

Jon Fauer, ASC

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Sept 2026

Issue 137

FILM AND DIGITAL TIMES

Art, Technique and Technology in Motion Picture Production Worldwide



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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.

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COVER

Thijmen Doornik, NSC with camera and Eli van Cleef pulling focus on feature film MAALSTROOM.



MAALSTROOM: Thijmen Doornik NSC, Eli van Cleef



Thijmen Doornik, NSC (above left). Eli van Cleef (above right). All images in this article are copyright of Graniet Film. Sharing is not permitted.

The email from Post Bills agency was intriguing: “Filming has wrapped on MAALSTROOM, a Dutch-Belgian co-production written and directed by Teddy Cherim. Following a six-week shoot aboard an inland barge travelling through the Netherlands and Belgium, the film stars Jim Deddes and Barkhad Abdi (Oscar-nominated for best supporting actor in CAPTAIN PHILLIPS).

Guessing where the equipment was rented, I called Sebastiaan (Seb) van Zuylen, Managing Director of Camalot and Camalux, for more details. He set us up to talk with Thijmen Doornik, NSC (cinematographer), Eli van Cleef (First AC / Focus Puller), and Gert Bauwens (general manager of Camalux Belgium).

Jon: Please tell us what MAALSTROOM is about.

Thijmen Doornik, NSC: “MAALSTROOM” translates as maelstrom or whirlpool. It’s about Jan, a struggling inland cargo barge captain whose mother has just passed away. She had always been there with him, helping him run the family ship, which is also called Maalstroom. After her death, he has to continue without her, alongside a newly hired Chinese deckhand. The ship is in very poor condition and badly in need of maintenance, and Jan is deep in debt. He takes on an urgent shipment of sand from Dunkirk to Rotterdam in a last attempt to save himself from financial ruin. If he misses the deadline, he risks losing the ship, which is also his home.

Shortly after setting off, Jan discovers eleven refugees hidden in the sand in his cargo hold. The cargo he needs to deliver to save himself and his ship. From that moment on, he is caught between his own desperate situation and the lives of the people on board.

The film is sort of an allegory for the migration issues in Europe and, more broadly, about our attitude towards people who come from elsewhere. Jan in some ways represents an average Dutch or European perspective: it is easy to have an opinion from a distance, but what happens when you actually meet these people, get to know them and hear their stories? How do you act then?

What I found particularly interesting from a cinematography perspective is that the point of view keeps shifting. Most films I’ve worked on have centered around one or two main characters, where you experience the story mainly through their eyes.

Although Jan is the central character in MAALSTROOM, you gradually become emotionally attached to everyone on board. The perspective is constantly shifting, which was interesting from a shooting standpoint as well—whose point of view are you showing at a given moment? That was a complicated challenge but also a very interesting one.

When will MAALSTROOM be released?

Thijmen: I’d guess 2027, but there’s no firm date.

What equipment did you have on MAALSTROOM?

Eli van Cleef: I was first AC and focus puller on this production, so I provided sharp focus, managed the personnel and handled all the camera equipment. We shot on the ALEXA 35. I used the ARRI Hi-5 with cmotion cFORCE mini RF motors. We used lenses from TLS: rehoused Super Speeds and the Angénieux 24-290 zoom. We also had some wider lenses: the Laowa 12mm Zero-D, and again a Canon 14mm FD, also rehoused by TLS.



L-R: Teddy Cherim, Director and Thijmen Doornik



The barge, loaded with sand

How did you decide on equipment—artistically, technically?

Thijmen: My last six projects were shot on ARRI cameras; the last three on the ALEXA 35. I'm a big fan of the ARRI system, the look and the reliability. I know it really well. I've always liked the Mini and I shot a lot of films with it over the years. The ALEXA 35 is amazing in terms of dynamic range. It always brings unique and natural textures to the images..

I wanted to shoot MAALSTROOM on that camera. But it's fairly heavy and big for the small, cramped spaces on the ship. Almost 50% of the film takes place in the wheelhouse which had a low ceiling. Early on, I was considering the VENICE in Rialto mode or other smaller cameras. But because I'm so fond of the ALEXA 35, I wanted to try to make it as small as possible so we could still shoot on it even in the tighter spaces. That's where Eli and I started experimenting. How do we get rid of the battery pack on the back, for example? How do we make it lightweight and small? Can we power it by cable from a distance? Can we relocate the battery somewhere else? What about the Bolt wireless video system and everything else that makes the camera bulky—how do we strip that down? We ended up with a pretty interesting, lightweight setup. Outside, we mostly used the normal, bigger rig, and when we moved inside—downstairs, into the smaller living quarters, for example—we'd strip off the battery and the plates and go with the smaller rig. Eli's the one who really made that work.

Did you mostly go handheld in the barge's wheelhouse?

Thijmen: We needed to be fast and to improvise constantly, because we couldn't turn the ship around; the light does its own thing, and

we had to shoot a lot of available-light situations. Reflections were everywhere, so you had to be fast and smart about how you shot. I wanted to be able to go 360 degrees if needed, to change the whole shot list on the spot. I'm also a big fan of shooting handheld, so in the end we decided to go about 90% handheld.

What about the exterior scenes?

Most of the time outside, I shot on an Easyrig with a Blkbrd Mantis that I just bought. It's an arm that stabilizes with elastic bands to help smooth out vibrations and bumps. I also like it a lot for longer walking shots. It gives you handheld freedom while still taking out a lot of the vertical movement. It was the first project I used it on, and it worked out well. But, of course, it was too big and bulky for the interior shots—that's where the smaller setup came in. For the Mantis work and the exterior shots, we used the regular, heavier ALEXA 35 accessory package. I actually prefer a heavier camera when I have room to work with it. So we switched rigs constantly between scenes, and Eli was very quick at making that happen.

How you did configure the various camera builds?

We also got a lot of help from the technical staff at Camalot. They built us custom 4-pin XLR to 8-pin power and BNC signal cables to connect the stripped-down camera to the battery and Bolt transmitter in a backpack. The customized backpack rig let us quickly pull the entire rear battery stage off with a quick release and put it into the backpack or mount it to a tripod or low-boy stand instead. The cable was about ten meters long. Switching setups was quick. Stripping down the camera to its bare essentials

MAALSTROOM: Lenses, Camalot, Camalux



Framegrab:

Barkhad Abdi, Jim Deddes and Tenzing Woing in the wheelhouse.

Images and framegrabs are courtesy of Graniet Film, in co-production with CZAR Film & TV (BE) and Dutch public broadcaster NTR.

MAALSTROOM is supported by the Netherlands Film Fund, Netherlands Film Production Incentive, Flanders Audiovisual Fund (VAF), CoBO, Belgian Tax Shelter, Eurimages and RTL Film LLC.

involved removing all the ARRI plates, since we normally have a lot of ARRI PCA metal on the camera. I made a custom plate so that the only accessory remaining was a top handle to keep it as light as possible.

For many of the setups in the sand, in the hold of the ship, we built a small mounting station so the rig could sit on a tripod, or we'd just run around carrying the small backpack. Gert at Camalux Belgium and I built the backpack together using various parts we sourced online and customized so it would be comfortable to wear and quick to use.

Gert Bauwens: From the start, Camalux Belgium worked closely with the crew to put together a camera and monitoring setup that was as compact and efficient as possible. Wireless video transmission was a challenge because of changing locations, distances and interference. A second boat followed the “hero” barge, allowing production and crew to monitor the action remotely. Being flexible as a technical supplier was just as important as providing the right equipment especially when something unexpected happens.

Did you prep at Camalux Belgium or the Netherlands?

Mostly in Belgium. But also a bit at Camalot Netherlands because on weekends we sometimes had to switch setups or swap equipment. Budget was always something we had to keep in mind, so we couldn't hold onto all the nicer gear for the whole shoot. Sometimes we had to send things back and re-prepare; it was constantly in motion. The initial prep was at Camalux Belgium and was tied to the Belgian tax incentive, so it made sense to base it there.

Seb van Zuylen: That's something we're able to offer clients: two separate companies, Camalux Belgium and Camalot Nether-

lands, but we try to work as one wherever we can. If a shoot needs equipment from our Belgian office for financial reasons, we try to make that as seamless as possible. Gert handles the prep, and if it's a lot of work, or spans a lot of days, we might send some of our own people over to help.

Sometimes the shoot itself happens here in Amsterdam even though the job is officially through Camalux Belgium. In that case, we support it as if it were our own. We really try to make sure that, for the guys on set, it doesn't matter whether the gear comes from Belgium or Amsterdam—they get the same level of service.

Please discuss lenses on MAALSTROOM.

Thijmen: Since the very first short film I ever shot, I've been in love with the ARRI/ZEISS Super Speeds. I come back to them once a year or so. They are lightweight and small, but also very fast. They have a beautiful texture you can play with, opening up or closing down and there's a budget consideration too. All of that brought us to the Super Speeds which did a great job again. I'm really happy with that choice. [Rehoused 18, 25, 35, 50, 65 and 85mm, all T1.3, with a circular iris and 95 mm front diameter.] The only downside of the rehoused lenses is that they're a bit bigger, but still small and lightweight compared to a lot of glass out there. The original MkII and MkIII Super Speeds have 80 mm front diameters; it's amazing how small they are.

Because the Super Speeds are so lightweight and small, they suited the way we wanted to shoot. I actually did a huge lens test with Eli beforehand. We tested six sets of lenses. You know these lenses, but they behave differently on a ship with different surroundings, the way the water and the light reflect off the sun—all of that



ZEISS
Super Speed
lens change.

changes things. We did a big side-by-side test right on the ship.

Thijmen: For me, the Super Speed lenses hit the right spot for this film. On my previous project, I used the K35s. I'm also a big fan of those; they have a softness and a similar kind of feel to the Super Speeds. But for this film we wanted something a little less dreamy and a bit more realistic. A lot of our inspiration came from World Press Photo-style images, real news photography, the work of photographers who documented what's happening at sea, the terrible things happening to people on small boats. We all know these images; that was a big part of why we leaned toward a less dreamy, a bit sharper, a bit more contrasty, but without losing the nice focus fall-off, character and imperfections. We also used the Angénieux Optimo 24-290 T2.8 combined with a zoom control on specific, more stylized scenes.

Why not just use the Super Speeds as they were originally? What's the advantage of using rehoused ones?

Thijmen: Smoother mechanics, less backlash and they're all the same size. That matters a lot, mainly for Eli and the camera team.

Eli: Remember, on the older Super Speeds, the front element travels as you focus. Because the older sets each have a different amount of travel from the front element, you'd need to reposition the focus motor depending on the lens, to account for the different gear positions. It travels almost 3 ½ centimeters on some of them. With the TLS rehoused versions, it stays consistent across the set, so it saves a lot of time during lens changes.

Seb: From a rental house perspective, it's nice having rehoused Super Speeds. We have a lot of original Super Speed sets as well and our lens tech Pieter Minnegal spends a lot of time keeping them in working order. A rehoused set is a bit easier to put

through the wear of a shoot like this, out on a boat.

I understand you also had some wide lenses?

Thijmen: We used the Laowa 12mm T2.9 for some B-roll shots. We also shot a lot with the Canon 14mm T2.8 FD lens. Since I shoot frequently with the K35s, I often pair them with the 14mm FD. I'm fond of that 14mm—there's not much distortion and the texture is very nice. The widest Super Speed is the 18mm but it doesn't fully cover the ALEXA 35 open gate.

But the ZEISS 50mm and 35mm Super Speeds were the workhorses, our favorites. I think we used the 50mm about 70% of the time. I always end up finding that one lens becomes the favorite for the film. Going in, I'm never sure which one it'll be, and then partway through I realize, okay, this is it, this is the lens.

When did you actually start shooting the film?

Thijmen: We started the real shoot two months ago. We had 28 or 29 days. Tomorrow is the last one.

Oh, you're still shooting?

Thijmen: It's just one location tomorrow, all inside one small engine room. We're almost there. There might also be a small shoot in Africa after this because the beginning of the film is a journey the sand takes, a title sequence where we follow it. Ironically, it comes from Africa. It winds up at a beach bar in Holland. The sand is dug up somewhere in Africa where the surroundings are getting polluted by a Western company that takes the profits and ships the sand to Holland for something as trivial as a beach bar.

Yikes. Like the sand at IBC-RAI convention center beach bar? But, don't you have lots of sand in Holland?



Thijmen in the sand pit of the ship's hold with Easyrig, Mantis and ALEXA 35 camera rig.

Thijmen: Plenty. Sand normally does not have to come from elsewhere. But if you want really white sand, you might import it. So they import sand from far away, from different countries in Africa, which creates real problems for the local communities there.

Wow. Where were your locations?

Thijmen: The story starts in the harbor at Dunkirk, France. However, we actually shot the harbor scenes, including the whole opening of the film, in Antwerp, where the refugees board the ship in what's meant to be a French harbor. Then the ship makes this huge loop through Belgium, mostly for budget reasons, standing in for France a lot of the time. We filmed on different rivers: the Maas, the Sambre, and from Antwerp to Ghent and down through Wallonia. It's interesting to trace on a map, because we cheated the route quite a bit. Staging what's basically an impossible grand tour gets expensive these days, in terms of fuel and logistics. We needed a route that would look like it went from northern France through Belgium to Holland, all the way to Rotterdam.

The Director and I actually scouted and mapped the canals by motorcycle first, since doing it by boat would have taken two or three weeks with all the locks involved. We mapped out the canals and rivers by motorcycle and tried to build a route with everything we needed. Then the captain of the real ship stepped in and told us, "No, you can't go that way. There are twenty locks to get through there, that's not possible."

It became a real puzzle to build a route that would work in twenty-eight days and still hit all the locations we wanted. We wanted

to show the real industrial character of Charleroi, but we also loved the area around Liège, which isn't on the actual route but was a great place to shoot, so we found a way to shoot part of it there—meant to read as France, though it's really Belgium. Then we moved on to Rotterdam, and by the end of the film we're supposed to be on the North Sea, but we actually shot that on the IJsselmeer, the largest inland body of water in Holland.

All these locations came with a lot of logistical and water-related headaches. Every day, we were shooting while sailing, we'd have to get through at least four locks, a bridge and a lift. There are these huge boat lifts, which are actually a big part of the film. The main climax scene happens on one, almost like a giant reservoir, where an 80-meter ship sits and gets carried up or down on a cable-driven platform.

Teddy, the Director, decided to shoot our most difficult scene while we were actually going through the lift, which came with a lot of logistical puzzles. But somehow we made it work. These systems are also quite old, so things break down, and that happened to us too, while we were shooting, along with bridges that wouldn't open on our tight schedule. We were constantly having to swap scenes around and improvise.

On those big days, we ended up with cameras all the way to camera F. The ALEXA 35 was our main camera, we had a second ALEXA 35 as B camera, an ALEXA Mini as C camera, a drone, and we also shot with a thermal imaging camera. We wanted a certain European surveillance feeling, like Big Brother is watching, in a controlled environment. When the characters are near certain locks, lifts, or borders, they're being watched by something. You



Night - Exterior. ARRI ALEXA 35 on Easyrig. Jim Deddes and Barkhad Abdi.

see the people, color-mapped in red, moving through the rest of the frame. It's a pretty interesting effect, quite eerie and unsettling.

Why did you need so many cameras running at once?

Thijmen: That was mainly on the Ronquieres boat lift. We needed at least two controlled days for what was already an almost impossible scene. Then, two days out, they told us we'd only have full control of the lift for one day. On the second day we might have control, but if any other ships came through, we'd have to let them go first, and every ship that passed cost us two hours, because it's a huge facility and the ships move incredibly slowly. Just turning one around takes twenty minutes, and going through a lock, you think, 'okay, we're moving,' and then an hour later you've barely gone anywhere.

The only way to pull it off was to shoot with several cameras at once. We already had the B-camera plan in place, since that was already necessary, but when we lost another day on the lift, we needed to be even more efficient, so a third main camera came in, apart from the drone and surveillance cameras.

What did you use for aerials?

Thijmen: For some big days, we had the DJI Inspire 3 with 2-person team. For certain wide top-down shots, which we shot quite often, we had the smaller DJI Mavic Pro. That was always with us. Lars, our DIT, sometimes doubled as a second camera operator and was also our drone pilot. It was really useful to have a drone like that on hand, because sometimes we wanted to cut to something more mechanical—fixed, stylized shots at ninety degrees to the subject, almost like still photographs, almost too perfect. The

drone offered big top-down shots of the ship moving through a lock or sitting in an interesting and perfectly shaped landscape. It's a good way to occasionally step back from the intense chaotic images inside the ship. It's nice to have that release once in a while.

Is that also why you used the Angénieux 24-290 zoom?

Thijmen: Yes, that's part of the same thought. We had the Angénieux Optimo 24-290 T2.8 Super35 format zoom, not the newer interchangeable-rear Optimo Ultra 12x. It ties into the same Big Brother feeling. We used it for very slow zooms, across almost the whole focal range, starting at 24 mm and ending at 290mm, shooting an entire scene through the move, zooming in slowly from a distance and ending on a close-up, for example.

It gives you that same uncomfortable, eerie feeling. And it's not just for the refugees. We wanted to portray the captain that way at times too, keeping our distance and watching him from afar. We watch him from a distance in the same curious way he looks at the refugees earlier on, since he doesn't know them either. It was nice to flip that around sometimes—it also creates a certain tension. I really like zooms, when used the right way.

It sounds a bit like a reverse of the long zoom-out opening of BARRY LYNDON. Did you work wide open?

Thijmen: Sometimes. We shot most of it at T2.8, and for the same reason we shot at a 3:2 aspect ratio—the reference photos we were drawing on were all in 3:2. It echoes the way we're used to seeing these situations. I also really like 3:2 for portraits, and in a way this whole movie is one big portrait—it's about individuals. That comes through in the shooting language too; we shot a lot

MAALSTROOM: Focus, Crew

of single, individual portraits early on. As the story develops, we start shooting more over-the-shoulders, and people become less isolated from each other. But the starting point was to work with portrait-style compositions.

Were you shooting ALEXA 35 Open Gate?

Thijmen: Yes, we shot open gate, which is also part of why we shot at T2.8. I tried to open wider, but that didn't always work out. On an open-gate sensor at T2.8, your depth of field is already quite shallow. I didn't want overly shallow depth of field because on the ship the landscape is often far away, and if you want to establish a sense of place, wide open you don't really see anything—it would just be a soft wash outside the wheelhouse windows. We wanted greater depth of field while still keeping the option to isolate people when needed. T2.8 ended up being a nice middle ground, a sweet spot.

That said, we also shot some things at T1.4. A lot of scenes used available practical lights in the harbors and the canal locks. The overall plan for lighting was to let the location do the work, and just help it along a bit or add some negative fill. When it was really low-key, we'd shoot wide open. Also, in scenes where Jan starts losing his grip on reality and slowly begins to unravel, we also experimented more with shooting wide open.

Eli must have loved working with you on that.

Thijmen: Eli is pretty used to it, haha. I've shot quite a few projects wide open, working in a very intuitive and dynamic way. Eli is incredibly good at this and has an almost uncanny ability to anticipate my instincts.

Eli: I pull focus off the monitor and I try to have an eye line. I feel comfortable watching Thijmen move the Easyrig through the scene and getting a feel for the focus distances that way. Thijmen and I have worked together for a long time now, so we understand each other, and I think we share a lot of the same instincts about where the focus should sit in the frame and when. I follow where the story takes us.

Please tell us more about pulling focus inside the ship.

Because we shot on a moving ship, there were few chances for second takes. Doing rehearsals would lose critical shooting time as important backgrounds passed by. So focus had to be right on the first take. Thijmen and I have worked for a long time together; he is very clear about what he wants to achieve. He thinks far ahead, is intuitive and when needed, he adapts in a split second which makes it possible for me to hit the right focus during very difficult shots.

We needed to keep things light and small with the cFORCE mini RF, but I didn't want to compromise on the feel and touch I get from the Preston system that I have used for years. The muscle memory that I have from the Preston Close-Focus A ring was vital because a lot of the action took place between close focus and 1.5 meters (5 feet). Therefore, I used the ARRI custom smart ring function to make a "Prestonized" focus ring for the ARRI Hi-5. For me, it was like having the best of both worlds.

[Sean Dooley at ARRI adds: The Hi-5 can generate an open source .svg vector file. You can edit it Adobe Illustrator, Inkscape, etc., and then print colorful and customized focus scales onto readily available sticker paper or labels that attach onto any blank Hi-5 ring, which has an internal chip that maps and matches the scale.]

How did you keep the equipment clean? I'm guessing that you didn't tell the folks at Camalot that the cameras were headed into a sandpit.

Eli: We did tell them. I think we went through fifteen cans of Dust-Off in a week. What made this project especially challenging for the camera team was not being able to use Magliners because of the tight space on board the ship. All the equipment had to be carried around in low-profile backpacks with custom foam inlays to keep the lenses safe. Keeping everything clean meant using a huge amount of compressed air. Every time we did a lens change, we moved into the wheelhouse because the wind would kick up this really fine dust, which is terrible for equipment. It was a matter of cleaning everything after every shooting day and keeping gear protected from the sand. It took more manpower to manage that way. We had a small team, so it really took a physical toll on us.

How big was your crew?

Eli: The camera department was Thijmen as DP/Operator, me as first AC, plus a second AC and a data wrangler who also ran second camera on smaller B-Cam days. That was the core team, and then we had additional camera operators for the B and C cameras.

Thijmen: And a grip—a rigger, with a trainee, so there were always two extra sets of hands.

What was your base ISO?

Thijmen: Our base was 800 for daytime. For nighttime, I went up to 1600, occasionally higher using the Enhanced Sensitivity (ES) mode with built-in noise reduction. 2560 ES holds up really well.

Did you use filters?

Thijmen: I used polarizers a lot to help with all the reflections off the water. And I had NDs to land on the right exposure. But no effects filters. I'm not really a fan of those. That's part of why I always try to shoot on a particular lens set. I want the lens itself to give me the look I want, rather than adding it with a filter.

How did this job start for you?

Thijmen: It's quite a special project because I've been involved in it for eight years. It's the longest project I've ever been attached to—eight years of thinking and talking. I often work with Teddy Cherim, the Director, and he's also a great friend. It evolved every year. About three years ago, the script was almost where it is now and we had received production funding from the Dutch Film fund. We were going to start, but then the rest of the funding became a bigger challenge than expected. Every year was, "Probably we'll shoot next summer," but it kept getting more expensive and we needed more funds and parties involved to raise the money.

Seb: Which reminds me: you mentioned this project's been eight years in the making. I went back through some old emails, and the first shoot we did was in September 2020. Shot on the ALEXA Mini with Super Speeds. Then you tried again in 2023, shot a bit more. And finally, this past March, you said, "It's finally going to happen—let's keep going."

Thijmen: In the end, it was a big achievement by Marten van Warmerdam (Producer) to pull together financing from all the different entities. I'd say that for the last three years, I've talked about this project almost every month. So I'm really attached and emotionally involved. Normally the script already exists, and I

MAALSTROOM: Look, LUT, Getting into Film



read it and think, do I like this, what's it about? But this time it was different. Every couple of months or so there would be a new draft; I'd read it and we'd talk about it.

Did you talk with the Director to help improve the script from a DP's point of view?

Tijmen: Quite a lot, in practical ways. Long before we went into production, we were already taking trips on inland cargo barges. We also went to many photo exhibitions and watched a lot of films together. Those conversations fed back into the script. There were quite a few changes that came out of our discussions about how to shoot it, what it should look like and the right approach.

Our biggest inspiration came from press photography, particularly the work of photographers who documented the migration crisis in all its complexity and scale. In terms of films we were, in different ways, inspired by the following features: *L'HISTOIRE DE SOULEYMANE* (2024), *DOGMAN* (2018), *COME AND SEE* (1985), *AUGURE* (2024), *MOFFIE* (2019), *IRON ISLAND* (2005) and *FITZCARRALDO* (1982).

Did you have a show LUT for the Director's monitor?

Tijmen: Yes, I made a few LUTs and switched between them quite a bit. Sometimes I'd go back to Rec.709 to check exactly what I was doing. The LUTs I make tend to be small shifts in color and light. I don't build one big, heavy look because I want to stay

aware of what's actually happening in terms of color. We were shooting a lot of available-light situations, in many locations we hadn't even scouted in advance, since you can't scout every canal at night. I wanted to know whether there was green in a certain lantern, or not, and what kind? If I shift the greens too much, it can get confusing.

In the end, I worked with fewer LUTs than I expected. I made one for the hold of the ship, in a space about sixty meters long and four meters high, and we painted all the walls a color we liked, a dark Burberry red. I built a LUT around that, accounting for the white sand, the paint and the skin tones. In the wheelhouse, I used a different LUT that adjusted to get a bit more room in the highlights.

How did each of you get into film?

Tijmen: I started with photography and making skate films. A lot of DPs seem to start out as skaters who end up filming their friends, like me. I bought a Sony VX1000 and started making other short films alongside the skate videos. I fell in love with filming and editing and my love for watching movies became bigger and bigger. After high school, I worked for two years as an electrician. That put me on a lot of sets and I realized being a cinematographer was exactly what I'd been dreaming of.

In 2008 I attended the Netherlands Film Academy in Amsterdam. I pulled focus quite a bit and did some camera assisting early on. In film school we were still shooting a lot on 16mm, so for four years I was shooting projects on 16mm and pulling focus for classmates, loading, slating, gaffing and doing a bit of everything. At that time, I also started shooting a lot of music videos and smaller documentary projects, which really helped me develop my skills as a cinematographer.

Eli: I'd always been interested in filmmaking from a young age. I got my REAL start through the 48 Hour Film Project—a competition where you make a movie in 48 hours. When I was 23, someone reached out and asked if I'd focus pull on a short film, and I said yes. I googled what a focus puller actually was and that's how it all started. I've been pulling focus since for the past ten years. Working in the field is really how I ended up where I am—that's one of the best ways to learn.

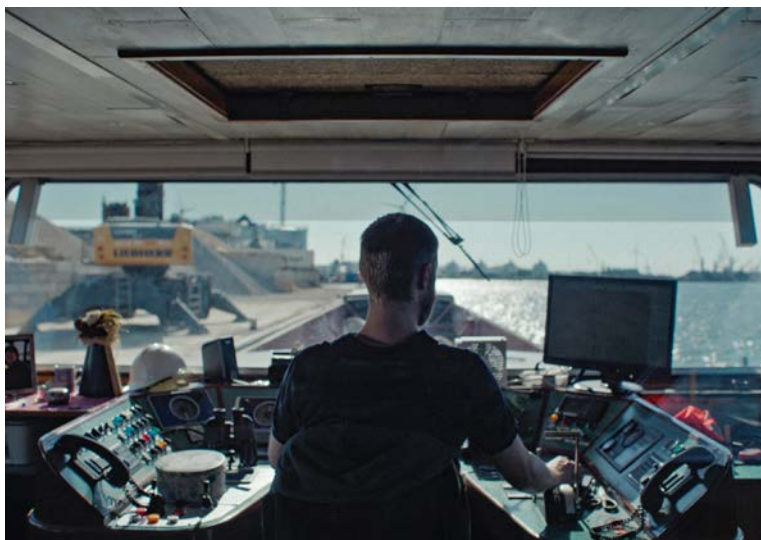
Thanks for a very interesting discussion and congratulations on a tough job to tell an important story. I sounds like it will be a great success.

Gert: We are proud to have been part of MAALSTROOM and this great Belgian-Dutch collaboration. With the support of the Belgian Tax Shelter, Belgian and Dutch production companies, technical suppliers and crews are increasingly work together, each bringing their own experience and way of working. For Camalux Belgium, being a technical supplier is about more than providing equipment. It is about thinking along with the crew, staying flexible and helping out when circumstances change on set.

Tijmen: It was once again a great pleasure working with Camalot/Camalux. They were incredibly supportive throughout the production, always helping us deal with last-minute issues and addressing challenges whenever they came up. And there were quite a few of those on this production.

camalot.nl camalot.be camalux.com tijmendoornik.com

MAALSTROOM Frames with captions by Thijmen Doornik, NSC



Jan in the wheelhouse at the dry bulk sand terminal in Antwerp Harbor.
14mm Canon FD.



One of the many tightly-scheduled blue hour scenes,
shot in a small tender.



Strepy Thieu boat lift.
The entire ship is lifted from one lock in the river to the next.



Night scene in the hold. Ends in a 290mm closeup.
Shot on Angénieux 24-290 zoom.

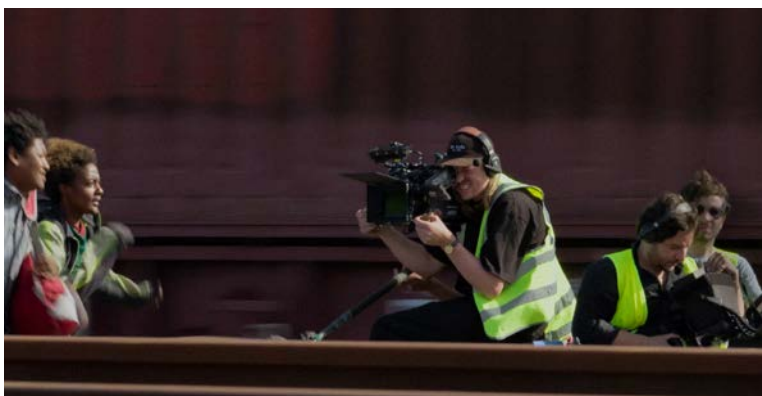


One of the big group scenes while sailing on the IJsselmeer.
Shot with the 35mm ZEISS Super Speed



Daytime scene with the hatches closed.
Fully lit by flame bars and leaking daylight.

MAALSTROOM BTS



Sony FX5 Camera Report



Cut to the chase. The new Sony FX5 is the camera to get if only for any one of these 3 exceptional reasons:

- Higher 16.6 MP resolution
- Internal 16-bit X-OCN RAW
- EVF (OLED — 7.07 million dots) tilts from horizontal to vertical and detaches. This is my favorite thing.

Of course, there are many more things to applaud. Let's jump in.

The Sony ILME-FX5 is the latest Cinema Line camera. The family goes high and low, to paraphrase the Kurosawa film, from high-end Hollywood blockbuster to entry-level solo and independent production. Each family member is defined by intention and affordability. At the top of the line, there's VENICE 2, VENICE, their respective Rialto tethers and the imminent RIALTO 65. Next comes BURANO. FX9, beloved by documentarians, has retired. FX6 is next in the family tree.

With a price under US \$4,899 (body only), the new FX5 is positioned between FX6 and FX3. It's not a replacement for the FX3 nor is it an FX3 mark II. The FX3 will continue to be manufactured. FX2, which introduced the pivoting EVF, is the entry level Cinema Line camera along with the APS-C format FX30.

It's interesting how each camera in the Cinema Line is unique not only in affordability but also in capability. The new ILME-FX5 takes this concept ever further.

By the way, ILME is the designation for Sony's compact Interchangeable Lens Movie E-mount Cinema Line cameras: FX6, FX5, FX3, FX2 and FX30, as well as the FR7 (PTZ). ILCE stands for Interchangeable Lens Camera E-mount hybrid photo/video Alpha series cameras (a1, a7, a9, etc).

Intended Users

FX5 will work with almost anyone who makes moving images—from A-list cinematographers on high-end features to independents on low or no-budget shows, reality and documentaries, owner-operators, corporate and commercial production companies, content creators, students and emerging filmmakers. Essentially, the FX5 is for anyone making movies.

Where does Sony see it? With VENICE 2 and RIALTO 65 at the top, followed by BURANO and FX6, the new FX5 fits just above FX3, FX2 and FX30 in terms of cost. In terms of features and capabilities—let's take a look.

Sony ILME-FX5 Details

- The FX5 has a new 16.6 Megapixel Full Frame, Full Height, Stacked Exmor RS CMOS Sensor.
- Maximum 5K Open Gate (3:2) 36 x 24 mm resolution is 4992 x 3328 — available only when recording in X-OCN.
- Pixel pitch is approximately 7.2 microns. (FX3 is about 8.4 µm.) These are unofficial specs, derived by dividing sensor width by horizontal resolution.
- The advanced BIONZ XR2 image processor enables higher frame rates for slow motion: up to 60 fps in 5K, 120 fps in 4K and 240 fps in Full HD.
- Recording in 5K 120p and 4K 240p is slated for firmware V2.0—planned to be available in August 2027 or later.
- FX5 can record internal X-OCN LT 16-bit linear RAW onto CFexpress Type A cards in dual CFexpress card slots. (Type A are the smaller ones.) 16-bit X-OCN provides 65,536 tonal gradations per color for a total of 280 trillion shades. Grading worked seamlessly on DaVinci Resolve Studio.

Sony FX5 Camera Report

- In addition to X-OCN LT, there are two additional “compact” modes: X-OCN C1 and X-OCN C2.

Sony recommends CFexpress Type A cards that are at least VPG400 (Video Performance Guarantee of 400 MB/s write speed). They have a clapstick icon with the number 400 on a slate. The latest Sony CFexpress Type A Tough G series 1920 GB (CEA-G1920T) and 960 GB (CEA-G960T) memory cards have write speeds up to 1700 MB/s with VPG400 certification.

FX5 has THREE BASE ISO: 800, 4,000 AND 12,800. The new BASE ISO 4,000 in the middle is helpful when shooting in low light exteriors and dim location interiors where you don’t need 12,800 dark-as-night.

THREE BASE ISO can be automatic—adjusting when you change the camera’s ISO sensitivity manually or the camera does it with Auto ISO. Three Base ISO reduces noise, provides cleaner shadows, wider latitude and helps to maintain a consistent look over the very wide expanse of sensor sensitivity.

BASE 800 covers 200 to 3200 ISO. Base 4,000 covers 1,000 to 16,000. Base 12,800 goes from 3,200 to 51,200 ISO.

FX5 also has Dual Gain for 16+ stops of exposure latitude. Sony explains: “The camera captures and averages two readouts of the same frame simultaneously: one in low gain and one in high gain. The processor then combines them into one file to provide greater dynamic range and shadow detail while keeping noise low and helping to avoid clipping of highlights.”

The new accessory EVF attaches and detaches from the camera’s hot shoe on top. It tilts from horizontal to 90° vertical. It has a stunningly crisp 7.07 million dot OLED display that’s sharp like an optical groundglass to focus even without peaking. It’s extremely bright—and dimmable.

The FX5 Menu layout is similar to VENICE with Big 6 and the deep-dive Full Menu. Push the MENU button once and you see the familiar Big 6: Project, TC/Media, Monitoring, Audio, Info, and Project Details (full menu). Press the MENU button again to get to live picture view. Long-press the MENU button to get back to the Full Menu pages.

There are additional nice VENICE touches on the FX5. The familiar dial jog-wheel to navigate menus and settings is on top. There’s a BACK button when you need a hasty tactile escape instead of using the touch screen.

The rear LCD touchscreen monitor is big and bright: 3.5" diagonal. It swivels, swings and tilts in 4 axes—almost every positional permutation from vertical to horizontal, snuggled against the camera body or pulled out to the camera left side.

Display of status information on the rear monitor is similar to VENICE 2: black border all around the picture area with white text. You can also turn the DISPLAY function off (via menu or user-button) to hide the text and enlarge the image to full screen.

Anamorphic desqueeze is available for the LCD rear screen, EVF and external monitors. Settings are 1.3x, 1.5x, 1.6x, 1.8x and 2x.

FX5 has improved IBIS — In Body Image Stabilization. It works well, reducing vibration and smoothing slow moves. But if you’re Claudio Miranda or Dan Ming putting cameras in F1 cars or Top Gun jets, or rigging on a drone, gimbal or bouncing around in

the Baja 1000 road race, Sony provides an IBIS locked-off sensor conversion at their customer service offices. This is an irreversible process: once completed, IBIS cannot be restored.

The XLR audio top handle connects to contacts in the hotshoe and attaches with the same two 1/4-20 screws as the EVF. So it’s a choice of one or the other. However, MID49 has an accessory set-up and cable that lets you have both. Tilta’s EVF Extension Cable and Cage for FX5 also lets you position the viewfinder in many different positions.

Sony’s FX5 XLR top handle provides 32-bit float audio for greater range—up to at least 1,500 dB. (A silent S35 movie camera is around 20 to 30 dB; an IMAX camera can be 100 dB.) By way of comparison, 16 or 24-bit audio can distort and clip. 32-bit float audio files have lower noise, finer detail and enable recovery in post-production for undistorted sound. Theoretically, 32-bit float audio could mean that you do not have to set audio levels. But you should.

Autofocus is responsive, fast (or adjustably slower when wanted) and excellent in low light. I used it more often than I ever imagined. It recognizes people, animals and birds for focus and exposure tracking.

Clear Image Zoom has been updated for combined and simultaneous optical and digital zooming.

ProRes RAW and Blackmagic RAW can be recorded externally via the camera’s full-size HDMI Type A port.

FX5 connects remotely via new tri-band Wireless LAN 2.4GHz, 5GHz or 6GHz Wi-Fi, Wired LAN (Ethernet), Bluetooth and USB tether. Camera functions and remote monitoring can be controlled with a smartphone, tablet or computer using the Sony Monitor & Control (M&C) app for iOS (iPhone, iPad or Silicon M-series Mac) and Android. The M&C app provides wired and wireless monitoring, camera menus, exposure and focus control on the larger screen of your smartphone, tablet or Mac.

The new NP-SA100 battery lets you shoot longer: about 105 minutes of actual start-stop shooting or 170 minutes of continuous recording. That could be a very long “oner”—an almost 3-hour single take when recorded in XAVC S-L 422 FF 5K 16:9 23.98p.

Download the
free 40-page
FDTimes FX5
Special Report:

fdtimes.us/FX5



Sony FX5 Front, Top & Rear

Front Dial
Default is Iris
control



Sony E-mount
18 mm Flange Focal
Depth. 46.1 mm Inside
Diameter. 10x pogo pin
contacts at 6 o'clock
position for Sony protocol
lens metadata and power.

USER Button 6: Instead
of default RECORD, I
mapped it to LUT On/Off

User Button 1: IRIS control. I mapped it to Display Border Info On/Off.

User Button 2: WHITE BALANCE. I mapped it to AUTO WHITE BALANCE.

EVF multi-pin socket
2x 1/4-20 threads to
secure EVF or XLR Top
Handle .
XLR Audio multi-
pin connector is in
forward position of
Hot Shoe. Audio Top
Handle slides in here.



Clear Image (Digital) Zoom:
Wide to Tele rocker.

GRAB Button. Since it's not
active until a future firmware
update, I mapped it to RECORD.

User Button 3: I left it at default
ISO control.

Multi-Selector Joystick. 4-way
navigation, press to select. You
can use as alternative to Jog
Dial. Also for focus selection.

Multi-Function Jog Dial
(familiar from VENICE)

USER Button 4:
default Focus Operation.
I mapped it to Peaking.

CLIPS: playback

ON-OFF
left position is ON



MENU: quick press for Big 6.
2-second press for full menu.

BACK: escape

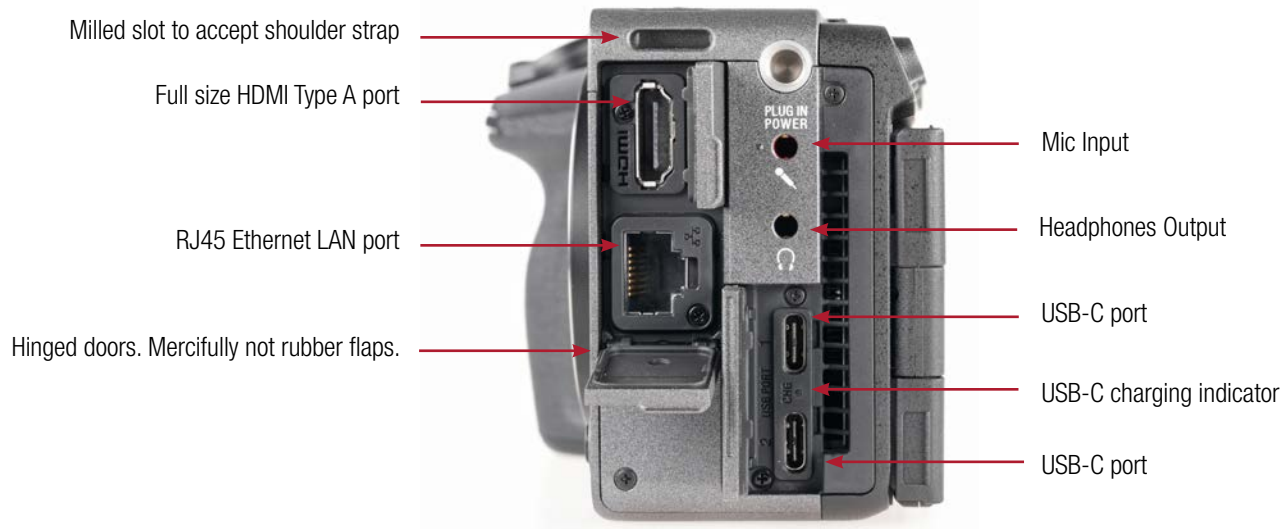
Multi-Function Jog Dial

User Button 5: default Slot Select.
I mapped it to Focus Magnification.

HOME: takes you to Big 6 menu.
Press again for Live View.

USER Menu: It's like a "Little 6"
menu to quickly select favorite
settings.

Sony FX5 Left, Bottom & Right



Sony FX5 Tilting EVF & Swing-Tilt-Swivel Monitor

Detachable OLED EVF (DVF-EL1)

- with 7.07 million dots
- sharp enough to focus, even without
- peaking
- tilts from
- horizontal to vertical



EVF connects via multi-pin plug

Attaches with 2x 1/4-20 screws

Multi-pin socket connects to EVF



Tilting EVF

Swing-Tilt-Swivel Monitor



Sony FX5 Menus



1. This is the home page, the BIG 6 screen — familiar to VENICE users. Press the HOME button to cycle between BIG 6 and Live View.



2. Live View Screen with status information in the black border. Press the MENU Button to cycle between Live View and “LITTLE 6 Menu”.



3. Press MENU to cycle between BIG 6 and “LITTLE 6”. Navigate using the touchscreen. To return to Live View, press the HOME Button.



4. USER button takes you to a “USER 6” menu. Display ON / OFF cycles between status information or clean screen Live View.



5. This is how Display OFF appears: the Live View image is larger and the screen is clean, with status information gone.



6. Press the USER Button while in Live View and with Display ON, it looks like this—status information in a black border surrounding the picture.

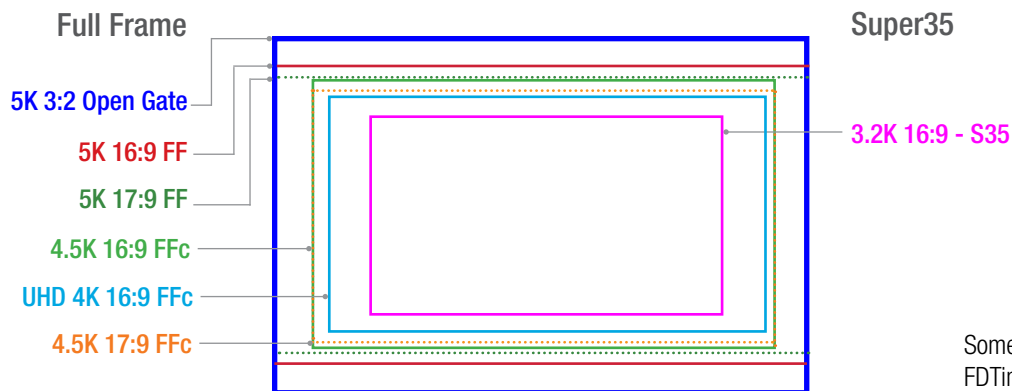


6. Long-press the MENU Button to access the VENICE-style deep dive FULL MENU. Press MENU to exit to Live View or press HOME to return to BIG 6.



7. PROJECT—For 5K 3:2 X-OCN LT, choose Base Setting > Shooting Mode > Cine EI. Next: Cine EI/Flexible ISO Setting > S-Gamut3.Cine/SLog3. Next: Rec Format > Project Frame Rate 24. Imager Mode > FF 5K 3:2. Then: Rec Format > Codec > X-OCN LT (or X-OCN C1 or C2).

Sony FX5 Imager Modes, Resolution, FPS



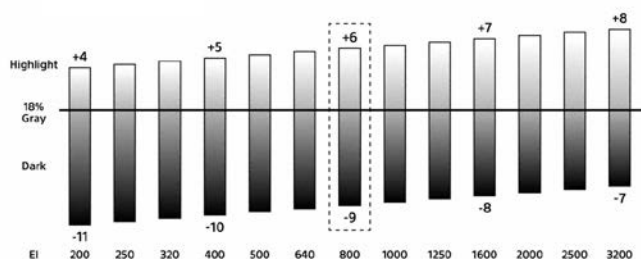
Imager Mode	Resolution	Format	Size	Image Size W x H (mm)	Max FPS	Max FPS in Dual Gain
5K 3:2	4992 x 3328	FF	Full Frame Open Gate, full height, full width <i>Available only when recording in X-OCN</i>	35.9 x 24.0	60	30
5K 16:9	4992 x 2808	FF	Full Frame, full width	35.9 x 20.2	60	60
5K 17:9	4992 x 2632	FF	Full Frame, full width	35.9 x 19.0	30	60
4.5K 16:9	4552 x 2560	FFc	Full Frame cropped	32.7 x 18.4	120	
4.5K 17:9	4552 x 2400	FFc	Full Frame cropped	32.8 x 17.3	120	
3.8K 16:9	3840 x 2160	FFc	Full Frame cropped	27.6 x 15.6	120	
3.2K 16:9	3264 x 1836	Super35	Full Frame cropped to Super35	23.5 x 13.2	120	

3 Base ISO

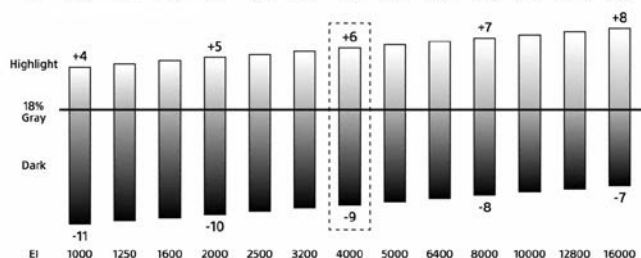
BASE ISO is set from the SHOOTING Menu > ISO / GAIN. To select the individual ISO (EI) to be used with your selected BASE ISO, press the ISO User Button 3 on top of the camera. Note: "E" is the highlight exposure latitude. Higher ISO ratings have greater highlight retention, less shadow detail.



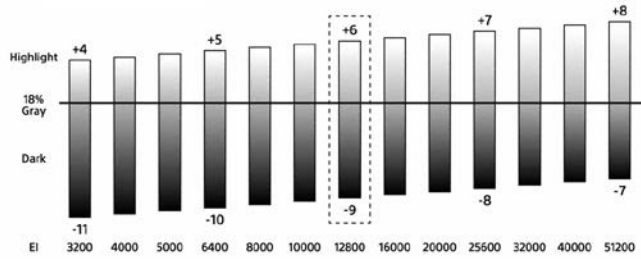
BASE ISO 800



BASE ISO 4000



BASE ISO 12800



FX5 Frames by Gareth Edwards

Gareth Edwards filmed *THE CREATOR* in 2022 with Sony FX3 cameras. That success led to a subsequent meeting with Sony about future cameras. Gareth told the planners and engineers, “If you only do three things, please have internal RAW, a flip-up monitor and a good viewfinder.”

In June 2026, Sony asked Gareth to test a pre-production FX5 camera. “It was just me running around Asia looking for nice shots,” Gareth said. “It’s about the people, faces and landscapes. I love that this FX5 camera can get you into the middle of a mon-

astery in the Himalayas where you are so inconspicuous that the monks invite you inside and they start a ceremony.

“I’m just walking around with my shoes off getting shots that normally would feel very intrusive, but I know that I’m not bothering them because it’s such a small setup. You get these little moments within a situation where it looks like we’ve set it up, but we had nothing to do with that. We just walked in 10 minutes earlier as it was going on and things happened.”

Frames below: Sony FX5 recording internal X-OCN LT.



DJI Osmo Pocket 4P



DJI Osmo Pocket 4P fully rigged with big battery, baseplate, monitor, external recorder and wireless video — on location in Shanghai.

DJI's original Osmo Pocket gimbal camera arrived in 2015. Now, 11 years later, it has evolved to a level embraced not only by creators and consumers but also by professional camera crews. You can build it out to a full camera package, as shown above.

Sensors and Lenses

The Osmo Pocket 4P has 2 sensors and 2 lenses. The Wide f/2.0 lens has an angle of view comparable to 20mm Full Frame. It's coupled with a 1-inch (approximately 16 mm Ø) LOFIC sensor.

Usually, when a photodiode reaches its limit, the excess photons are discarded. With a LOFIC design, these photons—usually highlights—are not discarded. Instead, they are stored by the extra capacitor and then recorded with each frame. The result is 17 stops of dynamic range for the Wide-Angle 20mm equivalent f/2.0 lens. ISO range for the Wide Lens is 100–25,600 (standard) and 100–51,200 (low-light mode).

The Medium Tele f/1.8 lens has an angle of view comparable to 60mm Full Frame. The lens is paired with a 1/1.28 inch sensor (12.49 mm Ø). ISO range is 50–12,800 (standard) and 50–25,600 (low-light mode).

Frame Rates, Resolution, Touchscreen

With the Wide lens, you can shoot slow motion up to 240 fps in UHD 4K 3840 x 2160 (16:9 format). With the Medium Tele lens, slow motion goes up to 200 fps in 4K UHD (16:9 format). The wide lens/sensor can record D-Log 2.

The Medium Tele lens/sensor records standard D-Log. The display is a 2" rotating touchscreen with 556 × 314 resolution and 1,000 nits peak brightness.

Gimbal

The Osmo Pocket 4P's 3-axis gimbal enables tenaciously smooth and steady moves. If you're not considering it to shoot content, corporate or professional video, maybe think of the Osmo Pocket 4P as training wheels for your next step into the world of gimbal cameras like the Ronin RS series or Ronin 4D.

For Professionals

How would a pro use the Osmo Pocket 4P? Take it for location scouting or audio/video note-taking during pre-production. It takes 37 MP stills. And then, use it for a commercial, short subject, doc or feature. For more details about the Osmo Pocket 4P on a high-end production, please read about the making of FAMILIARITÉ with Isabelle Huppert on the follow pages.



DJI Osmo Pocket 4P without accessory "forest".

FAMILIARITÉ with Isabelle Huppert and DJI Osmo Pocket 4P



Frame from FAMILIARITÉ with Isabelle Huppert and Luying Gu (Mads) at a library in Shanghai.

FAMILIARITÉ is a beautiful short, filmed entirely with a DJI Osmo Pocket 4P. Starring Isabelle Huppert, incomparable actress, égérie, record holder for most feature films in competition at Cannes, and Creative Director on this project, FAMILIARITÉ is a tour de force. With a tiny gimbal camera that's the size of a traditional cine camera's handgrip, cast and crew have created truly moving images.

It's a compelling story, not only of poetry uniting people across different eras and cultures, but also an example the new Osmo Pocket 4P's prodigious capabilities as an advanced cine camera with two lenses and 17-stops of breathtaking dynamic range. FDTimes discussed FAMILIARITÉ with Writer/ Director Wang Wendong (Ivo) and Cinematographer Christopher Tang.

Jon Fauer: Congratulations on FAMILIARITÉ. It is one of the best short films produced by a cine equipment company.

Wang Wendong (Ivo): Thank you.

We're talking with you in Italy, in Milan. How did you get into filmmaking?

Ivo: I grew up in Shanghai. I came to Milan eight years ago, mainly because I wanted to finish my master's degree here. I chose to study abroad in Europe to experience a lot of different cultures. My journey happened quite naturally — it wasn't something I planned from the beginning. In Milan, I got my MFA at the Accademia di Brera — studying new media, cinema, video and contemporary art. That experience had a profound impact on me.

After graduating, I started directing commercial films, and over time I had the opportunity to collaborate with fashion brands, magazines, and some great actors — I feel lucky about that. Milan is a wonderful place to work in film while also exploring fashion

and contemporary art.

Chris, you are in Hong Kong. How did you get into film?

Chris: I grew up in Hong Kong, studied cinematography in film school for my BFA degree, and took Steadicam workshops in Los Angeles and Munich. I've worked with many foreign directors and DPs; most of the people I met on foreign productions came from France. That's where lightweight, small cameras were first invented.

That's an interesting connection. The Lumière Brothers filmed SORTIE DE L'USINE LUMIÈRE À LYON with their Cinématographe in 1895. That lightweight camera influenced how stories were told for the next century. And history repeats with your short film FAMILIARITÉ, using the lightweight and small Pocket 4P camera.

Ivo: This project felt very special to me from the very beginning. When I first received the brief, I already knew Isabelle Huppert would be the leading actress. I've admired her films for many years: from THE PIANO TEACHER to THINGS TO COME and CLAIRE'S CAMERA which she made with Hong Sang-soo. She's a truly great actress. I've always been fascinated by how subtle her performances are. Through the smallest expressions and gestures, she can reveal incredible emotional depth. When I learned I would have the opportunity to work with her, I wanted to write a story that truly belonged to her.

The original concept was more ambitious — it was about a woman moving across different times and spaces. But as the project evolved, I realized that what interested me wasn't time travel but an encounter between two people. I kept the idea of a first meeting and changed it into a meeting between two women. I wanted



DP Christopher Tang with the new DJI Osmo Pocket 4P.

them to inspire each other across generations. Fortunately, DJI connected with the script.

Jon: I love the connections you drew between poetry of different eras and cultures. Isabelle Huppert is reading *The Complete Poems of Li Qingzhao* (1084 – 1151) and Luying Gu (Mads) is reciting George Sand in French.

Ivo: I searched for articles and read more about George Sand (Amantine Lucile Aurore Dupin de Francueil). She's very interesting to me. Li Qingzhao is very important in Chinese culture, and her poetry is widely taught in Chinese schools.

Although they lived in different periods and came from different cultural backgrounds, I was interested in bringing their words together on equal terms. This created a dialogue across time, geography and culture. There were also two levels to the dialogue: the two women are speaking to each other, while the words of the two writers are responding to one another.

Where were the locations?

Ivo: We chose two main locations in Shanghai: a traditional Chinese garden and a real public library. I wanted to share certain visual elements that could create a connection across the two spaces.

Did you write the script first and then present it to DJI?

Ivo: I had written a very simple script. It was part of a competition and I guess they chose me because perhaps it touched them.

I heard that using the new DJI Osmo Pocket 4P helped shape

Isabelle Huppert's performance and also the visual language of the film.

Ivo: As usual with film cameras, the process was quite involved. The Osmo Pocket 4P is a new tool for filmmaking and I think that may have been among the things that attracted Ms. Huppert to this production. She actually tried the camera to shoot some shots herself. This is quite unusual—to just hand the camera to the actress. It allowed us to change perspective very easily.

Chris, you're a well-known Steadicam and Trinity operator, yet here you are using the Osmo Pocket 4P. Is it a similar discipline, a similar style for you? Or something completely different?

Chris: Steadicam and the Osmo Pocket 4P are different tools for filmmaking. Neither one can replace the other. They each have their own advantages, just as we use different tools depending on the job. The major difference is that with the Osmo Pocket 4P, we save a lot of setup time. It's very low-profile, very lightweight, and we don't need a lot of manpower or crew to operate this kind of gimbal camera. And it produces great images.

Here's an example. Originally, Director Ivo's plan was to shoot in cloudy, soft lighting. When we went on the recce, the weather matched our expectations. But, of course, on the actual shooting day, it was very sunny. That's when we discovered the Osmo Pocket 4P's 17 stops of dynamic range. It handled high-contrast lighting extremely well — something we hadn't really thought about beforehand. So, the unexpected weather actually helped show off what the camera could do.

Osmo Pocket 4P, Technique and Technology



Writer/Director Wang Wendong (Ivo) at center with script.

Jon: That's a favorite topic: technique, technology and tools influencing style. How did this very small camera affect the style, concept and the way you approached shooting the film?

Chris: The script and the overall creative approach did not ask for a lot of crazy camera movement. But it worked very well for the boat scene, because it's a very tight space.

When I was holding the Osmo Pocket 4P, I had to be very careful not to make big movements on the boat because there were already four of us onboard, including me. If I shifted my body weight, the boat would rock, and it would feel unsafe.

With such small camera equipment, I could lie down to get a very beautiful low angle, wide framing of both actresses — Isabelle and Mads.

My favorite shot might be the one where you can see the structure of the boat, with the two of them at the bow. I don't think we could have achieved that kind of framing with a large cinema camera.

Ivo: I wasn't trying to chase a particular cinematic look. For many filmmakers today, that's the goal. But for me, if every shot genuinely serves the story, then it's already cinematic. Every camera movement had a purpose. I wanted to serve the storytelling, but also be efficient.

The Osmo Pocket 4P helped us achieve that. Its small size gave us much more flexibility on set and let us spend less time on equipment and more time with the actress and the story. When I was writing the script and storyboarding, I didn't have to think much

about blocking setups on the day — it was actually easier for me.

Did you storyboard the whole script?

Ivo: Yes — and I also planned the musical score in advance.

Did the Osmo Pocket 4P's 60mm equivalent close-up lens influence your storyboards, knowing you could get those angles?

Ivo: Certainly. Close-up shots are so important to me. I think it's a good example of how a mini camera like this can work in a real filmmaking situation. If it only had a super-wide lens, it would have been very difficult to tell this story.

Chris: Many of the scenes in our film were shot on the medium tele lenses. Even some of the "wide" shots used the 60mm. [The Osmo Pocket 4P has two lenses: a 20mm equivalent f/2 and a 60mm equivalent f/1.8.]

To compress the backgrounds?

Chris: Exactly — we both agreed on that. We were trying to create a poetic mood for the film, so we didn't want wide lenses for wide shots. Since we were shooting in actual locations, we also wanted to separate our two actresses from the background environment. The image quality was very good.

Jon: Did you shoot wide open and use ND filters to get the backgrounds out of focus?

How did you control exposure?

Chris: With ND filters and by adjusting my lighting fixtures.

FAMILIARITÉ, DJI Osmo Pocket 4P Camera Settings



Frame from FAMILIARITÉ: Isabelle Huppert and Luying Gu (Mads) in the boat.

Sometimes, I lowered the exposure index. I didn't want to change the shutter angle because I wanted to retain the same motion blur. Most of these mini gimbal cameras don't let us control the aperture manually. Hopefully that can be possible some day in the future.

What were some of your camera settings?

Chris: We shot at 25 fps most of the time. For some cutaways, the grass, trees, shadows and water, we were at 50 or 100 fps. And we shot the whole film in D-Log and D-Log2 — the new color profile.

You used both color spaces?

Chris: Yes, D-Log2 is only available on the wide-angle lens at the moment. But they both perform very well.

Who handled the grading?

Ivo: The colorist was in Beijing and I worked online from Milan. They used DaVinci Resolve.

I can imagine a production as prestigious as this had a video village?

Chris: I added a few small accessories to meet our requirements, because Isabelle, Ivo and our client all needed to see the live camera images and also playback. I added the DJI Transmission system for the live video feed.

Ivo: We had three or four DJI monitors. The signal was quite stable.

Did you have a viewing LUT?

Chris: I loaded the D-Log2 to Rec.709 LUT into the playback monitors.

How did you do the slow and smooth rack focus from Isabelle in the background to Mads in the foreground of the library?

Chris: I used face-detection autofocus and I turned the speed down a bit. It went quite smoothly. The Osmo Pocket 4P performed well. The far focus point was close to infinity and near focus was maybe ten feet away. It was quite a focus-distance change.

Is this a camera you'd use on a major production, a commercial? Ivo, you also work as a Director/DP.

Ivo: I've already started using the Osmo Pocket 4P on some projects and I also use it to shoot some ambient shots when I travel. This camera offers a new option. For car shooting, its gimbal and remote control is quite useful.

Jon: The Ronin 4D, Steadicam or Artemis/Trinity have an arm that stabilizes the up-down Z-axis movement. With the Osmo Pocket 4P, I guess you have to use your own arm to do that?

Chris: Yes — my arm and my body stabilize the movement. The Ronin 4D is for people who have higher requirements or are chasing even higher image quality and flexibility. It's a good choice for that. The Ronin 4D's flex-mode extension system is great. Even though it removes the Z-axis spring arm, you still get free control of the gimbal head, so it becomes a very small remote head that you can put almost anywhere. It gives you the most flexibility. Of course, if you want to use bigger or specialty lenses with a PL or E-mount, the Ronin 4D is the way to go. But, if I need to shoot somewhere in the city, somewhere with a lot of tourists, or in a run-and-gun style, the Osmo Pocket 4P will be my first choice.

Ivo: The Ronin 4D may be a better option for high-end film scenes. But if you have a very limited budget — especially for student productions — you still have the opportunity to use a camera with that kind of stabilization.

FAMILIARITÉ, Isabelle Huppert, Osmo Pocket 4P, Poetry



Chris Tang with the DJI Osmo Pocket 4P and many accessories: DJI Transmission system, extra battery, extra monitor, handle, etc.

Even though the Osmo Pocket 4P doesn't have the Z-axis stabilization of the Ronin 4D, you can still use it in some extreme scenes, in very small spaces or car scenes, as I mentioned. A lot of students like to shoot chase scenes, action scenes and things like that. Even for high angle setups, you can extend it on a long stick to fake a crane shot, for example. It's very easy to use, actually.

Jon: How did you prepare for this film with Isabelle Huppert?

Ivo: I can share a story about the collaboration. It was an honor to have the opportunity to work with Isabelle. The day before the shoot, we met her at the hotel and read through the script together.

We also talked about the cultural background of the story, including Li Qingzhao and the literary ideas behind the film. What impressed me most was how thoughtful and delicate she was. She wanted to understand not just every line of dialogue, but also the motivation.

I have worked with a lot of celebrities and singers. It's rare to really discuss the script in that kind of depth in advance. Throughout the filming, she kept sharing her thoughts with us — a small gesture, a camera angle, even the lighting.

Actress Luying Gu (Mads) was also excellent.

Ivo: There was a very natural chemistry between her and Isabelle. We were lucky — I don't think it's common for two actors who haven't known each other before to have this kind of connection and chemistry. But it worked well. Mads is actually a fan of Isabelle — she already liked her films.

Jon: It shows. How many shooting days did you have?

Ivo: Just one day. A lot of setups. It was easy to set everything up

because of the Osmo Pocket 4P.

Jon: Did you have prep or scouting days in advance?

Chris: We scouted for two days — two visits to each location.

Jon: What did you use for lighting?

Chris: We used all LED fixtures. We were on a tight schedule, so we didn't have any big, fancy lights. Everything was LED, running on household power, which also saved setup time. We also had ARRI SkyPanels and Aputure LED fixtures.

Jon: Let's get back to the poetry. Both ladies are reciting from George Sand's *À Aurore* — “La nature est tout ce qu'on voit, tout ce qu'on veut, tout ce qu'on aime...”

Ivo: Everything Mads recites actually comes from just two writers: George Sand and Li Qingzhao. What I loved was letting these two writers “talk” to each other. George Sand's poem is deeply rooted in nature and Li Qingzhao also uses images like the wind, the roc, and the boat to express something beyond words. I hoped they could quietly echo one another across time and culture.

One little detail I also really like is that *la nature* is a feminine noun in French. It gave nature an unexpected feminine presence, which, to me, also resonated with the relationship between the two women in the film.

Jon: Are you referencing Li Qingzhao's first poem that she wrote when she was 16 or 17 years old?

Ivo: *Ru Meng Ling* (*Like a Dream*) is actually, for me, the most famous one. In her early years, Li Qingzhao was celebrated for the delicacy and elegance of her early poetry. But after the Jinggang Incident, when she experienced the collapse of both her country



and her personal life, her writing opened toward a much broader vision of the world. The poem I chose for Mads to recite, *Yu Jia Ao* (*Fisherman's Pride*), is from that later period.

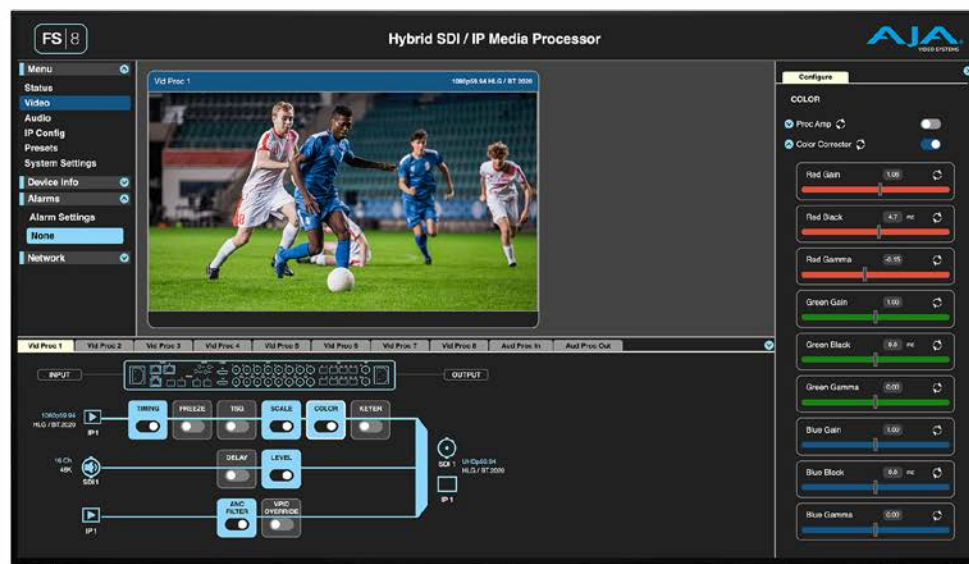
I actually included a shot of *Ru Meng Ling* in the film: a close-up of the calligraphy in the Chinese garden scene. On the first page is her famous poem, and that phrase is about the lotus flower. So there's a connection there between the poem and the imagery.

Thank you for your time discussing this wonderful film.

Ivo: It's been a pleasure talking with you.

Chris: On behalf of the entire production team, we're very grateful for this opportunity to make a film with an actress as famous as Isabelle Huppert. Especially nowadays, with the trend toward fast-edit, vertical format advertising, it's not easy for clients and brands to accept a short film or commercial that's artistic or poetic in style. Thank you for the opportunity.

AJA FS8 — 12G-SDI/SMPTE ST 2110 Media Processor



FS8 node-based web browser user interface



FS8 front view

September 1, 2026. AJA Video Systems introduced the FS8, their next-generation 12G-SDI/SMPTE ST 2110 Media Processor.

Example

Here's an example of what it can do. You're on a 20-camera live concert with simultaneous synced and non-synced (wild) SDI, hard-wired ST 2110 and wireless camera feeds, some working in SDR, others in HDR or Log. Color is all over the place. How do you align them all? How do you avoid dreaded latency, avoid having video lag behind audio—while making all 20 cameras match and have the desired creative look?

You reach for the new AJA FS8. It receives and processes up to 8 HD or 4 UHD SDI and/or ST 2110 signals in almost no time at all. In a span of less than half a frame of video, the FS8 can apply color corrections through each video processor's procAmp and RGB color corrector and performs color transforms using one of its eight 3D LUT processors. The 3D LUT processors can be controlled dynamically by Pomfort Livegrade, where the creative look is also applied and adjusted in real time. It can do this for both SDI and ST 2110 I/O and convert between them as an IP gateway—all simultaneously.

Description

AJA describes the FS8: "It is a video and audio processor that bridges SDI and IP infrastructures in broadcast, production and proAV. Building on AJA's FS frame sync line, FS8 reliably powers up to 8 channels of HD or 4 channels of UltraHD image processing, including frame sync, up/down/cross conversion, and IP gateway functionality."

FS8 fits in a 1RU rack space. It has a node-based web browser user interface that you can view and control with an external monitor.

AJA President Nick Rashby said, "With IP video adoption growing across industries, having flexible video and audio support is more essential than ever for media companies balancing legacy infrastructure with the buildout of next-gen workflows. We designed FS8 as a powerhouse for delivering consistent, frame-synced HDR and SDR pictures from mixed sources. FS8 is our first frame sync to support ST 2110, but it does so much more. It's a Swiss-army knife for common production headaches, from navigating mismatched frame-rates, rasters and color spaces, to mono audio routing and management, and more."

Up to 16x 12G-SDI inputs and 8x HD or 4x UHD ST 2110-20 inputs feed 8x HD or 4x UHD video processors, reducing the need for additional equipment for space, power, and weight savings.

Support for embedded SDI, ST 2110-30, Dante, and MADI audio creates an impressive 459 x 448 mono audio matrix, providing cost-effective audio grooming, from routing and conversion to level adjustment, delay, and sample rate conversion.

As noted earlier, ultra-low latency of less than half of a video frame is possible. You can also configure video and audio to delay up to 60 frames in HD, 30 in UltraHD, and up to 2.5 seconds of audio.

The FS8 also includes: UltraHD region of interest scaling, color correction, procAmp (processing amplifier for brightness, contrast, hue, saturation), 3D LUT processing, NBCU LUT, ST 2110 troubleshooting toolset, and SDR/HDR color management through optional Colorfront Engine and BBC HLG LUT licenses.

Support for a publicly available RESTful API described by OpenAPI enables the creation of custom-built control interfaces and the use of third-party integrations currently in development from

AJA FS8 — 12G-SDI/SMPTE ST 2110 Media Processor



FS8 front - status menu view



FS8 front - confidence monitor view



FS8 rear view

Cyanview, Pomfort, and Skaarhoj.

FS8's browser-based web UI simplifies setup and control of video preview, audio meters, system and component-level preset recall, status monitoring, and more. FS8's front-panel color LCD is a confidence monitor that can display live video, audio meters and status of inputs, outputs and video processors.

Key FS8 features:

- UltraHD and HD Vid Proc Modes, allowing the mix and match of up to four channels of 4K/UltraHD or up to eight channels of 2K/HD frame sync, processing and IP gateway functionality — including HDR conversions.
- Expansive video I/O options, including 12G-SDI over coax and fiber and ST 2110-20 with ST 2022-7 redundancy with audio dis-embedding and embedding.
- Audio I/O options, including Dante, MADI, ST 2110-30 and embedded SDI audio, with each audio input offering sample rate conversion and every I/O offering delay, level, phase adjustment, and creation of an audio processing 459 x 448 matrix.
- Flexible HDR and SDR color transforms for dynamic range and wide color gamut conversion, with each video processor able to independently select from integrated NBCU, User 3D LUT, Dynamic LUT Modes, or licensable Colorfront and BBC HLG LUT Modes.
- 33-point 3D LUT processors with tetrahedral interpolation.
- 4K/UltraHD/2K/HD video processing and up, down, cross-conversion.
- Configurable HDR metadata for output SDI VPID and ST 2110 SDP.

- Test signal generator, including SDR and HDR test patterns, moving box, custom text overlay per video processor, and audio tone generators per mono audio channel output.
- Region of Interest (ROI) scaling and positioning.
- Motion adaptive de-interlacer.
- Up to 60 frames of configurable video delay in HD, 30 frames in UHD and 2.5 seconds of configurable audio delay.
- Ultra-low latency video processing mode, less than half of a video frame.
- Simple frame rate conversion.
- Configurable analog reference output.
- Ancillary data grooming.
- Intuitive input and output routing matrix controls.
- System and component-level presets.
- Four audio down-mixers, from 5.1 or 7.1 surround to stereo.
- AJA's 5-year warranty and technical support without contracts, recurring software maintenance fees or ongoing feature subscriptions required to access core functionality.

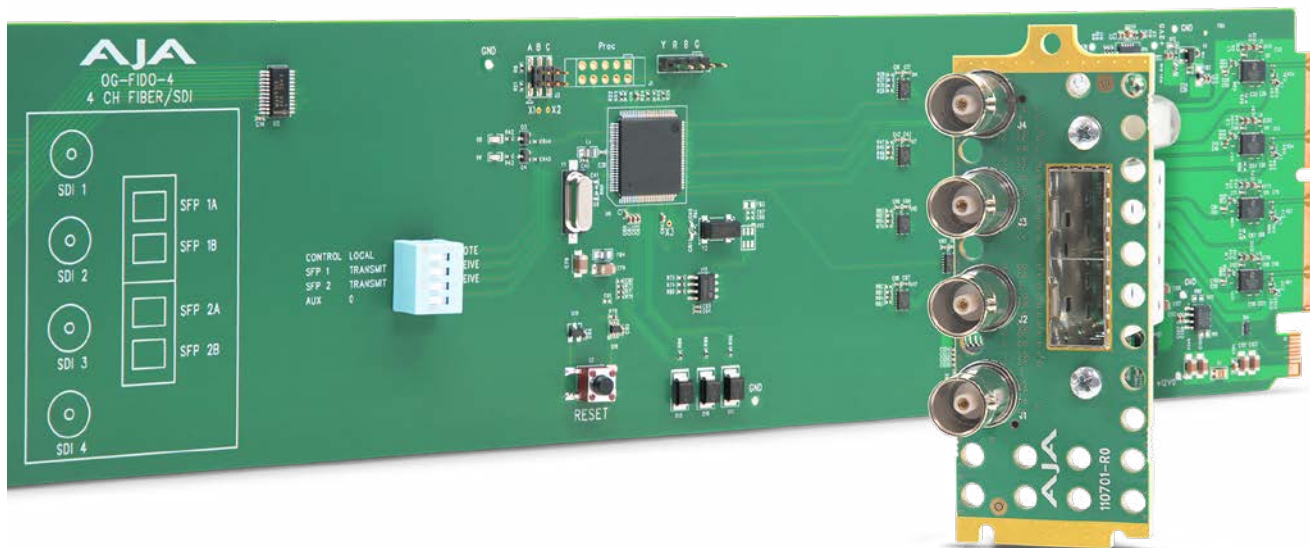
Price and Availability

AJA FS8 will be available soon through AJA's worldwide network of resellers for \$14,995 US MSRP, with optional licenses for Colorfront Engine and BBC HLG LUTs running \$1,995 and \$295 respectively.

FS8 will be on display at IBC in Amsterdam September 11-14 at the RAI, stand 7.B25.

For a complete overview of FS8's full capabilities, connectivity, and IP features, visit aja.com/products/fs8

AJA OG-FiDO-4 SDI/Fiber Conversion Cards



AJA OG-FiDO-4 openGear Four-Channel SDI/Fiber Conversion Cards for 12G-SDI and 3G-SDI over fiber

September 1, 2026 – AJA Video Systems announced OG-FiDO-4, a new family of openGear-compatible cards offering four channels of conversion between 12G-/3G-SDI and fiber.

With 9 different models, the OG-FiDO-4 family enables reliable, uncompressed SDI transport over LC (Lucent Connector) fiber and includes DashBoard software support for centralized monitoring.

“At a time when multicamera setups are growing in size and complexity across broadcast, live production and proAV environments, extending SDI infrastructure over fiber has never mattered more. The OG-FiDO-4 family delivers practical, cost-efficient solutions with the channel density, signal integrity and dependability that mission-critical environments demand,” said AJA President Nick Rashby.

Key OG-FiDO-4 features include:

- 9 models are available to choose from, including—
 - the base card and AJA Fiber SFP variations such as
 - 12G-SDI,
 - 3G-SDI,
 - single-mode,
 - and multi-mode models.
- Independent, isolated SDI-BNC connectors enable different rates to be carried simultaneously.
- An integrated rear I/O card unlocks high-density transport up to 40 channels in an openGear frame.
- DashBoard software support streamlines installation, configuration, monitoring, and service updates on Windows and macOS.

- Support for HDR (High Dynamic Range) video and pass-through of SDI metadata.
- Input Present and Input SMPTE Lock LEDs.
- Automatic data rate detection and reclocking.
- Compatibility with current AJA FIBERLC TX and RX SFP Modules, as well as the OG-X-FR and OG-3-FR openGear frames.
- Hot-swappable design.
- Power consumption maximum of 8 watts.
- Five-year warranty and access to AJA’s reliable and respected technical support.

Pricing and Availability

The OG-FiDO-4 family will be available soon for purchase through AJA’s network of resellers starting at \$2,295 and \$2,695 US MSRP.

For the full list of model options, additional product details, and pricing, go to: aja.com/products/og-fido-4

OG-FiDO-4 technology will be demonstrated September 11-14 during IBC in Amsterdam at the RAI, stand 7.B25.





Edward Goldner ACS and Michael Dorman as detective Ivan Lucic in TREASURE & DIRT. Photo: Ian Routledge.

TREASURE & DIRT is a new ABC (Australian Broadcasting Company) six-episode crime series. Homicide detective Ivan Lucic and partner Nell Buchanan investigate the mysterious and grisly murder in an Outback opal mining town called Nulla. Filmed in the real town of Coober Pedy, the main location for this series (and also for MAD MAX BEYOND THUNDERDOME), it is known as the opal capital of the world. Many of the locals live in underground homes called “dugouts” to escape the intense heat as they chase a dream of striking it rich.

TREASURE & DIRT is an Easy Tiger Production for the Australian Broadcasting Company (ABC) in association with the BBC and the South Australian Film Corporation, with worldwide distribution by Sphere Abacus, produced by Rebecca Summerton, directed by Madeleine (Mads) Gottlieb and cinematography by Edward Goldner, ACS.

Edward studied film and TV at Swinburne University of Melbourne. He initially started his career shooting commercials and music videos before expanding to feature and series projects.

Let's cut to the chase with Edward using the first Blackmagic URSA Cine 17K 65 cameras on a drama of greed, corruption, action and intrigue in Australia.

Jon: Why did you use a brand-new 65 Format camera for a major series? That's quite daring. And how did you manage to get the first Blackmagic URSA Cine 17K 65 cameras on this show?

Edward: It was one of those jobs that timed nicely with the camera having just been released. It became available right at the beginning pre-production. I generally default to using gear that's already familiar to me. Going with this new system was a leap of faith but I had heard great things from a couple of other DPs who had done early testing with the camera.

We were fortunate to have the support of Tim Schumann, Product Manager at Blackmagic Design and Tim Jordin, Rental Manager at Lemac Film and Digital as well as our producers. The 65 Format sensor offered something that felt like it'd be a great complement to the expansive desert environments we'd be shooting in along with creating a sense of immediacy and proximity for our tighter, more intimate coverage.

Almost like LAWRENCE OF ARABIA with wide desert vistas and close-ups on the characters?

Exactly. While the show is contemporary, Mads and I very much wanted to shoot something that felt classic and old world. We were incredibly minimal and structured with show's imagery. A lot of people are drawn to larger format sensors for their shallow depth of field.

However on this, I generally sat around T11-16 to hold backgrounds. The camera setup was generally quite rigid: we'd default to locked-off frames unless there was a clear motivation for movement.

When did you start working on TREASURE & DIRT?



Director of Photography Edward Goldner ACS at left, Steadicam / B Camera Operator Matt Dobson SOC at right. Photo: Ian Routledge.

We started pre-production around August 2025, which ran for six or seven weeks. The shoot itself went for around 10 weeks finishing up in December 2025.

What were your URSA Cine 17K 65 aspect ratio and format settings?

Early on, we opted to go wide screen. It allowed us to really hero our landscapes. Mads and I also wanted to hold as much action as possible in wider frames, almost like theatre. The ratio really worked for this. I shot 17K, open gate, full width, cropped slightly top and bottom in post to the release format of 2.39:1. We chose Q3 compression. For our output, I found very little discernible difference between uncompressed and Q3. This compression option was also incredibly data efficient. It is so efficient that a week into shooting I got a phone call asking if something was wrong given the data rate was so much lower than expected. The 17K files and 65 sensor might create an expectation of gigantic files but this really isn't the case.

Let's talk about the camera's color space?

Whenever I approach a camera system, two very important things are color space and latitude. After taking some initial tests into a grading suite, I was blown away with what came straight out of the camera. I liked the preexisting Blackmagic Gen 5 Film to Extended Video LUT. From there, I worked our colorist Matt Fezz to create a show LUT. We didn't actually deviate a great deal from the camera's existing LUT—I tended to just soften the

highlight rolloff and blacks.

Speaking of exposure and geographic latitude, this was a very high contrast location with bright desert sun and deep shadows?

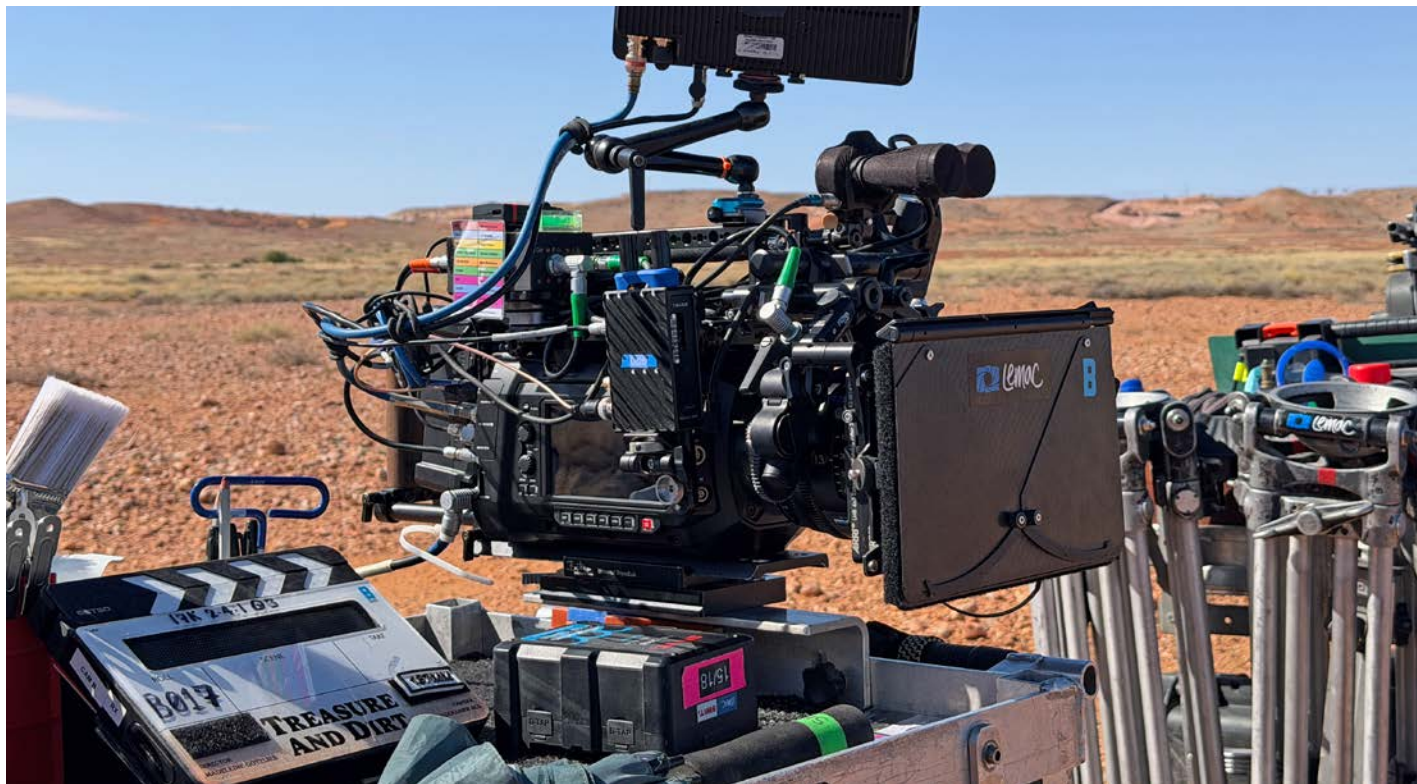
This was probably the toughest place in Australia that I could imagine taking any camera. The URSA 17K 65's exposure latitude held up incredibly well. For reference, we were shooting in an environment where locals mostly live in underground dugouts because conditions are so harsh. We were working between full sun outside to low light cave environments and I was consistently impressed with how the camera held up. I'd usually sit around 1600 ISO, which performed very well with highlight retention and the noise level was minimal in the shadows.

Why did you go to such a high ISO instead of 200 or 400?

I found the highlight retention performed well around this zone. For night work, I'll often go the other way to preserve shadow detail. However, on this job, I was stretched with our resources so I often shot night scenes around the same 1600 ISO. I took the camera all the way up to 2500 ISO a couple times and it performed well with usable noise levels.

You rented the camera package from Lemac Film and Digital?

I'd previously worked with Lemac on both long form and commercial projects. I've found both their equipment and support to be fantastic. Both of the Tims—Tim Jordin (Lemac) and Tim Schumann (Blackmagic Design) came out to visit and



were regularly checking in to ensure things ran smoothly.

Did you tell them where the camera was going before you rented it? That it was going to be subjected to sand, dust, heat and miserable conditions? They must have been horrified.

They're masochists, haha. Actually, they were both quite excited about it. It was a great way to put the camera through its paces. And I think they had a good time coming out to the Coober Pedy pub.

How did your crew clean the equipment at the end of each day?

The assistants used compressed air and gave the cameras a good wipe-down at the end of every day. They were fastidious about bagging when possible. Aside from red dirt, we had to deal with a lot of fine talcum-like powder in the caves and particularly when roads had to be graded to get our vehicles into locations.

Were repairs necessary on location?

Considering the locations we were working in, the equipment came out fairly unscathed.

Did you operate the camera yourself?

Operating the camera is very important to me. Our leading actors—Michael Dorman and Liv Hewson—were very adept at creating interesting opportunities for composition and camera movement through their blocking. With our approach to movement, the cameras almost had an invisible string anchored to them at all times so this was a really close collaboration.

How did you move the cameras?

I had OConnor fluid heads on the job along with a DJI Ronin 2 for a couple of crane and tracking vehicle setups. It was a very small grip department for such a big undertaking— usually a crew of 4 grips (Matt Richardson, Matan Tatarko, Isabelle Senior

and Shane Thompson) with 2 cameras going the whole time and a third body occasionally going out for splinter work. We used a ridiculous amount of dolly track out there and the grips were very obliging. Aside from this, we skipped the usual drone package that gets used on most jobs shooting around these locations. I wanted to stick to our classical visual language. Drones are a great tool but I feel like we sometimes underestimate the imagery people created before this technology became available. I also wanted to restrict the camera to perspectives that the characters were able to experience.

Did you shoot with multiple cameras?

Yes, two cameras. Matt Dobson was on the other camera, who is an incredible operator. Matt also operated Steadicam.

Did you shoot those 2 camera simultaneously?

Yes, generally speaking. We usually ran the cameras side-by-side for different sizes or Matt and I would leapfrog setups to get ahead. We also had a third URSA 65 for the splinter crew.

Please talk about the ergonomics of the URSA 17K 65 cameras.

I was very happy with the cameras. Everything was straightforward in terms of layout, menus, etc. Ergonomics were all good for the very rare instances of handheld work we did. Lemac and our camera team set everything up really well in terms of builds. Lemac bought cages for the cameras before the job. They had the Mid 49 top plate, top handle and power distro on the back. Batteries were Swit 24-volt B Mount.

How big a camera crew did you have?

I was fortunate to have amazing camera team for this job. Aside from me as DP, Matt as second operator, we had 2 focus pullers: Murray Johnson and Sian Bates. Amelia Morgan-de Laine and



L-R: Edward Goldner ACS, Liv Hewson, Madeleine Gottlieb, Michael Dorman. Photo: Ian Routledge.

Rebecca Duncker were our 2nd camera assistants. Hamish Tamlin was the video assist operator. Michael Tessari operated the third URSA 65 camera on the splinter unit.

Did you have a DIT?

No we didn't. We had great support from Blue Post throughout the job so that gave me a lot of confidence.

What did you do about ND filters in this land of high contrast?

Unlike the URSA Cine 12K LF camera which has internal NDs, the URSA Cine 17K 65 doesn't have them. Aside from NDs, I tend to run Polarizers most of the time—not only for sky and reflections but also as a bit of a micro-relighting tool for skin. I initially shot tests with Mitchell diffusion filters but didn't feel like the lenses need anything added to them for this show.

Let's address some rhetorical questions that producers and others may ask. Why have a 17K camera? How does a producer benefit? And why do you as a DP enjoy a 17K camera?

My interest in this system probably had less to do with resolution and more to do with the sensor size. I tested at 17K, 8K and 4K, which all retain the same sensor size. But because the data management on the camera is so efficient, 17K fell well within what post could handle. In terms of convincing producers, I shot some initial tests that we screened for everyone. The moment they saw images off the camera, they nodded and said, "Let's do it."

What references did you and the Director discuss in prep?

NO COUNTRY FOR OLD MEN was a big one in terms of its minimalism. Also 'THE PROPOSITION', which is up there with my favorite Australian films. A whole catalogue of films from Hirokazu Koreeda and Andrey Zvyagintsev, who have a spartan

quality to their imagery without too many unnecessary flourishes or excesses. It feels like they pick the simplest way to communicate visually.

What lenses did you use on TREASURE & DIRT?

We tested a number of lenses and ended up with the Tribe7 Blackwing7 T-Tuned spherical prime lenses. They sit in the middle (Straight-Transient-Expressive) in terms of aberrations.

Did these Blackwing7 primes cover the URSA's full 65 sensor?

On paper—no. But in practice—yes. The camera is incredibly sharp, so I wanted to pair it with lenses that were a little bit gentler and had character. The Blackwings combined with the URSA 65 sensor were a really great combination. In terms of texture and rendering, they felt neither too clinical nor distractingly quirky.

The other factor was that we were out in the middle of nowhere. It takes about 10 hours to get to Coober Pedy from Adelaide by car. We had a lot of night exterior work along with a number of sequences in large cave systems that were difficult to service. Getting larger machines and lamps out there was limited due to our budget and the remoteness of our locations. The Blackwings generally open to around T1.9, which provided security for low-light work.

What were your widest lenses?

I'd occasionally run the 27mm, which is quite wide on 65 Format. Usually I used the 37, 47 and 57 mm for the bulk of our work.

You said that the lenses didn't cover the full sensor on paper, but they worked for you. Why is that?

Occasionally, you'd see a little bit of light vignetting on wider lenses, but I found it quite pleasant and easily reduced in the grade



L-R: Edward Goldner ACS, Tim Schumann, Sian Bates; Tim Jordin, Hamish T, Matt Dobson, SOC; Rebecca D, Amelia, Murray.

if needed. This was an interesting job in that we had a few different visual languages. We had the normal world with our detectives, which had quite rigid, structured frames and deeper focus.

Alongside this, the show features a storyline around a cult. For this, I wanted to create a softer aesthetic - almost as if the viewer was being drawn in and indoctrinated by cult leader David. This worked well with the Blackwings, where I was able to run them wide open and push aberration and texture to help create a different look.

Did you have any zooms or long lenses?

We carried a zoom throughout the show—for flexibility along with my fondness for slow, in-shot zooms. We had a Fujinon Premista 80-250mm T2.9-3.5. It covered the URSA 65 sensor amazingly well. There's a little bit of light vignette if you stop down on the wider end but nothing too severe.

It's interesting how so many Full Frame lenses are popping up and they just happen to cover the sensor.

There was a fairly limited number of lens options available in Australia when I chose to use the camera. Once I started testing, I was pleasantly surprised that quite a lot of the Full Frame lenses out there could perform well beyond the coverage they were designed for. Since finishing T&D, there has been a heap of announcements for Large Format lenses. I think it'll be a really exciting time to use these cameras as optics catch up.

Another rhetorical question. If you had zooms on the entire show, would they have saved you time and aggravation by not having to change lenses so often? Not to mention avoiding dust blowing onto the sensor?

I tend to prefer primes. The weight and ergonomics are big factors.

Did the camera assistants use the URSA Cine 17K 65's right-side focus-puller monitor?

Both assistants worked off their own focus monitors. It did come in handy from time-to-time when Mads (Director) would be close-by and could quickly glance over at the screen.

That's quite an adventure: a new camera with a bigger format going to such a tough environment.

Having finished grading a couple of weeks ago, it was so gratifying to see how beautifully the show came together. I'm really proud of what we all created.

It sounds like this new camera system gave you new perspectives and unique looks at a price even producers appreciated.

For a 65 Format camera, it is incredibly affordable. We tend to work on fairly nimble budgets in Australia so its a real asset having a Larger Format option like this for domestic productions.

I was blown away by the camera and I'm typically not someone who will jump at using a new camera for long form work. I tend to like the familiarity of gear that I've used before. Having a system that just feels familiar and becomes an extension of your body is so important when you're working at a fast pace and this camera certainly did feel that way very quickly.

The fact that we had the camera manufacturer fly out to spend a week just observing how it was working in these environments and speaking to me, the camera assistants and crew was amazing. It really felt like they were invested in making great equipment. The combination of both Blackmagic Design and Lemac was pretty special. A lot of staff have worked between both companies and it felt like a concerted effort to make the camera's debut long-form shoot in Australia incredibly smooth.

blackmagicdesign.com lemac.com.au edwardgoldner.com

TREASURE & DIRT Production Notes



Production Notes by Tim Schumann

It was fantastic to be a part of TREASURE & DIRT. We're proud that Edward and the Easy Tiger team, along with the Lemac Rentals team, have embraced the URSA Cine 17K 65 so thoroughly. This was first major long-form Australian shoot with our new 65mm sensor. After Blake McClure ASC's success with it in the US on ROOSTER for HBO, we were confident the TREASURE & DIRT team would be delighted with the images. Also, this shoot provided a great opportunity for us to get out and see the camera being used in some really challenging environments.

Coober Pedy is an amazing and odd place. It is a bit like being on the moon. We knew that there was going to be a lot of sand, dust and dirt blowing through everything. It was important to see how the gear was being used and how it held up in those

conditions. When it's 100 degrees or more outside, you obviously always try to shade the camera and keep it cool. But then you also have setups where it goes into a hot car and is in even hotter conditions—so you are really pushing things beyond the brink. This tests the camera thermally, but also tests how it works for the camera crew in terms of the physical drain when working in that kind of heat.

It was impressive to see Edward, Matt, Murray, Sian and the team doing their thing in such a harsh and unforgiving place. The crew welcomed us with open arms. Watching them work and chatting with them in depth after their first couple of weeks on the show was truly special. They were in a groove by then and gave us great feedback on things that they loved and what they felt could be improved.

To follow up on the question about 17K:

Even if you're distributing in HD, 2K or 4K, down-rezzing from 17K can give you better results than if you just shot in 4K.

It's similar to what we loved about shooting on film. You always want to shoot on something that has the most information possible—whether that's pixels, color or dynamic range. When it comes to grading, manipulating, enlarging, repositioning and working with that image further down the track, you've always got somewhere to go rather than having just the bare minimum for what you're going to deliver.

There's a richness you get from this URSA 17K 65mm image sensor that is hard to describe. We are very proud of it and glad that it's now finding its way into more and more productions and rental houses around the world. The images that Edward and his team created are really striking. I can't wait to see the final show.



Production Notes by Tim Jordin

The URSA Cine 17K 65 is a camera that has been on the Lemac radar for quite some time. Our first project with it had unusual requirements for which the sensor size and resolution were an excellent fit. That project also needed the camera to be used in underwater housings, on heavy lift drones and strapped to cars drifting through salt plains in the outback as the crew flew all over Australia. With the success of that project behind us, when Ed first contacted me about TREASURE & DIRT, I thought it would be a fantastic match for the show. We did extensive testing of the URSA Cine 17K 65 with a vast range of lenses and against other camera formats. As Ed mentioned, there are a lot of lenses that

“almost” cover, and in truth if you had a 17:9 or 16:9 deliverable they would cover, but with the Tribe7 Transient range, you have a great mix of old and new world lens design philosophy to lean into—and they cover the full 2.2:1 Open Gate.

The conditions that the crew were heading into weren't a first for us, so there were a few things we knew to go over with the crew to help it all go smoothly. I made the trip to the South Australian Film Corporation studios in Adelaide for the gear check, which I think gave the crew confidence in that they had access to quick answers. When the other Tim (Schumann of Blackmagic) and I decided to visit the crew in Coober Pedy, we really wanted to show our commitment to service and ensure that the crew, Ed, Mads and the whole production team knew that we understood they had put their faith in us to deliver. On wrap, I was pleasantly surprised by the condition of the kit. While we had provided sensor cleaning kits to crew, they did not need them, and red dirt, which is known for getting in everywhere, was not really an issue at all.

It really was sight to see: the Outback as far as you could see in all directions and a local Australian series with a remarkable 65mm camera system. With Blackmagic Design being an Australian company, here leading the charge into democratized 65mm capture, and with us at Lemac celebrating our 50th birthday last September while TREASURE & DIRT was shooting, it was something I'm very proud to have been a part of.

Equipment & Dirt. BTS & Comments by Tim Schumann & Tim Jordin



Edward Goldner ACS and 2nd AC Amelia Morgan-de Laine.



Edward (at left) and Matt Dobson SOC.



A Camera build: URSA Cine 17K 65 with T-Tuned Blackwing7, Cine RT Focus-Bug, ARRI ECS, Teradek and SmallHD high-bright monitor.



URSA Cine 17K 65 camera left side with MID49 "Hollywood" handle.



Matt Dobson SOC with Fujinon Premista 80-250mm



A-Cam 1st AC Murray Johnson changing lenses.

Equipment & Dirt. BTS & Comments by Tim Schumann & Tim Jordin



B-Cam 2nd AC Rebecca Duncker slating.



Rigging camera on Ronin R2 Remote Head.



URSA Cine 17K 65 underslung with DJI Ronin R2 as Remote Head.



Edward operating R2 Remote Head with Master Wheels.



Car mount.



B-Cam 1st AC Sian Bates moving to the next setup.

Cartoni Launches Lambda 15 and more

Cartoni's stand 12.F31 at IBC 2026 includes an impressive lineup of new camera support equipment for cine, broadcast, sports, content creation, studio and virtual production. It's also the world premiere of the Cartoni Lambda 15 and HyperRoll.

Cartoni Lambda 15 head

The new **Lambda 15** brings Cartoni's renowned nodal-head technology into a lighter, more compact design for camera packages up to 15 kg (33 lb). Adjustment cranks on both axes provide precise nodal positioning and fine-tuning. The side-loading quick-release sliding plate makes camera mounting fast and secure.

Movement is controlled by two patented Cartoni high-precision fluid modules offering three progressively increasing drag settings, as well as a zero position for completely free movement.

The Lambda 15 is also encoder-ready with an upgrade that can be retrofitted for remote head, motion tracking and virtual production. Its ability to operate underslung opens up additional possibilities for vertical, low-angle and unique camera moves. A Mitchell flat base is supplied standard for use on tripods, dollies, cranes and jibs. An optional 150 mm bowl is also available.

Cartoni HyperRoll

HyperRoll is a patented, compact rolling platform that combines 10 shooting modes into a single system. The 10 Rolls: Low, Roll-Over, Action, Freestyle, Tabletop, Dutch Angle, Long Grip Handle, POV, Pets, Vertical. You'll probably discover even more. HyperRoll enables smooth moves without a dolly or slider. It works with almost any payload: from big and heavy cameras to compact cameras and smartphones. Made from aerospace-grade alloys, its modular control system can be configured with one, two or three handles, or with a telescopic extension. The different configurations allow operators to move quickly between extremely low tracking shots, roll-over moves and overhead angles.

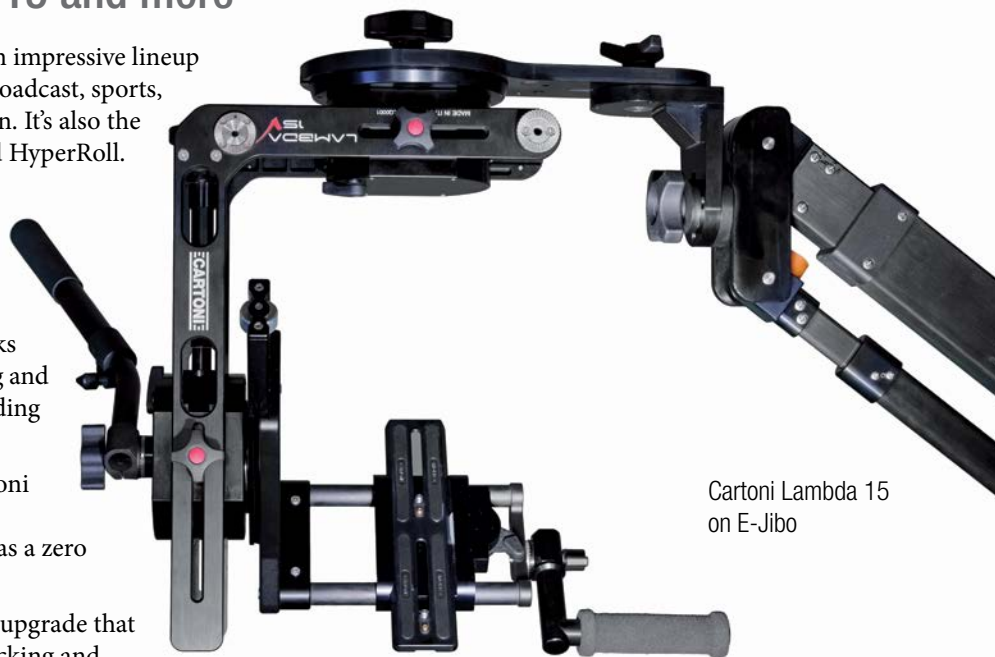
Cartoni European Debuts

The encoded **E-Jibo**, **Master 30 OB**, **MIXO 21**, **Lifto HP Standard** and **Twin**, and **Ragno Pod** make their European debut at IBC.

The encoded **E-Jibo** integrates precise 22-bit encoders to continuously measure boom and pan movements, providing approximately 4.1 million counts per revolution. This level of angular resolution allows physical camera movement to be accurately matched with virtual sets, augmented graphics and real-time rendered environments.

The E-Jibo supports camera packages up to 20 kg (44.1 lb). It can be configured with PTZ cameras or Cartoni encoded camera support systems mounted with brackets or on a dolly. At IBC, the E-Jibo setup will feature Sony's ILME-FR7 Cinema Line camera (Full Frame, interchangeable-lens PTZ). Positional data from the E-Jibo can be collected and transmitted through the Cartoni VR Box 2.0 or Miraxyz RigFX, integrating with a wide range of virtual production engines and tracking systems.

For sports and outside broadcast applications, the **Cartoni Master 30 OB** combines a large V-shaped wedge plate with



Cartoni Lambda 15
on E-Jibo

continuous fluid drag, $\pm 90^\circ$ tilt and counterbalance, ergonomic controls and digital readouts—providing the control required for demanding long-lens and live-production work.

The **Cartoni Mixo 21** is designed to cover an unusually broad range of payloads, from balanced smartphones to fully equipped ENG and cine cameras weighing up to 21 kg. It combines continuous counterbalance with a 7-step fluid drag system.

Cartoni will also showcase its universal **Control Unit for the Lifto HP Standard and Twin** motorized elevation systems, together with the portable **Ragno Pod**, which raises the camera position by more than 63 cm to provide a clear view above crowds, barriers and other obstacles.

cartoni.com



Cartoni Lambda 15
on Tripod

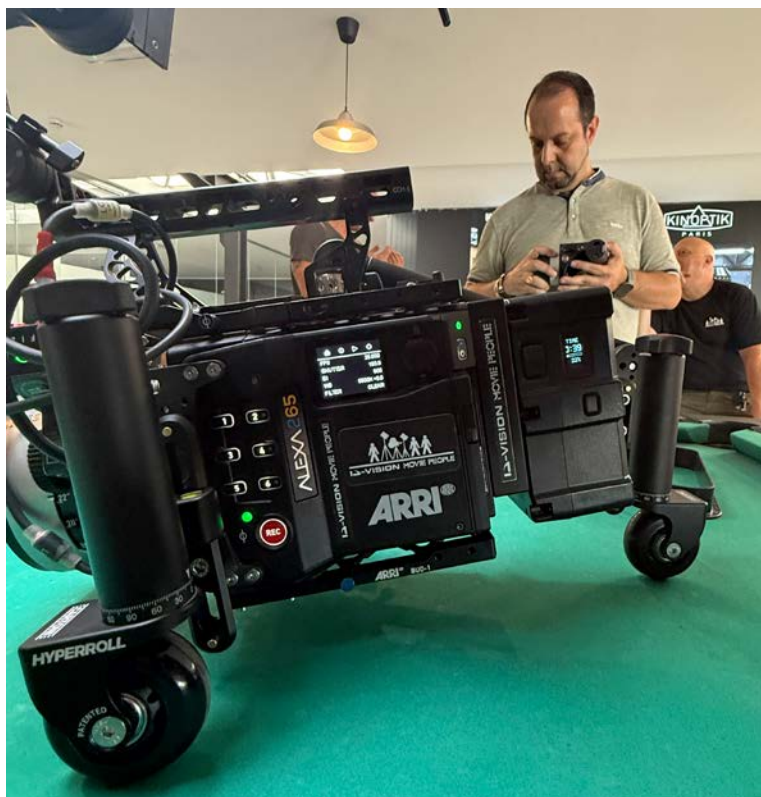
Cartoni HyperRoll



HyperRoll with Sony FX3



HyperRoll with ALEXA Mini



Above: HyperRoll with D-Vision / Movie People's ALEXA 265.
Below: HyperRoll packs into a small hand-carry case



HyperRoll with ALEXA 265 and ARAX 35mm f/2.8 lens.



HyperRoll with ALEXA 265 and DZOFILM Vespider 12mm T2.8 lens.

Aaron Mendez on the Canon CINE-SERVO 40-1200mm T5.0-10.8 Zoom



Jon: I heard from Yuji Tanaka, Sr. Manager, Product Planning at Canon, that you were one of the first to use the 40–1200 on a production?

Aaron Mendez: Canon shipped it directly to us in Louisville for the Kentucky Derby. Josh Stoner joined us from Canon. We had it for the entire week—filming horse racing, training, jockeys, the track and all of the pageantry surrounding Derby week for NBC Sports. We paired it primarily with my RED Gemini, and we also put it on a Freefly Ember shooting at 800 fps.

A few weeks ago, I had another opportunity to use the 40–1200 at the U.S. Gymnastics Championships in Phoenix. This time I paired it with the Canon C400. We were working on an NBC Sports documentary around the women's gymnastics team selection process.

Why the 40–1200?

A lot of what I do is trying to find intimate moments inside enormous sporting events. At the Kentucky Derby, you're working around a huge racetrack. At the Olympics, you might be in a fixed camera position in a massive stadium or arena. At a gymnastics event, you may be across the floor from the athlete. You don't always get to physically move closer. So the lens becomes the thing that allows me to be closer.

At 1200mm, I can get past the spectacle of the event and start looking for the emotional human moments: a jockey's eyes before a race, a hand gripping the reins, a gymnast collecting herself before stepping onto the floor, a coach reacting from across an arena, a family member in the stands, the breath before something happens and then the release afterward.

Slow motion makes it even more interesting because you're suddenly seeing things in a different perspective: horses' hooves coming through the mud, dirt suspended in the air, muscles firing, tiny expressions that are there for a fraction of a second. At that frame rate, the long end of the 40-1200mm lens lets you isolate these elements of a larger event and turn them into portraits.

And then the other side of it is 40mm. Being able to go from

40mm all the way to 1200mm without changing lenses is amazing. Sometimes I want the environment, the stadium, the crowd and the scale of where we are. A few seconds later I might want somebody's eyes. For the kind of documentary sports work I do, that's incredibly useful.

Compare the 40–1200 to the 50–1000.

I've spent a lot of time with Canon's 50–1000, especially around the Olympics. The first thing that surprised me about the 40–1200 was that it basically feels like the same lens physically. I'm already comfortable carrying, shipping and operating the 50–1000, so there wasn't this penalty where suddenly I had a much larger piece of equipment.

But creatively, both the larger zoom range matters. Going from 50mm to 40mm gives me a noticeably more useful wide shot when I'm trying to establish an athlete in an environment. And then the jump from 1000 to 1200 may not sound enormous on paper, but when you're already at the long end of a lens hunting for a tiny moment across a stadium, that extra reach absolutely matters.

That's when you're finding things that the audience in the venue may never see and that the normal broadcast cameras may not be concentrating on. I'm not there to replicate the broadcast. I'm trying to find the cinematic moments around the competition that help you feel what it was like to actually be there.

Focus and Zoom?

I actually don't use autofocus much for this type of operating. I'm pretty old school with a big lens. I like physically being connected to it. My left hand is directly on the focus barrel. I like the tactile relationship with the lens. Especially when I'm following athletes, I'm constantly making tiny corrections based on where I think they're going next.

I use the Servo zoom. Right thumb on the rocker, left hand on focus. It's become very instinctive for me. I'm framing, focusing and zooming simultaneously without really thinking about which hand is doing what.

Aaron Mendez on the Canon 40-1200



Cameras and additional lenses?

Canon has been part of my career almost from the beginning. I started with an XL1, then an XL2 and XL H1, and later jumped into the whole DSLR filmmaking era with the 5D Mark II and Canon L-series glass. These days, I'm using the C400 and C80 extensively. I also own a C70. I've been using Canon RF primes as well as lenses like the RF 24-105 and 70-200.

For documentary work I'm increasingly drawn to small cameras that still give me proper cinema camera tools like internal ND, good audio, great monitoring options and a lot of flexibility without building a giant rig around them.

On the long-lens side, I've spent many years using Canon glass for Olympic and sports work. The 50-1000 has been a workhorse, which is probably why the 40-1200 immediately felt so familiar.

Support equipment.

For long-lens work I'm normally on a Cartoni tripod. I've had a relationship with Cartoni for years and use the Focus 22 (*shown above*) quite a bit. I've carried that tripod all over the world, including through the Italian Alps during the Winter Olympics. It's relatively lightweight but can still support a real cinema package and a big Canon zoom. I also use a DJI Ronin 4D when I need to get into tighter spaces with a smaller footprint. Everything else tends to change based on the job.

How do you ship everything? Own or rent?

A lot of it goes on airplanes with us. For many NBC jobs I travel with the same small core crew. Noah Alexander has been my audio operator and creative collaborator for close to a decade, and Caleb Haas often works with me as an AC, B-camera operator and general jack-of-all-trades.

Between the three of us there can be a pretty impressive pile of cases at the airline counter. Things like the big Canon lenses will often be shipped directly to the location separately. I own a lot of my equipment because I've found that for documentary sports work, familiarity really matters. Cameras, lenses, tripods, gimbals and acces-

sories become muscle memory when you're using them constantly.

But I also rent specialty equipment all the time. High-speed cameras, underwater systems, unusual lenses and whatever else a particular story requires. Every assignment is a slightly different puzzle. And that's probably why something like the 40-1200 gets me excited. It's not simply another longer lens. It gives me another way to get physically and emotionally closer to something that might be happening hundreds of feet away.

How you got into film?

I basically grew up around cameras. My dad, Rolf Mendez, was Ansel Adams' lab assistant in Yosemite National Park in the summer of 1974. He became a working camera operator in Hollywood and worked on shows like *BOSOM BUDDIES*, *FAMILY TIES* and *CHARLIE'S ANGELS*, so cameras were always just part of life at home.

I earned my TV/Film degree from Cal State Fullerton. For more than a decade now, a huge part of my work has been with NBC Sports and NBC Olympics shooting athlete features, documentaries, promos, host-country stories and cinematic event coverage.

I moved into more specialty cinematography at the Olympic Games shooting long-lens, high-frame-rate cinematic coverage of major Olympic events. That footage becomes part of features, nightly recaps, athlete profiles and the visual archive of the Games.

I've also shot the Kentucky Derby, NASCAR, IndyCar, basketball, baseball and Sunday Night Football projects, including opens with people like Eminem and Celine Dion.

Our small crew usually consists of me operating a camera or gimbal, Noah doing sound, and a producer. Very small footprint. Very fast. Very little between us and whatever is actually happening.

We're heading toward Los Angeles 2028, which is meaningful to me because Los Angeles is home. I'm already thinking a lot about how I want to photograph them. I have a really good feeling the 40-1200 is going to be an incredible Olympics lens.

usa.canon.com global.canon aaronmendezfilms.com

Canon CINE-SERVO 40-1200mm T5.0-10.8 Zoom



Canon introduced the new CINE-SERVO 40-1200mm T5.0-10.8 zoom lens in April 2026. It has a zoom range of 30x.

Remarkably, this lens is the same size and weight as Canon's 50-1000 mm 20x zoom introduced 11½ years ago, in October 2014.

The new 40-1200mm zoom lens is lightweight, compact and very versatile. Available in PL or RF Mount, it is great for sports, nature, documentary, broadcast and live event cinematographers. With the built-in 1.5x extender, the zoom range is 60-1800mm. This is a Super35 format zoom lens but because an extender enlarges the image circle, it's also an expander that covers Full Frame. (Note: Canon is strict about image circle coverage—your mileage may vary.)

Lens-Camera Communication

The Canon CINE-SERVO 40-1200mm T5.0-10.8 zoom lens uses industry standard camera-to-lens communication protocols. The PL mount has Cooke /i Technology and ZEISS eXtended Data. The RF Mount version uses Canon RF communication protocol.

The Servo Unit is removable. It has a traditional zoom rocker. External control of focus, iris and zoom is managed through 20-pin or 12-pin ports that also supply power and serial communication with the camera. Absolute encoders ensure that zooms are smooth and focus is without lag. A snap zoom from 40mm to 1200mm can be done in about 1 second with external power. An imperceptibly long zoom, perhaps for a title sequence, can be adjusted to a very slow 180 seconds. A small LCD display on the drive unit displays menus and current settings.

Canon Cinema EOS Lens Family

The new Canon CINE-SERVO 40-1200mm T5.0-10.8 Zoom lens joins this family:

- CINE-SERVO 11-55mm T2.95-3.95 RF/PL
- CINE-SERVO 17-120mm T2.95-3.9 RF/PL
- CINE-SERVO 15-120mm T2.95-3.95 EF/PL
- CINE-SERVO 25-250mm T2.95-3.95 EF/PL
- CINE-SERVO 50-1000mm T5.0-8.9 EF/PL

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Canon CINE-SERVO 40-1200mm T5.0-10.8 Zoom



John Engstrom on GFX, Angénieux Optimo Primes, Scheimpflug



John Engstrom
and
Isabella Dominguez, Director
with GFX ETERNA
and Angénieux Optimo Prime.

Photo taken with Fujifilm
GFX100 II and
Petzval 85mm lens.

Jon: You shoot and also own a rental company. I've heard it called Scheimpflug and sometimes Flug. Which is it?

John Engstrom: The rental company is Scheimpflug. People who know us just say Flug. The camera department is in Patrick Demarchelier's old studio in New York. We have three floors in the building in Chelsea. Grip and Electric is in Long Island City. We have six trucks and various grip packages. We specialize in the smaller one-ton, two-ton, three-ton truck packages.

We also have a studio and do a lot of 3D scanning for VFX as well. Our scanning rig has a couple of hundred Nikon cameras in a dome which we use for photogrammetry of people for movies. We can travel with it or they send the actors here. We've scanned many NY based actors and have worked on projects such as ELVIS with Austin Butler as well as with actors on PLANET OF THE APES, CAUGHT STEALING and various video games. We also do a lot of scanning for costume design, including a group of celebrities who were going to space and needed space suits made.

With all these companies, how do you have time to still shoot?

I think it's good that I have this experience of shooting as well as running the company because I can communicate with my team more effectively. I understand the heartbeat of what's going on out there. I think we can react to change a lot faster because I'm on set and on location. You see the problems and you're not just being sold things or looking at manufacturers' marketing material. I'm not just hanging out at trade shows; I get firsthand knowledge and it helps me run this place. It helps with making good decisions.

Tell us about recent jobs and the equipment you are using.

I've been shooting with the Fujifilm GFX ETERNA 55 a lot. I normally shoot commercials, TV, fashion and narrative. Lately, I also have been working with a few personal clients, traveling with a small crew or no crew. These productions provide a close

collaboration with the Director and an intimacy with the subject that some of the big multi-cam shoots by nature don't have. These jobs involve interviews with world leaders, business leaders, doctors and Nobel Prize winning scientists.

What lenses are you using?

I usually end up jammed in a small space, and the mandate is to make it look great — "Cinematic." I've been successfully creating a look using the GFX ETERNA paired with Angénieux Optimo Primes fitted with oval irises. No matter how high or low the budget is, we never have enough time because the people I'm filming have tight schedules. Often the locations we wind up in are less than ideal visually, but it's very easy to make almost anything look beautiful with the combination of those lenses, the large sensor, some shallow depth of field and good lighting. It's been noticeable to the clients as well. The comments I get are "painterly" or "different." I've often been traveling alone with the camera and just two lenses.

What internal filters do you like for the Optimo Primes' Integrated Optical Palette?

I like Glimmerglass and Black Pro-Mist. Sometimes we just don't have time to switch them on set. So I try to go with a lighter grade. If it's a feature film, I'll do tests and attempt to figure out the exact look. That's the beautiful thing with these Angénieux lenses: you can tune them and craft them into something that's unique.

How do you tune the Optimo Primes?

I don't, but we have an excellent lens technician on staff at Scheimpflug who does. He takes them apart, puts the internal filtration in, we test the filtration and go from there for the look of the film. We leave the internal filter in for the entire production. He also changes the shimming and air gaps of the internal lens elements.

How would you describe the look of the Optimo Primes?

John Engstrom: GFX, AGX, OP, Flug

They look a lot like the Angénieux zooms. But I've been using their internal filters. Also, we're starting to play with detuning them at Scheimpflug—which is taking them into a whole different world. I'm not a guy who needs the cleanest image. Sure, the eyes need to be sharp, the nose needs to be sharp, and everything else can be painterly as long as it's not distracting.

Also, the Optimo Primes cover the larger sensor of the Fujifilm GFX ETERNA and GFX100 II in the Premista sensor mode. A few of the lenses have darkened corners, but if you unscrew that little rear filter stage, we have found that they cover. I'm almost certain that I'm not supposed to do that, but it looks great.

I thought the rear filter stage is necessary for the optics.

If you tell me that I'm getting some wonkiness because I'm removing it, then that's welcome. I think it looks fine on my monitor; I haven't had any ill effects yet.

You have Optimo Primes in rental at Scheimpflug?

We have a complete set of every single lens in the Angénieux Optimo Prime series. I've thought about getting more. We have spherical and oval irises.

Where did you get the Angénieux lenses?

I bought them from Nir Reches at Band Pro in LA. We buy a lot of equipment from them. They visited us here and showed us the lenses six months before they came out. I have so much invested in Angénieux zooms that I thought it was a no-brainer.

How do you manage working alone?

The GFX ETERNA is the A-camera and I have my GFX100 II as my B-cam. I fly with the essentials in a carry-on rollaboard: both camera bodies, two main lenses, a couple of batteries, media and a MID49 camera cage with their Direct Connect XLR Module. I make sure when I'm flying that I can do the job with what I have with me. The rest of the equipment goes as checked baggage.

I might have a four-bank Anton/Bauer charger in the cargo hold of the plane, but I have a little single charger that connects to the P-tap of the batteries with me. I have all the media, the card readers, and no matter what happens to the checked baggage when we land, I can still shoot. Maybe I don't have a tripod—I'll stack books or whatever is available. It's rare to lose bags, but when it does happen, I can still shoot.

What lenses do you carry on board?

My favorites are the 50mm, 60mm, and 75mm T1.8 Angénieux Optimo Primes. Sometimes the 135mm T1.8.

If you're often working solo, how do you handle audio?

The MID49 Direct Connect XLR Module involves a converted Tascam 2-channel mixer that normally attaches to the camera's hot shoe. MID49 has modified it to fit on the back of the top handle. It gives you two XLR inputs, which is usually all I need. On the second camera, the GFX100 II, I use a Deity PR-4 audio recorder. To keep the cameras in sync, I have Ambient Lockits on each camera. The cameras get timecode via their USB-C ports.

Why don't you have a regular sound recordist?

Good question. Many times we do have an audio recordist, but I'm prepared to work alone if budget or logistics require. I have a number of corporate clients — doing interviews and flying

around, but they don't always have the budget for sound. Usually it's just one person talking to the camera and not a giant group.

How do you pull focus if you're alone?

I learned how to pull focus in the dog park. I'm pretty good at it now, but it's not like I'm alone all the time.

If we're in town or on a larger feature or commercial, I definitely have a focus puller. If I'm on the road with two cameras, I'll set the focus on the wider camera and just have a monitor by me. Then I'll just pull focus on the tighter lens.

What format and aspect ratio are you shooting with the GFX ETERNA?

A lot of times I need to deliver in 16:9 in the Premista mode. I'll shoot 4:3 Open Gate if I need a deliverable that is both vertical and horizontal which happens from time to time, and sometimes when we're shooting anamorphic.

Do you use other lenses in addition to the Optimo Primes?

I use zooms. The Optimo Primes pair well with the Angénieux Optimo Ultra 12x zoom. Generally, if I'm using a zoom, it's on the longer end. Sometimes I used the Fujinon GFX system lenses for run-and-gun work; they're small and autofocus, such as the 250mm and the 500mm.

What about the new Fujinon 19-35mm Power Zoom? And its sibling, the 32-90 PZ?

They are a good bang for your buck as a first lens for that camera. It covers the whole sensor, it's easy to use, not so heavy, and travels well. Sometimes I'll run around and get lots of B-roll footage with it if I'm at an event. It's a good basic lens for that system.

Is that the future of lens design—hybrid auto-focus/manual?

I think so. I don't like getting yelled at about the actor's eyes not being sharp. There are situations where it's been helpful, especially with some tight budgets these days. I'm finding that if I can work alone, I could work every day.

Leading question: what is the attraction of shooting in this GFX larger format?

The attraction for me is that it's getting to be near the IMAX experience. It's that very shallow depth of field. I grew up on a Hasselblad 500 CM and 501C, the classic square 6cm x 6cm Medium Format. The GFX ETERNA sort of behaves that way. And there are so many varieties of formats you can get out of that camera. It does Super35, Full Frame, 16:9 / 17:9 Premista mode or Open Gate 4:3. Many different formats are wrapped up in that camera which gives you a lot of flexibility, especially if you're traveling alone with two prime lenses.

Devil's advocate: some people have complained "the diagonal is only 55 mm, not 60 mm or 65 mm." Does that really matter to you?

This GFX ETERNA costs about \$16,500. The other ones they're talking about are orders of magnitude more. I don't have those budgets or clients. The GFX ETERNA look is definitely noticeably different than Full Frame. In today's market where I'm filming talking heads, I'll take it. With a Larger Format camera and a little oval iris, you can create really interesting images.

Let's talk about lighting on your interviews with world leaders.



Frame by John Engstrom, using Fujifilm GFX100 II and 75mm Angénieux Optimo Prime with Oval Iris.

Thomas Kuc. Actor, Director, Producer.

It's funny. I use a tungsten Joker head from K5600 with their 3' and 4.5' Kurve Parabolic Umbrellas. I have LEDs as well. We also have a lot of Nanlite fixtures. I fly around with the Nanlite Forza 500II with a Projection Attachment that works nicely for slashes of light on the background. We also like the PavoSlim 360C 4' x 2' panels. They travel really well.

I understand you also like the new ARRI Omnibars.

I already own more than 500 tube fixtures. Something new has to be spectacular for us to go into a big purchase. The Omnibars offer many good things. They're IP 65 water resistant. They have 16 light engines—individually controllable areas—in the two-foot and 32 in the four-foot fixture, which is more than a lot of them. They have three different diffusers. The round one has the widest throw. The square one is good in shot; it's architectural. The intensifier lens has the most throw. The brightest is when you put it into a bag with no lens on it—that's the brightest setup.

How did you get into film and photography?

I got into film and photography through my grandfather. He was a nuclear physicist and his hobby was film and photography. He had a Bolex, a bunch of Nikons and a Leica. He was the one who got me into the darkroom where I spent a lot of time through my middle school and high school years. I grew up in Detroit but my father was in the military, so we moved around a bunch.

When I finished high school, I started assisting and working on shoots. In Detroit, it was all car photography at that time and filming cars for the Big Three. I ended up getting shipped out to Sedona, Arizona for a 90 day gig. I missed the first couple months of college. I had a big scholarship which I totally blew because I was like, "Wow, this is cool." I just stayed out in the desert working on shoots.

When I came back, I became a studio manager in Detroit, mainly in grip and electric. Then I moved to New York and worked for David LaChapelle for 12 years. He was a hybrid guy, so he'd shoot

film and then he'd shoot stills. It was always a huge production.

How did you start your company—Scheimpflug?

I had just moved from Detroit where you had to own all your own equipment. When I moved to New York, I just started renting my own equipment to David's jobs and that's how Scheimpflug really started. The digital revolution came to photography around 2002 and shooting digital wasn't easy at the time. You needed a technician with a real computer. It wasn't like today where we're all working off of laptops. Scheimpflug specialized in digital capture and provided support to famous photographers who wanted to go from film to digital.

How did you learn about business after starting on the creative side?

That's an interesting question. When I started in film school, I realized that I already knew most of this stuff. It wasn't a great film school, so I transferred out of the film and photo department and took business, finance, government and accounting classes—everything that I was terrible at, but I wanted the knowledge. It was never about a degree; it was always about learning. I have always wished that I'd gone to an amazing film school, not so much for the knowledge but for the networking and experience that I see out of programs such as NYU, with whom we have been working closely.

We have a great team at Scheimpflug and that's been the core thing. It's gotten better and better over time. At first, it was hard to leave for three weeks of work and I'd wonder if the place was still going to be standing when I returned. I didn't really get into this business to rent things. I got in to be part of a team and be in a creative environment. But, I definitely feel that being in the rental business and owning Scheimpflug has allowed me to be a bigger part of the cine and photo world.

scheimpflug.com *angenieux.com* *bandpro.com*
fujifilm.com *fujinon.com* *mid49.com*

EVF for FUJIFILM GFX ETERNA 55

VF-GFXC2
electronic viewfinder



At IBC last year, FUJIFILM showed a lovely 3D-printed prospective, possible EVF for the GFX ETERNA 55 at IBC.

It's here. At IBC 2026, Fujifilm announces the development of the VF-GFXC2 electronic viewfinder for their GFX ETERNA 55. It's an OLED EVF with 2048 x 1536 resolution, a peak brightness of 1000 nits, and a native 4:3 aspect ratio that displays the full 4:3 Open Gate GFX image format. Expected release: by the end of 2026. See it in Fujifilm's booth 12.B20 at IBC 2026.

Stylish cylindrical design with a machined aluminum exterior. There's a Display button and 2 Function buttons. The diopter adjustment dial has index marks.



ETERNA ProRemote App



The Fujifilm ETERNA ProRemote app connects a GFX ETERNA 55 to iOS and iPadOS smartphones and tablets via Bluetooth, Wi-Fi or wired LAN.

There are 3 ways to connect. **Simple** and **Advanced-Single** modes let you connect to a camera directly, without needing a separate network access point. **Advanced-Multiple** mode connects up to 4 GFX ETERNA 55 cameras simultaneously. It requires a separate access point.

ProRemote displays a live view image. It also lets you start/stop recording; adjust focus/autofocus, iris and zoom; and change camera settings—fps, shutter, ISO, variable ND, white balance, etc. fujifilm.com

Fujinon GF19-35mm T3.5 Zoom

The ultra-wide FUJINON 19-35mm T3.5 for GFX Format ($\phi 54.8\text{mm}$) was announced on July 9, 2026. Its official name is Fujinon GF19-35mmT3.5 PZ OIS WR. Because you can never go wide enough for epic vistas, wide close-ups, handheld and up-close action shots—this is one of the widest Larger Format lenses (zoom or prime). fujinon.com



19-35 T3.5 on GFX ETERNA 55



19-35 T3.5 on GFX 100 II

FUJINON 19-35 and 32-90 Power Zooms for GFX System



The Fujinon GF32-90mmT3.5 PZ OIS WR was introduced Sept 10, 2025. GF= Fujinon GF lens for G Mount; PZ=Power Zoom; OIS=Optical Image Stabilization; WR=Water Resistant.

This was Fujinon's first Larger Format 55 mm Ø hybrid autofocus/geared manual focus drive-by-wire lens. It gets power from the camera. Lens elements are moved by internal motors rather than by mechanical cams or helical threads. The silent, high-speed motors are synced directly with the focus, zoom, and iris rings.

Flip the Focus or Zoom switch from S to M to change from Servo

to Manual lens control. There are end stops. You can switch from Servo (Auto) focus to Manual focus during a shot. Your focus setting will be remembered even after the camera is turned off and on. All three rings also have standard 0.8M gears for traditional external lens motors. Directly above the S-M Zoom switch, there's a small Servo Zoom lever. By toggling the mode switch, zoom operation via the dedicated lever is instantly available.

When paired with the FX ETERNA 55, Servo Zoom can also be controlled directly by the dials on the body or handle.

	Fujinon GF19-35mmT3.5 PZ OIS WR	Fujinon F32-90mmT3.5 PZ OIS WR
Focal Length:	19-35mm	32-90mm
Aperture:	T3.5 - T32	T3.5 - T32
Image Circle:	covers GFX ETERNA open gate > 54.8 mm	covers GFX ETERNA open gate > 54.8 mm
Lens Mount:	Fujifilm G Mount	Fujifilm G Mount
Flange Focal Depth:	26.7 mm	26.7 mm
Iris Blades:	13 (rounded)	13 (rounded)
Minimum Focus Distance:	0.55 m / 21.7" (at all focal lengths)	0.8 m / 31.5" (at all focal lengths)
Focus Ring:	200 degree rotation	200 degree rotation
OIS	Optical Image Stabilization	Optical Image Stabilization
Dimensions:	222.5 (L) x 123.5 Ø mm 8.74 (L) x 4.9 Ø inches	222.5 (L) x 123.5 Ø mm 8.74 (L) x 4.9 Ø inches
Front diameter:	114 mm	114 mm
Front filter size:	111 mm	111 mm
Weight:	approx 2,090 g / 4.6 lb	approx 2,150 g / 4.63 lb
Environment::	Dust and moisture resistant	Dust and moisture resistant
Optical Elements:	23 elements in 15 groups (including 3 aspherical and 3 ED elements)	25 elements in 19 groups (including 3 aspherical and 3 ED elements)

Fujinon GF19-35mmT3.5 PZ OIS WR



OIS (Optical Image Stabilization) OFF - ON

PZ (Power Zoom) Servo Lever

Zoom: Servo - Manual Switch

Focus: Servo - Manual Switch

Switch to move IRIS ring from manual to A (Auto) or C (Command) mode.

- Auto is auto iris.
- Command is to adjust the iris via the dial on the camera or top handle.



The FUJINON GF19-35mmT3.5 PZ OIS WR is the second Fujinon PZ (Power Zoom) cinema lens for the GFX ETERNA 55 and Larger Format system—joining its popular sibling GF32-90mm T3.5 introduced last year.

The new GF19-35mm T3.5 provides the widest angle of view available in the GF format and it comes in a compact, lightweight design.

Fujinon GF32-90mmT3.5 PZ OIS WR



The GF19-35mm T3.5 shares the same dimensions, layout and functions as the GF32-90 T3.5

Although both lenses have “PZ” for Power Zoom in their names, they do much more. They are both fly-by-wire smart lenses. Internal motors move the lens elements instead of mechanical cams or helical threads. These silent, high-speed motors are synced directly with the focus, zoom, and iris rings.

Internal encoding enables the GFX ETERNA 55’s many autofocus modes, including face, eye and subject recognition. When you switch to manual focus or wireless lens control, the 0.8M geared ring drives the internal elements seamlessly—in a tactile way that feels like a traditional cine lens.

Maximum aperture is a constant T3.5 across all focal lengths. Breathing is minimal. Optical image stabilization has been improved.



fujifilm.com

fujinon.com

Sigma AF Cine Line FF Zooms: 28-45mm T2 and 28-105mm T3



Sigma AF Cine Line 28-45mm T2 and 28-105mm T3 Full Frame Zooms are available now—in L-Mount and E-mount. These are smart lenses that work in two modes: manually, via three geared rings or in autofocus and auto iris mode. Autofocus is swift and tracking is accurate. You control zoom by hand or external motor. The lens goes from auto to manual control by simply sliding a switch. Manual focus has hard end stops and repeatable focus marks. The clickless iris is calibrated in third stops.

As belabored before: I think this is the future of cine lens design. High resolution, accurate encoders enable switching from Manual to Auto Focus without a jump. Internal lens motors are silent and swift. The lens elements dance in ways familiar to conventional autofocus lenses but not to mechanical cam or helicoid systems. Power and lens data is transferred by the camera and lens mount contacts. Even when you rotate the geared rings in manual mode, the feel is like a traditional cine lens. These lenses have character and beautiful bokeh at all focal lengths. They are all made in Sigma's Aizu factory next to Mount Bandai, about 4 hours by train north of Tokyo.

Sigma AF Cine Line	28-45mm T2 FF	28-105mm T3 FF
Focal Length	28- 45 mm	28-105 mm
T-stop	T2 -T16	T3 - T22
Diaphragm Blades	11	12
Close Focus (M.O.D.)	0.3 m / 1'0	0.4 m / 1'4
Magnification Ratio	1:4	1:3.1
Front Diameter	95 mm / 3.7"	
Front Filter	M82 x 0.75 mm	
Length w. L-Mount	151.3 mm / 6"	157.9 mm / 6.2"
Length w. Sony E-mount	153.3 mm / 6.1"	159.9 mm / 6.3"
Weight w. L-Mount	1.2 kg / 2.7 lb	1.3 kg / 2.8 lb
Weight w. E-mount	1.2 kg / 2.6 lb	1.3 kg / 2.8 lb
Focus Ring Rotation	200°	200°
Zoom Ring Rotation	60°	70°
Iris Ring Rotation	57°	54°
Lens Support Foot	SF-91	



Sigma Aizu Prime Line: now 11 Full Frame T1.3 Primes



Now there are 11. Sigma has added 3 new focal lengths to their Aizu Prime Line—the world's first Full Frame series of cine lenses to achieve a maximum aperture of T1.3 across all focal lengths ¹.

So for all DPs and Rental Houses who asked or pleaded for additions to the original core set, here's looking at you and me.

The look is painterly, smooth and gentle yet sharp where you want sharpness. You won't get fired by a persnickety producer protesting that the star's eyelashes are soft. Details don't go mushy. Wide open at T1.3, the look reminds me of an Impressionist painting. Backgrounds can have a swirly out-of-focus character, with big, graceful bokeh. At every aperture, skin tones are silky smooth, not clinical, with a gradual focus fall-off. Land-

scapes, trees, flowers and nature have rich texture, depth and fine detail. Focus is breathless from ECU to far away.

Sigma Aizu Primes remind me of a modern re-imagining of 35mm format Super Speeds or Master Primes redux in a Full Frame world. They are extremely fast and incredibly small. The focus mechanism is as silky smooth as the actors' skin tones.

Sigma describes the look as "quiet elegance and depth, consistent across the entire range of focal lengths from 18 to 125mm." So, yes, there will be 12th lens in the set: an 18mm T1.3.

See Sigma at IBC at booth 12.C19.

sigma-global.com/

Sigma Aizu Prime Line Specifications

Sigma Aizu Prime	21mm	25mm	27mm	32mm	35mm	40mm	50mm	65mm	75mm	100mm	125mm
Aperture / Iris Blades	T1.3 - T22 / 13 Iris Blades										
Close Focus (m) ²	0.35	0.31	0.33	0.34	0.35	0.38	0.48	0.61	0.73	1	1.25
Close Focus (ft) ²	1'2"	1'0"	1'1"	1'2"	1'2"	1'3"	1'7"	2'0"	2'5"	3'4"	4.2"
Close Mag. Ratio	1:9.7	1:6.5	1:6.9	1:6.3	1:6.1	1:6.1	1:7.1	1:7.6	1:8.2	1:8.8	1:8.9
Front Diameter	95 mm										114 mm
Image Circle	46.3 mm										
Lens Mounts	PL Mount, Sony E-mount										
Length w/ PL mount (mm) ³	120.1	125	125.4	128.5	128.6	128.8	126.3	125	128.1	144	152.8
Length w/ PL mount (in) ³	4.8"	5"	5"	5.1"	5.1"	5.1"	5"	5"	5.1"	5.7"	7.4"
Weight w/ PL mount (kg) ⁴	1.6 kg	1.7 kg	1.7 kg	1.7 kg	1.6 kg	1.6 kg	1.7 kg	1.6 kg	1.7 kg	2.2 kg	2.2 kg
Weight w/ PL mount (lb) ⁴	3.6 lb	3.6 lb	3.6 lb	3.7 lb	3.6 lb	3.5 lb	3.7 lb	3.6 lb	3.8 lb	4.9	4.9
Barrel Rotation	270° Focus / 70° Iris										
Protocol: PL Mount	Supports ZEISS eXtended Data (via /i Technology-compatible lens mount or 4-pin LEMO connector)										
Protocol: Sony E-mount	E-mount protocol for transmission and recording of lens metadata with supported camera bodies.										

¹ As of Sept 2026. ² Close focus measured from image plane. ³ Length measured from front of lens to mount flange. ⁴ Without lens support foot.

Leitz Cine HEKTOR Primes get G Mount



HEKTOR 100mm T2.1 on Fujifilm GFX ETERNA



HEKTOR 73mm T2.1 with G Mount

Leitz Cine HEKTOR lenses come in user-interchangeable mirrorless mounts—E, L, RF, Z and now Fujifilm G Mount. There are six lenses in a set: 18, 25, 35, 50, 73 and 100 mm, all T2.1.

Each lens is fully manual with matched focus and iris ring spacing for quick lens changes. The 120° focus rotation makes them easy to use.

HEKTOR lenses are compact and lightweight, all with an 80 mm front diameter and a 77 mm screw-in filter thread (except the 18mm). The 9-blade iris remains circular at all T-stops to create consistent and pleasing bokeh in the out-of-focus areas.

The lens mounts are passive and do not pass metadata or lens information to the camera.

Because of their large image circle, HEKTOR lenses support multiple formats. See chart below. leitz-cine.com



G Mount for Leitz HEKTOR

Leitz HEKTOR Coverage on Fujifilm GFX ETERNA 55 and GFX100 II

	Open Gate	4K / FHD	DCI 4K / FHD	Cine 5.8K	DCI 8K	8K
Aspect Ratio	4:3	16:9	17:9	2.39:1	17:9	16:9
Image Area (mm)	43.63 x 32.71	43.63 x 24.55	43.63 x 23.01	43.80 x 18:32	30.80 x 15.24	28.88 x 16.24
Image Circle Ø (mm)	54.53	50.06	49.33	47.48	34.82	33.13
HEKTOR 18mm	N	N	N	Y	Y	Y
HEKTOR 25mm	N	Y	Y	Y	Y	Y
HEKTOR 35mm	N	Y	Y	Y	Y	Y
HEKTOR 50mm	N	N	N	Y	Y	Y
HEKTOR 73mm	N	Y	Y	Y	Y	Y
HEKTOR 100mm	N	Y	Y	Y	Y	Y

Y=Yes. N=No. Your “mileage” and coverage may vary depending on taste.

Leitz Cine iD Mounts for SUMMILUX-C and HUGO



SUMMILUX-C 21mm T1.4 with PL iD Mount



HUGO 66mm T2.1 with LPL iD Mount



HUGO 66mm T2.1 with LPL Update Base

Leitz HUGO and SUMMILUX-C lenses were made without electronic lens metadata. Now, the new Leitz iD Mount provides identification and optical parameters for these lenses.

With the optional iD Mount installed, compatible cameras can recognize the lens and record static /i metadata with every clip: lens name, focal length, serial number, owner information, distortion map, shading map and other fields.

Why do you want iD Mounts for HUGO and SUMMILUX-C?

Few things can bring production to a grinding halt when it's time to shoot a sensitive actor's scene—the most dramatic closeup the world has ever seen—and just as camera is ready to roll, the script supervisor calls across the stage to the AC: “Millimeter? T-Stop? Focus Distance?” Of course it's well-meaning because said scriptologist is helping to keep camera notes in case of a dreaded reshoot. A new Leitz iD Mount should keep the set silent and salubrious.

VFX teams will love iD Mount because it includes distortion maps, undistortion data, compositing information, lens emulation details and optical illumination falloff provided by Leitz. Lens name and focal length can appear on supported camera outputs and monitors.

Static Lens Data, Not Live

The iD Mount provides static lens identification and information. Because HUGO and SUMMILUX-C lenses don't have encoders inside, the iD Mount will not provide real-time, frame accurate focus or iris positions, nor will it calculate depth of field, hyperfocal distance, field of view or entrance pupil position.

New Lenses and Existing Sets

New SUMMILUX-C and HUGO lenses can be ordered with either the standard mount or the optional iD Mount. New lens orders arrive with the iD Mount installed and programmed at the factory. Owners of existing sets can upgrade them as well. Installing the mount only requires a screwdriver. Back focus must be checked after the exchange and shims added or removed if necessary. Leitz recommends that a qualified lens technician handle the mount swap and back focus verification. Metadata programming itself does not require a technician.

Update Base

The Leitz iD Mount Update Base is available in PL for SUMMILUX-C and LPL for HUGO. A rental house or owner needs only one Base for each lens family, regardless of how many lenses are in the set. The lens sits in the Base with the data contacts aligned. Attach it to your computer end via the 3.5mm to USB-A cable. Free software will be available for macOS and Windows. Programming only takes a few minutes for each lens and requires no internet connection, account, license or subscription.

The identifying information can be reviewed, changed or deleted at any time. The distortion and shading maps are loaded by the software for each selected lens family and focal length.

Prices and Availability

The Leitz iD Mount is €500 per mount. The Leitz iD Mount Update Base is €320 for either PL or LPL Mount. Leitz iD Mounts will be sold globally through Leitz Cine and authorized partners.

leitz-cine.com



Leitz iD PL Mount
for SUMMILUX-C



Leitz iD LPL Mount
for HUGO



Leitz iD Mount
Update Base

Inside ZEISS Horizon 2x FF Anamorphic

There are 7 ZEISS Horizon 2x Anamorphic Prime, all Full Frame, all focusing close. Looks—no gears. They have absolute encoders for completely accurate calibration using internal motors—one for focus and the other for iris. The silent motors come from Maxon, a Swiss company that makes rugged, precision motors for satellites and surgical procedures. Their motors were on the Mars Rover and Ingenuity Mars Helicopter.

A single cable connects the Horizon's 7-pin Lemo serial port directly to a lens control device: Preston MDR or ALC as well as ARRI LCube, OCU-1 or RIA-1 (Radio Interface Adapter).

Support for additional lens control systems is also in the works.

zeiss.com/cine

7-pin Lemo port for serial or LBUS connection to lens control systems and external power (USB-C or D-Tap).

Right side LED display

Touch panel to pull focus

Left side LED display

Touch panel to adjust iris

LPL Mount

ZEISS Horizon Anamorphic Details

- Horizon 2x FF Anamorphic primes are plug and play.
- Easy to use, they reduce size and weight of camera build.
- Eliminate external motors.
- Eliminate time required for lens calibration.
- Eliminate errors in engraved focus mark positions.
- Reduce power requirements.
- Internal encoders eliminate focus backlash errors.
- Image circle: greater than 44.71 mm Ø (ALEXA Mini LF Open Gate).
- Focus displayed in feet or meters.
- /i data and power via lens mount contacts.
- A 7-pin Lemo port on the right side is for a serial connection to lens control systems and for 10-36 VDC external power (e.g. on lens projector, directors finder).
- LPL Mount with interchangeable looks available in 2027.
- Optional PL Mount (without interchangeable looks).
- zeiss.com/horizonanamorphic

ZEISS Horizon Anamorphic Specs

Lens	Close focus	Length	Front	Weight
35mm / T2.3	0.79 m / 2'7"	199 mm / 7.8"	114 mm	2.42 kg / 5.34 lb
40mm / T2.3	0.74 m / 2'5"	199 mm / 7.8"	114 mm	2.42 kg / 5.34 lb
50mm / T2.3	0.80 m / 2'8"	199 mm / 7.8"	114 mm	2.57 kg / 5.67 lb
75mm / T2.3	0.99 m / 3'3"	199 mm / 7.8"	114 mm	2.70 kg / 5.95 lb
100mm / T2.3	1.18 m / 3'11"	262 mm / 10.3"	114 mm	3.25 kg / 7.17 lb
150mm / T2.3	1.60 m / 5'3"	262 mm / 10.3"	114 mm	3.10 kg / 6.83 lb
200mm / T2.9	2.22 m / 7'3"	262 mm / 10.3"	114 mm	3.25 kg / 7.17 lb

Inside view of ZEISS Horizon Anamorphic lens

Maxon focus motor

ZEISS Horizon 2x FF Anamorphic

Horizon lenses are lightweight for Full Frame anamorphics. Since the focus and iris motors are already inside, you don't have the additional weight and cabling of external motors—which is helpful for Steadicam, handheld and gimbal set-ups.

Once the Horizon lens is attached to the camera, cabled and powered, it begins to communicate everything your hand unit needs without having to program each individual lens. No more manually calibration of focus and iris marks. No more worries whether the factory engraved barrels are accurate. Checking lenses during prep is simpler—just focus on the lens the optical performance. This makes for faster prep faster and seamless lens changes on set.

Horizon works with Preston HU-4, HU-3, MDR-5, MDR-4, MDR-3, Light Ranger 2 and ALC. With the ALC plugged directly into the Horizon, you can skip having an MDR if desired. The ALC can work like an MDR or used wirelessly in harmony with an MDR for DPs and DITs to control the iris or Camera Operators taking over focus for slates or when the AC is at craft service.

Horizon works with the ARRI Hi-5, WCU-4, LCube, RIA-1 and OCU-1. You can daisy-chain an OCU-1 can be daisy-chained, as can ARRI's UDM (Ultrasonic Distance Measure).



ARRI ALEXA Mini LF with LBUS connected via LCUBE to Horizon serial port.

ZEISS Horizon with ARRI Lens Controls



ARRI Hi-5 controlling Horizon lens via LCUBE LBUS-to-Serial converter.



Horizon Anamorphic controlled by ARRI OCU-1 (Operator Control Unit).

ZEISS Horizon with Preston Lens Controls



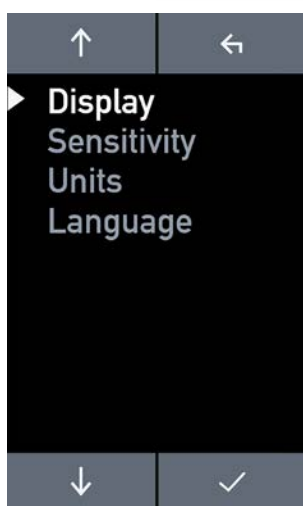
Preston HU-4 controlling Horizon lens via MDR connected to 7-pin Lemo.



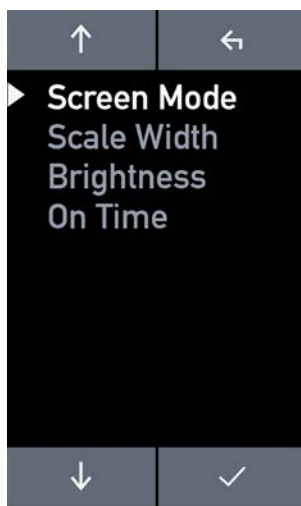
Preston ALC (Anywhere Lens Control) wired/wireless hand unit can take the place of an MDR to work simultaneously with the HU-4.

ZEISS Horizon Anamorphic Menus

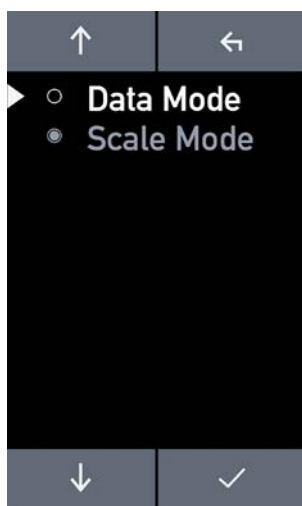
There are 4 buttons to control the Horizon Anamorphic menus.



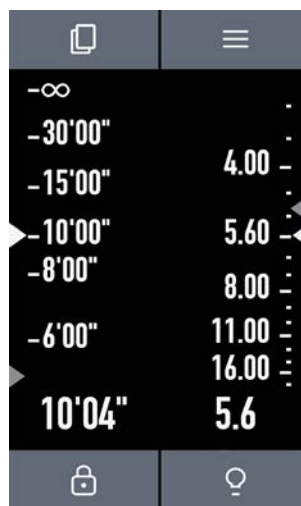
Main Menu



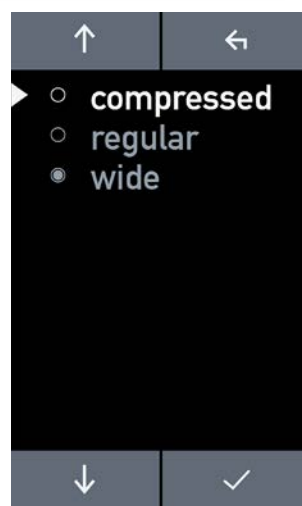
Display settings > Screen Mode is selected here



Display>Screen Mode>Data Mode (values) or Scale Mode (traditional focus-iris marks)



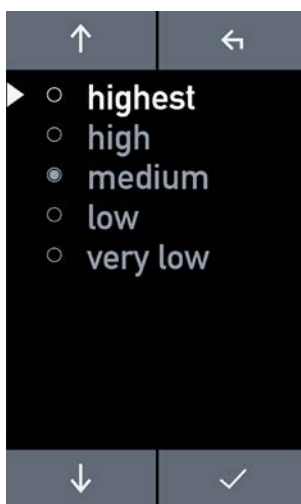
Display>Scale Mode



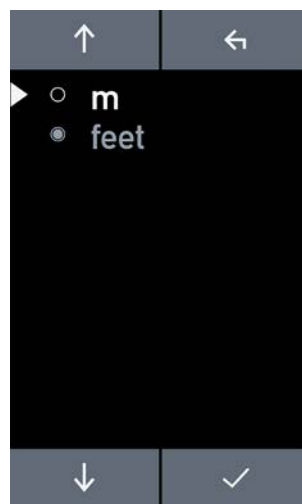
Display>Scale Width (for Scale Mode): compressed, regular or wide focus mark increments



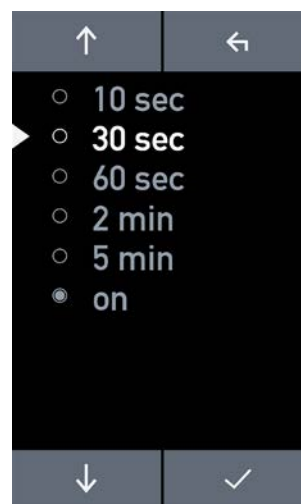
Display>Brightness



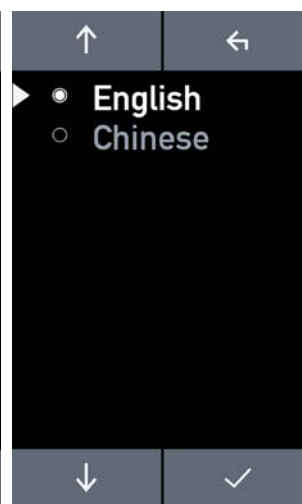
Sensitivity: how the focus and iris panels react to your touch



Units: meters or feet



Display>On Time: time the display stays on after last use: 10 sec to always on



Language: More languages could be added in future firmware.

NANLITE FC-1200B and 1200C



Once upon a time, a Producer asked a Gaffer to pare down a lighting package that had many Tenebrous 10K Tungsten Fresnel fixtures. The Gaffer replied, “But sir, a 10K is just a 5K with a double scrim and you’ll thank me when we need that extra stop for slow motion or longer throw.”

As Oliver Twist said, “Please sir, we want more.”

And so, at IBC 2026, NANLITE introduces two higher-power fixtures to their FC series of LED spotlights: the FC-1200B and FC-1200C.

These new 1200 Watt fixtures arrive just seven months after NANLITE launched the FC-720B and FC-720C (750 Watt - 5040 lux / 468 fc) spotlights in February 2026.

- FC-1200B is bi-color; FC-1200C is full-color. Both fixtures have a rated power of 1,350W.
- FC-1200B delivers 15,620 lux / 1451 fc and FC-1200C does 14,220 lux / 1321 fc (at 3m, 5600K with the included 45° reflector).
- Unlike other models in the FC series, the FC-1200B and FC-1200C have a unibody, all-in-one design that combines the power supply and control unit within the fixture head. This makes things very easy. There’s only one cable—a single AC cable that you can plug into a household or studio wall outlet.
- FC-1200B and FC-1200C fixtures are compact: 42.84 × 38.14 × 19.93 cm (16.87 × 15.02 × 7.85") and lightweight: 10 kg (22.05 lb).
- FC-1200B has a CCT range of 2,700K–6,500K with an average CRI of 96 and TLCI of 98.
- FC-1200C has a CCT range of 2,400K–12,000K with ±150 green/magenta adjustment, an average CRI of 95 and TLCI of 94.
- FC-1200B has two lighting modes: CCT and Effect.
- FC-1200C has five modes: CCT, HSI, RGBW, Gel and Effect.
- As with FC-720B and FC-720C, the FC-1200B and FC-1200C have a Bowens mount and an umbrella mount in the yoke.



- This means the fixtures are compatible with the large array of Bowens mount accessories available. You can attach reflectors, optical accessories, softboxes and umbrellas.
- Both fixtures support wired and wireless control, including on-board controls, the NANLINK App and DMX/RDM. They also use Near Field Communication (NFC) technology to configure DMX parameters using the NANLINK App. With the Push function in the app, settings can be applied quickly to multiple fixtures.
- Both fixtures have four fan modes: Smart, Full Speed, Low Speed and Off.

The standard kit includes:

- FC-1200B / FC-1200C × 1
- RF-BM Reflector 45° × 1
- AC Power Cable 7.5m × 1
- User Manual × 1
- Carry Case × 1

Visit Nanlite at IBC: 12.F21

nanlite.com





Michael Göpel with the new Atom Two HDR camera. Photo: Alex L. Nabi.

Dream Chip Technologies is Germany's largest independent semiconductor engineering company. Part of the Tessolve Group and headquartered in Garbsen, Germany, they design and develop ASICs, SoCs, FPGAs, software and Atom Cameras.

Michael Göpel is Director Product at Dream Chip Technologies GmbH—where they make Atom miniature cameras. At IBC 2026, they are introducing the new Atom Two miniature HDR camera: 14-bit, HDR, Full HD, global shutter, with speeds up to 60 fps.

Prior to Dream Chip, Michael was Senior Project Manager at ARRI. Another ARRI Alumnus has also joined Dream Chip: Achim Oehler, now Senior Director of Vision Product Management.

Atom miniature cameras are currently working in broadcast, stadium and arena sports production, cinema, entertainment and studios, as well as industrial and aerospace applications. Recently, Atom cameras have been rigged to get extreme angles inside motorsports cars, at equestrian events and for aerial filming.

From Chips to Cameras

Dream Chip's expertise in Image Signal Processing (ISP) technology, noise reduction, tone mapping, color science and dynamic range management led to the development of Atom miniature cameras in sizes that were previously deemed impossible.

From compact POV cameras to specialized high-speed systems up to 500 fps, each camera combines superb image quality and reliability along with 12-bit or 16-bit color processing, multi-matrix color correction and HDR support (HLG, PQ, S-Log3).



Atom One - Where it all Began

The Atom One was Dream Chip's entry into the miniature camera market more than 10 years ago. The original design goal was a camera that could survive the rigors of live sports and entertainment in places conventional broadcast camera could not go—without sacrificing image quality. Today, the Atom One family has matured into a lineup ranging from the postage stamp size Atom One mini AIR (FHD) to 4K and 500 fps super slow motion models.

Atom Two - The New Generation of Cameras

The Atom Two stirred up the world of miniature cameras with a global shutter sensor that eliminates motion artifacts and distorted images when filming action, stunts, sports and live events. Furthermore, the Atom Two delivers excellent low-light performance and clean, detailed images. For outdoor sports and all-weather production, the Atom Two Rainproof models are protected by a tough waterproof housing. They also include a stereo microphone. The Atom Two CS camera comes with a CS mount (but C mount lenses can be used with a supplied 5mm spacer ring).

Atom Two HDR premieres at IBC

Atom Two HDR is the latest camera—with 14-bit High Dynamic Range and 16-bit processing. It brings a new level of performance to miniature cameras that was previously unavailable.

From a goal post position to a rig mounted inside a racing car cockpit, the Atom Two HDR camera captures the full dynamic range of real-world scenes without clipping highlights or crushing shadows. *IBC Booth 10.A20. atom-camera.com*



New Atom Two HDR at left and right. Photos by Alex L. Nabi

Atom Two Cameras



New — Atom Two HDR



Atom Two HDR (rear)



Atom Two RP

	Atom Two HDR — <i>new at IBC</i>	Atom Two RP	Atom Two	Atom Two CS
Shutter Type	Global shutter	Global shutter	Global shutter	Global shutter
Sensor Size	1/1.8"	1/1.8"	1/1.8"	1/1.8"
Max Resolution	1920×1080 (Full HD)	1920×1080 (Full HD)	1920×1080 (Full HD)	1920×1080 (Full HD)
Frame Rate Range	23–60 fps	23–60 fps	23–60 fps	23–60 fps
Progressive Frame Rates	23.98, 24, 25, 29.97, 30, 50, 59.94, 60	23.98, 24, 25, 29.97, 30, 50, 59.94, 60	23.98, 24, 25, 29.97, 30, 50, 59.94, 60	23.98, 24, 25, 29.97, 30, 50, 59.94, 60
Interlaced Frame Rates	50i, 59.94i, 60i	50i, 59.94i, 60i	50i, 59.94i, 60i	50i, 59.94i, 60i
Dynamic Range	14-bit	12-bit	12-bit	12-bit
Color Processing	16-bit	12-bit	12-bit	12-bit
HDR	HLG, PQ, S-Log3	HLG, PQ, S-Log3	HLG, PQ, S-Log3	HLG, PQ, S-Log3
Color	Multi matrix (12/24/32 angles)	Multi matrix (12/24/32 angles)	Multi matrix (12/24/32 angles)	Multi matrix (12/24/32 angles)
Base ISO	140	Dual ISO 140/720	Dual ISO 140/720	Dual ISO 140/720
Maximum ISO	6400	6400	6400	6400
Control	RS 485	RS 485	RS 485	RS 485
SDI Output	1× 3G-SDI	1× 3G-SDI	1× 3G-SDI	1× 3G-SDI
Lens Mount	S Mount (M12)	S Mount (M12)	S Mount (M12)	C/CS Mount
Lens	4.2mm, 85° FOV (standard)	4.2mm, 85° FOV (standard)	4.2mm, 85° FOV (standard)	not included
Microphone	Stereo	Stereo	Stereo	Stereo
IP Rating	IP67 (Rainproof)	IP67 (Rainproof)	—	—
Power Supply	12–24V DC	12–24V DC	12–24V DC	12–24V DC
Body Dimensions	29×29×34 mm	29×29×34 mm	29×29×34 mm	29×29×34 mm
Body Weight	53 g (without lens)	53 g (without lens)	53 g (without lens)	39 g (without lens)



Atom Two



Atom Two CS

IBC, Amsterdam, New York Harbor, Sail GP, Riedel

FDTimes is in stand 12.D81 at IBC 2026 Amsterdam. So, it's fitting to talk about SailGP in New Amsterdam...er...New York Harbor this past spring. After all, English skipper Henry Hudson, working for the Dutch East India Company (VOC) sailed here in 1609 on the ship Halve Maen (Half Moon). He was looking for a northwest passage to Asia. That same year, the VOC set up a trading post in Japan.

The Dutch West India Company returned to New York Harbor in 1624 to found New Amsterdam. In 1628, they opened Collegiate School at the tip of Manhattan. It is the oldest school in the United States.

Many centuries later, young Jon Fauer attended Collegiate School and FDTimes style probably originated in Henry Adams's English class where "thesis, division, transition" was drilled into dense minds.

Live cinematic multicam is a big topic at IBC 2026. But mere rain protection is not the same as that technology surviving capsize and salt-water spray so intense it feels like needles hitting your face. SailGP boats can exceed speeds of 100 km/h (62 mph). Crews—six per boat—wear helmets and goggles to withstand the punishing elements of this intense high speed racing.

May 31, 2026. identical 50-foot foiling catamarans competed in the New York Harbor SailGP Grand Prix. Constructed from high-tech carbon fiber, these boats are propelled by rigid sails roughly the size of an Airbus A320 wing. There are currently thirteen national teams traveling to thirteen major cities around the world. The one-design, modular F50 boats are shipped in 40-foot containers, accompanied by all supporting equipment and systems for racing and broadcast.



Riedel Communications is an official supplier for SailGP. They provide cameras, comms, video, data and signal distribution. Bolero Wireless Intercoms with waterproof headsets and belt packs, along with Bolero Bridge in a waterproof Peli-style case on each boat, enable on-board communication, as well as on-shore race control, coaching and live up-close interviews with the winning skipper.

Each boat has a Riedel 1080p PTZ camera at the bow and a fixed camera at the stern. Approximately 36 RF camera feeds transmit live action from the F50 fleet, helicopters and chase boats—all synchronized with real-time data to produce live AR graphics of the race course, boat positions and speeds.

A mesh IP network connects all on-water data and comms to remote control rooms in the SailGP London Hub. The Hub also receives the live RF feeds and houses the umpires and the entire SailGP broadcast production team.

If there's time away from IBC in Amsterdam, visit the National Maritime Museum. You can go aboard a Dutch East Indiaman that's docked there. Its top speed in the 17th century was about 16 km/h (10 mph). At around 46m (150 feet) long and crewed by 140 sailors, it's quite a contrast to SailGP.

National Maritime Museum: hetscheepvaartmuseum.com

SailGP: sailgp.com

Riedel Communications: riedel.net

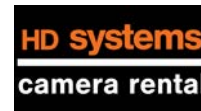
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