Jon Fauer, ASC www.fdtimes.com Feb 2026 Issue 133-134

FILM AND DIGITAL TIMES

Art, Technique and Technology in Motion Picture Production Worldwide

Online Edition

FILM AND DIGITAL TIMES

Art, Technique and Technology

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

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

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Contents Feb 2026 - Issue 133-144

Cover

James Friend, ASC, BSC on *Ballad of a Small Player* with ARRI ALEXA 35, Angénieux 24-290, OConnor 25-75, etc.

Foreword

Welcome to Film and Digital Times February 2026. This is the 184-page online edition.

There are two 80-page print editions:
- BSC Expo Special Edition in London.
- USA and Worldwide Edition.

The iPad Pocketmags app 184-page Edition is here: *pocketmags.com/us/film-and-digital-times-magazine*

There are several reasons...ah...excuses for all this.

Once upon a time in Paris, not so very long ago, a famous Frenchman frowned at me, complaining that the tradeshow edition of Film and Digital Times was so heavy, so many pages, so much reading, that it was impossible - IMPOSSIBLE - to haul it around the exhibition halls. "Not even Easyrig's massage station at the show could ease the agony of carrying so much heavy paper," he declared. "Why not print a condensed version and put the rest online?"

Genius Aaton inventor Jean-Pierre Beauviala hopefully is smiling at us from the heavens now that his advice has been taken and his wish has been fulfilled.

There are additional practical excuses...ah...explanations for the economy of paper pages and the logorrhoea online.

After IBC in September 2025, truckloads of equipment, prototypes, cameras and lenses landed at FDTimes, all demanding undivided attention, using and testing.

The November deadline came and went. Pages accumulated in the manner of Dickens, Tolstoy or Proust, perhaps to be weighed by the pound and measured by word count. Here's looking at you Blackmagic URSA Cine 17K 65, PYXIS 12K, Fujifilm GFX ETERNA, ZEISS Aatma, ARRI, Angénieux, Cartoni, Canon, Preston, Leitz, Sony, Sigma, DJI, Manfrotto, Nanlux, Nanlite, RED, Nikon, Tilta, Laowa, Bright Tangerine and more—accompanied by the *Hamilton* lyrics, "writes day and night like it's going out of style."

Just as we DPs are notoriously disinclined to shorten our demo reels because the backstories of every laborious setup are too well remembered, it became equally painful to pare down the fascinating cinematographer stories from Garrett O'Brien in Tahiti and James Friend, ASC, BSC in Macau and Brendan Harvey in Wales. Full length interviews are online.

My final excuse, almost as feeble as a schoolboy's "Oh, the dog ate my homework," is mechanical. The nice folks at the printing company, who granted many extensions and delays of our deadliest deadlines, said their saddle stitching machine, essentially a giant stapler, could not staple 184 pages.

Please enjoy.

James Friend, ASC, BSC on *Ballad of a Small Player*

James Friend, ASC, BSC on *Ballad of a Small Player*

James Friend, ASC, BSC on *Ballad of a Small Player*

L-R: Edward Berger and James Friend, ASC, BSC

Netflix sums up Ballad of a Small Player*: "Amid the glittering casinos of Macau, a gambler running from his past — and his debts — becomes fascinated by an enigmatic woman at the baccarat table."*

Ballad of a Small Player *is directed by Edward Berger. Colin Farrell as Lord Doyle is an unsympathetic character and yet you root for him the whole time. Tilda Swinton steals the scenes as private investigator Cynthia Blithe. Fala Chen is wonderful as Dao Ming in this story of hungry ghosts, greed and redemption. James Friend, ASC, BSC won an Oscar, BAFTA and BSC Award for* All Quiet on the Western Front *(2022). Credits include* Star Wars: The Acolyte, Patrick Melrose, *etc.*

Jon: Your cinematography on "Ballad of a Small Player" is an exquisite fever dream of a film with hallucinogenic, frenetic colors I've never seen captured on screen before. You're like a test pilot pushing the envelope of ALEXA 35 color space.

James: Thank you. There was one word that we always used to banter around during prep: "Opera, opera, opera." And then, I wondered: what does opera really mean? How do we interpret that one word onto the big screen without it actually being an opera? I hope you enjoyed the film.

Is it a tragedy? Like *Madame Butterfly* set in the Macau?

I saw it as the flip side to *All Quiet on the Western Front* which I did with the same director, Edward Berger, and most of the same crew. An analogy could be an analog LP vinyl record with *All Quiet* on one side—very bleak, still a tragedy, but with a firm direction to it and a real statement. On the other side of this vinyl record, we have *Ballad of a Small Player*—with a lot more chaos, more color and attitude. It could be defined as everything that *All Quiet* was not. That reasoning was how I came to peace with it in my head, I suppose.

Did you intend the riot of colors, the daring and kinetic style of *Ballad* to depart from the story or go hand in hand?

I've always approached cinematography as substance over style. If it's style over substance and so bold that you neglect what the actors are saying or the direction of the film, then we've automatically failed. It wasn't until I started watching assembled footage and sequences cut together that I realized it is visually quite a heavy-hitting film. Many people can compose and light very beautiful images as frames, but the synapses between them is where part of our craft and our art really comes alive. It's a line that I've always felt difficult yet thrilled to navigate, now and in the years ahead.

I still get excited and inspired by the fact that there's just so much more to learn. When I go into prep on a project, and sometimes even on day one of shooting, I may not know what it's going to look like. Going into *Ballad,"* I did was simply respond to the crazy environment of Macau where the level of energy is like Las Vegas on hallucinogens and stimulants.

The gambling capital of the universe.

I was trying to put this city without limits on the screen as I was experiencing it for the first time. When we drove over the bridge from Macau Island to our location across the water, we saw this city shimmering in the distance, like something from outer space and it takes your breath away. It was my job to translate that to film.

Did you have references for this stylized environment?

I shared images with the director and heads of departments as "a picture says a thousand words" approach. Mainly, we prepared by walking the streets of Macau at night. I purchased something I've always wanted: a Medium Format Hasselblad digital stills camera so we could study the pictures. The crazy thing we noticed was the difference between night and day. The polarity is frightening. During the day it would be quite serene with families walking around. Night is another story. There's a ticking time bomb element, which is also in the script, because people go there and live like lunatics for five days of intense gambling.

Let's talk about cameras and lenses.

Framegrab. Colin Farrell as Lord Doyle. Photos courtesy of Netflix. © Netflix Inc.

The camera that blew me away at the time was still in its infancy—the ARRI ALEXA 35. I was involved in very early testing even before it launched. The dynamic range of the color rendition is like nothing else I've ever seen with a digital sensor. I'll go as far as to say that it's the best digital sensor I have ever worked with—from viewing, monitoring and lighting on set and going through the entire pipeline of color grading to finishing.

Often, we were forced into difficult corners where things hadn't gone our way on set or where I would have liked to open up another two thirds of a stop. In grading, you've got to reach into this tissue that you need to get information, where I'm not entirely sure how much is actually there or not there. When I was testing the ALEXA 35 for ARRI, I just thought, "Well, why would I not want to shoot with this sensor?" Where it really resonated was how it handled car brake lights that go magenta or very pink with many digital sensors. That becomes very apparent when you are looking at the tail lights in a traffic jam.

I thought that surely I was going to have a very similar problem capturing the bombastic colors of Macau with its sensory riot of neon and crazy colors. I was very interested in doing justice to those colors and I selected the ALEXA 35 for that reason.

Lenses?

I own a set of T-Tuned Blackwing7 lenses and we used them. They're the same set that I had on *All Quiet on the Western Front*. The 37mm T1.9 has been my absolute favorite. I remember putting it on a drone for some of the spherical work on the *The Acolyte* series. I'm quite nostalgic and romantic about lenses. So I worried if we lose the drone and it doesn't come back, I would be mortified. Lo and behold, it went off into the rainforest, they lost GPS and it crashed many miles away. About four days later, they sent a mountaineering search party to the location and recovered it. The lens survived. It was almost a miracle. We sent it off to be serviced and it came back good as new. The optics were as beautiful as they had been before. Actually, I now have another Blackwing7 37mm and retired this one because I don't want to lose it again.

And the wide hallway shots in the Lord Doyle's hotel?

That was the Blackwing 17mm T1.9, which was fresh off the production line. We also used a 12mm T2 ARRI/ZEISS Ultra Prime.

It looks like you also had anamorphic lenses?

Yes. Coral 1.5x squeeze Anamorphics. (Set of 5 lenses from 35 to 120 mm, T2.8). One day, I got a phone call from John Buckley and Andy Mossman at Movietech, which is now Sunbelt. They asked, "Would you like to come and see these new lenses? You'll have to sign an NDA, but we would like your opinion." I love stuff like that. It's something that gives me ideas to think about. They had this unanodized prototype 1.5x squeeze anamorphic lens and it was called Second Reef Coral. I liked the way it flared and the way it rendered images. The next week, my operator and I bought a set.

How did you decide when to use spherical or anamorphic?

Good question. There was a scene where I knew I wanted to go spherical. It's when Lord Doyle has dinner on the balcony with Lippet, who's another con man. I wanted it to look like the world has suddenly just clicked into true reality, not some distorted version that he was experiencing. I wanted it to be a bit more grounded. But the rest of movie was very instinctual. We blocked a scene and decided in the moment. I'd like to say that we had some type of theorem to determine which setup should be spherical and which should be anamorphic. But it was really just an artistic decision. We wound up 60% anamorphic and 40% spherical.

Did you use any zooms?

Angénieux zooms. For example, there's a long lens compressed shot at the very beginning with Colin's voiceover as he's walking through a big crowd of people. Normally, I enjoy doing complimentary shots because they don't jar the audience. We might be

EXT. MACAU - NIGHT

James Friend and Edward Berger (at right).

on a 27mm or a 37mm spherical, or maybe a wider anamorphic. And then, we suddenly punch in to 250mm on the zoom as he's walking towards us at 48 fps. As long as the immediate language is different, it can be quite fun.

However, I don't like it when you've got coverage around a dialogue sequence and you can always see where a camera is placed. Sometimes it's more about where can you get in opposed to finding the correct shot. I find that heartbreaking when you watch some films, because we all have our own issues. We all have a budget, schedule, the impatient AD or producer or the location that closes in 25 minutes and we've got to get out of there with all our equipment. Sometimes it's built out of need and not anything else. Whenever I have to do it, a little bit of me always fades. I think about how I could have done it a little bit better to improve it in a different way.

How did you rate the ALEXA 35?

I usually try to rate it at 800 ISO because I like to retain strong blacks and strong highlights. But it depends what you're filming. If you're doing something outside, sometimes it's better to go higher with the ISO because you can get more information in the sky and you don't have too much contrast in the shadows. I pretty much pushed the ALEXA 35 to its limits in testing and found what would be unacceptable to see on a big screen. You can push it pretty far. Sometimes it came down to where I wanted to set the lens aperture so the optical qualities of the glass wouldn't start to go crazy. Sometimes I just had to shoot at a slightly deeper stop with a higher ISO to make sure I had a more stable image.

This film was almost like a show reel for the ALEXA 35. Did you have a show LUT?

Yes. I worked very closely with a few members of my crew. One of them was the DIT, Peter Marsden, who did a bit of live grading and is also quite a talented cinematographer as well. He was the natural choice to send off on our second unit splinter unit. Another main person was Andrew Daniel, senior colorist at The Look. I've worked with him solidly for more than 20 years. I have DaVinci Resolve on my laptop and use it in the same way I use Microsoft Word. I can pretty much do the basics, but I need a talented colorist.

I shot some costume tests with Colin to prepare for the real filming in the chaos and challenges of the day with fluorescents that flickered and color temperatures that were unpredictable. I sent the tests back to Andrew in London and we worked together remotely to develop the show LUT. We didn't really tweak it that much to be honest. I did a few little things to the CDL with Pete on set if I wanted something greener or bluer or whatever. But I've tied myself in knots in the past using multiple LUTs, and I think that was me maybe a bit too young and a bit too inexperienced. I love learning. Sometimes you only want a daylight LUT and a night LUT.

Grading?

When I step into the grade, we tend to use our LUT or CDL just as a starting point and we go from there. It can look so different by the time you reach the destination towards the end of a film. So, I never get wedded to the show LUT too much on set.

You treat it like a camera negative?

Exactly. It's the only way I know how. I wouldn't want to treat it any other way unless you're going for something really crazy or you're trying to go for a very specific look.

Did you operate yourself?

I love to operate, but I've been working for 20 years with an incredible operator named Danny Bishop who is far better at it than me. In my responsibility as a cinematographer and storyteller, if the operating side of things takes a second or 10 seconds away from me lighting, then I'm not doing my job in the way I understand it. Danny also operates not only "A" camera but also Steadicam. It doesn't matter what bit of kit he jumps into, whether it's a gimbal, dolly, rickshaw, wire rig or stabilized rig, the visual language and continuity should be the same. When we come to the showcase shot in the major point of the movie, I appreciate the osmosis, the trust that you develop with the actors and the director. But the truth is I love to light, to compose, to discuss the camera movement with my team.

It is a great pleasure building the frames that create movement. To block a shot, I like to look through a finder with Danny. While he's working with the grips and the second team, I can be freak-

Rising tides on the mud flats.

James Friend, and barefoot Edward Berger.

ing out about light that's contaminating an entire back wall. If I were operating, I might be distracted by a bump in the dolly track instead of dealing with horrible shadows somewhere in the scene. And then there's the AD coming up and the director wanting to discuss the next scene and things like that.

As cinematographers, we're only human beings and have a certain amount of bandwidth. I'd rather be watching the scene on a monitor with the director or from the point of view of an audience member and say, "I wish we could change the timing on that, or they need to throw a look sooner, and that person in the background should be queued faster." I'd rather work on those elements, observed on a large monitor or by eye, rather than through a small eyepiece. I also believe it's better to collaborate with my crew. They're all my greatest friends and I love hanging out, spending time with them and being abroad with them. They're all friends of the family. Their kids are friends with my kids, and we are a big dysfunctional circus troop of a family. Why would you ever want to destroy that dynamic? It's really one of the perks of the business.

How did you do the scene where Lord Doyle is on the mud flat beach with fireworks in the background and the lighting changes color in sync with the fireworks?

I was never content with that shot. Obviously, we went there for the view across the water toward Macau. It's a nature preserve but had many challenges. We could only get in there at certain times. It was extremely restrictive. The tide was something quite comical. Even when you work with some of the most experienced filmmakers, they say, "Let's just shoot on this beach." They have a static memory of what the sea looked like the last time they were scouting there and how gorgeous it was at the sunset. But that might have been eight months before.

At this moment, James loses power to his laptop and scrambles for another outlet, much like the unstoppable tide he is about to describe.

An epithet describing the tide is not something I would say in front of FDTimes readers. It was absolutely horrific because we had to go at a time that offered the biggest bang for our buck. We were chasing the tide coming in and then chasing it out. Poor Colin, one of the finest actors I've ever worked with and one of the finest sports as far as being professional, was trying to stay in the mood. He's lying on a makeshift driftwood bench. We're on a wide shot. I'm behind the camera watching on a little handheld monitor and the grip says, "We need to move up the beach towards shore right now." The tide's going right up to the battery plate. I'm thinking we need to get out. We all pick up and move. I'm carrying a set of short sticks. Even the director's carrying some cables, bless him. We move 20 yards up the beach and set up the next shot. And then, by the time we've done a couple of takes and Colin's getting into it, his hair is fine and his shirt is right, suddenly the water is coming up again. Finally, we get it. Naturally, it's always okay when you see it in the theater, all cut together and they've removed the sound of the splashing water. Little does anyone remember that below the rectangular frame we're all interested in, there was absolute chaos. It always makes me laugh, those anecdotes of the filmmaking process.

Getting back to your question about that last scene where Colin is walking on the mud flats, we had Aputure Infinimats, which we couldn't put on cranes except for one position that was so far away in a car park that it might as well have not been there. All the lights were on a little 12-channel fader desk that Harlon Haveland, my brilliant friend and gaffer bought with him. I'm a bit of a perfectionist, but there were so many colors in the background fireworks. I wanted our lights to have less saturated blues and reds; the explosions wanted a slower decay to feel like fireworks. And you've got three minutes to build all this stuff.

We got away with it. For the wide shot, I wanted an LED helium balloon that we could walk around. They had helium balloons there, but it had tungsten bulbs, not LED. I never actually turned it on. Instead, we filled it with helium and just used it as a high bounce because we weren't allowed to put any stands on the mudflats because it's a protected nature zone. So, we just pointed all of our LED point sources on it—ARRI Orbiters and Aputure Storms. It was essentially done out of desperation. That was me lying asleep thinking how am I going to get myself out of this hole? And then you kind come up with silly ideas.

Dao Ming's houseboat was a beautiful location. Was it difficult?

Framegrab. Colin Farrell and the platform on the mud flats.

We shot that in a bay just off of Hong Kong, a place called Lamma Island. In the script, Dao Ming's country place was a shack in the rainforest. We went to the place where it was scripted. That should always be your first north star, not just what the location department is putting forward, but actually where the writer intended it to be. They took us on a crazy ride in a little fishing boat through this bay with houseboats. Some people were asking what time's lunch? And some of us were going, "This is brilliant; where are we?"

I was taking stills on my Hasselblad and looking at my sun path app. It was a beautiful location but we didn't think anything of it at the time. Weeks went by. We spent most of our weekends and other days off trying to find this dreaded location or even a spot to build a shack, which we just could not find. Every time we found a place, it came with many restrictions or it was not very good for lighting. I had to wave my flag and say, "I know it looks great, but hold on, do you want to be front-lit all day? Is this the film we are making?" You really have to stand up for yourself.

I said to Ed, "What if she lives on one of those shacks on stilts in the bay that local fishermen use to store things or to get away from the city for a few days?" We realized that this was literally the reason her shack exists in the script.

"Instead of setting it in a rainforest, why don't we have the shack on water," I said to Ed. "But before you and I walk into the production office and put this on the producer's desk, we need to admit that filming on water will slow us down by 70%. It's a nightmare to power, nightmare to service, nightmare to do everything." But it was better than what they were proposing: build the shack on a stage and green-screen everything outside.

We wanted to work as much on location as humanly possible, which is good and bad for cinematographers because you give us with one hand and you take away with the other hand. With Jonathan Houlding, our production designer, we decided to build a barge, a huge platform that was actually about twice the size of most of the regular shacks in the bay. It had a ground floor and a first floor, with a walkway all around that could accommodate the footprint of an Avenger stand. I even opened one of these stands in the production office to explain how we needed extra space for stands, sandbags, cable and all sorts of stuff.

Ed wanted a very different style of filmmaking in this location. It was often handheld, on the shoulder, very much single camera. It was almost documentary style. We didn't have Technocranes and all the stuff like we had on the main shoot. We had sticks and a slider. We almost treated it as a short film within the film. I used spherical lenses here. To get the image a little bit crazy, sometimes I splashed water on the lens just to see what would happen. There was a point where we needed a shot with Colin having a fever dream. The lens was fogging up because of the humidity and our focus puller wanted to clean it off. It looked milky but I said, "Let's just shoot, because sometimes we pay $2,000 to get a filter like that." It was monsoon season. We filmed from June to September 2024. I've never felt humidity like that in my entire life.

How were you allowed to film in the casinos?

We were very well supported by the casinos. Months of advance permission was required from the government. We had to designate the exact areas where we wanted to film, the tables, the camera positions. We submitted overhead plan views, aerials and stills. If we ever wanted to suddenly change anything, for example if the action changed, it became a bit of a thing. As we know in any kind of movie-making situation, sometimes things change before we've even understood that it's changed.

For example, I had very little control over lighting the wide shots with the principle in the casinos. If I were to put a frame over the top to get rid of a double nose shadow and it obscured the view from any of their casino CCTV cameras, we would immediately be breaking their rules. They could shut the production down at any time. I pushed it to the limit sometimes, just to soften a horrible spotlight that was hitting Tilda Swinton or Colin Farrell from overhead. We did all the wides with available casino lighting. Anything from mid-wide to close-up coverage was done on this LED "stage."

One of the largest LED walls in the world, not designed for mo-

Framegrab. Fala Chen as Dao Ming.

tion picture photography but for theater, was in a neighboring hotel, which I could most likely have hit with a tennis ball from our hotel. Because of the vast nature of these spaces in Macau, the screen was so far away that the pixel pitch, which may have been a lot greater than what we would normally have requested for motion pictures, weirdly became quite forgiving. We had been allowed to shoot high resolution plates on a RED camera. And this massive LED wall worked for some composite shots.

I basically matched the casino lighting with Aputure Infinimats (inflatable LED fixtures that come in sizes from 1x2 to 20x20 feet) which gave us a big, broad, soft and very beautiful quality of light. We got to the point in grading where I wondered which scene was real and which was on location.

The other thing is they constantly pump a lot of air conditioning and oxygen into the casinos, which obviously make noise. There's music blaring. Slot machines go ding, ding, ding, ding. The crowds are very enthusiastic when it comes to gambling. It only takes someone at a table 40 foot away to win a hand. And suddenly, halfway through the main dialog between Colin and Tilda, you get this giant cheer and it ruins the dialogue. The LED stage enabled us to replicate the look of the casino in an environment where we could control the lighting, camera, sound and crowds.

Does Hong Kong still have a big infrastructure as before?

Hong Kong cinema is iconic. We've all grown up with those films and they became part of cinema culture and history. The Hong Kong film business is still there. It still has the spirit. We had a good service company based in Hong Kong. They knew everyone and we had a very good crew. Some have become friends for life.

Where was Dao Ming's apartment?

That was in Macau. Our practical exterior lights at night were Astera and Aputure battery-powered tubes. We used them because we couldn't run powerg. We'd charge all those tubes at night, set them up in the morning, rip them all out at night, put them on charge, and repeat. Sitting at the desktop iPad, I could see the battery levels. Because they were our main illumination, when we turned them off in between takes, the place would go pitch black.

Where did you rent the equipment?

One Stop Films in London. It's a company owned by my operator, Danny Bishop and another chap named Jonathan Isles. They're both friends of mine and have a boutique company with lots of brilliant, beautifully maintained vintage glass. My focus puller, Phill Hardy, who came over from the UK as well, prepped it all in London and then prepped again in Hong Kong.

You did many films in 65mm format. Why not on *Ballad*?

I did *All Quiet on the Western Front* with an ALEXA 65. I just finished another movie on the ALEXA 265. It's beautiful. It doesn't have the same sensor as the ALEXA 35, but it's still absolutely incredible. Come to think of it, almost all of my work in recent years, apart from *Ballad*, has been on 65mm. I love it. In fact, it was hard for me to recalibrate my brain from 65mm to 35mm format. At first, when we were lining up shots with the directors finder, Ed was asking, "Why does it look so telephoto?"

The ALEXA LF would've been my next choice. We shot tests with the ALEXA 65, the LF and the 35. Even though they have their own optical and technical majesty to them, when you compare the colors and the exposures next to the ALEXA 35, you just cannot beat that sensor. And then I would lie awake at night and agonize about using a 35mm format sensor after all the time I worked with 65mm format equipment. And then I'd go, "James, what are you thinking? The *Godfather* was shot on 35mm and it's the greatest movie ever made. And *Indiana Jones*." At what point did I suddenly start to perceive 35mm as an inferior format?

Then I would realize there' was nothing wrong. I'm so glad that I did this picture on the ALEXA 35 because it's not an inferior format. It's absolutely beautiful. Not only that, but 90% of the glass on the market is 35mm format and some of theme are incredibly unique. That also needs to be considered, sometimes more than the camera. So it's not like it didn't occur to me or I didn't test it. I just knew that the craziness of this film needed a camera to handle the color rendition.

How did you get started in film?

I left school at 16. It was a boarding school, quite regimented with a military ring to it. I think filmmaking, from a technical standpoint, has an almost similar backbone of discipline. But, I wasn't particularly academic or athletic. I was actually more of a nerd who enjoyed film club.

When I left school, I knew that I wanted to make movies and become a cinematographer. I read an article by the great British cinematographer Paul Wheeler, BSC, who also wrote some books. Walking past the New York Film Academy in London one day, I saw Paul Wheeler's name on the calendar for a master class. And I thought, "Well, sorry, I'm going to go in and ask some questions."

I rang the buzzer and sat in the back of the class. He gave me a disapproving look, thinking that I was late. Nobody was asking questions. So, I put my hand up. The rest of the class gave me funny looks, wondering who the hell's this guy. Paul didn't know who I was because obviously I wasn't enrolled. Eventually, it was one o'clock lunchtime and when everyone left, I started asking him more questions as he was packing up his bag. Paul said, "Well, if you're going to keep asking me all these questions, let's do it over a meal and you can buy me lunch."

We went around the corner to a pub in Covent Garden where we had fish and chips. At the very end, I confessed that I actually wasn't even part of the class. He found this to be hilarious and invited me back that afternoon to come and sit in. At the end of the day, he gave me his business card and said, "Stay in touch." We were in touch for more than 20 years. He was godfather to my child, and we became family.

He was Uncle Paul, but he taught me everything that you didn't really learn at film school. He taught me the politics of life on set. He taught me what happens when you hand your equipment list in, and so-and-so says it's much more than the rental budget will allow. But you're still trying to balance equipment needs with the expectations of the director and everyone else. Or what happens if you're not getting on with a production designer or stylist? As with almost any experienced filmmaker who has dealt with different conundrums, Paul was someone who had advice about handling these different situations. What always struck me about

Paul was his generosity in imparting this information. He gladly did it. He was my very first mentor.

At age 17, I actually enrolled and paid tuition to attend the New York Film Academy in London. Paul knew that I was training to be a spark, an electrician on film sets. So, he introduced me to his gaffer. We did a couple of projects. As I was learning my craft, I was also shooting student films at the New York Film Academy. I was fortunate enough to have been the only student who wanted to be a cinematographer in my year. The others all wanted to be directors. I ended up shooting everyone's graduation film on 16mm and 35mm. This was still in the infancy days of digital. I feel like I'm from the last generation that actually grew up on film and then had to make the pivot to digital. I am proud to say that, because it's made me a better digital cinematographer—understanding the way film works as opposed to the other way around.

Then I went on to operate for Paul and to gaff for him on certain projects when I became a qualified spark on the *Inspector Morse* television series. Later, one of my first big professional jobs in the industry was being the DP on the sequel to *Inspector Morse.*

Paul Wheeler's books are on the bookshelves behind us.

James: Oh, fantastic. I did a book: *Preserving the Vision*. It was published by the BSC and I co-authored with a great cinematographer who was another mentor, Phil Meheux, BSC. As members and custodians, we wanted to celebrate the history of the BSC since its founding in 1949. The 600-page book includes photos and biographies of all members, past and present.

That's kind of what your film *Cinematographer Style* did. It came into my life at a pivotal age. I had just graduated from film school, specializing in cinematography, and I was surrounded by like-minded friends who were obsessed with the craft. That documentary—and the books that followed were an absolute treasure trove. Every single person in that film could have spoken for hours. Some of them only have twenty seconds of screen time, others several minutes, but it had a profound impact on me. I'm a huge champion of our predecessors. Cinematography is built on history—its techniques, its appreciation, even audience taste. Technology evolves, but perception is shaped by what came before. I still feel like a student because I never stopped learning.

Ballad of a Small Player Framegrabs

Ballad of a Small Player.

James Friend, ASC, BSC

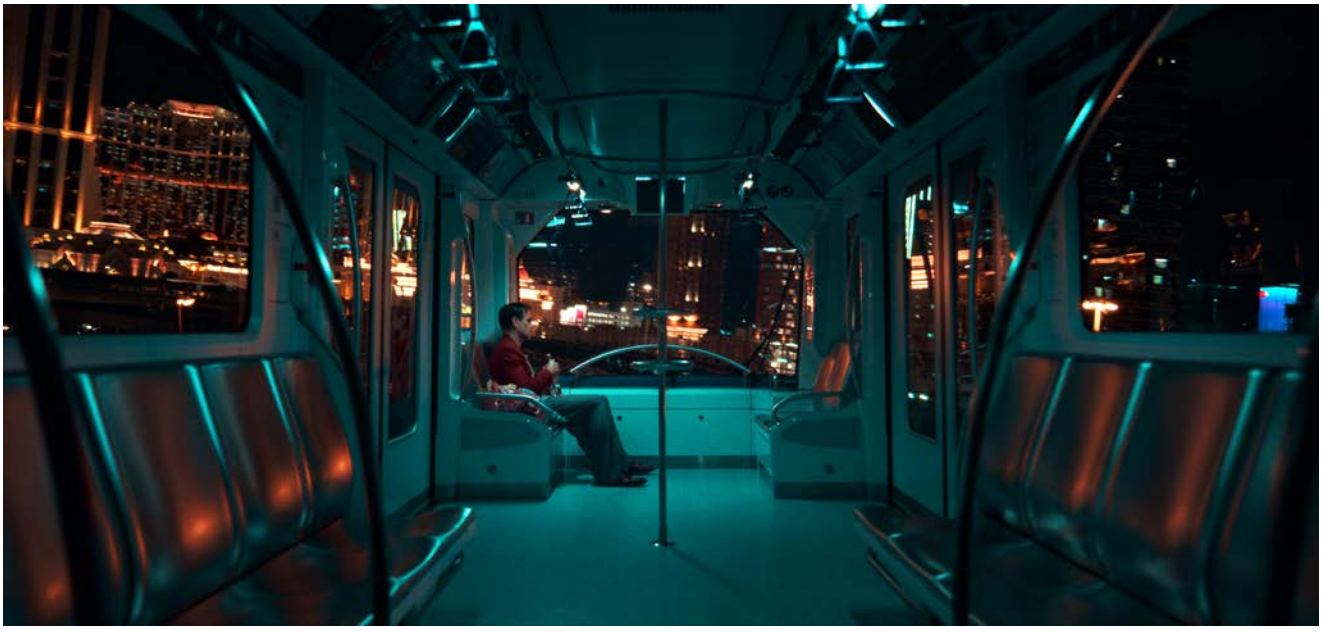
Camera: ALEXA 35

Framegrabs courtesy of Netflix.

© Netflix.

Ballad of a Small Player Framegrabs

Ballad of a Small Player Framegrabs



Ballad of a Small Player Framegrabs

ZEISS Aatma Cine Lenses

Pascale Marin, AFC and Aatma in Paris on the demo film *Welcoming Grace,* directed by Hélene de Roux. Photo by Andreas Bogenschütz.

ZEISS Aatma Full Frame Cine Lenses with Character

Lens	Aperture	Close Focus [1]		Length [2]		Front Diameter		Weight	
		meters	feet / inches	mm	inches	mm	inches	kg	lb
18mm	T1.5 to T22	0.35 m	14"	163 mm	6.4"	114 mm	4.5"	2.27 kg	5.00 lb
25mm	T1.5 to T22	0.26 m	10"	119 mm	4.7"	95 mm	3.7"	1.42 kg	3.13 lb
35mm	T1.5 to T22	0.32 m	13"	119 mm	4.7"	95 mm	3.7"	1.40 kg	3.09 lb
40mm	T1.5 to T22	0.43 m	17"	121 mm	4.8"	95 mm	3.7"	1.49 kg	3.28 lb
50mm	T1.5 to T22	0.46 m	18"	119 mm	4.7"	95 mm	3.7"	1.22 kg	2.69 lb
65mm	T1.5 to T22	0.61 m	2'	121 mm	4.8"	95 mm	3.7"	1.63 kg l	3.59 lb
85mm	T1.5 to T22	0.84 m	2'9"	119 mm	4.7"	95 mm	3.7"	1.42 kg	3.13 lb
100mm	T1.5 to T22	1.1 m	3'9"	119 mm	4.7"	95 mm	3.7"	1.7 kg	3.74 lb
135mm	T1.5 to T22	1.4 m	4'6"	146 mm	5.7"	114 mm	4.5"	2.27 kg	5.00 lb

1. Close Focus: Minimum Marked Object Distance (MOD) — measured from the image plane.
2. Length: Measured from front of lens to PL mount flange.

- Image circle: 46.3 mm
- Lens mount: PL mount. LPL IMS available.
- Iris blades: 16 iris blades for 18mm to 100mm. 18 iris blades for the 135mm lens.
- Focus barrel: 288° rotation for 25mm to 100mm. 280° rotation for 18mm and 135mm.
- Lens Data: eXtended Data, fully integrated with ZEISS CinCraft.

Christophe Casenave on ZEISS Aatma Cine Lenses

Christophe Casenave, Head of ZEISS Cinematography. Taken with Aatma 65mm at T1.5. All photos in this article by Andreas Bogenschütz.

Christophe Casenave is the Head of Business Unit Cinematography, working at ZEISS headquarters in Oberkochen, Germany.

Jon: How did the idea for ZEISS Aatma lenses begin?

Christophe: The concept originated about five years ago when we were developing Radiance lenses. They have been very successful, maybe because it's a surprise for people to see ZEISS doing something with more character. We wanted to offer something like else that. Two years ago we wondered how we could surprise people even more and asked why old ZEISS Super Speeds are so admired. The answer is that they share qualities that you can also recognize in the old ZEISS Contax lenses. They are not dirty or soft; they have a very strong and special character. So we said, let's go into this direction for the new Aatma lenses.

When did you green-light the project?

June 2024. Everything was very well defined before that and we started to work full speed.

That's very quick. What is the connection with Contax?

The connection is really the over-corrected look of ZEISS Contax lenses made in partnership with Yashica for still photography in the 1970s. ZEISS Super Speeds, also introduced in the mid 1970s, were inspired by these Contax lenses as well. This over-correction is like having multiple sets of lenses because you can change the amount of character you want in the image by setting the iris: wide open gives you the most character and as you stop down it is reduced.

How would you define character in a lens?

Character is something that surprises you. Character is something that generates questions, it's not expected, it's different. You say someone is a character because they do unexpected things. Perhaps they are exciting, irritating, mysterious or something else. A character actor has a unique persona.

Why didn't you just rehouse old ZEISS/Contax lenses?

The character was nice, but these photo lenses had pronounced focus breathing. Also, the optical elements were made with lead and we are not allowed to use them anymore.

How did you come up with the name Aatma?

We were looking for a name that suggests character, something that is out of the ordinary, with a bit of soul. Our colleague Sundeep Reddy, who is from India, said, "In Sanskrit, Aatma means 'the soul.'"

When you launched the ZEISS Radiance lenses, you compared them to Pessac-Leognan wine from Bordeaux. Aatma lenses remind you of which vineyard?

Perhaps something a bit more rustic. Aatmas remind me of Irouléguy, from the Basque Country and one of the smallest vineyards in France.

(Jon's fingers feverishly searching the archives)

Eric Asimov of the New York Times seems to agree, writing about Irouléguy almost the way you or a DP talk about the character of a lens: *the taste is almost like blood and iron, with rocks thrown in for good measure. Amid the parade of banality, Irouléguy stands out as a formidable wine of great character.*

I know Irouléguy because I go to this region quite often. The wine is

Swapping Aatma lenses in Paris on the demo film *Welcoming Grace*: First AC / Focus Puller Eléa De Celles and 2nd AC Louise Autain.

unusual, something very special that goes against the standards.

Are you building Aatma lenses in an artisanal way as well?

Yes. This is an interesting topic. It's completely removed from the world of serial mass production that we have been used to. With Aatmas, we're making smaller quantities of a very special item. It's a different way of working. The entire production team was excited because it's something they have never done before. Instead of having an assembly production line, they reshuffled the whole space, that you have seen, and instead of having three or four people working on each lens, the Aatmas are assembled by one person. In other words, each lens is crafted by one individual.

The whole team had to retrain for this. In the past, we asked them to assemble lenses as best they could. Basically, best was only limited by the optical design. Essentially, there was only one parameter to adjust: MTF. As long as the lens was sharp, clean and mechanically smooth, few people would complain.

With Aatmas, we're asking the team to build the lenses exactly as defined within a very narrow corridor of assembling, measuring and adjusting.

They need to adjust many more parameters. It's another world, very different. It's all about making something that looks different, that has character, that sometimes might look not as sharp, not as "perfect," but it's 100% reproducible. Nothing is random. It's all super well-defined, and this makes it much more complex to build.

So, with ZEISS Aatma lenses, we do imperfections perfectly. Or, you could say, we perfectly implement imperfections.

The range of cine lenses at ZEISS keeps expanding.

The earth will not stop rotating. It's really a commitment and we know that our market is changing. New things are happening; there are new entrants. That's the way of business. Within our cinema business, we have diversified the portfolio. We have entry level, mid-level and "major motion picture" level cine lenses for everyone from content creators and independents to owner-operators, rental houses and production companies.

The new Aatma lenses will bring more character with a high-end touch. And stay tuned for additional, new ZEISS cine lenses. Around BSC Expo time, we'll tease you with 65mm format lenses: Panoptes 65.

Panoptes as in Greek mythology for "all-seeing?"

Panoptes 65 40mm

Yes, the all-seeing giant.

ZEISS Panoptes 65 will be a set inspired by our modern Full Frame lenses and covering the larger sensor area of the Alexa 265, Alexa 65, Blackmagic URSA Cine 17K 65, Fujifilm GFX Eterna 55, etc.

There will be 10 focal lengths: 25, 35, 40, 45, 55, 70, 90, 110, 135 and 180 mm — all T2.2.

Jeanfre Fachon & Benjamin Hagen Introduce Aatma

Jeanfre Fachon with bubble boken. Taken with Aatma 85mm at T1.5.

Jeanfre Fachon is Senior Product Manager Cinema at ZEISS. Previously, Jeanfre worked in London at ARRI Rental and then in Munich, managing the accessory line for ARRI cameras.

Benjamin Hagen is Head of Marketing, Cinema Lenses, at ZEISS. He is responsible for marketing in the cinematography business unit—primarily for lenses.

Jon: And now for something completely different from ZEISS, please tell us about Aatmas lenses.

Jeanfre Fachon: ZEISS Aatma is our new series of Full Frame cine lenses with lots of character. You may not have expected this from ZEISS. Their look is inspired by earlier times, for example Super Speeds or Contax ZEISS lenses.

The new Aatma set of 9 lenses consists of the following focal lengths: 18, 25, 35, 40, 50, 65, 85, 100 and 135 mm, all T1.5.

If you look closely at the front of Aatma lens barrels, you'll see familiar lens design names like Distagon, Planar and Sonnar.

Ben: This is actually a nod to the inspiration that we took from the past. I think the last time that cine lenses made in Oberkochen had the names of lens design types engraved was with the Master Primes. And then ZEISS went away from that. But now, for these Aatma lenses, we wanted to celebrate lens designs from the 20th century that were developed and manufactured here in Oberkochen.

Jeanfre: I think it's very important because the Aatmas are true to those legacy formulas developed by ZEISS. It's important to stick to that heritage.

Ben: But, Aatma lenses are not a "vintage" rehousing project. They have been specifically designed with a certain look, with an ergonomic shape, size and weight. If you look at their silhouettes, Aatma lenses may remind you of Supremes. The rear portion is anodized black. However, the front of the barrel is silver Cerakote, a nanotechnology ceramic coating that is highly resistant to dirt, water and wear.

As with ZEISS Supremes and Radiance, the Aatmas have a 95 mm front diameter for all focal lengths from 25 to 100 mm. The 18 and 135 mm Aatmas have a 114 mm front diameter.

Did cinematographers and users tell you what they wanted in the look of a lens?

Jeanfre: Yes. The consensus was to have slightly lower contrast and smoother skin tones. The bokeh has a touch of swirliness—not too much for out of focus areas in front of your subject—but you can still see it. Bokeh behind your subject is busier and highlights like like soap bubbles, as you may remember with the Contax ZEISS 50mm f1.4.

That's what optical designers and lens technicians refer to as being over-corrected. The bokeh are circular in the middle, with an outline. Towards the edges, you see some cat-eye characteristics as well.

Christophe said that character in a lens could be similar to an unusual person or annoying character in a movie. Let me play that annoying character role, as a devil's advocat.

Having owned ZEISS Super Speeds in the analog days, I considered them quite contrasty. Am I wrong? And yet, we don't think of them as being so contrasty today.

Jeanfre: You're right. That was the aim of optical designers in those days— to have contrasty lenses which gave you the impression of sharpness. Today, we consider Super Speeds and ZEISS Standards as

Benjamin Hagen, Head of Marketing, Cinema Lenses. Taken with Aatma 35mm at T1.5.

being vintage lenses. At the time they were made, they were designed to be as good and sharp as a lens could be.

That's why ZEISS was always very proud of their lens coatings and formulas—they were made to reduce any flare that would lower the contrast and brighten the dark areas.

You might ask, why do many DPs favor a vintage lens over a very sharp lens? It's probably because you want to do a lot of portraits and you want to be sure the skin tones of your actors are beautiful. The bubble bokeh that we talked about is an homage to some of our legacy ZEISS designs.

Ben: That's the thing about these lenses. We have the inspiration of characteristics from the older lenses, but with the consistency of modern lenses. From a manufacturer's perspective, a big part of creating the look is having it as consistent as physically possible throughout the entire range. We really made sure of that.

Different focal lengths in sets of vintage lenses don't always match. One reason is that some sets were made over a longer period of time, rather than all together at once. Or, if you are lucky enough to get a set of vintage lenses, they may have been gathered from several collections.

Yes. You might have an original Super Speed set of three lenses which had triangular irises. And then additional focal lengths were added. There was a Mark I, Mark II and Mark III series.

Jeanfre: It was important for the Aatma series that we are making now to have every focal length match not only in terms of color and aperture, but also with the look characteristics. To give you an example, I think one of the focal lengths went through three iterations of version five until it matched the other eight focal lengths.

Having worked at a camera rental house, Jeanfre—tell us about Aatma focus and fall-off.

Jeanfre: It is much smoother in all the tests that we've done so far. For example, the transition from an actor's eye, even at T1.5, is especially gentle and smooth. You're probably not going to have to worry which eye to focus on.

Does focus fall of towards the edges of frame? Is there anything different going on?

Jeanfre: Aatmas do not have a massive focus fall-off at the edges. Focus is rather consistent. That was something we wanted in order to be able to keep several characters...actors... in the same frame.

Is there shading or darkening towards the edges?

Jeanfre: They are consistent from center to the edges. Oh, and minimal breathing, as you would expect.

What about lens metadata?

Jeanfre: Aatmas have the standard ZEISS eXtended data. There's a 4-pin connector on the outside and four standard /i contacts in the mount.

Lens mounts?

Jeanfre: Aatmas come as PL, but we have an LPL option. So you can change them all to LPL if you want. It's an option. However, we find that most users have ordered Supremes and Radiance with PL mounts and they simply use the LPL to PL adapter if they have an LPL mount camera.

Xiang Lu, Optical Designer. Aatma 85mm at T1.5.

FDTimes discussed the ZEISS Aatma project with Xiang Lu, Optical Designer, and Benjamin Völker, Staff Expert Optical Designs.

Jon Fauer: Good movies often have a backstory. How did you start at ZEISS?

Xiang Lu: I'm the Optical Designer of ZEISS Aatma lenses. My connection with ZEISS began about 14 years ago, in the third year of my undergraduate studies in Beijing. I was a member of the photography club. Trying to become more proficient, I grew tired of cheap zoom lenses and looked for good primes. I went to a flea market and found a 1960s vintage Carl Zeiss Jena Tessar 50mm f2.8 lens that delivered amazing images for $50. Wondering where Jena was, I quickly found out that ZEISS was founded there in 1846. And then, I learned that the University of Jena offered an international Masters Program in photonics and optics. I enrolled and moved from China to Germany. My mentor had been a distinguished optical designer at ZEISS for 35 years. After graduating with a PhD, I joined the company and moved to ZEISS headquarters in Oberkochen about 3 years ago. As an optical designer, working on cine lenses is not only my profession, it's also a passion.

How did the Aatma project begin?

Xiang: We had a lot of discussions about the character of vintage lenses and why so many people desire them for cinematography. A typically straightforward approach would be to rehouse old lenses. However, we took a different path for the Aatma series. Certainly, the concept came from old glass. But instead of simply replicating the optical design of those old lenses, we were inspired by the way they rendered skin textures and bokeh. We studied simulations and aberration analyses of many vintage lenses and then figured out the physics that made them so attractive for cinematographers. At the same time, we also wanted to retain the reliable characteristics of modern lenses: consistency within the series, faithful color correction, good ergonomics and breathing control. We found a way to combine the unique character of vintage lenses with the advantages of modern cine lenses.

Aatmas have been described as over-corrected. Please explain.

Xiang: Optical designers more often than not aim to correct all aberrations to exactly zero. Over-correction, on the other hand, pushes the correction even further. This type of aberration correction is rarely seen in modern lenses, but with a balanced recipe, it can deliver unique characteristics like softer skin rendition, bubble bokeh, extended depth of field, smoother focus transition during pulling, or even resolution roll-off.

What is the most interesting "character" of Aatma?

Xiang: An important character of Aatma is that it has a greater depth of field, even at T1. 5. Even if you are shooting wide open with 50mm or 85mm Aatma, your complete face will be in focus. With other fast lenses, if you want to have the entire face in focus, you have to stop down.

How do you achieve that greater depth of field?

Xiang: With a combination of aberrations. We have done it with some really hardcore physics. The circle of confusion and depth of field charts may be different from what you have referred to. It's related to focus roll-off rendering. Focus doesn't become sharp abruptly. It is a certain process as you pull focus and there is a

Benjamin Völker, Staff Expert Optical Design. Aatma 85mm at T1.5.

larger depth range where the object is in focus because of this very special combination of aberrations.

How would you describe subjective look of vintage versus modern lenses, as well as the technical differences?

Xiang: For example, if you take a fast, T1.4 modern lens, you probably have a very sharp image when you are in focus, with nice bokeh and very shallow depth of field. Focus is super sharp. Skin tones are rendered in a way that you can see every detail and you can count every hair that is in focus.

But if we look at a fast T1.4 vintage lens, skin tones are rendered in a different way. You cannot see a specific focus plane where the skin is completely sharp; instead, you notice that the face appears smoother, in a more comfortable way. There's no unnatural "pop" of the very fine skin details. I think skin texture rendition is the most significant difference between modern and vintage glass.

As for bokeh, most modern lenses have a shallow depth of field and the out-of-focus areas are quite blurred. If you have perfect lenses with the same T-stop from different manufacturers, basically the bokeh look similar. But vintage lenses are different. Some have very specific characteristics that make them unique. The bokeh seem to give them own signature.

Please tell us more about bokeh.

Benjamin: My main task was to focus on the bokeh of the Aatma lenses. I developed a new method of simulating these bokeh—we put a lot more effort in this than in any earlier project. Bokeh sounds rather simple, but there are numerous variables. It's different in the center of a lens compared to the edges. Bokeh change when you stop the lens down and when you focus at different distances. It also depends on your lighting, the environment, the set, colors and so on.

If we look at lens development in the analog era of the past 50 year, the market was striving towards more and more perfection. And yet, lenses that we now call vintage, classic or artistic, have aberrations. These were not intentional; they were inherent to whatever was possible at the time. In the transition from analog to digital, the market has gone a bit in the other direction: towards the need for more artistic, rather than perfect, lenses.

Is that true in still photography as well as cinema?

Benjamin: Some still photographers are looking at the artistic qualities of the lens. But for the majority, I think the trend continues towards more and more perfection, with the image appearing as close to reality as possible. Pixel peeping seems prevalent in still photography—for example, zooming in 800% and checking how the edges look. However, if you are watching a motion picture, it doesn't make sense to zoom in that much. Certainly, it depends on where you screen it, but cinema has a different set of requirements than still photography.

It's interesting that vintage lenses, striving for perfection when they were built, are now considered to be artistic lenses. In the Aatma design process, we considered the qualities of those old lenses and noticed how certain characteristics and "character" changed over the years. This was the first time we really took a deep dive into that topic and tried to understand it. That is the soul of the Aatma project. It is understanding what kind of character you had back

then and translating that into a modern lens with all its benefits, but with the visual character and look of an old lens. That is completely different from taking an old lens and just rehousing it.

When you began this project, how did you describe the look you were seeking? How did you wind up where you are now?

Benjamin: We listened to Cinematographers and users. Our efforts were led by words that translated to technical definitions and ultimately to motion picture images.

What were some of these words that became a wish list?

Xiang: Above all, it was about softer, smoother skin tones. Your question about still photography and cinematography lenses is relevant. When you take a still photo, it's one picture at a time. You don't have to think about the things that cinematographers are concerned with: lens breathing and how the image changes when you follow focus.

In cinematography, focus pulling is an important part of the process. It's an integral part of the look, an important component of the composition. It facilitates your storytelling. How an actor or an object goes into focus really matters, whether it's pulling focus or the character is walking towards camera. We spent a lot of effort analyzing these things. For modern, fast lenses, you have a very shallow depth of field, especially when you're using a longer focal length. There's very little transition between in and out of focus.

We looked at some of the fast vintage lenses that cinematographers enjoyed and found they have a very unique way of handling the process of focus pulling. You don't have the feeling that the object surprisingly or abruptly comes into focus. The way that the object goes in and out of focus is subtle and unique. There are many vintage ZEISS lenses in our inventory and archives here in Oberkochen. We shot a lot of footage with these lenses and analyzed the images from a dynamic point of view—and not from a static still photo perspective.

How do you compare the Aatmas to the familiar ZEISS Supreme and and Nano lenses?

Xiang: Supremes and Nano are modern lenses: sharp and neutral. They're consistent within the ZEISS family look. The Aatma lenses have similar ergonomics and control of breathing, chromatic aberration, flare and ghosting. At the same time, they have the unique character that you normally find in some vintage lenses. Actually, you could say their character could be even more intense, for example, than vintage ZEISS Contax lenses.

Benjamin: Aatmas compared to Supremes are less contrasty. The bokeh of Supremes are modern, very smooth and homogenous. Aatmas are a bit busier, with a delicate bubble bokeh where you have a recognizable rim around the out-of-focus highlights. If you defocus a modern lens and it's wide open, the background is smooth and appears to melt. With Aatma, the background is a bit busier and the various sources of light are defined more clearly—they appear a bit stronger and more colorful.

Xiang: It's caused by the aberrations. We found a specific combination of different aberrations to deliver this kind of effect. Actually, chromatic aberration is something that we wanted to avoid in the bokeh. A number of vintage lenses have an abundance of color aberrations, resulting in bokeh that look like dirty soap bubbles, not crystal clear, that seem to jump out at you. Some other vintage lenses have overlapping rainbows that don't help you with storytelling because it's an obvious artifact. It's not motivated by the background behind your subject.

We wanted to help Cinematographers tell their stories by letting the background become part of the scene rather than being completely blurred out—where you don't really see what's going on. For the Aatma lenses with their special, busier bokeh, you see a bit of what is going on, but it will not distract you from the foreground action or main object. We worked hard to find the sweet spot that balances these concepts.

How would you compare Aatmas to Radiance?

Benjamin: Radiance lenses provide a second flavor of the Supreme series, achieved by changing the coatings, the color rendering and introducing different types of lens flares. Aatma is different. We did not focus on lens flare. Flare is still rather neutral compared to the Radiance. Instead, we paid attention to the look of the lens, to the soul of the image.

Aatma is not another flavor, not the same optical design with different coatings. Aatma is something completely different. It's a new optical design with different characteristics.

How do Aatmas compare to vintage ZEISS Contax lenses?

Xiang: Aatmas take inspiration from vintage ZEISS Contax lenses, but we made the character and characteristics that we liked more intense. Vintage Contax lenses were not specifically designed for the look that happens to be liked by Cinematographers today. Therefore, on this Aatma project, we had the opportunity to create a new optical design, learning from the vintage lenses, but fine-tuning the look to be more unique and more intense.

It's ironic that many vintage lenses that are appreciated for cinema today were originally designed for still photography.

Benjamin: Yes. We tried to make the entire set of Aatma lenses very interesting for Cinematographers and consistent for the whole series of focal lengths—from 18mm to 135mm. Vintage lenses can be quite inconsistent even within one set. This was a very fast project—a complete family in a very short amount time.

Tell us more about flares with Aatma lensess.

Benjamin: Flares are kind of neutral and not the main element of the look. I would describe them as controlled flares, with an intensity similar to Supremes, not emphasized but more on the artistic side.

Would you say that Aatmas are detuned lenses?

Benjamin: Good question. To me, "detuning" suggests that you take an existing lens and adjust things. If you don't have the original optical design, it can be a trial-and-error process. That is not something we have done or would do.

Xiang: Our computer programs and simulations give us an understanding of optical aberration theories. That's part of the heritage at ZEISS. For Aatma lenses, the combination of parameters to create their certain look benefitted from these very powerful computers and the simulation algorithms developed by Benjamin to verify our ideas without having to build a succession of prototypes in advance or to test by trial and error. That is how the development process was so smooth and fast.

Hélène Hoelz, Head of Engineering. Aatma 65mm at T1.5.

Tristan Klisa has been working at ZEISS Cine for three years and is currently the head of operations. He studied photonics and laser technology and worked in the manufacturing of optical systems.

Hélène Hoelz heads up engineering for the production of ZEISS Cine lenses in Oberkochen. Her seven-person team provides technical support for production processes, accompanies new product launches and optimizes assembly. She has been with ZEISS for 25 years, 16 of which have been in cine.

Jon: Customers are asking for specific "looks." How is that achieved in manufacturing?

Hélène: "Look" is a creative desire. But first, it has to be translated before it can be mastered technically. Early in development, we clarify how image impressions can be translated into physical parameters so that they can be manufactured. Only then do they become specifications and metrics. Assembly is particularly challenging—we have to achieve and reproduce these deliberately "imperfect" parameters and aberrations using suitable measuring equipment and adjustments that reproduce the desired characteristics. This interplay of translation, design, measurement technology and adjustment is particularly evident in the new Aatma prime lens series.

I remember dedicated assembly areas for Supreme Primes, Compact Primes and Master Primes. What has changed?

Tristan: Previously, we worked with pull control and single-piece flow – the holy grail of low-waste manufacturing. To achieve this, you set up an assembly line for a specific product, have materials ready, as you have in a supermarket, and develop a high level of specialization within the team. Today, the situation is different: smaller volumes with specific characteristics and more variants.

How does that affect production engineering?

Hélène: We get to work when a product design becomes a reality. That starts very early on. We build prototypes to confirm how assembly and testing will take place. We define the critical steps, tolerances and measurement procedures. At the same time, our developers translate the requirements into clear specifications and define test characteristics. We ensure that the process is ready in time for serial production.

Walk us through the new production line.

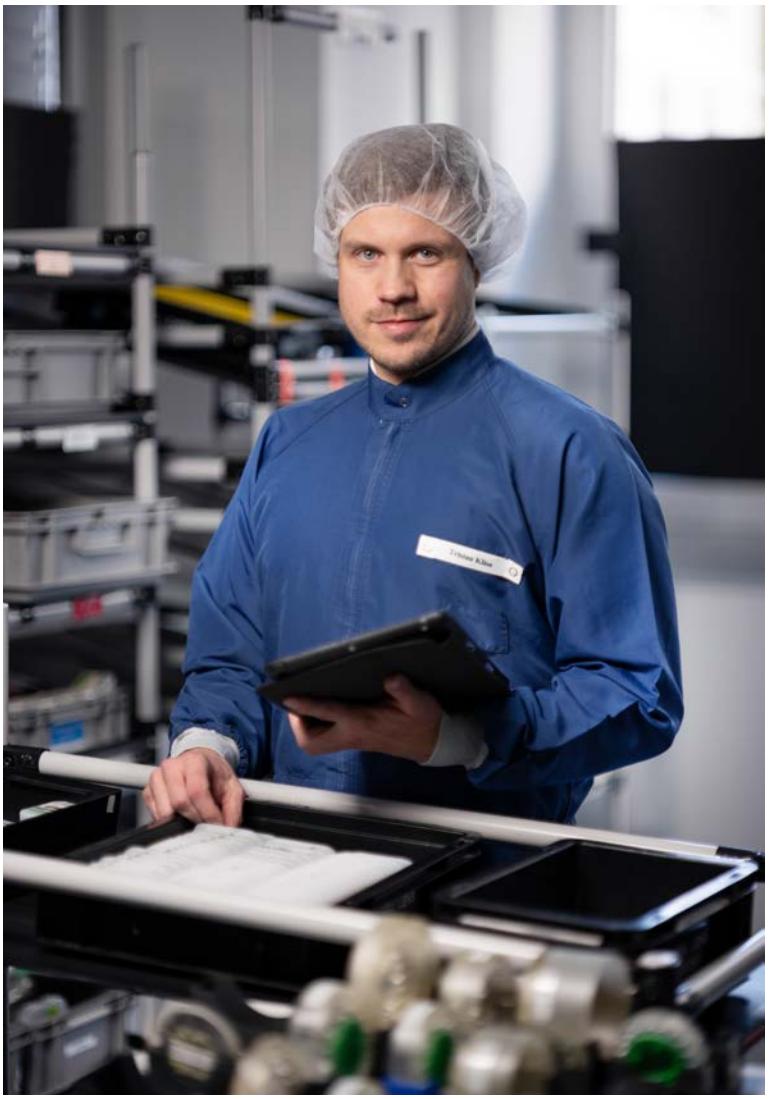
Tristan: It is more flexible, with much less material in circulation. Essentially, it is more personal than a large-scale assembly line production facility. But, we have the same expertise from many years of experience to manufacture efficiently and consistently. Lean, Kanban and Six Sigma remain core principles for planning and optimization.

(These are manufacturing buzz words. Lean means streamlining. Kanban is efficiency and reducing waste. Six Sigma minimizes defects and variation.)

Design to delivery of Aatma lenses was done in record time. How did that happen?

Hélène: Learning began earlier, resulting in fewer loops. Prototypes built to test production help us see right away what works in assembly, where there are problems, and which tests really determine whether a product is "right." This makes our discussions

ZEISS Aatma Manufacturing



Tristan Klisa, Head of Operations. Aatma 65mm at T1.5.

with the designers and developers more concrete: not opinion, but observation, measurement data, and real assembly sequences. Furthermore, because measuring equipment, test plans and adjustment strategies are already taken into account during development, we can verify them early on in production and refine them.

How has the assembly team changed?

Tristan: Expertise is still crucial. It changed from specialization to qualified all-around assemblers. One person performs more steps; handovers are reduced. This increases responsibility and requires a greater understanding of the entire process.

How do you get reproducible precision?

Hélène: Through consistent process and measurement control. Flexibility means that the process can adapt to variants—but the testing and quality level do not.

What do you mean by flexibility?

Tristan: Customers want specific configurations and smaller series to be available more quickly. This has a direct impact on planning, material management, and start-up. What hasn't changed is that each lens is not just a good individual item but that each lens has been reproduced exactly as promised.

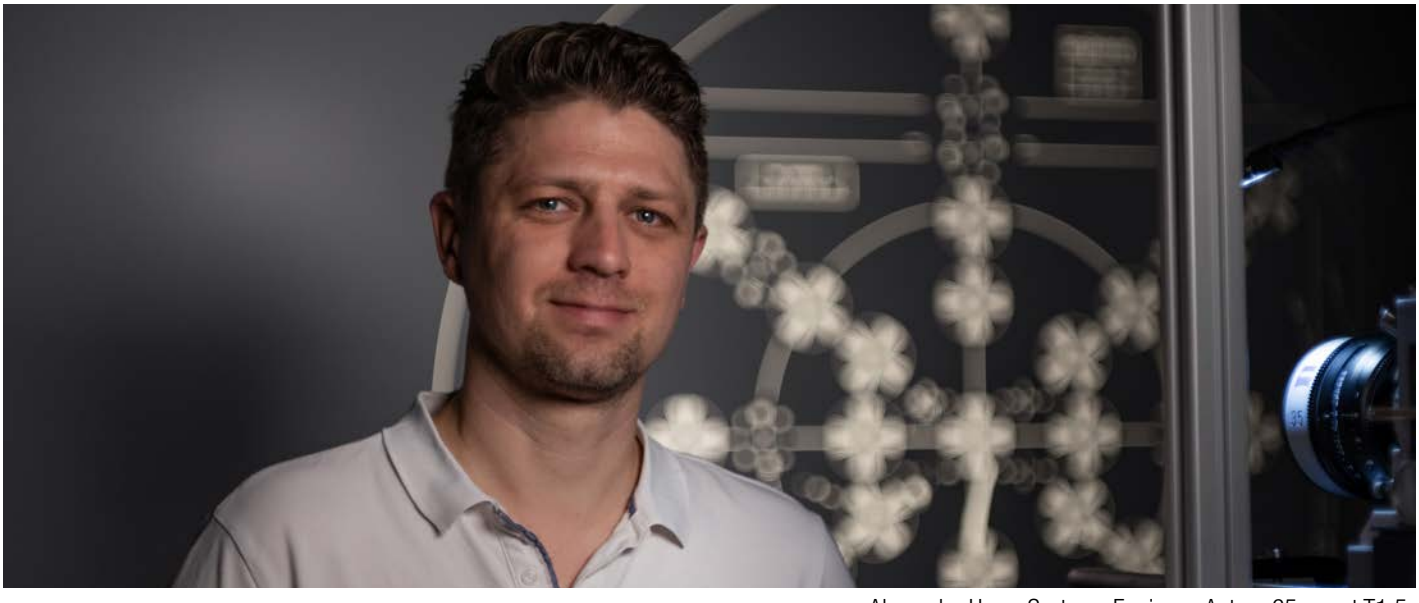
Aatma in Paris

Aatma in Paris on the demo film *Welcoming Grace*. Hélène de Roux directed and Pascale Marin, AFC (below) was the cinematographer.

ZEISS Aatma Additional Cast of Characters

Julia Haschka, Lens Assembly Aatma 65mm at T1.5

Jürgen Schalk, Prototyping. Aatma 65mm at T1.5



Alexander Haas, Systems Engineer. Aatma 65mm at T1.5

Waltzing with Brando

Marlon Brando saw Tetiaroa for the first time while filming *Mutiny on the Bounty* in 1960 - 61. It consists of 12 small islands, called motus, encircled by a blue lagoon and coral reef—53 km (33 mi) due north of Papeete, Tahiti. It is 6,476 km southwest from Los Angeles. Tetiaroa is in the middle of the South Pacific Ocean.

The atoll belonged to the Tahitian royal family until 1904 when it was acquired by Johnston Walter Williams, a Canadian and apparently the only dentist in Tahiti at the time. Marlon Brando purchased Tetiaroa from the heirs in 1966 for a reported $200,000.

Brando wrote in his autobiography *Songs My Mother Taught Me*:

"The Lagoon was about five miles across at its broadest point and infused with more shades of blue than I thought possible…it was magical. Here I am on a tiny speck of land in the middle of a massive ocean on a planet in the middle of an inconceivably large area we call space… I have never considered myself as the owner of the island, only that I have paid for the privilege of visiting it. I think of all the Tahitians who have been there before me, lain on that same beach and looked at the same stars 500 or 1,000 years ago, and I feel the spirits of those people whenever I go to Tetiaroa."

Cut to 2011. Los Angeles architect Bernard Judge published his memoir *Waltzing with Brando: Planning a Paradise in Tahiti*. It is the amazing story of a young Los Angeles architect who winds up working for Marlon Brando in the 1970s at the actor's atoll in the South Pacific.

The blurb on the book's back cover reads, "It is a narrative about Tetiaroa, Brandon's private atoll, about living in nature without despoiling the environment. Questions are asked. Should a hotel be built? What are the consequences? It tells of how Brando and his architect came to an understanding, an appreciation for the atoll's archeology, its ecology, and the interdependence of its marine life, sea birds and nesting turtle grounds. It is an unusual convergence of adventure, of reaching for a dream, and a compelling love story richly told and illustrated with beautiful historic photographs of the period."

2025. The film *Waltzing with Brando* has been released in theaters and on streaming services. Written and directed by Bill Fishman, adapted from Bernard Judge's book, the movie stars Billy Zane (*Dead Calm*, *Titanic*) as Marlon Brando and Jon Heder (*Napoleon Dynamite*) as Bernard Judge. Garrett O'Brien was the cinematographer.

Garrett O'Brien on *Waltzing with Brando*

Cinematographer Garrett O'Brien at camera.

Photos by Garrett O'Brien and Edoardo Frattini.

Jon: How did you get started on *Waltzing with Brando*?

Garrett O'Brien: Writer-Director Bill Fishman invited me. I had done a number of music videos with him. He showed me architect Bernard Judge's 2011 book *Waltzing with Brando: Planning a Paradise in Tahiti* on which the script is based. The movie follows their trials and tribulations through that process and the friendship that grows as the project develops into a resort in the middle of an atoll in the middle of the Pacific Ocean.

The book is filled with photos that Judge took using 1970s Kodak still film while working on the project. These were a massive influence for me. A big part of the cinematography was to feel as if it had been shot during that time period and re-scanned now. We didn't have the means to actually shoot it on film.

It was lovely to be able to look at the colors that were present in the book: beautiful vibrance and saturation mixed with the wardrobe of that era—very bright colors, shorter shorts and fewer shirts being worn. Sunblock wasn't as much of a thing, so there were lots of warm skin tones on Caucasian people and the beautiful skin tones of the Tahitians. Those things really made for a cinematographer's dream in a wonderful location.

You filmed on location in Tahiti?

Yes. We prepped there for about a month and then we shot there for another month. We did another two weeks of prep and another 10 days of filming in LA.

Everything in LA was LA and everything in Tahiti was Tahiti. That added another level of authenticity that we would not have been able to accomplish without shooting in the actual environments and locations.

We shot at Brando's actual island, Tetiaroa. Also on Moorea to double as Tahiti, as it is still relatively undeveloped and looks more like the way Tahiti did in the seventies and eighties. It's part of what Brando himself responded to: peaceful, smaller, and also most importantly, the wonderful people who live there.

What became of Brando's Island?

Brando built a modest hotel and later partnered with Pacific Beachcomber to build a luxury eco-resort appropriated named "The Brando," intending it to be a hub for scientific research and a center for preserving Polynesian culture and the environment. The resort helps to fund the Tetiaroa Society for environmental studies, marine biology, conservation and sustainability.

The Brando is a fully functioning resort. Barack Obama wrote his memoirs there. It's a very exclusive place, not for the light of wallet. I've had the fortune of traveling a lot but have never been anywhere quite like Tahiti. You're in the middle of the Pacific Ocean. Everything is different there. The light's different. You have sunsets that happen after the sun has already set below the horizon line because the air quality is so clear. There are incredible rays of light shooting up from below.

Cameras?

We had two VENICE 2 8.6K cameras. The underwater unit used a Sony a7S in a housing. We also had a Blackmagic Pocket Cinema Camera 4K to simulate some of the historical footage that Brando shot with his Bolex in a handheld, cinema verité loose style. We treated it in post as if it really was old 16mm footage, complete with edge fogging and sprocket holes.

Did you run both VENICE 2 cameras at the same time?

Mostly it was a two-camera shoot. Sometimes, it was a single camera when I'd shoot main unit while we had the B camera break off to shoot second unit for driving shots or action moments.

Lenses?

Cooke S4/i Primes. We also used Angénieux Optimo Lightweight Zooms: 15-40 mm T2.6 and 28-76 mm T2.6.

Oh, you were working in Super35, not Full Frame?

Yes. I find that the VENICE 2 is wonderful because it can do almost anything. It's like a Swiss Army knife. You can work in

Billy Zane as Marlon Brando and Jon Heder as Bernard Judge.

almost any format because of how clean the sensor is. So, shooting in Super35, we were still at 5.8K resolution. You get a wonderful down-sample to 4K. At 800 ASA, it's as clean as a whistle. There were setups where we wanted to have options to be able to punch in during post. For example, if we needed to push in, to enlarge the image another 15% or 20% to build a little progression, that's a completely normal thing to consider, especially on location in Tahiti as the sun is setting and you're scrambling for time.

Devil's advocate: why are you using primes and not zooms? Because every lens change is maybe one to two minutes?

That's a fair point. My counterargument is that with a prime lens, you are making a choice. For every shot, you are choosing where to put that camera in relation to the story you're telling. That has a far greater effect on the audience than almost anything else you can do. They don't necessarily know why they're feeling a certain way, but if I'm putting on a 27mm lens and moving it three feet from you versus being on a 40mm lens five feet away, that frame may be the same size, but the effect is different.

Devil's advocate persists: why not use the zoom lens as a variable prime and not have to change lenses? You're still making a conscious choice.

I do use Zooms. And the Angénieux Optimo Zooms intercut beautifully with the Cooke S4/i primes. For me, it's the right scene in the right moment of when to choose to go to a prime or to zoom. Every decision I make is based on the story first, then logistical considerations and time to get it done. For example, when we

frames courtesy of Deano Productions, Fallout Entertainment, Billy Zane Productions and Sugar Studios.

"Sunsets appear twice as large because it's a reflection like a lake."

Beach scene where Bernie's wife wishes him a not-so-friendly goodbye.

L-R: Benjamin Cicero, 2nd AC: Garrett O'Brien, DP; Arnold Tetoe, Grip.

Camera van and camera cart.

shot the construction scenes where they're taking bulldozers to the island, we were all on zooms for the entire day. We wanted to be on longer focal lengths and we knew it was going to be cut into a montage. These are necessary story elements and the main characters are not having deep and intellectual conversations. It was more about capturing these pieces and feeling the energy.

Also, zooms were very popular during the seventies. I see them coming back more and more in narrative shows and even I have become more open to using them than 10 years ago. On my last feature, we did a lot of slow push-ins with the zoom.

Another leading question. Your story takes place in the 1970s. Cooke S4 lenses didn't arrive until 1998. Why not use vintage 1970s lenses?

That's a great question. I do like vintage lenses, but the problem is they often lack consistency. Also, many vintage lenses tend to flare a lot more. I didn't want to risk flaring the entire scene and not being able to see faces.

For me, the Cooke S4/i lenses have very pleasing character. They have a lovely, gentle distortion. You can only really see that if you look at them on a test chart, but if you look through them at a face or a landscape, you can't really see that distortion unless you're in an architectural space that's perfectly symmetrical. The warmth that's inherent with S4/i, the way they flare, the warmth, the pleasing skin tones—all created a welcoming feel that was a nice split between vintage and modern lenses that allowed me to shoot quickly.

Did you shoot with lenses wide open?

No. Actually, the only time I shot wide open was on our night exteriors. I'm not a fan of having very shallow depth of field, unless it's motivated by story. But we were in Tahiti, often shooting on relatively wide-angle 20mm lenses. I wanted to see that environment and for there to be no mistake that we were in Tahiti. I was usually working at T4 to T5.6. In Tahiti, it's controlled handheld, wider lenses and more movement.

In Los Angeles, we were on longer lenses, with more static camera work and less saturation. We also got lucky with some overcast days that helped sell the smog of LA during the seventies.

How did you achieve "controlled handheld?"

It was a combination between shoulder-resting and Easyrig. I had an Easyrig with the STABIL arm. Since I'm often a little bit taller than talent, I like to have lens at their eye level. The Easyrig helps to get the camera lower. And the STABIL arm removes the bounce out of your steps.

I also like having the camera on my shoulder because it feels intuitive, as if it is a part of me. I can be in the viewfinder and I've got four points of contact: eye in the viewfinder, camera on shoulder, and two handgrips.

In combination with the Cooke S4/i primes, the VENICE 2 on your shoulder with the viewfinder fits like a glove. It balances beautifully and is a wonderful thing.

Litemat 2L source pushing through a 4x4 diffusion. Astera Titan tubes with white noodles cut to size for extra diffusion.

On the actual island of Tetiaroa. Sand, salt water, humidity. Keep camera off sand on apple box.

The Easyrig with STABIL arm gets the lens at the exact height I want, and it works very well. Especially if I'm viewing off the monitor and need to look around. I am left-eyed, so when the camera is on my shoulder and I'm using the EVF, it can be difficult to spot my feet while running around.

What were you using for shoulder mount and handgrips?

ARRI Shoulder mount. Sometimes I even pull that off and go with a pad attached to the bottom, or sometimes I'll just put the camera directly on my shoulder because I typically prefer less padding. Spider grips from Camera Accessory Solutions in California. *cameraaccessorysolutions.com*

VENICE 2 recording settings?

I was shooting Sony X-OCN ST in 5.8K (5792 x 3056) 17:9 format to give us the possibility to reframe in post as we finished with a 2.39:1 aspect ratio. It is helpful to have that extra resolution and extra sensor area because when the shot is edited, you realize that 5% more headroom or a 10% punch in can be really helpful.

Where did you rent the equipment?

I own a VENICE 2 8.6K camera, which I bought from Band Pro. Lauren Peele, our A-Camera First AC owns the other VENICE 2 that we used. We rented the rest from BECiNE in Los Angeles. Bianca Halpern and her team helped us out tremendously. She really made our camera dreams become possible. It was certainly difficult with the available budget, especially because we had to ship or bring everything with us.

Most of our camera crew, except for Second ACs and Data Manager, were also from LA. A very experienced local Camera operator joined us, Thierry Thuilier when my operator from LA, Wael Shukha, was down with Covid. Thierry moved to Tahiti from Paris six years ago, and has done big projects. Lauren prepped something like 500 items to bring with us. She didn't lose a single thing, not one cable. She's absolutely the best.

We brought our camera carts there. Carts are key to camera department's success and keeping mobile. The day before shooting, our gaffer was fitting out the van that was our camera truck and added two by four planks and plywood to push our carts on and off.

How did you get all this stuff to Tahiti?

We had a carnet and shipped everything by air because we missed the sea freight window. It's always the variable of how much do you ship and the cost of gear rental.

We tried to be as minimal as possible. Every department had to deal with the same constraint. Crew members coming from LA were packing wardrobe and essential items into their own suitcases. Lighting was also very minimal. We used a combination of LEDs, natural light and the Lightbridge Cine Reflect Lighting System (CRLS).

We brought Aputure hard point source fixtures and Astera Titan tubes—powered by battery or wall plug—to fill in some of the interior available light or to balance with views outsie the windows. Often, it was taking the location's available light and then sweetening more, embracing the natural colors that bounced. For example, colors are very different at midday because you have such clean blue water. Many of our locations were near the water and as we were coming off the rainy season, the vegetation was vibrant green. With the daylight bouncing off the vegetation and the lagoon, the blues and greens were so unique that I didn't want to lose that quality of light.

Quality of light?

Silhouettes are a big part of the film, whether at midday or looking out over the water. They are naturally motivated and occur in the architecture and landscapes. From the very dark interiors of houses with thatched roofs, we often looked out onto very bright exteriors. That struck me the first week during prep. The coral reefs create completely flat water even when you're looking out over the ocean. Sunsets appear twice as large because it's like a lake, a perfect reflection. It's very special.

Garrett O'Brien on *Waltzing with Brando*

L-R: Phineas Palmer, 1st AD; Garrett O'Brien.

Did you use the CRLS reflectors mainly to catch the sun or did you project an LED light into them?

Both. Rainy season was supposed to be over. But it rained nonstop during our first week of production. This story takes place over years and we wanted to have a myriad of different weather conditions. Tahiti certainly has its fair share of rainfall, but we also wanted to show sunlight and hard light. If it was sunny, we would often bounce the hard direct sunlight. If it was overcast or if we needed to lift the exposure, then we would do both. We could push sunlight to create a back edge and then we would create a slightly softer source by bouncing a hard light onto a muslin or something softer to wrap the key light. I love to use those reflectors to create a little heat on one side and then slowly wrap the light around softer as it comes closer towards camera.

Did you ever bounce hard light into the CRLS? I remember the Lightbridge system often came with PANIBEAM projectors.

Oh yes. Hard light along with CRLS reflectors have become a big part of what I do. CRLS Reflectors come in various diffusion levels, from a mirrored surface (Diffusion 0) to very soft (Diffusion 4). I especially like the Diff 2 (medium diffusion) and Diff 3 (soft diffusion). They are designed to create a beautiful feathered effect that adjusts the spread and falloff of the reflected light. For example, when lighting an actor's face, you just tilt the reflector down a bit to gently waste it away and it falls off in the most beautiful natural way. I'm a big fan of that.

What fixtures did you use to project into the reflectors?

We had an Aputure 600D with a Spotlight Max projection lens attachment. And the 1200D had Aputure 15, 30 and 45-degree reflectors. They are small enough that you can tuck them in to hidden spaces of interiors. There's a scene in a thatched roof house with a nice tall ceiling. It's a "oner" where the actors come inside and we see the entire room. We put a muslin fabric on one side of the ceiling and a bounce reflector on the other side to get a hotspot with a hard LED source hidden in the room. Thankfully, all the interiors were dark wood, so they ate up all of the extraneous light that fell off in a beautiful way.

Did you use filters?

On location for *Waltzing with Brando,* I used Tiffen Black Promist filters.

How did you achieve the 1970s film look?

I designed a LUT based on a film emulation. I had my MacBook Pro with a really high-speed drive: the iodyne Pro Data 24TB Thunderbolt NVMe. Our data manager backed everything up during the day, and then at night I had a whole system set up with DaVinci Resolve to make dailies.

The editor was with us, cutting as we were shooting in Tahiti to let us know if we were missing something or needed to pick something up. We knew how difficult it would be to return for reshoots.

I pulled framegrabs and brought them to set on an iPad to share with Billy. The "look" also involved makeup. There was a lot of spray-tan and getting skin tones dialed in correctly. Marlon had a sun-baked look from having spent a decade in Polynesia. Bernie starts out very sun-burned when he first arrives and becomes more tanned over the years.

I love film. I wish we could get to use film as much as I used to. For the past five years or so, I have been studying film emulation for digital finishing. I think it's a wonderful resource that allows us cinematographers to explore new potentials for the way things just look. To be able to create images in a way that's not distracting but gorgeous at the same time is something that I really respond to in film.

For this production, we were going for the look of that 1970s era. We wanted to see film grain and halation of that time. The grain that I used was actually from 16mm Kodak 50D because that felt like 35mm negative from the seventies.

Was the film grain a plugin to DaVinci Resolve?

Yes. We used Video Village Filmbox in addition to our own LUT. Filmbox gives it a touch of softness, grain and halation that we liked in the image. *videovillage.com/filmbox/*

Tahiti hilltop with the island of Moorea in the background. Cooke S4/i, Sony VENICE, SmallHD, Preston FIZ, OConnor head, etc.

L-R: Arnold Tetoe, Grip; Garrett O'Brien.

The cameras that we use are the canvases on which we get to paint. We might have preferences of how they resolve the paint, so to speak, but ultimately it's about how they can achieve your ability. The VENICE 2 saves me time because of the built-in ND filters. There's no substitute for saving time on set. I did the math for a 25-day shoot. Not having to swap ND filters over a 25-day schedule adds up to about 6 hours saved, and that's half a day of shooting.

How did you get that seventies washed-out look?

That's the look we had designed from the very beginning. Some contemporary filmmakers want to shoot film, but then they make it look like digital in some ways because of how they expose it. In my opinion, film capture is at its best when you're almost breaking it, where you're pushing the highlight range. We wanted to have a washed out look, but part of that was how we exposed it. We wanted to do to sell the heat of Tahiti because the humidity there is pretty serious. I love film when it's overexposed, and the VENICE 2 with a film emulation looks great. You can stress it in a way that brings it closer to how film looks overexposed. Even when you do clip the highlights, which is not easy to do, it rolls off in a beautiful way.

What were your ISO settings for day exteriors?

We rated it at 800 base and just lightly overexposed scenes that we were trying to sell in the story—more of the heat, humidity and hard working conditions. I would tweak the base LUT depending on whether the scene required various degrees of saturation or heavier contrast, lighter contrast and how much the lenses played a part of that.

It's been fun and interesting because I have another movie coming out at the same time as *Waltzing with Brando*. It's called *Bad Man*. Same VENICE 2 camera, same Cooke S4/i lenses, the same basic LUT and also a digital film emulation. But these two movies look polar opposites. Obviously the LUT changed slightly between them. But, the lighting, production design, the environments all changed.

This is a great example of how we in the film industry place a lot of importance on camera and lenses, but it's also about all of these creative decisions made by the team and the locations we choose. *Bad Man* was shot in Alabama in the wintertime with diffused, softer lighting. *Waltzing with Brando* was in Tahiti with harsh sunlight and a very deep vibrancy. So the color palettes could not be more different from one another.

Did you do a film-out scan from a digital intermediate?

No. We worked with Sugar Studios in Los Angeles. They took all the elements and the exact LUT that I had, as well as all the grain and film halation elements, and then used those as the base for grading. We went slightly more modern with the grade when we finished, and slightly less washed out than our dailies. To emphasize the magic that is Tahiti, we introduced more blues and greens to the water and vegetation than perhaps you might have had in the seventies with film. When things were at a brighter clip point, we let the saturation wash out a bit more. But if it was a deeper luminance curve, that's when we tried to embrace more of those deeper colors.

Everything was finished and graded in DaVinci Resolve. We actually graded in HDR. I like the idea of HDR, but I didn't necessarily love the way the highlights rolled off. I found them to be a little harsher.

In your 1970s film emulation, the Kodak Vision 50D film stock has about 11 stops of dynamic range.

Exactly. There's a good example on a night interior where Billy as Marlon is in his house and the highlights are catching his face. If you pull the highlights down too much, the contrast and tonality on his face becomes flat. Lacking depth and nuance. I don't mind clipping some highlights since VENICE 2 rolls off those highlights very well. Having high contrast scenes in Tahiti with people in

Coconut safety bumper for C-stand gobo arm.

L-R, foreground: Garrett O'Brien; Wael Shukha, camera operator; Teva Juventin, Chief Lighting Technician (behind Garrett); Arnold Tetoe, Grip.

front of bright environments and highlights rolling off gives you some softness, but still with perceived clarity. And when the film halation kicks in, it bleeds over in high contrast edges to help make people feel connected to the environment that they are inhabiting.

Does the halation come from the Black Promist filters?

Slightly. But most of it comes from the Film Box plug-in for DaVinci Resolve. Their grain is good and their halation is incredible. Our colorist Cooper Shine did a really lovely job.

How many shoot days and grading days?

About 27 total shooting days. 20 days in Tahiti. I think we did nine days of grading, which is a pretty short period of time for how much we had to do, but that's a testament to having all this stuff sorted out before in prep. So it was a matter of just getting all those systems online and then you could really get into the weeds with the detail.

Did you have a DIT on set?

We had a data manager. Hiro was local in Tahiti, very experienced and really great. One of the really fun things was that in Morea we all got to stay in one house: our LA and Tahiti camera crew. We plugged in my TV and watched dailies together. We had family dinners every night and got to share a lot of ideas and stories. It was terrific learning experience. They taught us about Tahiti and the Polynesian culture.

How were the underwater scenes done?

We hired a great underwater cameraman and team who are known for surf photography. They had worked on the surfing events for the 2024 Olympic Games the Olympics. There's a stunt sequence when Bernie jumps off the boat to get to Brando's island and he almost drowns trying to swim over the surrounding coral reef with the waves pounding him.

How did you recreate the scenes from iconic Brando films?

We used archival footage for Dick Cavett and Johnny Carson. *Godfather*, *Last Tango in Paris* and *Apocalypse Now* were recreated. Some of the most famous scenes in all of cinema.

The biggest challenge was really for our production designer, Michael Clausen. We have done several features and TV shows together. He has 20 years more experience over me. When he talks, I listen. I remember one time when we were starting to work together. We were scouting in the LA hills, framing a shot. He muttered, "40mm would be perfect here." I'm thinking: who is this guy telling me what lens to use? They all walked ahead of me. I pulled out my viewfinder and looked at the view with a 40mm. He was right. It was perfect.

One of Gordon Willis's favorite focal lengths as well.

For the *Godfather* recreation, how you light the face, the top lighting, warmth and keeping the eyes dark were important. The director and I explored angles and ways to photograph Billy in the best possible way to sell him as Marlon. I wanted to play with people's perceptions of Marlon. How we lit him at the beginning and end were different. In the beginning, I wanted to play up some of those *Godfather* ideas, not lighting the eyes as much, keeping the camera a little farther away, putting him in silhouette or semi silhouette, being removed.

In the beginning, he is a man of mystery. By the end of the film, we're lighting his eyes a lot more. We're putting the camera right in his face. We feel as if we're his friend, just as Bernie felt. The Tahitian aspect is the side of Marlon that few people have ever seen before. That was the tricky part. How much do I light his eyes? How do we explore that while still being original in our own way?

It was a terrific juxtaposition of famous Brando films and the idyllic Brando lifestyle in Tahiti. I guess logistics played an important role as well?

For projects like this, I like having one LUT. I like keeping my variables extremely minimal. I like video village to be small. We had handheld 7-inch monitors. If we want to turn around, it didn't take us 30 minutes to break down and move. It's just a five to 10 minute turnaround. It is really an exercise in how logistically savvy can you be? How much can you plan in advance to know

L-R: Teiva Drion, Key Grip; Lauren Peele, A-Camera First AC.

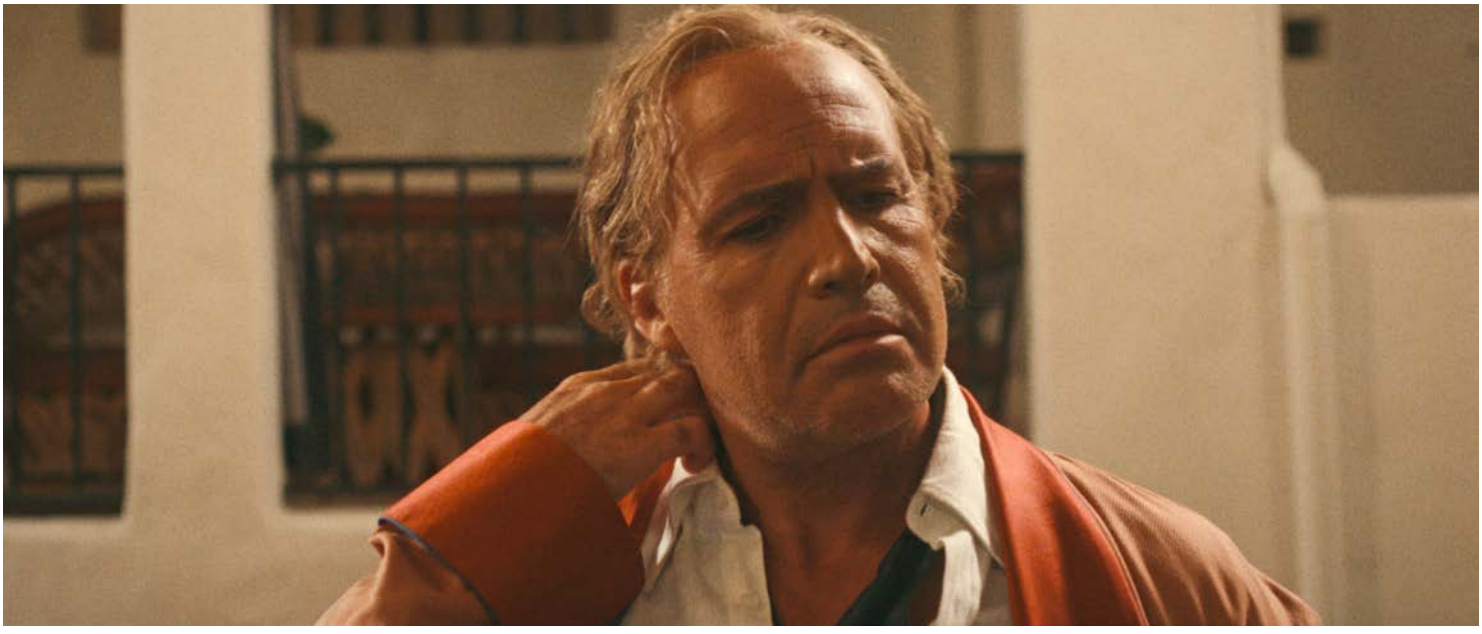
the angles you're looking at and to turn around and be efficient, shooting at the right time of day, shooting the right angle. We had a terrific local crew. They never got rattled. They were cool, calm and collected. I adore all of them, and I would love to go back and just get to spend more time with them. I love that place. It'll be with me for the rest of my life.

How did you get started in film?

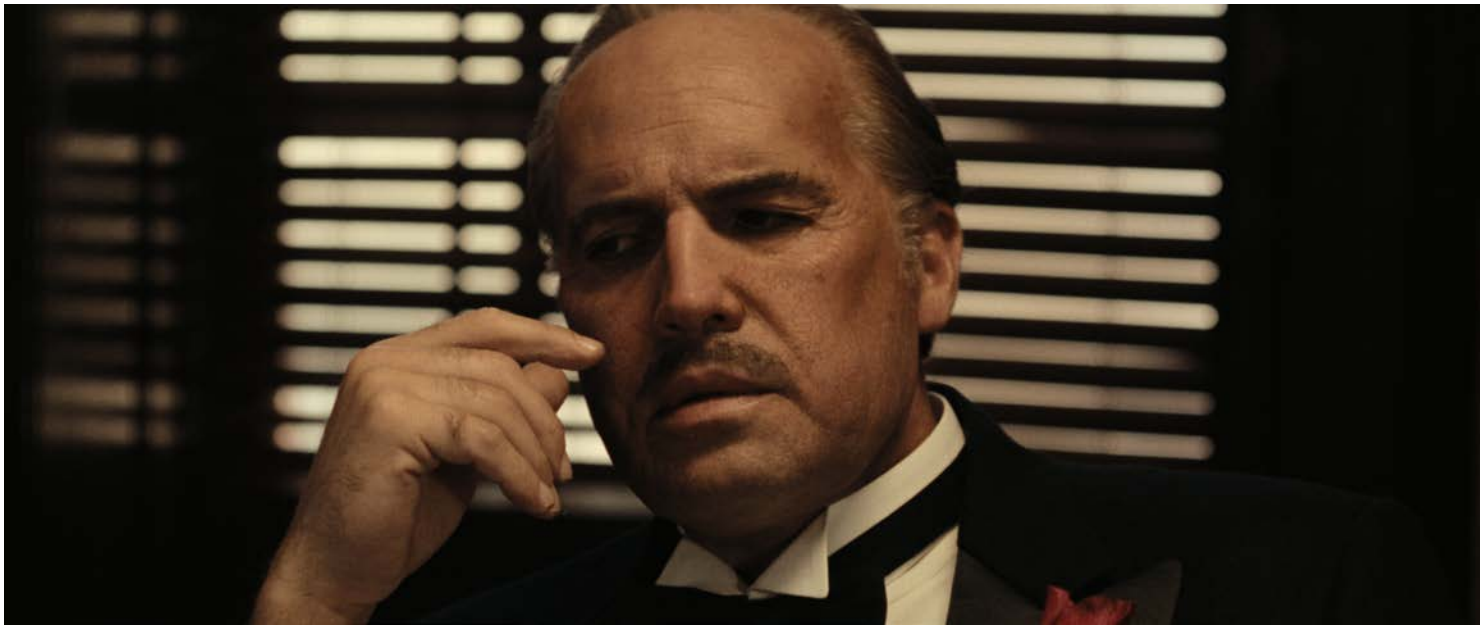
I was into photography in high school—35mm, Medium and Large Format 8x10. My dad also dabbled in photography. I'm originally from Maryland. Now I live in Silver Lake, Los Angeles. Growing up, I thought that filmmaking was not a thing unless you lived in California or New York. I went to college not thinking about film as a career until I did a semester abroad in Dublin, took a film class, and the combination of living abroad and studying film and having my photography background made me realize that life's too short to not do something you love. I finished college and made a documentary about snowboarding.

I went to grad school at American University where they had a small hands-on program with some incredible teachers and film critics who worked at the Washington Post. That provided a well-rounded education, not just how to light or shoot, but also to learn film theory, history and writing. I realized that being a cinematographer was where my heart was. And I haven't looked back.

Waltzing with Brando Framegrabs



Waltzing with Brando Framegrabs



Waltzing with Brando Crew List

Director of Photography	Garrett O'Brien
A Camera First Assistant	Lauren Peele

Tahiti Unit

Second Assistant Camera	Benjamin Cicero
B Camera Operator	Wael Shukha
	Thierry Thuilier
B Camera First AC	Michael Chomieniec
Drone Operators	Oscar Tereopa
	Michael Chomieniec
Digital Imaging Technician	Hiro Briquet
Camera Trainee	Torea Taeae
Underwater Cinematographer	Tim McKenna
Chief Lighting Technician	Teva Juventin
Best Boy Electrician	Handy Lai
Electrician	Robert Thuillier
Key Grip	Teiva Drion
Best Boy Grip	Iotua Tiarii
Grip	Arnold Tetoe

LA Unit

Second Assistant Camera	MinMin Tsai
Digital Imaging Technician	Krisel Magna
Chief Lighting Technician	Shimon Galiley
Best Boy Electrician	Jack Motter
Lighting Technician	Billy Yates
Key Grip	Jamie Sutor
Best Boy Grip	Steven Escoboza
Grip	David Osuna (Gonzalez)
	Andrew Harrold

Rentals & Post

Cameras, Lenses and AKS	BECINE
Grip and Electric	CFG
Post House	Sugar Studios
Colorist	Cooper Shine

Waltzing with Brando Equipment List

Camera and Lenses

Sony Venice 2 X-OCN ST codec, 5.6K at 17:9 cropped for 2.39:1
Cooke S4/i 14, 18, 25, 35, 50, 75 and 135mm
Angenieux Optimo Zooms 45-120mm T2.8 and 28-76mm T2.6
Angenieux Optimo 2x Extender
Tiffen Black Pro Mist
Easyrig Vario 5 with Stabil arm
SmallHD 24" 4K High-Bright director's monitor
Teradek Bolt 3000XT
Blackmagic Pocket 4K in 17:9 sensor mode
ZEISS ZE EF mount 21, 35 and 50mm
GoPro Hero Black 6K in log mode
DJI Mini 3 Pro drone shots: 4K at 24 or 48 fps

Data Transfers and Dailies

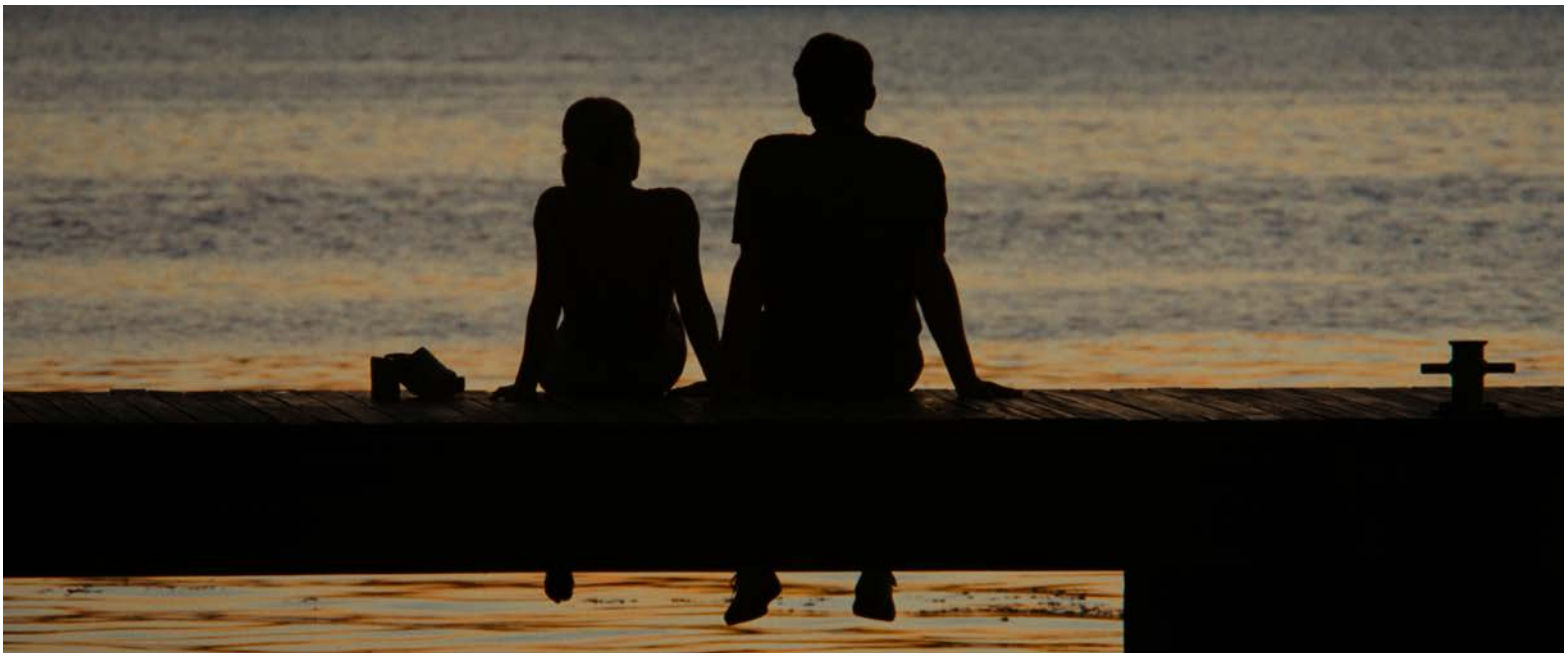
Apple Macbook Pro M1 Max
Iodyne ProData drive 24TB drive - ultra high speed SSD
2x 4TB NVMe custom enclosures
3x 40TB Seagate RAID master back up drives

Underwater Camera

Sony A7S3 in S-Llog 3 at 4K maximum bit rate. Sony A1
Laowa 12mm F2.8. Sony G Master 50mm F1.2

Grip & Electric

2x Aputure 1200Ds, 2x Aputure 600Ds
2x Aputure Spotlight kits. 2x Aputure F10 fresnel kits
2x Litemat 4 spectrum; 2x Litemat 2L spectrum w/ snapgrids
1x Litemat 1 w/ snapgrid
2x 300w tungsten fresnels, 2x 650w tungsten fresnels
2x Source 4 Lekos w/ 19, 26, 36 and 50 degree lenses
Astera Titan Tube Kit - 8x units with baby pin tube holders, magnet kit & snapgrids; white pool noodles for extra diffusion
CRLS C-drive Kit (and 100cm size in LA)
Dana Dolly kit
Large assortment of speed rail, frames and fabric in different sizes: full, 1/2 and 1/4 grid cloth, muslin, soft frost, ultra bounce and solids




YES

Optical Support has been awarded the BSC Bert Easey Technical Achievement Award 2026. The British Society of Cinematographers honors "an individual or company who has contributed something outstanding in the way of endeavour or equipment."

Chris Edwards, Company Director of Optical Support, said, "We appreciate the recognition of our support and engineering on countless projects for cinematographers, camera operators and the film community.

"This includes our Dragonfly Sled, originally designed for use on *1917*. We design and manufacture the Dragonfly in-house here in the UK. The Dragonfly is regarded as one of the most rigid, stable and adaptable sleds on the market."

New products from Optical Support in the Magic Shot Box, a camera control and lens metadata unit designed and manufactured from the ground up, in-house, at Optical Support.

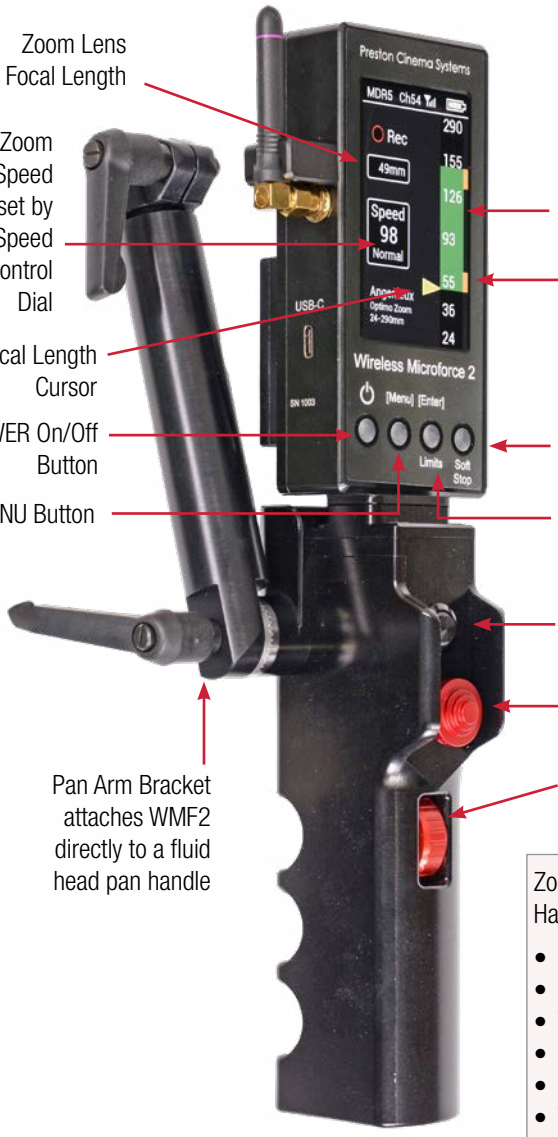
The Magic Shot Box records lens metadata directly onto the camera's internal media.

Additional innovative electronic stabilization systems will be due for launch in 2026.

BSC Expo Stand # 305.

opticalsupport.com

Preston WMF2 Wireless Micro Force 2



Zoom Lens Exact Focal Length

Zoom Speed as set by Speed Control Dial

Focal Length Cursor

POWER On/Off Button

MENU Button

Pan Arm Bracket attaches WMF2 directly to a fluid head pan handle

Set zoom limits (green area) by pressing the LIMITS Button (2nd button from right) while pressing the joystick to highlight the desired range of focal lengths.

Set soft (feathered) starts and stops by rotating the Speed Control Dial while pressing the SOFT STOP Button.

SOFT STOP Button

Zoom LIMITS and MENU ENTER (Set) Button

Camera R/S Start-Stop

Zoom Force Sensor / Joystick

Speed Control Dial

2.4 GHz Antenna

4-pin LEMO serial connector for hard-wire cable connection to MDR

Sony NP-FZ100 battery compartment

Battery release.

¼-20 thread to attach pan arm bracket

Zap Button

Zoom scale calibrations transfer automatically from Preston Hand Unit 4 (HU4).

- Overall Length: 11.5" (28 cm).
- Display width: 1" (2.5 cm).
- Weight without battery: 580 g. With battery: 670 g.
- Battery: Sony NP-FZ100 rechargeable Li-ion.
- Sunlight viewable high-bright backlit LCD display.
- Works with Preston MDR 3, 4 or 5.
- Shares same channels as Preston HU4 and MDR units. The HU4 is recommended for enhanced zoom scale accuracy.

Change motor direction.

Normal or Inverse (white background) display modes.

Normal or Constant Zoom Speed (CZS) modes.

Menu Operation:

1. Use Speed Control Knob to scroll to menu item.
2. Push ENTER or tap the ZAP Button to select.
3. Use the Speed Control Knob to change a value.
4. Push ENTER or tap the ZAP Button to select.

Inverse (White) Screen

Preston ALC — Anywhere Lens Control

- Power Button: hold for a few seconds to power on. The ALC defaults to Display Mode, mirroring the Hand Unit's settings.
- Tap this button once to switch to Control Mode.
- Hold this button for 5 seconds to power off.

The ALC dial is currently displaying local Zoom focal length distance.

At BSC Expo London on Feb. 12-14, Preston Cinema is exhibiting their new prototype ALC—Anywhere Lens Control. As the ALC name suggests, it controls the lens and displays real-time settings for the Cinematographer, Camera Operator, DIT or Camera Assistant no matter where they roam (Anywhere) on set.

The ALC sets Focus, Iris or Zoom with its large knob. The circular display inside the knob shows current lens settings. The scale, which wraps around the circumference, can cycle through Focus, Iris and Zoom by tapping the F-I-Z button on the front.

- There are two modes of operation—switched by a short tap on the power button.
- In Remote Mode, the lens is controlled by the Preston Hand Unit HU4 and the display shows the current settings.
- In Local Mode, the knob takes over the current Focus, Iris or Zoom selection. There is no jump when the ALC takes over from the Preston Hand Unit HU4 .
- To turn the ALC on, press the Power Button for a few seconds. The ALC defaults to Remote Mode, mirroring the Hand Unit's settings.
- Tap the Power Button once to switch to Local Mode. Tap it again to switch back to Remote Mode, returning control to the Hand Unit.
- Hold the Power Button for 5 seconds to power off.

The ALC communicates with the Preston motor driver (MDR3, MDR4 or MDR5) either through the 2.4GHz wireless link or the serial hardwire connection. A ⅜-16 ARRI type mounting point allows for a wide variety of bracket options.

Picture This: User Setups

1. It's the most beautiful sunset the world has ever seen—scramble time to eke the most setups out of the rapidly waning light. The Cinematographer, sitting at a monitor on location, has been accustomed to having a second Hand Unit to imperceptibly adjust the Zoom to ease in on the actor's best performance of a lifetime. But what if zoom control could be handed back and forth with the Camera Assistant when things get totally crazed?

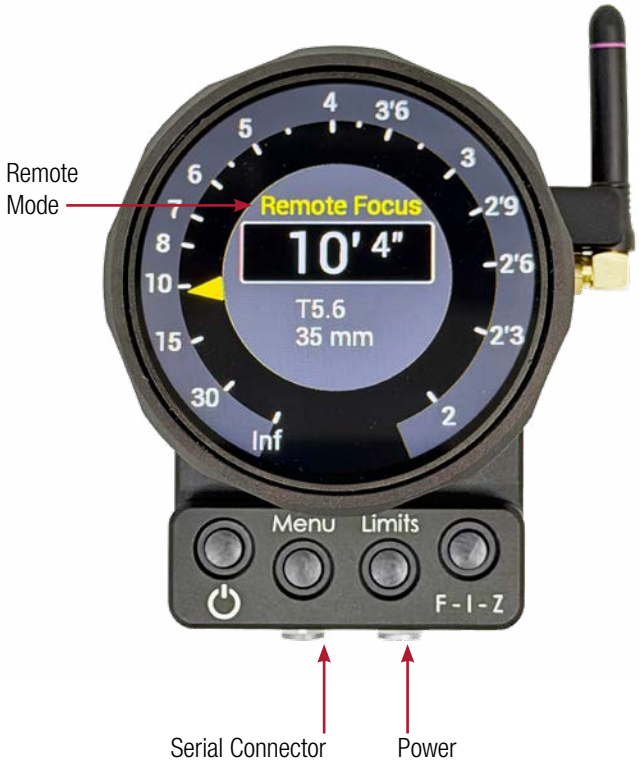
2. The First AC has been listening to the DP's headset instructions on setting Iris. Suddenly, in the middle of a critical take, the Director asks the Camera Operator to pan in directions previously unplanned. The DP asks the DIT to take control of the exposure chaos. Fortunately, the DIT has an ALC on the DIT cart, taps the Display/Control Button and takes control of the Iris. Since the ALC shows the precise T-Stop, the DIT no longer has to manually mark up rings.

3. The Camera Operator is lining up the shot. It's a crowded set with 360 degree continuous camera coverage. Maestro Focus Puller is hidden away, out of sight, in a tiny closet with a Light Ranger-equipped monitor. It's been a very stressful morning, with too many greasy craft-service donuts consumed and nature calls. Previously, the Camera Operator would have a difficult time adjusting lens settings with the Hand Unit far away. Now, with the ALC attached to the camera's 19mm rods, control is temporarily taken by the Operator and restored once the Assistant returns, refreshed.

4. A less preposterous and more common example is for handheld camera work. The DP is dancing, documentary-style, down a long and narrow corridor with the actor weaving through a crowd of extras who keep blocking the frame. This is a challenge even for the best focus puller. The DP gently taps the ALC Power Button to take control and focus by eye. Once the extras clear frame, focus gets handed off back to the focus puller's Hand Unit.

5. Additional scenarios and suggestions will be conjured up by camera crews visiting Preston Cinema and Optical Support at BSC Expo Stand # 305. *prestoncinema.com* *opticalsupport.com*

Preston ALC — Anywhere Lens Control



Preston Hand Unit HU4 is required to use the ALC. In this setup, the ALC has taken over focus control.

Preston Hand Unit HU4

ALC set to
Local Focus Mode

Left

The USB-C cable is optional. It lets you control focus with the front dial on the RS 5

On / Off

There are adjustment knobs on each of the 3 axes for smooth and quick balancing.

Right

There are many compelling reasons to rush out and get the new DJI Ronin RS 5. Like the dramatic beats that advance a screenplay, here are the innovations that make the RS 5 gimbal so enticing.

RS Enhanced Intelligent Tracking Module

This is my favorite new feature. The RS Enhanced Intelligent Tracking Module attaches to the RS 5 magnetically, secured by two additional mechanical quick-release safety locks. It connects to the top of the gimbal via pogo pins—no cables needed.

The module has a small built-in camera and lens that identify and keep a person, animal or object (car, bike, building, set piece) elegantly in frame. This makes orbiting, circling, following, leading, tracking or traveling shots a breeze, keeping somebody or something smoothly centered.

Of course, the omniscient director hovering over your shoulder or criticizing your composition prefers off-center framing. The RS 5 ActiveTrack settings menu provides choices of speed and composition, including "Keep Current Framing" or "Center Tracking Subject." Best of all, the RS Enhanced Intelligent Tracking Module's live view video is displayed on the RS 5's OLED screen. Touch the display to select the subject or object of your attention. It works up to 33 feet away (10 meters) from people.

6.6 lb Payload

The RS 5 can carry a camera and lens package up to 3 kg (6.6 lb). That includes a big selection of hybrids and probably these bigger cameras: GFX ETERNA (4.41 lb); PYXIS 12K (3.5 lb); Sony FX6 (2 lb); ALEXA Mini LF (5.7 lb); RED V-RAPTOR [X] 8K (4.03 lb); Canon EOS C400 (3.4 lb); etc.

DJI RS 5

Smoother Moves

The RS 5 does not have an up-down Z-Axis arm like the DJI Ronin 4D. But it does have a Z-Axis indicator in the menu to reveal a bar graph along the right side of the OLED display. A centered green arrow shows when your arms, acting as Z-axis shock absorbers, are keeping the gimbal in a blissful state of stabilization. If you're not gliding with the grace of a dancer, the indicator glows a warning orange and then an ominous red. Fortunately, maximum torque of the RS 5 motors have been beefed up by 50% to counteract clumsy operating and extreme camera moves.

Connections

The RS 5's shutter and record buttons now connect via Bluetooth to more cameras, including Fujifilm, Panasonic, Sony, Canon and Nikon. Of course, RS 5 also works with DJI Focus Pro lens motors, DJI SDR Transmission, DJI Master Wheels and other gimbal remote control units.

Batteries and Other Improvements

The standard battery runs an RS 5 for about 14 hours. The new BG70 High-Capacity Battery Grip runs the RS 5 for 30 hours. That's not to suggest you should work such long hours; but if forced to bivouac on the Eiger's Hinterstoisser Traverse, you may be grateful not having to charge the RS 5 batteries. When you do get power, an RS 5 battery can be fully charged in just one hour.

A new "briefcase handle" with redundant joystick and buttons attaches for low angle shots, for two-handed operating, or as an extra mounting point for rigs. The new automated axes locks work faster than before. And the new Vertical Swap lets you switch from horizontal to vertical camera setups within a few seconds.

1. Balance your camera on the RS 5 using the Fine-tuning knobs.

2. Attach the Intelligent Tracking Module on top. Green means it's tracking.

3. Palm up to engage ActiveTrack. Disengage with the same gesture.

4. Green light on: ActiveTrack is engaged. Camera can follow me up to 33 feet away. Green dot on the OLED screen shows area being tracked.

RS Enhanced Intelligent Tracking Module.

Low angle with “Briefcase Handle.”

Indicator warns if you’re not a smooth operator.

Improved auto axis locks.

Bluetooth shutter/record buttons.

Selection of subject to frame as you track.

BG33 (at left) and bigger BG70 quick-swap batteries.

Fine-tuning adjustment knob for balance.

DJI Osmo Action 6

DJI's First Action Camera with Variable Aperture and 1/1.1-Inch Square 4K Sensor

November 18, 2025 - DJI released the Osmo Action 6. It's an all-in-one action camera with a variable aperture from f/2.0 to f/4.0. The 1/1.1-inch square CMOS sensor has a pixel pitch of 2.4 µm which is large for such a small sensor, making it very capable in low light.

What is an Action Camera?

Action cameras attach to helmets, skis, sailboat masts, surfboards, trains, planes, automobiles. They are rugged, tiny and lightweight, built for your next adventure. Image quality has improved to the point where action camera footage can be quickly cut into A-camera sequences.

DJI's first variable aperture action camera

Most action camera have fixed apertures—typically f/2.8. The DJI Osmo Action 6 has a maximum aperture of f/2.0 that can be set manually. There's also an adaptive auto aperture mode, with stops from f/2.0 to f/4.0.

Macro

Minimum focus is 35 cm. The Macro Lens accessory (sold separately) lets you get 11 cm away from fancy food, scary scorpions, and adventurous closeups.

Wide

Normal field of view is 155°. The Osmo Action 6 FOV Boost Lens (sold separately) is a wide angle adapter to get a 182° field of view.

4K Square

The 1/1.1-inch square sensor provides up to 3840 x 3840 video resolution. That's UHD 4K whether you crop horizontally or vertically in post. You don't have to turn the camera 90°on its side for those smartphone compositions. DJI calls this "Shoot now, crop later."

D-Log M

DJI's 10-bit D-Log M color system helps preserve highlight and shadow detail in post-production. D-Log M preview lets you view the image with a built-in LUT rather than what would otherwise appear as a flat, desaturated image. Dynamic range is 13.5 stops.

Slow and super slow motion

You can record up to 120 fps in UHD 4K 4:3 or 16:9 or 9:16 aspect ratios, and up to 240 fps in 1080p 16:9 or 9:16.

Set the camera to SuperNight mode for nighttime low light setups up to 60 fps in UHD 4K.

Osmo Action 6 can generate up to 32x Super Slow Motion playback at 1080p by interpolating frames recorded at 1080p / 240 fps. This is the equivalent of 960 fps when played back at 1080p / 30 fps.

Electronic Image Stabilization (EIS)

RockSteady 3.0 and RockSteady 3.0+ modes reduce camera shake electronically.

HorizonBalancing corrects camera tilt up to ±45° for level horizons within ±45°.




HorizonSteady eliminates roll axis shake within 360° and maintain a level horizon up to UHD 4K / 60 fps.

Waterproof

The Osmo Action 6 has an IP68 waterproof rating up to 20 meters deep without a case and up to 60 meters with the waterproof case. The built-in color temperature sensor ensures true-to-life underwater colors instead of dreaded pale blue or worse, while the water pressure gauge records dive data.

Built-in Storage

The camera has 64 GB of built-in storage, with 50 GB available for use. Storage can be increased by inserting a microSD card.

Battery

The 4-hour battery may run longer than you care to sprint in a mere bathing suit at -20°C (-4°F) or surf sand dunes at 45°C (113° F). But if you want more, that same battery can be fast-charged to 80% in 22 minutes while you thaw out or hydrate.

Controls

Gesture control and intelligent subject tracking lets you work hands-free when your mittened fingers cannot access the 2.5-inch 326 ppi 400×712 reach touchscreen or the front 1.46-inch 331 ppi 342×342 touchscreen. As DJI says, "focus on the journey itself."

OsmoAudio

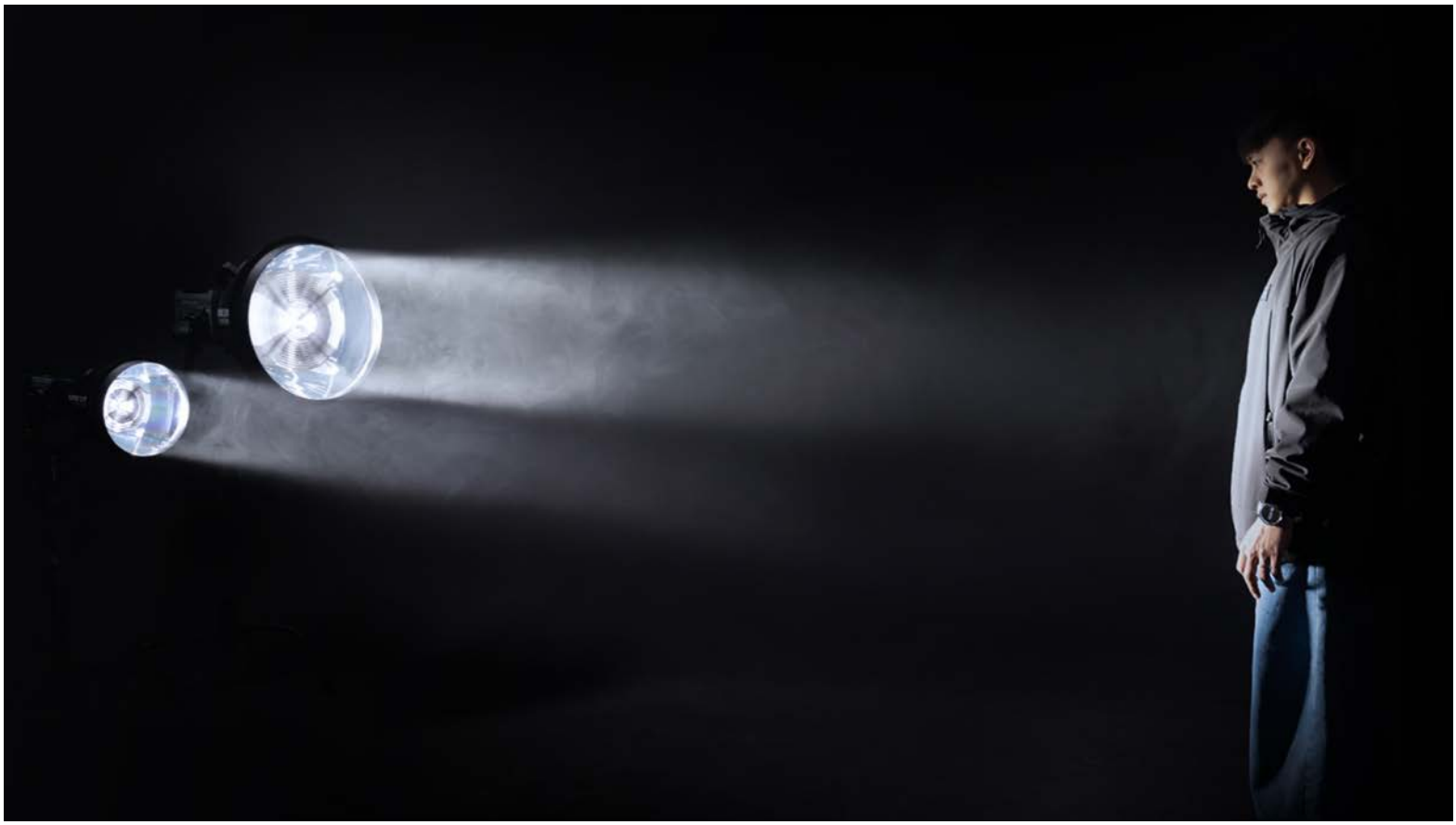
The Osmo Action 6 connects directly to one or two DJI microphone transmitters (Mic 2, Mic 3 or Mic Mini) without requiring a wireless receiver. Without wireless transmitters, the camera's built-in three-mic array captures stereo audio.

Additional Adventurous Details

- ISO range for Photos: 100-25600
- ISO range for Video: 100-25600. (51200 is only available in SuperNight mode.)
- Electronic Shutter for Photos: 1/8000-30 s
- Maximum Photo Resolution: 7168 × 5376 (38 MP)
- File System: exFAT
- Photo Format: JPEG / RAW
- Video Format: MP4 (HEVC)
- Audio Recording: 48 kHz 16-bit; AAC
- Natural Wide FOV reduces vertical distortion.
- Film Tone customizes footage with a selection of six built-in film looks.
- Portrait Mode detects and prioritizes the subject while optimizing exposure for natural skin tones.
- Subject Centering and Tracking tracks and keeps the subject centered in frame.
- Pre-Recording Duration: 5, 10, 15, 30 seconds; 1, 2, 5 minutes.
- Maximum Video Bitrate: 120 Mbps
- Dimensions: 72.8×47.2×33.1 mm (L×W×H)
- Weight: 149 g

www.dji.com

NANLUX Parallel Beam Reflectors



At the risk of being bounced out of BSC Expo, satirical but not disrespectful, we used to speculate that a fashionable British Director or DP's lighting kit surely included a rain machine, lots of smoke, a bare light bulb dangling in shot, red lipstick and a great shaft of light beaming down from the heavens.

Remember *Flashdance*? Trying to summon up inner Adrian Lynes or Sir Ridley Scotts, mere mortals expended much effort into searching for the right, bright fixture with parallel beams to somehow simulate the sun. Now there's a wonderful new way to achieve those Gotham-like Grand Central Station shafts of light streaming through windows way above.

NANLUX introduced two new high-efficiency light-shaping tools: the FE30 and BE55 Parallel Beam Reflectors.

They deliver powerful, near-parallel beams that truly create natural-looking shafts of light.

The NANLUX FE30 and BE55 are also wonderful ways to project powerful parallel beams onto reflectors such as Lightbridge CRLS Cine Reflect Lighting Systems. Because the beam is so narrow and intense, light bounces like a billiard ball off multiple surfaces without spilling all over the place.

The FE30 supports FE and FM mount fixtures, while the BE55

BE55 Parallel Beam Reflector

NANLUX Parallel Beam Reflectors

works with BE and Bowens-mount fixtures up to 800W. Both models feature an 8° beam angle, dramatically boosting output when paired with compatible NANLUX Evoke fixtures.

The reflectors are lightweight and portable, with an internal grid and pre-installed snoot to control spill. They are IP66 weatherproof. A sealed optical cover in front protects against dust, rain, insects and spray from your water tower or naturally hostile environment.

When the NANLUX Evoke 150C is combined with the FE30 Reflector, it delivers approximately 12.1 times the output of bare light (5600K @ 3m). The Evoke 600C with BE55 achieves about 23.4 times greater output (5600K, @5m). This lets you place the fixtures further for natural-looking beams of light.

The FE30 has a diameter about 30 cm / 11.81" and weighs only 1.38 kg / 3.04 lb. The BE55 has a diameter about 55 cm / 21.65" i and weighs 5.56 kg / 12.26 lb.

The pre-installed snoot is an all-in-one design, requires no assembly and is ready for immediate use.

Available now. Prices: FE30 is $225 USD. BE55 is $665 USD.
nanlux.com See them at BSC Expo stand # 310.

FE30 Parallel Beam Reflector

NANLITE PavoSlim 360C

What light could be more pleasing for portraiture than a PAR, fully-spotted Fresnel or NANLUX Evoke illuminating a frame fitted with 216 Diffusion Gel?

You may remember a famously garrulous gaffer whose instructions on set sounded like Proust describing madeleine tea cakes. For example: "Let's have a single source, salubriously softened with a 4×4 frame and definitely some negative-fill floppies on the far side—and the only thing better could be a 8×8 if it fits."

If you have been craving a large, soft LED source — wait no more. The NANLITE PavoSlim 360C is a rugged, super-slim 4'×2' LED panel fixture. But wait, this PavoSlim is 4×2? What if it's a 4×4 or more that we want? No problem—a pair of PavoSlim 360C fixtures can be combined with a NANLITE Dual-Panel Coupler (AS-DPC-PS360). Set up additional fixtures side by side, above or below.

This is the largest NANLITE PavoSlim so far. It's a full-color fixture (as are the NANLITE 4×1 and 2×0.5 PavoSlims. The 1×1, 2×1 and 2×2 PavoSlims come in full-color or bi-color.)

The PavoSlim 360C is an RGBWW LED that draws 370W and can deliver up to 27,060 lux at 1 meter. (That's 2514 footcandles at 3.3' — a super-bright T16 at 125 ISO, 180° shutter, 24 fps.)

The PavoSlim 360C has a wide color temperature range: from 2,400K to 12,000K, with ± 150 green/magenta adjustment. There are five built-in lighting modes—CCT, HSI, RGBW, Gel (with 460 selections) and Effects.

The 360C is slim (1.96 cm / 0.77" thin) and weighs a mere 5.73 kg / 12.63 lb. The body is made of magnesium alloy, sets up in less than a minute and mounts with an articulating 5/8" baby pin. The rear structure doubles as a multi-row heat sink for silent cooling because there's no fan.

A softbox comes pre-attached but its hook-and-loop fasteners let you remove it quickly. An eggcrate is also included and attaches over the softbox with elastic straps. A rear attachment point accepts safety cables when mounting overhead or on a truss. The PavoSlim 360C can be powered by AC, DC or V-mount batteries.

NANLITE PavoSlim 360C Specs

- 4' × 2' RGBWW full-color LED fixture.
- Size: 120.3 × 60.63 × 1.96 cm / 47.36 × 23.87 × 0.77 inches.
- Weight: 5.73 kg / 12.63 lb
- 27,060 lux @ 1m, 5600K.
- CCT range: 2,400K—12,000K with ±150 green/magenta.
- Power: Draws 370 W. 100-240 VAC 50/60Hz; 48 VDC/8A; 14.4-28.8 V DC Battery (12A min).
- CRI / TLCI average 96/97, TM-30 Rf/Rg average 94/100.
- Dimming: 0—100%.
- Five lighting modes: CCT, HSI, RGBW, Gel and Effects
- 460 equivalent Gel choices.
- 15 special effects with adjustable parameters.
- Includes softbox and universal holder with 5/8" baby pin.
- Control methods: on-board, remote controller, NANLINK App, DMX/RDM, LumenRadio CRMX.
- The PavoSlim 360C is shipping now and costs $2,490 USD, excluding local taxes. See it at BSC Expo stand # 310.
- *www.nanlite.com*

NANLITE PavoSlim 360C

Softbox and Eggcrate attached

Side View: super slim

Rear View

Two NANLITE PavoSlim 360C 4×2 fixtures connected with a NANLITE Dual-Panel Coupler to become a 4×4.

Rear View: slim, lightweight and very portable.

NANLITE PavoSlim 360C complete kit packs into two bags.

Nanlux Evoke 150C & 600C with 8-Color Nebula Light Engine

Evoke 150C and FL-12E Motorized Fresnel Lens.

Evoke 150C and FL-12E Motorized Fresnel Lens.

Nebula C8 is the new eight-color LED Light Engine from NANLUX. It includes deep red, red, amber, lime, green, cyan, blue, and indigo emitters. NANLUX's proprietary color-mixing technology precisely balances and blends these eight colors to provide a wider color temperature range, better skin tone reproduction and a broader color gamut.

But wait, wait. What is a "light engine?" To train spotters, it's a locomotive running disconnected from its cars. To filmmakers, lighting professionals and manufacturers, "light engine" is the integrated assembly of the actual LEDs along with the things that make them shine: LED drivers and optical, thermal, mechanical and electrical components.

With the addition of deep red, the Nebula C8 Light Engine achieves NANLUX's widest CCT range yet: from 1,000K–20,000K. At 1000K, the light is much warmer than candle light or glowing embers in a fireplace.

Previously, most color light engines available for motion picture production had a red spectrum that leaned toward orange, making skin tones appear pale and less natural both to the eye and in camera. With an added 665 nm deep-red color, the Nebula C8 extends coverage across the red spectrum, delivering richer, vibrant and more natural skin tones.

The Nebula C8 achieves 82% coverage of the CIE 1931 visible color space and 94% coverage of the Rec. 2020 color space. The saturation of deep red and indigo is especially enhanced. Compared with RGBW and RGBWW lights, the Nebula C8 produces smoother and more accurate RGB transitions. Compared with six- or seven-color LED systems, the Nebula C8 delivers richer deep red and indigo tones, preventing indigo from appearing too pale and red appearing too orange, as mentioned before.

During development of the Nebula C8, NANLUX engineers said they eliminated ultraviolet wavelengths below 400 nm to protect crew and talent from potential UV hazards.

The Nebula Light Engine system now consists of both the B4 white light engine and the C8 color light engine. The Nebula B4 Light Engine provides accurate and efficient white light, providing high illuminance for high-power fixtures like the Evoke 5000B. The Nebula C8 Light Engine provides richer colors and a wider color temperature range, delivering versatile lighting options for medium and low-power fixtures.

Evoke 150C and FE30 Parallel Beam.

The NANLUX Evoke 150C and Evoke 600C are two LED spotlights equipped with this new light engine. And so, they have an ultra-wide CCT range from 1,000K to 20,000K, with ±200 green/magenta adjustment across the entire range.

The Evoke 150C is a compact and lightweight 150W full-color light designed for quick setups in all kinds of situations.

The Evoke 600C is a more powerful, 600W fixture.

Both units have excellent color rendition with a CRI/TLCI average 98/98 and a TM-30 Rf/Rg average of 96/100. As full-color lights, they offer six built-in lighting modes including CCT, HSI, RGBW, XY Coordinates, Gel, and Effect modes. These modes provide extensive color options, 460 gel selections, and flexible effect adjustment. There are 3 dimming modes, including increments as fine as 0.1%. With fully linear dimming, they stay smooth at low brightness and produce natural, soft transitions when fading lights in or out.

Both Evoke 150C and Evoke 600C have an all-in-one design —

Nanlux Evoke 150C & 600C with 8-Color Nebula Light Engine

Evoke 600C and FL-22E Motorized Fresnel Lens.

Evoke 600C and Rapid softbox

Evoke 600C and FL-22E.

Evoke 600C and BE55 Parallel Beam.

integrating the lamp head, control unit and power supply into a single compact body. They are constructed with high-strength magnesium alloy and an IP66-rated housing for reliable operation even in the most hostile environments.

The Evoke 150C is a remarkably compact fixture. It weighs a mere 2.11 kg / 4.65 lb and measures 20.9 × 14.7 × 12.7 cm / 8.2 × 5.8 × 5 in. It delivers 22,230 lux at 1 m (5600K with a 45° reflector).

The Evoke 600C weighs 7.26 kg / 16.01 lb and measures 35.82 × 24.63 × 20.53 cm / 14.10 × 9.70 × 8.08 in. It delivers 20,820 lux at 3 m (5600K with a 25° reflector).

The Evoke 150C is compatible with FE mount and FM mount accessories — including reflectors, softboxes, projection attachments, the newly designed Motorized Fresnel Lens (FL-12E) and FE30 Parallel Beam Reflector (RF-FE-PB).

The Evoke 600C is compatible with BE, Bowens, and NL mount accessories, also including reflectors, softboxes, projection attachments, the newly designed Motorized Fresnel Lens (FL-22E) and BE55 Parallel Beam Reflector (RF-BE-PB). With wide compatibility, Evoke 150C and Evoke 600C allow users to continue using their existing accessories.

Evoke 150C and Evoke 600C Summary of Specs

- LED full-color spot light with Nebula C8 Color Light Engine.
- Widest CCT range of 1,000K–20,000K with ±200 green/magenta adjustment
- Excellent color rendition with CRI/TLCI average 98/98, TM-30 Rf/Rg average 96/100
- All-in-one design integrating lamp head, control unit and power supply.
- Constructed of high-strength magnesium alloy and an IP66-rated housing.
- Wired and wireless control methods: on-board, wired controller, Nanlink App, DMX/RDM, LumenRadio CRMX, Art-Net/sACN, remote controller
- 15 built-in special effects with customizable parameters for each effect.
- 5 fan modes: Smart, Full Speed, Low Speed, Pause and Off.
- Compatible with FE mount and FM mount accessories (Evoke 150C); BE mount, Bowens mount, and NL mount accessories (Evoke 600C)

www.nanlux.com

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

The new Sigma AF Cine Line 28-45mm T2 FF and 28-105mm T3 FF (Full Frame) zooms give cinematographers the choice of Auto Focus and Auto Iris with internal lens motors or Geared Manual Focus and Manual Iris control with external lens motors.

Sigma AF Cine Line	28- 45mm T2 FF	28-105mm T3 FF
Lens Mount Choices	L-Mount, E-mount	L-Mount, E-mount
Focal Length	28- 45 mm	28-105 mm
T-stop	T2 -T16	T3 - T22
Diaphragm Blades	11	12
Close Focus from image plane	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 (front to flange)	151.3 mm / 6"	157.9 mm / 6.2"
Length w Sony E-mount (front to flange	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	
Available	Now	April 2026

L-R: Sigma AF Cine Line 28-45mm T2 FF E-mount lens on Sony FX2; 28-45 T2 FF L-Mount lens on Sigma BF Camera; Sigma fp L with L-Mount.

Character: Sigma AF Cine Line 28-45mm T2 FF

Framegrab: Sigma 28-45mm T2 FF at 43mm T2 on Sony a7R5

INT. FDTIMES OFFICE - DAY

Character can be the look of a lens or the character who does FDTimes. Abandoned by talent and crew after long hours of tabletop product shots, this character resorted to cine self-portraiture to try the new Sigma 28-45mm T2 FF from the Sigma AF Cine Line in L-Mount on a Blackmagic PYXIS 12K and in E-mount on a Sony a7R5 camera.

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

Fortunately, these cameras allow Autofocus and Auto Iris. As the name says, the Sigma AF Cine 28-45 T2 FF can switch seamlessly from Auto to Manual Focus with the flip of a switch. The Iris ring rotates from familiar third-stop linear increments to A as in Auto.

Here's a look into the future of cine lens design. Bold statement, but Jarred Land and others have been clamoring for a cine lens like this. This remarkable Sigma lens has reliable motors on the inside as well as familiar M0.8 pitch gears on the outside, and repeatable Manual Focus with hard end stops. High resolution, accurate encoders enable switching from Manual to Auto Focus without a jump. The internal lens motors are silent and swift. The lens elements dance in ways familiar to conventional Auto Focus lenses but are unfamiliar to mechanical systems. Power to run this lens comes from the camera. Lens metadata is transferred back to the camera.

The new Sigma 28-45mm T2 FF and 28-105mm T3 FF from the Sigma AF Cine Line take things a step further with highly accurate Auto Focus and Manual Focus, precise tracking and industry-standard M0.8 pitch geared focus, zoom and clickless iris rings. The lens goes from Auto Focus and Auto Iris to Manual control by simply sliding a switch. Also unusual and very welcome: Focus by wire has hard end stops and repeatable marks. This is not an easy thing to have achieved.

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

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

BSC Expo booth 408.
sigma-global.com *sigmaphoto.com*

Above: Framegrab with Sigma AF Cine 28-45mm T2 FF on Blackmagic PYXIS 12K. Below: Sigma AF Cine 28-45mm T2 FF on Sony a7R5.

Framegrabs: Sigma Aizu 75mm Prime Line Lens at T1.3 on Sony a7R5.

Another Character: Sigma Aizu Prime Line

Framegrab: Framegrab: Sigma Aizu 75mm T1.3 LF on Sony a7R5 with PL to E-mount adapter.

INT. FDTIMES OFFICE - NIGHT

A few hours later and this character continues to test. This is another story—selfies with the new Sigma Aizu Full Frame 75mm Prime "wide open with a wrench" T1.3.

Aizu Primes are Sigma's new top-of-the-line manual cine lenses. (They are not Auto Focus lenses like the Sigma AF 28-45mm T2 FF.) The bokeh are big, beautiful and smooth—especially large at T1.3. Skin tones are silky, dare we say even on this sailor's salt-blasted and weatherbeaten visage.

I don't think we've seen T1.3 since Super Speeds and Master Primes, and those were 35mm format lenses while these are Full Frame. It's amazing how Sigma was able to make them so compact. I was taught that a lens should almost double in size, weight and probably price when jumping from 35mm to Full Frame and when gaining a full stop of speed. Aizu Primes prove otherwise.

The core set of Sigma Aizu Prime Line Cine lenses is shipping now: 25, 27, 32, 35, 40, 50, 65, 75 mm, all T1.3. Additional focal lengths are in the works: 18, 21, 100, 125 mm, also all T1.3.

The image circle is 46.3 mm Ø. Aizu Prime Lenses come in PL Mount or Sony E-mount, with corresponding lens metadata (/i and eXtended Data for PL Mount; E-mount protocol for E-mount). Every lens in the series is compact, with a 95 mm front diameter, and lightweight at less than 4 lb.

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Sigma Aizu Prime Line Core Set

Sigma Aizu Primes remind me of a modern Full Frame re-imagining of vintage 35mm format T1.3 Arri/Zeiss (lower case spelling in those days) Super Speeds or ARRI/ZEISS Ultra Primes because of their speed and small size. The smooth feel of the focus mechanism and again, the T1.3 aperture, evoke 35mm format Master Primes redux in a Full Frame world. Aizu Primes are at play in the fields of artistic expression as the DP creates character from lens, look, lighting and location. The quality is smooth and gentle, like an Impressionist painting. Aizu Primes are sharp where you want sharpness—eyelashes or stars in a night sky where you don't want details to go mushy. Especially wide open at T1.3, the look is painterly. Backgrounds sometimes have a swirly out-of-focus character, with big, beautiful bokeh. At every aperture, skin tones are silky. Faces are smooth and not clinical, with a gradual focus fall-off. Landscapes, trees, flowers and nature have fine detail. And focus is breathless from ECU to far away.

Specifications

Focal Length	25mm	27mm	32mm	35mm	40mm	50mm	65mm	75mm
Aperture / Iris Blades	T1.3 - T22 / 13 Iris Blades							
Close Focus [1]	0.31 m 1'0"	0.33 m 1'1"	0.34 m 1'2"	0.35 m 1'2	0.38 m 1'3	0.48 m 1'7	0.61 m 2'0	0.73 m 2'5
Close Magnification Ratio	1:6.5	1:6.9	1:6.3	1:6.1	1:6.1	1:7.1	1:7.6	1:8.2
Image Circle	46.3 mm							
Front Diameter	95 mm l 3.7"							
Lens Mounts	PL Mount, Sony E-mount							
Length with PL Mount [2]	125 mm 5"	125.4 mm 5"	128.5 mm 5.1"	128.6 mm 5.1"	128.8 mm 5.1"	126.3 mm 5"	125 mm 5"	128.1 mm 5.1"
Length with Sony E-mount	159 mm 6.3"	159.4 mm 6.3"	162.5 mm 6.4"	162.6 mm 6.5"	162.8 mm 6.5"	160.3 mm 6.4"	159 mm 6.3"	162.1 mm 6.4"
Weight with PL Mount	1.7 kg 3.6 lb	1.7 kg 3.6 lb	1.7 kg 3.7 lb	1.6 kg 3.6 lb	1.6 kg 3.5 lb	1.7 kg 3.7 lb	1.6 kg 3.6 lb	1.7 kg 3.8 lb
Weight with Sony E-mount [3]	1.7 kg 3.7 lb	1.7 kg 3.8 lb	1.8 kg 3.8 lb	1.7 kg 3.7 lb	1.7 kg 3.7 lb	1.8 kg 3.9 lb	1.7 kg 3.7 lb	1.8 kg 4 lb
Barrel Rotation	270° Focus / 70° Iris							
Protocol: PL Mount	Supports ZEISS eXtended Data output (via /i Technology-compatible lens mount or 4-pin LEMO connector)							
Protocol: Sony E-mount	E-mount protocol,enables transmission and recording of lens metadata with supported camera bodies.							

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

Future Sigma Aizu Primes

Focal Length	Maximum Aperture	Image Circle	Lens Mounts
18mm	T1.3	46.3 mm ∅	PL and Sony E-mount
21mm	T1.3		
100mm	T1.3		
125mm	T1.3		

Aizu Prime eXtended Lens Data

Leitz Cine HEKTOR Prime Lenses

Ernst Leitz Wetzlar introduced Hektor 50mm f/2.5 lenses in 1930 to accompany their Leica I Model A cameras.

Max Berek, Leica's famous lens designer, named these lenses after his dog Hektor.

The Hektor 73mm f/1.9 arrived in 1932 and was the fastest aperture Leica lens at the time. That focal length inspired the team at Leitz Cine to include a 73mm lens in the new HEKTOR series.

Leitz Hektor 135mm f/4.5 lenses arrived in 1933 with Leica screw mounts. They were fitted with Leica M mounts in 1954 and manufactured until 1960.

Above: Leitz Cine HEKTOR 25mm, 50mm and 73mm T2.1 with my vintage 1954 Hektor 135mm f/4.5 M lens.

Below: HEKTOR Prime Lens Set.

The new Leitz Cine HEKTOR lenses take inspiration from the original Hektors, but neither the optical nor the mechanical designs are the same. These are not reworked vintage lenses.

There are six Leitz Cine HEKTOR Full Frame primes. They come in user-interchangeable E, L, RF and Z mounts. These are short flange focal depth lenses, ready for the latest mirrorless mount cine, photo and hybrid cameras. The look reminds me of Leica M lenses from the 1950s and 1960s, perhaps because these HEKTORs only have spherical elements inside.

HEKTOR lenses are compact and lightweight, with an 80mm front diameter. Almost anyone can change the lens mount; it takes about 2 minutes. The 9-blade iris remains circular throughout all stops and the bokeh are beautiful.

Rainer Hercher, Leitz Cine Managing Director described development of the HEKTOR lenses. "The first discussions began in 2022. We knew that we needed to have cine lenses with an affordable price range. Few companies can survive in the long term by only doing expensive, high-end products. We needed something that would not damage our existing lines, but we also needed to do something worthy of carrying the Leitz red dot.

"We wanted to have a defined look that would be appealing on the latest cameras with 'cleaner' sensors. But not everyone likes clean images—something for which we are also quite famous. A "clean" lens renders an image without field curvature from corner to corner. It doesn't breathe. It's a technically and artistically pure lens like SUMMILUX-C, LEITZ PRIMEs and even ELSIE. We saw HEKTOR for the growing mirrorless market, not only for YouTubers and content creators, but also for professional productions using this kind of equipment, especially for their "B" and "C" cameras. You may not have as much time to use filters or to do a lot of grading when your project has to be ready to go online after a quick edit. That's why we wanted to have a defined look.

"We listened to users. Many DPs like to use old glass, but they often say that they want more focal lengths. Vintage lenses are often difficult to replace or service because they are not made anymore.

"For the optical design, it was important to have good front and back separation to provide a more dimensional image. We wanted to have beautiful focus fall-off. We did not want any aspherical elements inside because we also saw these lenses as part of the Leitz heritage. We saw qualities in these lenses starting from the thirties. There's a little bit of swirly bokeh that we added to the optical design. And there are qualities we liked about Leica M glass. The set is very consistent, so the contrast, skin tones and color are all the same.

"HEKTOR lenses have a modern mechanical design. We made sure that they are simple to service. It is very easy to change the front and rear elements if they get scratched. It's simple to change the lens mount—it can be done by almost anyone.

"HEKTORs are intended for rental houses as well as owner-operators who do their own productions. They are good for documentary work because all of them weigh less than one kilogram. They are very compact. You can pack the six lens set in a backpack and go hiking with them. All the HEKTOR lenses are designed and manufactured right here in our factory at Leitz Park in Wetzlar, Germany. I would like to emphasize that HEKTORs are made by the same teams who build our LEITZ PRIMEs, HUGO, ELSIE and our other lenses."

leitz-cine.com BSC Expo booth 419

Leitz Cine HEKTOR Prime Lenses

Rainer Hercher at Aetsky's Patroon Restaurant, watering hole of the New York ad world, photographers and filmmakers. Taken with Leitz Cine HEKTOR 18mm at T2.1 on a Sony a7R5 at ISO 3200.

Lens Focal Length	18mm	25mm	35mm	50mm	73mm	100mm
Aperture	T2.1					
Image Circle	47.8 mm					
Close Focus (ft)	0'9"	1'	1'2"	1'9"	2'6"	2'9"
Close Focus (m)	0.22	0.3	0.35	0.5	0.75	0.85
H AoV Full Frame 36 x 24 mm	101.4°	79.8°	63.2°	44.6°	33.1°	24.7°
H AoV Super35 24.9 x 18.7 mm	83.1°	63.5°	47.6°	32.9°	24.3°	18°
Weight (lb)	1.85	1.7	1.6	1.5	1.6	2.1
Weight (kg)	0.84	0.77	0.71	0.66	0.72	0.97
Length (in / mm)	3.47" / 88.2					4.84" / 123

Lens Mounts: L, E, Z, RF. Attached with five T4 Torx head screws. Easy for user to swap.
Front Diameter: 80 mm
Front Filter: M77 x 0.75 screw-in (except 18mm)
Focus Ring: 120° Rotation. Imperial and metric engraved focus scales.
Iris Ring: 49° Rotation. Linear marks, 9 blades, circular shape through all stops.
Gears: Matched Focus and Iris ring locations for all focal lengths

L-Mount

E-mount

Leitz HEKTOR at Aretsky's Patroon

Above: Ken Aretsky, proprietor of Patroon. Below: Gene Aretsky, manager. Patroon is a New York fixture, famous for legendary steaks and seafood. The walls are covered with owner Ken Aretsky's collection of first edition photographs and bokeh beckoning lighting. Taken with Leitz Cine HEKTOR 18mm at T2.1 on a Sony a7R5 at ISO 3200.

Canon Cinema EOS C50 and Canon EOS R6 Mark III

The Canon Cinema EOS C50 camera was introduced in September 2025. Two month later, November 2025, Canon introduced the EOS R6 Mark III. Both cameras are hybrids—extremely adept at both stills and cine (video). While the "C" in C50 focuses on Cine, the R6 Mark III emphasizes still photography. The "R" in R6 is for Canon's "Reimagined" line of EOS mirrorless cameras.

If you are wondering which model to choose, it essentially comes down to whether stills or cine are the main objects of your attention.

If you want more still photography options, must have an electronic viewfinder and IBIS, then you'll probably go for the EOS R6 Mark III. This camera is certainly no slouch when it comes to video. It records up to Full Frame 3:2 (Open Gate) 7K 30p and 7K 59.94p RAW Light and 4K 119.8p Slow and Fast motion. In Canon Log 2, it provides up to 15 stops of dynamic range.

If your focus is more on images that move, then you'll probably choose the Cinema EOS C50. It records Cinema RAW Light HQ, ST and LT up to Full Frame 7K 3:2 (Open Gate), has a time code connector, dual base ISO, more recording formats, custom framelines, four ¼-20 mounting points, 14 user buttons, a top handle with two full-size XLR inputs, active cooling, Cinema EOS style menu system, etc.

Canon Cinema EOS C50

Canon EOS R6 Mark III

Canon RF14mm F1.4 L VCM

Because you can never go wide enough for work underwater, up-close action shots and stunts — Canon has two new lenses that are wonderful for both cine and still photography.

The Canon RF14mm F1.4 L VCM is a very fast rectilinear prime lens. The RF7–14mm F2.8–3.5 L STM (in the column at right) is a fisheye zoom. Rectilinear means that barrel and pincushion distortion are minimized. Horizontal and vertical shapes appear straight rather than curved like a fisheye. Both lenses cover Full Frame, are lightweight, compact and have an RF lens mount.

The RF14mm F1.4 L VCM has 14 elements in 13 groups. Angle of view is 114° at infinity. There's a tactile iris ring with Manual and Auto settings. A switch provides Auto and Manual Focus. A slot at the rear accommodates one gelatin filter.

RF7–14mm F2.8–3.5 L FISHEYE STM

Canon's new RF7–14mm F2.8–3.5 L FISHEYE STM is lighter, smaller, faster, wider. Angle of view at 7mm is 190° — it can see slightly behind itself. Angle of view at 14mm is 180°.

As Canon's Brandon Chin said, "When you're this wide, every millimeter of focal length makes a big difference." In Full Frame, you get a circular fisheye image at 7mm. Cinematographers composing for spherical spheres or head-mounted displays should love this. Or, compose as you like in any aspect ratio and crop in post. Zoom in to 14mm and there's no vignetting—it covers Full Frame edge-to-edge.

A slot at the rear of the lens accepts a Canon glass drop-in filter (ND, variable ND, etc) which you must use to preserve flange focal depth. A clear Canon Drop-In Filter is included with the lens.

Above: Canon RF14mm F1.4 L VCM at f/11. Below: Canon RF7–14mm F2.8–3.5 L FISHEYE STM at 14mm. Photos courtesy of Canon.

Ovide Koko 10" Monitor/Recorder/Video Assist: New Firmware v1.7

Record: quad view

Playback: quad view

Ovide Koko 10" 4K HDR Monitor-Recorder-Video Assist

Ovide Koko is a versatile and highly capable 10" 4K HDR video assist monitor/recorder with VAO (video assist operator), focus puller and DIT functions.

It is the lighter, smaller, faster and nimble 10" brother of Ovide's larger 24" Ovide Smart Assist and Smart Assist M-400 models.

Koko is the monitor/recorder/video assist unit to carry handheld as you scramble up a hill for that spectacular sunset sequence. It also fits comfortably on your crowded DIT or VAO cart. Koko works nicely as an onboard camera monitor or on a Focus Puller's rolling stand. Attach left and right handgrips to the anti-twist threads on each side and view/record/playback handheld. This is the model for moving quickly and moving movies.

Ovide Koko has new firmware v1.7

The latest firmware v1.7 for the Ovide Koko 10" monitor-recorder adds major improvements:

- Scans thousands of clips in a few seconds.
- Syncs metadata fields between views.
- Triggers recording from the camera even during playback.
- Supports interlaced video recording.
- Shows metadata on the session browser.
- Button to reset metadata.
- Clear clip filter in browser.
- Session browser filter.
- Prompt for user to reset metadata after disk format.
- Move within metadata window using the keyboard tab key.
- Supports QWERTY and AZERTY USB keyboards.
- Y Spot meter (luminance) is now in percentage values.
- Improved playback of 3rd party clips.
- Ability to rename files.

Koko for DP, DIT, AC, VAO and Director

Koko is tough, bright and lightweight. It can record one full-screen UHD 4K stream or 4 independent HD ProRes files with built-in multiviewer and simultaneous sync playback. It can record and play different framerates and formats at the same time.

Although Koko is a darling of DITs and VAOs, it is also incredibly useful for DPs and ACs.

For DPs, the built-in spot meter measures up to 8 points — displayed in T-stops or IRE values. Sensor mapping and reversing the camera Log curve provide accurate values of the actual signal from the sensor. Both the color and its exposure value are displayed.

For the focus puller, there's a focus assist function to peak in-focus edges in the frame.

For the DIT and DP, Koko has Waveform, Histogram, Vector, False Color and Zebra tools. The measuring tools are hardware-built, so they have instant response and can be fullscreen. More tools are coming. LUTs can be applied to each input and output. There are 2 BNC inputs and 2 outputs, and 2 in/out BNC connectors.

For the VAO, Koko streamlines video assist for intuitive, flexible, seamless and hopefully stress-free tasks. It records to a standard removable SSD. Samsung EVO (not QVO) SSDs are recommended.

Even for Directors—working with a small or splinter crew, Koko becomes a helpful Director's Monitor and may be easy enough for a Director to review takes unassisted.

Ovide Koko Key Specs

- 10" TFT LCD 1920 x 1080 8-bit Touchscreen.
- 1000 Nits. 900:1 contrast ratio

Ovide Koko 10" Monitor/Recorder/Video Assist

8-point Spotmeter —fullscreen view

Waveform Overlay

- 4x 12G-SDI In and Out BNC connectors (2x are bidirectional).
- Records timecode embedded in the SDI signal.
- 2 seconds from Power On to Recording.
- Less than 2 seconds from Record to Playback (and Play-Rec).
- Thousands of clips can be listed in seconds.
- Rugged unibody aluminum housing.
- Cheeseplate built in with ¼-20 and ⅜-16 threads.
- USB keyboard can be connected.
- Records Apple ProRes formats from HQ to Proxy.
- Weather-resistant.
- Withstands hostile, hot and cold environments.
- Silent, fanless design: No moving parts; no noise.
- Records to standard removable SSDs — Ovide certified: Samsung 870 EVO 2TB, 840 EVO 1TB; 850 EVO 1TB.
- Size: 250 × 169 × 33 mm / 9.8 × 6.7 × 1.3 in.
- Weight: 1.3 kg. / 2.9 lb.
- Onboard battery plates: V-Lock, Gold Mount, B Mount.
- DC In power supply: 12 - 17 V DC.

Additional Koko Specs for VAOs, DITs, ACs, DPs

- 1, 2 or 4-Channel recording.
- 4-Channel simultaneous recording.
- Waveform monitor.
- Vectorscope.
- False color.
- 8-point spot meter.
- Sensor mapping.
- LUTs.
- Focus Assist.
- In/Out points, markers, scene/shot/take/rating metadata…
- Playback modes and options: loop, pong, speed, backwards.
- Calibration LUT.
- Extremely fast browser with thumbnails and filters.
- Import and export to and from QTAKE (under development)
- Ovide Koko 10" is designed in Barcelona and works on sets and locations worldwide.

Available from these companies, among others:

- Ovide (Spain and Worldwide) *ovidesmart.com*
- Emit (France) *emit.fr*
- Lemac Film & Digital (Australia) *lemac.com.au*
- Worldwide dealer list: *ovidesmart.com/dealers/*

BSC Expo booth 106

Koko Rear Views - Interchangeable Battery Plates

V-Mount Battery Plate

Gold Mount Battery Plate

12V B Mount Battery Plate

Brendan Harvey: *A Knife in the Valley*

A Knife in the Valley is a 15-minute short film about Gareth Ward, head chef and co-owner of Ynyshir in Wales. Brendan Harvey was the cinematographer. The restaurant has been named best in the UK, has two Michelin stars and its 30 course dinner lasts 5 hours. The menu merges Japanese inspiration with wild ingredients from the Welsh countryside. When booking, you are advised that it is "not suitable for those with intolerances and dislikes. No substitutions or amendments to dishes are offered."

Jon: How did *A Knife in the Valley* begin for you?

Brendan Harvey: I worked with Theo Gee, the director, on a fair number of narrative and commercial projects. Recently he pivoted towards documentary work. We both have a love of food. Theo was talking to Gareth for almost a year. He went there for a meal and was so impressed that he wanted to explore deeper. There's a bit of mystique about the place. It went through many months of back and forth between Theo and Gareth who is a notoriously difficult person in terms of media appearances. Gareth is a perfectionist in almost every way.

Speaking of obsessions, tell us about cameras, lenses and lights on your film.

We settled on using my DJI Ronin 4D 6K cameras for about 90% of the film. My ALEXA Mini was on the other 10%. The reason for the Ronin 4D was a desire for the camera to always be moving — to signify the restlessness, the striving for perfection in the restaurant. I've worked with the Ronin 4D on previous features and documentaries and its operation has become second nature to me. Theo used my second 4D during some of the service sequences and moments where we needed two cameras.

How did you operate the Ronin 4D? Handheld out front?

It was just in the hand, built normally. We had Cooke SP3 lenses. I own an SP3 set that I have been using for the past year or so. However, I didn't have the new 18mm for some of our expansive wide shots inside, going through rooms and showing the space. Danny Haikin at Cooke Optics loaned us an 18mm. I liked it so much that I subsequently bought one to complete my set.

What mounts do your SP3 lenses have?

They are E-mount. The Ronin 4D has the DJI DX to E-mount adapter. The SP3 lenses also have interchangeable Leica M-Mounts so I can put them on the ALEXA Mini as well.

Where did you get your Ronin 4Ds and SP3s?

From CVP in London. They also do service and repairs, although so far I haven't needed any of that.

Please talk about your style of shooting on *Knife in the Valley.*

There are two types of camera styles in the film. Most of it's Ronin, which is all very clean, crisp and without grain. And then there

are grainy, textural elements which were shot on an ALEXA Mini in 16mm mode with an old B4 zoom lens fitted with a PL mount adapter.

Did you have a focus puller on the Ronin 4D with Cooke SP3?

No. I pulled focus myself using the DJI handgrip with its focus knob. I didn't use autofocus, peaking or focus assists because I used to be a focus puller. I just do it by eye off the monitor.

How did you and Theo decide on the look of the film and how did you settle on the Cooke SP3 lenses?

The Cooke SP3 primes are my favorite spherical lenses to use on the Ronin 4D. For me, there's nothing out there that's nicer or more versatile to use. They are small and light enough for the 4D. They have nice focus fall-off—softening towards the edges of frame, and not too much contrast. They tick all the boxes, unless I wanted to go anamorphic.

How did you light the restaurant interiors?

We had some small fixtures: Nova, Aputure MT Pros, MCs, and an Amaran panel that was used as a backlight for the interview. Our main big light was an Aputure 600 C, with a 5-foot light dome on it, as the main source for the interview.

When we were in the kitchen during service, we had to use natural available light to avoid getting in the way. Incredibly, they allowed us to film the meal service with actual people there.

It's quite an intimate space. But it's very performative. People are sitting side by side looking towards the kitchen. The focus of the meal is the kitchen rather than the person you're with. Techno music is playing at times, very loud. There's a fire behind the counter. The walls are completely black. It's quite something.

Thirty courses in five hours?

You start in another room to enjoy a few starters. Gareth stands at the entrance carving the sashimi. We see him with a big slab of blue fin tuna that he is making into a crudo dish. People are sitting around at various tables. Then they go into the main dining and there are 15 courses or however many. After that, you go to a fire pit outside where they serve some of the desserts. It's a destination event, so people do stay the night in Gareth's hotel.

The place was originally just a hotel with a restaurant, and then it became a restaurant with rooms. That pivoted once Gareth took over from the previous chef.

How big a crew did you have?

There were just three of us. Theo, the director, was doing sound and operating one of our three cameras at times. Callum Lindsay was operating the second camera. The ALEXA Mini was standing by to do the textural elements along with some Prism Lens FX

Brendan Harvey: *A Knife in the Valley*

filters. There's a complete forge on site where they make all the metal work: cutlery and plates and anything that Gareth comes up with. Often, we'd send Callum with an Easyrig to get cutaways around the place.

You own a lot of equipment.

Maybe too much. There's a lot of admin involved. But these days, it is handy to have for documentaries and music videos. On bigger jobs, I'd probably rent a Mini LF or ALEXA 35 package.

Talk about lighting the food.

We didn't want to be *Chef's Table*. But sometimes it's inevitable because they shoot food so beautifully. There was a lot of conversation about how to fit the style of filming with what this restaurant represents and how to present Gareth, the personality and everything else. We wanted to have hard slashes of light and use the hints of fire in the background, and to make the lighting impactful with the chiaroscuro of darkness and the light.

We made a mini studio in one tiny room of the hotel, the only room that was free. It was probably three meters by three meters. They kept bringing food up to us to film during the service. We had three setups that we pre-lit within that room. One of the Ronin 4Ds was set up in Flex mode on the end of a Manfrotto Junior lighting boom to be overhead and look straight down at the food.

The DJI Ronin 4D in Flex mode (sensor+lens head tethered to the body) works like a stabilized remote head. We moved the boom like a jib arm, controlling the 4D as a remote-head with the joystick on the handgrip to do rotating overhead shots.

An added bonus was that we got to sample each dish after we filmed them.

How did you manage remote focus?

I used the dial on the hand grip.

You had some extreme close-ups of food.

We used screw-in diopters for the Cooke SP3 on those setups.

Did you use any effect filters?

No. I quite like the Cookes without filters. Sometimes I put a 1/8 Black Promist on the front, but generally I just shoot them clean. For this film, we wanted it to be quite clean, precise and to show how refined Gareth aspires to be. Even in post, we started with 35mm film grain, but then we just stripped it back a lot.

How did you get started in film?

I grew up with documentaries because my dad's a documentary producer. His name's Gareth Harvey. He worked in Australia for 60 Minutes, National Geographic, Discovery Channel, etc. We moved to Italy and I went to school there. After finishing year 12 of high school, I did a gap year on the road with my dad as an assistant, second camera, boom operator and whatever needed to be done. I went to film school in London the year after that. After film school, I started as a camera trainee and then camera assistant and worked my way up on features, commercials and series.

Watch on YouTube: *youtu.be/9pNoNu0V6LA*

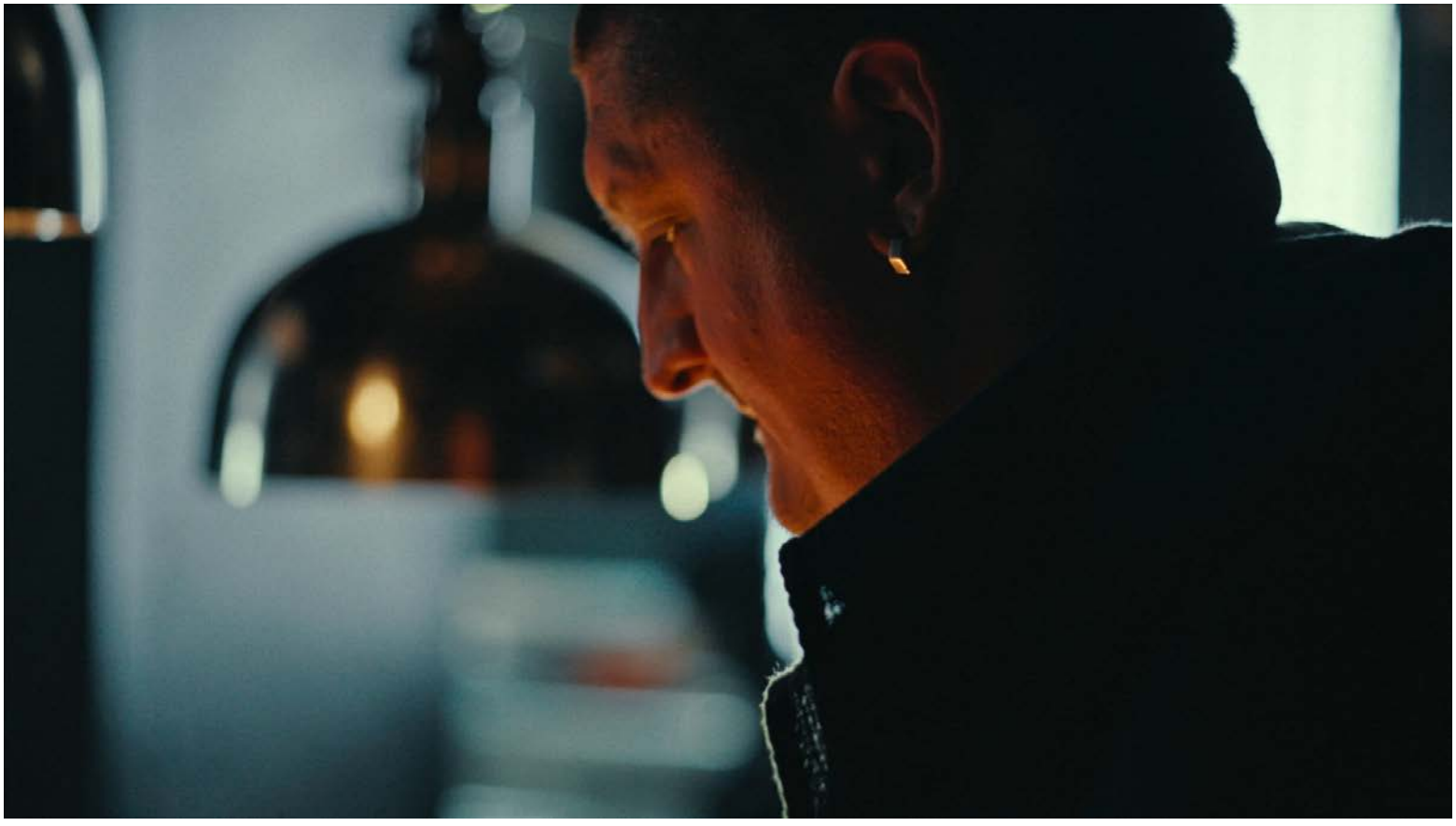
Credits:

- Director & Producer: Theo Gee @theogelernter
- Cinematography: Brendan Harvey @brendanharvey_
- Camera Operator: Callum Lindsay @callumlindsay01
- Drone Operator: James Edwards @james_ed_
- Editor: Theo Gee
- Sound Studio: Brother Music @brother___music
- Composition: Hugo Ellingham @hugoellingham
- Sound Design: Patrick Lee @patricklee.sound
- Post House: Harbor @harborpictureco
- Colourist: Karol Cybulski @imkarol.colour
- Title & Poster Design: Callum Richards @callumrichards
- Feature Writer: Tom Crocker @tomcrockerwrites
- Social & Digital Lead: Icy Ungureanu @icy_captures
- PA to Gareth Ward: Abbie Morris @morris_19
- Ynyshir Creative Director: Amelia Eiriksso @ameliadora

L-R: FX6, Ronin 4D, Bolex in the middle with B4 lens (although this wasn't used in the end), another Ronin 4D and ALEXA Mini.

Framegrabs: *A Knife in the Valley*

Framegrabs: *A Knife in the Valley*



Framegrabs: *A Knife in the Valley*

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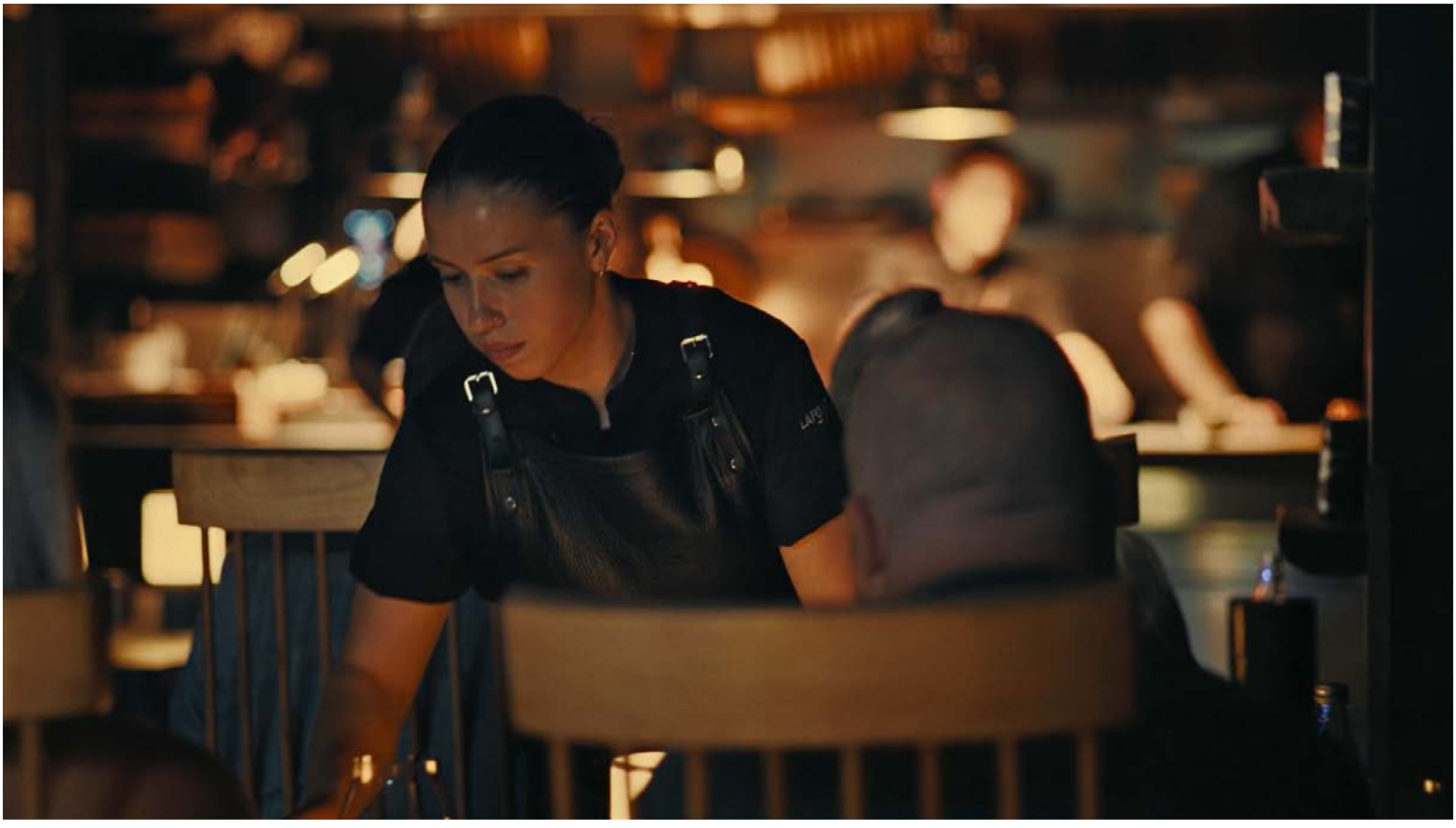
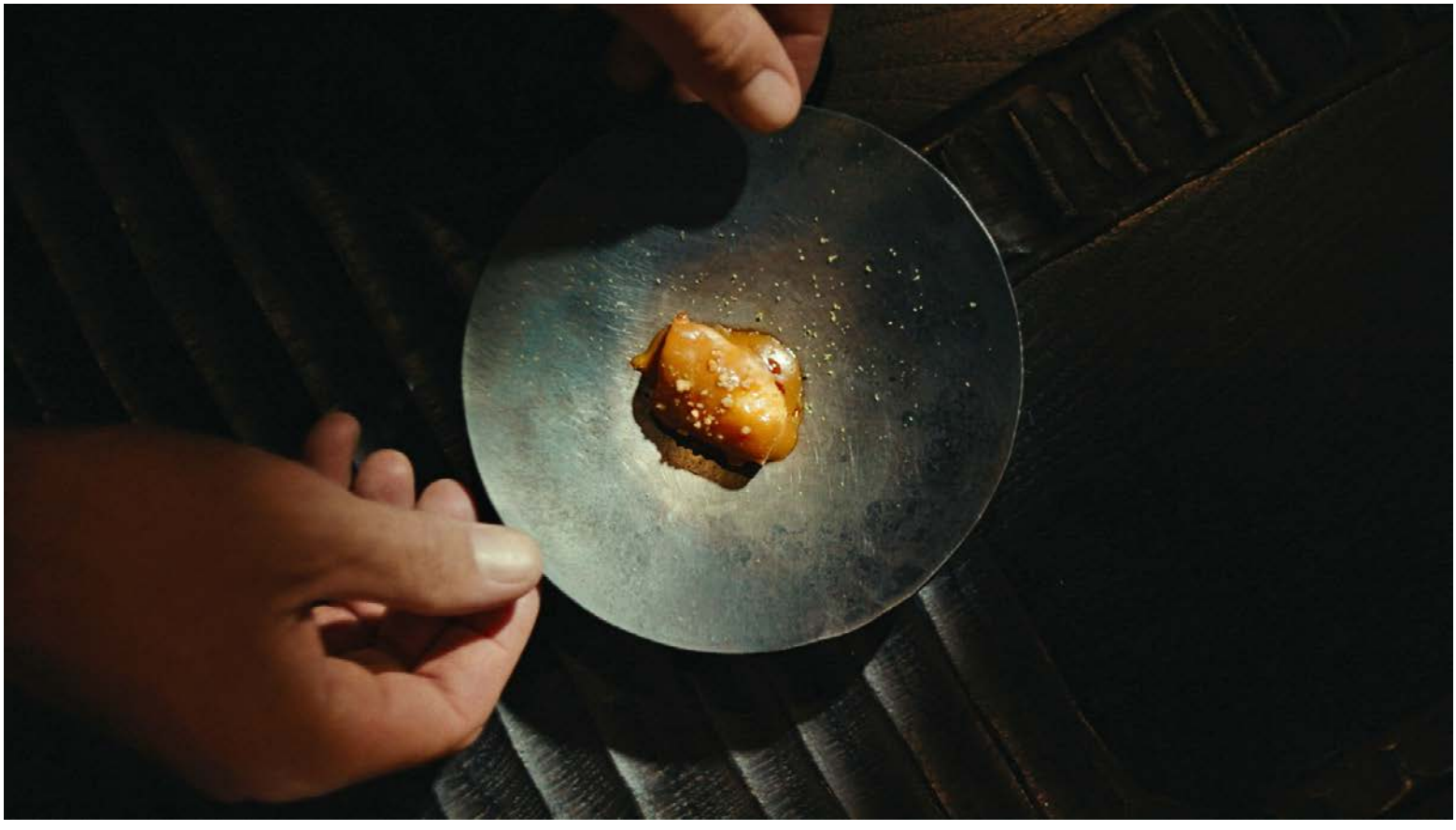


Framegrabs: *A Knife in the Valley*



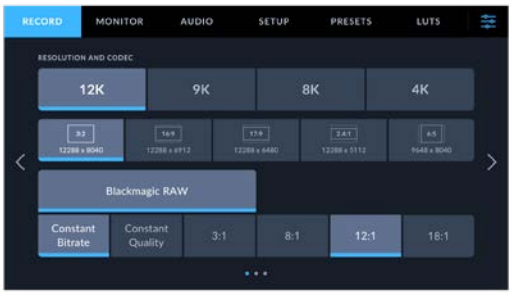
Blackmagic Design Large and Larger Format Cameras

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

PYXIS 12K Camera (Full Frame)

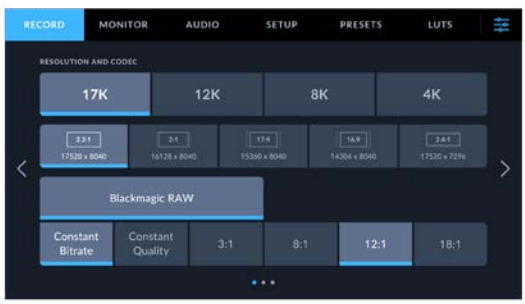
PYXIS 12K
with L-Mount
Sensor size: 35.64 x 23.32 mm
Diagonal: 42.59 mm Ø

URSA Cine 12K LF Camera (Full Frame)



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

URSA Cine 17K 65 Camera (65mm Format)



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

Blackmagic Design PYXIS 12K and URSA Cine 17K 65

PYXIS 12K

URSA Cine 17K 65

URSA Cine 17K 65 and PYXIS 12K

URSA Cine 17K 65 (LPL Mount) with Sigma Aizu 75mm T1.3 PL Mount (with LPL-PL Adapter)

PYXIS 12K with Sigma AF 28-45mm T2 FF L-Mount.

URSA Cine 17K 65

PYXIS 12K

URSA Cine 17K 65 - top

PYXIS 12K - top

URSA Cine 17K 65 and PYXIS 12K

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

PYXIS 12K with Sigma AF 28-45mm T2 FF L-Mount.

URSA Cine 17K 65

PYXIS 12K

URSA Cine 17K 65

PYXIS 12K

Blackmagic PYXIS 12K

PYXIS 12K

Blackmagic PYXIS 12K

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Camera Left Side with Display and Controls

Camera Right Side with Standard Plate

Blackmagic PYXIS 12K

Hirth-tooth rosette for handgrip and extension arm.

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

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

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

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

blackmagicdesign.com/products/blackmagicpyxis

Blackmagic PYXIS 12K Specs

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

Blackmagic PYXIS 12K

Left Side with Monitor / Menu Display

Front view of L-Mount and Full Frame Sensor

Right Front

Right Rear

Top

Bottom

Blackmagic Design PYXIS 12K

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

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

L, PL or EF Mount?

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

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

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

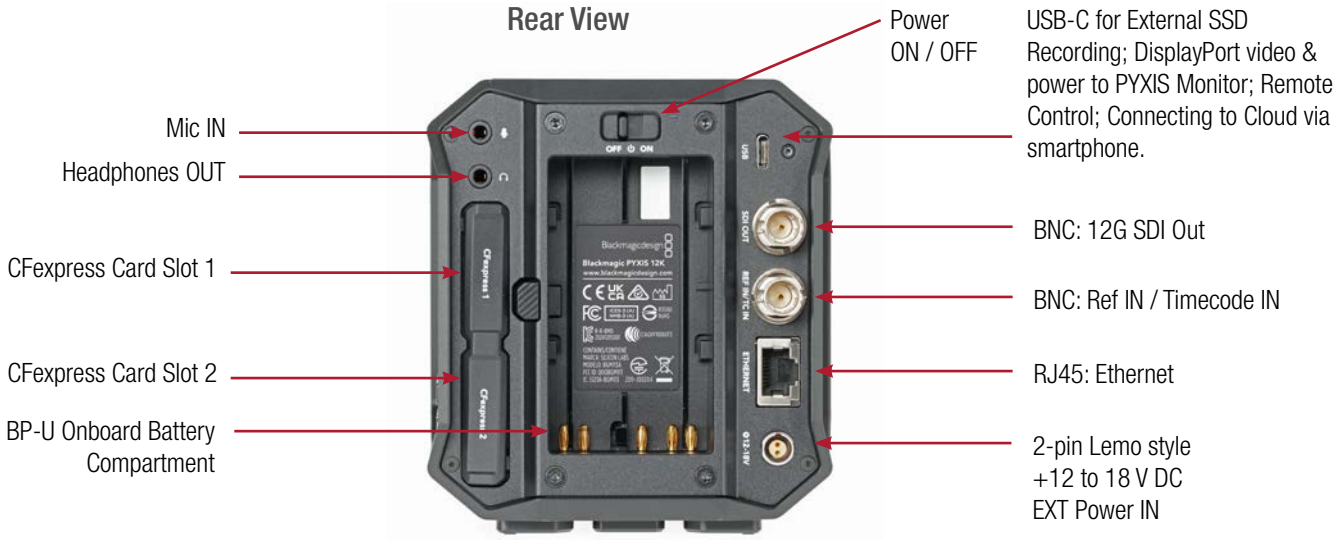
Front view

Rear view with EVF, Monitor, and Onboard Battery

Blackmagic PYXIS 12K

Camera Left Side

Rear View



Blackmagic PYXIS 12K

PYXIS 12K with PL Mount

PYXIS 12K with EF -Mount

PYXIS 12K with L-Mount

L-R: PYXIS 12K with PL Mount, EF Mount and L-Mount.
The mounts are not user-interchangeable at this time.

A PYXIS 12K with L-Mount can give you the most lens choices because of the large variety of available L-Mount adapters. It would be nice if someone made L to PL and L to LPL adapters that pass /i lens metadata to the camera's L-Mount.

Leitz Cine L-Mount to LPL Adapter

Front View

Blackmagic PYXIS 12K Viewing

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

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

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

Top

Bottom

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

Front

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

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

PYXIS 12K EVF + Monitor

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

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

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

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

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

Swivel Mount

Dovetail Shoe attaches with one ¼-20 bolt

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

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

PYXIS 12K EVF Positions

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

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

EVF mounted forward for shoulder-resting and handheld setups.

EVF bracket arm positioned vertically.

EVF positioned towards the rear.

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

PYXIS 12K Monitor Positions

PYXIS Monitor mounted at front of Top Handle.

PYXIS Monitor mounted on top of Top Handle.

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

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

Medium Format style: PYXIS Monitor on top of camera.

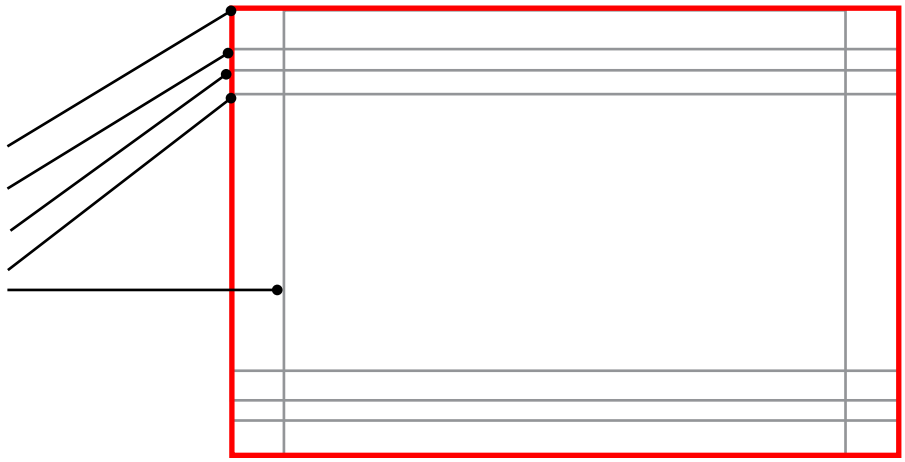
Sigma AF Cine Line
28–45mm T2 FF
zoom lens

Medium Format style:
PYXIS Monitor on top of camera.

Blackmagic PYXIS 12K Sensor Modes

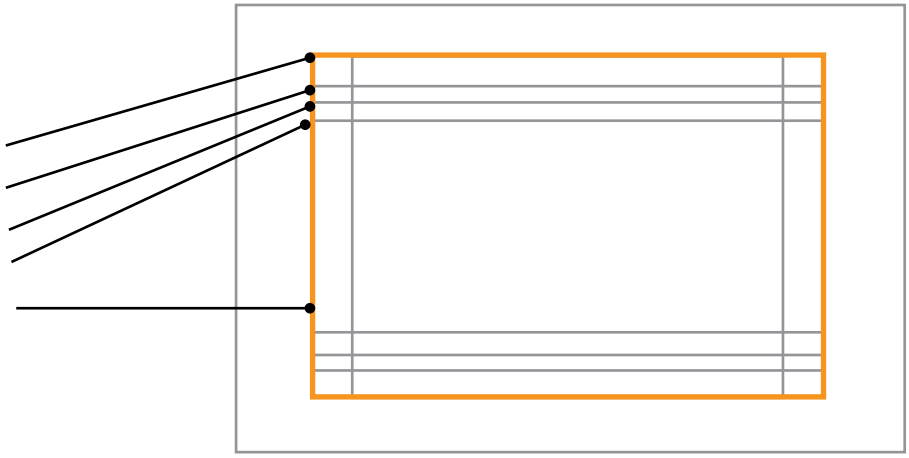
12K Large Format Sensor Mode

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



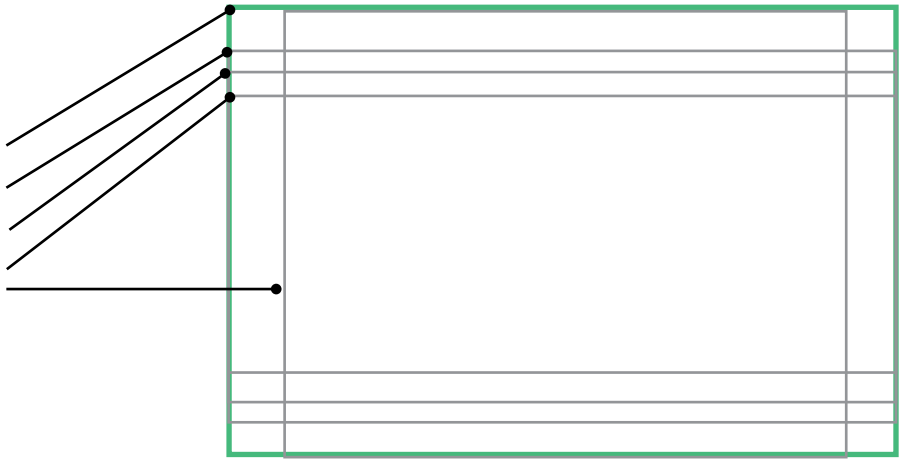
9K Super35 Sensor Mode

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



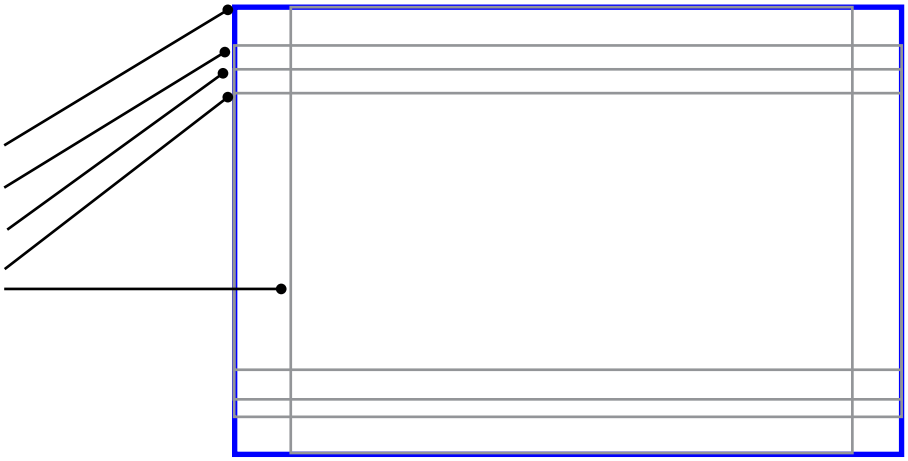
8K Large Format Sensor Mode

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



4K Large Format Sensor Mode

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



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

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

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

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

12K Sensor Mode

9K Sensor Mode

8K Sensor Mode

4K Sensor Mode

Blackmagic PYXIS 12K on Cartoni MIXO 21

Blackmagic PYXIS 12K on Cartoni MIXO 21

Cartoni Mixo 21 Head + SDS Carbonfiber Tripod System

The Mixo 21 SDS Carbonfiber System includes the new Mixo 21 fluid head, SDS Carbonfiber tripod, Smart Lock mid-level spreader, a set of rubber feet and a conveniently padded carrying bag.

The Cartoni team says this system is "for in the field videographers with medium range cameras fully equipped, seeking premium support at a fair price point." But, this is not "just" a documentary, sports or ENG tripod. It is an essential support system for many camera packages in innumerable setups.

The MIXO 21 fluid head combines Cartoni's continuous counterbalance patented "wing" system with classic 7-step fluid pan and tilt drag settings.

It supports payloads ranging from a balanced iPhone 17 Pro to 21 kg (46.29 lb) heavy camera packages and tilts from horizontal to 90° up or down. The bowl diameter is 100mm and it provides smooth moves from temperatures of -40° to +60° Celsius. There's an illuminated bubble level and the sliding camera mounting plate has a Euro-style quick release system.

The SDS tripod is among fastest one-lever two-stage tripods on the market. Covered by three patents, one single lever adjust both stages of each leg. The Smart Lock spreader with the innovative "no-bind" design attaches in the middle (not at the feet), works seamlessly and enables angles from extremely low to very high.

The Mixo 21 SDS Carbonfiber System is a pleasure to use. Cartoni has thought of almost everything a DP or Camera Operator could dream of:

- Beautiful design and styling.
- Helpful top balance plate that slides fore and aft.
- Quick and easy touch-and-go quick release system.
- No fumbling to find ball level—tie-down handle has a long shaft.
- Illuminated bubble level.
- Counterbalance numerical readout.
- Nice shoulder strap / handle and ring.
- Freewheeling pan in addition to 7 steps of drag.
- Single lever lock for each 3-section leg of the SDS Tripod.
- You don't have to bend down to lock and unlock SDS legs.
- SDS Tripod has a conveniently attached spreader.

MIXO 21 is lighter than comparable Cartoni Focus and Master fluid heads which have continuous pan and tilt drag systems.

- Maximum Payload Capacity: 21 kg / 46.3 lb.
- Weight of Head: 3.6 kg / 7.9 lb.
- Bowl Diameter: 100 mm or flat.
- Fluid Drag: 7 Steps and friction-free 0 setting.
- Continuous Counterbalance.
- Pan Range 360°. Tilt Range +/-90°.
- Operating. Temperatures: -40° to +60°C / -40° to +140°F.
- Designed and made In Italy.
- *cartoni.com*

URSA Cine 17K 65

Blackmagic URSA Cine 17K 65

The Blackmagic URSA Cine 17K 65 camera was shown in a glass case at NAB 2024. A working unit appeared in their booth at IBC 2024 and the first production cameras started shipping towards the end of March 2025.

The URSA 65 has a 65mm Format RGBW 17,520 x 8,040 sensor. That's 50.81 mm wide x 23.32 mm high, with a 55.9 mm diagonal Ø and an Open Gate native aspect ratio of 2.2:1. Crop the sides for 2:1, on top for 2.39:1, or anywhere you like. The sensor's OPLF (optical low pass filter) has improved IR filtering for a better red color response.

On the outside, the URSA Cine 17K 65 camera body looks similar to the URSA Cine 12K LF, but without the internal ND0.6, ND1.2 and ND1.8 filters. The sensors of both cameras have the same 2.9 micron pixel pitch and the same 23.32 mm height. Both cameras have 16 stops of dynamic range.

It's no coincidence that Blackmagic Design's Full Frame PYXIS 12K sensor is also 23.32 mm high and has the same 2.9 micron pixel pitch. Sharing similar sensor architecture across several camera models seems to help to mitigate the astronomical cost of sensor development.

The big difference is the bigger sensor width of the 65mm format camera. The URSA Cine 17K 65 sensor is 50.81 mm wide while the URSA Cine 12K LF and the PYXIS 12K Full Frame sensors are 35.64 mm wide.

URSA Cine 17K 65 Camera Reports

Some of these notes have appeared in earlier FDTimes editions. But, as the camera itself evolved, these camera reports have been updated.

There are many sensor modes, resolutions and choices of framelines.

- URSA 65 records to a Blackmagic Media Module 8TB.
- Blackmagic RAW open gate (full sensor) 17K at 3:1 compression records up to 1.3 hours.
- At 8:1 compression, you can record about 3.5 hours.
- At 12:1 compression, you get 5.2 hours and 7.8 hours at 18:1.
- Blackmagic RAW files store camera metadata, lens data, white balance, digital slate information and custom LUTs.
- The Camera "Body Only" package comes with a PL mount, an 8TB Media Module, WiFi antennas and DaVinci Resolve Studio with activation key.
- Other packages include various assortments of brackets, rods, EVF, top handle, baseplate, LPL Mount, 24V power supply, 24V B-mount battery plate, custom Pelican case and more.
- The PL Mount is interchangeable with Blackmagic's LPL lens Mounts. They both have /i lens data contacts. It's easy to swap

mounts with just four 3mm hex screws and included shims.

- Of course you want the viewfinder. The camera + EVF package comes with a really good adjustable viewfinder extender, brackets and USB-C cables that conduct both image and power along a single link.

Rugged and Ergonomic

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

5" Monitors on Both Sides

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

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

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

PYXIS Monitor works on URSA 65

If you prefer to operate off a monitor and want to save the camera's two BNC SDI outputs for other purposes, the front USB-C viewfinder port will give you an image with status text overlays and menus via the touch screen. The USB-C ports along the top of the camera will give you an image, but no status text or touch. The rear USB port facing backwards isn't active at this time.

Power

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

URSA Cine V-Lock and Gold-Mount plates are also available from Blackmagic. They can run at 24V with Core Helix Max batteries or 12V with standard V-Lock and Gold Mount batteries. A minimum battery rating of 12 amps is recommended when running at 12 volts.

URSA Cine EVF, Extender, Top Handle

The URSA Cine EVF has soft-touch backlit buttons and uses a single USB-C cable for power and video. The viewfinder brackets and extender have dovetails for quick release. Its viewfinder extender works with standard eyepiece levelers. The top handle also has a dovetail mounting mechanism so you can quickly and

Blackmagic URSA Cine 17K 65mm camera with Cooke Panchro 65/i 30mm T2.8 lens.

easily remove the entire viewfinder system and the top rods.

Sensor and Anamorphic Desqueeze

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

Media Bay and File Formats

Flip the camera left monitor for access to the media bay. The camera ships with a Blackmagic Media Module 8TB. You can buy extra 8TB or 16 TB Media Modules. With 16 PCI Express lanes, data rate is 5GB/s+. URSA 65 records Blackmagic RAW internally as well as simultaneous H.264 proxy files. There's also an alternative Media Module CF with slots for CFexpress cards to record 4K, 8K or 9K files.

Blackmagic Media Dock

Blackmagic's rack-mountable Media Dock has 3 Media Module Bays and 10G Ethernet ports to transfer files. You can also transfer files by connecting directly to the Ethernet port at the back of the camera. Speeds are slower but effective.

Remote & External Control

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

The Blackmagic URSA Cine EVF can trigger recording as well as camera functions assigned to the VF1, VF2, VF3, Zoom and EXP buttons. External Camera Control is supported using REST API over Ethernet, WiFi or serial communication via the 7-pin Lemo connector. Run / Stop is supported via the 3-pin Fischer and 7-pin Lemo connectors.

Configurations

Blackmagic URSA Cine 17K 65 camera body only. Includes 8TB Media Module and PL mount. (Excludes top handle, baseplate, power supply, battery plate and LPL lens mount. This is appealing to rental houses and self-accessorizers.

Blackmagic URSA Cine 17K 65 camera system. Comes in a custom carry-on Pelican case with PL mount, Media Module 8TB, top handle, top 15mm Rod Mount, Cine Baseplate 19 for 19mm rods, B-Mount Battery Plate, LPL Mount, 24V 250W power supply, DaVinci Resolve Studio activation card, etc.

URSA Cine 17K 65 + EVF camera system. Comes in a larger custom Pelican case with all of the above, and URSA Cine EVF, EVF Rotating Bracket with 19mm carbon fiber rod, EVF Bracket Rod Mount, EVF Finder Extension, 2x short carbon fiber 15mm rods, 3x viewfinder cables, rubber eyecup and chamois eyecup cover.

blackmagicdesign.com/products/blackmagicursacine

URSA Cine 17K 65 with 3 Monitors & EVF

You may never need this many monitors, but we had the URSA Cine 17K 65 running 4 displays simultaneously: the 2 built-in monitors (one on each side), the EVF and the Blackmagic PYXIS Monitor. The front USB Viewfinder port will give you an image with status text overlays and menus via the touch screen. The USB ports at the top right side of the camera will give you an image but no status text or touch screen menus.

Blackmagic URSA Cine 17K 65 Camera Left

Camera Left - Monitor Door Closed

Camera Left - 5" LCD Monitor / Door Open

Blackmagic URSA Cine 17K 65 Camera Right & Rear

Camera Right

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

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

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

USB-C

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

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

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

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

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

MENU button

RECORD button

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

Rear

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

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

USB-C

12G-SDI A OUT

12G-SDI B OUT

Timecode IN and REF IN

RJ-45 10G Ethernet

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

Headphones

Blackmagic URSA Cine 17K 65 Lens Mounts

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

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

PL Mount

LPL Mount

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

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

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

PL Mount
front view

PL Mount
rear (toward camera) view

LPL Mount
front view

LPL Mount
rear (toward camera) view

Blackmagic URSA Cine 17K 65 Handheld

Shown with Blackmagic URSA Cine EVF, URSA Cine Top Handle, URSA Cine Baseplate (available for 15mm or 19mm rods), URSA Cine Grips (come with extension arms).

Blackmagic URSA Cine 17K 65 — Sensor Modes

Press the Menu button to open Camera Dashboard (starboard and port sides).

The top line is sensor mode: 17K, 12K, 8K or 4K.

The next line lets you pick the aspect ratio and resolution within each sensor mode.

The bottom line decides whether Blackmagic RAW is recorded at Constant Bitrate or Constant Quality.

(We like Constant Quality 3:1).

17K (65 Format) Sensor Mode

Aspect Ratio	Resolution	Sensor Size WxH (mm)	Ø (mm)
2.2:1	17,520 x 8,040	50.81 x 23.32	55.90
2:1	16,128 x 8,040	46.77 x 23.32	52.26
17:9	15,360 x 8,040	44.54 x 23.32	50.28
16:9	14,304 x 8,040	41.48 x 23.32	47.59
2.4:1	17,520 x 7,296	50.81 x 21.16	55.04

12K (Full Frame) Sensor Mode

Downscaled from 17K to match URSA Cine 12K LF

Aspect Ratio	Resolution	Sensor Size WxH (mm)	Ø (mm)
3:2	12,288 x 8,040	35.64 x 23.32	42.59
6:5	9,648 x 8,040	27.98 x 23.32	36.42
2.4:1	12,288 x 5,112	35.64 x 14.82	38.60
17:9	12,288 x 6,480	35.64 x 18.79	40.28
16:9	12,288 x 6,912	35.64 x 20.04	40.89

Blackmagic URSA Cine 17K 65 — Sensor Modes

8K Sensor Mode - 65 Format Width
8K Downscaled from 17K, Common Height

11,680 x 5,360	(8K 2.2:1) Open Gate (Full Width & Full Height)
10,752 x 5,360	(8K 2:1) Full Height

Aspect Ratio	Resolution	Sensor Size WxH (mm)	Ø (mm)
2.2:1	11,680 x 5,360	50.81 x 23.32	55.90
2:1	10,752 x 5,360	46.77 x 23.32	52.26

8K Sensor Mode - FF Format Width
8K Windowed (Cropped), Common Width

Aspect Ratio	Resolution	Sensor Size WxH (mm)	Ø (mm)
3:2	8,192 x 5,360	35.64 x 23.32	42.59
2.4:1	8,192 x 3,408	35.64 x 14.82	38.60
17:9	8,192 x 4,320	35.64 x 18.79	40.28
16:9	8,192 x 4,608	35.64 x 20.04	40.89

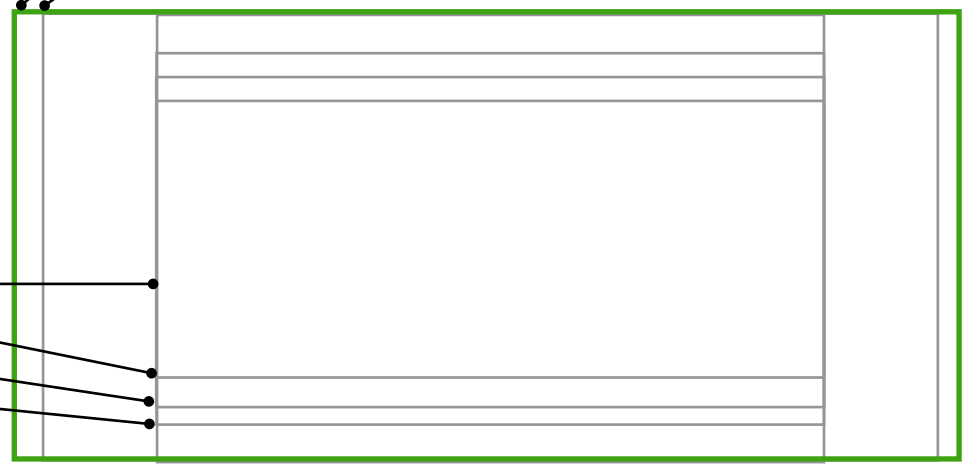
4K Sensor Mode - 65 Format Width
8K Downscaled from 17K, Common Height

5,840 x 2,680	(4K 2.2:1) Open Gate (Full Height & Full Width)
5,376 x 2680	(4K 2:1) Full Height

Aspect Ratio	Resolution	Sensor Size WxH (mm)	Ø (mm)
2.2:1	5,840 x 2,680	50.81 x 23.32	55.90
2:1	5,376 x 2,680	46.77 x 23.32	52.26

4K Sensor Mode - FF Format Width
4K Windowed (Cropped), Common Width

Aspect Ratio	Resolution	Sensor Size WxH (mm)	Ø (mm)
3:2	4,096 x 2,680	35.64 x 23.32	42.59
2.4:1	4,096 x 1,704	35.64 x 14.82	38.60
17:9	4,096 x 2,160	35.64 x 18.79	40.28
16:9	4,096 x 2,304	35.64 x 20.04	40.89



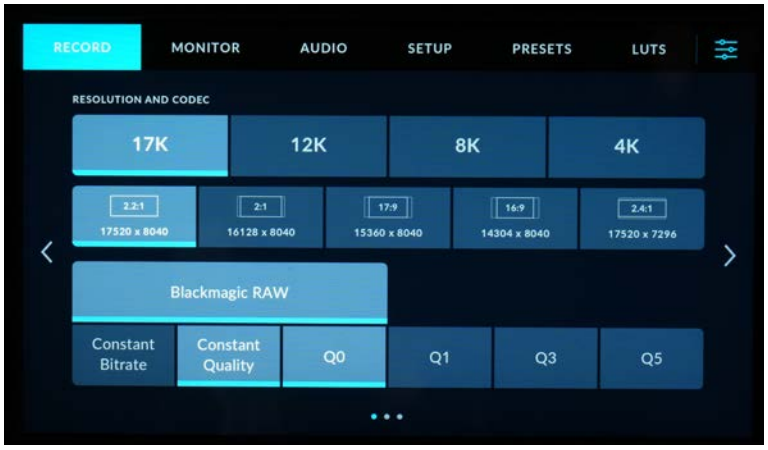
URSA Cine 17K 65 — Sensor Modes, Aspect Ratios, Image Size, etc

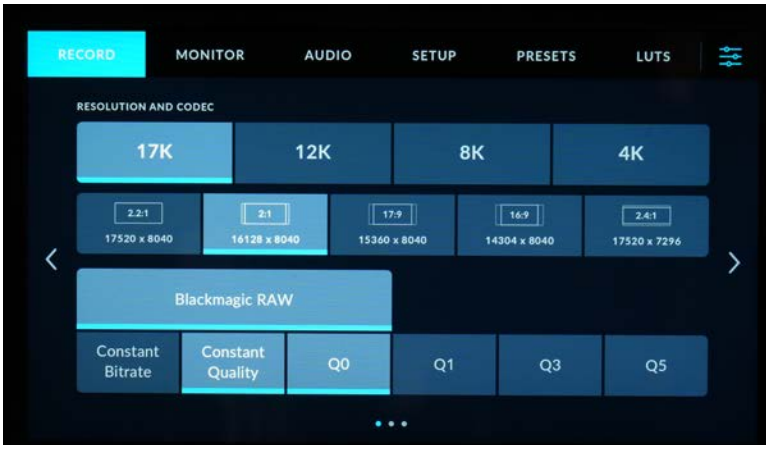
Note: This chart is an update from earlier FDTimes versions.
This hopefully clarifies why, for example, 65mm Format 11,680 x 5,360 is in the 8K menu section.
It's there because of convenience in the camera's menu layout which was running out of space (see next page). It's not downsampled in camera; you can do that in DaVinci Resolve, if you like.

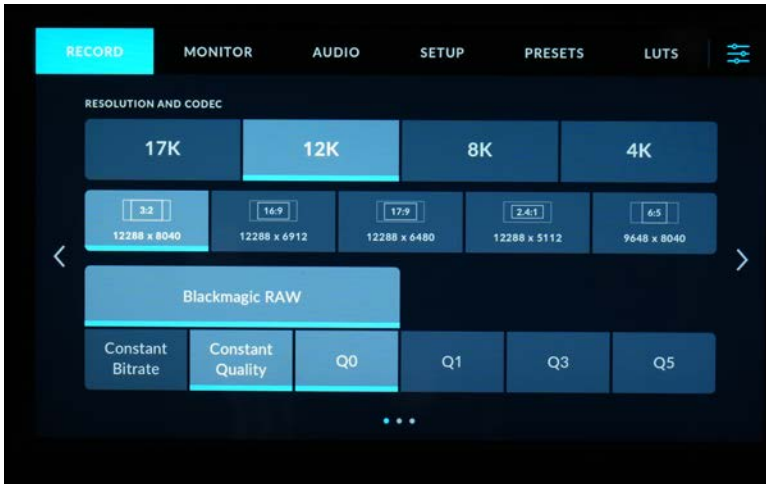
Sensor Mode	Aspect Ratio	Resolution	Sensor area	Sensor Size WxH (mm)	Diagonal (mm)	Max FPS	Located in Menu Section	Readout Speed (ms)	Full or Scaled	Codec	Constant Bitrate	Constant Quality	Anamorphic De-squeeze
17K 65mm Format	2.2:1	17,520 x 8,040	Open Gate	50.81 x 23.32	55.90	60	17K	16.40	Pixel for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

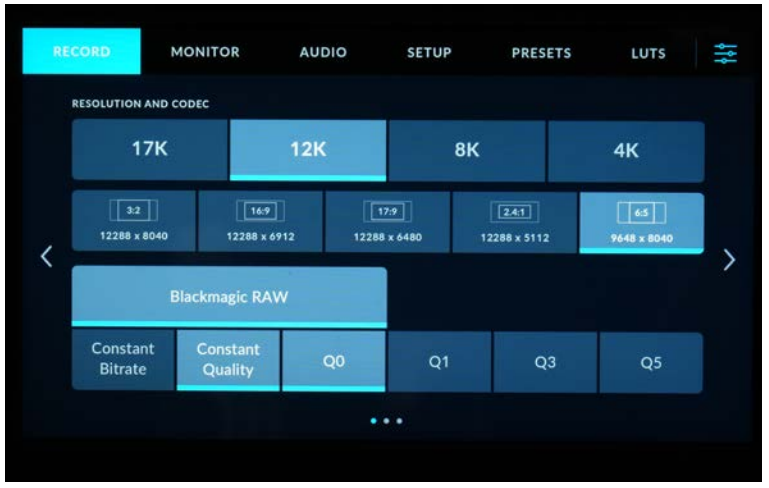
Calculated with pixel pitch of 0.0029 mm (2.9 microns).

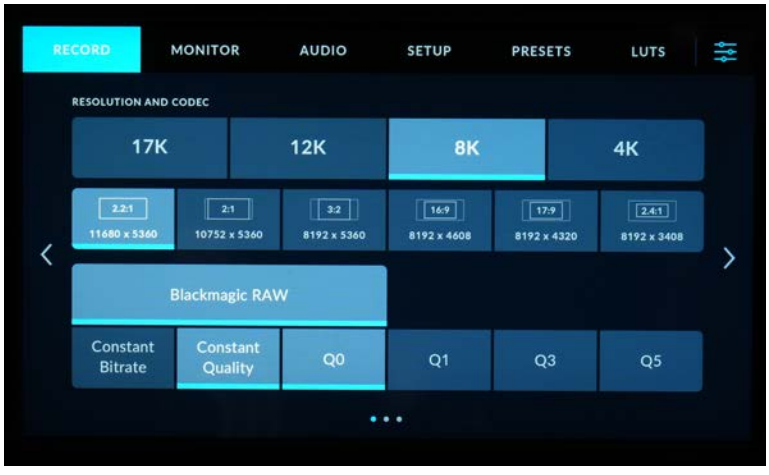
URSA Cine 17K 65 Recording Menus

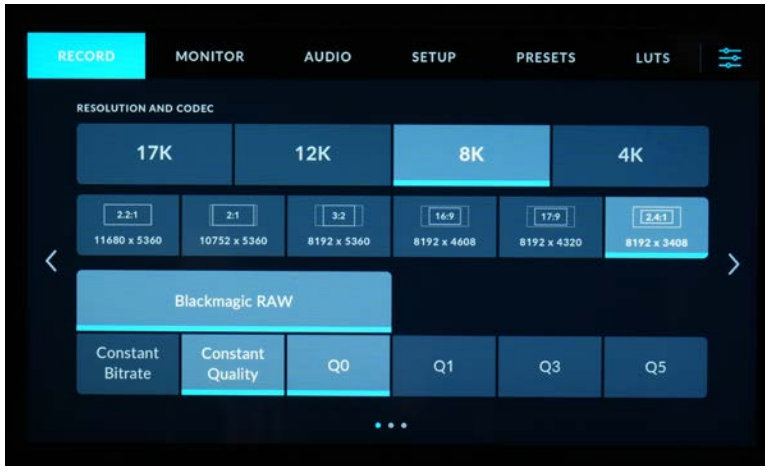


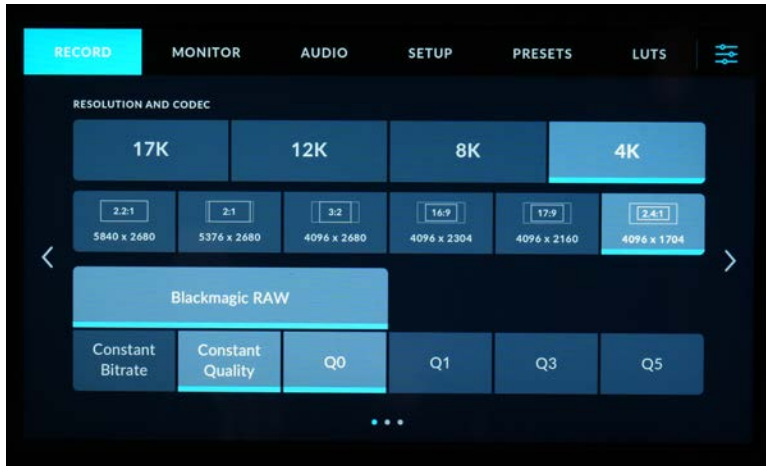






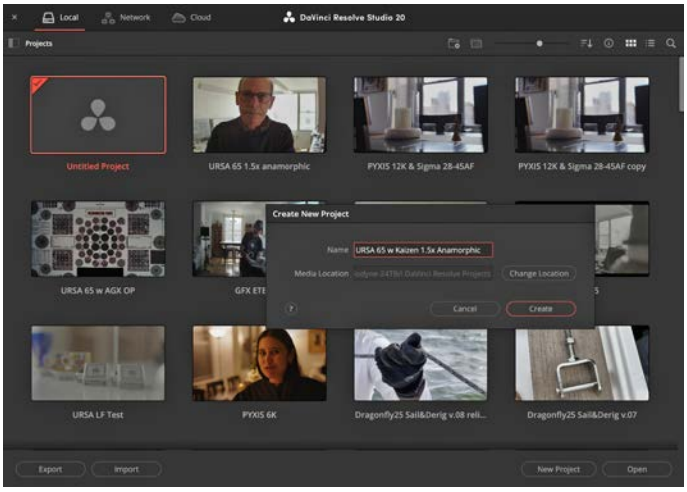






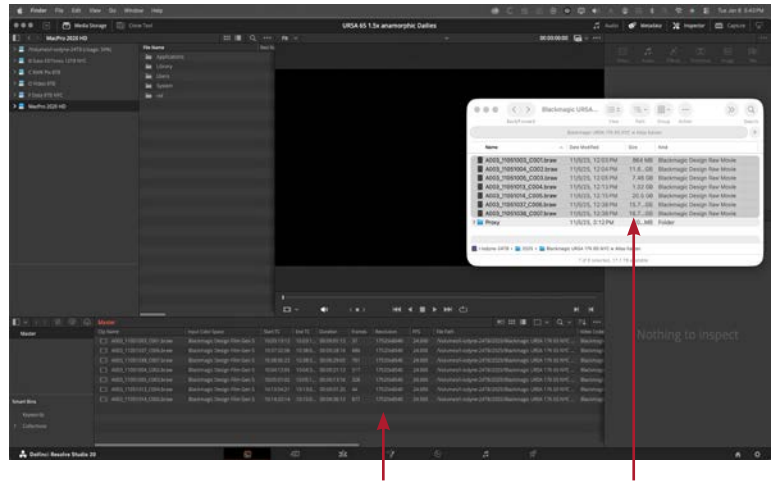
DaVinci Resolve Studio for DPs with URSA Cine 17K 65

Here's a basic tour for DPs to view Blackmagic URSA Cine 17K 65 footage in DaVinci Resolve Studio. Of course, this is not intended for editors or colorists. These are just some of the many different DaVinci Resolve pathways.

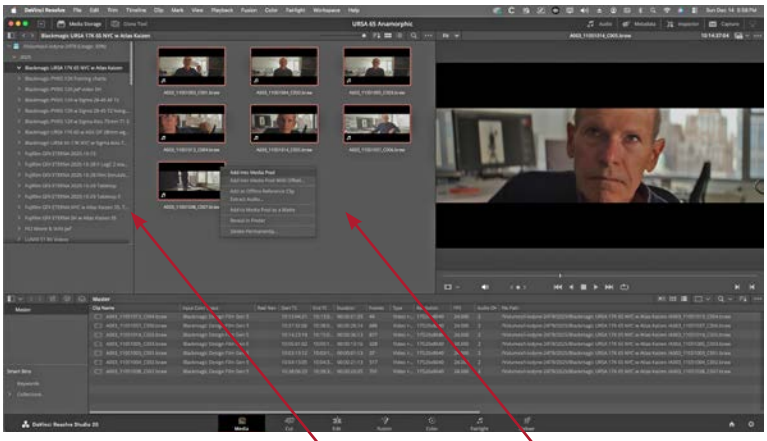


1. Open DaVinci Resolve Studio. Create a New Project.

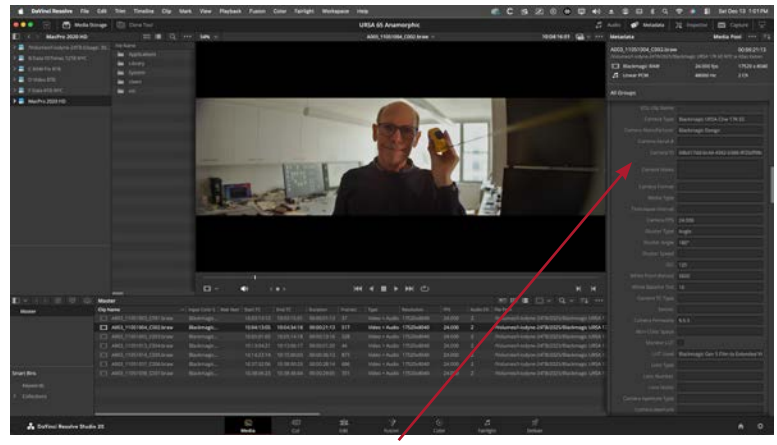
We're working with DaVinci Resolve Studio 20.3 on a Mac Pro running Tahoe 26.2 connected to an iodyne Pro Data 24TB Thunderbolt SSD.



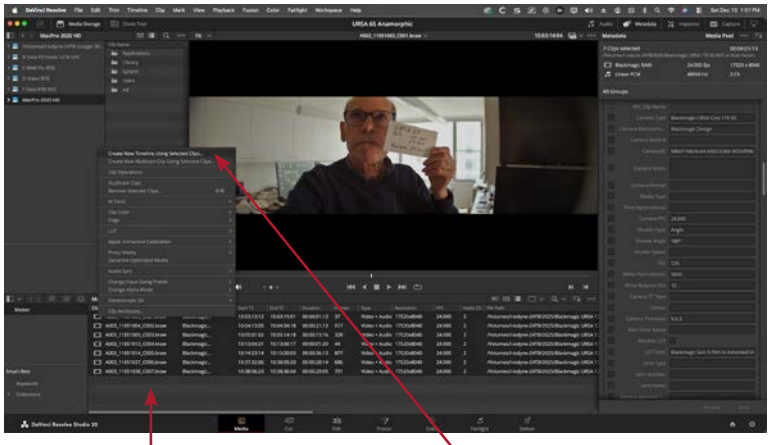
2. In the Media Page, drag files to the MEDIA POOL from a Mac Finder Window. Here, we're selecting 7 BRAW camera original files (but not their proxies) and dragging them to the Media Pool area below the Viewer. Note: There are several other ways to get files.
For example: File > Import > Media...



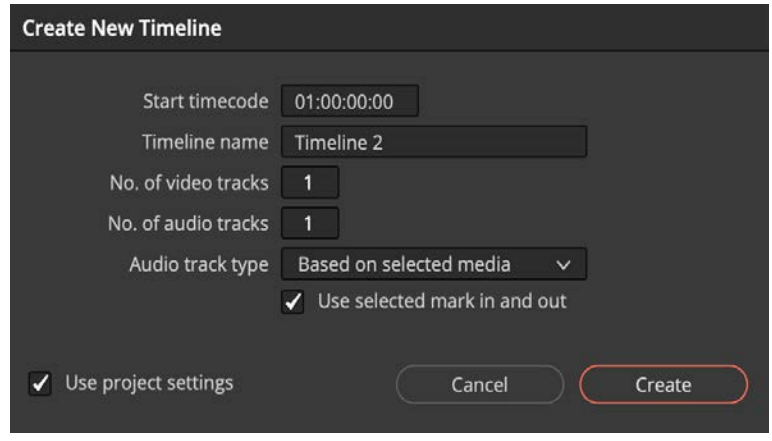
3. Here's another way:
Select files from the Volume List and the Media Storage Browser (top-middle window—thumbnails or list view).
Right click and ADD INTO MEDIA POOL.



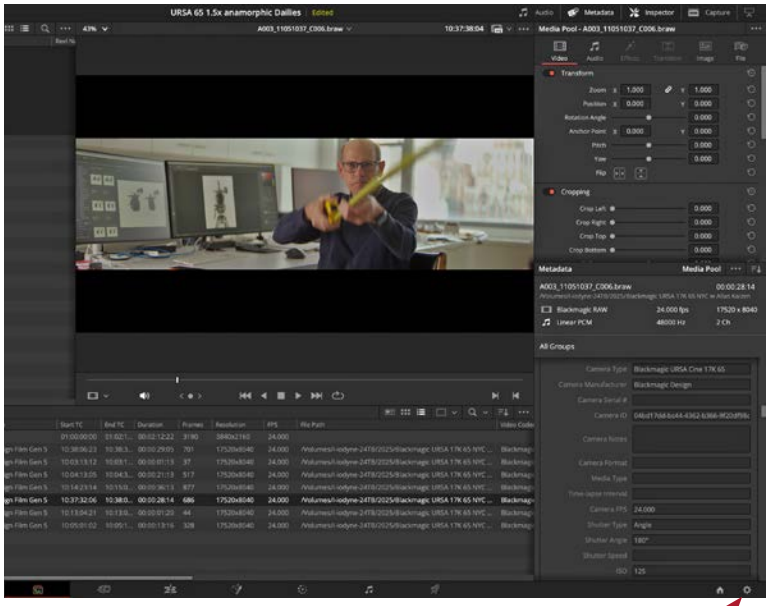
4. Look at the Metadata in the column at right. Our Blackmagic URSA Cine 17K 65 files are indeed 17K (17520 x 8040, with the camera running at 24 fps, 180° shutter, 125 ISO, 5600 Kelvin, and a Blackmagic Gen 5 Film to Extended Video LUT.



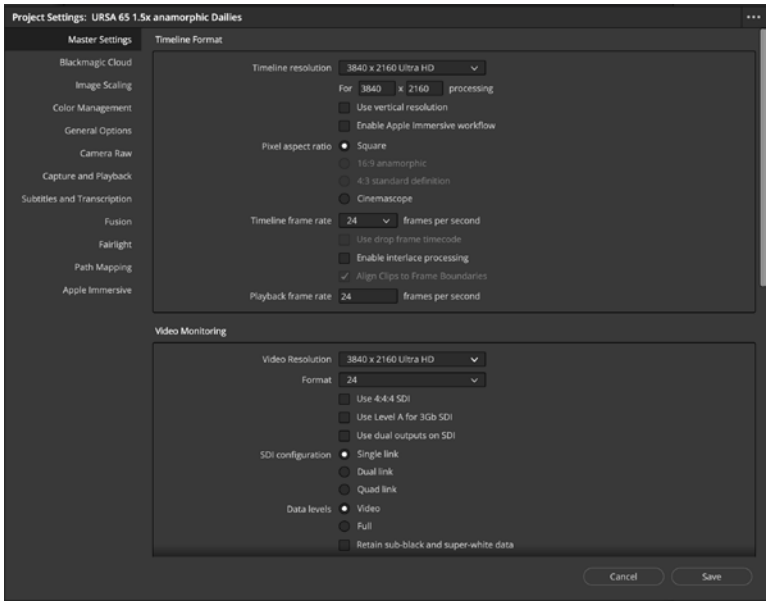
5. Select files, right click and CREATE NEW TIMELINE USING SELECTED CLIPS.



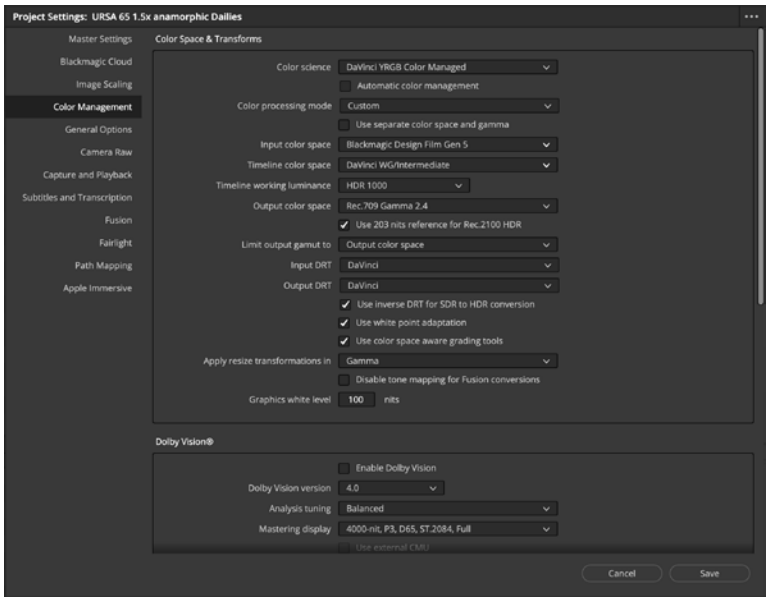
6. The CREATE NEW TIMELINE window pops up.
Give it a name or leave the default "Timeline 1, Timeline 2," etc.
We'll USE PROJECT SETTINGS. Click CREATE.



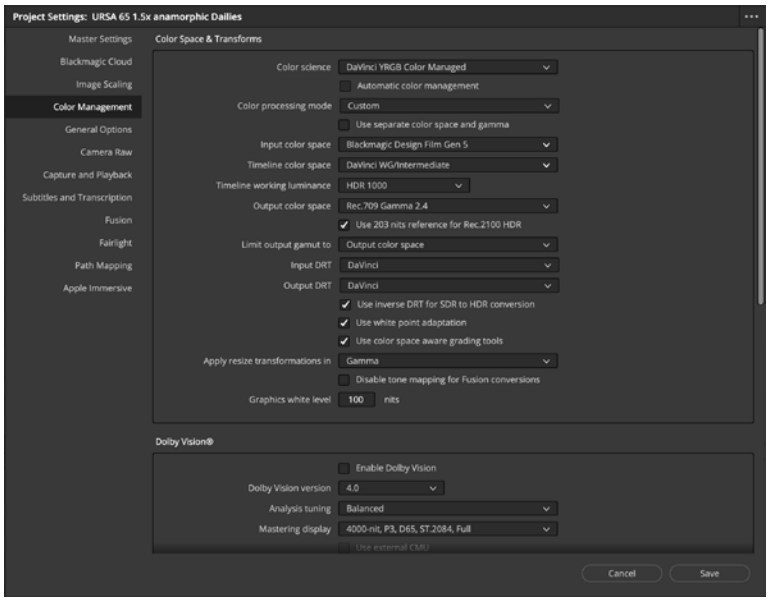
7. Click on the Gear icon —
at the bottom right corner of the screen to open PROJECT SETTINGS.



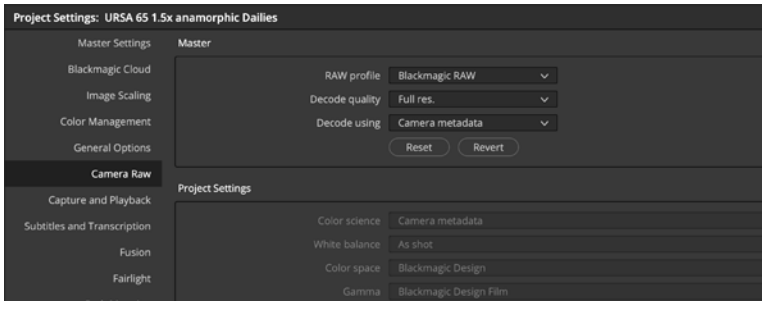
8. Master Settings: We want to view files and create dailies. Let's set Timeline and Video Resolution to 3840 x 2160 UHD. Even though we used anamorphic 1.5x squeeze lenses, select SQUARE pixel aspect ratio because the desqueeze factor was saved in the file's metadata.



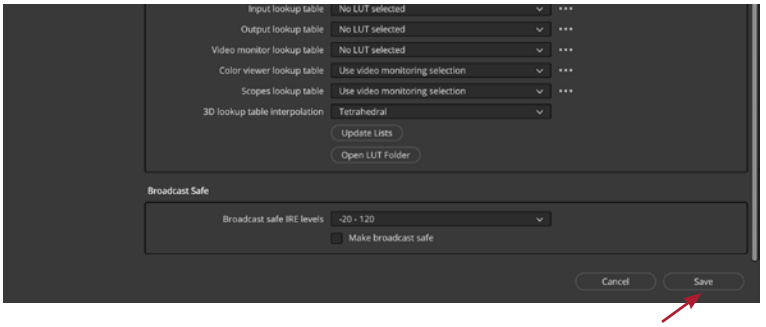
9. Go to the Color Management section.
Select Color Science > DaVinci YRGB Color Managed.
Color Processing Mode > Custom.



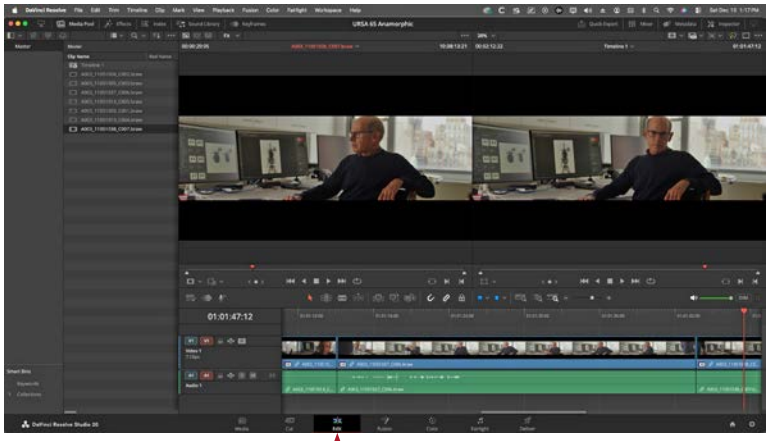
10. Input Color Space > Blackmagic Design Film Gen 5.
Timeline Color Space > DaVinci WG (Wide Gamut) / Intermediate.
Output Color Space > Rec.709 Gamma 2.4.



11. Camera Raw: RAW Profile > Blackmagic RAW. This is where you can change the various camera RAW formats that DaVinci Resolve supports.



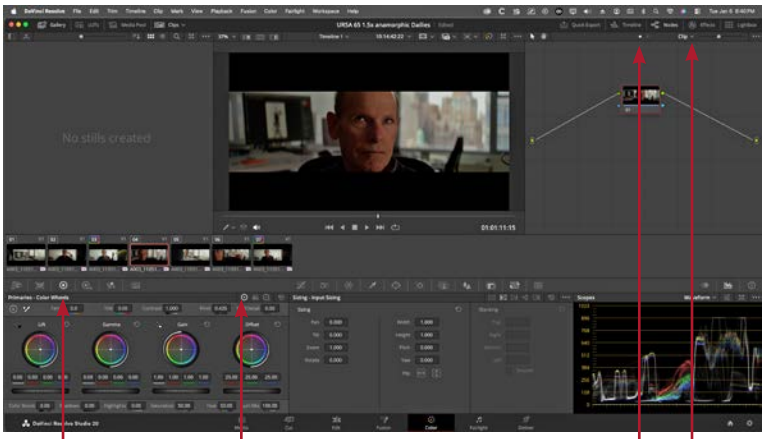
12. Be sure to scroll down to bottom of the window to SAVE your settings.



13. Now, it's time to go to the EDIT page and choose your selects.

14. Next, go to the COLOR page.

15. Click the CAMERA RAW icon on the left side to adjust settings. We'll use PROJECT SETTING. (Note: DECODE QUALITY of our 17K footage shows up as 16368 x 7512 because we're on a 2019 Mac Pro. Recent M5 Macs will decode at full 17520 x 8040 resolution.)



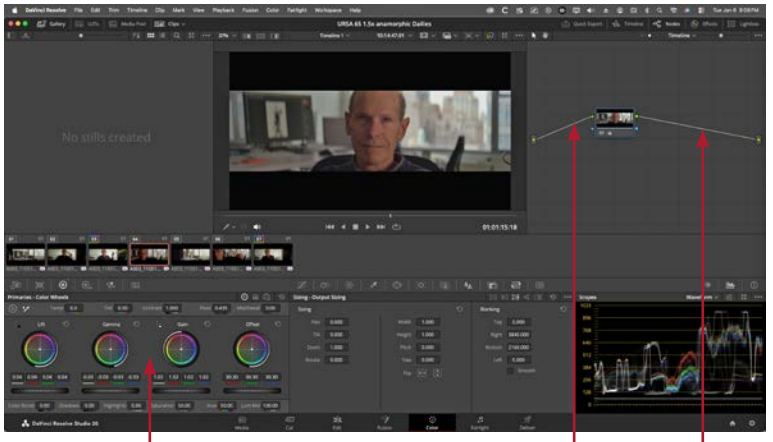
16. Select Primaries - Color Wheels. Select the left-hand dot below NODES. to grade on a clip by clip basis... It's confirmed by the word "Clip."

17. Hmm. Looks a bit dark and warm.

But we want "one-light dailies" for the entire timeline.

So, click the right-hand dot below NODES and it's confirmed: TIMELINE.

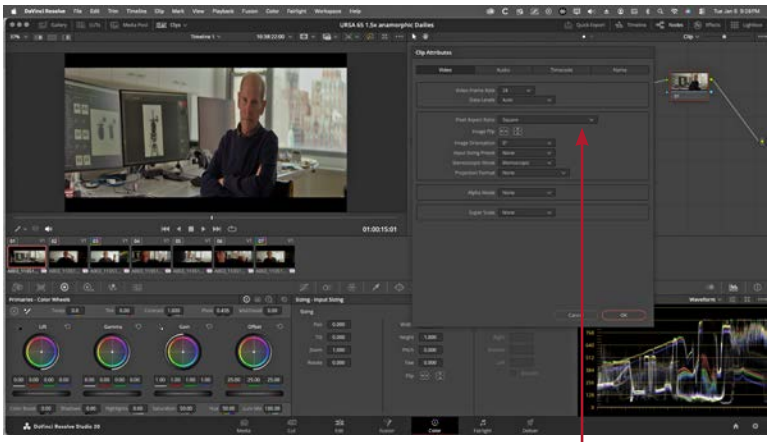
Add Node > Corrector.



18. Connect the green dots in the node tree.

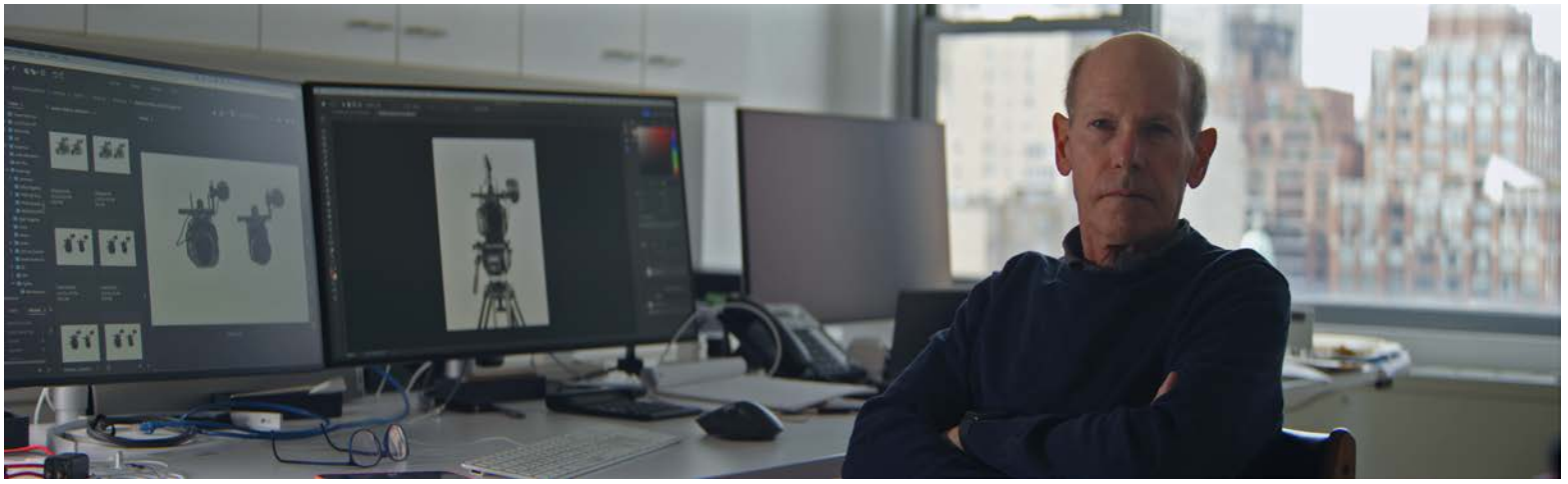
19. Just a slight tweak: a bit brighter and cooler for the entire timeline.

Primaries - Color Wheels: Lift - Gamma - Gain - Offset.



20. In case you want to see the squeezed anamorphic view: Right click on the clip: Clip Attributes > Video > Pixel Aspect Ratio > Square.

21. Go to the DELIVER page.
Let's deliver our selects as H.264 MOV.



22. Delivered. URSA Cine 17K 65 17520 x 8040 — 2.2:1 sensor x 1.5x desqueeze of Atlas Kaizen 65mm anamorphic = 3.3:1 aspect ratio. Quite wide!

23. Cropped to a more conventional 2:39:1 in DaVinci Resolve Studio. The cropped image is still high rez at 12K: 12689 x 8040.

For all the help and guidance with these articles—great thanks to Stephanie Hueter, Associate Director of Worldwide Communications; Tim Schumann, Senior Product Manager; Tor Rolf Johansen, Cinematography Product Specialist; Shawn Carlson for all things DaVinci Resolve Product Specialist; and rest of the team at Blackmagic Design.

Angénieux Optimo Primes cover URSA Cine 17K 65

Conveniently, serendipitously, unofficially—most Angénieux Optimo Prime lenses cover the image sensor diagonal of the URSA Cine 17K 65 (55.9 mm) and GFX ETERNA 55 (54.53 mm).

I avoided vignetting on the 28mm Optimo Prime by removing the front sunshade ring (held in place by 8 small Phillips head screws). I expect this may void the warranty or at least raise eyebrows.

The optical designers and engineers in St-Héand may cringe, but you can achieve greater illumination at the edges of some of the other focal lengths by removing the rear filter and filter holder. Be sure to re-shim the lens (compensate by 0.7 mm) to account for the lack of rear filter.

Some purists might protest that these lenses were designed for Full Frame and even if they pleasantly cover the diagonals of 65mm format cameras, you might see some focus fall-off or shading toward the edges of frame. "O frabjous day! Callooh! Callay!" you may chortle in your joy if you favor fall-off and Lewis Caroll's *Jabberwocky*.

This is true of lenses by other companies as well. Your "mileage may vary" depending on which sensor mode has been selected and which focal length lens you're using. The longer focal lengths generally cover better. Please test.

Henry Grenier at Band Pro in Burbank writes, "The 21mm Optimo Prime covers the URSA Cine 17K 65 in the 2:1 imager mode. The 12 lenses from 28mm to 135mm can cover the full 2.2:1 sensor area. You may get some light loss on the edges with the widest ones, but it depends on the composition of the scene."

angenieux.com

bandpro.com

Testing the Angénieux Optimo Prime 28mm with a Fujifilm GFX100 II (which has almost the same 54.78 Ø image diagonal as the GFX ETERNA) with a Prêt À Tourner PAT-ACC EXA chart. GFX100 II courtesy of FotoCare Rental.

Angénieux Optimo Primes cover URSA Cine 17K 65

Angénieux Optimo Prime 135mm live view (no vignetting) with lens metadata on URSA Cine 17K 65 camera right side monitor in Focus Puller display mode.

Small, Medium, Large, Larger Formats

iPhone 17 Pro Max

Having looked at Large and Larger Formats, Super 35, Ultra35, 55 and 65 Formats, let's study Smaller Formats.

The iPhone 17 Pro and 17 Pro Max cameras have image sensors that are 5.7mm and 9.6mm wide. Maybe we can call them Super 5mm and Super 9mm?

By way of comparison, 8mm film is physically about 8mm wide (7.90mm) with an image size approx 4.5mm wide x 3.3mm high.

Super 8 film is the same width, with smaller sprocket holes, and an image size of approx 5.79mm x 4.01mm.

The latest iPhone 17 Pro and 17 Pro Max does really good video. Now that DaVinci Resolve handles Apple ProRes RAW, editing and post have become even more accessible.

The iPhone 17 Pro has sensors with lenses arranged like the turret on a venerable Arriflex S or Bolex. Will regular digital cine cameras sprout turrets in the future? I don't know.

Nevertheless, here are details about the sensors and lenses on the iPhone 17 Pro and 17 Pro Max. Some of the specs are unofficial or interpolated, derived from Apple, DXOMARK, DPReview and my less than reliable math.

- iPhone 17 Pro and 17 Pro Max have three 48MP sensors.
- 1.4µm pixel pitch of Wide and Tele "camera" sensors.
- 2.44 µm pixel pitch of Main "camera" sensor.
- Optical and digital zoom.

Sensor Sizes and Lenses

Lens designations in mm are Apple's idnetifiers: equivalent to Full Frame Field of View, not the actual focal length.

Wide (0.5x)
Image size: approx. 5.7 x 4.1 mm (7 mm Ø).
13mm F2.2 (120° field of view).

Standard (1x and 2x)
Image size: approx. 9.6 x 7.4 mm (12 mm Ø).
24 mm, F1.78.
48 mm, F1.78 (2x 12MP).

Telephoto (4x and 8x)
Image size: approx. 5.7 x 4.1 mm (7 mm Ø).
100mm F2.8 (4x).
200 mm F2.8 (8x 12MP).

Blackmagic Camera app on iPhone 17 Pro Max

The free Blackmagic Camera app for iOS or Android provides your phone or tablet with the menus and user interface of familiar Blackmagic cameras—from Pocket to URSA Cine 17K 65.

Focal length, frame rate, shutter angle, white balance and ISO are easy to adjust with a a single tap.

Note: because the aperture is fixed on each lens, so you control exposure with accessory ND filters or by adjusting ISO, shutter and frames per second.

Blackmagic Camera ProDock

Of course you want to go full "chockers," Australian slang for packed or fully outfitted. What completely committed cameraperson would settle for a mere iPhone, unadorned and bereft of Tilta Khronos cage, Blackmagic Camera ProDock and all kinds of accessories?

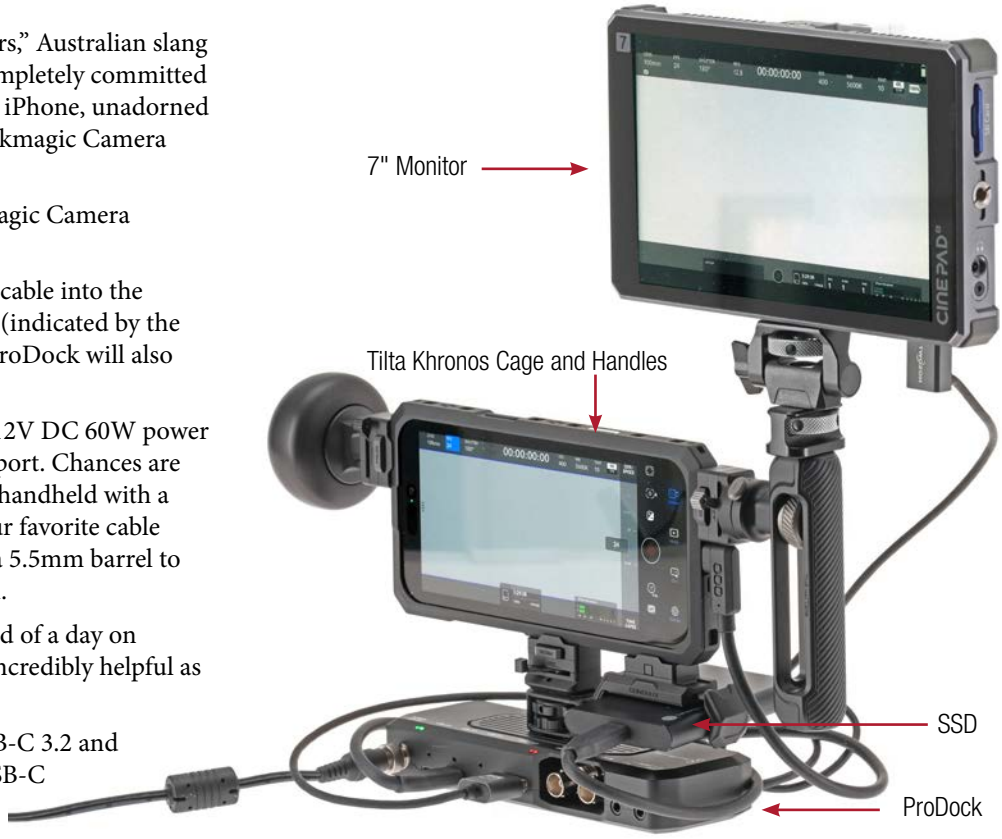
Let's start at the base with the Blackmagic Camera ProDock and its connections.

Begin by plugging the captive USB-C cable into the iPhone's USB-C port. When powered (indicated by the LED on the left side turning green), ProDock will also charge the iPhone.

Connect the included line voltage to 12V DC 60W power supply to the threaded 5.5mm barrel port. Chances are you don't want to be running around handheld with a long power extension cord, so ask your favorite cable maker (like *meccanismo.io*) to set up a 5.5mm barrel to 12-15V DC 5 amp battery connection.

In a post production suite or at the end of a day on location viewing dailies, ProDock is incredibly helpful as an I/O hub.

There are three USB-C ports: two USB-C 3.2 and one USB-C 2.0. Use one of the fast USB-C ports to connect an SSD (especially for Apple ProRes RAW). No matter what format you record, I find the SSD easier for file management than recording to the iPhone's internal storage.



The USB-C ports also provide 5V DC at 1.5A for accessory power.

The full-size HDMI 2.1 (Type A) port outputs video and audio to a monitor or external recorder. Menu settings let you select a mirrored display of the iPhone (including menus) or a direct video feed.

The two BNC connectors are what makes the ProDock most interesting: GENLOCK IN and TIMECODE IN.

AUDIO IN and AUDIO OUT ports are 3.5mm stereo mini-jacks.

ProDock works as a standalone device or paired comfortably with a Tilta Khronos Ultimate Kit, described on the next pages.

Additional Blackmagic Camera App Specs

- Frame Rates: 23.98, 24, 25, 29.97, 30, 48, 59.94, 60, 100 and 120 fps (depending on device and codec).
- Shutter Angle: 1.1° to 360°.
- ISO: 15 - 7680 (depending on device and lens).
- Framelines: 9:16, 4:5, 1:1, 4:3, 14:9, 1.85:1, 2:1, 2.35:1, 2.39:1, 2.4:1, 2.76:1.
- Resolution: Open Gate 4032x3024, 4K, 1080p, 720p (depending on device).

Tilta Khronos for iPhone 17 Pro Max

Tilta Khronos is not your ordinary iPhone case. It elevates your iPhone to a flexible, fun and fully functional filmmaking system.

There are several models—for iPhone 15, 16 and 17 Pro and Pro Max.

Shown here: a top-of-line Tilta Khronos Ultimate Kit—but the concept is similar for other versions. It's a rugged, anodized aluminum case/cage that comes in various colors and activates all of the iPhone's original buttons and controls.

Four connectors with 4-contact points are embedded on three sides of the cage to power accessories.

Attach the Focus PD Handle for either horizontal or vertical filming. The handle has a built-in 5Ah rechargeable battery that sends power to the connectors and manages remote focus, zoom, start/stop, etc. After connecting the handle to the iPhone, long-press the red button on top to power it on. If the LED on top is glowing green, that means iPhone native camera control is enabled.

Open the Blackmagic Camera App on the iPhone. Double-tap the function button at the top-rear side of the handle to switch to Blackmagic Camera App control. The LED glows red.

In the Blackmagic Camera App, click SETTINGS > ACCESSORIES > Nucleus Wireless Lens Control > TILTA.

Rotate the handle's Focus/Zoom knob. If the picture zooms, you can single-tap the function button to switch to focus control.

There are many configurations when putting together the Khronos camera package. Here's what we like:

Attach the Universal USB-C Hub on the bottom. It has a 4K full-size HDMI port, two 10G USB-C ports, a PD 3.0 (20V/5A maximum) fast charging USB-C port, a USB-C port to connect the iPhone, and an Arca-Swiss style base with 1/4-20 tripod mounts.

See illustrations on the next page showing how to connect the iPhone to the USB-C hub.

Attach the Round Wooden Handle and the Khronos Adjustable Handle (push its shiny button to rotate 180 degrees). The knurled knob adjusts the handle position and there's a 1/4-20 threaded socket on top and bottom.

Add the Khronos Mini LED daylight Obie light on top. It has three intensities, draws 5 watts and has a 95Ra CRI rating. Next come the spring-loaded Khronos Universal SSD Holder and the Khronos Fan which provides cool running—especially for long "oner" single takes. The fan attaches with Magsafe and can also charge the phone when connected.

Since the iPhone's lenses have fixed apertures, the Khronos 58mm Filter Tray with Magnetic 58mm Variable ND 0.3 - 1.5 (1-5 stops) is essential.

Individual magnetic filters attach with the Khronos Quick Release Filter Tray. Currently, filters include Black Mist, White Mist and FSND 0.3 - 2.4 (1-8 stops).

Tilta Khronos for iPhone 17 Pro Max

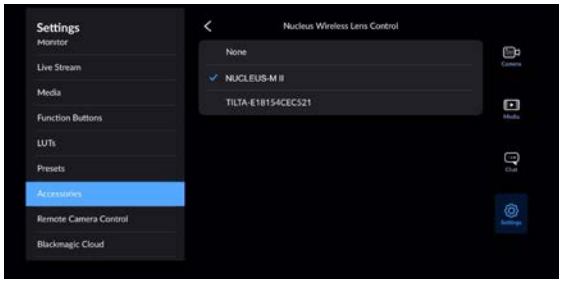
Nucleus-M II

Tilta's Nucleus-M II wireless hand unit deftly controls focus on an iPhone 17 Pro or Pro Max equipped with the Khronos system.

Power the Nucleus-M II on by long-pressing the red REC button. Press MENU > Wireless > Bluetooth > ON.

In the Blackmagic Camera app, go to Settings > Accessories > Nucleus Wireless Lens Control > and select NUCLEUS.

(TILTA—the other menu choice shown below is for the Focus PD Handle.)



Focus Scale

Tap the Focus icon in the Blackmagic Camera display to show the focus scale. Note that the camera app does not show distance in feet. It's a scale of 0.000 to 1.000. So you should hand calibrate a disc on the hand unit or focus by eye using the live display or monitor.

Above: 0.000 close focus.

Below: far focus.

Tilta Khronos for iPhone 17 Pro Max

Rear View (Camera Operator Side)

Tilta Khronos for iPhone 17 Pro Max

Front View (Lens Side)

Tilta Khronos for iPhone 17 Pro Max

Khronos Mini LED daylight Obie light

Tilta Magnetic 58mm Variable ND

Khronos 58mm Filter Tray

Connections

Simple Setup: Connect the Focus PD Handle's captive cable to the iPhone 17 Pro or Pro Max USB-C port. The Handle fits on top of the connector.

Focus PD Handle

Focus PD Handle's captive cable connects to iPhone

If you want to use both the Focus PD Handle and the Universal USB-C Hub, connect the Handle's captive cable to the Hub's PD Power port. Then connect Tilta's included cable with 90° USB-C connectors between the Hub's "FOR IPHONE" port and the iPhone's USB-C port.

Universal Hub

From Hub to iPhone

Focus PD Handle's captive cable connects to PD Port on Hub

Tilta Khronos for iPhone 17 Pro Max

Fujifilm GFX ETERNA 55

GFX ETERNA 55

Fujifilm GFX100 II & GFX ETERNA 55

GFX100 II camera body with its native G Mount.
Camera dimensions: 6 x 4.6 x 1.8 in. / 152.4 x 117.4 x 46.5 mm.

Fujifilm GFX ETERNA 55 with native G Mount Mount.
Dimensions: 4.36 x 5.44 x 6.96 in. / 110.8 x 138.2 x 176.8 mm.

GFX100 II

Fujifilm introduced the 102 Megapixel GFX1000 II on September 12, 2023. GFX might stand for "Giant Format - X series." The sensor is 43.8 mm wide x 32.9 mm high (55 mm diagonal). I started calling it "Larger Format" because the image area is about 1.7 times larger than Large Format (Full Frame).

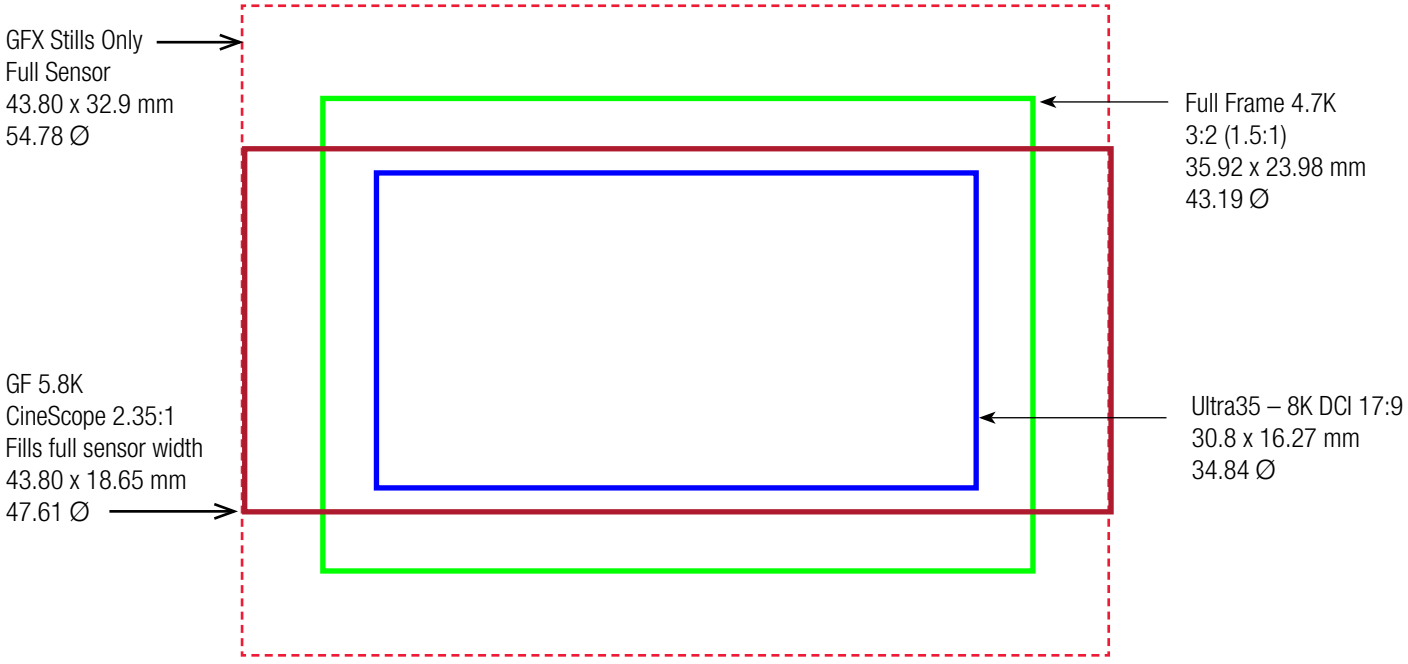
Although it is primarily a still photography camera, there are more than 32 video formats and sensor modes. But, you can also just compose as you like and crop in post. For many of us, GFX100 II cameras were like training wheels for what was to come next — the GFX ETERNA 55 Filmmaking Camera.

GFX ETERNA 55

Fujifilm Corporation announced the development of their new Larger Format digital cine camera on November 12, 2024. It was shown under glass at InterBEE 2024 in the Makuhari Messe, located in Chiba, a suburb of Tokyo, from Nov 13-14.

Working prototypes appeared under glass in February 2025 at BSC Expo in London and CP+ Expo in Yokohama. The journey continued with many updates and innovations at NAB, Cine Gear

GFX100 II - A few Sensor Modes



Fujifilm GFX ETERNA 55

PL Mount Adapter by Fujifilm comes with the GFX ETERNA 55 camera.

G to LPL Mount Adapter for GFX ETERNA 55 by Wooden Camera.

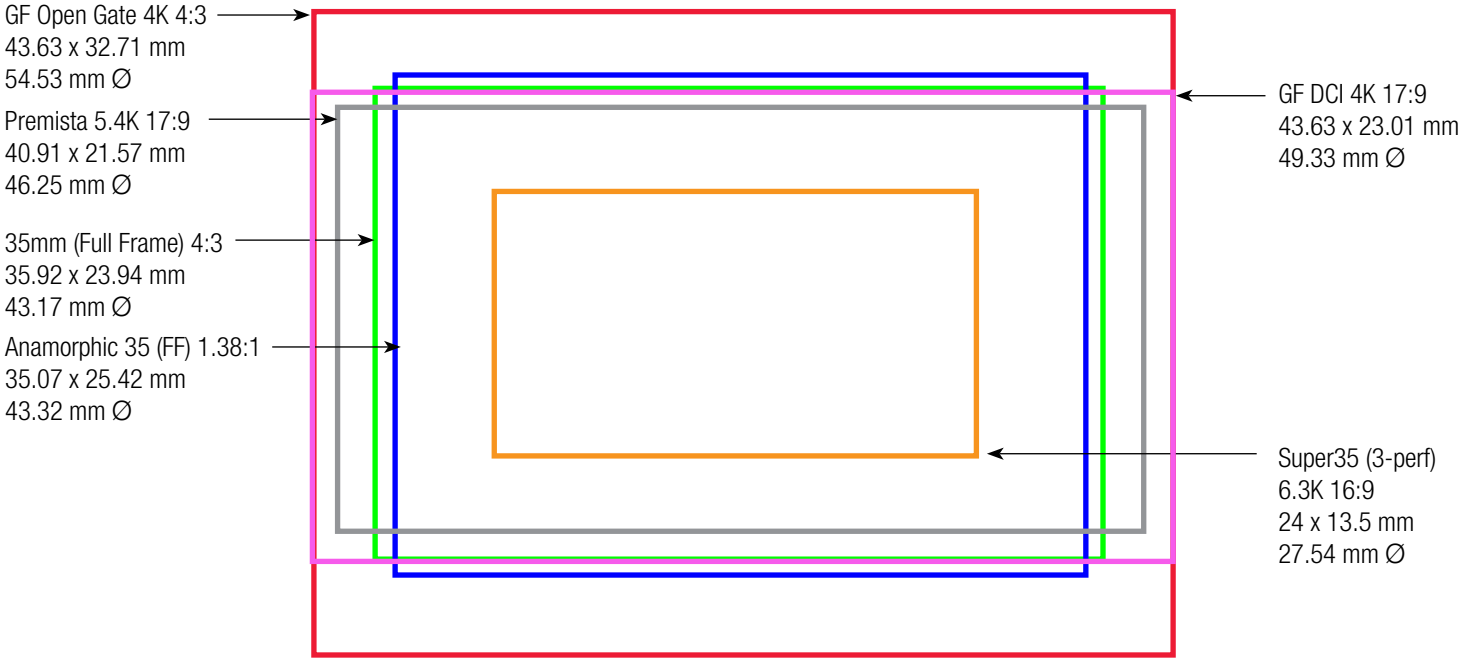
Expo and then the big reveal with working models at the Amsterdam Eye Museum and IBC in early September 2025. To clear confusion about 65mm format image sizes, they added "55" to describe the sensor diagonal. And so, we have the Fujifilm GFX ETERNA 55.

In October 2025, the Japan Institute of Design Promotion selected the GFX ETERNA 55 for a Good Design Best100 Award. And, by InterBEE 2025, the camera was shipping with an appealing US$ MSRP of $16,499.95.

There are now 19 Fujinon "Larger Format" GF lenses: autofocus, auto iris, tilt-shift, image-stabilized, macro, long and fast. They communicate with GFX cameras and get power via the pogo pins at the mount's 6 o'clock position.

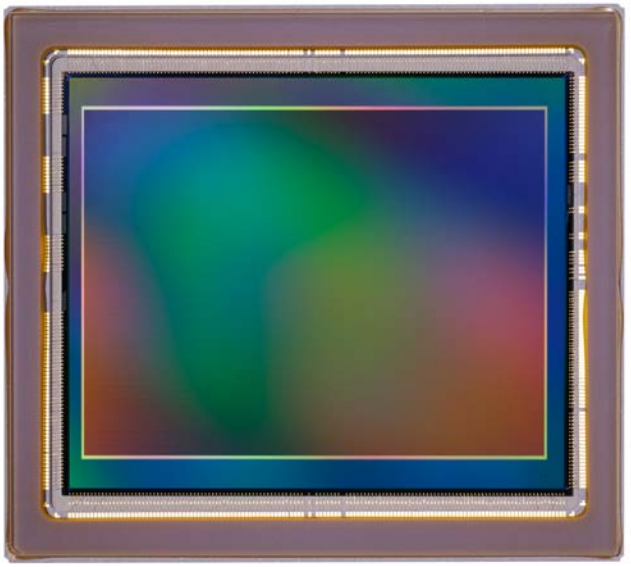
And for cine lenses, the G Mount opens up the possibility of using almost anything. With the availability of many different lens mount adapters, this is truly a multi-format cine camera.

GFX ETERNA 55 - A few Sensor Modes



FUJIFILM GFX ETERNA 55 Larger Format Filmmaking Camera

Makoto Oishi, Fujifilm Senior Manager, Professional Imaging Group, Imaging Solutions Div. at CP+ Yokohama on Feb. 2, 2025.



Fujifilm GFX 102MP CMOS II HS sensor. Photo courtesy of Fujifilm.

Product Development

Meet Makoto Oishi, Fujifilm Senior Manager, Professional Imaging Group, Imaging Solutions Div.

I certainly met Mr. Oishi many times over the past couple of years, as did many DPs. It was a very interesting camera roll-out. At first, some people wondered why Fujifilm was dangling the concept of this very innovative Medium or Larger Format camera for such a long time. "Surely you have to announce, launch and ship within a short window of time," they said. "Waiting too long might result in waning interest."

It even defied FDTimes's 9-month rule of first sighting to first delivery. But the strategy was good. Fujifilm Product Managers, Planners, Engineers, Executives and Marketing Teams were busy meeting with DPs, Camera Assistants, Directors, Crews, Rental Houses and Post Facilities. They took notes, gathered ideas, listened to what users requested. Fujifilm programmers spent long hours coding all the parameters, sensor modes, menu choices, looks, aspect ratios, speeds and more.

February 2025

By CP+ Expo in Yokohama on February 27, 2025, the latest working prototype appeared under glass and remained on until March 2—working during the entire show with its onboard touchscreen monitor displaying a live image.

Up to February 2025, the GFX ETERNA's widest sensor mode matched the GFX100 II still camera: 43.8 mm wide x 18.65 mm high (47.61 Ø image diagonal). It now recorded 3:2 Open Gate—full width and full height of the entire sensor area (43.63 x 32.71 mm (54.53 mm Ø). So now, GFX ETERNA had the tallest sensor in the 65mm format family.

Its image diagonal of 54.78 mm Ø is approximately 1.7 times larger than Full Frame (36 x 24 mm, 43.3 mm Ø).

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

G Mount

The native G Mount has a 26.7 mm flange focal depth and — conveniently — a 65mm inside diameter.

You can almost call it a kit lens. Companion to the GFX ETERNA, the new Fujinon GFX Format 32-90 T3.5 Power Zoom lens has a G Mount. (Official name: Fujinon GF32-90mmT3.5 PZ OIS WR).

This is where cine lenses are heading: a hybrid of traditional cine style gearing and contemporary digital photo opto-mechanics.

The Fujinon GF32-90mm T3.5 PZ has geared focus, iris and zoom rings. Flip two slide switches, and you have autofocus and auto iris. Another slide switch toggles between Servo and Manual zoom control. Focus, iris and zoom all have internal motors. You can switch from manual to auto and back again. The lens barrels have end stops—unlike most AF still photo lenses where the ring spins round and round. Also, focus marks are remembered and repeatable, even when you power the camera off and on.

The new Fujifilm G Mount to PL adapter is also unique. The PL side has familiar /i contacts at the 12 o'clock position. Lens metada passes through the adapter to the camera's G Mount pogo pins.

Details

The displays on the camera left and right sides are almost identical. They have duplicate menu screens, buttons and controls. There are 6 tactile "soft" buttons, dials, and home-user-play-menu-back buttons.

There are thoughtful details in front: two GRAB buttons to grab

BSC Expo London, Feb. 14, 2025:

Above: Camera right side: GFX Eterna under glass

At right: Wooden Camera's with accessories and LPL Mount on a 3D-printed GFX ETERNA model.

still frames, and a 2-pin Lemo power connector for accessories. A front dial adjusts the internal variable ND in 0.015 increments from ND.6 to ND2.1. It is visually stepless.

Both the sensor and processor are the latest developments already included in the FUJIFILM GFX100 II Larger Format mirrorless hybrid stills/video camera with its 102 million pixels.

GFX System

Fujifilm introduced the impressive GFX System of mirrorless digital cameras in 2017—skipping over Full Frame completely. Instead, they jumped from their X Series of APS-C mirrorless cameras directly to what we used to call "Medium Format."

But, when another company came up with the epithet "Large Format" for "Full Frame," it sounded like "Medium Format" was smaller. And so, GFX became unofficially known, at least in FDTimes, as "Larger Format."

Anyway, Fujifilm kept adding new models, video capabilities and lots (19 at last count) of Larger Format mirrorless GF lenses. These G Mount lenses range from the FUJINON GF23mmF4 R LM WR to the GF500mmF5.6 R LM OIS WR. There are five G Mount zooms, from the GF20-35mmF4 R WR to the GF100-200mmF5.6R LM OIS WR. Popular primes include the 55mm F1.7 WR lens, 30mm F5.6 Tilt Shift lens, 110mm F5.6 Tilt Shift Macro lens. And, of course, there's the 32-90mm T3.5 Power Zoom.

Fujifilm writes, "Since its founding in 1934, the Fujifilm Group has played an important role in the global film industry—introducing the ETERNA series motion picture color negative film, as well as FUJINON Premier, Premista and ZK Cabrio cinema zoom lenses. The product name GFX ETERNA expresses our desire to be a leader in a new era of video production that creates masterpieces

"GFX ETERNA is set to revolutionize high-end production. With Fujifilm's expertise and experience in the field of filmmaking, the company will combine the exceptional capabilities of Fujinon lenses with the advanced technology of GFX System cameras.

"As the demand for producing feature and short films, television, documentaries, and web streaming content continues to grow, there is an increasing industry need for high-quality footage that can be produced quickly and seamlessly. As we proceed with field testing in preparation for the release of GFX ETERNA, we will contribute to high-quality and efficient cine production in a wide range of fields by expanding our product lineup to enhance the GFX System."

What's this? 55mm?

"In some ways, we think there is a lot of validity in exploring the sensor diagonal as a standard in establishing a way to talk about this because it often comes to the central question of lens coverage and how it can impact a cinematographer's image," said Yuji Igarashi, Fujifilm General Manager Professional Imaging Group.

Identifying the camera by its image sensor diagonal could help clear the confusion of calling cameras "Large Format, Larger Format, Larger-than-Large, Super, Ultra, Medium, 65, etc. After all, the original meaning of "65mm" refers to the width of the actual film negative, not the picture area.

Therefore, it's nice to call this camera "Fujifilm GFX ETERNA 55" — 55 rounded up from its 54.78mm image diagonal.

Matching the sensor sizes of the GFX ETERNA with the GFX100 II, Fujifilm planners and designers have created a Larger Format... oops...55mm Format cine camera in a very compact body. The styling is pleasing, especially the sculptural dorsal handle / cable protector in back. This is a Filmmaking Camera for filmmakers everywhere.

Fujifilm GFX ETERNA 55

Camera left side: GFX ETERNA with Fujifilm G to PL Mount adapter.

Camera left side: GFX ETERNA with native G Mount.

Battery Chamber and Memory Card Slot covers opened.

Two Frame Grab buttons

Fujifilm GFX Sensor: 43.8 × 32.9 mm. 54.78 mm diagonal ∅

Fujifilm G Mount: 26.7 mm flange focal depth. 65 mm ID.

Fujifilm GFX ETERNA 55

Camera Right Side

3/4 Right Rear

Rear

V-Mount Battery Plate

Top

Bottom

Fujifilm GFX ETERNA 55

Camera Left Side

3x Soft Buttons on top and 3x on bottom to select screen functions

HOME: to access Main Display (shown here)

G to PL Mount Adapter with /i metadata pass-through

Power ON / OFF

Battery Compartment Door

User-assignable Function buttons

MENU: for deep dive into all settings

Manual / Autofocus Switch (for enabled lenses)

Data Card Door

Select / Set Dial

Multifunction Dial

Multifunction Selector: OFF, ND, Iris, Zoom, Focus

RECORD Start / Stop

LOCK buttons & dials

BACK

GRAB Frame

Air intake

Camera Left Side - Battery & Data Card Doors Open

Internal Fujifilm NP-W235 powers camera and enables hot-swap

CFexpress Card type B Slot

SD Card Slot

Front View

12V DC, 3A Out. Pin 1 = gnd Pin 2 (on left) = +12 V

G Mount Locking Lever

G Mount

G Mount lens release

G Mount pogo pins for power & data with GF lenses

GRAB: to grab a still frame at the same resolution as the video.

RECORD Start / Stop

Multifunction Dial

Fujifilm GFX ETERNA 55

Camera Right Side

Air exhaust

User-assignable Function buttons

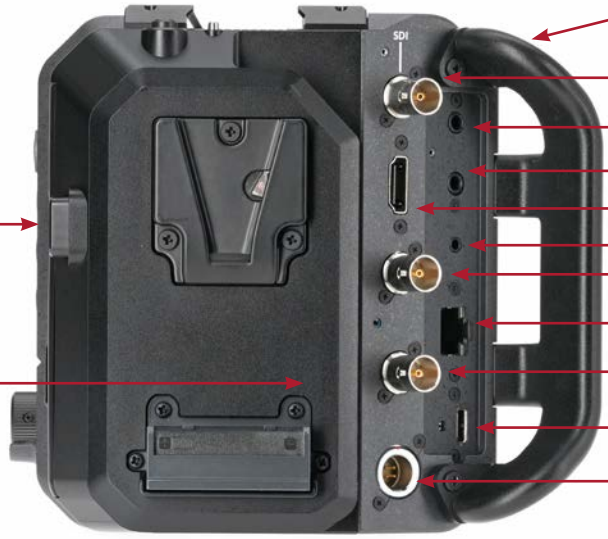
Camera Right Display, Buttons & User Interface match Camera Left.

Air intake

Focus Tape Hook

12-pin Hirose for lens servo power

Rear View



Rear Handle - Plug Protector

BNC: 12G SDI Out (12G, 6G, 3G)

3.5mm: Mic IN

3.5mm: Headphones OUT

HDMI Out

2.5mm: Remote Control

BNC: Timecode IN / OUT

RJ45: Ethernet

BNC: Genlock

USB-C

4-pin EXT Power IN: +12 V DC

V-Mount Battery Release

V-Mount Onboard Battery

GFX ETERNA 55 Sensor Modes Simplified

All the different sensor modes on the following pages can make your eyes spin. But it could be worse, as the Austrians say. You could be leafing through the famous Clairmont Camera 80-page Catalog of Groundglass Aspect Ratios for film cameras.

These are just a few of the 40 sensor modes (formats) available on GFX ETERNA. Each sensor mode crops the recorded image to the size shown in the diagram below.

GF 4K Open Gate

The largest sensor area: 43.6 x 32.7 mm. Image circle: 54.53mm Ø. Maximum resolution: 3840 x 2880.

GF 4K DCI

The same sensor width as GF 4K Open Gate. Sensor area: 43.6 x 23.0 mm. Image circle: 49.33 mm Ø. Max. resolution: 4096 x 2160.

Premista 4K DCI

FUJINON Premista lenses cover an image area larger than FF.
40.3 x 21.2 mm. Image circle: 45.52 mm Ø. Max. res: 4096 x 2160.

35mm DCI 4K

Classic Full Frame size: 35.9 x 23.9 mm. Image circle: 43.17 mm Ø. Max. resolution: 4096 x 2160

8K DCI

Smaller than Full Frame but larger than Super35—also known as Ultra35: 30.8 x16.2 mm. Image circle: 34.82 mm Ø.
Max. resolution: 8192 x 4320

Super35 4K DCI

Classic Super35 3-perf (17:9). Dimensions: 24 x 12.7 mm.
Image circle: 27.31 mm Ø Max. resolution: 4096 x 2160.

External RAW Recording

GFX ETERNA 55 can output Apple ProRes RAW via the SDI (BNC 12G/6G/3G) or the HDMI (Type A) connector:

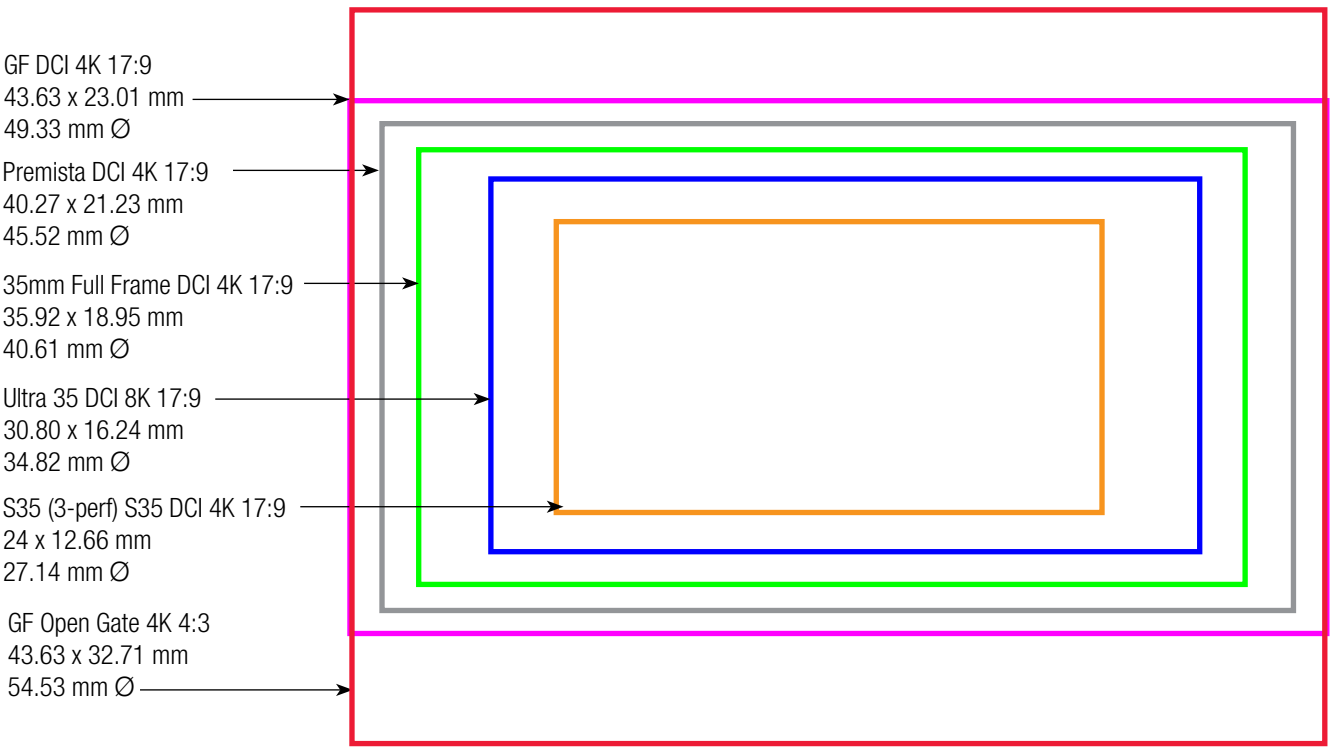
- SDI RAW External Recording Formats: GF 4K 4:3 Open Gate, 4K 16:9.
- HDMI RAW External Recording Formats: GF 4K 4:3 Open Gate, 4K 16:9, 8K 17:9, 8K 16:9.

More information:

For more information on Sensor Modes, Formats and Resolution, see page 6 of the GFX ETERNA White Paper:
www.fujifilm-x.com/en-us/support/download/technical-data/

For manuals and downloads: *www.fujifilm-x.com/global/support/*

GFX ETERNA Sensor Modes Simplified by DCI 17:9 Aspect Ratios



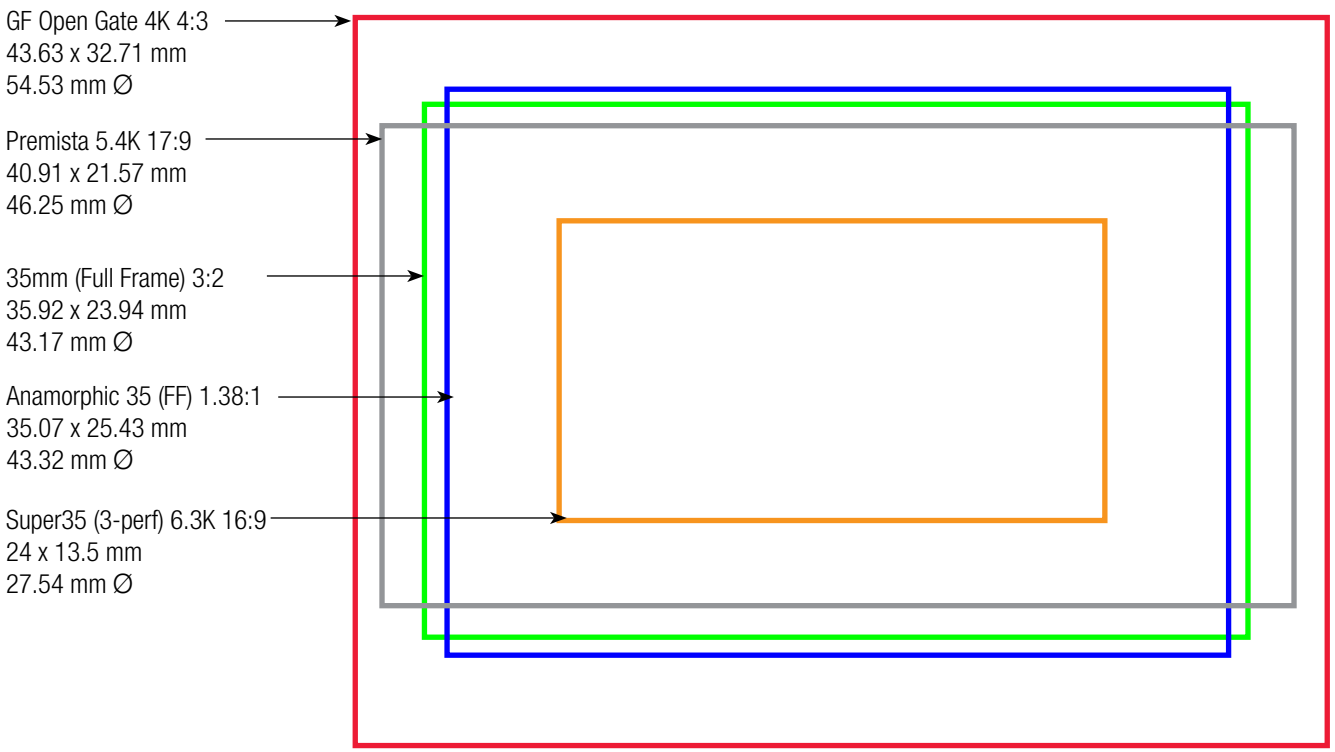
GFX ETERNA 55 Simplified Chart of Sensor Modes & Sizes

Here's another simplified chart. For clarity, I have moved the Camera's DCI 8K sensor mode from the GFX ETERNA menu's Anamorphic 35mm sensor mode menu to our standalone Ultra35 8K pixel for pixel sensor mode. See next page for all the complete list.

All of these internal recording formats are available in ProRes 422 HQ, ProRes 422, ProRes 422 LT and H.265.

Format	Mode	Resolution	Aspect Ratio	Width mm	Hgt mm	Diagonal mm Ø	Max FPS
GF (Giant Format, Larger Format)	4K Open Gate	3840 x 2880	4:3	43.63	32.71	54.53	48
	5.8K Widescreen Spherical	5824 x 2436	2.39:1	43.80	18.32	47.47	29.97
	DCI 4K	4096 x 2160	17:9	43.63	23.01	49.33	59.94
Premista (VV)	5.4K	5440 x 2868	17:9	40.91	21.57	46.25	29.97
	DCI 4K	4096 x 2160	17:9	40.27	21.23	45.52	59.94
35mm (Full Frame)	4.8K 3:2	4776 x 3184	3:2	35.92	23.94	43.17	24
	4.8K 16:9	4776 x 2688	16:9	35.92	20.21	41.21	29.97
	DCI 4K	4096 x 2160	17:9	35.92	18.95	40.61	29.97
Anamorphic 35mm (Full Frame & Ultra35)	8K 2.76:1 recorded dequeezed 2x from 1.38:1	8192 x 2968	2.76:1	35.07	25.42	43.32	24
	8K 2.39:1 recorded dequeezed 2x from 1.195:1	8080 x 3380	2.39:1	30.38	25.42	39.61	24
	4.6K 1.38:1 recorded squeezed	4664 x 3380	1.38:1	35.07	25.42	43.32	24
	4K 1.195:1 recorded squeezed	4040 x 3380	1.195:1	30.38	25.42	39.61	24
	4.8K 1.5:1 (3:2) recorded squeezed	4776 x 3184	3:2	35.92	23.94	43.17	24
Ultra35	DCI 8K pixel for pixel	8192 x 4320	17:9	30.80	16.24	34.82	29.97
Super35 (3-perf 35mm)	6.3K	6382 x 3590	16:9	24.00	13.50	27.54	29.97
	4K 17:9	4096 x 2160	17:9	24.00	12.66	27.14	29.97

GFX ETERNA Sensor Modes Simplified by Widest or Tallest



GFX ETERNA 55 Sensor Modes, Rez, Aspect Ratios, Sizes, FPS

Format	Sensor Mode	Resolution	Ratio	Width mm	Hgt mm	Diag. mm	Max FPS
GF (Giant Format, Larger Format)	4K 4:3 Open Gate	3840 x 2880	4:3	43.63	32.71	54.53	48
	DCI 8K	8192 x 4320	17:9	30.80	16.24	34.82	24
	8K	7680 x 4320	16:9	28.88	16.24	33.13	29.97
	5.8K Widescreen Spherical	5824 x 2436	2.39:1	43.80	18.32	47.47	29.97
	DCI 4K	4096 x 2160	17:9	43.63	23.01	49.33	59.94
	4K	3840 x 2160	16:9	43.63	24.55	50.06	59.94
	FHD 17:9	2048 x 1080	17:9	43.63	23.01	49.33	120
	FHD 16:9	1920 x 1080	16:9	43.63	24.55	50.06	120
Premista (VV & Ultra35)	DCI 8K	8192 x 4320	17:9	30.80	16.24	34.82	24
	8K	7680 x 4320	16:9	28.88	16.24	33.13	29.97
	5.4K	5440 x 2868	17:9	40.91	21.57	46.25	29.97
	DCI 4K	4096 x 2160	17:9	40.27	21.23	45.52	59.94
	4K	3840 x 2160	16:9	40.27	22.65	46.20	59.94
	FHD 17:9	2048 x 1080	17:9	40.27	21.25	45.53	120
	FHD 16:9	1920 x 1080	16:9	40.27	22.65	46.20	120
35mm (Full Frame & Ultra35)	DCI 8K	8192 x 4320	17:9	30.80	16.24	34.82	24
	8K	7680 x 4320	16:9	28.88	16.24	33.13	29.97
	4.8K 3:2	4776 x 3184	3:2	35.92	23.94	43.17	24
	4.8K 16:9	4776 x 2688	16:9	35.92	20.21	41.21	29.97
	DCI 4K	4096 x 2160	17:9	35.92	18.95	40.61	29.97
	4K	3840 x 2160	16:9	35.92	20.21	41.21	29.97
	FHD 17:9	2048 x 1080	17:9	35.92	18.95	40.61	59.94
	FHD 16:9	1920 x 1080	16:9	35.92	20.20	41.21	59.94
Anamorphic 35mm (Full Frame & Ultra35)	8K 2.76:1 recorded dequeezed 2x fr 1.38:1	8192 x 2968	2.76:1	35.07	25.42	43.32	24
	8K 2.39:1 recorded dequeezed 2x fr 1.195:1	8080 x 3380	2.39:1	30.38	25.42	39.61	24
	4.6K 1.38:1 recorded squeezed	4664 x 3380	1.38:1	35.07	25.42	43.32	24
	4K 1.195:1 recorded squeezed	4040 x 3380	1.195:1	30.38	25.42	39.61	24
	DCI 8K pixel for pixel	8192 x 4320	17:9	30.80	16.24	34.82	29.97
	8K	7680 x 4320	16:9	28.88	16.24	33.13	29.97
	4.8K 3:2	4776 x 3184	3:2	35.92	23.94	43.17	24
	4.8K 16:9	4776 x 2688	16:9	35.92	20.21	41.21	29.97
	DCI 4K	4096 x 2160	17:9	35.92	18.95	40.61	29.97
	4K	3840 x 2160	16:9	35.92	20.21	41.21	29.97
	FHD 17:9	2048 x 1080	17:9	35.92	18.95	40.61	59.94
	FHD 16:9	1920 x 1080	16:9	35.92	20.20	41.21	59.94
Super35 (3-perf 35mm)	6.3K	6382 x 3590	16:9	24.00	13.50	27.54	29.97
	4K 17:9	4096 x 2160	17:9	24.00	12.66	27.14	29.97
	4K 16:9	3840 x 2160	16:9	24.00	13.50	27.54	29.97
	FHD 17:9	2048 x 1080	17:9	24.00	12.63	27.13	59.94
	FHD 16:9	1920 x 1080	16:9	24.00	13.49	27.54	59.94

ProRes 422 HQ, ProRes 422, ProRes 422 LT and H.265 codecs are available in all of the above formats.
External ProRes RAW Recording via SDI: GF 4K 4:3 Open Gate, 4K 16:9. External ProRes RAW via HDMI: GF 4K 4:3 Open Gate, 4K 16:9, 8K 17:9, 8K 16:9.

GFX100 II Sensor Modes, Rez, Aspect Ratios, Sizes, FPS

Format	Sensor Mode	Resolution	Aspect Ratio	Width mm	Height mm	Diagonal mm	Max FPS
GF (Giant Format, Larger Format)	Full Size Still Photography	11648 x 8736	4:3	43.8	32.9	54.78	8.0 fps
	DCI 8K	8192 x 4320	17:9	30.8	16.27	34.84	24 fps
	8K	7680 x 4320	16:9	28.88	16.27	33.15	30 fps
	5.8K CineScope *	5824 x 2476	2.35:1	43.8	18.65	47.61	30 fps
	DCI 4K	4096 x 2160	17:9	43.63	23.05	49.35	60 fps
	4K	3840 x 2160	16:9	43.63	24.58	50.08	60 fps
	FHD	2048 x 1080	17:9	43.63	23.05	49.35	120 fps
	FHD	1920 x 1080	16:9	43.63	24.58	50.08	120 fps
Premista (VV & Ultra35)	DCI 8K	8192 x 4320	17:9	30.8	16.27	34.84	24 fps
	8K	7680 x 4320	16:9	28.88	16.27	33.15	30 fps
	5.4K	5440 x 2868	17:9	40.91	21.6	46.26	30 fps
	DCI 4K	4096 x 2160	17:9	40.27	21.26	45.54	60 fps
	4K	3840 x 2160	16:9	40.27	21.26	46.22	60 fps
	FHD	2048 x 1080	17:9	40.27	21.29	45.55	120 fps
	FHD	1920 x 1080	16:9	40.27	22.69	46.22	120 fps
35mm (Full Frame & Ultra35)	DCI 8K	8192 x 4320	17:9	30.8 **	16.27	34.84	24 fps
	8K	7680 x 4320	16:9	28.88 **	16.27	33.15	30 fps
	35mm Format 3:2	4776 x 3184	3:2	35.92	23.98	43.19	24 fps
	35mm Format 16:9	4776 x 2688	16:9	35.92	20.25	41.23	30 fps
	DCI 4K	4096 x 2160	17:9	35.92	18.98	40.63	30 fps
	4K	3840 x 2160	16:9	35.92	20.1	41.16	30 fps
	FHD	2048 x 1080	17:9	35.92	18.98	40.63	60 fps
	FHD	1920 x 1080	16:9	35.92	20.23	41.23	60 fps
Anamorphic 35mm (Full Frame & Ultra35)	Anamorphic 8K 2x	8192 x 2968	2.76:1	35.08	25.46	43.34	24 fps
	Anamorphic 4.6K	4664 x 3380	1.38:1	35.08	25.46	43.34	24 fps
	DCI 8K	8192 x 4320	17:9	30.8 **	16.27	34.84	24 fps
	8K	7680 x 4320	16:9	28.88 **	16.27	33.15	30 fps
	35mm Format 3:2	4776 x 3184	3:2	35.92	23.98	43.19	24 fps
	35mm Format 16:9	4776 x 2688	16:9	35.92	20.25	41.23	30 fps
	DCI 4K	4096 x 2160	17:9	35.92	18.98	40.63	30 fps
	4K	3840 x 2160	16:9	35.92	20.1	41.16	30 fps
	FHD	2048 x 1080	17:9	35.92	18.98	40.63	60 fps
	FHD	1920 x 1080	16:9	35.92	20.23	41.23	60 fps

Format names in **RED** in the Left Column are Fujifilm's.
The black text notes in the Left Column are FDTimes's designations and explanations.

* 5.8K CineScope is Widescreen Spherical.

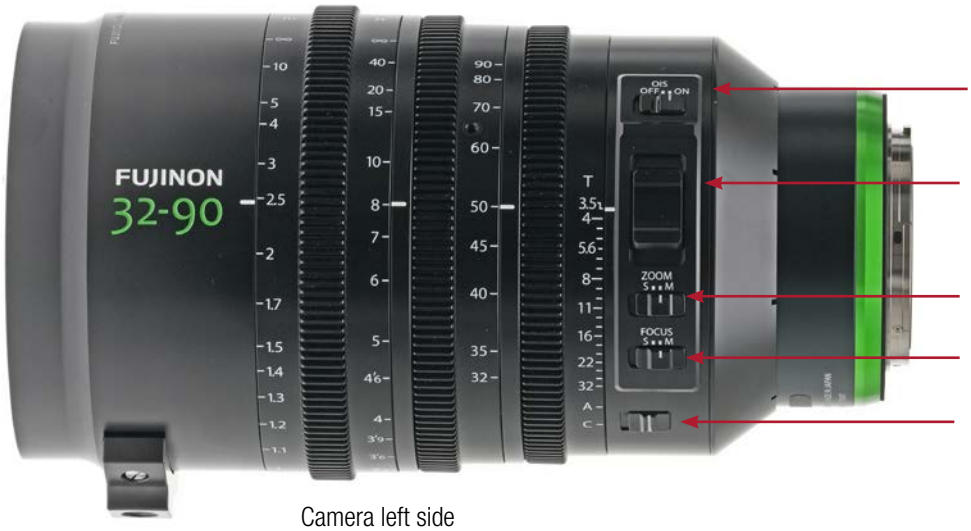
** Ultra35 designates an image circle coverage of approx. 34.6 mm Ø.
It is larger than Super35 (31.1 mm Ø) — but smaller than Full Frame (43.2 mm Ø) or VV (46.3 mm Ø).

FUJIFILM GFX ETERNA 55 Camera Specs

- **Lens Mount: FUJIFILM G mount**
- **Image Sensor: 43.8mm × 32.9mm GFX 102MP CMOS II HS**
- Number Of Pixels: 102 million pixels
- Recording Codecs: Apple ProRes 422HQ, Apple ProRes 422, Apple ProRes 422LT, HEVC/H.265 (4:2:2 10 Bit)
- Video File Wrappers: MOV, MXF, MP4
- Sensor Frame Rates (FPS): 22, 23.976, 24, 25, 29.97, 47.952, 48, 50, 59.94, 100, 119.88
- Project Frame Rates (FPS): 59.94, 50, 48, 47.95, 29.97, 25, 24, 23.98
- **HDMI RAW External Recording Formats: GF 4K 4:3 Open Gate, 4K 16:9, 8K 17:9, 8K 16:9**
- **SDI RAW External Recording Formats: GF 4K 4:3 Open Gate, 4K 16:9**
- OLPF: Optical low pass, UV, IR Filter
- ND Filter: Electronic Variable ND Filter, ND.6 - ND2.1 in ND.015 increments. Visually stepless.
- Gamma: Film Simulation / F-Log2 / F-Log2 C / F-Log / HLG
- LUTs: Up to 16 3D-LUT files can be saved on the camera. Supported cube sizes (17/33/65). File names support up to 48 characters.
- 20 recordable Film Simulations: PROVIA/Standard, Velvia/Vivid, ASTIA/Soft, CLASSIC CHROME, REALA ACE, PRO Neg.Hi, PRO Neg.Std, CLASSIC Neg., NOSTALGIC Neg., ETERNA/Cinema, ETERNA BLEACH BYPASS, ACROS, ACROS + Ye FILTER, ACROS + R FILTER, ACROS + G FILTER, MONOCHROME, MONOCHROME + Ye FILTER, MONOCHROME + R FILTER, MONOCHROME + G FILTER, SEPIA Cooling Fan Setting: AUTO1 / AUTO2 / HIGH / LOW
- Sensor Cleaning System: Ultra Sonic Vibration
- Image Processing Engine: X-Processor 5
- Storage Media: SD Card, CFexpress Type B Card, SSD
- ISO: AUTO, 400 -12,800 (in 1/3 stop increments)
- Extended: ISO Low 100 - 320 (1/3 stop increments) & ISO High 25,600
- TTL Exposure Control: 256 zone metering, Multi, Spot, Average, Center Weighted
- Shutter angle / Shutter speed / 5.6°- 360° 1/8 sec - 1/8000 sec.
- Focus: Manual Focus & Continuous Hybrid AF (TTL contrast AF / TTL phase detection AF)
- AF Subject Detection: Face, Eye, Animal, Bird, Automobile, Motorcycle, Bicycle, Airplane, Train
- Framelines: Up to 3 customizable framelines
- Exposure Tools: Waveform / Parade, Vectorscope, Histogram, RGB Histogram, Zebras
- Side monitors (L&R): 3-inch Touch Screen Color LCD Monitor, 3:2 Aspect Ratio, approx. 1.04 million dots.
- White Balance: 2000K - 11000K. Auto, White Priority, Ambience Priority
- Color correction Green-Magenta: -16.00 to +16.00
- Connectors
  - 1 x 4 Pin Lemo DC input
  - 1 x 2 Pin Lemo DC output 12V (3 amps max), 12- Pin Hirose Lens Connector
  - 1 x SDI OUT (12G/6G/3G); 1 x HDMI Output (Type A)
  - 1 x ø3.5mm Microphone Jack; 1 x ø3.5mm Headphone Jack
  - 1 x ø2.5mm Remote Jack
  - 1 x Ethernet Port (RJ45)
  - 1 x USB Type-C
  - 1 x Timecode Input/Output (BNC); 1 x Genlock Input (BNC)
  - 1 x Multipin ETERNA Monitor Connector; 1 x Multipin Control Handle Connector
- Dimensions: 110.8mm (W) x 138.2mm (H) x 176.8mm (D) / 4.36in. (W) x 5.44in. (H) x 6.96in. (D)
- Weight: Approx. 1,995.81 g / 4.4 lb. (excluding battery and memory card)
- External Onboard Monitor: 5-inch LCD 2000 Nit, 16:9, approx. 6.22 million dots
- Network: Bluetooth v4.2 2402 - 2480 MHz; WiFi IEEE802.11 a/b/g/n/ac WP2, WPA3; Ethernet 10. 100, 1000BASE-T (1G)
- Power Supplies: Internal NP-W235 Battery (Included), AC Power Adapter (Included), V-Lock Battery (Not Included)
- Camera comes with: 5-inch Touch Screen Monitor, 5-inch Monitor Hood, Monitor Arm, G to PL Mount Adapter, Camera Control Top Handle, AC power adapter AC-15VS, AC cable, Lens cavity cap, Li-ion battery NP-W235.

GFX ETERNA with GF32-90mmT3.5 PZ OIS WR Zoom Lens

Fujifilm GFX ETERNA 55 with Fujinon GF32-90mmT3.5 PZ OIS WR



Camera left side

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.

Camera right side

The letters in Fujinon GF32-90mmT3.5 PZ OIS WR explained: GF= Fujinon GF lens for G Mount; PZ=Power Zoom; OIS=Optical Image Stabilization; WR=Water Resistant.

This is a drive-by-wire lens. It requires power from the camera. 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.

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.

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

Fujinon GF32-90mmT3.5 PZ OIS WR Specs

- 25 elements in 19 groups
  (including 3 aspherical and 3 ED elements)
- Aperture: T3.5 - T32
- Iris Blades: 13
- M.O.D.: 0.8 m / 31.5"
- Mount: Fujifilm G Mount
- Focus Ring: 200 degree rotation
- Dimensions: 222.5 mm (L) x 123.5 mm (Ø). 8.74" (L) x 4.9"
- Front diameter: 114 mm. Front filter size: 111 mm.
- Weight: approx 2,150 g / 4.63 lb
- Dust and moisture resistant.

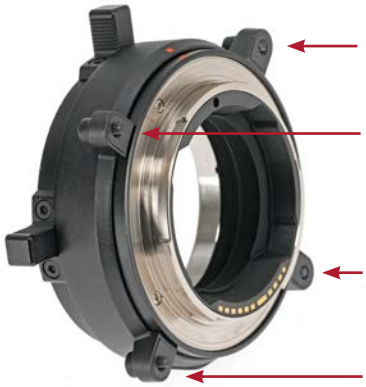
Fujifilm GFX ETERNA 55 with Fujinon GF32-90mmT3.5 PZ OIS WR

Fujinon G Mount

Lens data & power contacts

Framegrab of John Blackwood, Fujifilm Director of Technical Marketing, taken with GFX ETERNA 55 and GF32-90mmT3.5 PZ. 4:3 Open Gate 4K sensor mode.

GFX ETERNA 55 G Mount, PL Mount, LPL Mount



Fujifilm G to PL Mount with /i data pass-through contacts — rear view.

Twist clockwise in camera's G Mount until it clicks. Then rotate the Locking Lever clockwise to tighten.

For extra support, secure the mount's four screws to the camera body.

GFX ETERNA 55 with native G Mount and Locking Lever

Fujifilm G to PL Mount - 3/4 front view:

52 mm flange focal depth (FFD),
54 mm inside diameter (ID)

GFX ETERNA 55 with Fujifilm's G to PL Mount Adapter

G to LPL Mount by Wooden Camera. 3/4 front view. 44 mm FFD. 62 mm ID. No /i data.

G to PL Mount by Fujifilm - with /i data contacts — front

G to PL Mount with /i to GF data pass-through contacts — rear view.

Fujifilm GFX ETERNA 55 with Cooke Panchro65

Fujifilm GFX ETERNA 55 with Cooke Panchro65 75mm T2.5 lens

GFX ETERNA 55 and Cooke Panchro 65 75mm
4:3 Open Gate 4K sensor mode.

Framegrabs of John Blackwood.

Cooke Panchro65 lenses come in LPL Mount.

Tasting & Testing GFX ETERNA 55 with Leitz THALIA 65

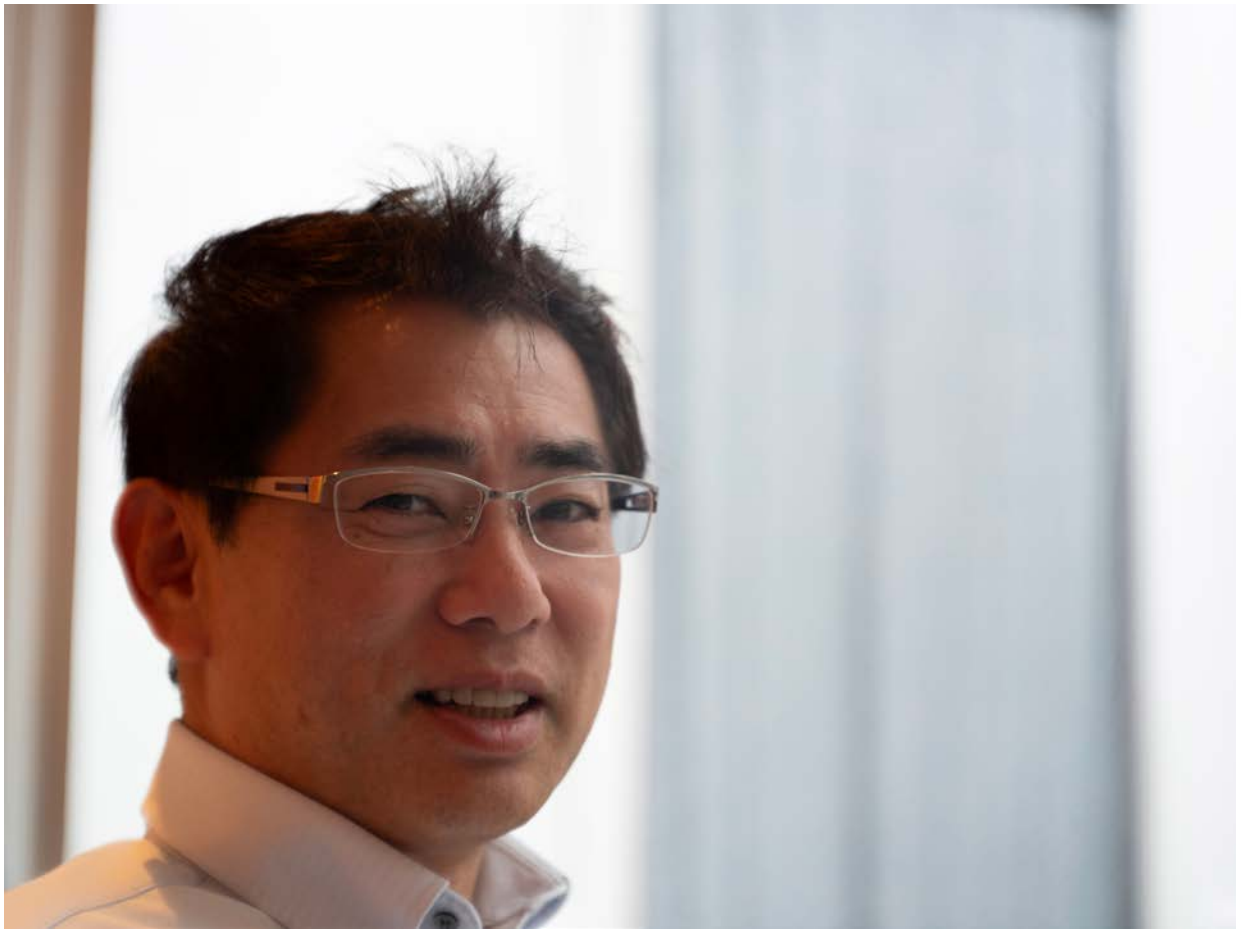
At Sistina NYC, a few steps away from the Metropolitan Museum of Art.

What better place to test the GFX ETERNA 55 with Leitz THALIA 65 primes?

Larger Format, swirly bokeh, close focus.

Taken with Leitz Cine THALIA 65 90-T 90mm wide open at T2.2 with Fujifilm's G to PL Mount Adapter.

THALIA 65 lenses come in PL and LPL mounts, with 95 mm front diameters and a 60 mm image circle.



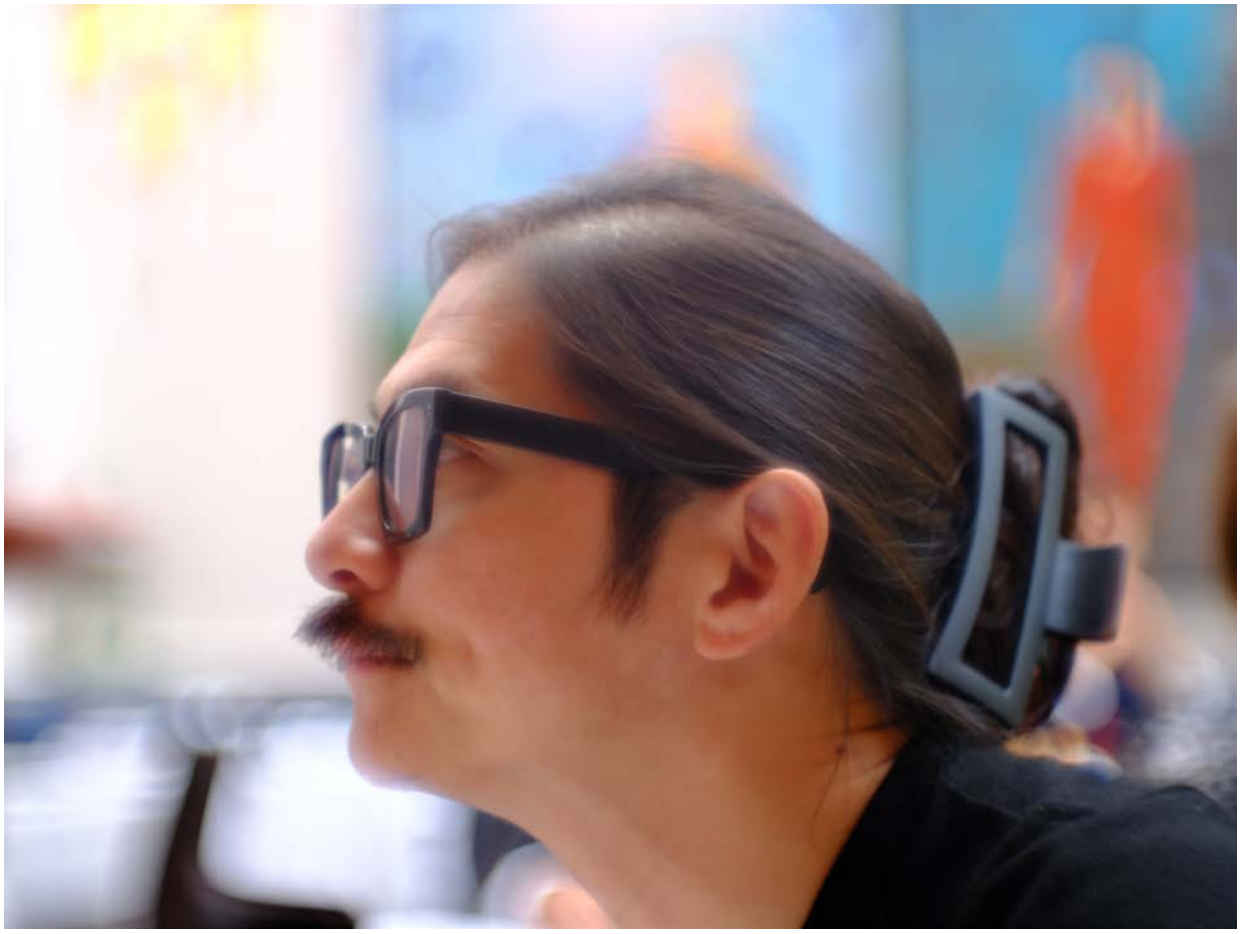
Tadashi (Todd) Sasaki, General Manager, Fujifilm North America Electronic Imaging & Optical Devices Division

Taken with Leitz Cine THALIA 65 90-T, wide open at T2.2 with G to PL Mount Adapter.

The 90mm THALIA 65 has optical qualities that are different from the rest of the THALIA set.

Wide open at T2.2, it has a vintage, romantic, slightly hazy and soft look. Stop down a bit, things become progressively sharper, perhaps less vintage, veering toward post-modern.

The lens is based on venerable Leica optical designer Max Berek's 1930s portrait lens: soft, glamorous, with Greta Garbo style glowing highlights.



Victor Ha, Vice President Fujifilm North America, Electronic Imaging & Optical Devices Division

Fujifilm GFX ETERNA 55 with Atlas Kaizen Anamorphic

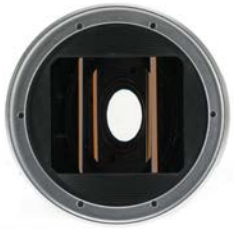
Prototype Atlas Kaizen 65 format 1.5x anamorphic lenses, in LPL mount.

Framegrab of John Blackwood taken with GFX ETERNA 55 in GF 4:3 Open Gate Sensor Mode and pre-prototype Atlas Kaizen 65 format 40mm T2.2 1.5x anamorphic lens.

Below Atlas Kaizen 40mm T2.2 desqueezed 1.5x.

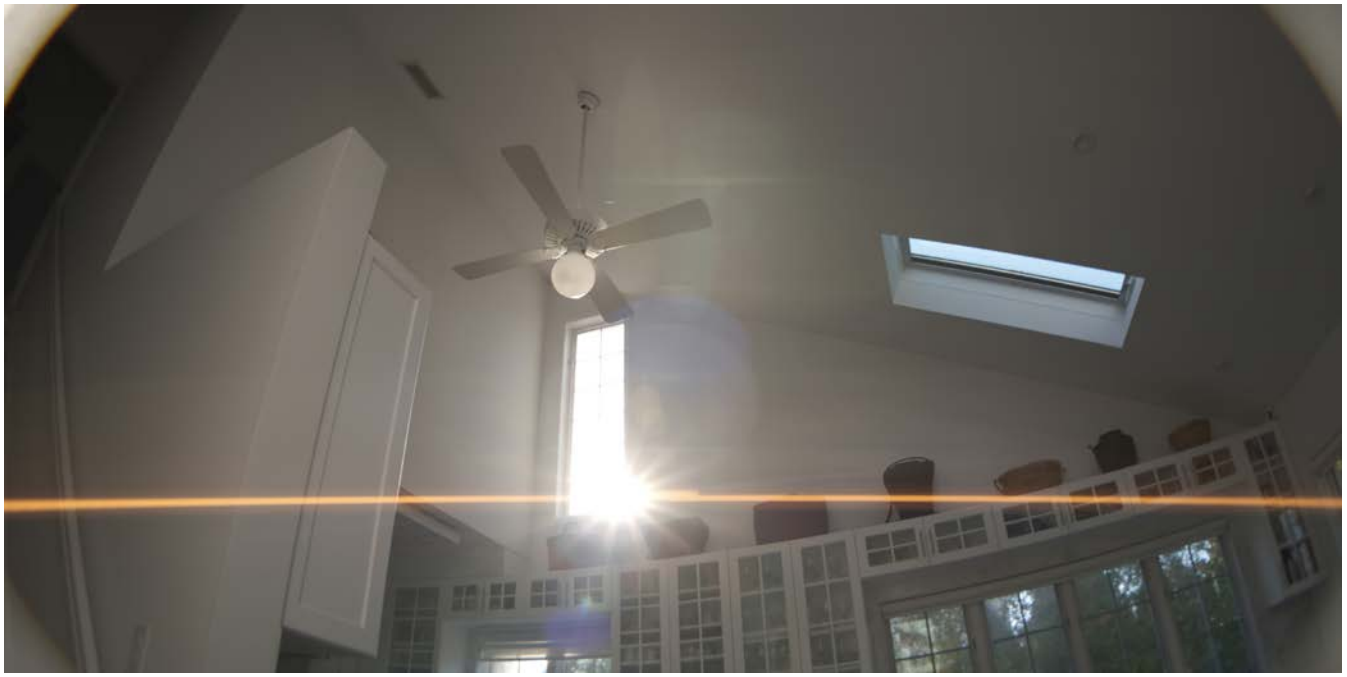
GFX ETERNA 55 with Atlas Kaizen Anamorphic

Atlas Kaizen 1.5x anamorphic front



Atlas Kaizen 1.5x anamorphic rear LPL mount

GFX ETERNA 55 in GF 4:3 Open Gate Sensor Mode and pre-prototype Atlas Kaizen 65 format 40mm T2.2 1.5x anamorphic lens.



GFX ETERNA 55 with Atlas Kaizen Anamorphic

Fufifilm GFX ETERNA 55 with first pass pre-prototype Atlas Kaizen 65 format 1.5x anamorphic 75mm T2.2 prime lens.

Framegrab of John Blackwood taken with GFX ETERNA 55 in GF 4:3 Open Gate Sensor Mode and pre-prototype Atlas Kaizen 65 format 75mm T2.2 1.5x anamorphic lens.

Squeezed at right.

Below: Atlas Kaizen 75mm T2.2 desqueezed 1.5x to 2:1 ratio.

(1.33 x 1.5 = 1.995:1.)

GFX ETERNA 55 with Atlas Kaizen Anamorphic

Fufifilm GFX ETERNA 55 with prototype Atlas Kaizen 65 format 1.5x anamorphic 75mm T2.2 prime lens.

Framegrab of Jonathon Brearley taken with GFX ETERNA 55 in GF 4:3 Open Gate 1.33:1 (4:3) 3840 x 2880 sensor mode and prototype Atlas Kaizen 75mm T2.2 1.5x anamorphic lens.

Squeezed at right.

Below: Desqueezed 1.5x to 2:1 ratio.

Nice bokeh.

Fujifilm GFX ETERNA 55 with Atlas Kaizen Anamorphic

Capturing the entire image area of the GFX ETERNA 55 with a 65mm Format Anamorphic lens benefits from the sensor's 1.33:1 aspect ratio and then, depending on the squeeze factor of the lens, stretches it to familiar deliverable formats. So, a 1.5x anamorphic lens results in a 2:1 aspect ratio. A 1.8x squeeze factor gives us a 2.39:1 aspect ratio.

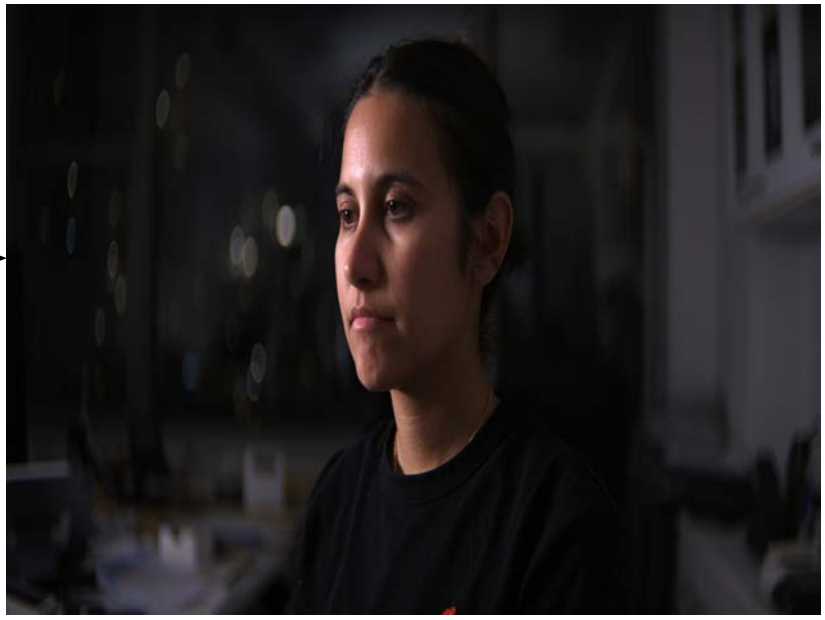
Since we're not using the GFX ETERNA 55's Anamorphic Sensor Modes, viewing has to happen on a monitor like a SmallHD that handles independent desqueezing. Also, the image is easily desqueezed in post.

Framegrab of Marlena Fauer with GFX ETERNA 55 and prototype Atlas Kaizen 65 Format 75mm T2.2 1.5x anamorphic lens.

GF Open Gate 4K 4:3 →
3840 x 2880
43.63 x 32.71 mm
54.53 mm Ø

At right: Squeezed.

Below: Desqueezed1.5x in post gets us the final 2:1 image.

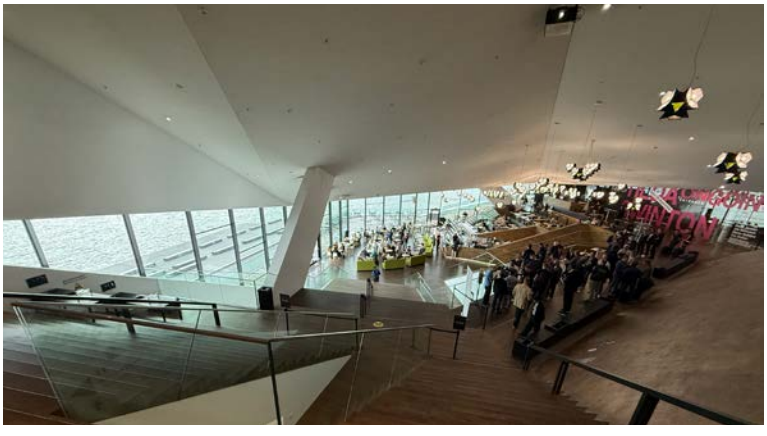


FUJIFILM GFX ETERNA 55 Launch at eye Museum Amsterdam

FUJIFILM GFX ETERNA 55 Launch at eye Museum Amsterdam

Makoto Oishi presenting the GFX ETERNA 55

Hideyuki Kasai, Fujifilm Professional Imaging Group Manager



GFX ETERNA demos on landing of Amsterdam EYE Museum

FUJIFILM GFX ETERNA 55 Launch at eye Museum Amsterdam

Masato (Mark) Yamamoto, Fujifilm Sr Exec VP, presenting in EYE Theater

Hands-on with the new GFX ETERNA 55

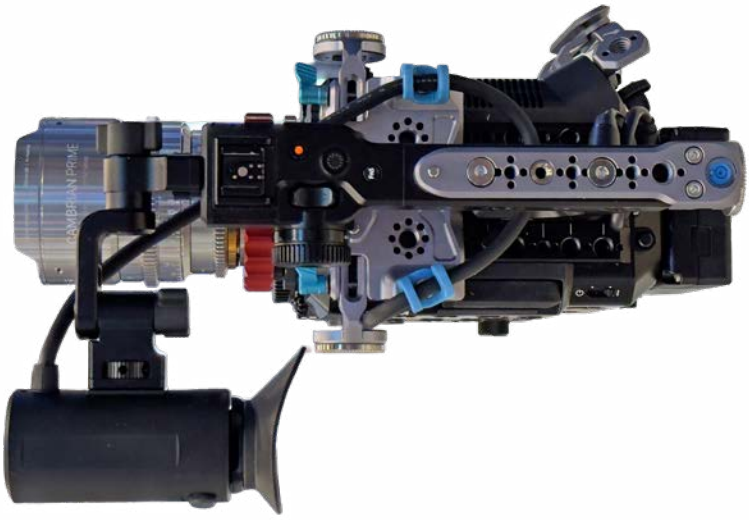
FUJIFILM GFX ETERNA 55 at IBC 2025 Amsterdam

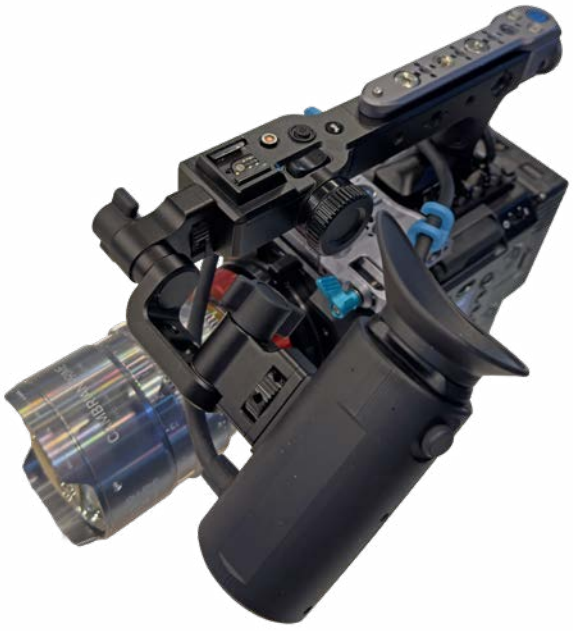
At the opening of IBC 2025 a day later, September 12, a test sample Electronic Viewfinder (EVF) “magically” appeared.

DPs and Camera Operators had been requesting this for months, and here it was with an excellent, true, sharp for focus and bright image.

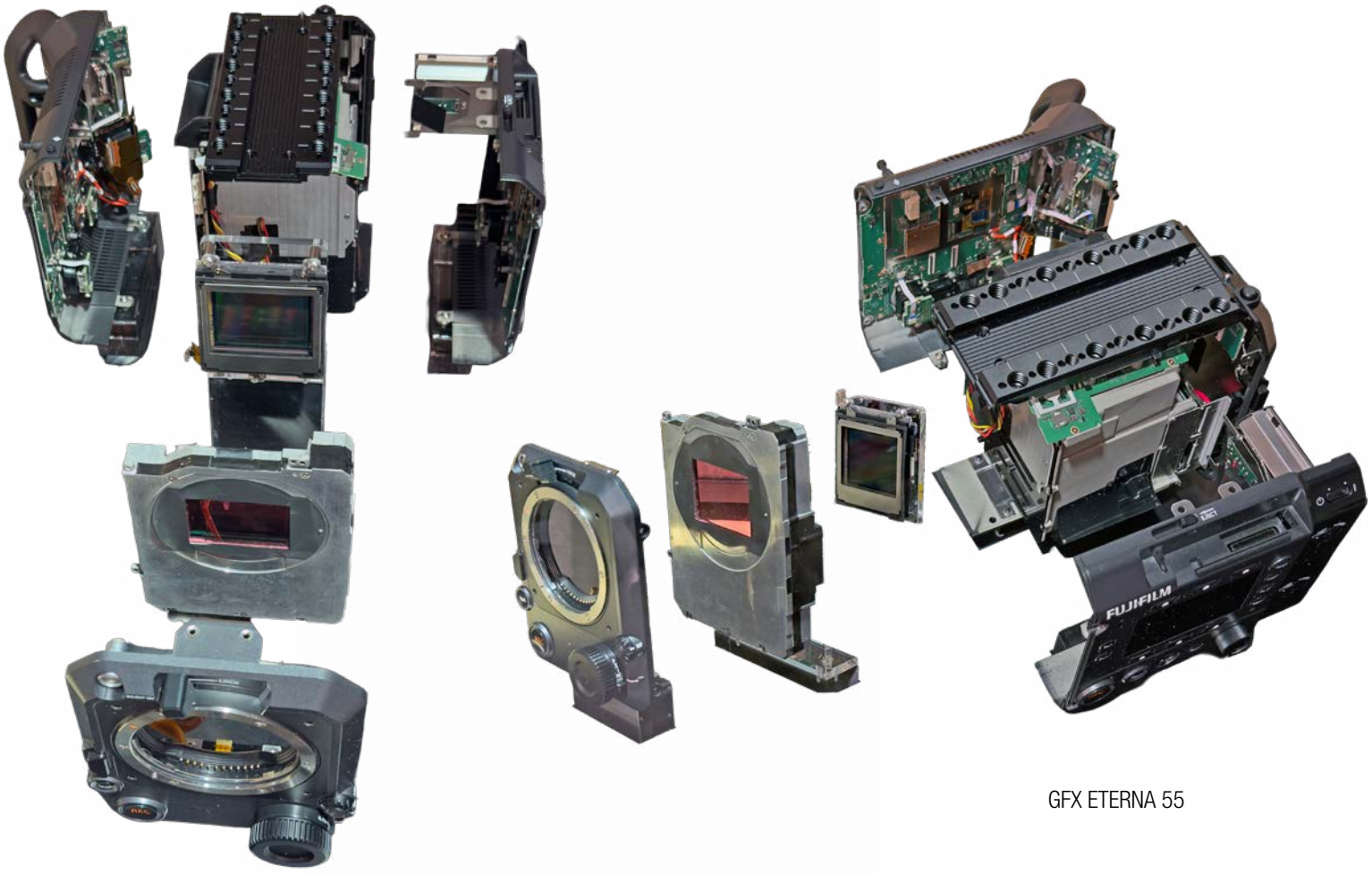
EVF for GFX ETERNA 55

Fujifilm Test Sample EVF
for GFX ETERNA 55 at IBC





Vocas G to LPL
adapter mount for
GFX ETERNA 55



GFX ETERNA 55

Ron Dexter, intrepid Director/DP, was a master of retrofit syndrome and never shy about subjecting his cameras and lenses to a bandsaw. But nothing like these cutaways.

GF32-90mmT3.5 PZ OIS WR

GFX ETERNA with Tilta Rig

The Tilta Camera Cage for GFX ETERNA Pro Kit includes a Hollywood Handle that attaches to the rear of Fujifilm's Top Handle and a Monitor Bracket that attaches to the front of Fujifilm's Top Handle.

Tilta's Monitor Bracket positions the GFX ETERNA Monitor well forward for hand-held/shoulder-resting, towards the rear for tripod work, and everywhere in between. It also hinges the monitor from perpendicular to parallel.

Tilta Camera Cage for GFX ETERNA Pro Kit

The original GFX ETERNA 55 Top Handle is good to have when you want to use its F-Z-I-ND-OFF dial which is redundant with the dial at the front of the camera. Tilta's Monitor Bracket and Top Handle Extensions attach to the front and back of Fujifilm's Top Handle.

Top View

Bottom View

Tilta Camera Cage for GFX ETERNA Pro Kit

Tilta Camera Cage for Fujifilm GFX ETERNA Pro Kit.
$399 MSRP. *tilta.com*

Tilta's right rear cable protector plate provides more mounting points.

Tilta Monitor Bracket for Fujifilm GFX ETERNA

Tilta Camera Cage for Fujifilm GFX ETERNA

Tilta Hollywood Handle

Tilta Top Plate

Tilta Monitor Bracket

Original GFX ETERNA top handle

Right-Rear Plate

Monitor Brackets

15mm rod holder for lens motors

Tilta Camera Cage

Tilta 10" Standard Lightweight Dovetail Plate

Tilta Bottom Plate with LWS 15mm rod holders

Fujifilm GFX ETERNA with Fujinon 32-90, Cartoni MIXO 21, Tilta Rig

Bright Tangerine on GFX ETERNA 55

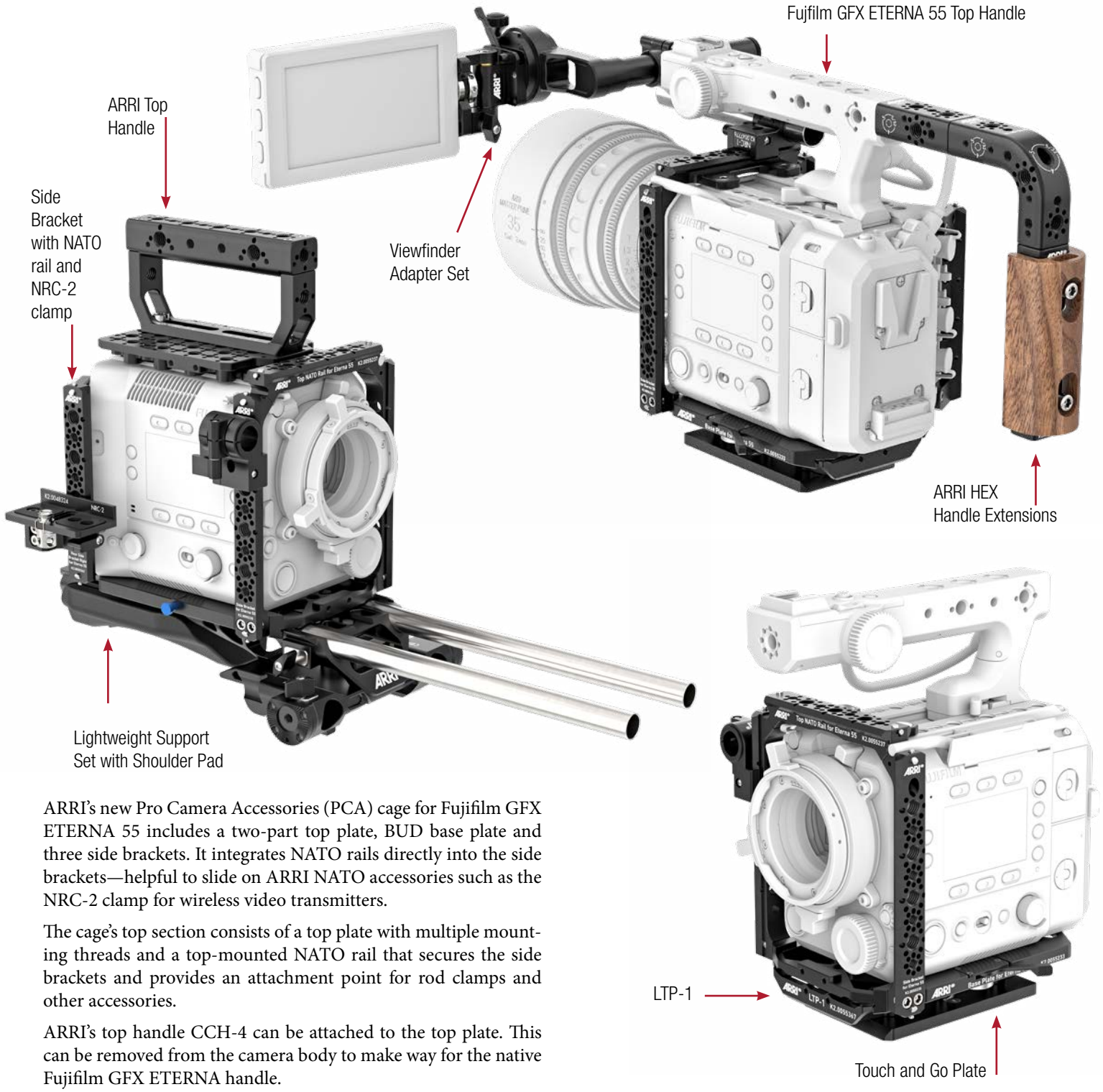
Bright Tangerine's Expert Studio Kit for Fujifilm GFX ETERNA 55 includes the Complete Cage—a wraparound rig with Top Plates and Side Ribs. The kit includes a quick-release baseplate with 19mm Studio standard spacing. The extended Top Handle adds comfort and control. For handheld, shoulder-resting, stabilizers and rigs, use the Universal BUD plate to detach the camera from the baseplate and go directly onto compatible Balanced Utility Dovetail systems with 15mm LWS rod support. The Top Rod Support lets you mount EVFs or lens motors from the 15mm rod bracket on top of the Expert Studio Kit.

brighttangerine.com

Expert Broadcast Kit for Handheld or ENG: with KASBAH Atman shoulder rig, Universal BUD Plate or VCT-14, and 15mm rods.

Expert Studio Kit in Studio Setup mode with 19mm Studio Left Field baseplate for quick-release from ARRI style standard dovetails.

ARRI PCA for Fujifilm GFX ETERNA 55



ARRI's new Pro Camera Accessories (PCA) cage for Fujifilm GFX ETERNA 55 includes a two-part top plate, BUD base plate and three side brackets. It integrates NATO rails directly into the side brackets—helpful to slide on ARRI NATO accessories such as the NRC-2 clamp for wireless video transmitters.

The cage's top section consists of a top plate with multiple mounting threads and a top-mounted NATO rail that secures the side brackets and provides an attachment point for rod clamps and other accessories.

ARRI's top handle CCH-4 can be attached to the top plate. This can be removed from the camera body to make way for the native Fujifilm GFX ETERNA handle.

ARRI's Viewfinder Adapter Set provides many viewing positions for the GFX ETERNA's onboard 5" LCD monitor. The set includes the Rod Mounting Bracket RMB-8, Viewfinder Adapter VFA-4 and Viewfinder Cross Pipe. These attach to the Fujifilm top handle or ARRI Top Handle—to which ARRI HEX (Handle Extensions) can be attached.

ARRI's ETERNA BUD (Balance Utility Dovetail) baseplate and SAM (Stabilizer Adapter Mount) plates enable quick mounting to gimbals and rigs.

The ARRI cage for ETERNA comes as a Pro Set, Basic Set, Extended Pro or Extended Basic Set—offering extra handheld accessories such as a shoulder pad, rosette brackets, and 15mm rods. The new Lightweight Tripod Plate LTP-1 is included in the Basic Set and Extended Sets. It has a Touch and Go 35 (Ronford-Sachtler- style) quick release plate.

arri.com/pca *BSC Expo booth 323*

Wooden Camera for Fujifilm GFX ETERNA 55

Wooden Camera packages for the Fujifilm GFX ETERNA come as the Elite Accessory System (including top handle and top plates) and the Core Accessory System (using Fujifilm's Top Handle). They also come à la carte. *woodencamera.com*

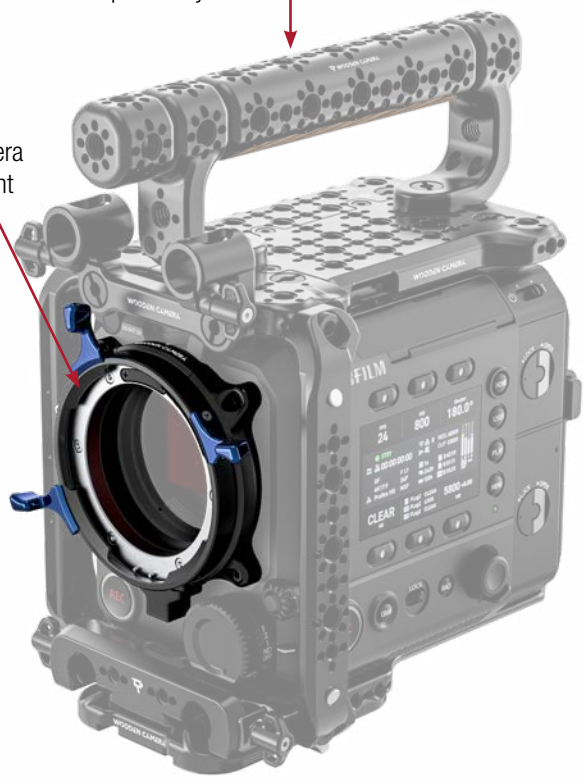
Fujifilm GFX ETERNA 55 Top Handle

Wooden Camera Gold Mount D-Box for Fujifilm GFX ETERNA 55

Power Strip with LEMO style 12V 2-pin & 24V 3-pin RS connectors for accessories

Wooden Camera Top Handle and Top Plate System

Wooden Camera G to LPL Mount



Manfrotto One

The Manfrotto ONE is a stylish, lightweight, hybrid tripod system that's fun, fast and flexible.

It combines the speed of still photography setups with smooth moves for cine. You can swap heads with a quick twist of the wrist. No more fumbling with 3/8-16 threads.

Each tripod leg has 3 sections. The nicely stiff sections lock and unlock simultaneously with XTEND levers comfortably located at the top of each leg. One lever per leg secures all three sections, saving lots of setup time.

Another lever, just below the base and appropriately labeled LVL, instantly loosens or locks the captive ball level. No more unscrewing. The ball is captive. It will not fall out.

The center column not only takes your camera higher but also adjusts to horizontal and underslung configurations. Loosen the knob near the Manfrotto logo and lift the Q90 column. For horizontal mode, lift the column all the way up and push the button at the bottom. Position the column and lock the knob. For extra support, add a weight for counterbalance, as shown with the Fujifilm GFX100 II

Manfrotto One

Underslung mode can get your camera to ground level.

Push a button on the Manfrotto 500X Fluid Head to go quickly from horizontal to vertical mode.

XCHANGE bottom and top plates

XPRO Ball Heads

The XCHANGE system lets you quickly swap heads, sliders and other accessories. It has a clever twist-to-quick-release mechanism. Turn the gray safety lock to the left to lock and to the right to unlock. Note: The 500X fluid head already comes with an XCHANGE base permanently attached.

Manfrotto XCHANGE system on XPRO Ball Head with Manfrotto 200PL Quick Release (at left). Manfrotto XCHANGE with XPRO Ball Head and Manfrotto Arca-style top plate (at right).

Manfrotto ONE Carbon Fiber and Aluminum Tripod Specs

- Weight of Carbon Fiber Tripod: 3.15 kg / 6.94 lb
- Weight of Aluminum Tripod: 3.54 kg / 7.8 lb
- Payload: 15 kg / 33.07 lb
- Working Height: 19-140.2 cm / 7.48-55.2 in
- Closed Length: 70.5 cm / 27.76 in
- *manfrotto.com*
- *fdtimes.us/manfrotto-one*

ZR Cinema Camera from Nikon and RED

24.5 Megapixel Full Frame Partially Stacked CMOS Sensor

Internal REDCODE RAW Recording: R3D NE 12-bit Log3G10

The Nikon ZR camera is slim, stylish, lightweight, with an enormous and bright display, and internal 6K REDCODE RAW recording.

With the flip of a switch, the camera goes seamlessly from Video to Photo mode. Its partially stacked CMOS sensor may be familiar to users of Nikon's Z6 III—but this is the lighter and even smaller camera for cinematographers craving internal R3D, N-RAW, ProRes RAW or ProRes recording.

The 24.5 Megapixel CMOS sensor is partially stacked. (A partially stacked sensor separates the pixel layer from portions of the processing circuits. This provides faster readout speeds, higher frame rates and quicker autofocus.)

Internal recording formats include:

- RED R3D NE 12-bit (R3D) — Preview in Log3G10 gamma curve with REDWideGamut color space.
- Nikon N-RAW 12-bit (NEV)
- ProRes RAW HQ 12-bit (MOV)
- ProRes 422 HQ 10-bit (MOV)

Details:

- Records to internal CFexpress B card and/or Micro SD card.
- 6K 6048 x 3402 up to 59.94p and UHD 3984x2240 119.88p
- Load up to 10 custom 3D LUTs for the onboard display
- Programmable user buttons and menus.
- 4-inch 3.07 million dot, 1000 Nit articulating rear display — bigger and brighter than almost any camera this size. The touchscreen is fast and responsive and easy to use.
- Slim and stylish. No big battery bulge on the right side.
- Remote control through the 3.5mm headphone port.
- 32-bit float audio. Weather sealed.
- Digital hot shoe on top for accessory microphone input.
- Fanless design with enhanced thermal management.

New Firmware Version 1.10 Updates

- Timecode input via wired connection.
- File-naming function similar to RED cameras.
- Maximum continuous recording time improved from 125 minutes to up to 360 minutes (6 hours).
- A warning line indicates the maximum brightness level in the histogram or waveform monitor to avoid clipping.
- Power-on lamp energy saver menu option.
- Set Video file type to R3D NE 12-bit (R3D) in the video recording menu while in AUTO shooting mode.
- View up to 50 LUTs while importing from a memory card using Custom Setting.
- *nikon.com* *red.com* *BSC Expo booths 008, 022*

Nikkor Z 28-135mm f/4 PZ Power Zoom is powered via the camera's Z Mount, which also transfers lens metadata to the recorded files and can be viewed on displays.

Monitor shows we're recording R3D NE Log3G10, 6K at 59.94P, 180° shutter, 3D viewing LUT applied, at 1250 ISO. FX is Nikon's designation for a Full Frame lens (DX is S35 / APS-C)

RED V-RAPTOR XE

RED DIGITAL CINEMA presented the new V-RAPTOR XE in September at IBC. RED calls it "a streamlined, more affordable version of the V-RAPTOR [X]."

The V-RAPTOR XE has the same 8K VV Global Shutter Sensor as the V-RAPTOR [X]. Some differences: XE doesn't do Extended Highlights and Phantom Track.

Top speed of the XE in 8K 17:9 is 60 fps instead of 120 fps for the [X]. So you essentially get half the speed at half the price.

XE as in "E" for Essentials

- 8K VV Global Shutter Sensor. 40.96 x 21.60 mm (46.31 mm Ø).
- 8K VV up to 60 fps; 6K S35 up to 80 fps; 4K up to 120 fps; 2K up to 240 fps.
- Choice of Z Mount or RF Mount.
- Media: CFexpress Type B
- Faster boot time and improved power consumption.
- 17 stops or more of Dynamic Range.
- Size: 150 x 116 x 108 mm / 6 x 4.25 x 4.25".
- Weight: 1.83 kg / 4.03 lb.
- Compatible with V-RAPTOR accessories

Recoding Formats

- 8K 17:9 (8192 x 4320), 2:1, 2.4:1, 16:9, 1:1 and Anamorphic 2x, 1.8x, 1.6x, 1.5x, 1.3x, 1.25x
- 7K 17:9 (7168 x 3780), 2:1, 2.4:1, 16:9, 1:1 and Anamorphic 2x, 1.8x, 1.6x
- 6K 17:9 (6144 x 3240), 2:1, 2.4:1, 16:9, 1:1 and Anamorphic 1.5x, 1.3x, 1.25x
- 5K 17:9 (5120 x 2700), 2:1, 2.4:1, 16:9, 1:1
- 4K 17:9 (4096 x 2160), 2:1, 2.4:1, 16:9, 1:1
- 3K 17:9 (3072 x 1620), 2:1, 2.4:1, 16:9, 1:1
- 2K 17:9 (2048 x 1080), 2:1, 2.4:1, 16:9, 1:1
- REDCODE RAW REcording: HQ, MQ, LQ, and ELQ.
- Recording 2K and 4K ProRes 4444 XQ, ProRes 4444, ProRes 422 HQ, ProRes 422, and ProRes 422 LT up to 120 fps in various formats.
- Simultaneous Proxy recording available in ProRes Proxy to ProRes 422 HQ in 2K (2048 x 1080) up to 60 fps.

red.com *BSC Expo booth 022*

Laowa Probe Zoom 15-35mm T12 – T40

Laowa's latest Full Frame Probe Zoom turns the tables on table-top work.

There are two versions: Laowa Probe Zoom Macro Lens: 15-35mm T12-T40 and 15-24mm T8-T32.

They have interchangeable mounts: PL, E, L, Z, RF and EF. And there are four configurations: Direct View (straight tube); 35-Degree View; 90-Degree View; and Periscope.

Laowa's Direct View Probe Zoom just landed here at Food and Digital Times :)

How can I forget famous food director Mathew Brady and agency art directors asking "Can you get any closer?" Crew and AC maestro of focus Jonny Ercole looked patiently to the heavens as dolly track, jib arm, lights, cables, stands, cutters and cards moved to get us a few inches closer. Yes we had great Angénieux zooms with close-up achromatic diopters. Laowa's new Probe Zoom Macro Lens get us even closer, up to 2x.

By the way: you calculate the Macro ratio by dividing the width of your image sensor by the width in real life of what you're actually seeing in the eyepiece. So if your camera is shooting the full 36mm width of a Full Frame sensor, and the Ikura that you see in the eyepiece measures 18 mm left to right in real life, then you are at 2x Macro. In other words, twice its actual size.

With the simple turn of the M0.8 geared zoom barrel, we zoom in on the Ikura, going from 15mm (110.5° angle of view) to 35mm. For reference, each briny salmon roe egg is about 5mm in diameter. The lens is parfocal — it maintains focus as you zoom in.

This 2.3x zoom ratio is at work for the Sushi of Gari Omakase Special, at right.

The tube is waterproof up to 40 cm from the front element. There's a red line and helpful warning "Caution: Waterproof ends here." For those splattering pour shots, nature documentaries and top chef shows—the Laowa Probe Zoom will play a starring role.

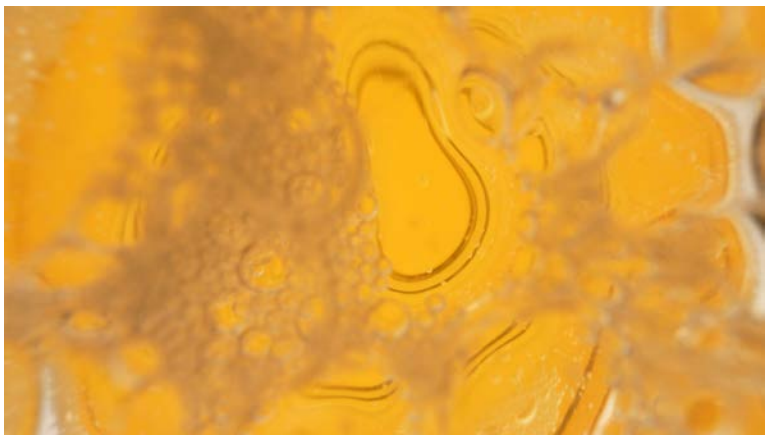
Specs

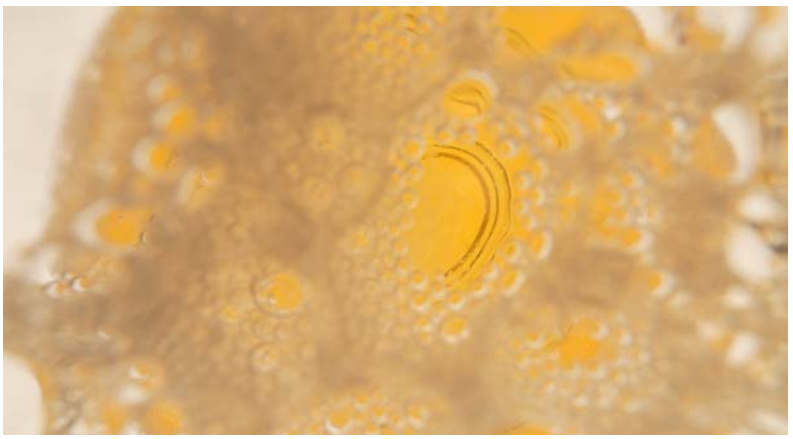
- Angle of View in Full Frame: 63.4°-110.5°
- Iris: 9 aperture blades
- Zoom Ratio: 2.3X
- Focus, Iris and Zoom gears: Industry standard 0.8 MOD
- Min. Working Distance: 5 mm
- Max. Magnification: 1X -2.3X
- Front Diameter: Ø32mm
- Dimensions, Direct View model: 545.1 mm long x 68.8 Ø
- Weight: ~1400g
- Comes with PL Mount.
- Interchangeable mounts: EF, E, L, Z, RF
- *venuslens.net*

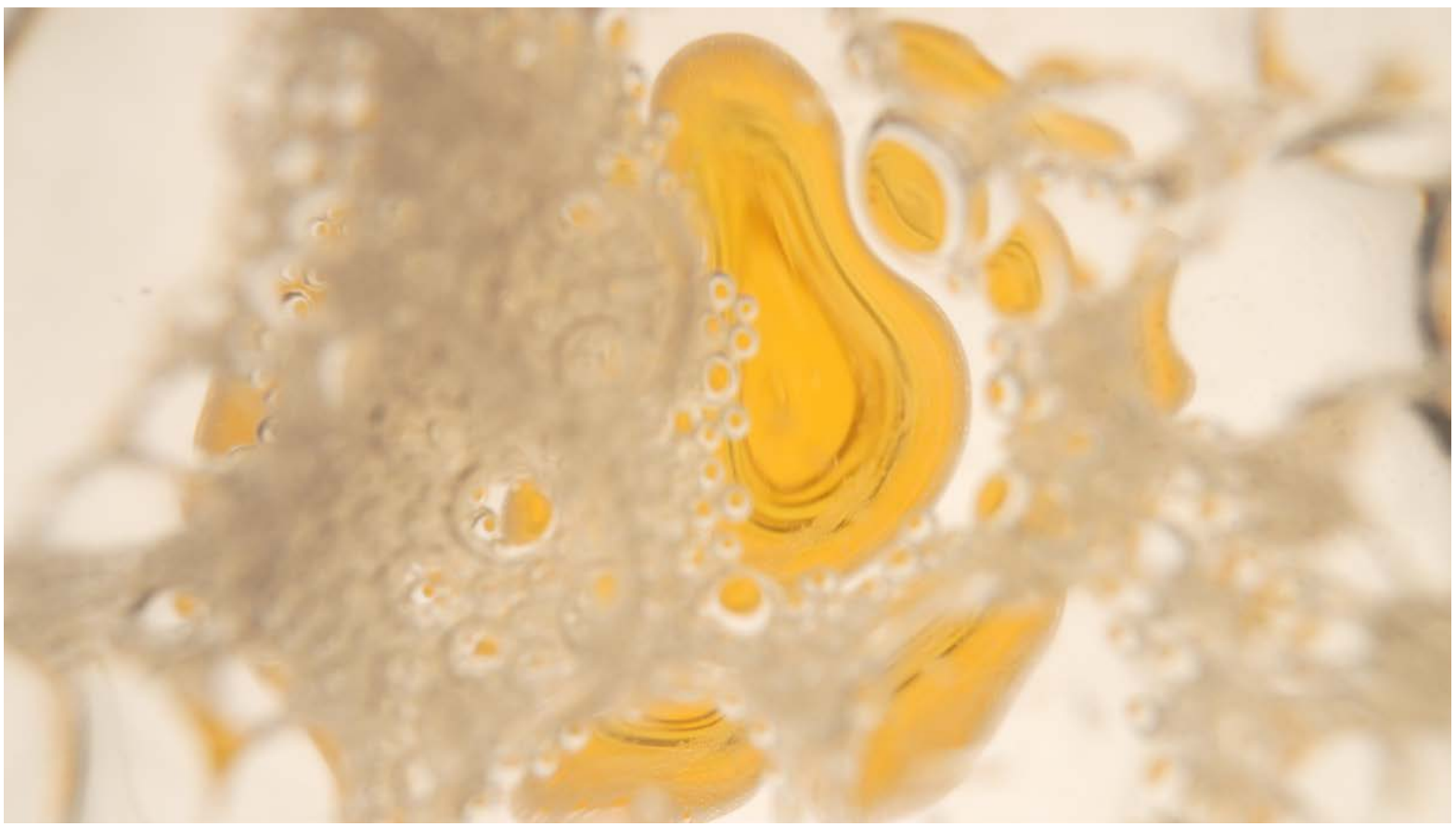
Laowa Probe Zoom 15-35mm T12 – T40

Laowa Probe Zoom 15-35mm T12 – T40

The Next Shot is in the Glass







The Martini Shot

"The Martini Shot." That rarely fulfilled last shot.

Because tabletop takes time. Art directors agonize over the oval olive. Food stylists slice the luscious lemon. Property maestros coax bubbles from inert beverages.

Fortunately, the new Laowa Probe Zoom 15-35mm T12-T40 is waterproof and effortlessly takes you underwater or into a Martini glass, stirred not shaken, up to 2x Macro. You can rack focus breathlessly (without lens breathing or having to hold your breath) from almost touching the front element all the way to infinity.

For scarier underwater setups on nature documentaries, the Probe Zoom's 13.75-inch waterproof barrel keeps you safely away from fangs that bite.

As often said at wrap, "The next shot is in the Glass."

The Martini Shot

Laowa Probe Zoom 15-35mm T12 – T40 is waterproof and can go diving into a martini glass for a safe tabletop spot, or on a BBC nature documentary setup of scary, snapping underwater creatures. Remember the Moray eel in The Deep?

The Probe Zoom doesn't come apart, so you don't have to worry about dust on the inside.

FILM AND DIGITAL TIMES

Art, Technique and Technology

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

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

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panasonic.com
prestoncinema.com
sigmaphoto.com
smallhd.com
teradek.com
tiffen.com
tilta.com
videndum.com
woodencamera.com
zeiss.com/cine

Executive Producers

emit.fr
hasselblad.com
lowel.com
litepanels.com
ocon.com
raid.com
red.com
sachtler.com
steadicam.com

Producers

abelcine.com
atlaslens.com
brighttangerine.com
cartoni.com
chrosziel.com
denz-precision.com
ibe-optics.com
photocineshop.com

Co-Producers

cinemaelec.com
msegrip.com
orcabags.com
ronfordbaker.co.uk

Associate Producers

16x9inc.com
dmglumiere.com
easyrig.se
filmlight.ltd.uk
inovativ.com
jlfisher.com
kinefinity.com
laowacine.com
loumasystems.biz
mytworks.com
ovide.com
panasonic.com
pat-acc.com
raid-japan.com
sekonic.com
tokinacinemausa.com

Rental Houses

abelcine.com
adoramarentals.com
arri-rental.com
camalot.com
cameraambassador.com
camarasyluces.com
hd-systems.biz
koernercamera.com
lemac.com.au
lensworksrentals.com
lites.be
ljud-bildmedia.se
moviepeople.it
musitelli.com
nacinc.com
ottonemenz.com
panalight.it
photocinerent.com
rvz.fr
sanwa-group.com
servicevision.es

Media Partners

afcinema.com
airstar-light.us/film
bscexpo.com
camerimage.com
cinegearexpo.com
eurocineexpo.com
fsfsweden.se
ibc.org
icgmagazine.com
imago.org
inter-bee.com
nabshow.com
soc.org

Producers

Co-Producers

Associate Producers

Rental Houses

Media and Production Partners

Titans of the Industry

SONY
ARRI
Canon
DJI PRO
Blackmagicdesign
SIGMA
angénieux
CREATIVE SOLUTIONS
Cooke

Moguls

bandpro FILM & DIGITAL INC.
ZEISS
AJA VIDEO SYSTEMS
Panasonic LUMIX
TILTA
NANLUX
NANLITE
TERADEK
Videndum Production Solutions
Leitz
FUJIFILM
FUJINON
Leica
ANTON BAUER
PRESTON CINEMA SYSTEMS
WOODEN CAMERA
TIFFEN
THE STUDIO B&H
CVP
oconnor
SMALLHD

Executive Producers

HASSELBLAD
Emit
STEADICAM
RED
Litepanels
RAID
lowel
sachtler

Producers, Co-Producers, Associate Producers, Rental Houses, Media and Production Partners on previous page