Jon Fauer, ASC www.fdtimes.com Apr 2025 Issue 130

FILM AND DIGITAL TIMES

Art, Technique and Technology in Motion Picture Production Worldwide

FILM AND DIGITAL TIMES

Art, Technique and Technology

Film and Digital Times is the guide to technique and technology, tools and how-tos for Cinematographers, Photographers, Directors, Producers, Studio Executives, Camera Assistants, Camera Operators, Grips, Gaffers, Crews, Rental Houses, and Manufacturers.

It's written, edited, and published by Jon Fauer, ASC, an award-winning Cinematographer and Director. He is the author of 14 bestselling books—over 120,000 in print—famous for their user-friendly way of explaining things. With inside-the-industry "secrets-of the-pros" information, Film and Digital Times is delivered to you by subscription or invitation, online or on paper. We don't take ads and are supported by readers and sponsors (list below).

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This edition of FDTimes follows beautifully foolish flights around the world in 21 days, chasing the brilliantly fun BF camera, company visits, news and new gear from London to Tokyo to Kawasaki to Yokohama, from BSC Expo to CP+ and back to New York.

With apologies to Hiroshige and his *Thirty-Six Views of Mount Fuji*, the magic hour thirty-seventh view on this edition's cover was taken with the new Sigma BF camera. Looking over Roppongi Hills, Mount Fuji is 84 miles to the west. Sigma's head office in Kawasaki is 20 miles away—and that is where the Sigma BF camera was introduced the following day.

The mountain looms large although mostly obscured by the skyline in this page's thirty-eighth view of Mount Fuji from Yokohama harbor. At right is the Pacifico convention center, home to CP+ (International Camera and Photo Imaging Show). It is described as "the world's largest photo, camera and imaging equipment show." Organized by the Camera and Imaging Products Association (CIPA) of Japan, 125 companies exhibited and more than 55,000 visitors attended this year.

Sony City Minato Mirai is a few blocks inland, near the Yokohama Media Tower (at right).

The Beautiful Foolishness of Things

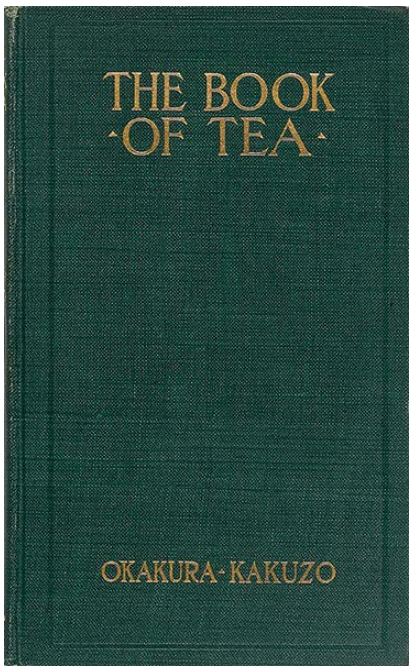
BF is the new camera from Sigma.

The name BF, from Beautiful Foolishness, was inspired by *The Book of Tea, A Japanese Harmony of Art, Culture, and the Simple Life*, written by Okakura Kakuzō in 1906.

Born in Yokohama in 1863, Okakura (Tenshin) Kakuzō studied in Japan, Europe and the United States. He was famous for the preservation of traditional Japanese art while also encouraging modern art during the Meiji era. He co-founded the Nihon Bijutsu-in (Art Institute of Japan) in 1898 and was appointed director of the Tokyo School of Fine Arts in 1890. In 1910, Okakura Kakuzō became the Curator of Chinese and Japanese Art at Boston's Museum of Fine Arts.

At left: Okakura Kakuzō in 1905. At right: 1906 Fox Duffield & Company, First Edition. Photos courtesy of Tenshin Memorial Museum of Art in Ibaraki where the originals are stored.

The following is edited from the original text.



"Tea began as a medicine and grew into a beverage. In China, in the eighth century, it entered the realm of poetry as one of the polite amusements. The fifteenth century saw Japan ennoble it into a religion of aestheticism—Teaism. Teaism is a cult founded on the adoration of the beautiful among the sordid facts of everyday existence. It inculcates purity and harmony, the mystery of mutual charity, the romanticism of the social order. **It is essentially a worship of the Imperfect**, as it is a tender attempt to accomplish something possible in this impossible thing we know as life.

"The long isolation of Japan from the rest of the world, so conducive to introspection, has been highly favourable to the development of Teaism. Our home and habits, costume and cuisine, porcelain, lacquer, painting—our very literature—all have been subject to its influence. No student of Japanese culture could ever ignore its presence.

"At the end of the sixteenth century the Hollanders brought the news that a pleasant drink was made in the East from the leaves of a bush. In 1610, ships of the Dutch East India Company brought the first tea into Europe. The beverage soon became a necessity of life—a taxable matter. We are reminded in this connection what an important part it plays in modern history. American independence dates from the throwing of tea-chests into Boston harbour.

"There is a subtle charm in the taste of tea which makes it irresistible and capable of idealisation. It has not the arrogance of wine, the self-consciousness of coffee, nor the simpering innocence of cocoa.

"Teaism is the art of concealing beauty that you may discover it, of suggesting what you dare not reveal. It is the noble secret of laughing at yourself, calmly yet thoroughly, and is thus humour itself,—the smile of philosophy. Perhaps nowadays it is our demure contemplation of the Imperfect that the West and the East can meet in mutual consolation.

"Meanwhile, let us have a sip of tea. The afternoon glow is brightening the bamboos, the fountains are bubbling with delight, the soughing of the pines is heard in our kettle. Let us dream of evanescence, and linger in the **beautiful foolishness** of things."

Sigma BF Beautifully Foolish, Brilliantly Fun Camera

Camera for Art. Camera as Art.

Typically, cameras have served in the creation of art. This camera is a work of art.

February 24, 2025. The new Sigma BF camera premieres at Sigma Corporation's worldwide headquarters in Kawasaki, Kanagawa. It's an hour ride from Roppongi Hills. Tokyo—west, in the direction of Mount Fuji.

Buckets of Ruinart champagne and strong coffee await. It is 9 am on a cool, crisp, cloudless morning. Guests arrive from around the world: photographers, filmmakers, influencers, press, Sigma global officers, distributors, resellers.

Kazuto Yamaki, CEO of Sigma, takes the stage in a giant tent. After a brief company history and unveiling of Sigma's new logo and branding, he presents a new 16-300mm F3.5-6.7 DC OS | Contemporary (18.8x zoom ratio, the world's largest for an APS-C format mirrorless lens) and 300-600mm F4 DG OS | Sports (lightweight and with enough image stabilization to use handheld). Next, Mr. Yamaki announces that the DN designation is no more (as Sigma plans to provide lenses only for mirrorless cameras). and then, the dramatic moment arrives. He holds aloft the new Sigma BF. The crowd goes wild.

The BF camera concept evolved as Mr. Yamaki asked how Sigma could contribute to the imaging industry in a era when smartphones were capturing so many images and most mirrorless cameras looked and felt the same—with lots of buttons, dials and complex menus.

It was time to streamline the act of photography with a new concept, with radical simplicity, celebrating the art of engineering and engineering for art, photography for happy moments, for memorable occasions…a modern day camera obscura.

Mr. Yamaki explained that the name BF was inspired by the Beautiful Foolishness in Okakura Kakuzo's *The Book of Tea*: "Let us dream of evanescence, and linger in the beautiful foolishness of things."

The context of "foolishness" here is not negative. In juxtaposing Beautiful with Foolishness, both Kakuzo and Kazuto elevate something that is normally functional to a level that is artistic, stylish and interesting—while perhaps seeking perfection in imperfection.

This is not your father's mirrorless camera. The Sigma BF has only four buttons and a dial. You operate these with your thumb to control the five things that matter the most: shutter speed, aperture, ISO, exposure compensation and color modes. The shutter release / record start-stop button is on top.

Sigma BF

It takes seven hours for machinists in the Sigma Aizu factory to mill each Sigma BF unibody part from a solid block of aluminum. Sculpt would be the more appropriate word. This is a camera to hold comfortably in your hand. Its distinct edges and milled aluminum body call for careful handling. Slim, stylish, lightweight—it is a constant companion camera to take everywhere.

It is fun to use, a camera that commands attention with its style and ease of use. It has been described as a fashion icon, a work of art, a camera to capture happy moments and a beautifully fun tool to create art.

Of course, the BF takes beautiful still and moving images.

I took a pre-release BF on a street photography walk around Tokyo the day after its launch. I was stopped everywhere. Everyone wanted to try it. The consensus was: wow, cool, stylish, intuitive. You don't need an FDTimes in-depth tutorial. You don't have to dive deep into menus. It takes less than two minutes to figure it all out. Beautifully Fast.

The Sigma BF is narrower than the average smartphone and about twice as thick. Its L-Mount pairs beautifully with Sigma Art, Sports and Contemporary lenses or any L-Mount Alliance lens (Sigma, Leica, Panasonic, etc). Or, add an L-Mount to PL or LPL adapter to look through the world of cine lenses.

BF has a Full Frame (35.9 x 23.9 mm) 24.6 MP back-illuminated CMOS sensor.

It is a Beautifully Functional camera for stills, with choices of composition in 1:1, 6x7, 4:3, A size, 3:2, 16:9 and 21:9 formats.

Video is 16:9 with choices of additional 1.33:1, 1.85:1, and 2.39:1 framelines. There's 6K L-Log, as well as H.264 and 265.

It is a new way to think differently about photography and cine. It relinquishes the multitude of modes, buttons and dials dedicated to singular functions.

Mr. Yamaki said, "these were holdovers from the analog film days. The BF camera's most important thing is its simplicity.

"We wanted to create the easiest camera to use. While the lens remains the soul of photography, the camera still profoundly shapes the images we take — directly, indirectly, even subconsciously.

"Without compromising on features or performance, the BF has a design that removes everything that distracts from your interactions with the image. The BF presents a pure photographic experience free of frustration."

BF: Banishing Frustration.

Sigma BF L-Log and Aspect Ratios

Kazuto Yamaki on the Sigma BF

Kazuto Yamaki, CEO of Sigma

Jon Fauer: When did you first come up with the concept for the BF? How did it evolve?

Kazuto Yamaki: With the improvement in the image quality of smartphones, they have become important photographic devices. At the same time, the significance of dedicated camera has gradually been questioned. I thought it was a serious threat for us. So over the past few years, I have been asking myself how we can contribute to the development of the imaging industry or what we can do for photography in order to survive in this rapidly changing industry.

We started the project in the 2020 timeframe. In the beginning, the engineering team was researching several underlying technologies such as sensor, ISP (processor), LCD, battery, etc. During this time, I had been thinking about the product concept and came up with the idea in 2022.

The BF is radically different from the Sigma fp L camera, but shares some similar design elements and style.

Holding a camera in our hands allows us to find beauty in our daily lives, making them more meaningful and delightful. I believed we needed a dedicated camera for those everyday lives. The problem is that many modern digital cameras are not compatible with frequent day-to-day use. So we wanted to create a camera that is small, simple and highly usable for everyday photography. The concept of our new camera is an everyday system camera for creative minds. We call it the Sigma BF.

How would you describe the design of this camera?

The Sigma BF has quite a distinctive style. You may call it an act of radical simplicity. This design philosophy, radical simplicity, runs through every aspect of the BF, but it's mainly represented by three elements. They are unibody construction, single finger operation user interface, and dual layer menu system.

How did *The Book of Tea* inspire the name and the design?

The name of "Beautiful Foolishness" came to my mind after I had developed the BF's product concept. I liked these words for several years and it always stayed somewhere in my mind. I thought the idea of Beautiful Foolishness would be the best name for the camera, which has been designed to help make your daily photography more meaningful and enjoyable.

But this is not a foolish camera. Please discuss your meaning of foolish — something fun but not frivolous?

It takes over seven hours to machine one camera body. I think that's crazy. But it's quite difficult to explain because I intended several meanings. It has double or triple meanings. First of all, Okakura compared everything in the world, including some good things, bad things, beautiful things, ugly things, appropriate or inappropriate... with a cup of tea. I wished for users to enjoy their daily life with a camera, in the manner that Okakura suggested. Also, a camera with radical simplicity, and which is quite different from other cameras, can be called Beautiful Foolishness. And for a company such as Sigma to make such ambitious camera can also be called Beautiful Foolishness.

Please discuss the Sigma re-branding campaign.

I was struggling to find an answer to the challenge of smartphones as cameras. After careful consideration, I concluded that we should return to the spirit of the company's founding. I remembered how my father often said that technological innovation is an art in itself. We can contribute to the art of visual expression by defining our technology to the level of an art form and supplying the very best products to photographers and image makers.

We are fully dedicated in excelling at the art of engineering, engineering for art, commitment to technology, craftsmanship and art. That is our mission statement going forward. To make this commitment even clearer, we are renewing part of our brand visual identity. It reflects our commitment to unleash creative potential in photography.

So, now we have introduced a new look and a new logo. We worked with Stockholm Design Lab (SDL). They have been quite helpful to develop our new visual identity. Some people asked whether SDL was involved in the BF camera project. No, they were not involved with the camera development or the product design. It's purely a Sigma project.

You quoted your father: "People take photos when they're happy." And you said, "We are motivated to work for people's happy moments with our high quality products and services."

Happy moments is our corporate mission.

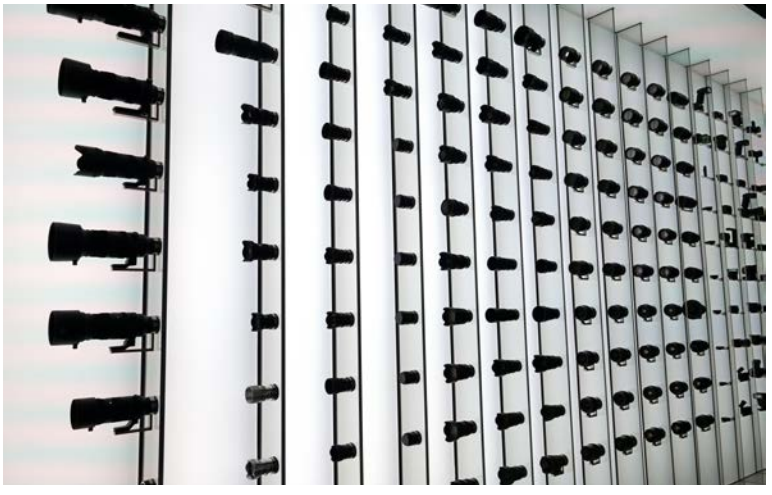
The BF camera launch in Japan was carefully planned, with hundreds of people from around the world.

We wanted to invite those guests to our headquarters in Tokyo and our factory in Aizu. That's why we decided to have the launch event in Japan. Initially, we had an idea to do it in New York or London, but we thought it best to do it in Tokyo because we could then take them to Aizu, about 5 hours north by bus.

Beautiful Foolishness as well as Beauty and Function...

With the Sigma BF, we present an uncompromising new vision for the digital camera. It represents a more intuitive way, streamlined to make the act of photography as effortless as possible. The BF's most important feature is its simplicity. We wanted to create the easiest camera to use, innovative yet inspired by the humble origins of photography. This camera is designed to accompany you throughout your day and to capture the spontaneous beauty of everyday life. The BF balances performance with simplicity and returns the focus to what matters most: your photographs.

BF Worldwide Launch at Sigma Head Office in Kawasaki



Sigma BF L-Mount

The BF comes in silver or black.
Its L-Mount accepts the ever growing family of L-Mount lenses not only from Sigma, but also from Leica, Panasonic and others.
Of course, the Sigma DG Contemporary I series lenses that previously came in black now are also available in matching silver.

Sigma DG Contemporary I Series L-Mount Lenses

Focal Length (mm)	17mm	20mm	24mm	24mm	35mm	45mm	50mm	65mm	90mm
Maximum Aperture	F4	F2	F2	F3.5	F2	F2.8	F2	F2	F2.8
Minimum Aperture	F22	F22	F22	F22	F22	F22	F22	F22	F22
Close Focus (in)	4.8 in	8.7 in	9.7 in	4.3 in	10.6 in	9.4 in	17.8 in	21.7 in	19.7 in
Close Focus (cm)	12 cm	22 cm	24.5 cm	10.8 cm	27 cm	24 cm	45 cm	55 cm	50 cm
Magnification Ratio	1:3.6	1:6.7	1:6.7	1:2.0	1:5.7	1:4.0	1:6.9	1:6.8	1:5.0
Front Filter Size Ø	55 mm	62 mm	62 mm	55 mm	58 mm	55 mm	58 mm	62 mm	55 mm
Length with L-Mount	1.9 in 48.8 mm	2.9 in 72.4 mm	2.8 in 72 mm	1.9 in 48.8 mm	2.6 in 65.4 mm	1.8 in 46.2 mm	2.7 in 68.0 mm	2.9 in 74.7 mm	2.4 in 59.7 mm
Weight with L-Mount	7.9 oz 225 g	13.1 oz 370 g	12.9 oz 365 g	7.9 oz 225 g	11.5 oz 325 g	7.6 oz 220 g	12.3 oz 350 g	14.3 oz 405 g	10.4 oz 295 g
Elements	9 in 8 groups	13 in 11 groups	13 in 11 groups	10 in 8 groups	10 in 9 groups	8 in 7 groups	11 in 9 groups	12 in 9 groups	11 in 10 groups
Iris Blades (rounded)	7	9	9	7	9	7	9	9	9

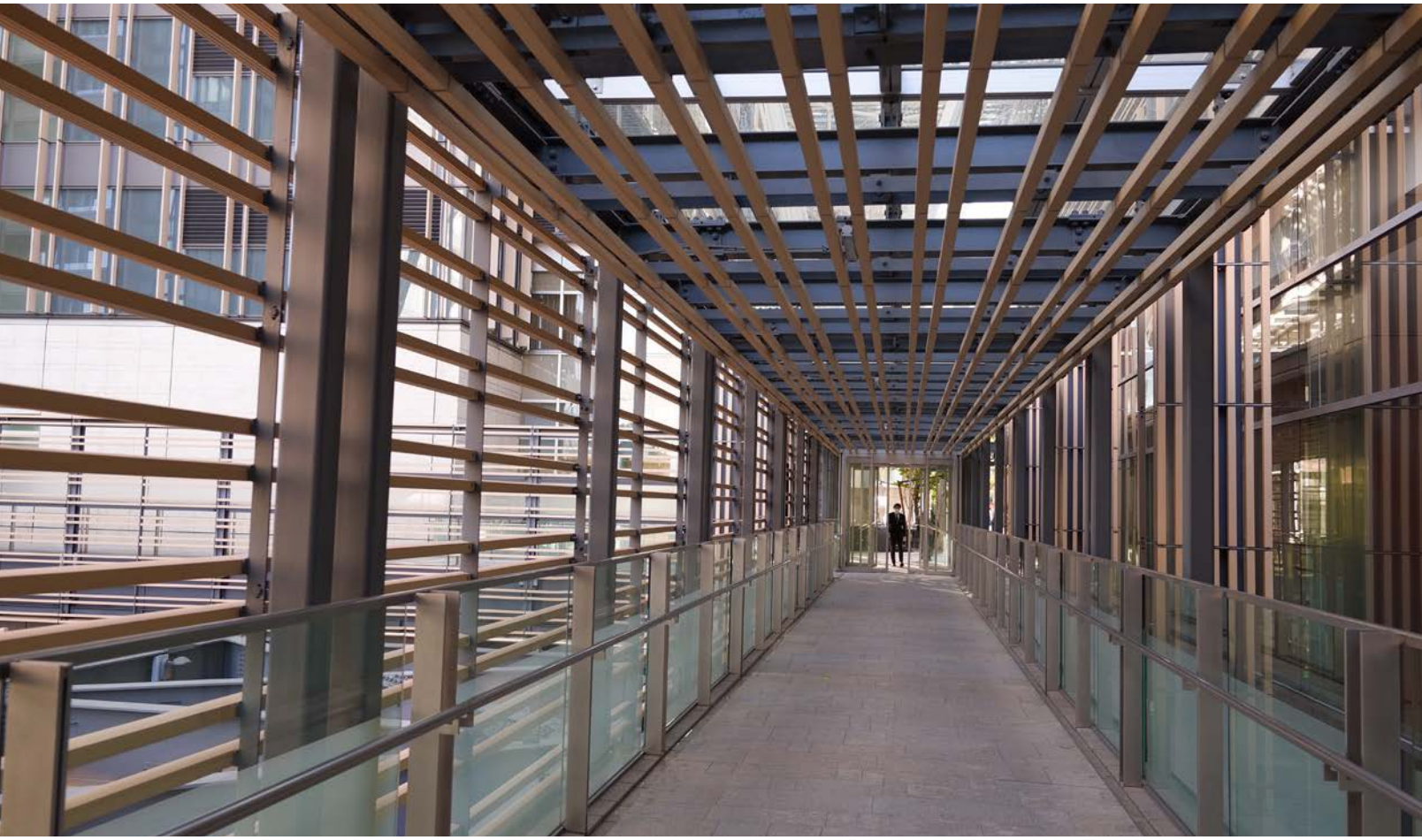
"DG" lenses cover Full Frame. Sigma has dropped the "DN" name formerly used to identify the mirrorless camera format as their future lenses will all be for mirrorless mounts. Sigma Contemporary I series lenses (above) are compact and lightweight, with high performance. They come in L-Mount and Sony E-Mount. (Sony E-mount compatible models will continue to be available in black only.)

BF Launch at CP+ Yokohama

CP+ 2025 opened February 27 in Yokohama's Pacifico convention center. The lines were long to enter the Sigma "tent" for hands-on time with the new BF camera and lenses. That evening, Sigma hosted a cruise around Yokohama harbor, with a multitude of BF's capturing very happy moments.

A few days after CP+ (above, left), the BF popped up at Sigma's pop-up in New York's big fashionable Nolita. (Photo above right courtesy of Sigma). Below, L-R: Kazuto Yamaki (CEO of Sigma) and Mark Amir-Hamzeh (President, Sigma America).

BF: Beauty and Function



At L'Atelier de Joël Robuchon in Roppongi Hills, you sit at a counter enjoying the art of modern French cuisine with local twists. Chef Robuchon once wrote, "As in the case of paintings, films and all other arts which move people's hearts, cooking is also accompanied by setbacks in the creative processes. We sometimes come up against a wall of concerns and are totally at a loss. We are, however, supported by the brilliant smiles of our guests when we see them enjoying our dishes. We wish that a dish prepared by us would present you with a happy moment."

Happy moments—taken by this very happy BF photographer.

Nadaman was founded by Nadaya Mansuke in 1830 in Osaka. There are now 25 Nadaman restaurants, "scattered like petals across Japan, and 4 overseas, not only promising dishes that have impeccable flavors and visuals but also surround you in an immaculate space to clear your mind and focus on the present."

DJI RS 4 Mini

- Payload: 0.4-2 kg / 0.88-4.4 lb.
- Pan, tilt and roll speeds up to 360°/second.
- Pan Axis: 360° continuous rotation.
- Roll Axis: -95° to +235°.
- Tilt Axis: -110° to +210°.
- Axis Locks: Auto.
- Vertical Shooting: Supported
- Weight of Gimbal: Approx. 890 g / 2 lb).
- Extended Grip/Tripod: Approx. 140 g / 0.3 lb.
- Dimensions folded: 236×64×316 mm (L×W×H, excluding the tripod and Quick-Release Plate.)
- Unfolded: 175×182×338 mm (L×W×H, excluding camera, tripod, and Quick-Release Plate).
- Bluetooth pairing.

- DJI RS Intelligent Tracking Module weight: 19 g.
- Dimensions: 33.5×17.5×38.5 mm (L×W×H)
- Tracking Distance: 0.5-10 m.
- Works in lighting conditions > 20 lux / 1.86 fc.

The new DJI RS 4 Mini Gimbal Stabilizer almost seems color-coordinated with the new Sigma BF. It is an excellent choice for almost any camera system up to 4.4 lb. Here's looking at you Sony a7 series, FX3, LUMIX S1RII, Canon R series, Fujifilm X series, Leica SL3-S—even with zoom lenses.

Although missing some of the high-end features of DJI's RS 4 Pro (10 lb payload, LiDAR focus, etc), the RS 4 Mini costs about $500 less and is extremely capable.

The DJI RS 4 Mini is a lightweight (2 lb) gimbal stabilizer that you can operate with one hand. Sure, feel free to use two hands as well.

The RS 4 Mini has auto-axis locks. Pan, tilt and roll automatically unlock and lock when you turn it on or off.

Packing the RS 4 Mini into a bag or backpack is easier now that the arms fold flatter.

RS Intelligent Tracking Module

The RS Intelligent Tracking Module is a new accessory—not only for the RS 4 Mini but for the rest of the RS 4 series as well. It lets you keep someone composed in the same area within the frame and is very helpful when performing circling or backwards facing moves. The module has a range of 32.8'. It attaches with a magnetic quick release.

Shooting Modes

- Responsive mode: for fast action, especially circling.
- Smooth follow mode: following and parallel tracking.
- Vertical view for social media.
- Upright mode: standard mode for walking or running.
- Underslung mode: low-angle and tracking shots.
- Flashlight mode: for confined spaces.
- Briefcase mode: low-angles with optional handle.

Teflon Balancing

Balancing the RS 4 Mini is a breeze thanks to Teflon coatings on the arms. The tilt arm has a fine-tuning knob for fore and aft adjustment of the camera.

The UI has been upgraded for a more user-friendly experience.

DJI RS 4 Mini with BF and S1RII

Sigma BF

LUMIX S1RII

Sony City Minato Mirai in Yokohama

Sony City Minato Mirai is the new (since 2020) headquarters for Sony's Imaging Division, Medical and R&D departments. It is a pleasant 8-minute walk from the Yokohama waterfront. Nobutatsu (Nobu) Takahashi, General Manager of the Professional Imaging Technology Business Unit and Kei Takahashi, Senior Manager, Creator Support Division (R-L, bottom right photo) recommended the delicious Ramen in Sony's cheerful cafeteria.

Sony VENICE Extension System Mini (aka RIALTO Mini)

Sony shrunk RIALTO by 70%.

The new VENICE Extension System Mini (aka RIALTO Mini) is a wonderful new tethered sensor/lens mount block that is shorter than an iPhone.

The VENICE Extension System Mini (CBK-3621XS) is Sony's latest addition to the CineAlta line. It attaches directly to the VENICE 2 cinema camera.

RIALTO Mini has a VENICE 2 8K sensor. It is about 70% smaller than the original RIALTO, is significantly lighter and fits in the palm of your hand. Picture these setups: mounted in places you wouldn't have dreamed of or made much easier, handheld, stunts, skiing, sailing, rigged. To paraphrase Peter O'Toole in *The Stunt Man*, "If you could have done the tricks this camera can do, you'd be a happy person."

Rental houses will rejoice. No need to buy a new camera. RIALTO Mini "plugs into" existing VENICE 2 cameras very quickly.

Because it's so small, there wasn't room for internal ND filter wheels. Instead, RIALTO Mini has a clever, custom drop-in ND cartridge system with a clear and eight glass ND filters (ND0.3 - ND2.4). DPs and suppliers are already dreaming of effect filters: diffusion, fog, mist, glimmer, etc.

The design has been improved over the original. Rigging is easier. More mounting points have been added to attach accessories. The copper and fiber connecting cable between the RIALTO Mini and the VENICE 2 camera body is thinner and more flexible.

RIALTO Mini Details

- Official Name: VENICE Extension System Mini CBK-3621XS
- Same 8.6K Full Frame CMOS sensor as VENICE 2 8K.
- Same Sony E-mount with PL Mount Attachment. LPL, PV and other mounts will be available from third parties.
- Compatible with both VENICE 2 6K and 8K models.
- Drop-in filter slot on top of RIALTO Mini.
- Includes 1 clear and 8 ND drop-in filters. ND0.3, 0.6, 0.9, 1.2, 1.8, 2.1, 2.4 (1 to 8 stops). Filter density is recognized automatically by the VENICE 2 camera.
- Compact, Lightweight Camera Head Block with approximately 70% less volume than existing models.

Sony RIALTO Mini

Right to left: RIALTO Mini shown with native E-mount and drop-in filter; with PL Mount; original and much larger RIALTO.

- When two RIALTO Minis are placed side by side, the distance between the two optical centers (sensors) is approximately 64mm. This matches the average human interpupillary distance and is excellent for 3D rigs.
- Head dimensions: 63.9×103.2×60.2 mm (W×H×D). 2.5×4.1×2.4 inches.
- Weight (approx): 0.54 kg / 1.2 lb with E-mount. 1.05 kg / 2.3 lb with PL Mount.
- New 4.5 m / 14.8 ft Flexible Detachable Cable has a 7.6 mm diameter (3.3 mm thinner than the original model's 10.9 mm cable).
- Optional 12 m / 39.4 ft cable (CBK-12C3621).
- The cables are detachable, enabling easier installation of the camera head in confined spaces.
- Accepts lens metadata from E-mount and PL mount lenses. PL Mount has a 4-pin LEMO Metadata port.
- 15 mounting points around the camera head.
- Two assignable buttons for customizable functions such as record start/stop and EL Zone display toggle.
- 3-pin Fischer connector for start/stop, MDR and accessory connections.
- Final specifications may change.

Optional Accessories:

- If you lose or drop the ND filters, additional sets are available. They only come as a full set of 8 drop-in ND filters and a clear filter, identical to the set included with the system. Order using the official name: Camera Extension System ND Filter Kit (CBK-ND1K).
- Camera Extension System Cable 12m (CBK-12C3621).

The Sony RIALTO Mini system is in Sony's North Hall booth at NAB Show 2025. It will be available in Summer 2025.

Sony RIALTO Mini Camera Views

Bottom 4 photos by Keita Yasui.

Sony RIALTO Mini

L-R: Takuro Ema (Head of Product Planning). Kosuke Imagawa (Product Planner for VENICE Extension System Mini). Koji Morioka (Lead Mechanical Design). Yuya Morimoto (Mechanical Design). Risa Kagami (Product Planner for Product Planner for VENICE Extension System Mini).

Photo: Keita Yasui.

Leitz LPL Mount for Sony RIALTO Mini

Leitz Cine has a new LPL Mount for the Sony VENICE Extension System Mini—complete with pass-through /i lens metadata.

RIALTO Mini lens mounts attach over the native E-mount with 4 screws. This is different from VEN-ICE and BURANO lens mounts, which attach with 6 screws.

Paired with Leitz's LPL to PL Adapter, this new Leitz LPL Mount lets you save time and avoid screwing and unscrewing lens mounts. The LPL to PL Adapter locks into the LPL mount. Both have metadata contacts that pass /i lens data from the lens directly into the camera.

Leitz LPL Mounts accommodate most lenses, including re-housed vintage optics and lenses with rear filters attached.

The list price of the Rialt Mini LPL Mount with LPL to PL Adapter is €2,880 and will begin shipping July 2025. *leitz-cine.com*

Sony OCELLUS Camera Tracking System

OCELLUS is the new camera tracking system from Sony. It consists of 3 parts: a sensor unit that sits on top of the camera, a processing box to calculate data, and lens encoders.

These are some of the things that make it special:

1. Marker-free. It recognizes objects on set and on location, so you do not have to attach targets on ceilings, walls or the ground.

2. It has 5 image sensors. But it continues to provide accurate camera position and orientation data even if 4 sensors are blocked.

3. It works in extremely low light and crazy lighting conditions like concerts and places with strobes or flashes.

4. OCELLUS comes with 3 encoders that look like lens motors—for all your vintage lenses lacking metadata.

When Yutaka Okahashi, Product Planner of the original Sony VENICE camera and others joined Yasuharu Nomura and the team in the Virtual Production/Augmented Reality Department, many of us wondered what he was thinking.

A lot of thought went into OCELLUS. This is part of an entire system of Sony products that work together seamlessly—from sensor to screen, from cameras to Crystal LED VERONA displays, with OCELLUS and Sony's Virtual Production Tool Set to connect everything together.

Quick review. What is camera tracking? Why do we need it? Is it only for VFX? No.

Camera tracking records the position and movement of a real camera. It's an efficient replacement for using a tape measure to write down lens height, focal length, zoom, iris, camera tilt angle, distance from object, speed of dolly, etc. It replaces your old camera notebook, is more accurate and saves lots of time.

Once the camera tracking data is recorded digitally, you can use it to re-create the shot during (gasp) dreaded reshoots.

That was a basic scenario. Now, enter the digital world of VFX, composites, match moving, virtual studios (volumes) and augmented reality.

Sony describes OCELLUS as "a stable marker-free tracking system with multiple sensors and seamless camera integration for cinematic and broadcast applications, including sports, news, weather, news and more. Sony launches its first camera tracking system, OCELLUS (ASR-CT1), specifically designed to simplify and facilitate augmented reality and virtual production applications. OCELLUS is camera agnostic and can be used with both cinema and broadcast cameras."

OCELLUS sends the camera position and orientation data while the camera is shooting. The system comprises a sensor unit, a processing box, and three lens encoders. It can be used with Sony Cinema Line cameras, system cameras, and non-Sony cameras.

With the five image sensors and Sony's Visual SLAM (Simultaneous Localization and Mapping) technology, the system creates a reference map enabling stable marker-free tracking both indoors and outdoors.

When using Sony cameras, metadata regarding focus, iris and zoom values from the camera and lens can be obtained via the

Sony OCELLUS Details

camera's SDI output and is transmitted in real-time to external devices via Ethernet cable. OCELLUS supports /i lenses, B4 lenses, and E-mount lenses. The camera must support metadata-embedding on the SDI output. If the lens does not support metadata acquisition through the camera, lens encoders can be attached. The system supports recording tracking data, camera/lens metadata, timecode and file name.

OCELLUS Details

Sensor Unit

- Compact and lightweight sensor unit with five image sensors.
- 4 image sensors out of 5 on the sensor unit are selected to provide stable marker-free tracking with high occlusion resistance.
- If at least one image sensor in use captures valid feature points, tracking data can be extracted.
- IR LEDs on both sides of each image sensor help tracking in low-light setups.
- A Visible Light Cut Unit is included for stable tracking in environments with frequent lighting changes
- Sensor unit size (W×H×D, approx): 86×60×43 mm 3.39×2.36 ×1.69".
- Weight: approx. 250 g / 8.8 oz.
- NATO rail mounting parts (included).
- Connection to the processing box via a single USB-C cable with a lock mechanism, powered by the processing box via same USB-C cable

Processing Box

- Real-time transmission of tracking data and camera+lens metadata to CG rendering software like Unreal Engine via Ethernet cable in free-d format.
- Genlock input, Timecode input, SDI input/output terminals, and lens encoder connection ports.
- Supports recording tracking data and camera/lens metadata as FBX files on SDXC memory cards (UHS-II/UHS-I), synchronized with video files of the main camera.
- OLED display for checking IP address, tracking information, lens data, and more.

Lens Encoders

- Detect precise rotation angles and positions of lens focus, zoom, and iris rings.
- Transmits detected data to the processing box via a LEMO 7-pin cable.
- Enables metadata acquisition for lenses and cameras not supporting lens data embedding on SDI output.
- Includes five different types of gears for various lenses.

The camera tracking system OCELLUS (official part name ASR-CT1) is at NAB Show 2025 in the Sony booth in North Hall.

The expected release is Fall 2025. Final specifications may change.

L-R: Takuro Ema, Head of Product Planning. Yasuharu Nomura, Senior General Manager, VP Technology & Services Business Division. Yutaka Okahashi, Senior Manager, VP Technology & Services Business Division. Ichiro Suda, Product Planner for OCELLUS Camera Tracking System.

By using the Virtual Production Tool Set, previz with the VENICE look is possible even on a tablet.

Photo: Keita Yasui.

Photo: Keita Yasui.

Preston Cinema and RED Cameras Talk to Each Other

Preston MDR-5 10-pin CAMERA port connected to 4-pin CTRL port of RED V-RAPTOR XL 8K-VV

Preston Cinema Systems and RED Digital Cinema cameras now talk to each other.

"RED has added a new communication protocol in Firmware 2.0 that allows for even more devices to communicate with the camera using our existing RCP2 (RED Command Protocol), said Loren Simons, Product Management at RED Digital Cinema. "Serial devices can communicate with the camera—as long as they can parse JSON, the language RCP2 uses. Previously, it was an entirely network-oriented protocol.

"We are excited about this integration and have been working with Preston to get this done—not only camera control but also being able to inject lens data. I'm sure over time we will find even cooler ways for the devices to talk to each other."

Howard Preston, President of Preston Cinema Systems said, "This capability, long on the wish-lists of camera assistants and DITs, has finally come to fruition. With the new serial protocol in place, a Preston Hand Unit HU-4 can control and monitor RED camera functions wirelessly linked to a Preston Motor Driver MDR-5.

"This is a much more robust, quick and reliable communication (point-to-point) real-time connection than using a smartphone. Frame accurate lens metadata can be recorded in-camera. And, setup for the Light Ranger 2 video overlay is done automatically.

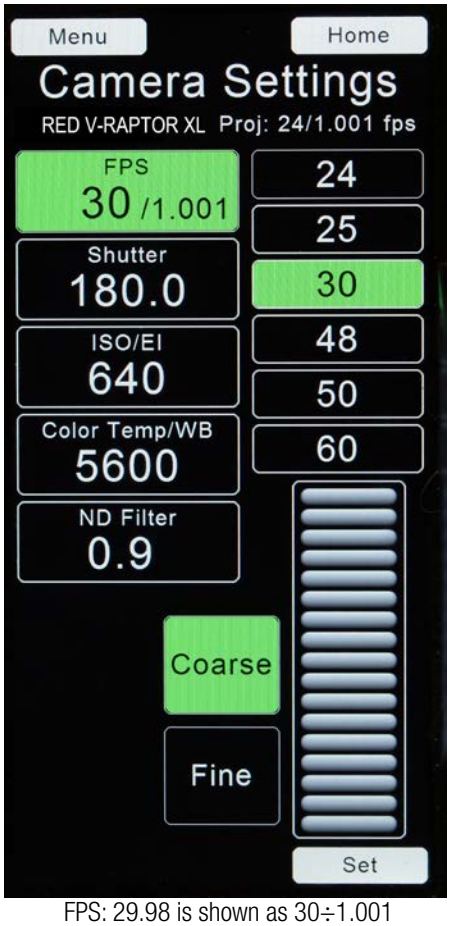
"This cooperative effort benefits the entire production community and I hope we can follow up with other camera manufacturers to achieve similar results."

- Camera Settings Menu → Camera are shown when the Preston MDR is connected to a supported camera with the corresponding control cable.
- When the camera project fps is fractional, for example 23.98 or 29.97 (fps divided by 1.001), the integral fps value is displayed with the fractional indication shown as fps/1.001.

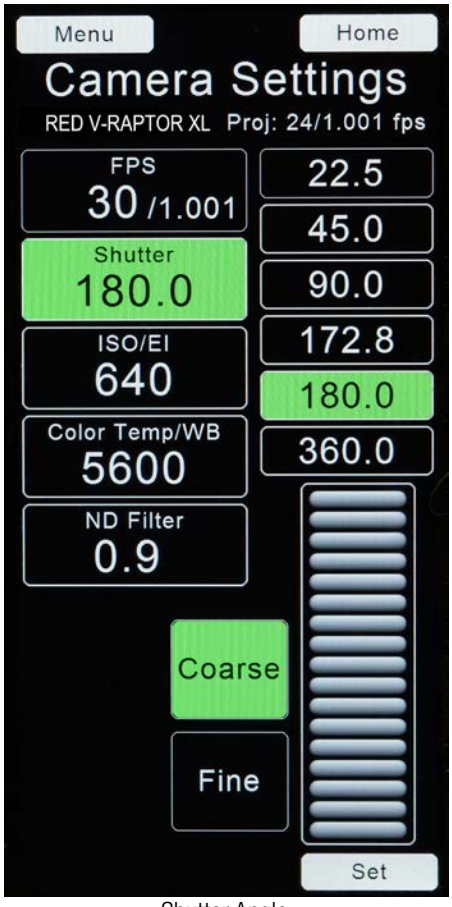
Preston HU-4 Touchscreen Main Menu. Touch "Camera" to access RED Camera Settings (shown on next page).

- The camera's frame rate can be selected either from the FPS selection box or from the list of indexed values to the right.
- The RED V-RAPTOR XL (shown here) has an internal ND system with a mechanical clear filter and ND0.6 - ND2.1 (2 to 7 stops), electronically variable in 0.1 densities (¼, ⅓, 1 stop increments).
- The Shutter Angle, ISO and Color Temperature are set using the scroll wheel. Press **Set** to accept the settings.
- This system is expected to be at NAB in the RED/Nikon/MRMC booth N2038.

Preston Hand Unit 4 Display for RED Camera Menus



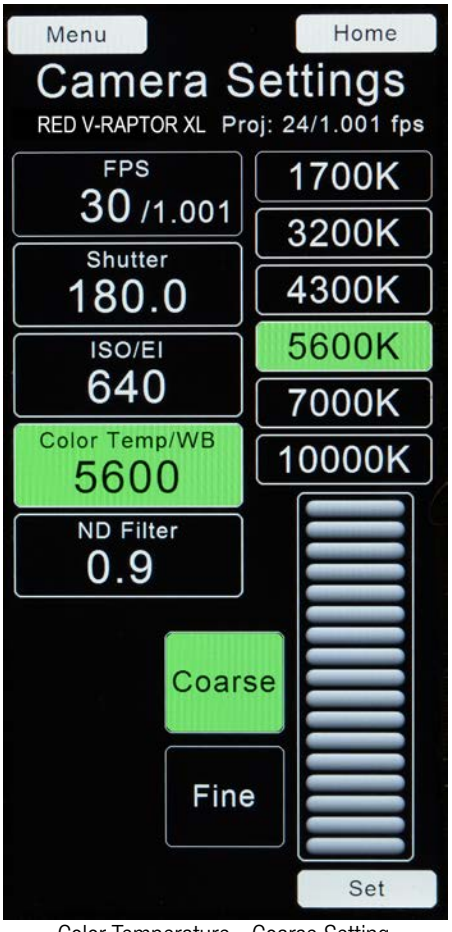
FPS: 29.98 is shown as 30÷1.001



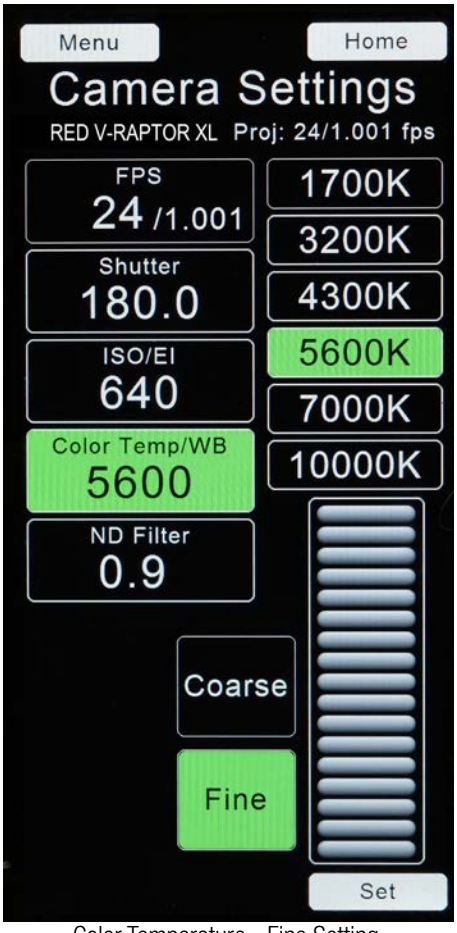
Shutter Angle

ISO / EI

Internal ND Filter



Color Temperature - Coarse Setting



Color Temperature - Fine Setting

Nanlux Evoke 5000B - 5,000 Watt LED

NANLUX introduced the Evoke 5000B on February 12, 2025 in London. Powerful, IP66 weatherproof, this 5000 Watt LED fixture approaches the brightness of a 9kW HMI or 24kW tungsten light.

"B" is for bi-color: color temperature adjusts from 2700K-6500K with Green/Magenta correction.

The team at NANLUX explains, "This ushers in a new era of greener and more economical on-set lighting that is also easier than ever to transport and rig. As such it marks a major milestone in the transition of motion picture lighting to LED and highlights NANLUX's ongoing commitment and advances in LED lighting.

"The Evoke 5000B uses the Nebula B4 Light Engine developed by NANLUX. It combines four types of white light chips, providing Green/Magenta adjustment capability across the entire color temperature range. Compared to bi-color lighting produced by full-color light engines, the Nebula B4 Light Engine outperforms them by 30% in white light emitting efficiency from the same power input. This makes the Evoke 5000B an excellent alternative to traditional fixtures that rely on gels and repeated adjustments".

The Evoke 5000B integrates the lamp head, control unit and power supply into one fixture, significantly reducing both the total weight and size compared to fixtures with separate units. With its all-in-one lamp and single cable, fixture management is simpler and more organized, improving efficiency and transportation.

The Evoke 5000B is has a weatherproof IP66-rated housing made of high-strength magnesium alloy. It weighs only 46 kg / 101 lb (with yoke). It has balance-adjusting rails on both sides for flexible head positioning and to maintain a neutral center of gravity when different accessories are attached.

There's a motorized yoke with an angle display and a disc brake for precise positioning and safety.

The Evoke 5000B's NL mount has a new PosiTight system in front that ensures a tighter connection between fixture and accessories.

The Evoke 5000B comes with a skid that reduces wear and tear, improving transport efficiency with a stackable design, and offering shock protection with integrated springs to reduce impact during drops or transport. Two front and rear handles make it easier to set up or adjust the fixture, even when mounted in high positions.

FL-45E Motorized Fresnel Lens

Motorized Yoke

Nanlux Evoke 5000B

The Evoke 5000B has smooth dimming, especially from 0.0% to 0.1%. The newly added High Speed Mode allows the Evoke 5000B to switch from PWM to DC mode, maintaining stable and consistent brightness during high-frame-rate shooting. Even at over 10,000 frames, it is flicker-free.

The Evoke 5000B has a built-in control panel with three knobs, four buttons and a 4.3-inch display screen. The user interface has a straightforward menu and intuitive icons. The Evoke 5000B can be controlled remotely via DMX/RDM, Art-Net/sACN, LumenRadio CRMX, Nanlink App 2.0, etc.

The fixture has a new cooling system that includes Smart, Full Speed, Low Speed, Off and Pause modes. The Smart mode automatically adjusts the fan speed according to the ambient temperature; the noise level is only 44 dB(A).

The light source module of the Evoke 5000B is the same physical size as the Evoke 2400B. Its NL mount makes the Evoke 5000B compatible with most accessories for the Evoke 2400B, including Fresnel attachment, reflector, parallel beam reflector and softbox. This reduces the cost of accessories.

A new, larger motorized Fresnel lens, a motorized yoke, and a wired controller for the Evoke 5000B are also being introduced. The motorized Fresnel lens has a 45 cm lens with a 16°-50° zoom range, delivering 47,970 lux at 16°.

The motorized yoke for the Evoke 5000B enables remote angle adjustments with 540° horizontal rotation and 270° vertical movement. It can be controlled via a wired control panel, DMX/RDM or Ethernet.

A wired controller is included with the fixture. It has a 3.2-inch display, three buttons, and three knobs, with a layout identical to the rear display on the Evoke 5000B. It includes an 8m connection cable, a weather resistant IP66-rated housing and a magnetic back for convenient attachment to metal surfaces or the magnetic base on the fixture.

The Evoke 5000B is on display at NAB Show 2025 in the NANLUX booth N2859. *www.nanlux.com*

Standard Evoke 5000B Kit

Flight Case Kit

ALEXA 265 - 65mm Format Camera Views

The ARRI ALEXA 265 launched in December 2024. Walter Trauninger, Managing Director of Arnold & Richter Cine Technik, said, "The 65mm Format is inspiring and aspirational. And the ALEXA 265 is the next step forward. We enhanced its low-light performance, dynamic range, and above all, made it smaller and lighter and more ergonomic. The ALEXA 265 offers cinematographers and directors a different perspective, a different point of view that comes with this format. The 265 reflects our commitment to the highest discipline of filmmaking by offering a versatile and fully featured camera for the 65mm Format."

Front

ALEXA 265 Filter Cartridge

The ALEXA 265 Filter Cartridge System is clever.

Open its door on the camera left side. Insert the Filter Cartridge.

It's a lot easier and faster than attaching a filter to the rear of a lens.

Filter Cartridge Access Door is weather-sealed to keep dust and spray out.

Filter Cartridge inside: here's an ND1.2.

ALEXA 265 camera records metadata from the Filter Cartridge and can displays it live on monitors.

Filter Cartridge removed.

ALEXA 265 - 65mm Format Camera

Camera Right

Camera Left

DJI SDR (Software Defined Radio) Transmission System

Welcome to the wireless, untethered set. Not a cable anywhere to trip on. And now, everyone—Director, DP, Camera Assistants, Script Supervisor, Gaffer, Grips, Makeup and Hair Artists—can view real-time video—seamlessly, simply and inexpensively.

DJI SDR Transmission makes this possible. SDR is for Software Defined Radio, not Standard Dynamic Range. One SDR Transmitter (Tx) can connect to an almost unlimited number of SDR Receivers (Rx) in Broadcast Mode. You can connect these Receivers directly via HDMI or SDI to cine monitors and via USB-C directly to tablets and smartphones running DJI's Ronin app. Furthermore, each receiver can output HDMI, SDI and USB-C simultaneously.

- DJI SDR transmits 1080p using SDR and Wi-Fi at 20 Mbps.
- SDR can send video up to 3 km /1.8 miles) with auto frequency hopping: 2.4 GHz, 5.8 GHz, and DFS band.
- Latency (video delay) is as low as 35 ms.
- The DJI SDR Transmission System can manage camera control and send metadata. Works with DJI RS Series Stabilizers..
- Tx and Rx can be powered by onboard NP-F batteries, USB-C, or by a compatible DJI gimbal.
- Lightweight: 145 g / 5.1 oz. Antennas fold down.
- Compact: 86.5 × 64 × 32 mm (LWH). 3.4 × 2.5 × 1.3 in.

DJI SDR Transmission System Setups

Here is a simple scenario:

1. The DJI SDR Tx (Transmitter) is connected via HDMI to a Sony a7R5.

2. The DJI Rx (Receiver) is connected via HDMI to a 7" Cine Monitor. A very nice detail is that everything connects quickly and easily after being switched on. (Be sure the firmware is updated using the DJI Assistant 2 app connected via USB-C from computer to Tx and Rx.)

3. Tablets and smartphones connect simultaneously via WiFi. Pairing is a breeze: scan a QR code on the Tx.

Shown here: a 13" iPad Pro running DJI's Ronin app. It is attached to a baby rolling stand using DJI's $49 accessory SDR Transmission Tablet Holder Kit.

You can also direct-connect the iPad or tablet via USB-C to an SDR Rx Receiver.

The DJI SDR Transmission Combo (one Tx and one Rx) costs US $549.

Individually, the Rx and Rx cost US $309 each.

For more information:
dji.com/sdr-transmission

Blackmagic URSA Cine 17K 65 Updates

Blackmagic URSA Cine 17K 65 Details

There are lots of updates since previous FDTimes reports about this great new camera. But first a quick review.

In the interest of reducing this edition's page count, let's nickname the camera URSA 65.

- URSA 65 has a 65mm Format RGBW 17,520 x 8,040 resolution sensor: 50.81 mm wide x 23.32 mm high (55.9 mm Ø.) That's a native aspect ratio of 2.2:1. There are many sensor modes, resolutions and choices of framelines.
- URSA 65 provides at least 16 stops of dynamic range.
- URSA 65 records to a Blackmagic Media Module—up to 4 hours of Blackmagic RAW in 17K using the full height, full width 65mm Format sensor, or 20 hours in 4K on the 8TB model. Blackmagic RAW files store camera metadata, lens data, white balance, digital slate information and custom LUTs.
- Every camera also comes with an 8TB Media Module, top handle, WiFi antennas, baseplate, 24V power supply, 24V B-mount battery plate and a custom Pelican case.
- Every camera comes with interchangeable PL and LPL lens mounts that have lens data contacts. It's easy to swap mounts with just four 3mm hex screws. The mounts are shimmable.
- Of course you want a viewfinder. For a few dollars more (well spent), there's a camera + EVF package, complete with a really good adjustable viewfinder extender, brackets and USB-C cables that conduct both image and power along a single link.

Rugged and Ergonomic

The URSA 65 body is made of rugged magnesium alloy with a lightweight carbon fiber polycarbonate composite skin to endure mounting on cars, cranes, planes, Steadicams, dollies, remote heads and long night exteriors, freezing rain, scorching sun and all the usual location conditions.

5" Monitors on Both Sides

Why don't all cameras have this? The URSA 65 does not assume that there's a smart side and a dumb side.

There are two 1500 nit, 5" monitors with full menus and video—one monitor on each side of the camera. The monitor on the camera left side flips out 90° and pivots 360°. When it's closed, there's a status screen on the outside for basic settings.

The monitor on camera right is flush against the body and has a helpfully dedicated focus puller's mode with focus and iris scales, lens information and assignable focus marks. Other modes let DITs and assistants check important status parameters such as frame rates, ISO, shutter angle, codec, etc.

Power

URSA 65 comes with a 24V power supply. It also has a B-Mount on-board battery plate in back. The B-Mount battery interface is an open industry standard developed by bebob. It supplies 24V at 15 amps or more. An Anton/Bauer 26 volt plate also fits.

URSA Cine V-Lock and Gold-Mount plates are also available from Blackmagic. These can run at 24V with Core Helix batteries

or 12V with standard VLock and Gold Mount batteries. A minimum battery rating of 12 amps is recommended when running at 12 volts.

URSA Cine EVF, Extender, Top Handle

The new URSA Cine EVF has soft-touch backlit buttons and, as mentioned, uses a single USB-C cable for power and video. The viewfinder brackets and extender have dovetails for quick release. The viewfinder extender works with standard eyepiece levelers. The top handle also has a dovetail mounting mechanism so you can quickly and easily remove the entire viewfinder system and the top rods completely.

Sensor and Anamorphic Desqueeze

Every in-camera recording format has the option of anamorphic desqueeze, with 2x, 1.8x, 1.66x, 1.6x, 1.5x, and 1.3x ratios.

Media Bay - Camera Left

Open the flip-out monitor for access to the media bay. The camera ships with a Blackmagic Media Module 8TB SSD. It's extremely fast — well over 5GB/s — with 16 PCI Express lanes.

File Formats

URSA 65 records Blackmagic RAW internally and also records simultaneous H. 264 proxy files.

Remote Control

You can control URSA 65 (or URSA 12K LF) wirelessly from the Blackmagic Camera app. The Blackmagic Camera remote control method is convenient and fully featured on the iPhone that you probably already have in your pocket. You can also stream from the camera directly to the Blackmagic Camera iPhone app to view images while also being able to control the camera.

Price

The Blackmagic **URSA Cine 17K 65** camera system is US $29.995.

It comes in a custom carry-on Pelican case with PL lens mount, Media Module 8TB, Top Handle and bolts, Top 15mm Rod Mount, Cine Baseplate 19 for 19mm rods, B-Mount Battery Plate, LPL Mount, 24V 250W power supply, DaVinci Resolve Studio activation card, etc.

URSA Cine 17K 65 + EVF camera system is US $31,495.

It comes in a slightly larger, equally nice custom Pelican case with all the things above, and: URSA Cine EVF, EVF Rotating Bracket with attached 19mm carbon fiber rod, EVF Bracket Rod Mount, EVF Finder Extension, 2x short carbon fiber 15mm rods, 3x viewfinder cables, rubber eyecup and chamois eyecup cover.

The Blackmagic Media Dock with 3 Media Module Bays is US $1,995.

Additional 8TB Blackmagic Media Modules are US $1,695 each.

blackmagicdesign.com/products/blackmagicursacine

Blackmagic URSA Cine 17K 65 Camera Views

View from top. Leitz THALIA 65.

View from top. Cooke Panchro/i 65.

View from bottom. Cooke Panchro/i 65. With Blackmagic URSA Cine Baseplate and Shoulder Rest.

Blackmagic URSA Cine 17K 65 Media Module and Dock

Blackmagic Media Module 8TB SSD

Blackmagic Media Dock with 3 Media Module Bays

Blackmagic URSA Cine 17K 65 Camera Systems Ready to Roll

URSA Cine 17K 65 Camera System

URSA Cine 17K 65 + EVF Camera System

Blackmagic URSA Cine 17K 65 Camera Left

Camera Left - Monitor Door Closed

Camera Left - 5" LCD Monitor / Door Open

Blackmagic URSA Cine 17K 65 Camera Right & Rear

Camera Right

5" HDR LCD 1920x1080 Monitor / Menu 1500 nit Touchscreen Display on the camera right side.

Up to now, this has been derided as the "dumb side." No more. The touch-screen lets you access all camera settings.

Top-Rear USB-C port: use this when updating camera

USB-C

/i lens data contacts at standard 12 o'clock position of LPL Mount (shown here) and PL Mount.

USB-C EVF cable port. Tighten the USB-C connector with a 2mm hex driver

7-pin Lemo-style EXT connector: serial port, AKS power and start / stop.
Pin 1 = Serial 2 RX
Pin 2 = Serial 2 TX
Pin 3 = Serial 1 RX
Pin 4 = Serial 1 TX
Pin 5 = 24V DC Out
Pin 6 = Ground
Pin 7 = RS Run / Stop

DISPLAY button: Press to view status, codec, resolution, audio, etc.

LENS button: Focus Pullers, press here to cycle between rich, lean and clean views.

MENU button

RECORD button

3-pin Fisher RS connector.
Pin 1 = Ground
Pin 2 = 24V DC Out
Pin 3 = RS Run Stop

Rear

Camera comes with this B Mount (bebob style) plate for 24 volt onboard batteries.

Using 12-14 volt batteries limits prevents speeds above 60 fps and powering RS or EXT connectors.

USB-C

12G-SDI A OUT

12G-SDI B OUT

Timecode IN and REF IN

RJ-45 10G Ethernet

8-pin LEMO style External Power IN. Camera comes with a 24V DC 250W power supply. Also accepts +12-34 V DC, but works best at +24 - 34 V DC.
Pins 2,3,4 = ground.
Pins 6,7,8 = DC+ power.

Headphones

Blackmagic URSA Cine 17K 65 Lens Mounts

The URSA Cine 17K 65 camera comes with a PL Mount attached.

- The PL Mount has 2 breech-lock tabs.
- The LPL Mount has 3 tabs.
- Cooke Panchro /i 65 lenses will come in LPL.
- Leitz THALIA 65 come in PL or LPL.
- Ottoblad lenses are PL.
- Most ARRI 65 lenses are LPL.

PL Mount

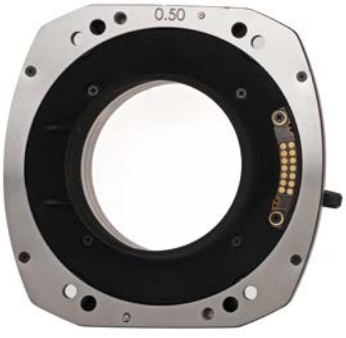
LPL Mount

To swap mounts, remove the four 3mm hex screws in front (shown with green arrows). To tighten, use a torque wrench set to 1.5N. Check flange focal depth. If it is off, your focus marks will be off. Body and mounts have shims.

This is what the front of the camera looks like with the lens mount removed.

To avoid swapping mounts, get a Leitz Cine LPL to PL Adapter. It has /i lens data pass-through from PL to LPL and into the camera.

PL Mount
front view



PL Mount
rear (toward camera) view

LPL Mount
front view

LPL Mount
rear (toward camera) view

Blackmagic URSA Cine 17K 65 Top & Bottom

Top of URSA Cine 17K 65

Without turning the camera on, the main distinguishing thing is the 17K printed on top.

Shown with LPL Mount.

3x ¼-20 and 4x 3/8-16 threads on top.

Keep vents clear.

Top of URSA Cine 12K LF

URSA Cine 12K LF.

Similar body.

Shown with PL Mount.

It has internal ND filters.

URSA Cine 17K 65 does not.

Keep vents clear.

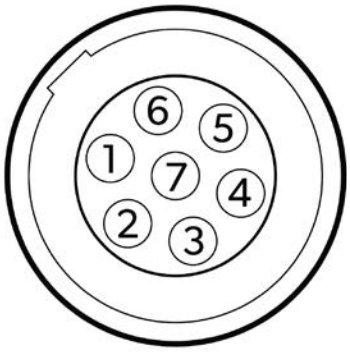
Bottom of URSA Cine 17K 65

4x ¼-20 and 5x 3/8-16 threads on bottom.

Blackmagic URSA Cine 17K 65 — Formats, Aspect Ratios, Image Size, etc.

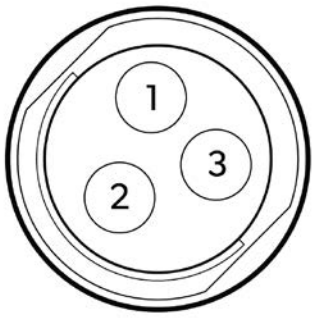
Format		Aspect Ratio	Max FPS	Resolution	Sensor Size WxH (mm)	Diagonal (mm)	Sensor area	Readout Speed (ms)	Full or Scaled	Codec	Constant Bitrate	Constant Quality	De-squeeze
65mm Format	17K	2.2:1	60	17,520 x 8,040	50.81 x 23.32	55.90	Open Gate	16.40	Pixel for pixel	Black-magic RAW	3:1, 8:1, 12:1, 18:1	Q0, Q1, Q3, Q5	None 1.3x 1.5x 1.6x 1.66 1.8x 2.0x
	17K	2.4:1	60	17,520 x 7,296	50.81 x 21.16	55.04	Full Width	14.88					
	17K	2:1	60	16,128 x 8,040	46.77 x 23.32	52.26	Full Height	16.40					
	17K	17:9	60	15,360 x 8,040	44.54 x 23.32	50.28	Full Height	16.40					
	17K	16:9	60	14,304 x 8,040	41.48 x 23.32	47.59	Full Height	16.40					
Full Frame (LF)	12K	3:2	60	12,288 x 8,040	35.64 x 23.32	42.59	Full Height	16.40	Pixel for pixel	Black-magic RAW	3:1, 8:1, 12:1, 18:1	Q0, Q1, Q3, Q5	
	12K	16:9	70	12,288 x 6,912	35.64 x 20.04	40.89	Cropped	14.10					
	12K	17:9	72	12,288 x 6,480	35.64 x 18.79	40.28	Cropped	13.22					
	12K	2.4:1	90	12,288 x 5,112	35.64 x 14.82	38.60	Cropped	10.43					
	12K	6:5	60	9,648 x 8,040	27.98 x 23.32	36.42	Full Height	16.40					
65mm Format	8K	2.2:1	100	11,680 x 5,360	50.81 x 23.32	55.90	Open Gate	9.0	Scaled	Black-magic RAW	3:1, 5:1, 8:1, 12:1	Q0, Q1, Q3, Q5	
	8K	2:1	100	10,752 x 5,360	46.77 x 23.32	52.26	Full Height	9.0					
Full Frame (LF)	8K	3:2	100	8,192 x 5,360	35.64 x 23.32	42.59	Full Height	9.0					
	8K	16:9	120	8,192 x 4,608	35.64 x 20.04	40.89	Cropped	7.74					
	8K	17:9	130	8,192 x 4,320	35.64 x 18.79	40.28	Cropped	7.26					
	8K	2.4:1	170	8,192 x 3,408	35.64 x 14.82	38.60	Cropped	5.73					
65mm Format	4K	2.2:1	100	5,840 x 2,680	50.81 x 23.32	55.90	Open Gate	9.0	Scaled	Black-magic RAW	3:1, 4:1, 5:1, 6:1	Q0, Q1, Q3, Q5	
	4K	2:1	100	5,376 x 2,680	46.77 x 23.32	52.26	Full Height	9.0					
Full Frame (LF)	4K	3:2	100	4,096 x 2,680	35.64 x 23.32	42.59	Full Height	9.0					
	4K	16:9	120	4,096 x 2,304	35.64 x 20.04	40.89	Full Width	7.74					
	4K	17:9	130	4,096 x 2,160	35.64 x 18.79	40.28	Full Width	7.26					
	4K	2.4:1	170	4,096 x 1,704	35.64 x 14.82	38.60	Full Width	5.73					

URSA 65 Connections

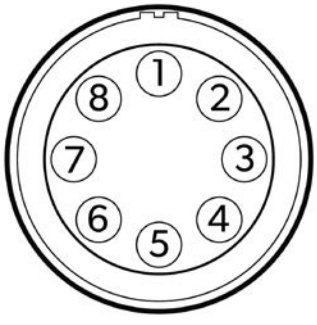


7-pin Lemo-style EXT connector:
serial port, AKS power
and start / stop.

Pin 1 = Serial 2 RX
Pin 2 = Serial 2 TX
Pin 3 = Serial 1 RX
Pin 4 = Serial 1 TX
Pin 5 = 24V DC Out
Pin 6 = Ground
Pin 7 = RS Run / Stop

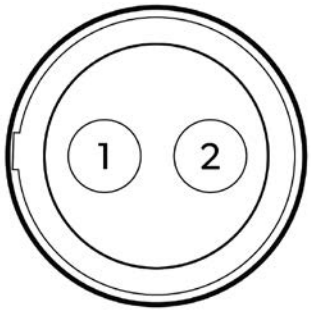


3-pin Fisher RS connector.
Pin 1 = Ground
Pin 2 = 24V DC Out
Pin 3 = RS Run Stop



8-pin LEMO style External Power IN.
Camera comes with a
24V DC 250W power supply.
Also accepts +12 - 34 V DC,
but works best at +24 - 34 V DC.

Pin 1 = not connected.
Pins 2,3,4 = ground.
Pin 5 = not connected
Pins 6,7,8 = DC + power.



2-pin LEMO style connector.
Pin 1 = Ground.
Pin 2 = 12V DC 1.5A Accessory
Power Output.

Drawings courtesy of
Blackmagic Design

URSA 65 with Cooke Panchro /i 65

65mm Format Lenses

Prototype 65mm Format lenses were shown at BSC Expo in February.

Full sets are in the works:

- Cooke Panchro/i 65 lens series will be 30mm T2.8, 40mm T2.8, 55mm T2.5, 75mm T2.5, 100mm T2.5, 152mm T2.9.
- Gecko-Cam AYANA 65: 30mm T1.8, 35mm T1.8, 40mm T1.8, 45mm T1.8, 60mm T1.7, 70mm T1.7, 90mm T1.7, 140mm T1.7. LPL mount. 60mm Ø.

Here are some of the existing 65mm and Larger Format lenses already available:

- Leitz Thalia 65: 24, 30, 35, 45, 55, 70, 100, 120, 180 mm. T2.2 to T3.6. Ø 60mm. Available in PL or LPL Mounts.
- Whitepoint Optics TS70 Large Format Prime Series, rehoused Hasselblad: 30, 40, 60, 80, 100, 120 mm T2.8 to T4. Image circle: 80mm.
- Ottoblads from Otto Nemenz International Rental: 30, 40, 50, 60, 80, 100, 120, 150, 180, 250, 350, 500 mm T 3.5 to T4.0.
- ARRI Rental Prime 65 (rehoused Hasselblad): 24, 28, 35, 50, 80, 100, 150, 300, 50-110 mm T2.2 to T4.5.
- ARRI Rental Prime 65 S: 35, 45, 55, 75, 90, 120, 150 mm T2.5 to T2.8.
- ARRI Rental Prime DNA: 35, 45, 55, 70, 80, 110, 150, 200 mm T2.8 to T3.5.
- Blackwing7 EZANA primes: 17, 20.7, 23.7, 27, 37, 47, 57, 77, 107, 137 mm T2.4. PL mount; (17-27 have 53mm Ø , rest are 60mm Ø.)
- Mamiya 645 rehoused by TLS, in LPL mounts: 24mm fisheye, 35, 45, 55, 70, 80, 110, 150 mm T2.3 - T3.3.
- Panavision System 65 (Rental): 24, 35, 40, 50, 75, 100, 150,180, 300 mm T1.9 to T3.5.
- Panavision 65 Vintage (Rental): 24, 29, 35, 40, 50, 65, 80, 100, 135, 180, 300 mm T1.4-T2.8.
- Super Panavision 70: 28, 35, 50, 75, 100, 150 mm T 2 to T3.
- Ultra Panavision 70: 35, 40, 50, 65, 75, 100, 180, 290, 400 mm T2 to T6.
- Panavision System 65: 24, 35, 40, 50, 75, 100, 150, 180, 300 mm T1.9 to T3.5.
- Panavision Sphero 65: 24, 35, 40, 50, 75, 100, 135, 180, 300 mm T2 to T2.8.
- etc.

TILTA Nucleus-M II Wireless Lens Control System

The TILTA Nucleus-M II is a new wireless lens system that can control up to three lens motors (focus, iris, and zoom). A fourth channel provides additional wireless control—for example, to adjust a TILTA Variable ND filter.

The Nucleus-M II Hand Unit's focus knob has adjustable tension and can be mounted to either side for right or left hand operation.

As with TILTA's first Nucleus-M focus system, introduced 8 years ago, two auxiliary handgrips with redundant wireless lens control allow hand-off back and forth between the camera assistant and the camera operator. For example, the camera operator can zoom in and focus on a slate, and then "hand off" focus control back to the focus puller. The new wireless motors are smaller, yet have the

TILTA Nucleus-M System, L-R: Wireless lens motors daisy-chain together (no MDR needed). Left handgrip. Hand Unit. Right handgrip. Wireless motor.

Right handgrip and lens motor mounted on top.

Lens motor

same amount of torque as previous models. They have been updated with a new user interface and color-coded LEDs. The Nucleus-M II works on the 2.4G band, with a range up to 1,000 feet.

One of the most notable improvements is the ability to store and recall mapped data for up to 128 lenses. This means that you can quickly switch between lenses without having to recalibrate—saving valuable time on set. Focus rings from previous models are compatible. A new, detachable electronic focus ring has digital marks with an expandable or collapsible scale.

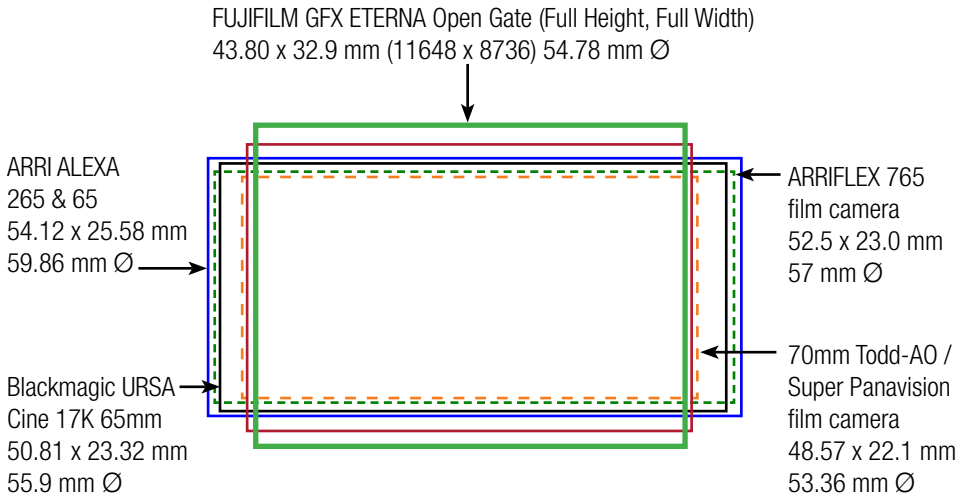
TILTA representatives said, "The Nucleus-M II system addresses the market for good, affordable wireless lens control—especially with gimbals, drones and rigs. Also, it is a good way for young filmmakers to improve their skills with equipment that prepares them for higher-end systems.The Nucleus-M II is fully compatible with TILTA's previous focus rings, handgrips and lens motors. Individual components can be upgraded as needed. This flexibility can make a big difference for filmmakers trying to stay ahead in an ever-changing industry."

The list price will be $1999, but pre-orders are available at $1299. See Nucleus-M II at Tilta's NAB booth N2619. *tilta.com*

Electronic focus scale


Left and right handgrips let the camera operator take over focus, iris or zoom control

FUJIFILM GFX ETERNA Open Gate



Makoto Oishi, FUJIFILM Senior Manager, Professional Imaging Group, Imaging Solutions Div. at CP+ Yokohama on Feb. 27.

Camera right side: GFX Eterna under glass at BSC Expo London on Feb. 14.

Fujifilm's 65mm format GFX ETERNA continues to evolve. The latest working prototype appeared under glass at CP+ Expo in Yokohama from February 27 to March 2. It remained on—working during the entire show, with its onboard touchscreen monitor displaying a live image. How things didn't overheat inside the enclosed plexicase cover is a mystery:) Hidden ventilation?

Since ETERNA's previous appearances at InterBEE in November and just a couple of weeks ago at BSC Expo London, there have been major updates and innovations. Above all, we learned that it records Open Gate—full width and full height of the entire sensor area (43.8mm wide x 32.9mm high). Previously, its largest video sensor mode was 43.8mm wide x 18.65mm high (47.61 image diagonal).

So now, GFX ETERNA has the tallest sensor in the 65mm format family. With an image diagonal of 54.78 mm Ø, it is approximately 1.7 times larger than Full Frame (36 x 24 mm, 43.3 mm Ø).

GFX ETERNA Open Gate will be 4K, with a 1.33:1 (4:3) aspect ratio. Anamorphic Lensmeisters please take note. This has been a classic aspect ratio for 100 years of 1.33:1 solitude, and 2x anamorphic is hardly a stretch at 1.195:1 squeeze. Of course, you can crop to any other aspect ratio, spherical or anamorphic.

The native GF mount has a 26.7 mm flange focal depth. A new Fujifilm GF mount to PL adapter was under glass as well. It has contacts to send /i lens metadata into the camera via the GF mount pogo pins.

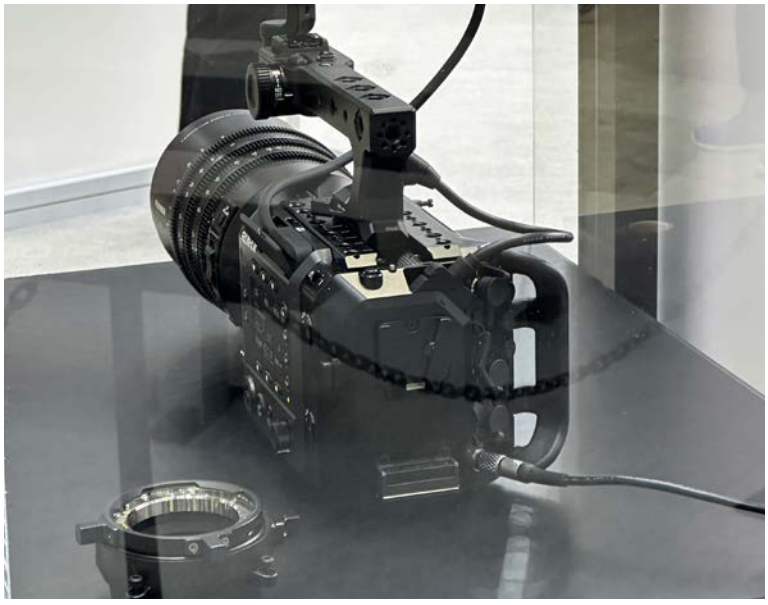
Also new: the GFX ETERNA was looking through a working Fujinon 65mm Format 32-90 T3.5 PZ zoom lens with GF Mount. It has geared focus, iris and zoom rings. Flip two slide switches, and you have autofocus and auto iris. Another slide switch toggles between Servo and Manual zoom control. Focus, iris and zoom all have internal motors.

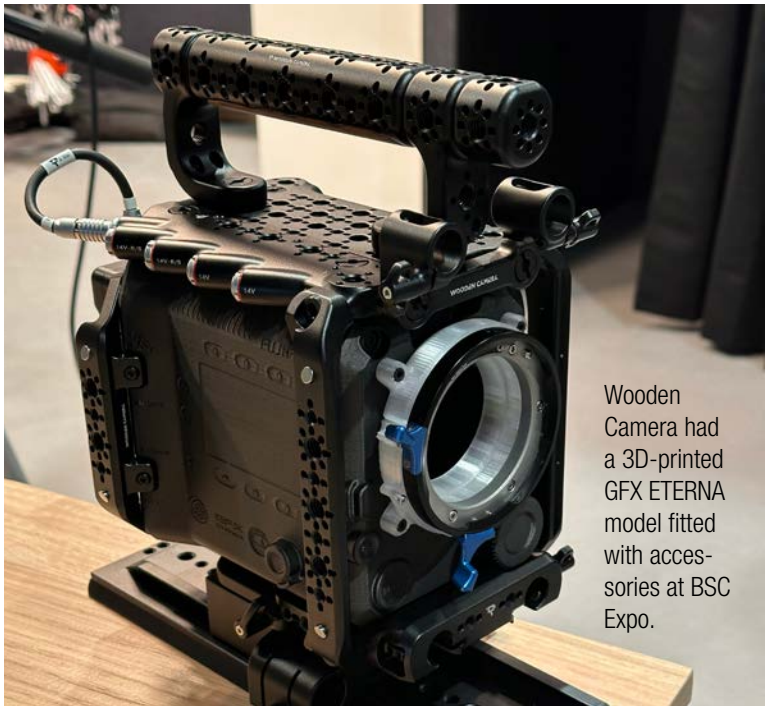
There's a duplicate menu screen with controls on the camera right side. At the rear, it looks like there are SDI, HDMI, Genlock, USB-C, Ethernet, Remote, Headphones and Mic connectors.

The GFX ETERNA is expected to be ready later this year.

FUJIFILM GFX ETERNA at CP+ and BSC Expo

New Fujinon 65mm format 32-90 T3.5 PZ zoom lens in GF Mount and Fujifilm GF to PL Adapter.





Wooden Camera had a 3D-printed GFX ETERNA model fitted with accessories at BSC Expo.

FUJIFILM GFX100RF

Meanwhile, while waiting for GFX ETERNA, get ready for More than Full Frame imaging with the new FUJIFLM GFX100RF camera that will ship in April. While FDT was calling it Larger Format, Fujifilm trademarked "More than Full Frame."

The Fujifilm GFX100RF is the first digital camera with a fixed lens in the GFX System.

Concept

The GFX100RF weighs a mere 1.62 lb (735 g), making it the lightest model of any GFX camera to date.

The camera has the same 102MP CMOS II HS image sensor and X-Processor 5 image processing engine as the GFX100 II. (Same sensor size as GFX ETERNA: 43.8mm W x 32.9mm H. 55mm Ø.)

The top plate of GFX100RF is machined from a single block of aluminum. And, in a nice first for Fujifilm cameras, there's an Aspect Ratio Dial on the back of the camera. This lets you easily switch between various aspect ratios—5:4, 7:6, 1:1, 3:4, 17:6, 65:24, 16:9, 3:2 and 4:3. Another way of expressing these ratios — 1.25:1, 1.16:1, 1:1, 0.75:1, 2.83:1, 2.71:1, 1.78:1, 1.5:1 and 1.33:1.)

Single Lens, Several Focal Length Equivalents.

GFX100RF has a new FUJINON 35mm F4 fixed focal length lens, developed exclusively for this camera. By using a leaf shutter system inside the lens instead of a focal plane shutter in front of the sensor, the back focus distance was able to be shortened, resulting in a significant reduction in overall size. Also, the leaf shutter allows flash photography regardless of shutter speed, which can be helpful when mixing daylight and flash.

The lens can focus up to 7.9 inches / 20 cm from its front surface.

There's a lever on the front of the camera to select various angles of view achieved by cropping. From its native 35mm focal length, the angle of view can be switched in three steps to 45mm, 63mm and 80mm focal length equivalents. Because the sensor is of such high resolution, cropping from 35mm to 80mm reduces 102 Megapixels to a still-substantial 46 Megapixels.

By the way, to convert GFX format to a Full Frame equivalent field of view, divide GFX by 1.25. So, 35mm GFX = 28mm FF. 45mm GFX = 36mm FF. 63mm GFX = 50mm FF. 80mm GFX = 63mm FF.

Internal ND Filter

GFX100RF is the first camera in the GFX System to have a 4-stop ND filter built in.

Fast Autofocus

GFX100RF has an AF prediction function and face/eye AF to recognize a wide variety of subjects, such as animals, vehicles, birds, and airplanes. In video recording, the tracking AF function can tracks the subject with touch operation.

Viewfinder

GFX100RF has a high-magnification, high-definition EVF with 0.84x finder magnification and 5.76 million dots. Fujifilm writes, "Inspired by classic camera design beloved by photographers, the GFX100RF's EVF gives a premium viewing experience, echoing the style of FUJIFILM X100VI and FUJIFILM GFX50R, and making it easy to monitor the surroundings with the camera to the eye."

4K/30P video recording

GFX100RF records 4K/30P 4:2:2 10-bit video up to 30 frames per second. In addition to its wide dynamic range and low noise, F-Log2 provides higher flexibility in post-production. GFX100RF is compatible with Frame.io Camera to Cloud.

Accessories, Price and Availability

A stylish mountaineering rope inspired shoulder strap is included, a first for the GFX System.

FUJIFILM GFX100RF is expected to be available late April 2025 at an MSRP of US $4,899.95. For more information, go to: *fujifilm-x.com/en-us/products/cameras/gfx100rf/*

65:24 aspect ratio is 2.70:1, roughly Ultra Panavision 70 format: *Ben-Hur* (1959), *Mutiny on the Bounty* (1962), *The Hateful Eight* (2015).

ZEISS Cine Team Stories

Here are some of the faces of ZEISS, familiar and new. Christophe Casenave, Head of the ZEISS Cinematography Business Unit, recently said, "We try to be approachable and available to our customers, cinematographers, crews and rental houses. Please feel free to contact any of us if you want to share your experiences or have suggestions."

Jeanfre Fachon, Senior Product Manager Cinema

Jeanfre Fachon joined ZEISS in early March 2025. He will oversee cinema lens projects from inception to distribution, gather feedback, analyze market trends, and work on product requirements with ZEISS engineering teams and the global sales organization. Previously, Jeanfre worked at ARRI Rental London. Then he moved to Munich to manage the accessory line for ARRI cameras. Jeanfre writes:

I grew up on the north coast of France near Boulogne-sur-Mer, just minutes from the sea. On a clear day you can see the white cliffs of Dover. My parents loved classic French films and took a lot of photographs, not for artistic purposes but to document our childhood. I remember taking pictures as a child with an Olympus Pen-F half-frame camera.

I had a normal education in France. When I was 20, I moved to London and enrolled at Camberwell College of Arts to study graphic design. I immediately fell in love with photography. Later, I bought a Bolex camera. I started working on set and later joined the team at ARRI Rental London. I looked after film crews in and out of our test rooms. It was a very interesting time in my career, full of great professionals.

Now at ZEISS, I will travel to events around the world, visiting film sets and rental companies. Feature films and dramas have always had a very wide range of budgets. Smaller budget productions can have the same international recognition as larger ones. It is a great opportunity for talent.

Lenses have the ability to set the mood for different styles of films. In recent years, we have seen lenses that have moved away from optical perfection in favor of cinematographers' creativity.

With cinema equipment more affordable than ever and image quality having come a long way, the number of owner-operators is on the rise. The question of whether to buy or rent is more relevant than ever for cinematographers. Owner-operators and rental companies often work together in a symbiotic relationship that allows for an ever-increasing availability of equipment without compromising on support and logistics.

Arato Ogura, Head of Cinematography, Asia

Arato Ogura's fist job at ZEISS was to manage the domestic market in Japan. His role expanded to cover dealer relations in North Asia, including Korea, Hong Kong, Taiwan, and China. He now looks after North and Southeast Asia plus Oceania. Arato writes:

I was born in Tokyo and attended kindergarten and elementary school in West Virginia and Kentucky. This became the foundation of my language skills for which I'm thankful to my parents.

I was fascinated by still photography since elementary school, then joined a photo club in junior and senior high school. During high school, I worked part-time as a school trip photographer, taking pictures and selling the prints to parents and providing pictures for yearbooks. I made enough money to buy a top-of-the-line film SLR with motor-drive and an array of fast prime lenses, neatly packed in a Zero Halliburton aluminum case.

I wished to continue studying photography at an art college, but my parents persuaded me that I should study something "safer," so I majored in political science. College took two more years than my classmates because my part-time photographer gig resulted in too many skipped classes and lots of "F" grades.

After college, my first job was to work at a men's apparel company, preparing catalog shoots every season—which bridges my passion for photography and style. I spent 3 years there and then moved to a photo/video equipment distributor for the next 17 years. I gradually struck up an acquaintance with the ZEISS crew at trade-shows and eventually joined the ZEISS team in 2013.

The film industry in my region varies. Korea was very active during COVID times. Japan is steady, and now we see more Southeast Asian countries becoming active in making their own content to supply their own audiences. There is a dynamic range of equipment used in each country and in different tiers of production budgets. I feel that we at ZEISS have the right products to cater to each segment of the market, from the newly released Nano Primes to the trusted Supreme range. Now it is becoming even more exciting and busy with the new ZEISS CinCraft and VFX products.

The motivation that has kept me going for more than 10 years at ZEISS has been working with customers and colleagues. I enjoy communicating and learning from different film crews and distributors around the region. Working together with the international and super-collaborative colleagues within the ZEISS cine team continues to be a driving force.

Masako Misaki, Sales & Marketing Cine, Asia / Oceania

Masako Misaki covers Japan, Korea, Australia and New Zealand. She grew up in Shizuoka, Japan, in the foothills of Mt. Fuji. Before joining ZEISS Japan as executive secretary to the president, she worked in non-Japanese companies in Tokyo, including GE Capital. Masako writes:

I grew up watching films with my parents. Some of my favorites were *Mon Oncle, The Apartment, 8½, Moonstruck*, etc. My real encounter with film and photography started when I attended City College of New York, majoring in Communications, Advertising and Public Relations. Prof. Jerry Carlson (now Director of the Cinema Studies Program at CCNY) was teaching "101 Introduction to Film Study." He said, "Analyzing a film is like dissecting a frog. You never say, 'It was a good frog' or 'That frog was pathetic.' Instead, you need to pay attention to how each component of a film functions and contributes to the story". He introduced us to the world of movies as art with sophisticated intentions.

My first lucky break came when I was transferred to the Consumer Optics division of ZEISS to help marketing activities for still lenses, cine lenses and binoculars in 2012. Although my title is "sales and marketing," what I really do is to get to know people in the industry by communicating with them. To have good products is one thing (luckily, I don't need to worry about that too much), but also important is to keep good relationships in the industry.

In addition to rentals and production companies, I try to visit filming locations that are using ZEISS lenses. We take BTS photos and post them on social media when the productions are released. One thing that frustrates me is when cinematographers and camera crew members are not appropriately recognized. We appreciate them, and share the excitement of being behind the scenes so that more people will be interested and want to watch their work.

Film crews share common traits in many countries. Some might look tough from a distance, but they all turn into 5 year-old kids with big smiles when we start talking about lenses and movies. I notice that the quantity of projects are increasing while the budgets are decreasing. But that doesn't mean a focus puller should do 30% less focusing. The crew is expected to do their best all the time.

Working for the Cine Lens unit of ZEISS is a big deal. I remember the words of Duke Kahanamoku: "The best surfer out there is the one having the most fun." To have fun can be very strenuous, but I know I'm on the right wave as long as I enjoy the work we are doing.

Sundeep Reddy, Senior Manager Cinematography

Sundeep Reddy grew up in India and Spain. He has a Bachelor's degree in Visual Communications. Education continued in the Indian Film industry and as a camera crew member. He worked as a Digital Intermediate consultant for Light Illusion, managing 3D sales in India for 3ality Technica, and worked at RED Digital Cinema (London) in EMEA Sales and Product Specialization. Sundeep writes:

My family has been in the Indian film industry for three generations: grandfather was an Executive Producer, dad is Gopal Reddy, ISC, and I followed in his footsteps. My uncle Rasool Ellore and cousin Sameer Reddy are also Cinematographers —all working in the Indian film industry. Growing up, I spent a lot of time with camera crews learning to load film, pulling focus, lighting the set, reading a light meter and practicing the craft of Cinematography.

Europe traditionally has been a strong market for us with almost every country having their own regional film industry, language, and culture. A healthy number of Hollywood features and TV dramas are filming in the UK, Hungary, Romania, Czech Republic and Bulgaria. Spain has been busy with international work, TV dramas and features films for streaming platforms.

India has always been one of our top markets, still the top producer of feature films in the world.

LATAM boasts a rich heritage of innovative and diverse story telling and great talent, especially in cinematography. For the Middle East and Africa, many local productions are coming out of Dubai, Egypt and South Africa. But the place with the most amount of development and a new market to focus on for the next few years is Saudi Arabia.

As for trends, Anamorphic and the love for this format keeps growing. The 65mm format could be the next trend especially considering the affordability of cameras and easier workflow. But by far, the biggest trend we see now is associated with the look of the lenses—going for more character.

ZEISS's Supreme Primes and Supreme Prime Radiance lenses are rented out regularly all around the world. An exciting new addition to our high-end cine segment is the Supreme Zoom Radiance series which can be paired with both Supreme Prime Radiance lenses as well as some Vintage Primes. For the Mirrorless market, we have ZEISS Nano Primes—inspired by the look of Supreme Primes. They are starting to be used on high-end features, promos, documentaries, reality shows and docudramas.

RED V-RAPTOR [X] and KOMODO-X Z Mount

RED V-RAPTOR [X] Z Mount

RED KOMODO-X Z Mount

RED V-RAPTOR [X] and KOMODO-X now come with a choice of locking Nikon Z mounts or locking RF mounts. The Nikon Z Mount has a Flange Focal Depth (FFD) of a mere 16 mm from lens mount to sensor. Inside diameter of the mount is 55 mm. This a very short FFD and wide ID. The mount can be identified easily on RED cameras by the gold-colored locking lever.

The Canon-style RF Mount has a 20 mm FFD and 54 mm ID.

So, RED benefits from Nikon's impressive line of Nikkor Z Mount mirrorless lenses, as demonstrated by the first Nikon Z CINEMA Series Zoom, the Nikkor Z 28-135mm f/4 Power Zoom.

RED has a Z Mount to PL adapter with /i lens data pass-through. Nikon also makes a Z Mount to F Mount adapter for all your venerable Nikkor F Mount lenses.

At the London launch during BSC Expo, Jeff Goodman, VP of Product Management at RED said, "Because we can install Nikon technology into RED cameras, the autofocus has been updated. It has greater sensitivity and speed. Also, the lens iris smoothness has been improved from the previous versions."

RED CEO Keiji Oishi said, "This is a great example of working together and it is the first time RED has had a first-party mount system. So we're able to optimize because now we're all under the same roof with the optics, mounts, sensor, camera system, codec, and the SDK all working together."

Quick review: RED V-RAPTOR [X] is a Large Format global shutter camera with two 12G SDI outputs. It records formats up to 8K 120P, up to 800 MB/s, onto CFexpress media.

KOMODO-X has a Super35 Global Shutter sensor and can record 6K up to 80P and 4K 120P, up to 560 MB/s, onto CFexpress media.

Keiji Oishi, CEO of RED, at BSC Expo London.

RED KOMODO-X Z Mount camera with new Nikkor Z 28-135mm f/4 Power Zoom.

Panasonic LUMIX S1RII

44.3 MP Full Frame Sensor

Shutter can close for dust-free lens changes

As in a good New York deli, you picked a number for hands-on time with the new Panasonic LUMIX S1RII camera at CP+ in Yokohama. This is the latest in the LUMIX line of Full-Frame L-Mount mirrorless S Series cameras, with faster autofocus, better performance and impressive video.

The S1RII has a 44.3 MP sensor that takes beautiful stills and records video internally up to 8K, including 5.8K Apple ProRes RAW HQ. IBIS 5-axis Image stabilization provides the equivalent of 8 stops of compensation.

Details

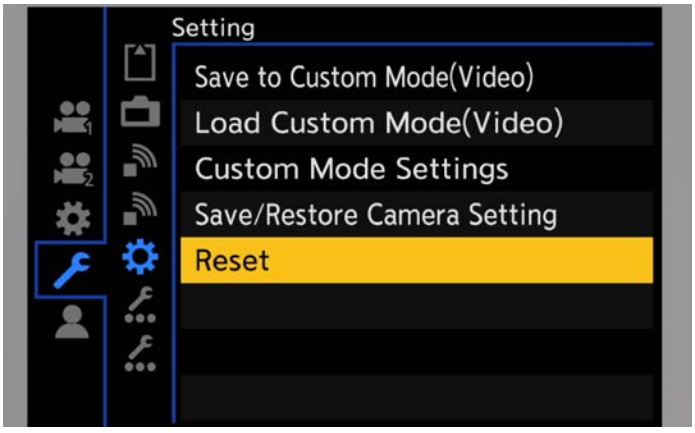
- 44.3MP 35.8 x 23.9 mm Full Frame BSI CMOS image sensor.
- 8K 30p video recording with 14 stops of dynamic range in V-Log.
- MOV: H.264 / MPEG-4 AVC, H.265 / HEVC, Apple ProRes, Apple ProRes RAW
- MP4: H.264 / MPEG-4 AVC, H.265 / HEVC
- 8.1K 8128 x 4288 (17:9) 23.98p and 29.97p (4:2:0 10-bit Long-GOP) H.265 / HEVC.
- C4K 4096 x 2160 (17:9) up to 119.88p (4:2:0 10-bit LongGOP) H.265 / HEVC.
- C4K 4096 x 2160 (17:9) 23.98 and 29.98, (4:2:2 10-bit ALL-Intra) H.264 / MPEG-4 AVC.
- Real-time Phase Hybrid AF with better eye and face detection.
- Works with Frame.io
- Supports the new LUMIX Flow app which lets you use a smartphone as an external monitor, helps create storyboards, organizes data, etc.
- Body: approx. 134.3 x 102.3 x 91.8 mm / 5.29 x 4.03 x 3.61 in.
- Weight: approx. 795g / 1.75 lb (body, battery, SD card).

The new LUMIX S1RII will be available in late March for $3299.99.

LUMIX S1RII Setup and Menus

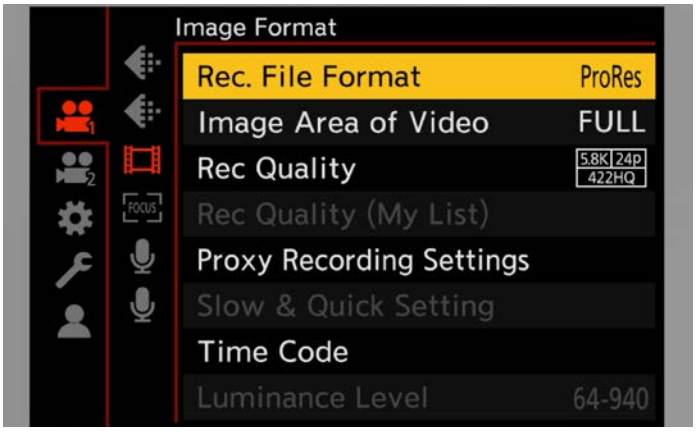
1. This is the Photo Menu, identified by the still camera icon.

2.If it's VIDEO you want, turn the camera's top left dial for the video menu.

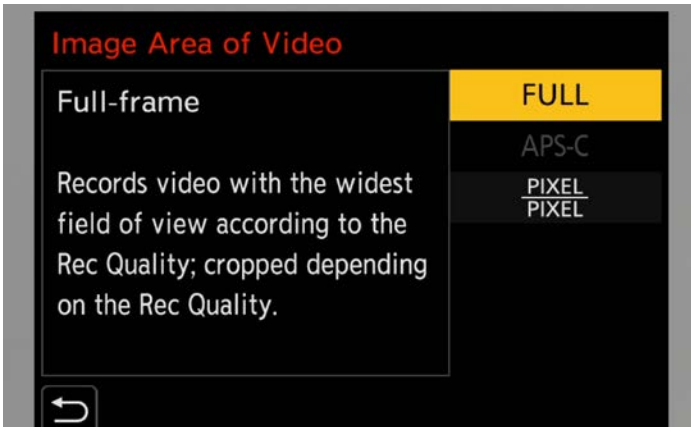


3. You may want to reset the camera if it's been out of your hands.

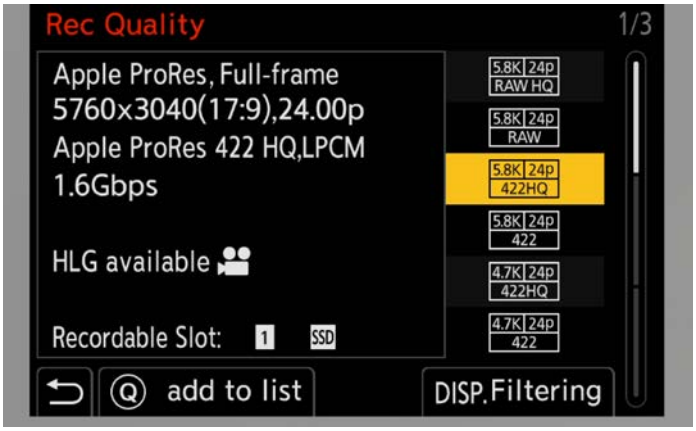
4. Set Shutter Angle instead of Shutter Speed and ISO instead of Gain.



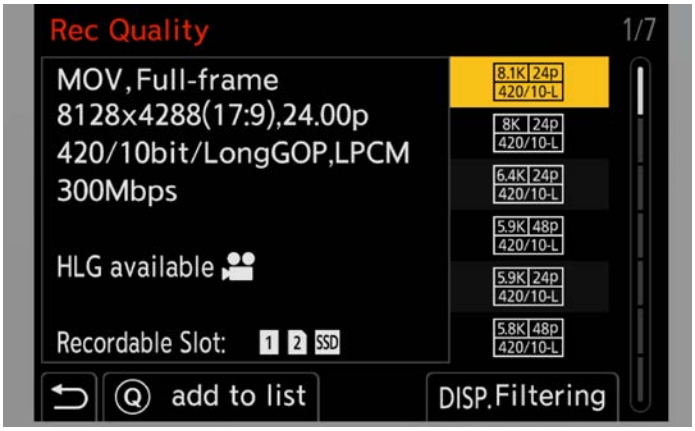
5. Recording Formats are MP4, MOV or Apple ProRes - RAW or Regular.

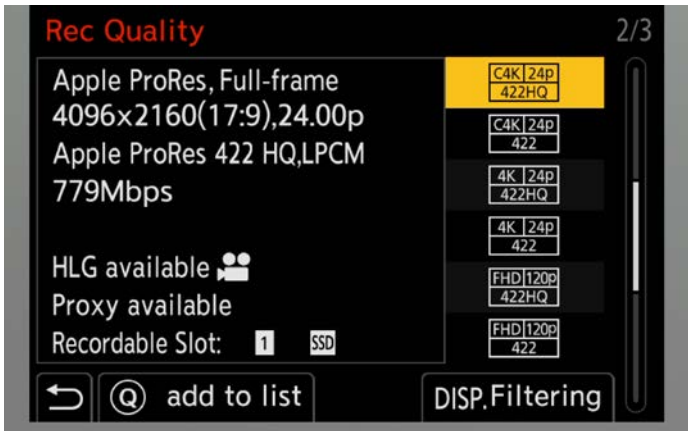


6. FULL is for Full Frame and the widest sensor area available.

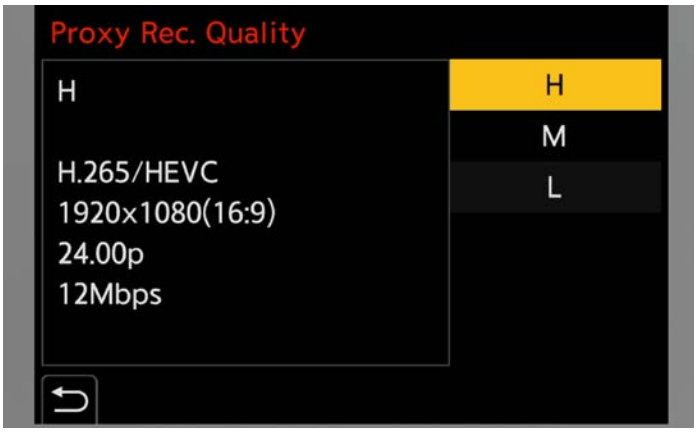


7. There are 3 pages of Apple ProRes and 7 pages of MOV Recording Formats — up to 8.1K. Note: Proxy recording is not available for all formats.

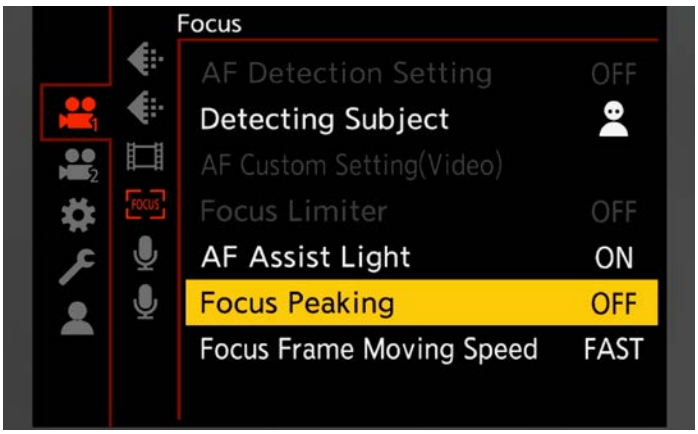




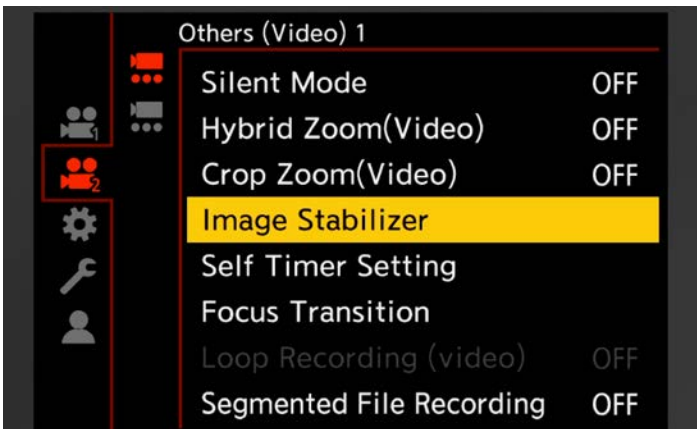
8. Apple ProRes C4K and MOV 24p allow simultaneous Proxy Recording.



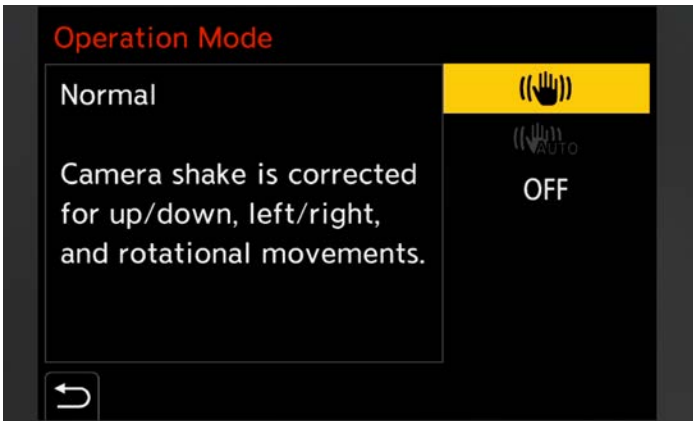
9. Turn Proxy Recording ON and set quality. Screen shows bitrate, etc.



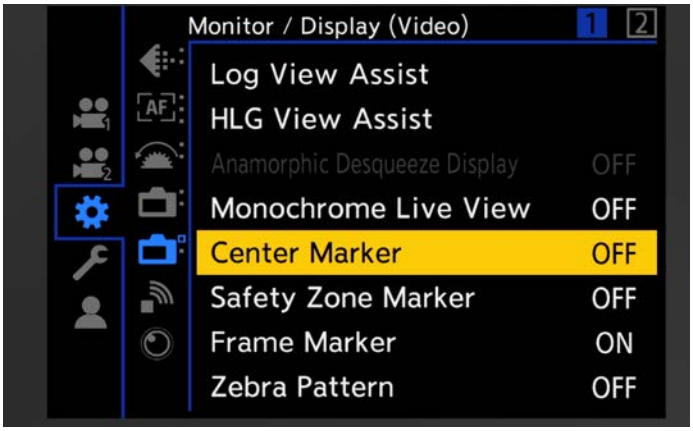
10. Turn Focus Peaking ON - OFF and select its outline color.



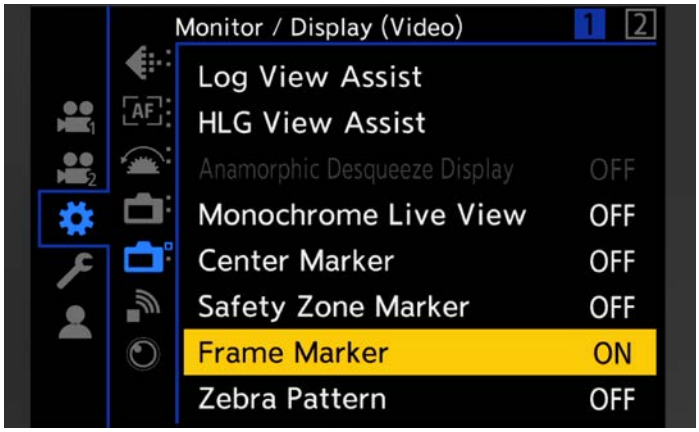
11. Select In-Body Image Stabilization.



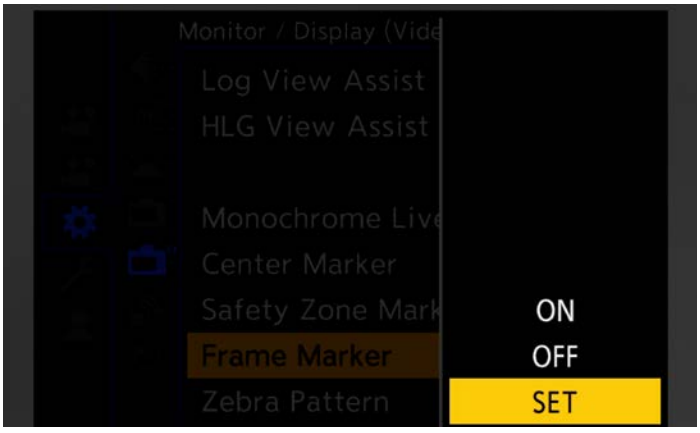
12. Turn IBIS ON or OFF and select its Mode.



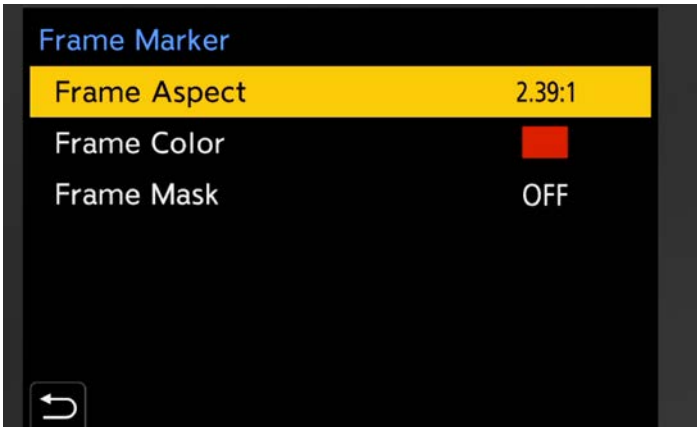
13. Some users like Center Markers (cross-hairs). I find them distracting.



14. Of course we want Frame Markers (Framelines) turned ON.

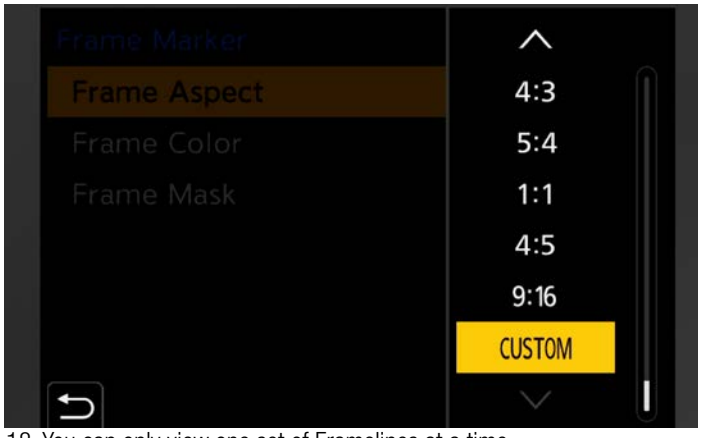


15. After turning Frame Marker on, SET the aspect ratio.



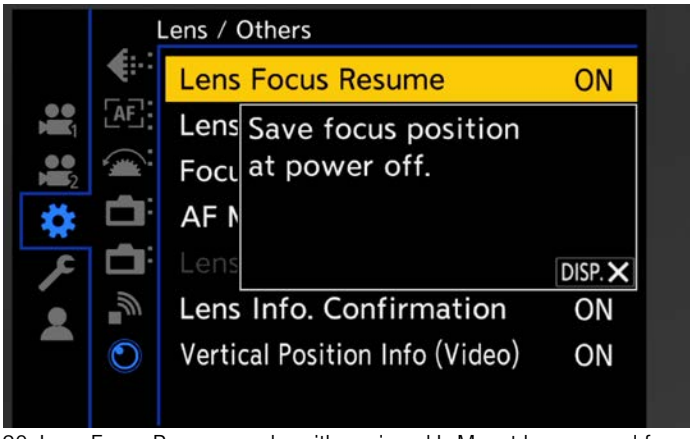
16. Aspect Ratio, Frameline Color and Mask outside picture area.

17. There are 10 pre-defined framelines and one CUSTOM setting.



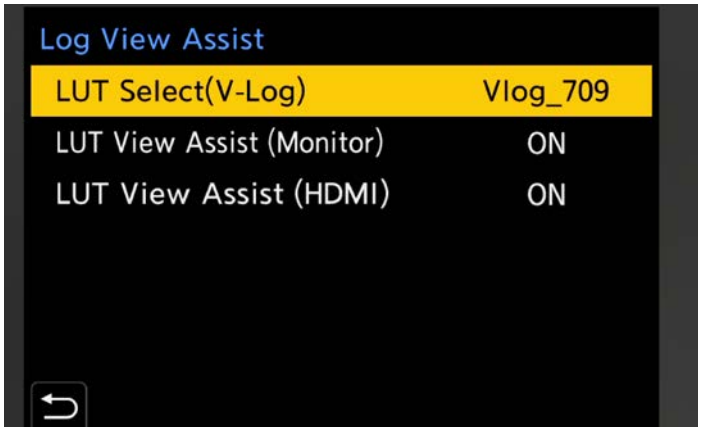
18. You can only view one set of Framelines at a time.

19. CUSTOM Framelines are defined by % of sensor area and offset.



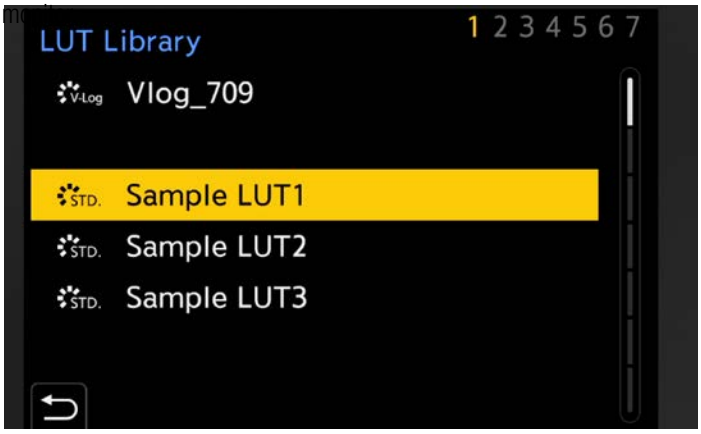
20. Lens Focus Resume works with equipped L-Mount lens manual focus.

24. Viewing LUTs (Log View Assist).



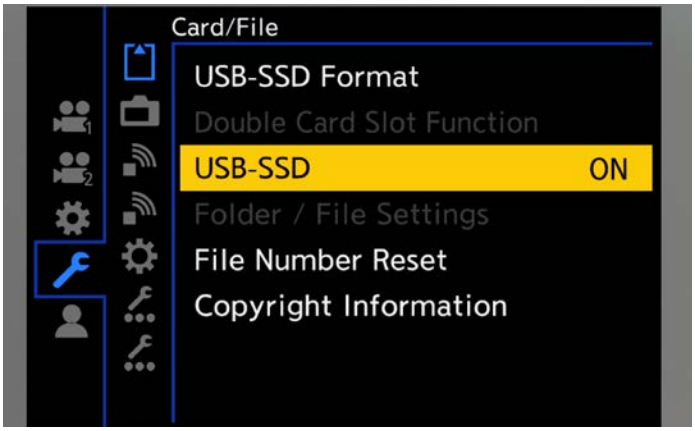
21. LUTs displayed in the EVF, Onboard Monitor and external HDMI

22. Manage your LUT Library here.

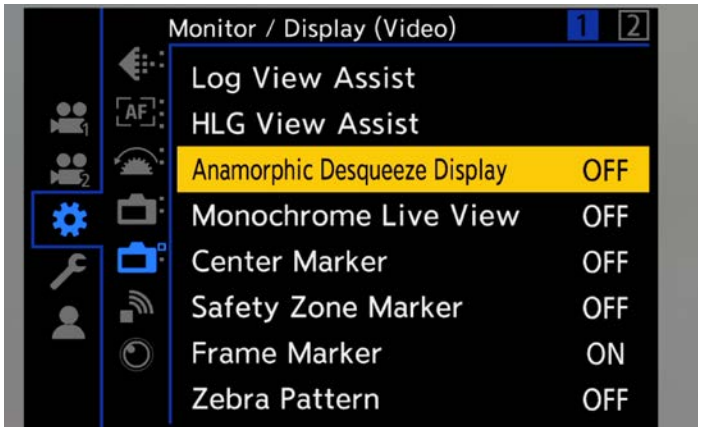


23. List of LUTs loaded in camera.

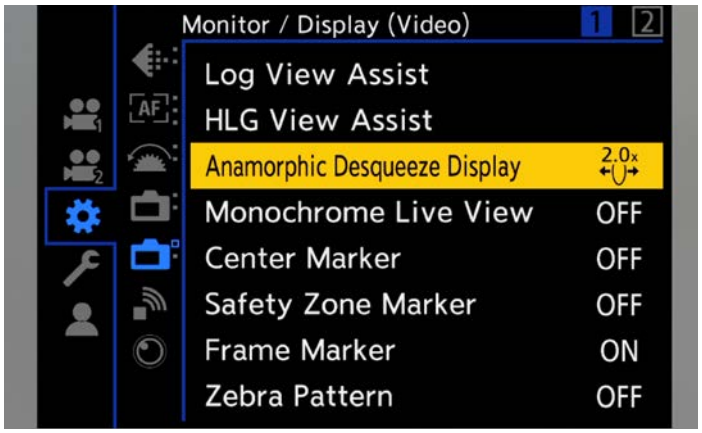
24. Load, Sort, Delete LUTs and Edit their names.

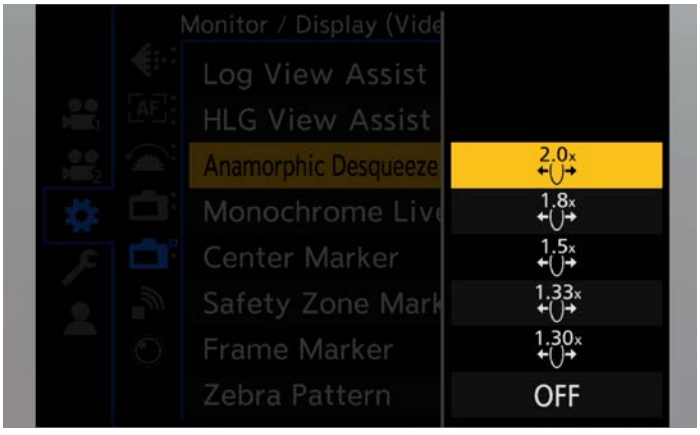


25. Choose to record onto an external USB-C attached SSD drive.



26. For anamorphic lenses, turn Desqueeze factor ON or OFF here.





27. Anamorphic Desqueeze factors of 1.3, 1.33, 1.5, 1.8 and 2.0x. The image is desqueezed in the EVF and onboard monitor, but not sent via HDMI.

Cartoni, Spaghetti Carbonara, 90th Anniversary and E-Heads

Cartoni E-Maxima 5.0 with VR Box 2.0.
At left: view from rear. At right: front.

by Jacques Lipkau-Goyard

Spaghetti Carbonara and Padovana Hen are two legendary dishes that highlight the incredible diversity of Italian food traditions. Even though they come from completely different regions—central Italy for pasta lovers and northern Italy for hen enthusiasts they share a common thread that celebrates the heart of Italian cooking.

Carbonara is a Roman classic, deeply rooted in the rustic, pastoral traditions of Lazio. It's all about simplicity and bold flavors: pecorino cheese, guanciale (cured pork cheek), eggs,and black pepper. The result is a creamy, salty, umami-packed dish with a touch of smokiness from the guanciale and a peppery kick.

The Padovana hen is one of the finest culinary treasures of Padua and the Veneto region. This ancient Italian breed of elegantly crested and bearded chicken is prized for its abundant egg production and exceptionally high-quality meat. Its versatility in the kitchen is remarkable, making it a key ingredient in a variety of dishes, from flavorful broths and rich sauces to grilled breasts, roasts, and more.

Just as these two culinary ambassadors represent Italy's rich regional heritage, Cartoni in Rome and Professional Show in Limena, Padua embody Italian tradition and innovation in their fields.

Cartoni designs, engineers and manufactures a versatile range of gear to meet the needs of every cinematographer. From advanced, durable fluid heads to aluminum and carbon fiber tripods and pedestals, motorized PTZ columns, Cartoni has been providing top-tier support for cinema, ENG, EFP, studio and broadcast productions for the past 90 years.

Professional Show has been Italy's largest broadcast system integrator for over 40 years and is one of the most important broadcast equipment distributors in Europe.

The year 2025 marks Cartoni's 90th anniversary. This incredible milestone is celebrated with the official launch of the Cartoni Encoded Series (E-Heads), with eleven encoded fluid heads for advanced control in modern filmmaking and virtual production across many applications: SFX, VFX, VR, and XR.

In Extended Reality (XR), precision is crucial for blending live action with virtual environments. Accurate positioning data ensures smooth transitions between real and digital elements. Advancements in Virtual Production (VP) and XR have transformed the VFX industry, with studios using real-time rendered environments powered by game engines. However, traditional camera tracking systems often struggle with fluid motion, causing inconsistencies when panning within virtual environments.

Cartoni's E-Maxima and E-Master encoded fluid heads, paired with their proprietary VR Box 2.0, streamline production with real-time, high-precision pan and tilt tracking data. Delivered via IP protocol over Ethernet or the open-source BiSS Interface (Bi-directional/Serial/Synchronous), this ensures smooth integration of talent and digital environments in Virtual Production (VP), Augmented Reality (AR), Extended Reality (XR), and Immersive Production.

Accurate positional data is decisive for achieving smooth transitions between live-action and virtual elements. Many camera tracking systems approximate pan and tilt positioning until a predefined movement threshold is exceeded, often resulting in noticeable judder. By incorporating precise, frame-accurate pan and tilt tracking, the Cartoni system ensures correct spatial alignment of production elements, eliminating inconsistencies in visual overlays.

Cartoni's E-Series fluid heads, such as the E-Maxima 5.0, E-Maxima 30 and E-Master 30, generate ultra-precise positional data with an outstanding 22-bit resolution for pan and tilt angles—covering a full 360° range with a resolution of four million data points. By integrating accurate pan, tilt and elevation data directly into graphics or game engines, Cartoni's system removes the need for constant approximations. This ensures consistent and repeatable results, allowing position elements like player stats or race driver positions. Graphics will always stay precisely where you want them, no matter how the camera moves, giving your production a polished, professional edge.

The VR Box 2.0 connects Cartoni E-Heads with Virtual Production, AR and XR software, converting raw encoder data into

compatible metadata via FreeD, Mo-Sys F4 and other plug-in protocols. Connectivity is via Ethernet, Wi-Fi (2.4GHz) and a 2.4GHz radio channel for hardware control up to 1 km. Lens data integration by internal and external encoders ensure precise lens parameter capture and the synchronization supports Genlock pass-through (Bi-Level, Tri-Level, Burst/Back Porch) for frame-accurate timing. This enables serialized camera control, ensuring consistent and repeatable positioning of graphical elements in real-time broadcasts and virtual environments.

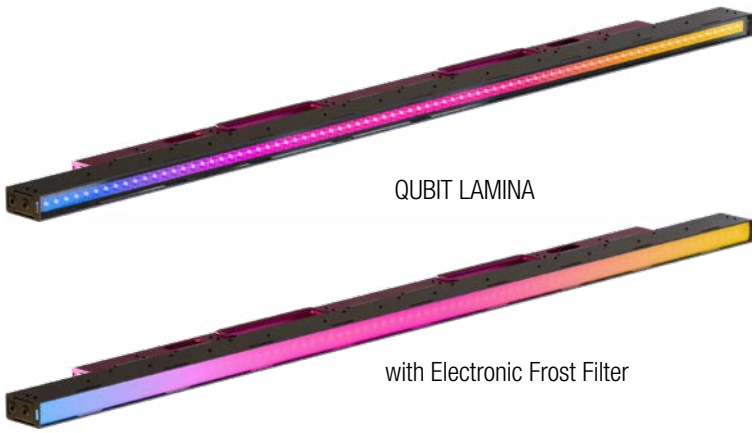
Traditional broadcast camera tracking systems do a good job of calculating relative positions between the subject and the background, but they struggle when it comes to granular accuracy—especially for pan and tilt movements when the camera is stationary. The result? Pan and tilt data often must be estimated unless the camera itself is in motion.

At the recent BSC Expo at Battersea Evolution in London, Cartoni joined forces with Professional Show to present a cutting-edge lineup of lighting technologies. While the team from Padua didn't bring its renowned hen or culinary delights, it did deliver an impressive demonstration of innovation, integrating Cartoni's E-Master 30, a RED KOMODO, and the VR Box 2.0 with a large LED wall, complemented by Qubit lighting products distributed by Professional Show.

The E-Maxima 30 was placed on tripod and encoded dolly featuring Absolute, with 22-bit optical encoders (4+ million data points) providing ultra-precise pan and tilt tracking data. Horizontal tracking via encoded dolly wheels offered 0.1 mm accuracy over 10 meters. The E-Master 30 combined with the VR Box 2.0 introduced real-time calculation of absolute camera position (X, Y, Z), optically centered. This data, along with camera orientation (Pan, Tilt, Roll) and lens parameters (Zoom, Focus, Iris), was integrated into a comprehensive metadata package for UE5 via multiple plug-in protocols, ensuring synchronization with AR/VR graphics engines and tracking systems. Whether for In-Camera VFX in cinema or real-time broadcast applications, Cartoni E- Heads provide amazing precision and flexibility for any production.

The Professional Show team managed the LED screen's video content using UNREAL using a dedicated plug-in called Vanilla System, developed by ELimpia. This controls the visuals and also synchronizes the Qubit series' specialized lighting with the video signal through the IBL (Image-Based Lighting) system. Designed as a turnkey system, it represents a next-generation lighting system tailored for virtual production studios, extended reality (XR), and high-end cinematography.

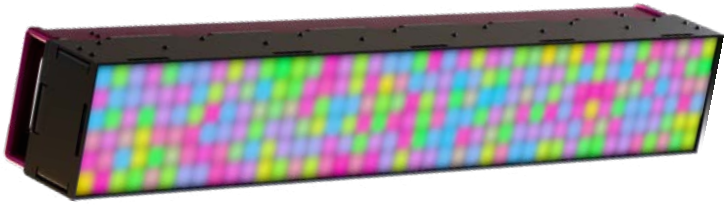
The Qubit series includes two fixtures—500W and 120W—



QUBIT LAMINA

with Electronic Frost Filter

QUBIT TABULA



with Electronic Frost Filter

designed to enhance control, precision, and flexibility. At the core of this system is Tabula, a high-density pixel-to-pixel control panel engineered for advanced volumetric lighting and background synchronization.

Measuring 100cm x 16cm, Tabula features 250 individually addressable RGBWW pixels, allowing for exceptional lighting accuracy. Equipped with an onboard CPU, Tabula includes RJ45 in/out pass-through connectors and operates using the Art-Net protocol, enabling real-time synchronization with LED wall backgrounds in virtual production settings.

This is made possible by almost zero-delay video synchronization. Tabula is equipped with advanced optics, featuring a narrowed beam angle, reduced from 120° to 30°, for better long-throw performance and precise directional control.

Additionally, an Electronic Frost Filter allows for linear diffusion adjustment, providing both soft shadows and defined light effects to suit various production needs. With an exceptional TLCI rating of 99, Tabula ensures outstanding color accuracy. To enhance durability, it undergoes a "tropicalization" process, making it resistant to humidity and light rain, ensuring reliable performance in diverse production environments.

Lamina, on the other hand, is a slim, modular fixture designed for continuous integration and high-performance passive cooling. While retaining the key specifications of Tabula, it offers a more compact and adaptable design, measuring 180 x 4 x 11 cm and featuring 81 RGBWW LEDs. Unlike Tabula, Lamina's electronic control system is external, housed in a dedicated unit capable of managing up to 8 fixtures simultaneously.

Key benefits of Lamina include Fanless Cooling – a passive convection via an aluminum frame to ensure silent operation. The higher IP rating provides enhanced environmental protection. The Electronic Frost Filter allows for adjustable diffusion, enabling precise light control for different effects. 24-bit dimming precision ensures smooth transitions and adjustments.

Both Tabula and Lamina support manual control, independent of video synchronization. This allows crews to fine-tune dimming, variable correlated color temperature (vCCT), and custom light shaping to meet their specific creative needs.

Just as the two culinary icons represent Italy's rich regional heritage, one can't help but notice that no matter how great the dish, Italians will turn it into a national treasure and then spend hours debating which region perfected it. Carbonara or Padovana Hen? There's no winning. Just choose your side and enjoy the food, because in the end, it's all pasta and poultry.

AJA BRIDGE LIVE 3G-8

AJA BRIDGE LIVE 3G-8 is an easy-to-use but powerful device to convert, encode, decode and transcode video for streaming and live productions.

AJA Video Systems has launched BRIDGE LIVE 3G-8, a new addition to its formidable family of streaming and IP video devices. With 8 bi-directional 3G-SDI connectors in a 1RU configuration, BRIDGE LIVE 3G-8 offers twice the 3G-SDI I/O capacity of AJA's BRIDGE LIVE.

With an expanded channel count to provide video professionals with enhanced flexibility, the new BRIDGE LIVE 3G-8 decreases per channel costs for customers, while providing reliable encoding, decoding, and transcoding for live video environments.

AJA is demonstrating this turnkey system for REMI, synchronous multi-channel video contribution, remote collaboration, direct-to-audience streaming, and multi-bitrate/multi-format delivery at NABShow 2025.

Extensive support for industry-standard codecs and formats like H.264, H.265, NDI, SRT, and HLS ensures that AJA BRIDGE LIVE 3G-8 can support nearly any encoding/decoding/transcoding need that arises.

It answers a broad range of live event , remote production, multi-camera, podcast, web-based programming, security, surveillance and over-the-top (OTT) content delivery needs.

Educational organizations and corporations working with live streaming can also benefit from this device, while its synchronous multi-channel/multi-system transport streaming enables more efficient live sports and news broadcasts.

"BRIDGE LIVE has proven essential for IP video transport and delivery, and BRIDGE LIVE 3G-8 takes our commitment to innovation a step further, addressing customer feedback for even greater channel density," said AJA President Nick Rashby. "It delivers double the HD 3G-SDI channel support, built-in encode/decode and transcoding capabilities and strong metadata pull through so that teams can be even more agile in the field. BRIDGE LIVE 3G-8 is a must-have tool for multi-channel backhaul of SDI signals and for extending the reach of NDI, H.265, H.264, and other IP workflows."

AJA BRIDGE LIVE 3G-8 features include:

- Pure IP transcode capability expands the use of BRIDGE LIVE 3G-8 beyond SDI. It enables conversion between any IP codec, such as NDI to/from H.264 with SRT or HLS encapsulation.
- 8 bi-directional SDI ports with multi-frame rate capability enable use of 25/50 and 59.94/60 frame rates at the same time.
- Bi-directional NDI-SDI conversion lets users receive NDI (Full and HX) and decode to SDI or input SDI and encode to full NDI. They can also integrate remote NDI and non-NDI equipment/facilities via RTP/UDP/SRT and tap directly into the NDI network for a conduit to content delivery networks (CDNs) or other delivery mechanisms.
- Synchronous multi-channel/multi-system transport supports the backhaul of multiple SDI sources, which egress simultaneously from the remote location. A receiving BRIDGE LIVE 3G-8 ensures the SDI outputs are aligned and Genlocked. This unique timing feature also enables production switching, multi-cam recording or other workflows where live sources are required to be timed together.
- HLS input and output provide more ways to deliver content that can be provided to a CDN and consumed by multiple devices and software, including for remote screening to iOS, iPadOS and/or tvOS.
- A video preview feature provides a visual check so that operators can ensure they have the correct SDI input/content for encoding. It promotes basic confidence while providing customers who cannot "go live" to check their content with added peace of mind.

Price and Availability

AJA BRIDGE LIVE 3G-8 is coming soon through AJA's worldwide reseller network for $18,999 US MSRP.

Learn more about BRIDGE LIVE 3G-8 and visit with an AJA representative during NAB 2025 for a demo of the technology at the AJA Booth, SL3310.

AJA KUMO 6464-12G

Is your current router starting to get overwhelmed as you work with more and more high resolution, high dynamic range signals? With 64x 12G-SDI inputs and 64x 12G-SDI outputs, AJA KUMO 6464-12G has you covered, offering high bandwidth and cost-effective signal routing.

AJA Video Systems introducesd the all-new KUMO 6464-12G, a high capacity 12G-SDI router with 64x 12G-SDI inputs and 64x 12G-SDI outputs for high bandwidth, cost-effective signal routing. Intended for a broad range of broadcast, production, post, and proAV environments, KUMO 6464-12G offers powerful scalability, workflow security, and increased bandwidth via 12G-SDI.

Redesigned for maximum reliability and performance, KUMO 6464-12G provides increased capacity for larger configurations while maintaining a compact 4RU height and slim profile.

It supports 12G-SDI/6G-SDI/3G-SDI/1.5G-SDI/270Mb and DVB ASI, with 64x 12G-SDI inputs and 64x 12G-SDI outputs. Professionals can easily route and control video with embedded audio to/from BNC connections with auto re-clocking of SDI rates.

KUMO 6464-12G devices can be configured for ganged dual- and quad-port routing, so you can easily combine multiple inputs and outputs for Dual Link, 4K, UltraHD, and 8K workflows, enabling seamless routing of uncompressed, compressed, or RAW 4K signals throughout a facility.

Following in the footsteps of all KUMO routers, KUMO 6464-12G provides the highest density 12G-SDI router in a compact, fanless design, with absolute silence for noise sensitive environments such as studio control rooms, audio booths and critical medical installations.

KUMO 6464-12G features include:

- Single cable support for 4K/UltraHD 12G-SDI routing in a compact 4RU profile.
- 64x 12G-BNC inputs and 64x 12G-BNC outputs.
- 8K (Quad-12G), 4K, UHD, 2K, HD, and SD resolution support.
- Compatible with and exceeds SMPTE specifications.
- Facilitates Quad Link, Dual Link, 4K/UltraHD and 8K/UltraHD2 with multiport SDI switching for 2 or 4 sources at once.
- Up to 8 salvos can be configured and saved in each KUMO router.
- Capability to configure, save, export, and import up to 20 presets in each KUMO router.
- Embedded web server for remote control on a standard web-browser.
- Support for up to 32 AJA KUMO CP and CP2 control panels, direct connect or networked via ethernet.
- 1x RS-422 DB9 with support for Grass Valley Native Protocol.
- USB port for easy initial network setup.
- Auto re-clocking SDI rates: 270/1.483 Gbps/1.485 Gbps/2.967 Gbps/2.970 Gbps/5.934 Gbps/5.940 Gbps/11.868 Gbps/11.880 Gbps.
- Format agnostic, 270 Mbps - 12 Gbps.
- Passes all SDI embedded ancillary data including audio and HDR signaling.
- Support for 270Mb DVB ASI.
- Reference Input: analog color black (1V) or composite sync (2V or 4V) looping, non-terminating.
- 10/100/1000 Ethernet (RJ-45), REST API.
- Fanless design, completely silent operation.
- Redundant power supply option.
- Five-year warranty and AJA's world-class support.

Accompanying the launch of KUMO 6464-12G is a new KUMO v4.9 update that introduces support for the router and includes automatic cable length adjustment and re-clocking for optimized performance.

Initial network setup is supported via free AJA eMini-Setup v2.4 software for macOS and v2.4.1 for Windows. These updates simplify network configuration and firmware upgrades for all KUMO devices and AJA products like HELO Plus, ColorBox, and Mini-Converters. More information about eMini-Setup is available online. (*www.aja.com*)

Price and Availability

KUMO 6464-12G is available now through AJA's worldwide reseller network for $14,999 US MSRP.

The latest KUMO v4.9 and AJA eMini-Setup v2.4 updates are available now as free downloads from the AJA Support Page.

Find out more about KUMO 6464-12G, and see it in-person at NABShow 2025 in the AJA Booth, SL3310.

AJA DANTE-12GAM

Dante (Digital Audio Network Through Ethernet), an IP protocol developed by Audinate for sending high quality uncompressed audio over standard Ethernet copper or fiber optic cables, is embraced by at least 450 manufacturers and 2500 devices. But how do you get it to play nicely with your existing SDI systems and vice versa? Enter the new AJA DANTE-12GAM, a powerful SDI/Dante audio conversion gateway.

DANTE-12GAM from AJA Video Systems is a new single-channel 12G-SDI Dante audio embedder/disembedder Mini-Converter. Offering the same core functionality as AJA's popular openGear OG-DANTE-12GAM, DANTE-12GAM streamlines hybrid IP production by making it easier to bridge between SDI sources and destinations with embedded audio to/from the Dante audio environment, which enables distribution of multi-channel, low latency high-resolution digital audio across a switched Ethernet network.

Featuring a next-generation enclosure design, including an LCD display with control buttons, DANTE-12GAM can disembed 16 channels of audio in and embed 16 channels of audio out, for up to 32 channels of Dante IP audio. That capacity can be expanded to 64 channels via DANTE-12GAM-TR-LC and DANTE-12GAMTR-BNC, which include LC fiber or BNC SFP transceiver connections respectively, and can also be purchased post-sale to the base unit.

AJA President Nick Rashby said, "As demand for Dante continues, professionals must be able to easily embed and disembed audio to and from a Dante audio network and legacy SDI environments. DANTE-12GAM not only addresses this need, but it's also the first of its kind to offer an LC fiber option. It brings all the capabilities of our OG-DANTE-12GAM audio embedder/disembedder to a Mini-Converter form factor to support a range of field and mobile applications and unlocks new possibilities for projects that require more distance. Its introduction also marks the debut of our next-generation Mini-Converter design, which we're excited to spotlight at NAB."

Joshua Rush, Senior Vice President of Marketing for Audinate, said, "AJA's track record of anticipating and developing new tools that solve common bottlenecks for Dante users in the field is impressive, from the OG-DANTE-12GAM to its Dante AV 4K transmitter and receiver, and now, the DANTE-12GAM. The DANTE-12GAM is a welcome addition to our growing range of Dante products, giving users powerful audio embedding/disembedding tool in a new Mini-Converter design that includes an LCD display, and fits neatly in and around equipment spread across venues, facilities, OB truck, and other proAV environments."

AJA DANTE-12GAM highlights include:

- 12G-SDI audio embedding to/from Dante audio ecosystem.
- Support for up to 32 channels of Dante audio in a compact design via single video channel (or dual channel Video SFP Options) capabilities with independent 12G-SDI Input and Output ports, each supporting 16 audio channels for a total of up to 64 audio channels.
- One 12G-SDI BNC input and output for up to 4K/UltraHD support.
- Dante network redundancy via integrated primary and secondary etherCon GigE ports.
- Ability to transmit Dante audio channels over SDI without an external SDI source signal—using 2 built-in signal generators.
- Compatibility with a range of Audinate software for routing and configuration choices, including Dante Controller and Dante Domain Manager.
- Initial network configuration using free AJA eMini-Setup software.
- Remote signal status and configuration via an intuitive web UI.
- 2.2" LCD information and configuration screen with 4 control buttons for back, enter, up, and down.
- Support for network synchronization standards, including PTPv2, SMPTE 2110-30, and AES67.
- POE (+) on Primary Ethernet port.
- 10-18VDC regulated, 4-pin mini-XLR and a 12V, 60W power supply.

AJA DANTE-12GAM can be ordered with the LC fiber or additional BNC SFP modules, as DANTE-12GAM-TR-LC and DANTE-12GAM-TR-BNC. These include the same features as DANTE-12GAM, but have twice the capacity to support up to 64 channels of simultaneous SDI/Dante audio bridging per device.

Price and Availability

- AJA DANTE-12GAM is coming soon through AJA's worldwide reseller network for $2295 US MSRP.
- DANTE-12GAM-TR-LC and DANTE-12GAM-TR-BNC are also available for $2995 US MSRP each.
- A DANTE-12GAM Video SFP post-sale upgrade license can be purchased for $199 US MSRP.
- FIBERLC-TR-12G SFP and BNC-TR-12G SFP modules are also available for $559 US MSRP each.
- AJA is offering hands-on demonstrations of the technology at NABShow 2025 at the AJA Booth, SL3310.

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