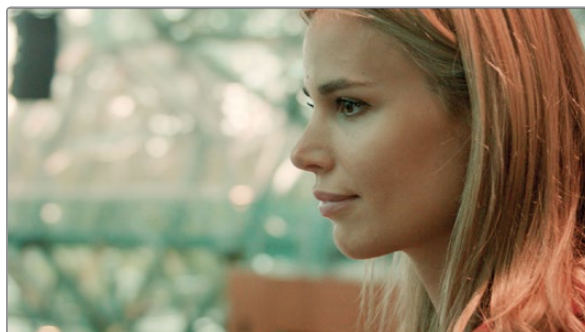
Final Color Graded Shot - The details are enhanced and the highlights are managed so your shots look cinematic!

Editing your Clips

To edit your clips using your favorite editing software, you can copy your clips to an internal/external drive or RAID and then import your clips into the software. Or import your clips directly from your SD card, or from your SSD using an external SATA adaptor, SSD Dock or docking cable.

Using RAW Files with DaVinci Resolve

CinemaDNG RAW clips may appear washed out or over exposed due to the high levels of information within them. In order to edit your RAW clips, they first need to be converted with a look that emulates standard video, or you can perform a proper grade and edit your graded clips. You can perform a basic conversion by importing your RAW clips into DaVinci Resolve 9 and applying a look up table (LUT). The LUT will apply a basic color grade to emulate a standard video appearance. The graded clips are typically exported using ProRes settings and used as proxies until the final color grade, which will occur after the edit.

To convert your RAW clips using DaVinci Resolve:

Step 1. Create a new project and set your video resolution and frame rate to match your RAW video clips. In this example we'll use the 1080p format with a frame rate of 25.

Step 2. Import your CinemaDNG RAW clips into the Media Pool.

Step 3. Go to Project Settings and set your Input Settings to Scale Entire Image to Fit.

Step 4. Go to Project Settings/Camera Raw and select CinemaDNG from the dropdown menu. Select Decode Using to Project.

Step 5. Select the White Balance setting most suitable for your material.

Step 6. Set Color Space to BMD Film and likewise set Gamma to BMD Film.

To apply the LUT, go to Project Settings/Look Up Tables, and set 3D Output Look Up Table to Blackmagic Cinema Camera Film to Rec709.
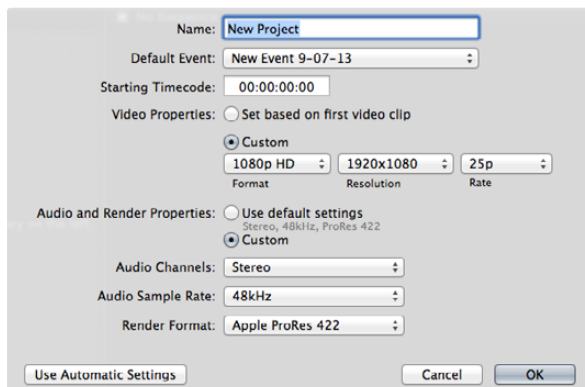
This will apply the LUT to every shot in the timeline. Click on the Color tab and check the results. The images should exhibit improved color and contrast.
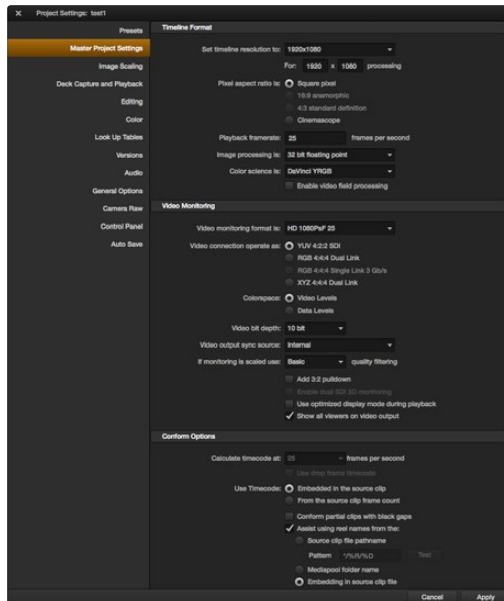
DaVinci Resolve project settings.

Final Cut Pro X project settings.

At the very minimum do a quick check of the timeline for shots with excessive exposure or color issues. When you're satisfied with the appearance of the clips in the timeline, you're ready to export your clips to ProRes.

To export your clips:

Step 1. Click on the Deliver tab, go to the Easy Setup menu and select Export to Final Cut Pro. By default this preset will render Apple ProRes 422 (HQ).

Step 2. Set Render Timeline As: to Individual Source Clips.

Step 3. Ensure Render Each Clip With a Unique Filename is deselected.

Step 4. Enable the Render Audio checkbox, select your audio channels and set to a bit depth of 24.

Step 5. Under Render Job To: click Browse. Choose a new folder for your converted clips.

Step 6. Click Add Job.

Step 7. Click Start Render.

Upon completion of the render you will have a folder that contains each individual clip from the Resolve timeline. The converted clips can now be imported into your editing software. You can always make adjustments to your grade by exporting an XML from your editing software.

Using Final Cut Pro X

To edit Apple ProRes 422 (HQ) clips using Final Cut Pro X, you need to create a new project matching your clips' video format and frame rate. For this example, clips are set using ProRes 422 (HQ) 1080p25 camera settings.

Step 1. Launch Final Cut Pro X, go to the Menu bar and select File/New Project. A window will open containing project settings.

Step 2. Name your project and select the Custom checkbox.

Step 3. Set the Video Properties settings to 1080p HD, 1920x1080 and 25p.

Step 4. Set your Audio and Render Properties settings to Stereo, 48kHz, and Apple ProRes 422 (HQ)
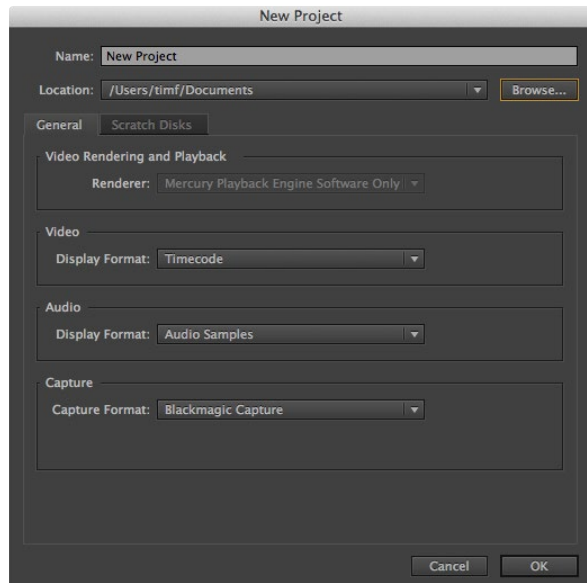
Step 5. Click OK.

To import your clips into your project, go to the Menu bar and select File/Import/Media. Choose your clips from your SSD or SD Card.

You can now drag your clips onto the timeline for editing.
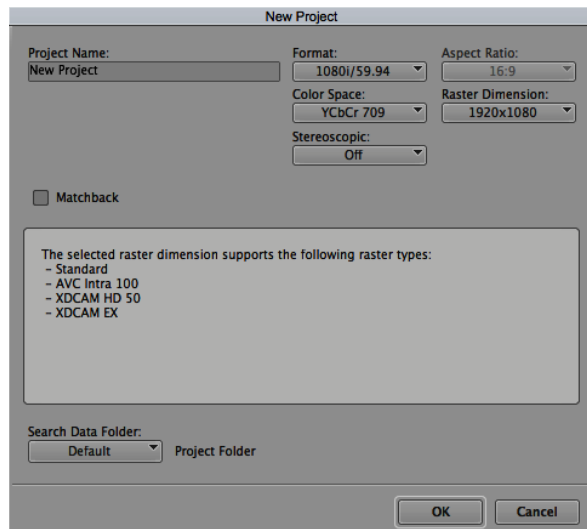
Setting the project name and project options in Avid Media Composer 7.

Setting the project name and project options in Adobe Premiere Pro CC.

Using Avid Media Composer

To edit your DNxHD clips using Avid Media Composer 7, create a new project matching the clip's video format and frame rate. For this example, clips are set using DNxHD 1080i59.94 camera settings.

Step 1: Launch Media Composer and the Select Project window will appear. Click the New Project button.

Step 2: In the New Project window name your project.

Step 3: Go to the Format dropdown menu and select 1080i/59.94.

Step 4: Go to the Color Space dropdown menu and select YCbCr 709.

Step 5: Go to the Raster Dimension dropdown menu and select 1920x1080. Click OK.

Step 6: With the media bin active, select File/Import from the menu bar.

Step 7: Select the files you wish to import and click Open.

Step 8: If you receive a message saying your movie contains alpha information, click the Create A/V Clip button.

When the clips appear within the media bin you can drag your clips onto the timeline and begin editing.

Using Adobe Premiere Pro CC

To edit your Apple ProRes 422 (HQ) or DNxHD clips using Adobe Premiere Pro CC, you need to create a new project matching your clips' video format and frame rate. For this example, clips are set using ProRes 422 (HQ) 1080p25 camera settings.

Step 1. Launch Adobe Premiere Pro CC. In the Welcome window select Create New/New Project. A window will open containing project settings.

Step 2. Name your project. Choose the location for your project by clicking Browse and selecting your desired folder. Once you've selected your location folder click OK in the Welcome window.

Step 3. Go to the Adobe Premiere Pro CC Menu bar, select File/Import and choose the clips you want to edit. Your clips will appear in the Project window.

Step 4. Drag the first clip you wish to edit onto the New Item icon at the bottom right of the Project Window. A new sequence will be created matching your clip settings.

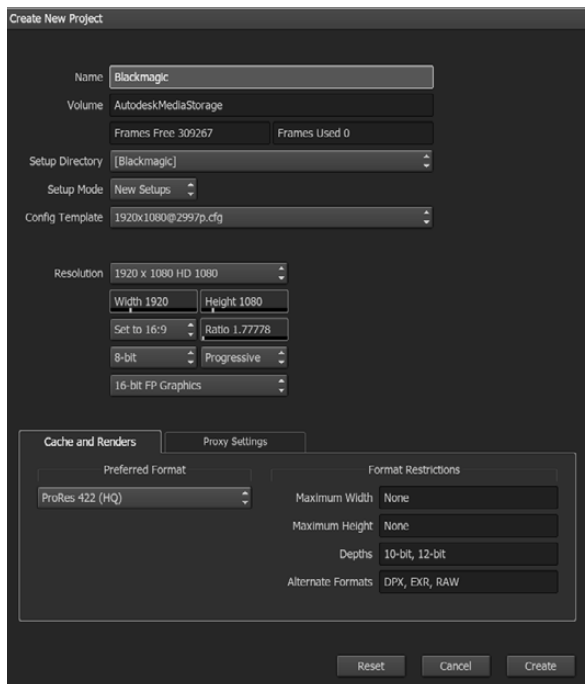You can now drag your clips onto the sequence timeline for editing.

Setting the project name and project options in Autodesk Smoke 2013.

Using Autodesk Smoke 2013

To edit your clips using Autodesk Smoke 2013, create a new project matching the clips' video format, bit depth, frame type and frame rate. For this example, clips were shot using ProRes 422 (HQ) 1080p25 camera settings.

Step 1. Launch Smoke and the Project and User Settings window will appear. Click on the New button under the project heading.

Step 2. The Create New Project window will open. Name your project.

Step 3. From the resolution dropdown menu, select 1920x1080 HD 1080.

Step 4. Make sure bit depth is set to 10-bit and frame type is Progressive.

Step 5. From the Config Template dropdown menu select 1920x1080@25000p.cfg.

Step 6. Leave the Preferred Format set to ProRes 422 (HQ) and click Create.

Step 7. Click on the New button under the User heading.

Step 8. When the Create New User Profile window opens, type your user name and click Create.

Step 9. When the Project and User Settings window reopens, click the Start button.

Step 10. From the menu bar, select File>Import>File and select your clips to import.

Step 11. Once the clips appear in the media library you can drag your clips onto the timeline and begin editing.

How to Update Your Camera Software on Mac OS X

After downloading the Blackmagic Camera Utility software and unzipping the downloaded file, open the resulting disk image to reveal its contents.

Launch the Blackmagic Camera Installer and follow the onscreen instructions.

How to Update Your Camera Software on Windows

After downloading the Blackmagic Camera Utility software and unzipping the downloaded file, you should see a Blackmagic Camera Utility folder containing this PDF manual and the Blackmagic Camera Utility installer.

Double-click the installer and follow the onscreen prompts to complete the installation.

How to Update the Camera Software

After installing the latest Blackmagic Camera Utility on your computer, connect a USB cable between the computer and the camera. On Pocket Cinema Camera, the mini USB 2.0 port is located inside the battery terminal. On Cinema Camera and Production Camera 4K, the mini USB 2.0 port is located behind the SSD door.

Launch the Blackmagic Camera Utility and follow any onscreen prompt to update the camera software.
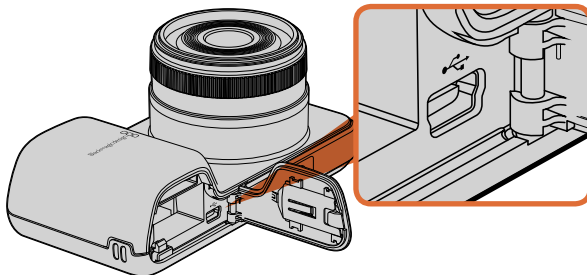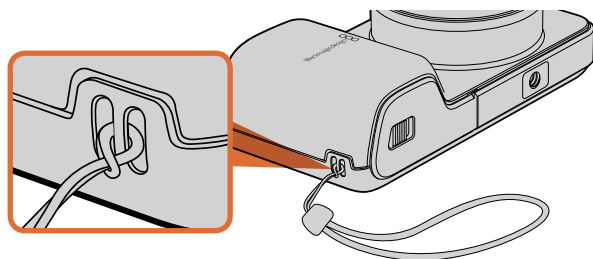

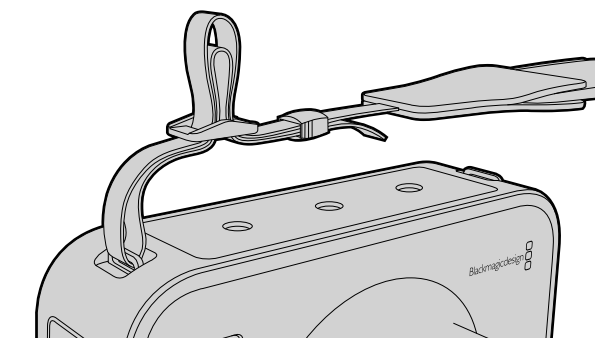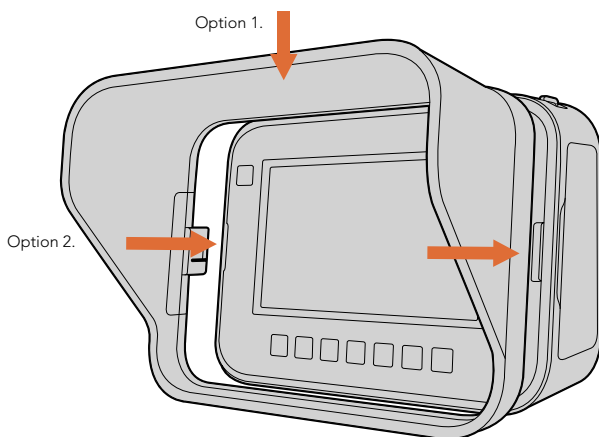The mini-USB 2.0 port can be found behind the battery terminal door on Pocket Cinema Camera.
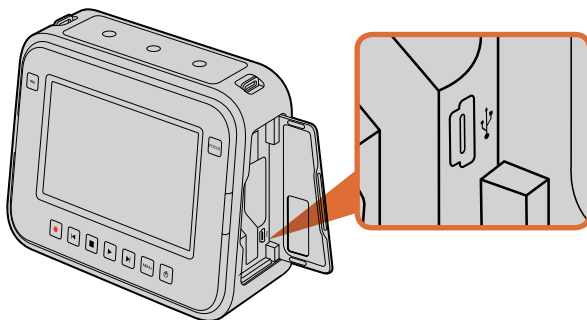
The mini-USB 2.0 port can be found behind the SSD door on Cinema Camera and Production Camera 4K.

Pocket Cinema Camera wrist strap.

Option 1.

Option 2.

Cinema Camera and Production Camera 4K carry strap.

Wrist Strap

Pocket Cinema Camera comes with a wrist strap for convenient carrying of the camera when on the move from location to location.

To fasten, loop the string on the end of the strap through the ring on the camera, located to the bottom right of the LCD. Loop the rope end of the wrist strap back through the string, making a secure knot.

Sun Shield

Cinema Camera and Production Camera 4K include a detachable sun shield to shade the touchscreen in bright conditions and ensure optimum viewing is possible at all times.

Line up the sun shield's locking tabs and gently push into the camera.

To remove the sun shield either:

Option 1.   Hold the top of the shield in the middle and gently pull out, making sure it releases evenly on both sides.

Option 2.   Using your thumbs, gently press the side locking tabs outwards using equal pressure and pull out the shield. Do not pull the sun shield out one side at a time, as you may damage the locking tabs.

Carry Strap

Cinema Camera and Production Camera 4K come with a carry strap for convenient carrying of the camera when on the move from location to location.

To fasten, loop the end of the strap through the metal hook on the top of the camera, and secure through the plastic clasp to the desired length.

Camera Handles

Optional handles for Cinema Camera and Production Camera 4K allow shooting in locations where you need to move around quickly with your camera. The handles let you steady your shot and keep up with the action!

On the underside of the camera, locate the ¼" screw thread and insert the guide pin, locking the handles to the camera.
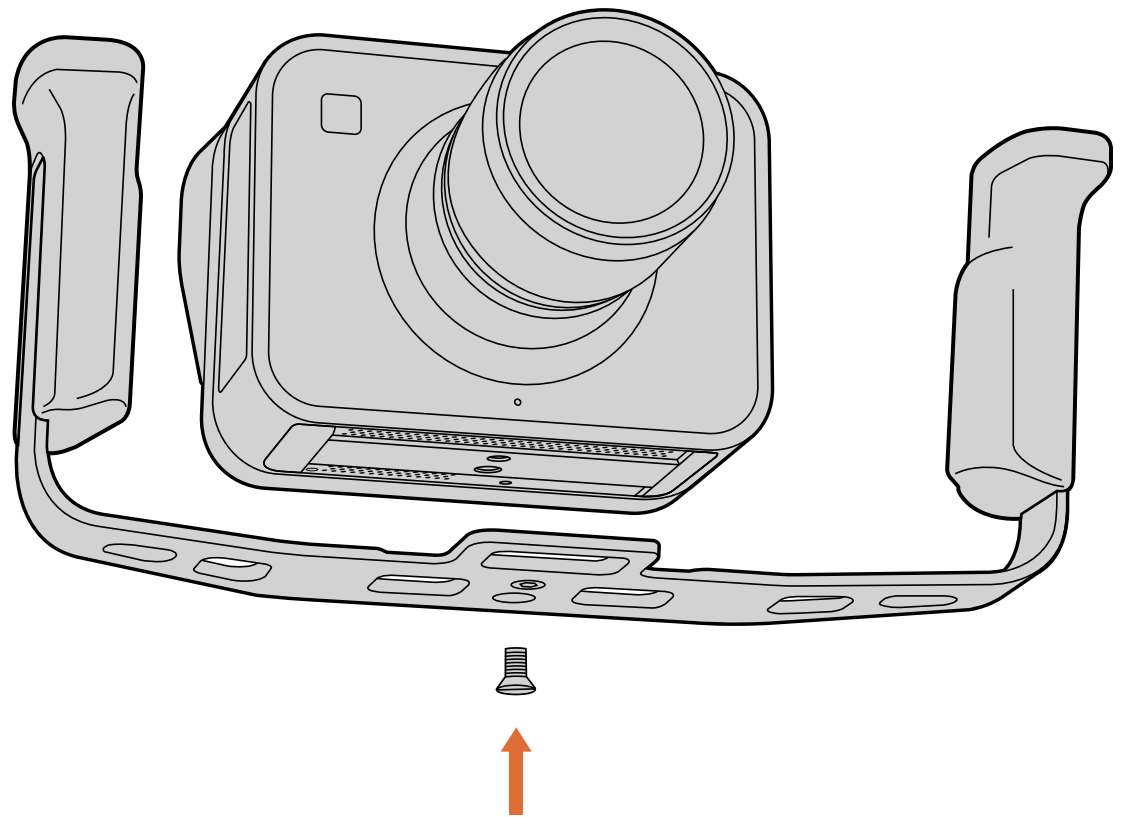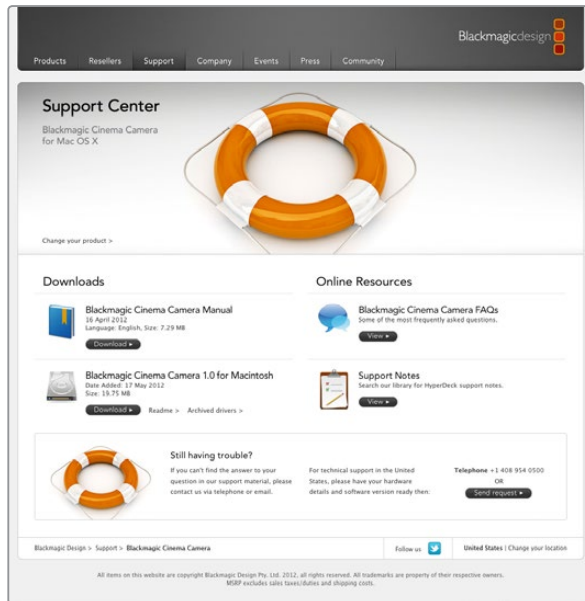
Getting Help

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 camera.

Blackmagic Design Online Support Pages

The latest manual, software and support notes can be found at the Blackmagic Support Center at www.blackmagicdesign.com/support.

Contacting Blackmagic Design Support

If you can't find the help you need in our support material, please use the "Send request" button on the support page for your camera to email a support request. Alternatively, call your nearest Blackmagic Design support office at www.blackmagicdesign.com/company.

Checking the Software Version Currently Installed

To check which version of Blackmagic Camera Utility software is installed on your computer, open the About Blackmagic Camera Utility window.

- On Mac OS X, open Blackmagic Camera Utility from the Applications folder. Select About Blackmagic Camera Utility from the application menu to reveal the version number.
- On Windows, open Blackmagic Camera Utility from your Start menu or Start Screen. Click on the Help menu and select About Blackmagic Camera Utility to reveal the version number.

How to Get the Latest Software Updates

After checking the version of Blackmagic Camera Utility software installed on your computer, please visit the Blackmagic Support Center at www.blackmagicdesign.com/support to check for the latest updates. While it is usually a good idea to run the latest updates, it is wise to avoid updating any software if you are in the middle of an important project.

Battery Replacement

Cinema Camera and Production Camera 4K's built in battery is not user-servicable. Should the battery require replacement, you will need to send it to your nearest Blackmagic Design service center for replacement. If the camera is outside of its warranty period, the battery replacement will incur a small service fee for the cost of the battery, labor and return of the camera to you. Please contact Blackmagic Design Support to find out details of where to send your camera, how to package it safely and how much the replacement will cost in your country.
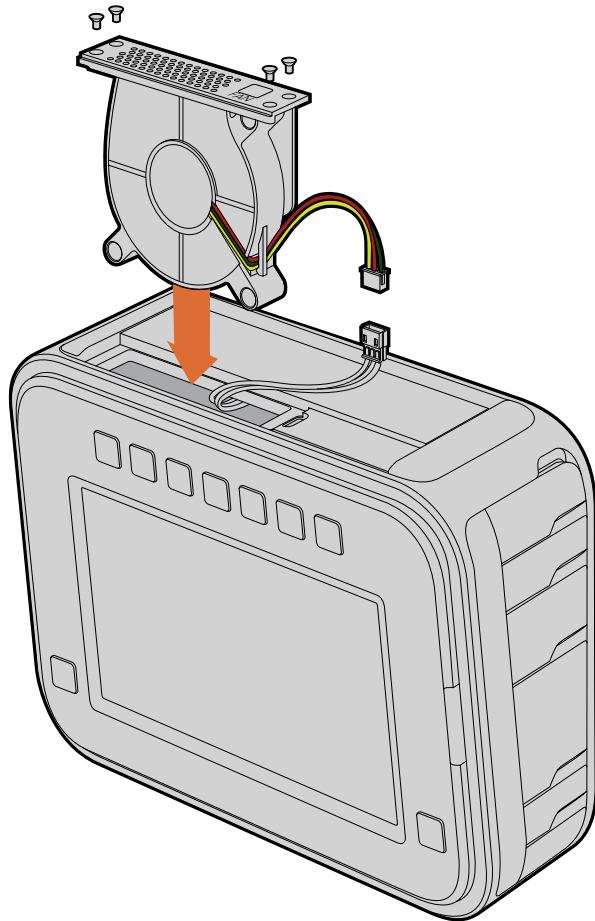
Replacing the Fan

Cinema Camera and Production Camera 4K each contain a fan, which is necessary for cooling. If you detect that the fan is not working, or that it is making a strange noise, switch off the camera and order a replacement fan by contacting Blackmagic Design Support. You should use an anti-static strap to avoid damaging the camera while opened.

To replace the fan:

Step 1. Switch off the camera and remove any external cables.

Step 2. Place the camera upside down on a bench, with the tripod hole facing up, and the touchsceen facing towards you. You will see a metal panel labelled "Fan". This panel is attached to a fan module inside the camera. Remove the four screws from this panel using a number 01 size Phillips head screwdriver. Thread-locking fluid has been applied to the screws which will require additional force to unscrew them. Keep the screws as you will need them again.

Step 3. Gently lift the fan module up and out of the camera, taking care NOT to pull the wires that connect to the inside of the camera. Accidentally pulling on these wires could cause them to become unplugged from an inaccessible location inside the camera, which would need to be fixed by a Blackmagic Design service center.

Step 4. Locate the white plastic plug a short distance along the wires from the fan. Pull the plug apart using both hands so that no stress is placed on the wires that continue inside the camera. You can now discard the old fan module.

Step 5. Connect the white plastic plug to the wires of the replacement fan module. Reinstate the fan module in its hole with the "Fan" label the right way up. The fan module can only be installed in one orientation. Reinstate the four screws into the fan plate to finish replacing the fan.

Step 6. Switch on the camera and you should feel a gentle flow of air coming from the vent holes in the fan module.

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. 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.