

# FILM AND DIGITAL TIMES

## Blackmagic Design

### URSA Mini Pro Introduction & URSA Mini 4.6K Quick Start Guide



# Blackmagic Design URSA Mini Pro

The new Blackmagic Design URSA Mini Pro comes standard with an EF mount. PL and B4 lens mounts are sold separately as is the shim kit to adjust flange focal depth.



EF Mount



PL Mount



Shim Kit



B4 Mount





# Blackmagic Design URSA Mini Pro



URSA Mini Pro

- Sensor Size: 25.34mm x 14.25mm
- Max Res: 4608 x 2592
- Filter dial: Clear, ND.6, 1.2, 1.8 (0, 2, 4, 6 stops)
- Media slots: 2 x CFast 2.0  
2 x SD UHS-II
- Lens Mounts: Comes standard with EF Interchangeable PL, EF, B4 (PL with /i shown here)
- Monitor: 4" fold-out touchscreen



in comparison: URSA Mini 4.6K

- Sensor Size: 25.34mm x 14.25mm
- Max Res: 4608 x 2592
- Media: 2 x CFast 2.0
- Lens Mounts: PL or EF (PL shown here)
- Monitor: 5" fold-out touchscreen

Blackmagic Design had a nice pre-NAB surprise in March: URSA Mini Pro 4.6K.

It is much more than a mere evolution of the URSA Mini 4.6K. They made all the right moves with all kinds of great details.

The new URSA Mini Pro gets built-in ND filters, interchangeable lens mounts, camera left-side outside LCD display and control panel, thoughtful ergonomic switches and dials for faster and easier operating. The body is the same size as URSA Mini 4.6K, so all the existing accessories will fit and work.

The sensor is the same as URSA Mini 4.6K: up to 4608 x 2592

resolution with 15 stops of dynamic range and the same wide color gamut. Three ND filters with IR compensation can be summoned up with the twist of a dial: Clear, 2, 4 or 6 stops.

URSA Mini Pro's main display on the surface of the camera's left side shows timecode, shutter and lens settings, battery, recording status, and audio levels. The display is backlit and designed to be visible in both dimly lit studios and outside in direct sunlight. Open the display door and a 4-inch LCD touchscreen monitor resides on the other side. (In comparison, the URSA Mini 4.6K monitor is 5-inches. Something had to give—one inch—to make room for the new ND filters and controls.)

# Blackmagic Design URSA Mini Pro



URSA Mini Pro has a great new interchangeable lens mount system for PL, EF and B4 lenses. Standard-issue is an EF mount. PL and B4 lens mounts are sold separately. Lens metadata is supported from electronic EF, B4 and i/Technology compatible PL lenses, with automatic recording of camera settings and slate data such as project, scene number, take and special notes.

PL mounts have i/Technology lens metadata contacts in the usual 12 o'clock position. The camera body has a standard 12-pin Hirose lens control connector.

Beneath the swing-out main control panel/monitor door, there are dual C-Fast 2.0 and dual SD/UHS-II card slots. C-Fast cards are essential for full rez RAW recording. UHS-II SD cards are inexpensive, readily available, and suited for ProRes Ultra HD files or RAW HD files. With dual slots for each media type, the camera never has to stop recording because when the first card is full, it automatically continues on to the next card. Full cards can be hot-swapped for empty ones without stopping the camera. URSA Mini Pro can record lossless 12-bit CinemaDNG RAW files or 10-bit ProRes.

Like the URSA Mini 4.6K, URSA Mini Pro includes the full version of DaVinci Resolve Studio software for importing, editing, color correcting, finishing and delivering. DaVinci Resolve Studio works natively with the RAW and ProRes files from the camera, without having to convert or change them.

## Additional Blackmagic URSA Mini Pro Features

- Helpful dials, buttons and switches for direct access to the most important camera include: external power switch, ND filter wheel, ISO, shutter, white balance, record button, audio gain, lens control, high frame rate, and more.

- Support for CinemaDNG 4.6K RAW files and ProRes 4444 XQ, ProRes 4444, ProRes 422 HQ, ProRes 422, ProRes 422 LT, ProRes 422 Proxy recording at Ultra HD and HD resolutions.
- Supports up to 60 fps 4.6K resolution capture in RAW.
- Standard connectors, including dual XLR mic/line audio inputs with phantom power, 12G-SDI output for monitoring with camera status graphic overlay and separate XLR 4 pin power output for viewfinder power, headphone jack, LANC remote control and standard 4 pin 12V DC power connection.
- Built in stereo microphones.

URSA Mini Pro is available from Blackmagic Design resellers worldwide for US \$5,995. Also available: optional URSA Mini Pro PL lens mount for US \$245 or optional URSA Mini Pro B4 HD lens mount for US \$385. URSA Mini Pro comes standard with an EF lens mount, and additional replacement mounts can also be purchased for US \$175.

Blackmagic URSA Mini Shoulder Kit has built-in industry-standard Hirth-tooth rosettes, rail mounts, viewfinder mount, integrated tripod quick lock release and top handle. This is an essential accessory.

Blackmagic URSA Viewfinder is an excellent, high resolution viewfinder with a full HD OLED display and glass elements. The image is so crisp and good you can easily check focus by eye. This EVF is also a must-have.

For broadcast and multi-cam, Blackmagic URSA Studio Viewfinder has a 7" screen, variable tension mounting points, grab handles, and external controls.

There's an URSA V-Lock Battery Plate for V-Mount batteries.



# Blackmagic Design URSA Mini Pro



URSA Mini Pro's 4" fold-out touchscreen



URSA Mini Pro with PL mount and /i lens data pins



URSA Mini Pro with EF mount



URSA Mini Pro with EF mount and Canon lens data pins

Compare URSA Mini Pro  
with USA Mini 4.6K

And on the next pages, let's begin our  
URSA Mini 4.6K Quick Guide Jump Start



URSA Mini 4.6K with PL mount

## Blackmagic Design URSA Mini 4.6K Quick Start



Blackmagic Design URSA Mini 4.6K camera with URSA Viewfinder, URSA Mini Shoulder Kit, and Canon Compact Servo 18-80mm T4.4 EF-mount zoom





# Blackmagic URSA Mini 4.6K Quick Start



PL Mount URSA Mini 4.6K



EF Mount URSA Mini 4.6K

Blackmagic Design's URSA Mini 4.6K camera is lightweight, compact, easy to use and affordable. The Super35 (25.34 x 14.25 mm) CMOS sensor delivers beautiful images that can be recorded internally onto inexpensive CFast 2.0 Cards—from HD through 4.6K CinemaDNG RAW or UHD ProRes.

There are two models: EF or PL mount. You'll want the EF model if you work with Canon EF, Sigma EF or ZEISS ZE lenses and like lens data readout in the viewfinder as well as auto exposure and auto focus on some models.

FDTimes usually wriggles out of price discussions—but this is a camera system clearly intended for independents where cost is an important concern. So here goes.

The camera body is around \$4,995. It's a complete camera/production/post-production package in a box—with the full DaVinci Resolve Studio software and USB dongle inside.

There are three essential accessories that you will want as constant companions. Blackmagic Design's URSA Viewfinder is a really good deal and a steal at \$1,495. The optics have an indexed diopter and the 1920x1080 OLED display is crisp enough to actually determine focus clearly. The eyepiece rotates and adjusts to many viewing angles. It positions in and out from the camera body which is helpful for both left and right-eyed operators.

Unless you plan on leaving the camera attached to a tripod or drone, Blackmagic's URSA Mini Shoulder Kit (\$395) is another essential accessory. It has an ergonomic, adjustable shoulder pad, rosettes on both sides, a handgrip extension, and a top handle.

For a few dollars more (\$895), you should add a Blackmagic Video Assist 4K 7-inch HDMI/6G-SDI Recorder/Monitor. It can trigger-record every take. In other words, whenever the camera starts or stops recording internally, the Video Assist 4K will automatically record a ProRes or DNx copy onto SD cards, via SDI or HDMI, up to 3840x2160 30p.

Although the Blackmagic URSA Mini 4.6K is one of the most intuitive cameras available, and passes the 10-minute rule for being able to figure it out without an instruction manual, here are a few pages of quick-start notes to reduce the learning curve to 5 minutes.

## URSA Mini 4.6K Camera Quick Specs

- Sensor Size: 25.34mm x 14.25mm
- Media: 2 x CFast 2.0  
formatted HFS+ (Mac) or ExFAT (Windows/Mac)
- Lens Mounts: PL or EF
- Monitor: 5" fold-out touchscreen on camera left side
- Video Output: 1x SDI, 1x Monitoring SDI with info overlays
- Shooting Resolutions
  - 4608 x 2592
  - 4096 x 2304 (4K 16:9)
  - 4608 x 1920 (4K 2.4:1)
  - 4096 x 2160 (4K DCI)
  - 3840 x 2160 (Ultra HD)
  - 3072 x 2560 (3K Anamorphic)
  - 2048 x 1152 (2K 16:9)
  - 2048x1080 (2K DCI)
  - 1920 x 1080 (HD)
- Frame Rates: Dependent on resolution and codec selected, 23.98, 24, 25, 29.97, 30, 50, 59.94 and 60 fps supported. Off-speed frame rates up to 60 fps in 4.6K, 120 fps in 2K windowed.
- Lossless CinemaDNG RAW, RAW 3:1 and RAW 4:1 at 4608 x 2592, 4608 x 1920, 4096 x 2304, 4096 x 2160, 3072 x 2560, 2048 x 1152 and 2048 x 1080.
- Apple ProRes 3840 x 2160 and 1920 x 1080.
- Storage Rates (based on 30 frames per second)
  - 4608 x 2592
    - CinemaDNG RAW Uncompressed 513 MB/s
    - CinemaDNG RAW 3:1 180 MB/s
    - CinemaDNG RAW 4:1 135 MB/s
  - 3840 x 2160
    - Apple ProRes 444 XQ 250 MB/s
    - Apple ProRes 444 165 MB/s
    - Apple ProRes 422 HQ 110 MB/s
    - Apple ProRes 422 73.6 MB/s
    - Apple ProRes 422 LT 51 MB/s
    - Apple ProRes Proxy 22.4 MB/s
  - 1920 x 1080
    - Apple ProRes 444 XQ 62.5 MB/s
    - Apple ProRes 444 41.25 MB/s
    - Apple ProRes 422 HQ 27.5 MB/s
    - Apple ProRes 422 18.4 MB/s
    - Apple ProRes 422 LT 12.75 MB/s
    - Apple ProRes Proxy 5.6 MB/s
- Analog Audio Input: 2x XLR (mic, line, phantom power)
- LANC 2.5 mm (2x) : for rec start/stop, EF iris, focus control

# Blackmagic URSA Mini 4.6K

Let's begin our quick tour by looking at the URSA Mini 4.6K modular body, pictured here. It's 8.23" long x 5.78" high x 5" wide and weighs 5 lb 2 oz.



Front - EF mount model



Rear with V-Lock Battery Bracket



Left side



Left side with monitor/side cover open



# Blackmagic URSA Mini 4.6K



Left side with monitor/side cover open



Right side



Top



Bottom

# Blackmagic URSA Mini 4.6K

## EVF and Top Handle

The Blackmagic Design URSA Mini 4.6K system has an excellent 1920x1080 OLED viewfinder that should be the archetype for other affordable S35 digital cine cameras.

It's an important accessory that makes easy work of checking focus.

EVF Video:  
1920x1080

EVF Power: 4-pin  
XLR +12VDC

ZOOM to enlarge  
for focus

DISPLAY

PEAK

Diopter  
adjustment

2. View from camera left  
side with EVF installed

1. Attach the top handle and EVF to the top of the URSA Mini 4.6K Camera's 3/8-16 threaded mounting sockets with the two supplied screws and a 3/16" hex driver.

There are four sockets to select for the best balance. I suggest starting with the rear two.

The top handle comes with Blackmagic's URSA Mini Shoulder Kit. We'll get to that in a minute.



## EVF and Top Handle, cont'd

3. Connect the EVF's SDI and power cables into the camera right side.



3G-SDI OUT: connect URSA EVF video cable or external monitors.  
Provides down-converted 1920x1080 HD.

4-pin XLR +12VDC OUT: connect EVF power

LANC: connect URSA Mini handgrip cable for REC start/stop, iris and focus of EF lenses

2nd LANC connector: Record Start /Stop, Remote; Iris and Focus Control for EF lenses

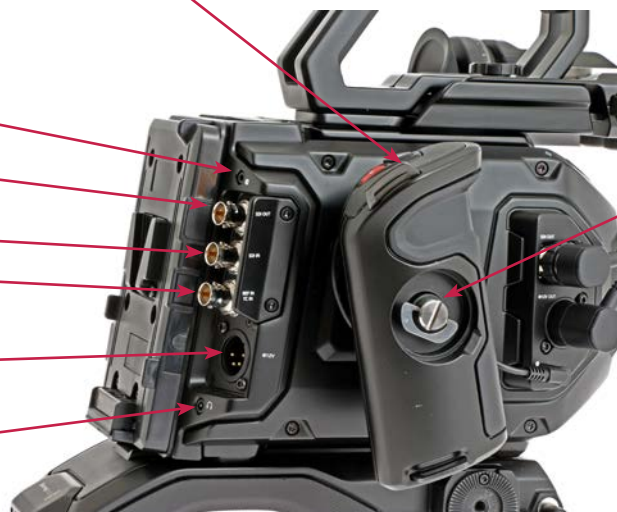
12G-SDI OUT

12G-SDI IN

Timecode IN and REF IN

+12VDC IN 4-pin XLR

Headphones



4. Attach the handgrip to the camera body's rosette.

5. Tighten with the winged thumbscrew beneath the rubber Blackmagic logo cover.

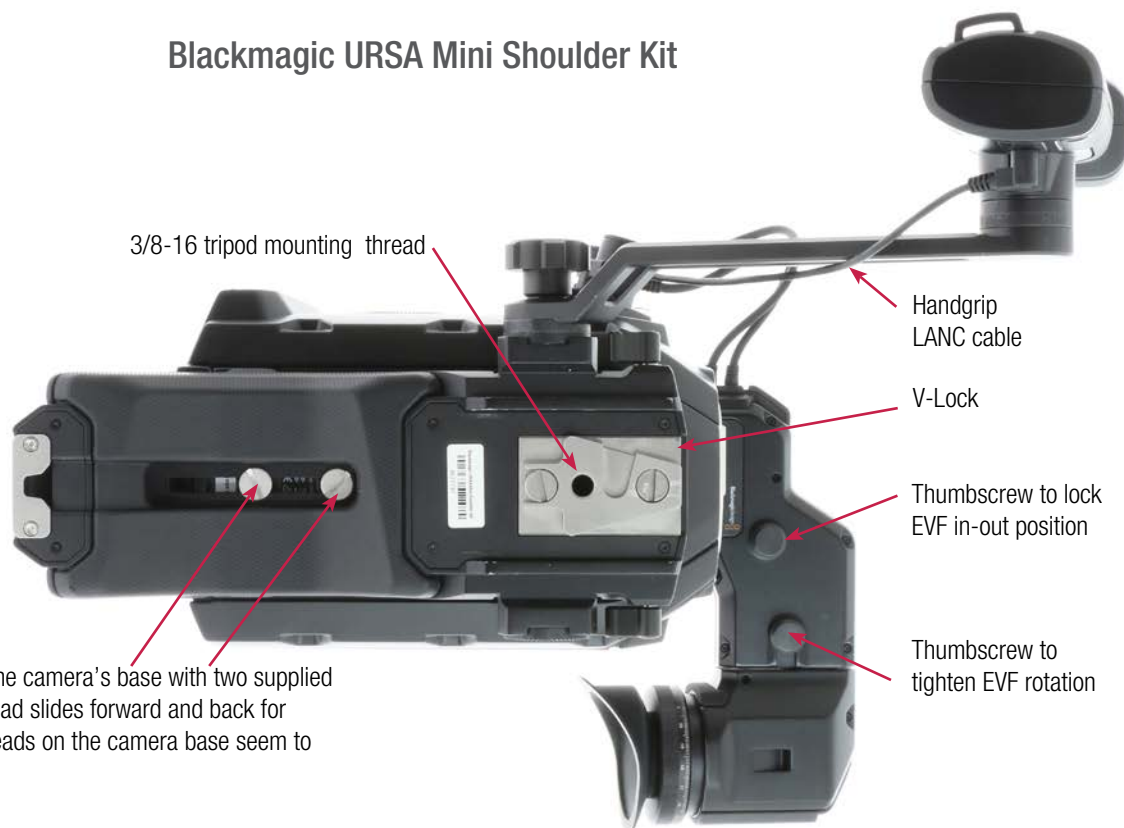


6. Adjust the top handle's forward-aft position with this thumbscrew

# Blackmagic URSA Mini 4.6K



## Blackmagic URSA Mini Shoulder Kit



Attach the shoulder mount to the camera's base with two supplied 3/8-16 screws. The shoulder pad slides forward and back for best balance. The rear two threads on the camera base seem to balance best.





# Blackmagic URSA Mini 4.6K

## Blackmagic URSA Mini Shoulder Kit, cont'd



Front view of URSA Mini 4.6K Camera with URSA Viewfinder, URSA Mini Shoulder Kit with 15mm rod holder, handgrip extender, and top handle



Top Handle

Camera left side of the URSA Mini Shoulder Kit has a rosette for additional handgrip



Camera right side of URSA Mini 4.6K showing URSA Mini Shoulder Kit's adjustable pad, handgrip extender, handgrip with LANC start/stop, iris and focus control

Handgrip Extender

Handgrip



Rear view with 5" swing-out touchscreen monitor in viewing position

# Blackmagic URSA Mini 4.6K

## Camera Essentials

Front



Rear



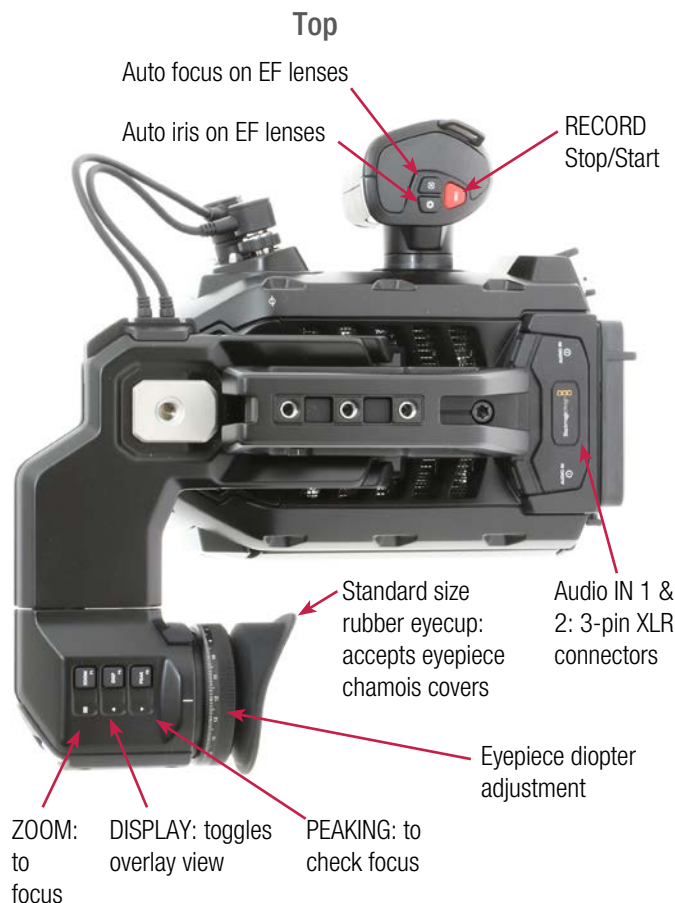
## Camera Left - Operator Side



Swing-out touchscreen 5" monitor / side cover in the open position. Some of the buttons on the swing-away 5" monitor cover are redundant with the buttons underneath. Others are unique.



# Blackmagic URSA Mini 4.6K



At left on top of camera: Blackmagic Video Assist 4K. It has a 7" touchscreen 1920 x 1200 display. HDMI and 6G-SDI inputs record ProRes or DNx onto SD cards. (Recommended: UHS-II SD cards).

Blackmagic's Video Assist 4K 7-inch Recorder/Monitor works with almost any SDI or HDMI camera—not just the URSA Mini 4.6K. It records 1080 HD up to 2160 30p (3840 x 2160) UHD, in 10-bit 4:2:2 ProRes, DNxHD and DNxHR files (Quicktime and MXF formats).

In trigger-record mode (shown here, connected to the URSA Mini 4.6K's SDI output), the Video Assist 4K will automatically create a simultaneous copy of the camera's internal recording—which is helpful as a backup or edit-ready proxy.



## Blackmagic Video Assist 4K Specs

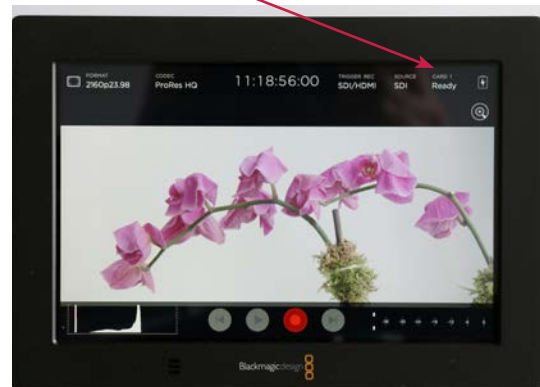
- 10-bit 4:2:2 REC 709
- UHD: 160p23.98, 2160p24, 2160p23.98, 2160p25, 2160p29.97, 2160p30
- HD: 720p50, 720p59.94, 1080p23.98, 1080p24, 1080p25, 1080p29.97, 1080p30, 1080p50, 1080p59.94, 1080p60, 1080i50, 1080i59.94, 1080i60
- Codecs: ProRes 422 HQ, ProRes 422, ProRes 422 LT, ProRes Proxy, DNxHD 220x, DNxHD 145, DNxHD 45, DNxHD 220x MXF, DNxHD 145 MXF, DNxHD 45 MXF, DNxHR HQX MXF, DNxHR HQX, DNxHR SQ, DNxHR LB, DNxHR SQ MXF, DNxHR LB MXF
- Media: Two UHS-II SD slots
- SDI Input/Output: 270Mb, 1.5G, 3G, 6G
- Screen: 7" 1920 x 1200 capacitive touchscreen LCD
- Built-in speaker, 3.5mm stereo output connector
- Two mini XLR audio inputs with phantom power

# Blackmagic Video Assist 4K



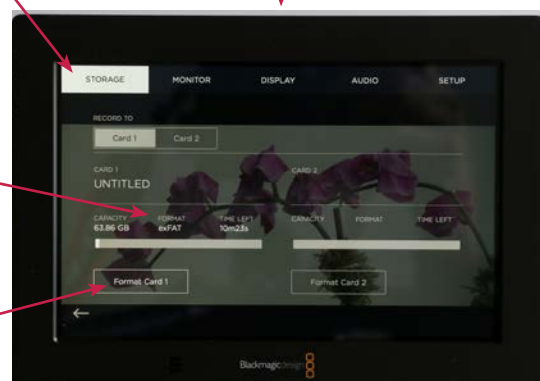
## Format SD Cards

1. To format SD Cards, tap here



2. Select STORAGE

3. FORMAT: Choose HFS+ for Mac or exFAT for Windows and Mac



4. Format Card 1 and/or Card 2



Tip: to avoid a smudgy screen after helping yourself to a sticky donut at Craft Services, or in cold weather with heavy gloves, attach an iPhone-style touchscreen Stylus to the top of the Video Assist 4K with Velcro.





# Blackmagic Video Assist 4K Touchscreen



Of course, FORMAT on the top left main screen is different from Formatting. This FORMAT indicates input signal. Here, 2160p23.98 identifies UHD 3840 x 2160 at 23.98 fps

Tap CODEC to select: Apple ProRes 422 HQ, ProRes 422, ProRes LT, ProRes Proxy, Avid DNxHD, DNxHR

Tap TRIGGER REC to enable automatic start-stop of recorder when camera records.

Main settings are controlled by tapping in the top row of text and icons.

OVERLAYS: Zebra, Peaking, Frame lines, aspect ratio, grids, etc.

Swipe the touchscreen up or down to access record and playback.



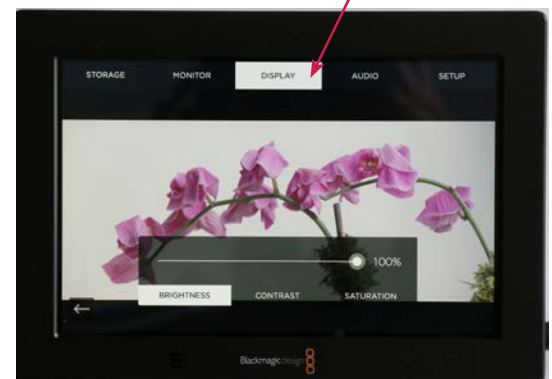
Storage (SD Card) settings and formatting. Also Monitor, Display, Audio and Setup.

Display (below) controls monitor brightness, contrast and saturation.

Standby: tap the red circle to start recording. In tether recording mode, the Video Assist 4K starts automatically when you push the camera's record button.



Red square in circle shows recording is under way. Tap the red square to stop. In tethered recording mode, it stops when the camera stops



# Blackmagic URSA Mini 4.6K

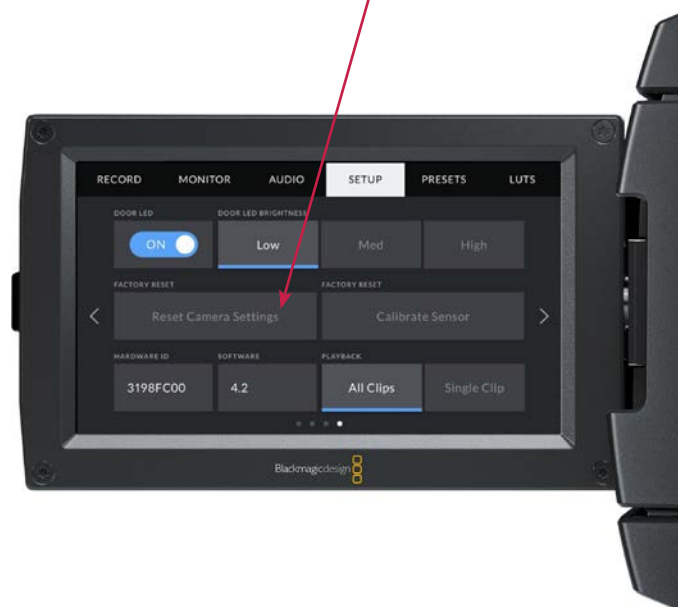
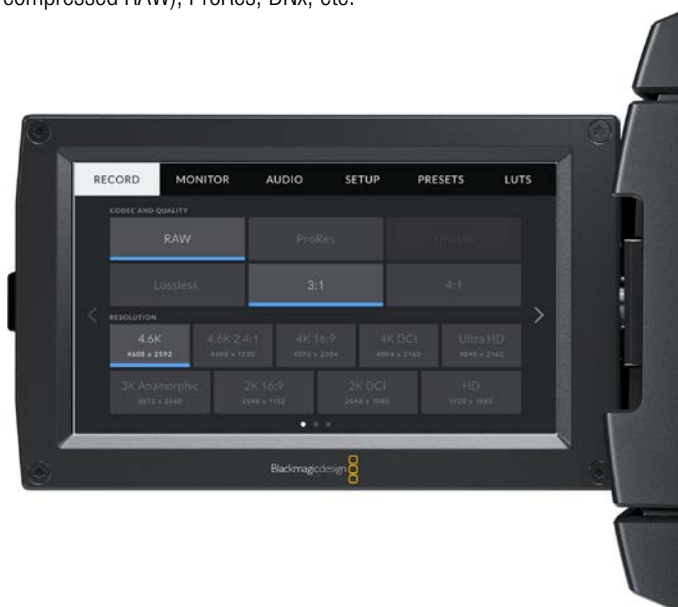
Swipe up or down to display text and icons for touchscreen adjustment of:  
Overlays, FPS, Shutter Angle, Iris, Timecode, ISO, White Balance, Tint, etc.



Red indicates camera is recording

For access to the camera's "Dashboard," push MENU — pages of touchscreen menu settings. The home page includes RECORDING settings: codecs, resolutions from HD to 4.6K, RAW (including compressed RAW), ProRes, DNx, etc.

It's usually a good idea to RESET all camera settings at the beginning of a job to get back to factory defaults. It's also a fail-safe when time is short and something just isn't working properly.



# Blackmagic URSA Mini 4.6K



Gray and blue indicate camera is in standby

Insert a CFast 2.0 card in one or both slots

Tap either CFast icon at the bottom of the touchscreen to format card.

Select a card to format  
Choose OS X Extended for Mac format  
Choose exFAT for Windows or Mac.  
Confirm and format.





# Data Wrangling from URSA Mini 4.6K to DaVinci Resolve

Buying a Blackmagic URSA Mini 4.6K Camera is like having a production and post production studio in a convenient box. The full DaVinci Resolve Studio is included, complete with dongle and software. What better way to be a Renaissance Filmmaker: DP, DIT, Editor, Colorist, Archivist and Deliverables Deliverer?

There are many different ways for work to flow. This is just one example to follow when your URSA Mini 4.6K CFast 2.0 Card is full. We were shooting 4K CinemaDNG RAW, 2.39:1 widescreen, 4608 x 1920 at 23.98 fps. That filled up a 64 GB CFast 2.0 Card in about 4.5 minutes.

1. Remove the CFast Card from the camera.
2. Insert it into a card reader (like Lexar's CFast 2.0 Thunderbolt/USB 3.0) and connect to your computer. Start or open a Project in DaVinci Resolve.

First step: Clone your CFast Card.

3. Click on the CLONE tool.

4. At the left side of Resolve's Media Storage Browser, right click the CFast Card icon (A001) and SET AS CLONE SOURCE.

5. Next, you'll simultaneously clone the CFast Card onto your computer and an external backup drive. In the Media Storage Browser, right click the DAVINCI RESOLVE folder on your computer and click on ADD AS CLONE DESTINATION. Do the same thing for your external drive.

6. Click the Clone Tool Panel's option menu and PRESERVE FOLDER NAME. The nice thing about this is that, unlike copying from the desktop, the entire volume and file structure is preserved. So a root-level volume named A001 stays that way.

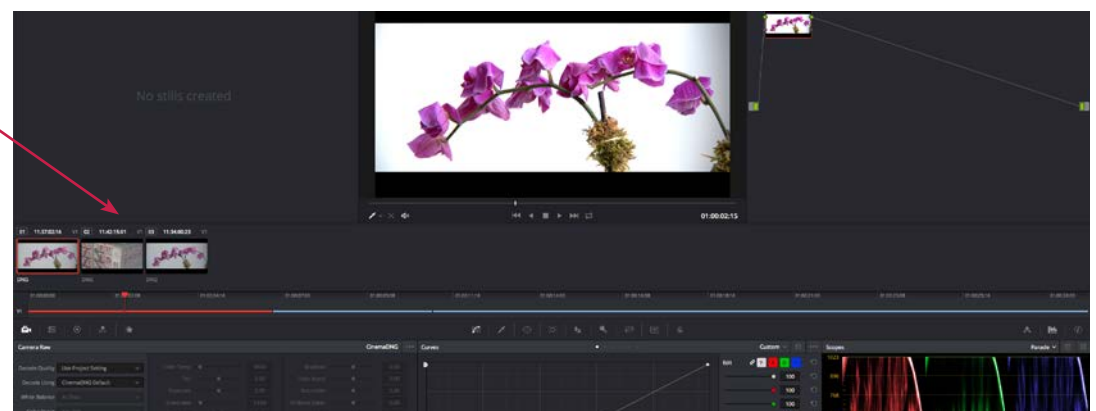
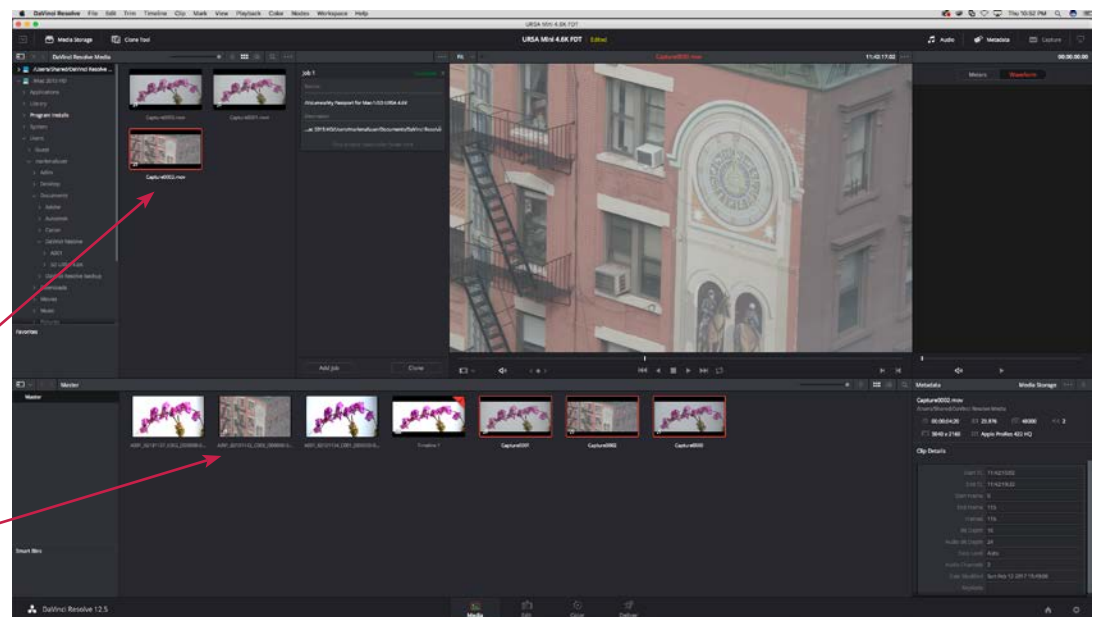
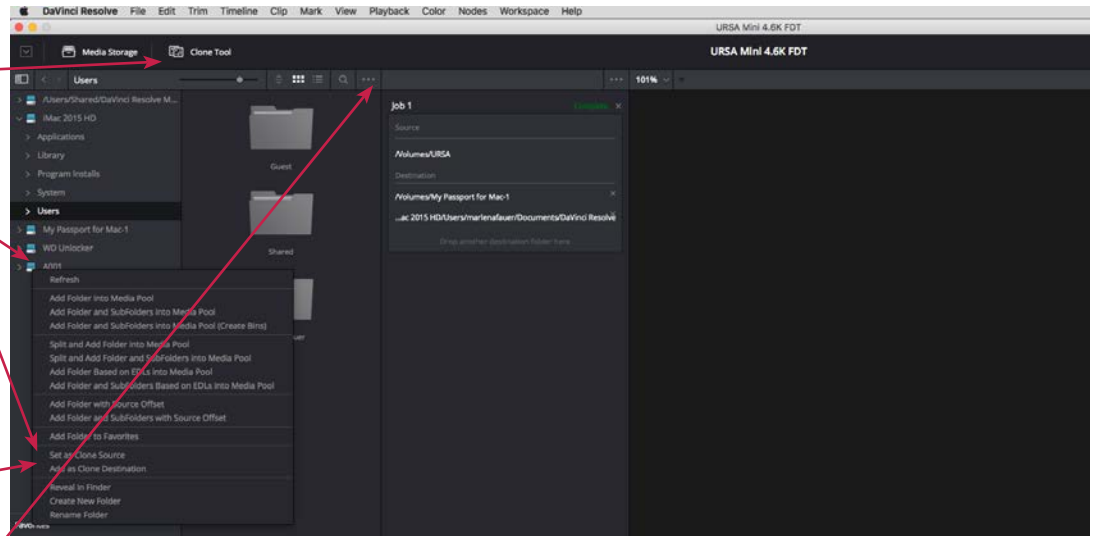
7. Now, clone the SD card that you diligently used to simultaneously record an edit-ready Quicktime proxy backup. Use the same procedure of SETTING A CLONE SOURCE and ADDING AS DESTINATION two locations.

8. Review both the "Camera Original Digital Negative" CinemaDNG RAW and the proxy by dragging the clips into Resolve's MEDIA POOL.

9. Go to "Page 3" — COLOR — in Resolve for grading.

For a well-written and comprehensive guide to working with Resolve, get Paul Saccone's "The Definitive Guide to Editing with DaVinci Resolve 12.5."

Download software updates and the "DaVinci Resolve 12 Reference Manual" from [blackmagicdesign.com](http://blackmagicdesign.com)



# Blackmagic Mini and Micro Panels for DaVinci Resolve

Blackmagic Design has two new portable hardware control panels for DaVinci Resolve. The new DaVinci Resolve Micro Panel and the DaVinci Resolve Mini Panel have the consistent layout, look and feel of a traditional DaVinci Resolve Advanced Panel. The new panels are portable and easy to move between locations or take on location. This should be especially appealing to freelance colorists.

Both panels provide ergonomic, hands-on control that are beyond reach of a standard mouse and keyboard. Both have 3 high-resolution weighted trackballs, and a row of 12 knobs provide access to the most powerful primary correction features: Y Lift, Y Gamma, Y Gain, Contrast, Pivot, Mid-tone Detail, Color Boost, Shadow, Highlight, Saturation, Hue Rotation and Luminance Mix.

The new panels also have 18 transport and navigation control buttons on the right side for the most important and commonly-used commands, thus avoiding the hunt through menus to change a setting.

The smaller DaVinci Resolve Micro Panel is not much larger than a computer keyboard and is powered from its USB connection. It is excellent for editing and working on primary color correction. It easily fits on a DIT cart.

The DaVinci Resolve Mini Panel includes the same features as the Micro. But it adds an upper deck with enough controls for a colorist to do professional work on any DaVinci workstation or advanced laptop into which it is attached. There are 2 high-resolution screens with dozens of menus for fast access to most of the advanced color grading features of DaVinci Resolve, with information and parameter settings for the currently selected tool. There are 8 soft knobs and 8 soft buttons, dedicated keys for switching tools, working with nodes, grabbing stills, navigating the timeline and more.

The DaVinci Resolve Micro and Mini panels both use USB-C to connect with the latest laptops and workstations. For computers with conventional USB 3.0 connections, a USB 3 to USB-C cable is included. As already mentioned, the DaVinci Resolve Micro Panel is fully powered over USB so it can be run directly from a laptop on location, without requiring external power, making it an excellent choice for a DIT cart and on-set grading.

The DaVinci Resolve Mini Panel has both AC power and 4-pin XLR 12V DC powers connections. The Mini Panel also has built-in Ethernet to connect with a DaVinci Resolve workstation using either USB or a network. The Ethernet also supports PoE (Power over Ethernet ) so it can be powered via the network connection from a PoE compatible router.

The DaVinci Resolve Micro Panel is \$995 and the DaVinci Resolve Mini Panel is \$2,995. Both panels are available now from Blackmagic Design resellers worldwide.

[blackmagicdesign.com/products/davinciresolve](http://blackmagicdesign.com/products/davinciresolve)



Davinci Resolve Mini Panel

Start here: 12 knobs for primaries—sometimes called “the bread and butter of color correcting.”

Nicely balanced trackballs provide RGB balance adjustments for lift, gamma and gain, each with an outer ring master level control

18 dedicated navigation and transport buttons



Davinci Resolve Micro Panel



Davinci Resolve Mini Panel connected to Mac Pro and Eizo 32" monitors

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