Jon Fauer, ASC www.fdtimes.com Jan 2026

FILM AND DIGITAL TIMES

Art, Technique and Technology in Motion Picture Production Worldwide

Blackmagic PYXIS 12K Camera Report

Blackmagic PYXIS 12K

Blackmagic Design's PYXIS 12K is a beautifully designed, rugged, compact camera with a Full Frame 36 x 24 mm sensor that records up to 12288 x 8040 Open Gate 3:2 Blackmagic RAW onto internal CFexpress cards.

Blackmagic introduced their PYXIS 12K Full Frame camera in April 2025 and started shipping in September. It was just a year since the PYXIS 6K camera arrived in April 2024.

The new PYXIS 12K comes in the same cute, capable cubist cube of a camera body as the PYXIS 6K. If you were pitching it to a producer, the one-liner could be "The soul of an URSA Cine 12K in the body of a PYXIS 6K."

PYXIS 12K uses a similar Full Frame RGBW sensor as the URSA Cine 12K LF. Both cameras have 16 stops of dynamic range. The difference is a slightly slower sensor readout speed and slower maximum frames per second.

PYXIS 12K comes in three versions: L-Mount, PL or Locking EF. The L-Mount version is the most versatile because it accepts L-to-PL, L-to-LPL, L-to-EF, and L-to-almost-anything-else adapters. Unlike the URSA Cine cameras, you cannot swap mounts once they leave the factory—presumably because the lens mounts all have active electronic contacts and metadata pass-through. (The PL Mount has /i lens data protocol.)

- PYXIS 12K records Open Gate (full sensor width and height), 3:2 aspect ratio in 12K (12288 x 8040) up to 40 fps.
- In 8K or 4K Open Gate, top speed is 72 fps.
- 8K or 4K 2.4:1 top speed is 112 fps.

The CNC-machined aluminum camera body is sturdy and strong, with enough ¼-20 and ⅜-16 threaded mounting points to please even the most cynical camera rigger.

Fully festooned, PYXIS 12K feeds 3 displays: the 4" monitor built into the camera left side, an accessory 5" monitor and an EVF.

The 4" LCD 1920 x 1080 1500 nit monitor/menu touchscreen is built into the camera left side. It does not tilt or swing away, so you'll surely want Blackmagic's accessory PYXIS Monitor. The PYXIS Monitor has a 5" HDR touchscreen display that also provides full camera control.

The URSA Cine EVF is an excellent 1920 x 1080 OLED display with 6.22 million dots, 16.2 million colors, built in proximity sensor, +5 to -5 adjustable diopter and a rubber eyecup that accommodates standard soft chamois eyepiece covers.

To attach the URSA Cine EVF, you'll need Blackmagic's URSA Cine Handle that attaches to the top of the PYXIS 12K.

The camera comes with a Standard Plate on the camera right side that has one ⅜-16" and two ¼-20 threaded sockets.

In addition to two internal CFexpress slots, there's a USB-C port at the rear of the camera for recording directly to an external SSD—formatted to Mac OS Extended (Journaled) or exFAT.

A PYXIS SSD Plate is also included; it can cradle an external USB-C drive or tethered smartphone.

Of course, you'll also want to attach handgrips, lens motors, MDR, wireless video, audio, Light Ranger and more. That's when you'll bolt Blackmagic's accessory PYXIS Rosette Plate onto the camera right side to add five ¼-20, four ⅜-20 threaded mounts, and a

Blackmagic PYXIS 12K camera body
4.17 in wide x 4.69 in high x 5.94 in deep

Camera Right Side with Standard Plate

Blackmagic PYXIS 12K

Hirth-tooth rosette for handgrip and extension arm.

PYXIS 12K records Blackmagic RAW (BRAW) “camera original” files as well as simultaneous H.264 1920 x 1080, 8-bit 4:2:0 HD proxies. You can upload these small proxy files directly to Blackmagic Cloud in real time, even while the camera is recording.

This is helpful for quick-turnaround work because the files can transfer directly to an editor’s DaVinci Resolve media bin. Any editor working anywhere in the world can get to work immediately while you are filming.

When uploading to Blackmagic Cloud, you can use an Apple or Android phone to connect to the Internet. Connect your smartphone to the camera’s USB-C port and then configure the PYXIS 12K menu for mobile data. You can also connect by wire using the camera’s Ethernet port.

At the rear of the PYXIS 12K, you’ll find a 12G-SDI output for monitoring in SDR, HDR, HD or 4K UHD. Menu settings (familiar to Blackmagic camera users) enable or disable LUTs, camera status text and overlays.

blackmagicdesign.com/products/blackmagicpyxis

Blackmagic PYXIS 12K Specs

- 35.64mm x 23.32mm Full Frame RGBW 12K 12288 x 8040 sensor.
- Optical Low Pass filter.
- Pixel Pitch: 2.9 microns (0.0029 mm).
- Choice of 3 models: L-Mount (20mm FFD), PL Mount with /i (52mm FFD), Locking EF Mount (44mm FFD).
- Supports lens data, autofocus and auto iris on enabled L-Mount and EF Mount lenses.
- Side dial can control iris on enabled lenses.
- Metadata that can be embedded in Blackmagic RAW files: 3D LUT, Sensor Mode, Anamorphic Desqueeze, Camera and Lens Data.
- Built-in 4" HDR 1500 nit LCD touchscreen display.
- Records Blackmagic RAW and H.264 proxies.
- Dynamic Range: 16 Stops.
- ISO: 200 - 3200. Optimized for 800.
- Two internal CFexpress Type B media card slots.
- 10G RJ-45 Ethernet port.
- 12G-SDI BNC output up to 2160p60.
- REF IN / Timecode IN BNC connector.
- Mini XLR audio input.
- Onboard BP-U battery port.
- 12-18 V DC EXT Power Input.
- Size: 4.17" wide x 4.69" high x 5.94 deep.
- Weight: 3.5 lb

Blackmagic PYXIS 12K

Left Side with Monitor / Menu Display

Front view of L-Mount and Full Frame Sensor

Right Front

Right Rear

Top

Bottom

Blackmagic Design PYXIS 12K

What's with the name? Kristian Lam, Senior Product Manager, Blackmagic Design explains the name:

Just as URSA is the name of a constellation, PYXIS is also named after a minor constellation in the southern sky. PYXIS also means "small box" in Latin, which we thought was a nice coincidence and cheeky word play given that this is a box style camera.

L, PL or EF Mount?

L-Mount lets you attach lenses from ever-growing members of the L-Mount Alliance: Leica, SIGMA, Panasonic, DJI, Samyang and Viltrox. Also, the short (20mm) flange focal distance enables a universe of lenses that will fit with adapters. If you're only planning on PL lenses or EF lenses, those mounts have /i and EF protocol contacts. Currently, I don't know of any L to PL mount with metadata pass-through. Sigma's MC-21 L-Mount to EF Mount Converter has lens metadata and power pass-through.

Can you use any USB-C cable for the EVF/Monitor?

The viewfinder port outputs a DisplayPort signal. Use a DisplayPort compatible USB-C cable.

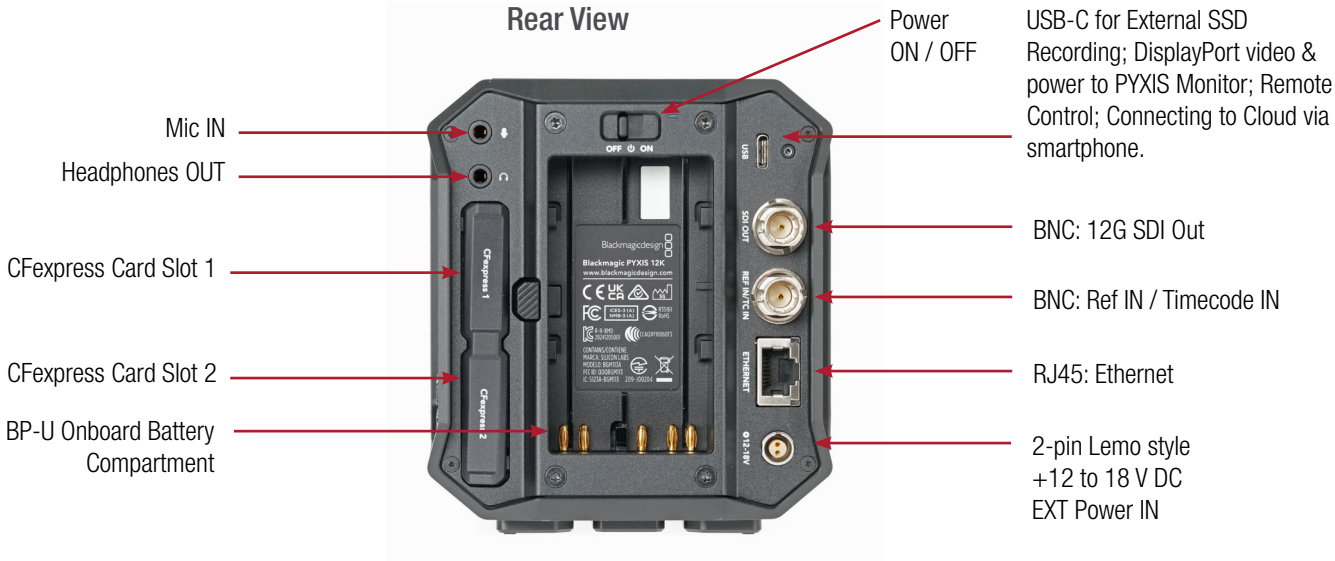
Front view

Rear view with EVF, Monitor, and Onboard Battery

Blackmagic PYXIS 12K

Camera Left Side

Rear View



Blackmagic PYXIS 12K

PYXIS 12K with PL Mount

PYXIS 12K with EF -Mount

PYXIS 12K with L-Mount

L-R: PYXIS 12K with PL Mount, EF Mount and L-Mount

A PYXIS 12K with L-Mount can give you the most lens choices because of the large variety of available L-Mount adapters.

It would be nice if someone made L to PL and L to LPL adapters that pass /i lens metadata to the camera's L-Mount.

Leitz Cine L-Mount to LPL Adapter

Front View

Blackmagic PYXIS 12K on Cartoni MIXO 21

Blackmagic PYXIS 12K on Cartoni MIXO 21

Blackmagic PYXIS 12K Viewing

There are several essential Blackmagic Design accessories for PYXIS 12K: Top Handle, URSA Cine EVF and PYXIS Monitor. The URSA Cine EVF comes with a mounting bracket that slides up and down at the front of the Top Handle. It comes with 15mm carbon fiber rods to move the EVF towards the front or back, and a 19mm rod to adjust it closer or farther from the body. The PYXIS Monitor has a 5" display and provides touchscreen camera control.

The URSA Cine EVF is a 6.22 million dot OLED 1920 x 1080 viewfinder with a motion sensor that turns it on or off..

The EVF has user-definable buttons. Defaults are: ZOOM (for focus), EXPOSURE Tools (False Color, Zebras) and REC (Start/ Stop). Three Function buttons:
Default 1 = Focus Assist (peaking, lines)
Default 2: Display LUT.
Default 3: Status Text.

Top

Bottom

PYXIS 12K conveniently connects simultaneously with both the EVF and PYXIS Monitor.

PYXIS Monitor connected to the rear USB-C port via a single USB-C DisplayPort / Power cable.

Front

URSA Cine EVF connected to the front FINDER port via a single USB-C DisplayPort / Power cable.

PYXIS 12K EVF + Monitor

A trifecta of concurrent viewing options: PYXIS Monitor, URSA Cine EVF and built-in camera left side display.

The PYXIS Monitor EVF Kit has the same top dovetail mount and rods that come with the URSA Cine EVF.

PYXIS Monitor Kit comes with a different set of mounting options: PYXIS Monitor Swivel Mount and a Dovetail Shoe to attach the monitor without a top handle or to the camera right side.

Camera Right Side Plate has two ¼-20 threads and one 3/8-16 thread

PYXIS 12K with Sigma CONTEMPORARY 45mm F2.8 DG L-Mount prime lens.

Swivel Mount

Dovetail Shoe attaches with one ¼-20 bolt

PYXIS Monitor attached to camera right side with Swivel Mount and PYXIS Monitor Dovetail Shoe using one 1/4-20 bolt.

PYXIS Monitor on the camera right side provides easy access to menus.

PYXIS 12K EVF Positions

URSA Cine EVF on PYXIS 12K with display showing L-Mount lens data of Sigma 28-45 T2.0 AF Cine zoom.

URSA Cine EVF Extension Arm attaches to an eyepiece leveling rod.

EVF mounted forward for shoulder-resting and handheld setups.

EVF bracket arm positioned vertically.

EVF positioned towards the rear.

Top view

PYXIS 12K Monitor Positions

PYXIS Monitor mounted at front of Top Handle.

PYXIS Monitor mounted on top of Top Handle.

PYXIS Monitor mounted in front for shoulder-resting or handheld.

PYXIS Monitor mounted directly on top of camera, without Top Handle.

Medium Format style: PYXIS Monitor on top of camera.

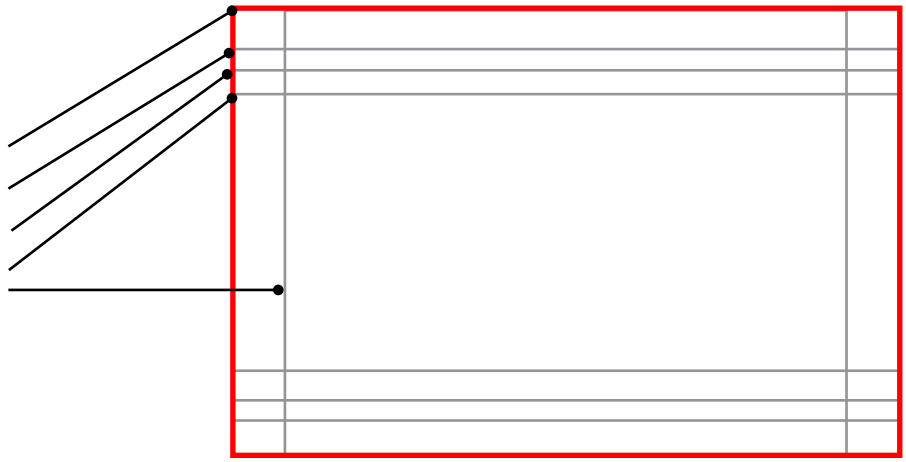
Sigma AF CINE LINE
28–45mm T2 FF
zoom lens

Medium Format style:
PYXIS Monitor on top of camera.

Blackmagic PYXIS 12K Sensor Modes

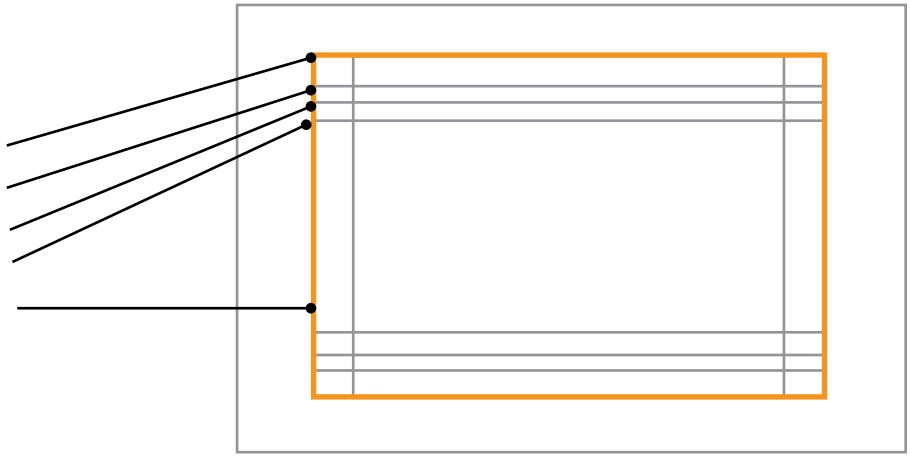
12K Large Format Sensor Mode

Aspect Ratio	Resolution	Sensor Are WxH (mm)	Ø (mm)
3:2	12288 x 8040	35.64 x 23.32	42.59
16:9	12288 x 6912	35.64 x 20.05	40.89
17:9	12288 x 6480	35.64 x 18.792	40.29
2.4:1	12288 x 5112	35.64 x 14.82	38.60
6:5	9648 x 8040	27.98 x 23.32	36.42



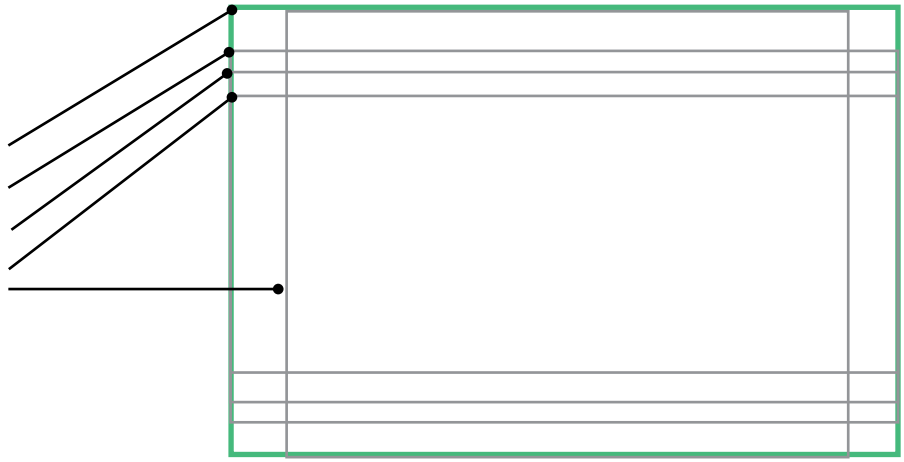
9K Super35 Sensor Mode

As-pect Ratio	Resolution	Sensor Area WxH (mm)	Ø (mm)
3:2	9408 x 6264	27.28 x 18.17	32.78
16:9	8688 x 4896	25.20 x 14.20	28.93
17:9	9312 x 4896	27.00 x 14.20	30.51
2.4:1	9312 x 3864	27.00 x 11.21	29.23
6:5	7680 x 6408	22.27 x 18.58	29.00



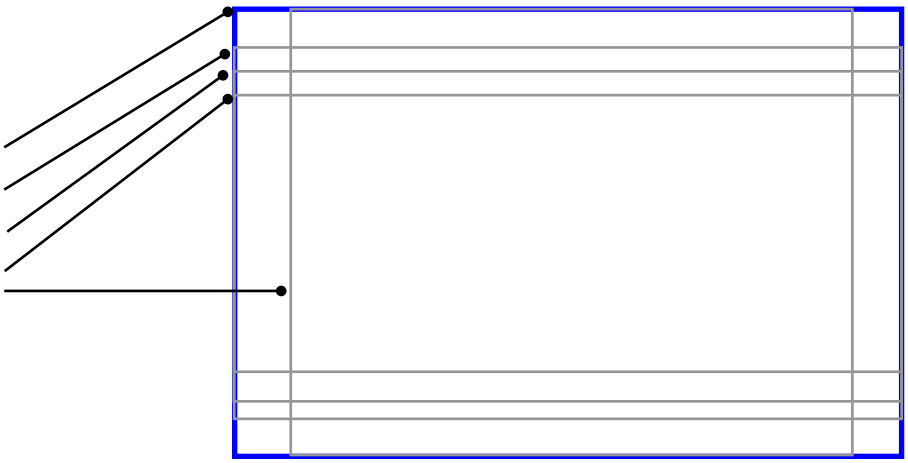
8K Large Format Sensor Mode

Aspect Ratio	Resolution	Sensor Area WxH (mm)	Ø (mm)
3:2	8192 x 5360	35.64 x 23.32	42.59
16:9	8192 x 4608	35.64 x 20.05	40.89
17:9	8192 x 4320	35.64 x 8.792	40.29
2.4:1	8192 x 3408	35.64 x 14.82	38.60
6:5	6432 x 5360	27.98 x 23.32	36.42



4K Large Format Sensor Mode

Aspect Ratio	Resolution	Sensor Area WxH (mm)	Ø (mm)
3:2	4096 x 2680	35.64 x 23.32	42.59
16:9	4096 x 2304	35.64 x 20.05	40.89
17:9	4096 x 2160	35.64 x 18.792	40.29
2.4:1	4096 x 1704	35.64 x 14.82	38.60
6:5	3216 x 2680	27.98 x 23.32	36.42



PYXIS 12K Sensor Modes, Resolution, Image Area, Max FPS, etc

Sensor Mode	Aspect Ratio	Resolution	Sensor Area	Picture Width mm	Picture Height mm	Diagonal mm	Max Frame Rate - FPS	Codec
12K Large Format	3:2 Open Gate	12,288 x 8040	Full Width	35.64	23.32	42.59	40	Black-magic RAW
	16:9	12,288 x 6912	Full Width	35.64	20.05	40.89	45	
	17:9	12,288 x 6480	Full Width	35.64	18.792	40.29	50	
	2.4:1	12,288 x 5112	Full Width	35.64	14.82	38.60	60	
	6:5	9648 x 8040	Full Height	27.98	23.32	36.42	40	
9K Super35 Cropped	3:2	9408 x 6264	Super 35 cropped	27.28	18.17	32.78	50	Black-magic RAW
	16:9	8688 x 4896	Super 35 cropped	25.20	14.20	28.93	65	
	17:9	9312 x 4896	Super 35 cropped	27.00	14.20	30.51	65	
	2.4:1	9312 x 3864	Super 35 cropped	27.00	11.21	29.23	80	
	6:5	7680 x 6408	Super 35 cropped	22.27	18.58	29.00	50	
8K Full Frame (LF) Scaled x 1.5	3:2 Open Gate	8192 x 5360	Scaled Full Width	35.64	23.32	42.59	72	Black-magic RAW
	16:9	8192 x 4608	Scaled Full Width	35.64	20.05	40.89	84	
	17:9	8192 x 4320	Scaled Full Width	35.64	18.792	40.29	90	
	2.4:1	8192 x 3408	Scaled Full Width	35.64	14.82	38.60	112	
	6:5	6432 x 5360	Scaled Full Height	27.98	23.32	36.42	72	
4K Full Frame (LF) Scaled x 3	3:2 Open Gate	4096 x 2680	Scaled Full Width	35.64	23.32	42.59	72	Black-magic RAW
	16:9	4096 x 2304	Scaled Full Width	35.64	20.05	40.89	84	
	17:9	4096 x 2160	Scaled Full Width	35.64	18.792	40.29	90	
	2.4:1	4096 x 1704	Scaled Full Width	35.64	14.82	38.60	112	
	6:5	3216 x 2680	Scaled Full Height	27.98	23.32	36.42	72	

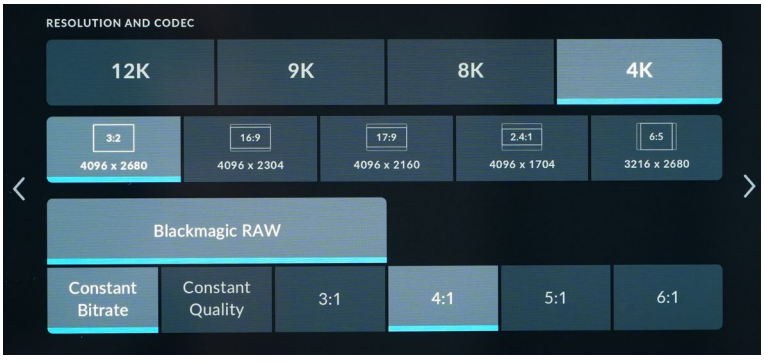
Calculated with pixel pitch of 0.0029 mm (2.9 microns).

PYXIS 12K Sensor Mode Menu conveniently shows a graphic display of aspect ratios and how they fit the frame

12K Sensor Mode

9K Sensor Mode

8K Sensor Mode



4K Sensor Mode

Characters: Sigma AF CINE 28-45 on PYXIS 12K

Character as in look of a lens and the character who does FDTimes—abandoned by talent and crew after long hours of tabletop product shots, this character resorted to cine self-portraiture to try the new Sigma AF CINE LINE 28-45mm T2 FF on a Blackmagic PYXIS 12K camera.

Working in multi-hyphenate mode as Director-producer-DP-Character-Gaffer-AC-DIT is a foolish endeavor. Not as foolish as producer being lower case like p.g.a. while Director as in DGA is upper case. But I digress.

Fortunately, the PYXIS 12K with L-Mount allows autofocus and auto iris with so-equipped lenses. And as the name says, the Sigma AF Cine 28-45 T2 FF (Full Frame) can switch seamlessly from auto to manual focus with the flip of a switch. The iris ring rotates from familiar third-stop linear increments to A as in Auto.

Here's a look into the future of cine lens design. Bold statement, but Jarred Land and others have been clamoring for this for years. These have reliable lens motors on the inside but familiar M0.8 pitch gears on the outside.

Repeatable Manual focus with hard end stops. High resolution, accurate encoders enable switching from Manual to Auto Focus without a jump. The internal lens motors are silent and swift. The lens elements dance in ways familiar to conventional Auto Focus lenses but are unfamiliar to analog cam and helicoid systems. Power to run this lens comes from the camera and lens metadata gets transferred back to the camera.

The new Sigma 28-45 and 28-105 AF CINE Full Frame Zooms take this a step further, with highly accurate autofocus and manual focus, precise tracking and industry-standard M0.8 pitch geared focus, zoom and clickless iris rings. The lens goes from autofocus and auto iris to manual control by simply sliding a switch. Also unusual and very welcome: manual focus has hard stops and repeatable focus marks. This is not an easy thing to have achieved.

The optical design of the AF Cine 28-45mm T2 FF builds on Sigma's popular 28-45mm F1.8 DG DN | Art lens. Sigma describes it as a lens that can "handle multiple shooting styles and setups in many different environments that were previously challenging with traditional still lenses or cine lenses. The AF Cine Line, which embodies Sigma's latest technology, expands the possibilities of visual expression and brings new possibilities to future film production.

These lenses deliver wonderful images and beautiful bokeh at all focal lengths, along with character. They are all made in Sigma's Aizu factory next to Mount Bandai, about 4 hours by train north of Tokyo.

sigma-global.com *sigmaphoto.com*

Sigma AF CINE 28-45 on PYXIS 12K

Sigma AF Cine Line 28- 45mm T2 FF

• Lens Mount:	L-Mount, E-mount
• Focal Length:	28- 45 mm
• Aperture:	T2 -T16
• Iris Blades:	11
• Close Focus [1]:	0.3 m / 1'0
• Magnification Ratio:	1:4
• Front Diameter:	95 mm / 3.7"
• Front Filter	M82 x 0.75 mm
• Length w L-Mount [2]:	151.3 mm / 6"
• Weight with L-Mount:	1.2 kg / 2.7 lb
• Focus Ring Rotation	200°
• Zoom Ring Rotation	60°
• Iris Ring Rotation :	57°

[1]. Close focus measured from image plane.
[2]. Length measured from front to flange.

URSA Cine 17K 65 & PYXIS 12K Comparisons

URSA Cine 17K 65 with Sigma Aizu 75mm T1.3 PL Mount

PYXIS 12K with Sigma AF Cine 28-45 T2 L-Mount

URSA Cine 17K 65

PYXIS 12K

URSA Cine 17K 65 - Top

PYXIS 12K - top

URSA Cine 17K 65 & PYXIS 12K

URSA Cine 17K 65 with Sigma Aizu 75mm T1.3 PL Mount

PYXIS 12K with Sigma AF Cine 28-45 T2 L-Mount

URSA Cine 17K 65

PYXIS 12K

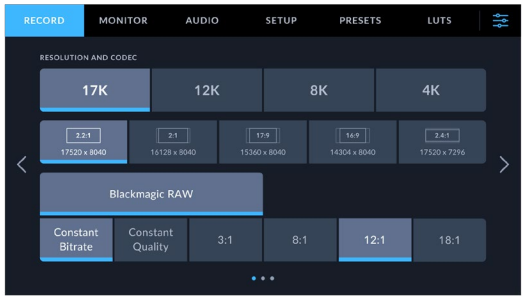
URSA Cine 17K 65

PYXIS 12K

Blackmagic Design Large and Larger Format Cameras

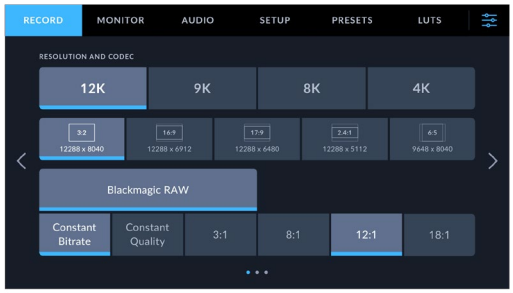
Similarities of style and menu structure in Blackmagic Design's family of cameras:
URSA Cine 17K 65mm, URSA Cine 12K LF, and PYXIS 6K LF.

URSA Cine 17K 65mm Camera



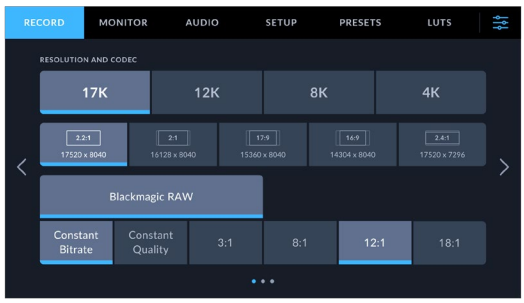
URSA Cine 17K 65
with LPL mount
Sensor size: 50.81 x 23.32 mm
Diagonal: 55.91 mm

URSA Cine 12K LF Camera (Full Frame)



URSA Cine 12K LF
with PL mount
Sensor size: 35.64 x 23.32 mm
Diagonal: 42.59 mm

URSA Cine 17K 65mm Camera



URSA Cine 17K 65
with LPL mount
Sensor size: 50.81 x 23.32 mm
Diagonal: 55.91 mm

Blackmagic Design PYXIS 12K & URSA Cine 17K 65

PYXIS 12K

URSA Cine 17K 65

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blackmagicdesign.com/products/blackmagicpyxis

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Camera Report
by Jon Fauer, ASC

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