Jon Fauer ASC www.fdtimes.com June 2019 Issue 95

FILM AND DIGITAL TIMES

Art, Technique and Technology in Motion Picture Production Worldwide

Cine Gear 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.

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Cover: Camera Operator BJ McDonnell on the short film *Rhinestone Blue.*

FUJINON Premista Full Frame Zooms

Above: FUJINON Premista 28-100. Below: pre-production prototype Premista 80-250 on Sony VENICE Rialto extension system.

FUJINON Premista Full Frame Zooms (cont'd)

Tobias Schliessler, ASC and Aisha Schliessler. All production stills by Michael Kubeisy, taken with Fujifilm X-T3 an X-T2 cameras, except as noted.

For two days in mid April, cinematographer Tobias Schliessler, ASC and director Aisha Schliessler shot a dramatic short in Palmdale, CA, *Rhinestone Blue*. Yes, they happen to be related: father and daughter.

They were on location to test the new FUJINON Premista Full Frame zoom lenses that premiered at NAB 2019. The video will be screened in the big Paramount Theater during Cine Gear.

Fujifilm has been building Super35 format zooms for the past 17 years: FUJINON Premier, Cabrio and MK.

Now Fujifilm has embarked on designing and manufacturing zoom lenses to cover the entire sensor area of the new Full Format cameras that are objects of attention of DPs, Directors and Producers everywhere.

The new FUJINON Premista 28-100 mm T2.9 should ship during summer 2019 with an estimated price of USD $38,800. The FUJINON Premista 80-250 mm T2.9-3.5 is expected by the end of 2019.

Fujinon Zoom	Premista 28-100 mm T2.9
Range	28-100 mm
Aperture	T2.9 - T22
Lens Mount	PL Mount
Image Circle Ø	46.3 mm
Close Focus	0.8 m / 2' 7"
Focus Barrel Rotation	280°
Zoom Barrel Rotation	120°
Iris Barrel Rotation	48°
Iris Blades	13
Front Diameter	114 mm
Length (approx.)	255 mm / 10 in
Weight (approx.)	3.8 kg / 8.4 lb

Fujinon Zoom	Premista 80-250 mm T2.9-3.5 *(specs may change)*
Range	80-250mm
Aperture	T2.9 - T22 (80-200) and T3.5 - T22 (200-250)
Lens Mount	PL Mount
Image Circle Ø	46.3 mm
Close Focus	1.5 m / 4' 11"
Focus Barrel Rotation	280°
Zoom Barrel Rotation	120°
Iris Barrel Rotation	48°
Iris Blades	13
Front Diameter	114 mm
Length (approx.)	255 mm / 10 in
Weight (approx.)	3.8 kg / 8.4 lb

Aisha Schliessler. Photo by Evan Parsons.

JON FAUER: Where did the idea for the script come from?

AISHA Schliessler: My process for generating story ideas usually begins with visuals, more often than not from photography. In the case of *Rhinestone Blue*, I had seen this super cool photo of a cowboy jumping on a trampoline which immediately inspired me to write a narrative about a quirky cowboy character. My deep appreciation for classic country music and the outfits of country stars in the 1950s through the 1970s were also a huge influence—specifically embellished stage suits designed by Nudie Cohn. [Nuta Kotlyarenko, known as Nudie Cohn, was an American tailor who designed decorative rhinestone-covered suits, known as "Nudie Suits" and other elaborate outfits for some famous celebrities.] I knew our lead character couldn't just be a cowboy, he had to be a "rhinestone cowboy." This sparked the first major aesthetic choice for the story and it continued to grow from there.

Please describe the production.

Production on *Rhinestone Blue* was an absolute dream. Everyone on the crew was incredible and worked so hard to bring this film to life. It was the first time I've collaborated with my father, Tobias Schliessler, and I couldn't be happier with the outcome. From the very beginning, we worked closely together exchanging ideas and coming up with the look for this film. It was clear from my script and visual references that this story needed to be drenched in a feeling of classic Americana, with a twist. He understood my concept, and with the help of his amazing crew, executed it to perfection. I'm extremely grateful to all the creative voices I had the pleasure to work with on *Rhinestone Blue*: production designer Natalie Groce, costume designer Elizabeth Warn, hair and make up artist Anissa Salazar. Everyone brought so much style and imagination to the project, resulting in a synergistic wave of vision throughout the process. I also could not have made this film without our producer, Luke Arreguin. He went above and beyond to not only make sure all of the logistics were taken care of, but that creativity was never sacrificed.

Logistics, location, etc.

We completed *Rhinestone Blue* in two days at three locations, plus roads for our driving sequence. The days were long and there was plenty to accomplish in a short amount of time. Both days had various lighting setups, including exteriors either at dawn or dusk, plus elaborate theatrical lighting for the tap dance scene. This was something we could not have achieved without the expertise of Tobias's exceptional camera crew: Paul Santoni, BJ McDonnell, Kurt Grossi, Bobby Krattiger, and everyone who worked with them and were crucial to the success of this film. I was also very happy to have DIT Matt Love on set, who made all our shots look amazing on the monitor and in playback. This kept everyone excited about the moments we were capturing, which led to energized and inspired days.

Did you establish a style for this film?

I wanted this film to feel like it could have taken place last week, last month, or many years ago. I'm fascinated by small towns and locations that embody a sense of timelessness entirely due to the idea of "if it's not broken, then why fix it?" These are places that hijack you into an automatic sense of nostalgia. I wanted the style of this film to invoke a similar emotion. My intention was for each frame to feel like a still photograph—something you could hold on to, take in, and really examine. Our editor, Austin Andrews, immediately understood this goal. We share a similar love for photography, so I knew he would be the right person for this project. Prior to shooting, we discussed references like *Paris, Texas* by Wim Wenders, as well as the opening sequence to *Once Upon A Time In The West*. These movies feel quintessentially American and allow the viewer to be completely absorbed in that world.

How did the tools, the cameras and lenses, contribute to the telling of the story? (Leading question…)

I loved shooting *Rhinestone Blue* with the new FUJINON Premista zoom. The lens allowed us to capture substantial detail in every shot and paired with the Sony VENICE, we were able to make a beautiful film that embodied a cinematic quality, which undoubtably supported our story.

Additional comments please.

Years ago, I remember seeing my father's picture in a Fujifilm advertisement on the back of an American Cinematographer magazine. At the time I didn't know much about cinema lenses, but I saw how hard he worked every day throughout my childhood and it made me proud that his talents were being recognized by such a renowned company. I recall asking him about the picture and he explained to me that these were lenses he always used, specifically the FUJINON Zooms. That small moment of technical explanation has been etched in my memory, so it feels wonderfully full circle that I am now collaborating with him for the first time on a FUJINON project.

I want to thank everyone who was a part of this film. We could not have made *Rhinestone Blue* without the help of all the individuals who believed in our script from the beginning. Thomas Fletcher, Chuck Lee, Gordon Tubbs and everyone on the Fujifilm team gave Tobias and me so much creative freedom to tell the story we wanted to tell, understanding that this wasn't just a commercial, but a piece of art. That is rare and something I do not take for granted. I also want to thank Keslow Camera for providing all of our camera equipment. I've worked with them on several projects, and I'm consistently blown away by their generosity and support.

Lastly, I can't wait to screen *Rhinestone Blue* at Cinegear on June 1st. It will be fantastic to share our film for the first time surrounded by an audience who appreciates the art of cinema as much as we do.

Tobias Schliessler, ASC.


Night EXT with Astera Titan LED tubes overhead. Photo by Evan Parsons.

JON FAUER: Please discuss your choices of equipment.

TOBIAS Schliessler, ASC: We shot *Rhinestone Blue* with the FUJINON Premista 28-100 on a Sony VENICE camera. I had recently used the VENICE for the first time on my film *Wonderland* with great results.

For our crane moves, we used the Chapman 43 ft Hydrasope arm with the Chapman G3 head. The opening driving scene was shot entirely with the Porsche Crane Arm and Flight Head from Pursuit Systems.

To achieve the camera moves for our dance sequence, we used both the Steadicam and the Ronin 2 Gimbal.

Please discuss the lighting.

The lighting, mood, color tones and framing for *Rhinestone Blue* were inspired by Aisha's visual treatment. She referenced images from Wim Wender's *Paris, Texas* and photographs from classic Americana photographers such as Willam Eggelston. It gave all departments a great visual guide for the look of the movie.

Aisha wrote the script with the intention of having a variety of different lighting situations to showcase the lens. We had day and night exteriors and interiors. In her reference images, the lighting was always motivated by natural sources, whether from windows in daytime or practicals at night. We also created low and high contrast lighting setups to demonstrate contrast characteristics of the Premista. I've always been a fan of how the FUJINON Premier zooms handle extreme lighting contrast and I am equally impressed with the Premista.

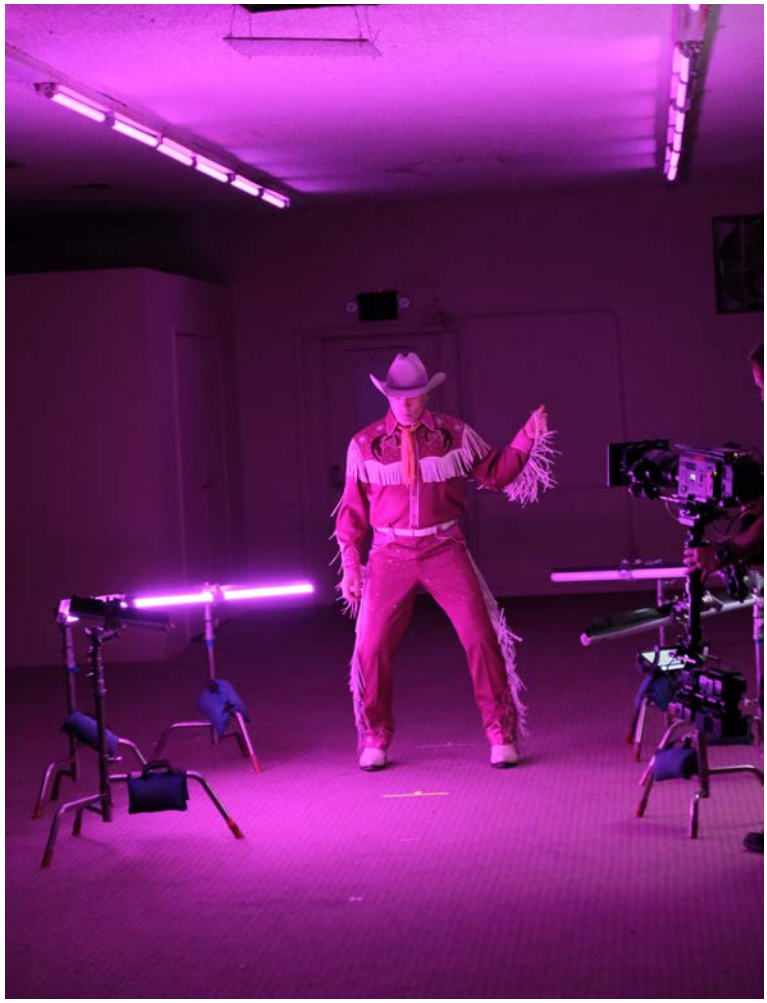
To test the color characteristic of the lens, Aisha wrote a scene where our character "Blue" first steps out of his hotel room and on his way to a talent show breaks into a magical tap dance performance. That gave us the motivation to change the practical lighting of the exterior motel walkway from a cool fluorescent scene to extreme blue and pink tones in rhythm to the music and dance choreography. To achieve the lighting change we used Astera Titan wireless LED tubes. Again, I was very impressed how the Premista, in combination with the VENICE camera, captured the color nuances.

Lighting was also achieved with ARRI 18K HMI, ARRI M90 PAR, ARRI SkyPanel, LITEGEAR LiteMat 4 and LiteMat 8 fixtures, as well as PAR cans and Leko Source Fours.

How does Premista compare and match with Premiers?

I've been a fan of FUJINON zoom lenses since my first experience on *Lone Survivor* where I used the FUJINON Cabrio 19-90mm and the Premier zooms for the first time.

I have used them ever since on all of my spherical feature films and commercials. I am happy to have the Premista now for my Large Format work. The lens has the same characteristics and quality as the Premiers in terms of contrast, sharpness, color, and lack of lens breathing.



Tobias Schliessler, ASC (cont'd)

Camera moves.

Aisha and I designed the shots and camera movements to use as many different camera platforms as possible. We wanted to test the lens on a crane, the Pursuit system, Steadicam and Gimbal Rig to show its versatility.

At the same time we wanted to hold on static shots long enough for the viewer to study the beauty of the lens without the distraction of a moving camera. I feel we found a happy medium of moving the camera to enhance the story and letting it rest to showcase the lens.

Please talk about shooting Full Format: DoF, perspective, etc.

I prefer shooting with Full Format / Large Format cameras and lenses because of the shallower depth of field compared to the Super35 format. I also like using Full Format lenses because they have considerably less distortion on the wider focal lengths. The high resolution of the Full Format sensor is also a big plus if there's ever any need for blowing up the image.

Do you prefer zooms to primes?

I don't have a preference of zooms or prime lenses. There is a specific use for every type of lens and I'd like to make the choice of what will work best for each individual project.

I find the FUJINON zooms are the best match to the spherical prime lenses that I often use on movies. I prefer to use zoom lenses on cranes and remote heads where flexibility of instant focal length change can be helpful and can mean an extra shot under time-pressure.

At what ISO did you rate the camera?

I rated the VENICE at ASA 500 except for the dance sequence at night in front of the motel where I switched the camera to the High Base 2500 ASA mode. I wanted to light the sequence only with the Astera Tubes to color match and needed a higher ASA setting for the exposure.

What about filters?

We did not use any filters so as to show the lens in its purest form. I tried a polarizer filter for the car driving scene but my first AC Paul Santoni and I felt it changed the characteristics of the lens flair and took it out after the first take. Using the Sony VENICE with its internal NDs eliminated the need for any additional filters.

Additional comments?

I have to admit I was slightly nervous to work with my daughter for the first time. I've watched her grow as a director and have tried to remain relatively hands-off in her development as a visual artist. That said, any time I've watched her work, I always think to myself there's nothing in her framing or lighting choices that I would change. I guess the apple doesn't fall far from the tree. Working together felt very natural and I'm looking forward to doing it again.

I would like to thank all our crew.

Everyone worked extremely hard to make the best movie possible and we are very proud of the end result.

We could not have made this film without the support of Fujifilm/FUJINON, Keslow Camera, Chapman/Leonard, Pursuit Systems and Company 3.

At left, Paul Santoni with fully rigged camera package. Above, Paul pulling focus, night exterior. The rectangles on the monitor show areas analyzed by the Light Ranger 2. Green is in focus. White rectangles above the center line represent areas that are further away from focus distance. White rectangles below the line show areas that are too close.

JON FAUER: Comments about the Premista 28-100 zoom?

PAUL SANTONI: The Fujinon 28-100 does a lot of things very well. it's got a really good range. It's decently fast, the size is good and as Fujinon is known for, it is optically very clean. most important to me was that the lens did not have any breathing. You know, if the camera is stationary and if you rack focus, you really notice the lens breathing. Usually you can hide breathing when the camera's moving. Lack of breathing is pretty rare in a zoom — the 28-100 reminds me a little bit of the lack of breathing in Fujinon's 18-85. By the way, lens techs have told me that the 18-85 is about as perfect as a zoom can get as to its lack of breathing, lack of fall-off toward the edges and consistency of exposure throughout the zoom range.

The 28-100 was extremely consistent. When they say it's T2.9, it really is. The focus marks were right on. The mechanics were super smooth and clean and there was no backlash or play or slop.

Look?

We shot in 6K with an aspect ratio of 2:1. In terms of look, it was like the other Fujinon Premier lenses: clean, but not uncomfortably digitally crisp or ultra-sharp. To add character, you can do that in any number of ways (filters, lighting, post). As a focus puller, I'd always rather have a clean lens so that I can see focus rather than wondering if that is as good as it gets? Even wide open it is still fairly clean but delivers a pleasing focus fall-off. I have calculated roughly by eye that the Depth of Field difference between the image on Sony VENICE Full Frame sensor at 6K and a Super 35 image is about 1.5 stops. That means, if we're shooting Full Frame wide-open with the Fujinon 28-100 at 100mm T2.9, that's roughly the equivalent of a 70mm at T1.7 on a Super35 camera.

What I'm driving at is that some people might say T2.9 is not very fast. But for depth of field fall-off, it is very shallow. Even at 28mm, where it was hard to get any fall off with wide lenses in S35, in the larger format, it is very shallow and that has its advantages.

You first appeared in FDTimes as a god of focus in FDTimes February 2017, Issue 80, page 46 on *A Wrinkle in Time*. Here we go again, part 2. Let's talk about how you were focusing Full Frame Premista wide open at night.

In this new Full Frame world of less depth of field, one of the best things about using the Preston Light Ranger 2 is the ability to work without rehearsals, without marks and flying by the seat of your pants.

In the film days, there was a discipline where that really did not happen too much because you got so burned and it showed up at dailies and you'd lose your job.

But now you can't really have that attitude of "I need a rehearsal or I have to get marks." The vibe of the set and the attitude of shooting now is much more, "Let's just go for it. Let's just shoot the rehearsal and see what we get." Also, you don't get hung out to dry at dailies with a room full of people these days—dailies are usually watched privately. In this new style of shooting which is more free-form, the Light Ranger 2 helps me nail shots on take 1 or on the rehearsal. That's where I find that tool super useful. And that's why I usually just keep it on the camera all the time, because sometimes I don't know what a shot is until it's over.

What monitors are you using for focus?

I own five SmallHD monitors: three 7-inch, a 10-inch and a 13-inch. SmallHD has an advertisement showing their monitors being driven over by a jeep to prove how rugged they are. Now, I don't want my monitor being driven over by anything, but they are very solid. I've never had a problem with any of them. Bumping around in a car off-road or, they don't always get treated nicely on set and they have fallen over once or twice. I stood them back up and turned them on and off we went.

Are you working on more jobs that are going Full Frame?

Yes, and especially when there are visual effects. Basically, it's like having a larger negative in the film days. Many other jobs are also headed in that direction. I don't think it costs all that much more and it's a more future-proof for higher resolution deliverables.

I would like to add a special thanks to Keslow Camera for their continued support no matter what project I am working on.

BJ McDonnell, Camera Operator

Camera Operator BJ McDonnell is on the cover of this June edition of FDTimes.

He commented on the Premista 28-100: "The camera and lens worked well on my Garfield mount on the dolly and it was fantastic because I wasn't physically wearing the rig. The combination of VENICE and Premista directly on Steadicam can be done however it's heavy. I will say that the Premista 28-100 was great in studio mode, on the pursuit car, and o n the crane. It was also really nice using just one lens for the whole shoot that had a great range. It was fantastic to move swiftly throughout the day having only one lens.

"I always enjoy working with Tobias. He has a fantastic eye and is a true artist. His daughter Aisha had a fun and creative script. She did a fantastic job directing this short film. They were both well prepared and knew the shot choices and emotion of the scenes. We used everything from traditional studio mode, crane, Pursuit arm, Ronin rig, and Steadicam. The lens was crisp and beautiful. We captured fantastic images with the Premista lens. I had a blast working on this production. "

FUJINON Premista (cont'd)

Paul Santoni preps Premista and VENICE at Keslow Camera.

Above: Operator Andy DePung balances his DJI Ronin rig with a "stand-In" Premista pre-prototype 80-250mm on a Sony VENICE Rialto setup. Both Premistas are the same length and weight. The lens "stand-in" allowed production to move faster by having the next camera setup balanced and ready to go. Below: Aisha Schliessler viewing monitor.

Paul Santoni and DIT Matthew Love set up.

Underslung Cartoni Lambda Head, Premista, Light Ranger 2...

Rhinestone Blue Frames

Here are framegrabs from the DI of the short film *Rhinestone Blue*, directed by Aisha Schliessler, with cinematography by Tobias Schliessler.

Shot with FUJINON Premista 28-100mm T2.9 zoom lens on a Sony VENICE in 6K Full Frame 6K with an aspect ratio of 2:1.

Stefan Sonnenfeld did the grading of the film and these framegrabs.

Tobias commented, "I have been working with Senior Colorist Stefan Sonnenfeld at Company 3 for more than 20 years and he's been an amazing collaborator."

Rhinestone Blue Frames

Bruno Delbonnel, AFC, ASC on Dark Shadows, directed by Tim Burton. Photo by Leah Gallo. © 2011 Warner Bros.

Bruno Delbonnel, AFC, ASC and the Angénieux Excellens Award at Cannes

Bruno Delbonnel, AFC, ASC was born in Nancy, France and graduated in 1978 from ESEC film school in Paris. A distinguished cinematographer, he has worked with Jean-Pierre Jeunet, Tim Burton, the Coen brothers, Joe Wright and many others. Bruno Delbonnel has been nominated five times for Best Cinematography Oscar: Amélie *(2001),* A Very Long Engagement *(2004),* Harry Potter and the Half-Blood Prince *(2009),* Inside Llewyn Davis *(2013), and* Darkest Hour *(2017).*

On May 24, 2019, Bruno receives the Pierre Angénieux ExcelLens Award in cinematography at the Cannes Film Festival.

JON FAUER: Where did you go to film school?

BRUNO DELBONNEL: I went to a film school that was brand new at the time and not very good. The school was only two years old at the time, so I didn't learn much compared to my colleagues who attended Louis Lumiere or l'Idhec. So, my career began at ESEC: École supérieure d'études cinématographiques. It is in Paris and it is still there, and a much better school now.

Did you grow up in Paris?

I was born in Nancy and then we moved to Paris when I was five or six years old.

Were you interested in film as a kid?

No. I wanted to be a painter. My father disapproved. I drew, and in fact, cinema was my second choice. I was fortunate for two reasons. The first one was living in Paris. In the 70s there were more than 400 movie theaters. In the Latin Quarter (the university quarter) you could see any movie from any country, almost anything, for a decent price. The second reason was that there were two TV shows on Friday and Sunday night that showed movie classics. Basically, I grew up watching movies. That was my education.

How did you get started in films?

The starting point was doing a short film with a great French cinematographer, Henri Alekan. Right after film school, I received a government grant to direct a short film. I didn't know anyone. I met an animation film producer who couldn't produce my short but , since I was really broke, offered me a job in his animation studio where Jean-Pierre Jeunet and Marc Caro were working. I didn't know anything about practical filmmaking. That's how it started. I decided to call a DP whose work I really liked, Henri Alekan, who shot Beauty and the Beast. He actually agreed to work with me and Jean Pierre Jeunet became my AD. It was just before Wim Wenders called Alekan for *The State of Things.*

But, when we began and I saw Henri working, there was such magic and emotion when he turned the lights on that I realized being a cinematographer was much closer to my feelings, to what I reacted the most when watching movies: a story being translated in images through light and framing.

I guess your father was equally horrified that you wanted to become a cinematographer instead of an artist.

My dad was 13 years old when WWII started. He belongs to this generation whose childhood and education was destroyed. He fought in Paris when he was 17, joined the army in 1947, fought in the French Indochina war, resigned from the army and started again from scratch. He didn't have any money. He worked a lot and saved a lot because he wanted us to be lawyers or doctors, having real jobs where you can make a living. Making movies or being an artist were not proper jobs for him, at least in regards to money. He didn't want me to go to art school, also because these art schools were totally left wing, especially in the years following May 1968. My father was for General de Gaulle. All this was hell for him. He totally disagreed.

Bruno Delbonnel, AFC, ASC. Photo © Bruno Calvo.

He probably kept asking when are you going to get a real job?

Oh yes. In fact, he didn't talk to me after I decided to get into film. I didn't see my father for a couple of years. And then one day, we met. I had been the 2nd AC on a movie called *Betty Blue,* a Jean-Jacques Beineix movie and it was a huge success. It was nominated for an Academy Award for best foreign language film. We shot it in 1985. Then, my father asked, "So you worked in this movie?" I said, "yes, I did." Then he asked me if I made a good living while I was working on this movie. So, eventually he realized that I was engaged in something that was not such a lousy job after all. Actually, when I was 30 years old, I was making a decent wage. That's when he realized that maybe I had made the right choice.

How did you get your first jobs?

I worked as a camera assistant for a number of years on feature films. Then I got the opportunity to work with a commercial DP who was very good. I stayed with him for four or five years. Then I grew tired of being an AC. I knew a lot of people in the commercials business and that's how I started as a DP for a few years. My first feature film DP job came about because I had worked often with a friend who was hired as the technical advisor for a first time director. They didn't have the money to hire a famous DP. So he asked me if I would be interested in shooting and I said yes. That was my big break. That film was not a big success. The big break for me was *Amélie* which was my third feature. I got it because I knew Jeunet and also because Darius Khondji had turned it down.

Bruno Delbonnel behind camera on Amélie / Le Fabuleux destin d'Amélie Poulain (2001). Photo © Bruno Calvo.

So Jean-Pierre Jeunet called and asked, "Do you want to do this movie?" And you probably said yes?

In fact, when Jeunet and Darius were shooting *Delicatessen,* I was supposed to be the camera operator. We started prepping and suddenly one of the financial partners dropped out. They didn't have enough money in the budget for a camera operator, so Darius had to do both jobs as DP and operator, which is kind of the French way anyway. I was a bit sad, but that's production. Then they did *City of Lost Children.* But when Jeunet offered him *Amélie,* Darius turned it down. By then, I was shooting a lot of commercials, so that's how it happened.

How did you arrive at the unique look of *Amélie*?

A lot came from Jeunet himself in terms of look. It's a combination of both of us. He wanted very hazy, saturated colors. I introduced some more blue and green and yellow at the very beginning. Then we moved to work with the full range of the color palette instead of having just a kind of yellow wash. That's when we became very interested in having the whole color spectrum and heavy saturation. In terms of our discussions it was basically around the idea of not using the desaturated colors he was used to.

You had a lot of wide angle closeups?

I always liked wide angles. If I could shoot an entire movie with a 27mm lens only, I would. I'd be happy to do it. But it's not really wide angle. In some ways, *Amélie* was a bit wider than that. We use the 25mm and the 18mm a lot, which I don't use much anymore. The wide angle has always been interesting for me.

I don't like long lenses because of the lack of depth of field. The background is usually soft. The character on screen is suddenly in a soft void were there is no connection with any environment. This lack of environment seems wrong to me; it's just talking heads. There is only one movie I remember when the use of a long lens has a beautiful purpose: *Klute* by Alan J. Pakula, shot by Gordon Willis. There is a moment in the movie when Jane Fonda's character, Bree Daniels falls in love with John Klute (Donald Sutherland). Both of them are buying groceries in a street market and the background is totally soft because of the very long lens. This is the only happy scene of the movie and I have the feeling that both Gordon Willis and Pakula decided to use a long lens to separate this scene from the rest of the movie and focus on the Jane Fonda character's happiness or state of mind.

Would you like to talk some more about lenses? What did you use on *Amélie*?

I love to talk about lenses. We shot *Amélie* with ZEISS Ultra Primes. The reason was that *Amélie* involved one of the first DIs (Digital Intermediate) in France. Therefore, we were very concerned about losing image quality in the process of scanning the film negative to digital files. That's why I picked Ultra Primes. There were very sharp, but this was very advantageous for us because there was this entire chain of mechanical events where the film went: from camera to negative to scanner. It is, of course, much easier to soften the image than to sharpen it.

Twenty years ago there were differences between lenses that are not so obvious today. There were incredibly soft lenses. They were not out of focus, they just lacked contrast. It was the nature of these lenses. The Ultra Primes were probably the sharpest lenses available in 2000. They were perfect for the project."

It's ironic: some of the very soft lenses that sometimes may have been avoided in the analog film days now look better on digital than they ever looked back then.

Yes. But that's just the nature of the digital world as well. In analog, it's not only the negative, it's also the fact that you're exposing the image on something that is moving. You have the grain that is moving, the film is bouncing around in the gate (despite registration pins) —it's barely steady. So there is a natural softness to

Joel Coen, Bruno Delbonnel and Ethan Coen (L-R) on *Inside Llewyn Davis*. Photo © Alison Cohen Rosa.

the film image as opposed to a digital image, which is absolutely sharp because nothing is moving. It's just one and zeros. Nothing more. So that's why people have been struggling to get this analog feeling back on digital.

However, I think this approach is wrong. It's nonsense. We are just trying to get a "feeling" back. The feeling of a film negative and its softness, its moving grain, etc. If you want the real thing, the film look, then just shoot with real film because trying to replicate it is silly. If you "use" digital, just admit it's a different medium with its own qualities which have to be explored. But you are right, those old, analog-era lenses now look just great on digital cameras. There was a time when nobody wanted these lenses anymore. And then, there was an absolutely ridiculous moment at the very beginning of the digital era, about 15 years ago, where people were going to crazy lengths to degrade the lenses because the high contrast of the digital sensors didn't provide a "filmic image." They were removing the coating from perfectly good lenses, destroying optics to make it look like a film negative. It was absurd."

Maybe the pendulum is swinging back?

Maybe. The digital era descended upon us too suddenly and too fast. This digital technology was far from being good. Some people were shooting with HD cameras that were awful. Some manufacturers presented cameras that were 10 times cheaper than film cameras and their marketing campaigns claimed we didn't have to do anything, we didn't have to light. Ultimately, people thought digital was cheaper than film. In fact it's not. A memory card can be cheaper than a can of film but shooting RAW is not cheap. It was some kind of crazy, lazy game. I think that's why there was this wave of "nostalgia" for film. We were being sold and "imposed" a product that was far from being as good as film. Things are much better now.

What lenses are you using now?

Still the same. I like the Cooke S4 primes. And obviously Angénieux Optimo zooms. I think they have been absolutely perfect for me. In fact, it all began when I did *Harry Potter and the Half Blood Prince* (2009). Because of the massive size of the sets, and because I used this grainless Kodak film stock before, I thought the Vision 500 ASA 5219 was ideal. After seeing some tests the visual effect supervisor, who requested 100 ASA, acknowledged that he could work with the 5219. That's when I discovered the Cooke S4 primes, ARRICAM cameras and Kodak Vision 500 film. That was my package for 10 years. It was a perfect package for me. I knew really how the Cooke lenses would react to what I was doing. I liked the kind of "roundness" they have and I use a lot of soft light as well. And the 500 ASA film stock was perfect for that. That was a time when my eye seemed calibrated to 500 ASA Kodak. I'm still doing the same. I still work at 500 ASA and I try to work as much as I can with the Cooke S4 lenses. Sometimes I change. On *The Ballad of Buster Scruggs,* the last Coen Brothers film, I used Master Primes. I was shooting Open Gate with the ARRI Alexa and that is why I needed primes that would cover the format with a wide lens.

***Buster Scruggs* looked painterly. Did you soften the image?**

No I did not. *Buster Scruggs* was a combination of Master Primes, Fujinon Aluras and Angénieux Optimo zooms. These days, when

Bruno Delbonnel on *The Ballad of Buster Scruggs,* directed by Joel and Ethan Coen. Photo by Alison Cohen Rosa.

working with a DI, you can adjust the image and shape it in interesting ways. Now, it's really easy to soften an image. The "painterly look" as you call it was following the idea we developed with the Coen Brothers that all the short films were coming from an illustration book. The DI offered tools that can go further than the chemical process. In order to achieve such an idea doing the D.I., Peter Doyle (our grader) and I mixed together softness (or diffusion), a very restricted color palette for each story, a very specific gamma, a very specific contrast ratio, etc.

On the other hand, I'm fighting against the idea of "look". We, with the Coen Brothers, were looking for a feeling more than a look. *Buster Scruggs* is an interpretation of a story. The images are interpretations of the iconic "Western" stories. A "look" is what we see now. I don't know if you would agree with me, but today there are a lot of movies that look alike. They go through this big machine, which is the DI process, and people push the contrast or adjust the sharpness and eventually every scene in every movie looks alike. I'm not saying that I'm doing better than my colleagues. I'm just aware of the danger of being "seduced" by a "look" coming from the many possibilities the DI is giving us. You can easily loose yourself in the process and forget about the story.

What about zoom lenses? When do you use them?

I always have a zoom lens in my package. Usually it's an Angénieux Optimo like the 17-80 and if we need to go long, then the Angénieux Optimo 24-290. The 24-290 is important when we are working long lens, telephoto. I use a zoom lens as a variable prime. And the Angénieux zooms are very good for that.

I did a couple of zoom shots with Joel and Ethan Coen on *Buster Scruggs* where the zoom move was intentional—it was on purpose. We used the zoom lens to zoom in instead of using a track.

I also use the Angénieux zoom when I need to get in very tight, into an almost macro view. We did a couple of those shots on *The Woman in the Window,* the last Joe Wright movie that I shot. He wanted to go very tight on Amy Adams's eyes. That's when I use the zoom lens because it's much easier to adjust the frame than just using a Macro prime lens. Basically, when the actor moves, we can adjust, so the frame is more fluid and less stiff. The zoom lens is very practical for that purpose: to adjust frame sizes slightly to accommodate the actor's movements.

You mentioned using the zoom lens as a variable prime to adjust the frame size slightly. A leading question: why not use just the zoom lens continuously to avoid having to change prime lenses and save time?

Because the zoom lenses are usually T2.8 and the primes are T2.0, among other reasons. The horizontal and vertical fields are slightly different. You asked, why not use a zoom lens instead of a prime. I can reverse the question. I always asked myself why a 27mm is much nicer than a 25mm which is very close? I don't have the answer but it is a nicer lens. And in fact, choosing to use a 27mm instead of a 25mm is a decision you make. When you are looking for the frame with a 27mm prime lens you have to move physically: left or right, up or down. There is a certain discipline coming from the lens. You are not tempted to zoom in or out to find the frame. It's just like Cartier-Bresson, the photographer. All his life, he was using a 50mm prime lens only. I like this discipline in some ways.

The second idea behind this is the language of the movie in terms of lens. *Buster Scruggs* and *Inside Llewyn Davis* were almost en-

Bruno Delbonnel at Pinewood Studios with Director Tim Burton (at left) on *Dark Shadows*. Photo by Leah Gallo. © 2011 Warner Bros.

tirely shot with a 27mm. It became the language of these films. And if you always shoot with the same stop, as I try to do, the depth of field is more or less the same in every frame and becomes part of the language. It's like a piece of music written in a specific key. It allows you to suddenly change the "key" as Gordon Willis did in *Klute* in the example I mentioned earlier.

On a more practical level, a zoom lens is often cumbersome and front-heavy on the camera. You need to protect the lens from the flares. Angenieux lenses are incredibly well designed, yet you still might require a large mattebox around it just to avoid the flares. So it's extra work for the AC in some ways.

Earlier, you mentioned the Angénieux Optimo 17-80 zoom. When would you use it, for example?

When I need to do a little push in or out, not to establish camera position as we just discussed, but to adjust as part of the shot. There is a beauty to a gentle adjustment when you combine an unnoticeable zoom move with a camera move. It's different than a dolly move in or out. It has a different feel, a different perspective. It becomes very interesting to do a tracking move left to right and combine that with a delicate zoom in from 27mm to 40mm, for example. Because there is a change in the field of the frame, the impression is sometimes more interesting than just dollying in. It's part of the language in some ways. The perspective changes when you zoom in and that can be really interesting when it is imperceptible to the audience. They feel the movement but they don't know what it is. As I said, if you are tracking left or right, a slight zoom move can change the energy of the move in an interesting way. It breaks the rhythm. On the other hand, if we were to dolly in on a diagonal, instead of tracking left to right on the dolly while zooming in, there's a very strong energy to that, which could be counter-productive to what the director is looking for. So that's why the small zoom can be part of the language.

I had some of these moves on *Buster Scruggs* We did some zooms inside the stagecoach. It was quite interesting: even though the perspective changed a little, it was not noticeable because the actors were at such close quarters inside. We also did interesting zoom moves on the covered wagon segments.

How would you describe the style of *Inside Llewyn Davis*? I remember you once said that you were thinking of shooting it in Super 16, but then you decided on 35mm.

Early on, Joel and Ethan discussed a documentary style with me: handheld and Super16. I shot some tests. I was not really convinced this was the right way to go for the movie. Something did not feel quite right. We had a lot of discussions. I'm not a big fan of the handheld camera, especially now. It was interesting years ago, but now it seems that it's done mostly to give a kind of organic feeling everybody mentions. I don't even know what this word "organic" means. I guess when they say organic, it means that it looks real, which I think is kind of ill-advised. So when we discussed it with Joel and Ethan, I don't think they were sure as well. And eventually we didn't proceed down this path at all. The film has a lot of locked-off shots. We went to the opposite extreme of handheld. The dynamic of the character was in juxtaposition to the dynamic of the camera. It was more interesting to see the character moving. He's always on the move, going from one place to another. He's taking a train, riding a car, going on the subway, walking. It was our mutual decision. There was a lot of discussion about the film itself. It was not me convincing them.

Bruno Delbonnel inside the House of Commons set on *Darkest Hour,* directed by Joe Wright. Photo by Peter Marsden.

Also, I did some tests early on in prep comparing Super16 with 35mm. We looked at the results at Technicolor, and the Super16 was so grainy. For me, it was almost unwatchable. I thought I had made some mistake and they would fire me. The 35mm test was fine; it was great. Then I did the Super 16mm test again a week later and saw exactly the same thing.

Our discovery was that we are not used to watching Super16 on a big screen anymore. We are not used to seeing dots of moving grain. There are many reasons. First of all, 35mm has always been cleaner than Super16. Second, despite the great advances made by Kodak and Fujifilm, the grain in Super 16 remained more noticeable because of the greater magnification in projection. Furthermore, we are not used to seeing grain anymore because of DVDs, Blu-ray and color television, which are so saturated, so clean and so sharp. The image is so clean these days that if you see a single dot of grain moving, you wonder what is going on. Our brain, for the last decade, has been accustomed to seeing a progressively sharper image. Now we're reaching a point where the sharpness becomes stupid. We see the TV manufacturers suggesting contrast ratios of 50,000:1 or more, which is absolutely ridiculous. Because sharpness is contrast. This amount of contrast doesn't make sense. In many ways it's a catch-22 situation that influences the way we see images. Contrast saturates the colors; there is less nuance in the color palette. And suddenly a Super 16mm image seems "wrong."

That was a very long answer to your question, but eventually, yes, we shot *Llewyn Davis* in 35mm format.

What was your first digital movie or commercial?

It was *Big Eyes* with Tim Burton. In fact, we were almost forced to shoot in digital. The reason was that one month before we arrived in Vancouver to start prepping, the Technicolor lab there shut down. Tim Burton wanted to see dailies first thing every morning with the editor, so we had no other option. Otherwise, we would have had to ship the negative to Toronto or LA. That basically meant dailies would take two days for processing, printing and sending it back. Tim was not happy with that idea. Eventually, even if he didn't like the idea, he said,why not shoot it digitally. We also knew that we were also prepping *Miss Peregrine's Home for Peculiar Children.* That film had so many visual effects that

Bruno Delbonnel on *The Ballad of Buster Scruggs,* directed by the Coen Brothers. Photo by Alison Cohen Rosa.

Tim decided *Big Eyes* would be good practice for us to try using a digital camera. And I don't think I went back to film after that.

Do you usually still operate?

It depends on the job. I love to operate. I always operate on Coen Brothers movies. I didn't operate for Tim because Des Whelan was there as his camera operator. I like to work with an operator because it is very interesting to share ideas about blocking a scene and suggesting things together. But I still love to operate.

What is your philosophy about the role of the camera as an observer or participant?

It's not really so much about the camera, it's more about the light. I think it's a combination of a lot of things. I see light as a tool for the director because I can, for instance, suggest keeping somebody in silhouette. It's not an esthetical idea. It's a directorial idea.

Do you remember the fantastic scene in *Citizen Kane* when Orson Wells as Kane is writing statements of intent on the wall, things that he promises to do with the newspaper he has just purchased. It's almost like a Bill of Rights. He's near a gas light. And then he turns around and goes between Joseph Cotton and the other character. Welles is totally lit by gaslight. When he moves between the other two characters, he is totally in silhouette. The audience instantly knows that even though he wrote the plans for his newspaper, he will never follow through with those promises. You can

Bruno Delbonnel on *Miss Peregrine's Home for Peculiar Children*, directed by Tim Burton. Photo by Leah Gallo. © 2015 Twentieth Century Fox.

see it as a moment when he becomes a dark character. And it's this lighting concept of Greg Toland, who is a magnificent cinematographer, using light as a story point. I always think like that in some ways, but I hardly push the limit to what Greg Toland did. Or Gordon Willis or any of other great cinematographers.

Light is very interesting when you can suggest to your director a way in which the actors can move between darkness and light. You're building an architecture where the actors are free to move and, for example, to say a couple of lines in total darkness and then reappear. In fact, that's what we did on *Inside Llewyn Davis,* when he's beaten up in the back alleyway at the very beginning.

That is how I perceive my job in some ways: to build the architecture of light where the actors decide whether to be seen or not be seen. It's another element that is part of the acting or the directing, which goes with production design as well. It's a combination of all those things. I don't consider myself as the leader of the gang.

I like the architectural analogy. On *Darkest Hour,* the scenes in Parliament had a lot of silhouettes, shafts of light, elegant camera moves, and it was very architectural.

The entire movie was based on this interplay of light. There are times when the foreground is lit and the background is not, or it is the opposite. There was always this duality at work throughout the whole movie. When Churchill is walking towards the King, in a shaft of light, we have both elements together. In some ways, this walk through light and shadows was showing Churchill's duality.

Bruno Delbonnel behind ARRICAM on *A Very Long Engagement (Un long dimanche de fiançailles.*. Photo © Bruno Calvo.

Bruno Delbonnel in Pinewood Studios on set of *Dark Shadows*. Photo by Leah Gallo. © 2011 Warner Bros.

Above: Bruno Delbonnel on *A Very Long Engagement / Un long dimanche de fiançailles*. Photo © Bruno Calvo.

At the beginning of *Darkest Hour,* it's lit on one side. And then at the end, when Churchill gave his speech, it's the other side that is lit. The theme was to follow the light or not.

Are these decisions made in advance or in the moment?

It's in advance. I always try to find an idea that is based on ideas more than just the set itself. It is the conceptual idea, "What is this story about?" For example, *Inside Llewyn Davis* for me was about sadness, about mourning, about grief. It's not about a guy who is not successful. Nobody cares about that. It's just about a guy who is sad because he's lost his friend and nobody took care of him. So the question was how can I translate sadness into an idea about light? And that's when I thought that the fall-off of light was interesting.

It's a winter light. The light in winter doesn't reach the far end on the room. New York can be a very dark city in some ways. Only if you can afford to live in a penthouse is there lots of light. But on the second floor of most buildings, it's really dark and the windows are small. I suddenly thought that the fall-off of the light was a good idea to translate all those ideas of sadness in New York into a unified concept.

In fact, I think about light as a musical score. Light can be a piece of music. I hope it doesn't seem too arrogant, but I'm trying to find the music of the light. Can light have a fast pace or a slow one? What would be an "atonal" light? What would be a "single note" light? Is there a way to divide the light of a movie into three or four different movements like a classical symphony?

I tried to do something like this on every movie. It's finding and defining a "musical score" and then technically achieving it. *Inside Llewyn Davis* has a much softer light than *Darkest Hour* which is much more contrasty. On *Darkest Hour,* I used Fresnel lights: clean, with no diffusion, which is really unusual for me. But I thought it was good with the idea of light and shadow and talking about the character with total ambivalence. Churchill was a bully but he had a lot of doubts as well. It was interesting for me to play with this idea.

Was *Harry Potter* a similar lighting concept?

For me, *Potter* was about the school itself. All the action happens there, basically. I thought, what if the school were one of the characters? It's not so much about magical things like the spinning staircase. It's more about a haunted place with lots of dark corners and secrets. It is a very menacing place, very dangerous, not cozy, as opposed to the first *Harry Potter* film in which the school is a place where the kids are learning something in a happy, although strange, place.

Congratulations on your Pierre Angénieux Excellens Award at Cannes on May 24.

I don't know why they chose me. It feels strange. I think there are people who have done more and better films. When they reached me, I thought they had called the wrong number. I'm totally scared. It reminds me of being at the Academy Awards. [Bruno has been nominated 5 times for best Cinematography Oscar.] The idea that you are one person in a group of colleagues who might actually win the Oscar and then have to go up on stage in front of so many people is the scariest place.

It's not as scary a place as Hogwarts. You will be in a theater with many colleagues: directors, DPs, actors, friends, people you've worked with. Best of all, you already know that you've won the award. And it is so well deserved. Congratulations again.

Audrey Tatou as *Amélie* in *Le Fabuleux destin d'Amélie Poulain* (2001), with Arriflex 535B camera. Photo © Bruno Calvo.

A Very Long Engagement / Un long dimanche de fiançailles. SuperTechno 50 crane supplied by Loumasystems Paris. Photo by Paulo Rodrigues.

FF VENICE at 60 fps & Cooke Anamorphic FF

Jon Joffin, ASC: Full Frame VENICE at 60 fps & Cooke Anamorphic FF

Jon Joffin, ASC is a cinematographer based in Vancouver. He grew up in Johannesburg South Africa, moved to Toronto, attended York University, studied film there, and started as an Indie DP. Credits include The X Files, Crusoe, Masters of Horror, Alice, The Andromeda Strain, Beyond, *and many more.*

Tori Caro (photo on opposite pg) grew up in San Diego and has been dancing since the age of 3. She moved to LA when she was 15 to pursue professional dance and choreography. Known for her versatility in all styles of dance, from classical ballet to hip hop, Tori is also a competitive soloist and team member. By age 18, she choreographed her first feature film, commercial, and TV film.

JON FAUER: If FDTimes had a Best Demo Video Award, *Daydream* would be on top. It is a beautiful short—nicely showing the Full Frame capabilities of Sony VENICE in 6K at 60 fps and Cooke Anamorphic /i Full Frame Plus.

JON JOFFIN: It's a simple concept: someone is bored and dreams of something else. I've done a lot of work over the years with choreographer Paul Becker. The underlying theme was to be really joyous without going over the top. Paul introduced us to Tori Caro, and we were on the way. We found a great song by Elena Coats.

Tori Caro is a terrific dancer. You were shooting at 60 fps and she must have been dancing at 6 fps!

We shot at 60 fps for playback at 24 fps, using a pre-release of the latest VENICE firmware 4.0. The idea was for Tori to be dancing in sync to the music, but we wanted the pyrotechnics and confetti to be moving in a very lyrical, slow motion way. So we sped up the music. Then Tori would have to dance at very high speed so that when played back, her dancing would appear to be normal speed but her hair, confetti and pyro would fall in slow motion. It was incredible. Tori was always in sync with the music. The audience doesn't realize how crazy fast she was dancing.

What aspect ratio were you framing for?

2.39:1 and we shot anamorphic, with the new Cooke Anamorphic/i Full Frame Plus 50mm T2.3 and 75mm T2.3 lenses. The Cooke Anamorphics were beautiful. I really liked them. When I first pointed them at our set, they were just gorgeous. We shot them mostly wide open. The goal of this film was to present it on that big wonderful 8K Crystal LED 32' x 18' display at NAB. The Cooke Full Frame Anamorphics have a squeeze ratio of 1.8x. There were lots of charts coming from the engineering team in Japan because they wanted the maximum number of pixels from their sensor. The 1.8x squeeze ratio of the Cooke Full Frame Anamorphic works out well for the math. With the Full Frame 1.5:1 VENICE sensor, you wind up with a desqueezed aspect ratio of 2.7:1. The extra image area on the left and right sides are then cropped in post to the standard 2.39:1 widescreen display aspect ratio.

Location, lighting and gear?

We shot on location in Vancouver, Canada at the PNE, the Pacific National Exhibition. They have a fair there every summer with livestock, pigs, horses, animals, tractors, and farm things. It's a great big open building, perfect for film production. There's a roof just below the windows where the light shafts were coming through. Rigging grip Josh Lovig blacked out all of the off-camera windows and we also covered some of the on-camera windows with heavy burlap to help limit the windows that had lights streaming through them. Gaffer Drew Davidson placed eight or nine 18K HMI Fresnel units spotted in and spaced so they weren't overlapping each other. We gelled the far window with green for some cool color contrast. There was lots of atmosphere smoke. Huge thanks to William F. White who provided the lighting, grip gear and Technocrane. All Axis Vancouver supplied a Scorpio remote head. Peacemaker Filmworks supplied a KIRA Cinema Robot.

Recording format?

X-OCN ST at 6K Full Frame Imager Mode. (6K FF 1.5:1 / 3:2, 6048 x 4032, 35.9 x 24 mm, 43.5 mm diagonal).

Tell us about your impression of the Cooke FF Anamorphics.

They're warm, like the other Cooke lenses. I guess they could be described as having an "analog" feel to them. They definitely had character. They didn't feel clinical or overly crisp. I liked the background blur which is similar to the rest of the Cooke line. We were shooting predominantly wide open.

There is a picture of a diopter "Property of Clairmont Camera."

We added diopters to get super close-ups with the Cooke Ana-

morphics. They were Schneider Achromats. Keslow Camera graciously supplied all the camera equipment [including a prototype VENICE body with the new hardware board and v4.0 software required to shoot the high frame rates]. They acquired Clairmont Camera about 2 years ago.

DIT and grading?

DIT: David Skidmore was our DIT. He is fantastic. We didn't do much coloring onset. We just used a basic LUT. [David added by email: "Jon Monitored on a BVM-X300 which has its own monitoring LUT built-in from the VENICE output which is SGamut3. Cine/SLog3. Sony provided a Rec2020 PQ LUT for the editorial process, which we used to transcode on set to DNX.]

We worked with Tony Dustin and Robert Rodriguez at Technicolor LA, and they worked unbelievably hard on this. We live-streamed the grading. Editor Austin Andrews and I were sitting in a room at Technicolor Vancouver, while Tony and Robert worked with us in LA. The process was incredibly collaborative and I am thrilled with the work that they did.

How did you get those sparkly confetti effects?

It's a product called Flutterfetti: a mix of gold and silver. They're rectangular and float in a nice way. Our effects department used air cannons to blow the confetti into the air, some from the ground and others from scaffolding. We'd wait until it looked right and then we'd call action. We also fired a lot of pyrotechnics over the two days: robotics, saxon wheels, and many other products. We wanted it to look random and organic. Shooting the VENICE at 60 frames per second made it all look magical. I absolutely love the image from the Venice.

How did you do the seamless transition in the beginning?

It was a motion control shot done with the KIRA system. Chris Wiseman, Ryan Ennis and Andrey Chybisov of Peacemaker Filmworks provided this amazing tool. This is a cinema robot that can perform high speed, very precise and smooth moves, made by Motorized Precision in Portland, OR. Programming is simple and fast. We began with Tori mopping—languid and slow. And when the music started, we wanted it to be slow motion, but the camera was still moving very quickly. So the idea was to shoot slow motion with the camera moving very fast. The motion control enabled that nice transition with the confetti.

How did this job begin at the very beginning?

I would start by thanking Dan Perry at Sony. He has been my go-to Sony contact. Without him, this project would not have happened. It was a huge production and Dan made it possible. He was great. Sony approached me because they saw the ZEISS Supreme lens demo I had shot for director Aisha Schliessler, also with Sony VENICE. I'd always had an idea about doing a dance video. Yutaka Okahashi at Sony wanted a slow motion demo video that was upbeat and happy. So the concept was to begin by seeing something ordinary and tedious and then transition to a very upbeat series of dance moves that would highlight the slow motion capabilities of this extraordinary camera. Sony liked the idea and they were extremely supportive all the way along and let us do what we wanted to do. There was no creative interference. They trusted me and let us go. It was the same thing with the color timing.

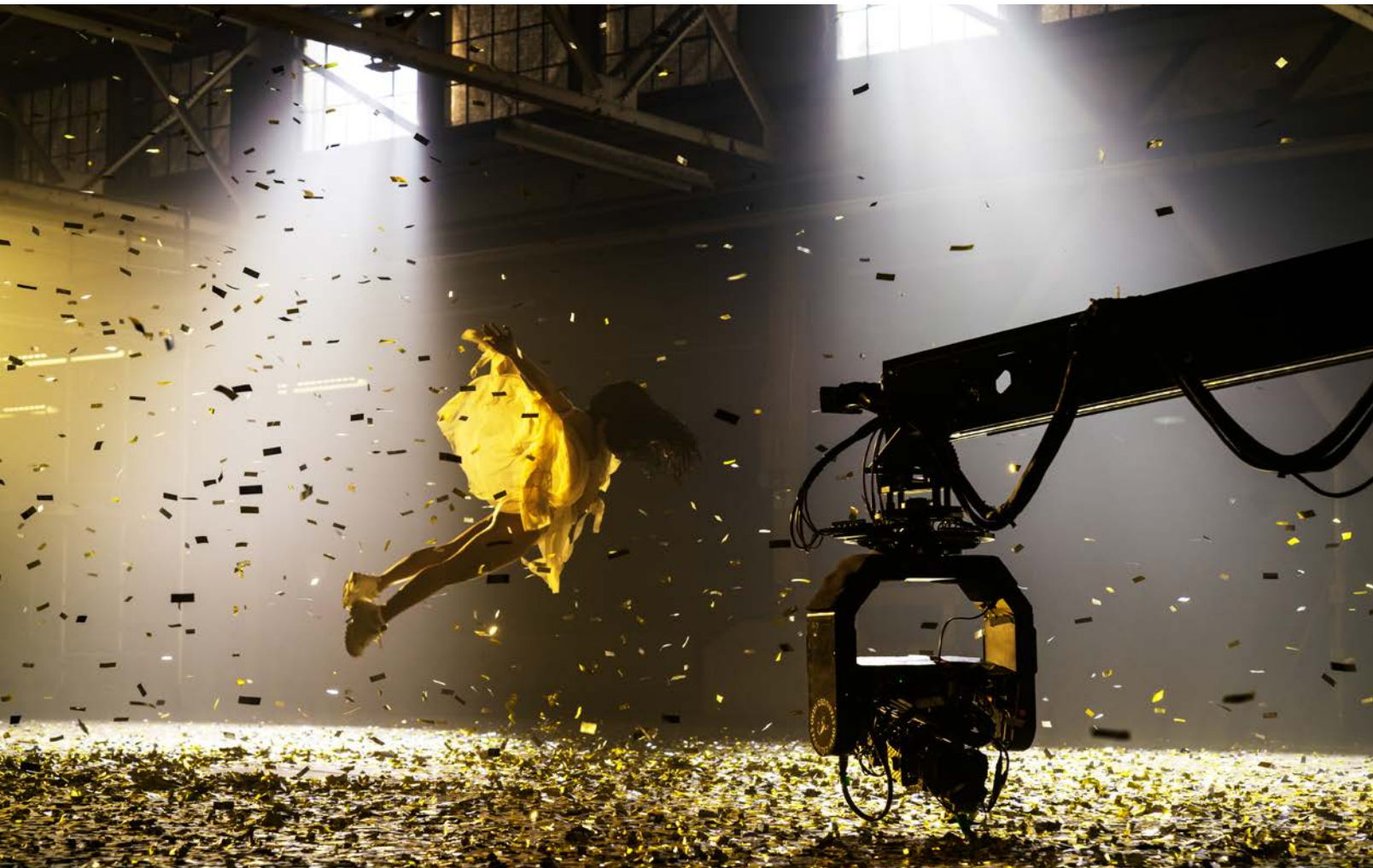
And then the wonderful reward was seeing our work at NAB on the giant CLED Crystal LED 8K x 4K (32' x 18') display. I love the VENICE and seeing it's footage on such a gorgeous display, made me love it even more.

Credits

Director/DP/Producer: Jon Joffin, ASC
Producer: Stef Armstrong
Camera Operators: Jan Wolff, Chris Fisher
Dancer and Choreographer: Tori Caro
Choreographer: Paul Becker
Singer: Elena Coats "The Way She Move"
DIT: David Skidmore Editor: Austin Andrews
Gaffer: Drew Davidson Key Grip: Josh Lovig
Focus Puller: Ed Morris Colorist: Tony Dustin
Still photographer: Ed Araquel
Companies: Sony, Keslow Camera, Whites, Peacemaker, Filmworks, Technicolor, Cooke

See *Daydream* at: *sony.com/Venice*
sonycine.com/stories/daydream-hfr/ and *shotoncooke.com*

Above: Tori Caro upside down. Below: Scorpio Head underslung with camera upside down.



Jon Joffin, ASC (cont'd)

Jon Joffin, ASC. All BTS Production Stills by Ed Araquel, SMPSP.

Scorpio Head underslung and camera upside down to get low to ground.

Diopter on Cooke FF 75mm Anamorphic/i 1.8x for ECU.

Cooke FF 50mm Anamorphic/i 1.8x

Daylight 5600° shafts from 18K HMIs. Molebeam 10K tungsten at left.

Scorpio Stabilized Remote Head underslung; VENICE and Cooke inverted.

Dancer/choreographer Tori Caro.

Ed Morris focus puller in foreground. KIRA tracking through Flutter Fetti.

Jon Joffin, ASC on Fisher 10 Dolly with head mounted sideways.

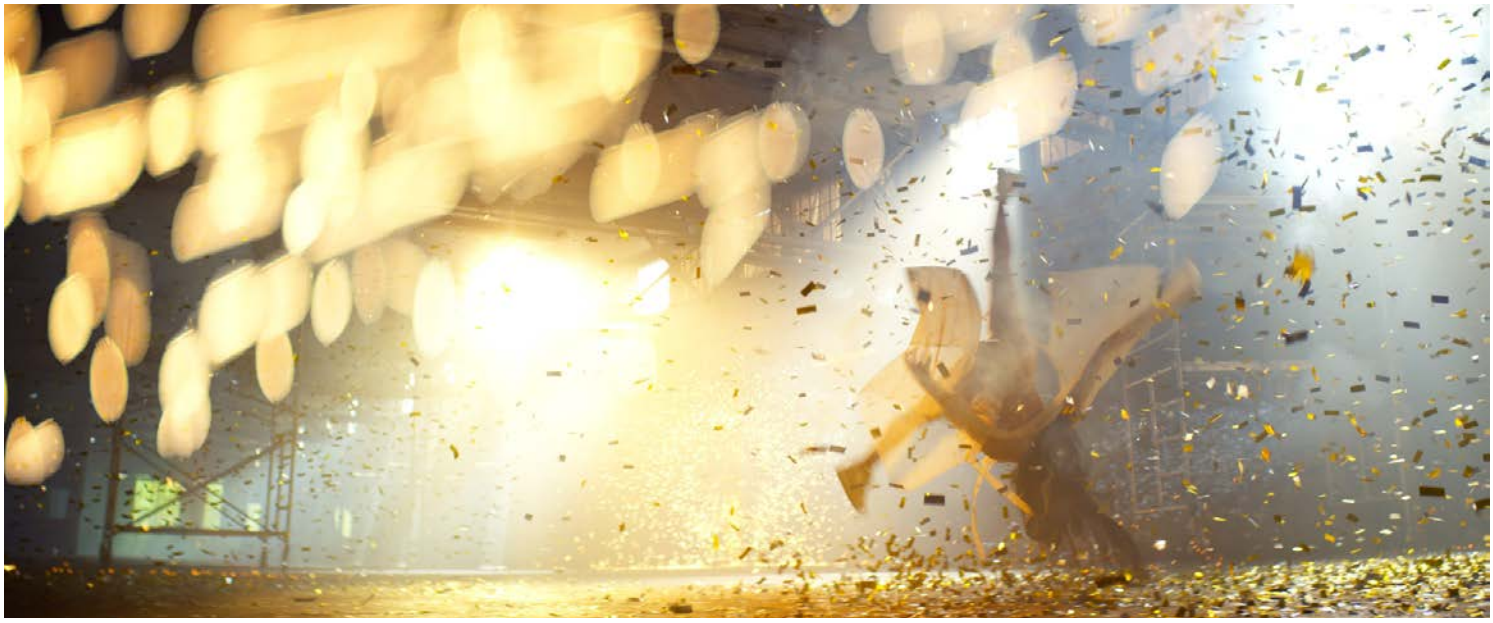
Dollying through the pyrotechnics on Fisher 10 with TTWs (Track Tires).

Kira MoCo Robotic rig for opening transition.

(L-R) Robert Rodriguez, Technicolor Director of Workflow and Technology and Colorist Tony Dustin. DaVinci Resolve 15.3 and Sony X300.

Daydream Full Frame Frames: Cooke Anamorphic + Sony VENICE

Daydream Full Frame Frames (cont'd)



This story begins on the back roads of Bavaria in autumn 2014. Manfred Jahn was guiding me through the mysteries of making lenses for the ARRI ALEXA 65. The conversation drifted from our shared passion for tearing up 100 Euro notes under a cold shower (also known as sailing), his exploits as ARRI support technician for Vittorio Storaro's Arriflex 765 camera on *Little Buddha*, and how to build or rehouse enough new 65mm lenses to satisfy the demand for the new digital ALEXA 65.

Twenty-five months later, ALEXA 65 had been used on more 65mm digital productions than had been shot on film in the previous 25 years. And the demand for more and different lenses was insatiable. Manfred Jahn and his team at ARRI Rental set out to work on a series of serendipitous and idiosyncratic lenses. They were called Prime DNA. Every "imperfect" lens was pulled off the shelves at ARRI Rental and examined—regardless of age, imperfections, blemishes, bruises or mount.

Now, with the release of ARRI ALEXA LF and ALEXA Mini LF, cinematographers are asking for new lenses with the heritage of Prime DNAs but specific to Large Format. I had a fascinating discussion with Mark Hope-Jones, Content Marketing Manager, ARRI Rental and Andrew Prior, Head of Camera Technology and Development, ARRI Rental UK.

JON FAUER: When did the idea of DNA LF lenses originate, and why?

ANDREW PRIOR: Our DNA LF lenses are very much a continuation of the Prime DNA lenses that we developed for ALEXA 65, which are diverse, carefully selected vintage optics, rehoused into modern lens housings. They have proven to be very popular—productions shot with ALEXA 65 and Prime DNA include *Breathe* (Robert Richardson ASC), *Mary Magdalene* (Greig Fraser ASC, ACS), *Solo: A Star Wars Story* (Bradford Young ASC), *Ant-Man and the Wasp* (Dante Spinotti ASC, AIC), *Bohemian Rhapsody* (Newton Thomas Sigel ASC), *If Beale Street Could Talk* (James Laxton), *Dumbo* (Ben Davis BSC), and *The Girl in the Spider's Web* (Pedro Luque).

When ARRI announced the ALEXA LF camera system early in 2018, we knew that continuing the DNA concept into the LF format would provide an interesting alternative lens option to filmmakers, so we started work on a DNA range built specifically for full-frame cameras.

MARK HOPE-JONES: While we were working on the new DNA LF lenses, ARRI announced ALEXA Mini LF, which is going to make that system very much more popular and versatile. As it happens, the Mini LF cameras will start shipping to customers simultaneously with our 22 sets of DNA LF lenses becoming available at ARRI Rental facilities worldwide in June. So, the timing has really worked out; customers can rent ALEXA Mini LF with DNA LF lenses basically from the moment they read this in Film and Digital Times. Also, as we have refitted our ALEXA 65 cameras and lenses with the same LPL lens mounts as the ALEXA LF family and our DNA LF lenses, productions can very easily combine the 65 mm and LF formats.

JON: Since the full-frame sensor of ALEXA LF is smaller than the 65 mm sensor of ALEXA 65, why couldn't people just use Prime DNA lenses with ALEXA LF?

ANDREW: While developing the Prime DNA range for ALEXA 65, we found that filmmakers really responded to the more extreme image characteristics produced by these vintage optics. Often it was the lenses that barely covered the 65 mm format, with pronounced fall-off or swirl in the corners of the frame, that they found most interesting. If you use those same lenses on the smaller LF format, you are cropping the center of the image and you lose some of those interesting elements. It was clear that to be true to the DNA idea, we would need a set of lenses purpose-made for the 44.71 mm image circle of ALEXA LF.

JON: If DNA LF lenses use vintage glass, can you say what it is?

ANDREW: Well, it is still the case that when it comes to identifying donor lens elements, we say that DNA stands for Do Not Ask.

What I can say is that the vintage lenses from which we take elements are a mix ranging from the late 1950s to the late 1970s. It's not cheap, modern glass inspired by a vintage look—it's genuine, high-quality vintage glass, meticulously sourced from all over the world, that has gone through a rigorous QC process and been put in modern housings to ensure the consistency and dependability required on a professional set. We don't just reassemble the donor elements in a new housing; we tune the lens groupings in accordance with the established DNA look, and we have introduced a new multi-blade iris into each lens to ensure pleasing, circular bokeh. Fast T-stops from T1.5 to T2 across the range allow for low-light work and shallow depth of field.

Andrew Prior and Mark Hope-Jones (L-R) at ARRI Rental.

JON: How would you describe the DNA LF look?

MARK: It's a slightly softer, more forgiving look that deconstructs the digital image without sacrificing contrast. The texture and the lack of absolute technical perfection in the vintage glass adds to a sense of empathy and warmth; it connects directly with the viewer, somehow, and heightens emotion. Crucially, filmmakers can adapt the DNA LFs to their specific requirements, because the lenses are tuneable. We can adjust the look, in terms of focus fall-off, halation, contrast, spherical aberration, and field curvature, to meet the needs of a particular cinematographer or production. This means we can offer cinematographers a totally personalized set of lenses, without requiring them to buy anything. All they have to invest is their time, their passion, and their artistry.

JON: Where did this idea of customizing or tuning the lenses come from?

ANDREW: It evolved from the Prime DNA range, which came into existence while major ALEXA 65 productions were running, so many of the lenses in the series were built for specific cinematographers. They were using the lenses as fast as we could make them, and that introduced a spirit of collaboration. We were building lenses to the specifications of some of the best DPs in the world, and they revelled in the fact that we could tune the lenses while building them to their exact artistic requirements.

MARK: When it came to the DNA LFs, we wanted to retain this tunability, so Manfred Jahn (Head of Camera Rental at ARRI Rental EU and a lens program project leader) ensured that the lenses were designed from the ground up to be customizable in ways that can be accurately measured and recorded. This isn't haphazard, hit-and-miss tuning. This is calibrated tuning with internal markings and mechanisms that allow each lens to be personalized to a measurable, repeatable extent, and afterwards can be restored to its base settings. And we can do this at any major ARRI Rental facility internationally, because our technical lens team is a global network of shared expertise, systems and resources.

JON: I don't think anyone else has done that degree of repeatability and "return to default original settings."

MARK: We think what we're offering is new. It's not just about having lenses that are tuneable, it's about having a support structure behind those lenses that makes it practical for major productions to actually go down this route. That's one of the reasons why DNA lenses are a rental-only product; it's really more of a service than a product. If a DP tunes a set of DNA LFs at ARRI Rental in London, he or she can go to ARRI Rental in New York and tune another set to exactly the same degree. Our global systems allow us to record and replicate the tuning process anywhere, at any time, which could be invaluable in the case of additional photography or pick-ups after a production has wound down.

JON: What can you offer productions that don't have time to engage in the personalized tuning process?

ANDREW: A lot of productions might not have time to detune DNA LFs, and certainly a great many will simply like the look of the lenses as they are. For these productions we have developed DNA LF X lenses in three focal lengths, covering wide, medium and long, which complement the main DNA LF set. Uncoated, and tuned to deliver fairly pronounced optical characteristics, they provide an off-the-shelf option to introduce a more extreme, "dirtier" look for specific situations. This allows productions to dip their toe into the possibilities of the personalization process.

JON: Who manufactures the lenses for you?

MARK: DNA LF lenses are manufactured in-house by ARRI Rental. The initial work to donor lenses is done in London by Andy Taylor (Camera Engineer at ARRI Rental UK and a senior member of the lens program team), and the manufacturing of housings and final assembly is overseen by Manfred Jahn at ARRI Rental Munich. We have a lot of experience building lenses, and we have to live up to the ARRI name that we proudly carry, so the housings are properly robust, with lens rings that feel sturdy and smooth even in extreme temperatures. Size, weight and ergonomics are ideal, with focus and iris gears in the same place on every focal length to allow fast changes of lenses and lens control tools. The only manufacturing tasks we outsource are the painting and the engraving, which is done by hand.

JON: Do you have a DNA LF zoom that accompanies the range?

ANDREW: Not a DNA branded zoom, but there are many full-frame zoom options that we carry, from ZEISS, Angenieux and FUJINON, and we've been modifying and tuning these to bring them towards a DNA aesthetic. To be honest, we've found that the kinds of productions and filmmakers drawn to DNA lenses tend not to be concerned about using zooms. Maybe for reframing a crane shot, that kind of thing, but the DNA concept appeals to those who prefer to shoot pretty much exclusively on prime lenses.

JON: Some might see shooting DNA LF as quite a bold visual choice—will they cause issues on VFX-heavy productions?

ANDREW: Not at all; in fact the opposite is true. The DNA LF lenses incorporate LDS-2, which is ARRI's latest lens data system. It means that every lens has been mapped and carries built-in focus and iris lens tables. Fast and efficient lens metadata is automatically translated to recorded clips, which will save time and money in postproduction, and can be displayed on monitor outputs for DPs and DITs. So, DNA LF is a great choice for cinematographers who want to put their own creative stamp on the images right there on set, while at the same time making life easy for the visual effects team.

ARRI Rental DNA LF

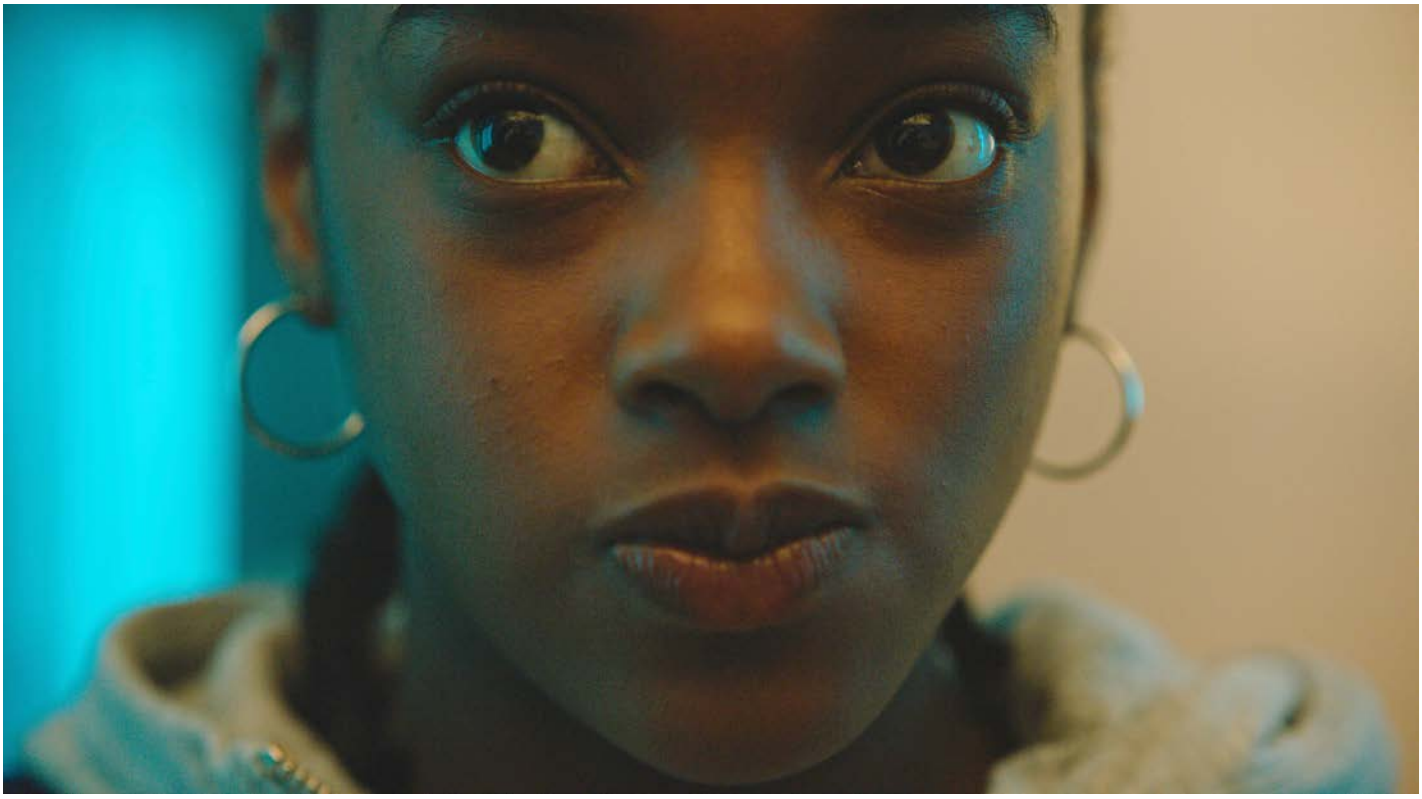
Shot on a 35mm DNA LF prototype. Andrew Prior comments, “The out of focus rocks start to swirl nicely and I like the way the houses caught by the sun across the bay deconstruct. The boy’s face has a gentle softness which is the vintage glass doing its thing.

DNA LF Lens Specifications

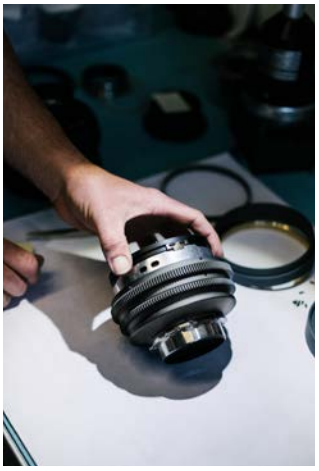
Focal Length	Aperture	Close Focus / ft	Weight
21mm	1.5	7”	1.1kg
25mm	1.5	8,6”	1.2kg
29mm	2	11”	1.2kg
35mm	2	11”	1.2kg
50mm	1.5	1.6”	1.2kg
75mm	1.5	2’	1.2kg
85mm	1.5	2’.3”	1.3kg
100mm	2	2’.6”	1.5kg
135mm	2	4’.2”	1.5kg

Image Circle:	46mm Ø
Lens Mount:	LPL with LDS-2
Front Diameter:	114mm

ARRI DNA LF



85mm DNA LF prototype shot on an ALEXA 65 (in LF mode). Andrew notes: “This is a nice close-up with the out of focus areas rolling off softly, bringing our attention to the detail of her eyes.”



Left: Manfred Jahn, Head of Camera Rental at ARRI Rental EU and a lens program project leader.

Near right, Andy Taylor, Camera Engineer, ARRI Rental UK. Andy is a senior member of the DNA lens team, and an early designer and builder of Prime DNA prototypes.

Far right, Phu Bui, Project Manager, ARRI Rental. Phu is responsible for the overall coordination and logistical implementation of different projects throughout ARRI Rental, including DNA LF.

ARRI DNA LF X

Steadicam M-2

The Tiffen Company is launching their newest Steadicam rig, the M-2, during Cine Gear weekend with live demos available both at their Cine Gear booth (#25) as well as at the Tiffen Open House / Steadicam Operator Expo hosted by the Steadicam Guild on Sunday, June 3rd.

The most remarkable innovation of the lighter-weight Steadicam M-2 is the integration of the revolutionary Volt electronics directly into the top camera stage. Previously only available as an external add-on, the control board that measures the roll, tilt, and pan motion of the camera and sends drive signals to the gimbal motors is now housed completely inside the stage for a more compact form factor. The result is a dramatic decrease in distance between the top of the gimbal and the top of the stage as well as significant weight reduction. Volt controls can now be configured on either side of the stage for unobstructed access.

For those who have not yet experienced the Volt, it's a revolutionary technology for body-worn stabilizers. The motor drive unit that attaches to the gimbal of Steadicam and other popular sleds, actively assists operators to hold virtually any tilt or roll angle, including a perfectly level horizon. This gentle assistance helps to remove the effects of wind, acceleration, or natural body movement in the image. The Volt can be engaged or disengaged with the push of a button, and the amount of assistance can be fine-tuned to the operator's personal taste. This allows the operator full control of framing through haptic feedback which emulates a fluid-like friction of a tripod head, designed to complement rather than oppose normal operating.

The "M" in M-1 always stood for "modular", but the M-2 takes the mix-and-match idea to the next level. Many machine shops have been visited by operators looking to tweak and customize their rigs. Steadicam's answer to this is a wealth of configuration options, including: rigid carbon fiber posts in a variety of lengths and diameters, a sled base with either Gold mount or V-lock plates and an optional hot-swappable 3rd battery mount, a streamlined quick release monitor mount, and standard or tilt top stages with or without integrated Volt electronics.

All the M-2 components are also compatible with the larger Steadicam M-1 components as well. *steadicam.com*

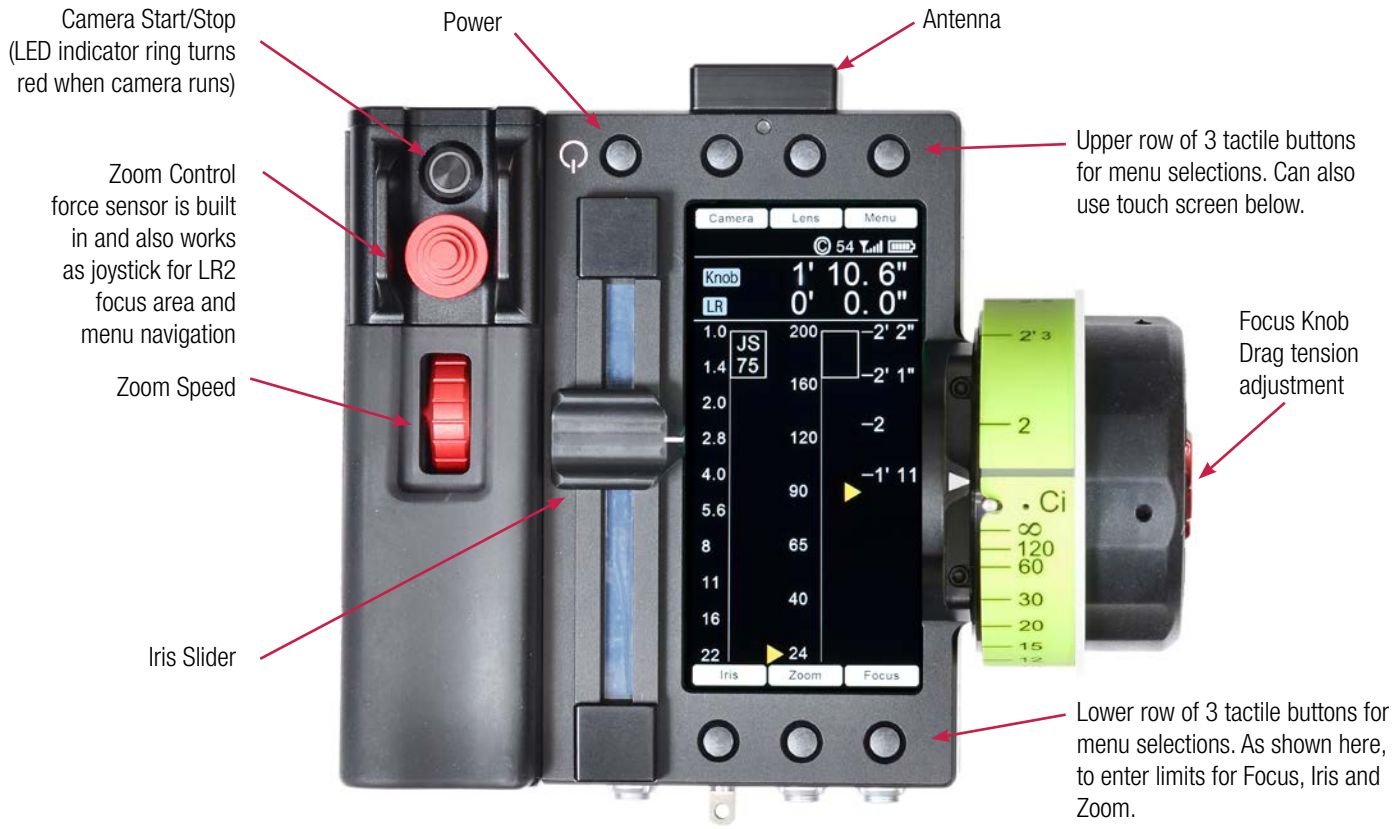
Front view of top stage

Right side view of top stage

New Preston Hand Unit 4 — HU4

Some things require most fingers on the controls. Hesitate for a second and you might miss a note playing the trumpet. Taking your fingers off the buttons of a fighter jet control stick might not be a good idea. Climbing solo up rock faces? And in this new era of focus pulling in large format, with no actor marks, no rehearsals, whisker-thin depth of field, it's finger control one wants, not diving into menus.

There are so many innovative new features in Preston Cinema's new Hand Unit 4 (HU4) that it takes a list to summarize best (below). For many, the tactile switches on the handgrip will be the game-changer. You don't have to let go of the HU4 to switch from Manual to Autofocus control and back again to Manual Focus with the Light Ranger 2.



What's new in the new Preston Hand Unit HU4

Features

- 35% lighter weight than HU3 with Micro Force zoom.
- Adjustable focus knob drag.
- LED triplet provides uniform focus scale illumination.
- Super-rugged tactile switches rated for 10 million cycles.
- Menu items can be accessed either by tactile keys or touch screen entry.
- Large sunlight-visible 4.63" diagonal display.
- Large display fonts make lens data easy to read.
- Reversible black/white background for interior/exterior use.
- Focus, Iris, and Zoom scales are precisely represented.
- Non-linear iris scales are mapped to a linear scale.

Touch Panel

- Squeeze and expand lens scales. Focus scale resolution increases as scale is expanded.
- Travel limits shown for focus, Iris, and zoom lens rings.
- Separate limits available for focus distance and LR2.
- Iris control can be re-assigned to control the LR2 AF zones via touch.

Integral Zoom / Joystick Control

- The familiar Preston Micro Force control with the famous red button is built in.
- It also becomes a joystick when assigned to control position and size of the Auto-Focus zone of Light Ranger 2.
- Joystick also functions to navigate the HU4 menus.

Switches on the molded handgrip control LR2 functions

- You don't have to let go of the handgrip to switch from Manual to Autofocus control with the Light Ranger 2
- Normal/Hybrid Mode: transition from Manual to Autofocus.
- Freeze: freeze lens focus in Autofocus mode.
- Allocate switch functions according to user preferences.

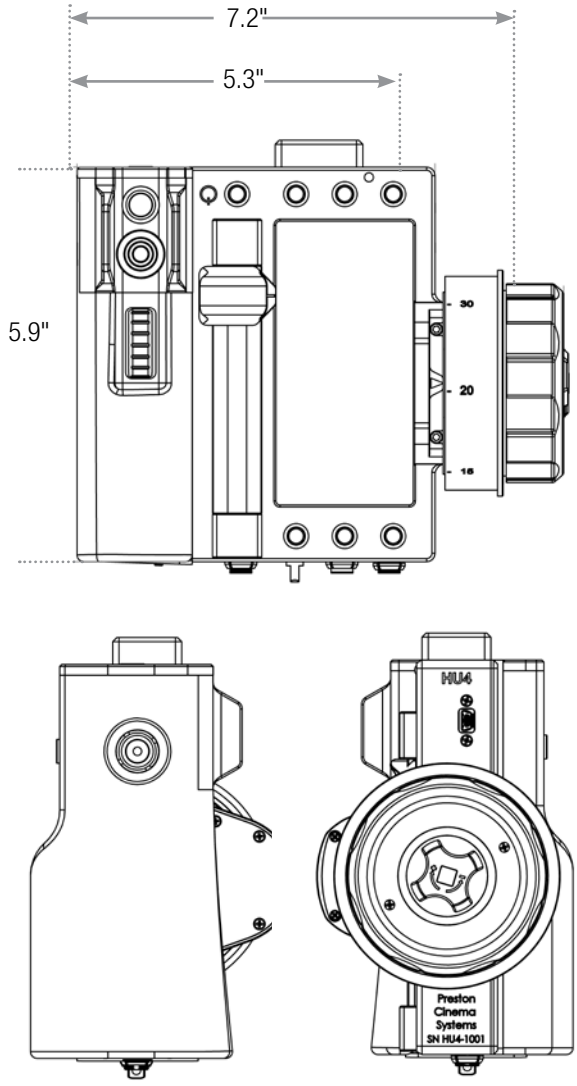
Lemo Ports for:

- Command cable (to hard-wire HU4 to MDR).
- External zoom control.
- Serial updater module to transfer lens library data to and from cell phone via Bluetooth link.

Additional info

- Wgt. w/ battery (Sony alpha series NP-FZ-100) 1.1kg (2.4 lb).
- Coming soon: Camera control for selected models.
- *prestoncinema.com*

Preston HU4 (cont'd)

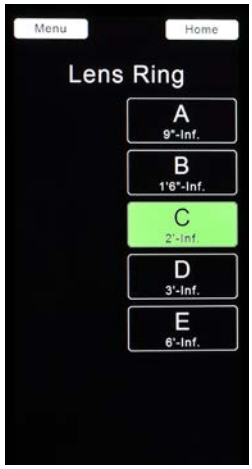


Preston HU4 Menus (cont'd)

Camera Control for Sony VENICE and other cameras coming soon

Lens Library

Main Menu

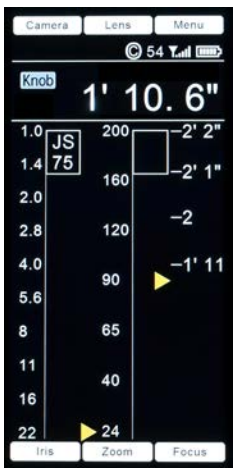


Lens Ring Selection

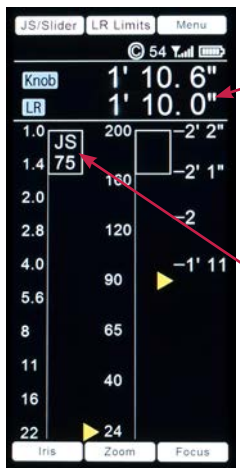
System Menu

Menu option for Light Ranger Manual or Hybrid Mode

HU4 display shows additional options when Light Ranger 2 is detected



1. Home screen

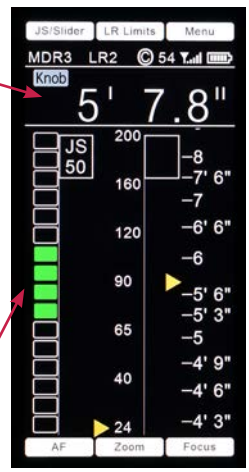


2. LR2 detected.

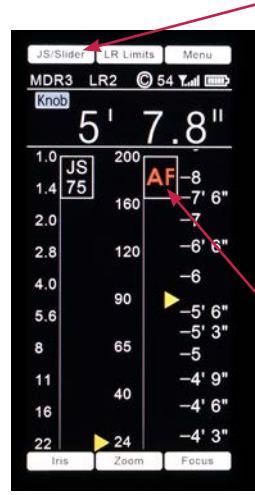
Touch here to toggle between dual display of Knob and LR, Knob alone or LR alone

Joystick speed (set by knob in grip) is shown in box

LR2 detection zones



3. LR2 zones in green.



4. Autofocus: touch rectangle

You can use the joystick or the slider to control the position of the Autofocus zone

Touch this box to toggle Autofocus on/off

Figure 1 shows the home screen display before the Light Ranger (LR2 or LR2W) is detected.

2. The Light Ranger is detected and the Camera and Lens options in the upper left corner are replaced by JS (Joystick)/Slider and LR Limits.

3. Touching the JS/Slider option toggles between having the LR2 focus zone selection being controlled by the joystick or slider. Each of the 16 rectangles on the left of the display represents a LR2 detection zone. A single finger moves the entire group of zones, shown in green. Two fingers can expand or contract the number of zones as well as move their center position.

4. Turn Autofocus on/off using the touchscreen.

Tokina Filters

This is to reintroduce Tokina PRO IRND filters. They come in square 4x4", 6.6x6.6"; rectangular 4x5.650"; and circular sizes (82, 86, 95, 105, 112, 127 mm). Densities are ND 0.3, 0.6, 0.9, 1.2, 1.5, 1.8, 2.1 and 2.4—representing light attenuation from 1 to 8 stops.

The PRO IRND filters are manufactured by Kenko Tokina in Japan. For the square and rectangular ones, a vapor coating is deposited on the inner surfaces of two pieces of glass that are then bonded together. A black premium edge seal prevents edge chips when using in a filter frame in a mattebox. The outer surfaces are coated with an anti-reflection coating but not an ND layer. The advantage is that the filters can be re-polished again if they become scratched. Tokina PRO IRND filters work by suppressing (rather than cutting) infrared pollution up to 1200nm.

At Cine Gear, Tokina announces Tokina Cinema Diffusion filters: Black Supermist, Clear Supermist, Black Alchemy and SoftRes. All are available in strengths of 1/8, 1/4, 1/2, and 1 in 4x5.650" and 6.6x6.6" sizes.

Tokina Clear Supermist provides fine detail reduction while specular highlights and lights in-shot get a moderate halation.

Tokina Black Supermist retain contrast more than Clear. Blacks remain shadowy black. Use Black Supermist to reduce fine detail resolution, add a slight grain texture to the image and have a small degree of halation around practical lights in the shot.

Tokina SoftRes is a diffusion filter to smooth skin tones and fine detail without adding extra bloom to highlights. Unlike other diffusion filters that affect primarily resolution, the SoftRes is usable at all T stops and the filter particulate is so small that it is not easily seen by the lens even at higher T-stops of T8 and above.

Tokina Black Alchemy is a combination of a 1/8 Black Supermist and varying strengths of SoftRes. This provides a filmic look while also reducing fine detail resolution to provide both skin tone smoothing and also a slight grain texture to the image.
tokinacinema.com/filters

Blackmagic Design DaVinci Resolve 16

Blackmagic Design announced DaVinci Resolve 16 at NAB. It is a major update that adds a great new cut page specifically designed for editors who need to work quickly and on tight deadlines (TV Commercials, On-set dailies). Of course, DaVinci Resolve 16 includes numerous other new features—but having downloaded the public beta *(blackmagicdesign.com)*, I really like the cut page.

Once upon a time, in the dinosaur days of tape, finding a clip was easy. You could just spin through a video tape to view and select shots. These days, finding the right clip in a bin with hundreds of files is slow. But now, you can simply click on the source tape button and all of the clips in that bin appear in the viewer as a single long "tape". This makes it easy to scrub through all of the shots, find the selects, and quickly edit them to the timeline. It's an old concept that's been completely modernized.

DaVinci Resolve Editor Keyboard

The Blackmagic Design DaVinci Resolve Editor Keyboard speeds up editing because it lets you use both hands and minimizes mousing around.

You can use your right hand to control the position in a clip while your left hand sets in and out points and applies edits. In other words, you can move, mark in and out points, apply an edit, then move again, repeatedly. It's an extremely fast way to work, using both hands at once.

The search dial is machined metal with a rubber coating and multiple roller bearings. The dial is very smooth and can be spun in jog mode to get a natural timeline scroll.

Entering edit points is one of the most used functions in editing, so the in and out point buttons are larger in size and include a small space above to allow locating them by feel. That helps with using transport control with your right hand and punching in and out points with the left hand.

DaVinci Resolve Editor Keyboard will be available in August from Blackmagic Design resellers worldwide.

Above: 57mm CF Blackwing7 at T1.8 framegrab on Sony VENICE by Peter Mosiman.

Neil Fanthom writes from London:

The 10 sets of "first glass" Blackwing7 lenses have all been sold. 8 Cinematographers, 1 Director and Camtec Motion Picture Cameras invested in the natural aluminium finished Blackwing7 binaries.

DP interest in the lenses has been phenomenal, and many of the orders to date have been placed by both young and established filmmakers, with whom the creative lens messaging and ability to choose a lens tuning profile has really resonated. The roll-off and flare characteristics seen in online images shot on Blackwing7 binaries with ALEXA LF, ALEXA 65, Sony Venice and 35mm film has helped clients settle on T-tuned lenses as the generally favored variant for DPs. S and X variants are also showing popularity, S mainly with rental houses who are looking to cater to more traditional market needs and X with artists looking for more responsive glass.

Half of the binaries are out shooting on location in the wild. The rest are being finalized in manufacturing and will be completed and shipped by the end of May. The 37mm, 57mm and 77mm focal lengths, which are available in the binaries, are working well as a triplet set—with 47mm and 107mm coming later in June, followed by 27mm and 137mm binaries to follow in late summer.

Production shipments of the all-black Blackwing7 optics is scheduled to begin during September. Capacity at IB/E, based in Freyung Germany—Tribe7's design and manufacturing partner for the Blackwing7 lens range—is set to increase to support the order demand and to ensure that the lead-time for lenses from point of order is kept as short as possible, ideally to around 6 months from time of order.

To date, in the first month of Blackwing7 activity, lenses have been used on 2 shorts, 4 music videos and 5 commercials, shot in locations such as Prague, London, Paris, Los Angeles, Mexico and Miami. Many of the projects are still confidential but the DP list of those who have tested or shot with the lenses includes Rodrigo Prieto ASC AMC, Darius Khondji ASC AFC, Maceo Bishop, David Myrick, Doug Emmett, Rina Yang and young UK film makers Fraser Rigg and David Bird who accessed the first Blackwing7 77mm experimental lenses for testing earlier in the year.

Blackwing7 lenses are also prepping now on 2 feature films in the USA: Space Jam 2, with Terence Nance directing and Bradford Young ASC as DP; and Covers, Nisha Ganatra directing with Jason McCormick as DP. Three additional features are planning for Summer starts.

Tribe7's technical, operations and marketing activities will be centralized in the UK, with office facilities in London and plans to grow in the 2nd half of the year. UK sales will be managed through CVP, with advanced talks being held to finalize the scope of support—which could include service and re-tuning as well as direct technical sales.

In the USA, EU and rest of world, Tribe7 does not currently plan to set up a traditional world-wide distribution and sales network for the Blackwing7 lenses, since every sale is personal and client tuning requirements need to be talked through to a deep technical and artistic level. Sales will be managed through executive level direct contact with clients to make sure that all aspects of the lenses and knowledge of the market, together with production experience, is brought into the decision-making for clients. EU and USA will have dedicated sales executives to manage the direct contact process. The adventure continues.

For further information and real-time images:
instagram.com/7isatribe and *7isatribe.com*

How to Shoot Super35 on ARRI ALEXA LF and Mini LF Cameras

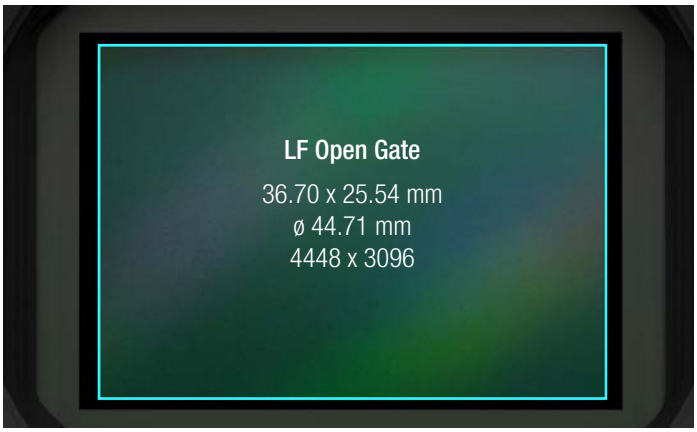
"Can't be done," I heard all too often this month.

Balderdash. You most certainly can shoot Super35 on Large Format ARRI ALEXA LF and ALEXA Mini LF cameras.

There are many ways to do it. Your mileage will vary and you most certainly may have a better path.

To shorten this story, let's assume that "ALEXA LF" means both "ARRI ALEXA LF" and the new "ARRI ALEXA Mini LF." Also, "Blackmagic's DaVinci Resolve" is shortened to "DaVinci Resolve."

Here's the ALEXA LF in Open Gate (Large Format/Fullest Frame) sensor mode:



But, you want to shoot in Super35.

Why on earth would you still want to do that? *Just kidding.*

One reason might be that you want to work with your cherished vintage ZEISS Super Speeds and Angenieux Optimo Super35 mm format zoom. Their image circles do not fully cover the LF sensor. Or, you might want to shoot with a Full Frame lens but crop to S35.

On the Sony VENICE, Canon C700 FF and RED Monstro, you can shoot in Super35 Sensor Mode that essential acts like an analog film day's hard matte aperture mask. ARRI doesn't have this (yet).

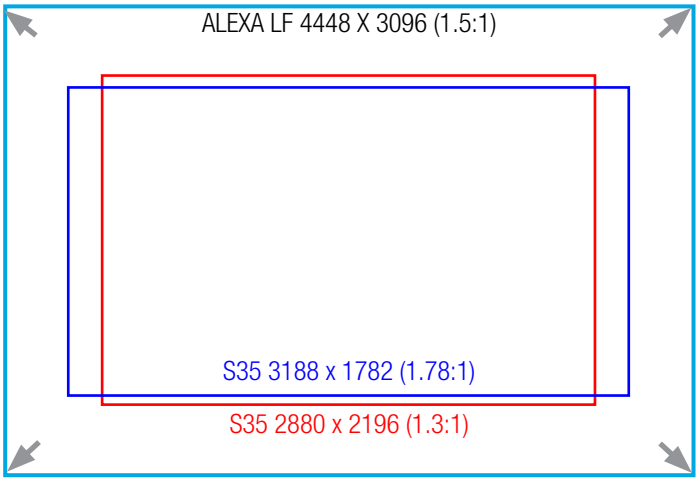
So, essentially you'll do what you often have done in film and digital: expose a larger image area than you need, knowing that you can zoom in, crop, rotate, re-frame and reposition in post.

And what you will wind up shooting S35 on LF is the same image area as an ALEXA SXT or equivalent:

And then, for the deliverables, we will "cut out" the S35 area using DaVinci Resolve or ARRI's ARRIRAW Converter 4.0.

To create framelines for your intended Super35 frame, the online ARRI Frame Line & Lens Illumination Tool is very helpful: *arri.com/en/learn-help/learn-help-camera-system/tools*

Or shoot a framing chart showing both FF and S35 framelines. It might look like this:

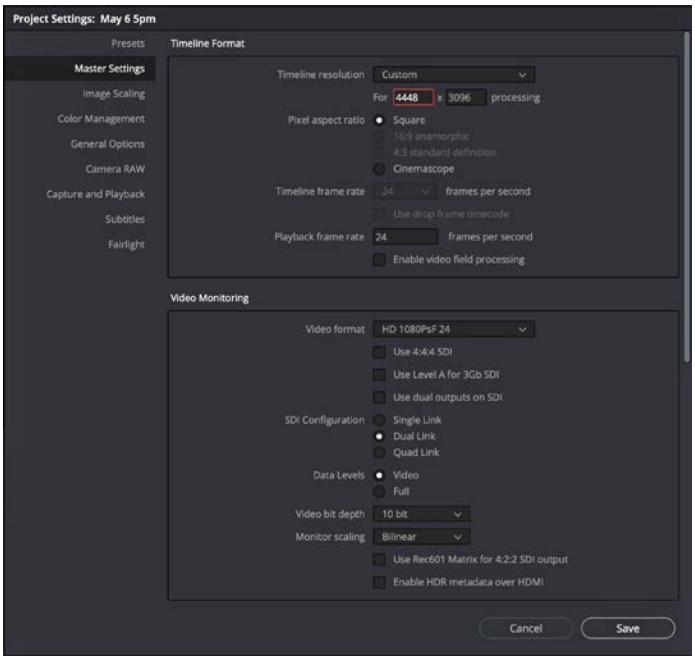


For this "episode," let's assume you are shooting LF Open Gate (4448 x 3096) and the goal is to crop in post to a 1.78:1 (16:9) format using DaVinci Resolve 16 Studio. (The free DaVinci Resolve maxes out at UHD 3840 x 2160, so we'll use Studio here.)

There are several other ways to window Super35 from Large Format. For example, to crop from LF to Super35 3.2K in post, you can shoot in ALEXA LF 2.39:1 Sensor Mode instead, which results in less data and gets you a top speed of 150 fps. ALEXA LF 2.39:1 is 4448 x 1856, and S35 3.2K is 3200 x 1800, so it fits nicely. If your goal is to crop S35 6:5 in post (for anamorphic 2x squeeze S35 lenses), you can shoot LF 16:9 Sensor Mode. That is also less data. LF 16:9 is 3840 x 2160, and S35 6:5 is 2578 x 2160.

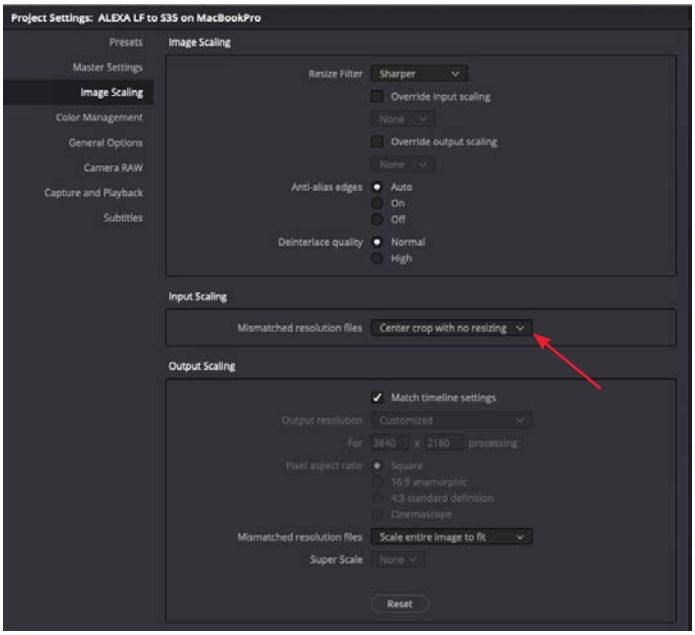
Super35 from ALEXA LF with DaVinci Resolve Studio

1. Open Project Settings (click on the gear at the lower right of the screen). Having shot LF Open Gate, be sure **4448 x 3096** is entered in Master Settings > Timeline Resolution > Custom:



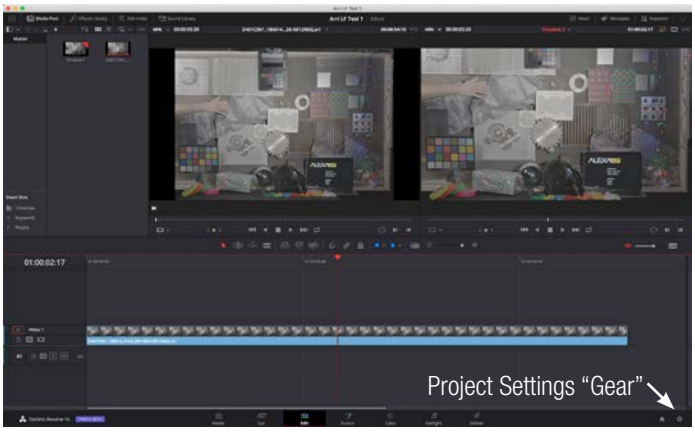
2. Next, in Project Settings > Image Scaling > Input Scaling > Mismatched Resolution Files, select CENTER CROP WITH NO RESIZING. This will fill the cropped Super35 "cut-out" to the entire output window.

3. You can probably check the box for Output Scaling > Match timeline settings.

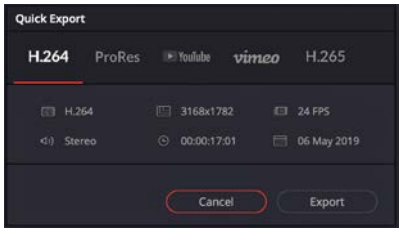


4. At this point, your imported Media should now be windowed and cropped to your desired Super35 output framing aspect ratio of 1.78:1 (16:9) **3168 x 1782** in the EDIT and COLOR pages and also in the CUT page of the new DaVinci Resolve 16 Studio.

5. In the EDIT page below, we see the original LF Open Gate 4448 x 3096 source media is on the left side. The windowed/cropped/reframed Super35 3188 x 1782 image is on the right:



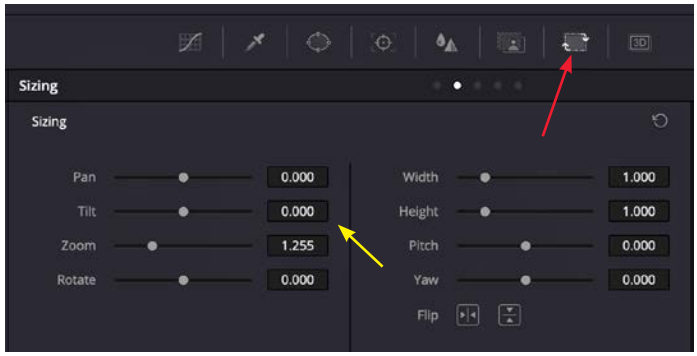
6. In addition to the traditional deliver page, DaVinci Resolve 16 has a new quick delivery option that lets you make exports from any page of the application. Go to: File > Quick Export. Notice that our 3188 x 1782 is listed as an option:



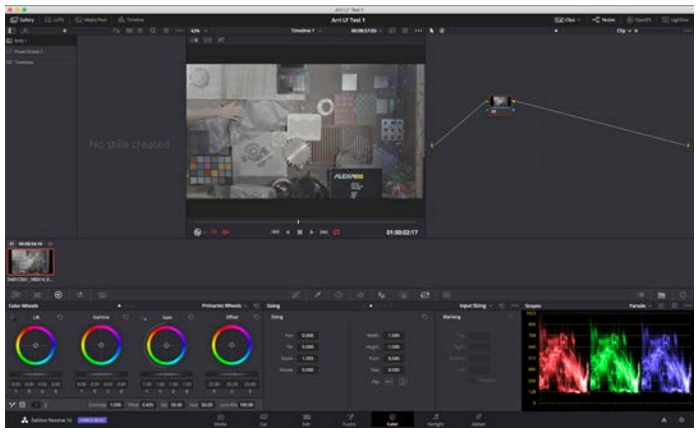
Here's a manual way to crop Super35 from ALEXA LF:

7. In Project Settings > Image Scaling > Input Scaling > Mismatched Resolution Files, select SCALE ENTIRE IMAGE TO FIT.

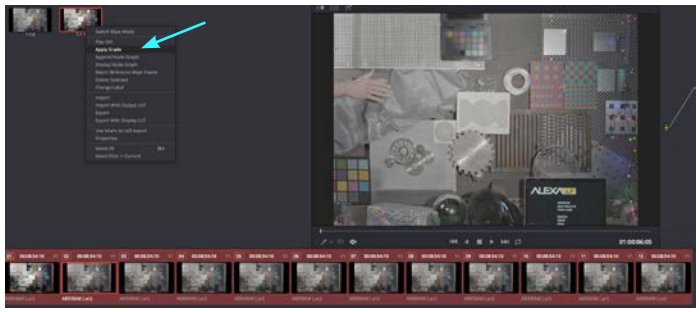
8. Go to the COLOR Page. Click on the SIZING icon, shown with a red arrow below. In the ZOOM box, yellow arrow, enter 1.255. (This is the zoom ratio that worked for us—but you can adjust according to your framing chart.) You can also repo the frame up or down with TILT, PAN and ROTATE.



9. Right click on the large image and, from the drop-down menu, select GRAB STILL :



10. GRAB STILL saves the new resizing along with any LUTS, grading and other parameters you have made. To apply all of these to all your clips, highlight them (Cmd-A) and then right-click on the Grabbed Still and choose APPLY GRADE.



In our next lesson, we'll discuss cropping Super35 from ALEXA LF 2:39:1 and LF 16:9 Sensor Modes. We'll use DaVinci Resolve as well as ARRI's ARRIRAW Converter 4.0. We'll look at making framing charts with the on-line ARRI Frame Line & Lens Illumination Tool.

My thanks to Jason Druss at Blackmagic Design and Marc Shipman-Mueller, Henning Raedlein and Simon Duschl at ARRI for all their help on this story.

The Malkames Collection in northern Connecticut

This story begins in a barn in northern Connecticut.

Here was a collection of antique motion picture cameras more fascinating than anything else I had ever seen. Not as vast as the warehouse of the French Cinematheque, lovingly curated by Laurent Mannoni and Laure Parchemenko. Not on shelves and in drawers as at George Eastman House. Instead, the Malkames Collection was living history. Every camera had a personal provenance. And, that is because they belong to Rick Malkames, who is sort of cinematic royalty, being the third generation Malkames to work as a cinematographer.

His grandfather Don was born in 1904, started at age 17 as an assistant cameraman at William Fox Studio in Hollywood, moved to New York, worked as a DP and became head of the camera department at Astoria Studios.

Karl Malkames was born in 1926. Like his dad, he started as a camera assistant after serving in the Navy onboard submarines. He was staff cameraman at Warner-Pathé News, shot features, and was a member of the ASC. In addition to working as a cinematographer, Karl became famous for his innovative work in motion picture film preservation. He invented numerous devices to restore damaged and shrunken film, saving hundreds of films.

Rick is a third-generation DP, a member of the International Cinematographers Guild, and a SMPTE and Emmy Award winner. His documentaries have appeared on ABC's 20/20, Bill Moyers' Journal, Nova, American Masters, and more. He is the current curator of the Malkames collection.

That is how the Malkames family wound up with so many cameras and so much cinematographic ephemera along the way. These were tools of the trade, sometimes traded for services rendered, but mostly purchased, gifted or saved.

And that is why the Malkames Collection is so wonderful. Rick can name the camera you are looking at in wonder. You are amazed that it still transports film and is in pristine working condition. Then Rick will tell you what motion pictures it shot, which Malkames or colleague shot with it, where, and with whom. These are much more than distant examples of wood, brass and bicycle chain technologies in the service of cinema. This is truly living cinema history.

But, there was one challenge for the Malkames Collection. It was several hours away from New York or any other major city. Very few people could enjoy its wonders.

And so, in November 2015, Rick visited Pete and Rich Abel with his 1890s Cinematographe #419 and an early idea about the possibilities of establishing a permanent and accessible exhibit in Industry City, Brooklyn where AbelCine was soon to be located. A few months later, the AbelCine team drove north to visit Rick and his collection.

As AbelCine planned their new flagship in Industry City, a home for the exhibit was incorporated. Rich Abel and Liz McGill designed the space, the display cabinets, and the graphics. And now, with the first artifacts installed, the exhibit called The First CineMakers is beginning to take shape.

The First CineMakers (cont'd)

The completed exhibit will feature over twenty of the most significant pieces from the Malkames Collection, along with historical reference documents, movie posters and other ephemera, and significant historical pieces on loan from collectors around the world. Multimedia presentations will tell the story of each display, and a self-guided audio/visual tour will complete the experience.

A non-profit organization, also called The First CineMakers, has been created with the mission of informing and inspiring a new generation of content creators through the preservation of the tools of early cinema. It will also offer education, programming, and grants relating to its history, technologies and craft.

As Pete Abel explains, "Historically, a director of photography's ability to transform a story into cinema has been influenced by the sophistication of the tools at their disposal. The creation of these tools, and their evolution, is a tale just as compelling as any of those we've seen on screen. These early inventors were the disruptors, opportunists and visionaries of their day; all playing their role in the fascinating story of cinema's birth. By looking back and gaining a deeper appreciation of the discipline and craftsmanship that it took to create cinematic images at a time when it was crude, costly and complex to do so, we hope that we can inspire creatives and makers of all types."

With three displays currently installed, funding is needed to complete the exhibit, including the accompanying media components.

There are number of ways to support The First CineMakers, including donations or even loaning artifacts to the collection. With a donation as small as $25 you can become a Friend of the First CineMakers, and, of course, larger donations are very welcome. Special perks are available for early donors and larger sponsors. To learn more about the collection, the exhibit coming in 2020, and to make a donation visit *www.firstcinemakers.com*

Rick Malkames

Highlights of the Collection

1896.
60mm **Demeny Chronophotograph** No. 48.

Originally designed by Georges Demeny for the study of movement, and produced by Léon Gaumont in Paris, No. 48 is one of a handful of 60mm Chronophotographs remaining in existence. This particular camera was owned by the renowned American travel photographer Burton Holmes and his assistant Oscar Depue to shoot the first travelogue films ever recorded in Venice, Milan and France.

1897.
Lumière Cinématographe No. 419.

Designed by brothers Auguste and Louis Lumière, and considered by most to be the first true cinema camera, N^{0}. 419 was acquired by Don Malkames directly from Francis Doublier, Lumière's pioneer camera operator. Doublier also appeared in *Workers Leaving The Lumière Factory*, widely considered the first motion picture film ever shown in public in 1894.

1902.
35mm **Bioscope** No. 207.

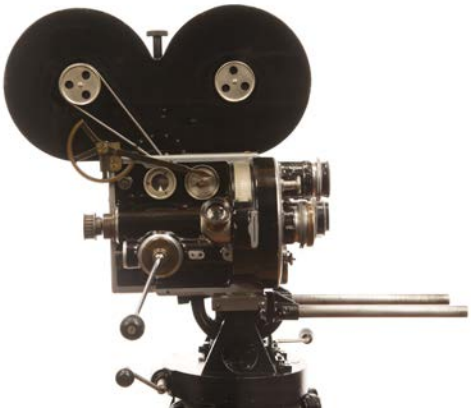
After using the bulky 60mm Chronophotographe, Oscar Depue saw the advantage of the smaller 35mm film gauge that was beginning to become the general standard. Depue purchased Bioscope No. 207 from Charles Urban of the Warwick Trading Company in 1902 and used the camera on Holmes travelogues until he gave the camera to his colleague Edward Jesse Green in 1917, who continued to use the camera on newsreels.

Highlights of the First CineMakers Collection (cont'd)

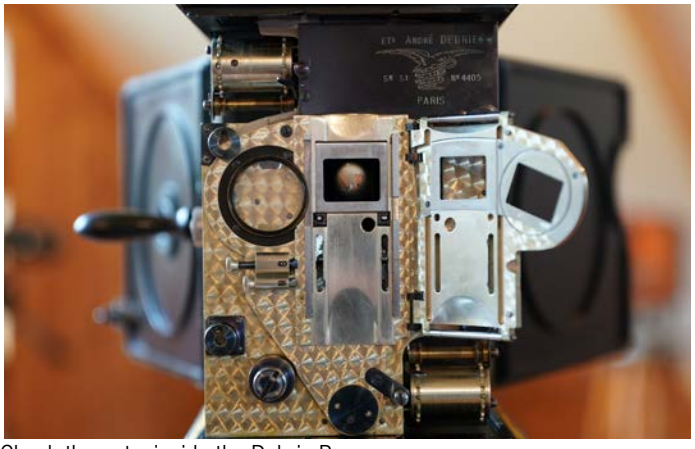
1910. **35mm Pathé** No. 882.
The Pathé Professional, a direct descendent of the Cinématographe, was the most widely used cinema camera in the early 1900s. No. 882 was American pioneer cinematographer Billy Bitzer's personal camera, and was used on *Birth of a Nation*, *Intolerance* and other classic collaborations with Director DW Griffith. Bitzer personally gifted this camera to Don Malkames.

1921. **Akeley Camera** No. 315.
The Akeley "Pancake" camera was one of the earliest examples of a camera rig specifically geared towards travel, wildlife and newsreel production. No. 315 was owned by cameraman James J. Seeley to produce Hearst News' long-running *News of the Day* series. On May 6, 1937, Seeley's team, using this Akeley, was one of the four newsreel crews that captured the unforgettable footage of the tragic Hindenburg disaster.

1909 35mm **Moy & Bastie Camera** No.196.
Moy No. 194 was American cinematographer George Hollister's personal camera, and was used to shoot the 1912 film *From the Manger to the Cross,* one of the first features ever to be shot on location, with scenes filmed in Jerusalem, Bethlehem, and other places in Palestine. In the mid 1910s, Hollister modified this camera to shoot in Kinemacolor, an early attempt to simulate four-process color, in camera, during exposure.



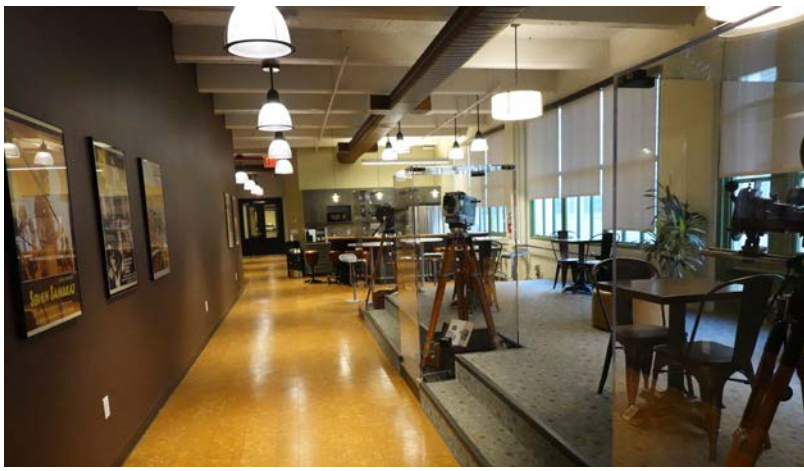
1919. **Bell & Howell No**. 420.
Bell & Howell's Model 2709 camera, first produced in 1912, was a complete reimagining of the film camera, and soon earned its reputation as "the most precision film mechanism ever made." No. 420 was owned by cinematographer Clyde DeVinna, who used the camera to shoot *White Shadows* (1928), which won the Academy Award for Best Cinematography, as well as the Academy Award nominated best picture, *Trader Horn* (1931).



Check the gate: inside the Debrie Parvo.

Rick Malkames hand-cranking his Debire Parvo Model L.


• THE FIRST CINEMAKERS •
FUTURE HOME OF THE MALKAMES COLLECTION, PRESENTED BY ABELCINE
a self-guided, interactive exhibit coming in 2020
Meet the dreamers, craftsmen, and characters who shaped early cinema. Discover the pioneers who laid the groundwork for today's technology.
THE MALKAMES COLLECTION
Carefully curated cameras, tripods, lenses, and other devices from the seminal days of cinema – selected for their historic relevance, designed to inspire and inform.
All pieces are in pristine, working condition.
CURIOSITIES & CONTEXT
Period curiosities such as projection devices, printers, posters, and photos will be integrated into the exhibit, including items on loan from the American Society of Cinematographers (ASC), the Cinémathèque Française, manufacturers, and private collectors. Manuals, technical artifacts, and documents relating to the collection and its era will complete the picture.
SUPPORT OUR CAUSE
The First CineMakers is a 501c3 non-profit organization dedicated to preserving our history and inspiring a new generation of filmmakers by connecting them to the source of the earliest innovations.
Funding is needed for the construction of exhibit elements, the creation of multimedia components, and ongoing programming on the education and preservation of early cinema technology. Learn how you can get involved and make a donation at firstcinemakers.com.
A HISTORY OF INNOVATION
Explore more than twenty of the most significant pieces from the Malkames Collection that helped advance the craft of filmmaking.
Learn the stories behind the technology, the patents, the projects, and other intrigue that helped shape cinema into an art form.
INTERACTIVE LEARNING
Media, including interviews, will tell the story of each display, bringing its essence to life.
A mobile app, with audio and video components, will provide a self-guided tour of the exhibit so visitors can gain a complete understanding of all significant pieces.
DON MALKAMES, ASC
KARL MALKAMES, ASC



A DIT's Guide to AJA Ki Pro GO

Picture this:

THE LONGEST TRAVELING SHOT IN THE HISTORY OF THE WORLD.

CUT TO: THE BIGGEST SPLASH ever recorded.

Clearly William Goldman's screenwriting style does not avoid superlatives the way National Geographic or FDTimes do.

But we digress. You are the DIT on *Son of Butch Cassidy and the Sundance Kid*. The big stunt sequence is about to begin. Four cameras, no waiting.

THE STREAM BELOW is fifty feet down and going very fast.

The cameras roll. The heroes jump.

You will also be the hero DIT—because you recorded all four cameras simultaneously and provided a live monitor matrix of them on a single monitor for the director and DP. You did this because you have the new AJA Ki Pro GO.

AJA Ki Pro GO provides up to 4 channels of simultaneous H.264 HD and SD recording to off-the-shelf USB drives that plug into 4 USB slots in the front of the unit. Each incoming channel can be set to send a primary and back up recording to any USB drive. Furthermore, a 5th USB connector on the back of the unit provides a convenient connection for plugging in an external hard drive or SSD with a USB cable and can be used for collecting all redundant files in one location. Each channel is recorded as a separate file, with logical and easy-to-sort names.

For immediate review of the best stunt the world has ever seen, described above, you can play back each source directly and individually from each of the 4 USB sticks.

And if, by chance, the director calls for an additional 4 cameras so you now have 8 cameras, no waiting, to cover the stunt, you would simply connect the 4 additional cameras to a 2nd Ki Pro Go. And so on.

Each Ki Pro GO has 4x 3G-SDI and 4x HDMI digital video inputs. You don't have to worry about genlocking the incoming video signals thanks to Ki Pro GO's input frame syncing. Ki Pro GO also can handle different signals and video formats from the various cameras because AJA's high quality de-interlacers on each input can convert interlaced inputs to progressive recordings.

High quality 2-channel embedded audio or balanced XLR analog audio-in can be assigned to any recording channel.

Multi-Channel Matrix Monitoring lets you view multiple video channels during recording on the Ki Pro GO's built in display and they can also be sent to the director's HDMI or SDI monitor. Simple menu assignment for channel monitoring is a breeze with channel assignments. In other words, you can screen all four cameras simultaneously on a large on-set monitor or choose to take one camera full screen. If utilizing both monitoring outputs simultaneously, you could select one incoming channel of your choice to play full screen on one of the monitors while watching all four on the other; the choice is up to you.

Ki Pro GO is also extremely portable and has a carrying handle. You can also rack-mount it in half rack wide, 2RU high space and if using multiple Ki Pro GOs, or using a Ki Pro GO alongside a Ki Pro Ultra Plus, capture ProRes and H.264 files simultaneously.

Choices of Video Quality and Bit-Rate

Ki Pro GO lets you choose independent settings for each recording: up to 25 Mbs at 8-bit or 10-bit. You can also choose between 4:2:0 and 4:2:2 color depth.

Select Low, Medium or High H.264 (VBR) Variable Bit Recording and record as .MP4 files. Storage capacity will never be an issue with the capability of recording, for example, files that are 1080 24p at 10-bit 4:2:2 per camera that allow up to almost 27 hours on a 128GB USB stick.

Ki Pro GO has a large, built-in high resolution HD display with Video Monitor and Menu/Status overlays. This display is also the gateway to Ki Pro GO's familiar and intuitive menu system, specifically tweaked with recording channel assignments for primary and backup placements and the user based selections for H.264 compression levels.

AJA Ki Pro GO (cont'd)

Like a traditional tape deck, Ki Pro GO has logical, dedicated transport buttons: record, play, stop, rewind and fast forward. The webserver interface allows control and configuration from anywhere on a network.

The current status of the setup and key Ki Pro GO configuration information is clearly displayed on the built-in high resolution LCD screen and in a web browser window. Additional operational information is found in the STATUS menu that can be accessed even when recording or playing back.

AJA Ki Pro GO is available June 2019 for $3,995 US MSRP.
aja.com

AJA Ki Pro GO Specs

- Record 1, 2, 3 or 4-channels of HD or SD up to 1080p 50/60 in H.264 simultaneously to USB sticks or drives
- 4x 3G-SDI inputs
- 4x HDMI inputs
- Genlock free inputs
- 5x USB recording media slots, compatible with off-the-shelf USB 3.0 media
- Multi-channel backup H.264 recording to any USB stick or drive of your choice
- HDMI and/or SDI multi-channel matrix monitoring
- Single-channel H.264 playback
- Selectable VBR recording profiles
- Balanced XLR analog audio inputs, mic/line/48v switchable
- 2-channel embedded audio per video input
- Easy-to-use web UI, compatible with standard web browsers
- Front panel button controls with integrated HD resolution display
- Stand-alone operation
- Standard Ethernet LAN connection to a host computer and any web browser on any OS lets you control all Ki Pro GO parameter settings, clip selection and transport controls—no additional or special software installation is required on the host computer

4 Cameras, No Waiting for Playback: Record H.264 to 4x USB sticks and 1 Backup Drive

Marie Spencer, AFC on ALEXA LF and Cooke Anamorphic Full Frame

Cinematographer Marie Spencer, AFC filming *Régie Piano* in Full Frame with ARRI Alexa LF and Cooke Anamorphic /i Full Frame 1.8x 50mm T2.3 lens. The short was first screened at AFC Micro Salon in February 2019.

RVZ Camera Department Manager Samuel Renollet called from Paris: "Hi Jon. We completed a short film about my friend who is a piano tuner for classical concerts and when he talks about what he does you find a lot of similarities with camera rentals and tuning cine lenses. Marie Spencer, AFC was the cinematographer. She worked with one of the first Cooke Anamorphic /i Full Frame 1.8x 50mm T2.3 lenses on our ARRI ALEXA LF."

Marie's beautiful film *Régie Piano* is online: *vimeo.com/317569501*

What better subject than Cyril Mordant who prepares pianos the way lens technicians tune cinema optics. The analogy goes even further. Cyril is the technical director at a company that rents, tunes and delivers concert pianos. Régie Pianos was founded in 1993 by Pascal Guerbois. They "specialize in the rental of concert pianos for the greatest French and international artists, providing not only quality pianos but also a highly skilled team that provides personalized advice, prep, tuning, testing, repair and shipping."

JON FAUER: Your film was beautiful. Tell us about the concept.

MARIE SPENCER, AFC: We wanted to make an elegantly visual documentary short film to test the magnificent Cooke Anamorphic /i Full Frame lens. We deliberately avoided the typical test concept of charts, laboratory lighting and static camera. The idea was to provide visuals that would touch more people. We decided to shoot in the way that we normally do when we make a film.

Samuel Renollet had the idea of doing the test as a day-in-the-life of his friend the piano tuner—a portrait of an artist. Everything happened very quickly, in a few hours: organizing the crew, equipment, logistics and locations. We were happy to do it together.

We shot the following day. We trusted each other and we were free to work in a way that was fluid and unconstrained by page-count or typical structured production requirements. Our shared emotions came through in the images as we discovered a profession that many of us did not know. Our perceptions were enhanced by the poetry of the lens, the LF format, the music and the way that Cyril worked to support the artistry of a specific pianist playing on this piano on this particular day.

What lenses did you try?

Only one. We shot with just one lens, the Cooke Anamorphic /i Full Frame 1.8x 50mm T2.3. It was one of the first that was available in February 2019.

The style of the film and how you achieved it?

The main idea was trying to show the quality of the lens, the out of focus fall-off and bokeh. This Cooke Full Frame lens has a 1.8x anamorphic squeeze which looks just like the 2x squeeze we are familiar with on the Cooke Super35 anamorphics.

Camera and lighting equipment?

ALEXA LF and Cooke Anamorphic /i Full Frame Plus Frames, above and below.

All the equipment came from RVZ Rentals Paris. The camera was an ARRI ALEXA LF in Open Gate sensor mode. For lighting, we had an ARRI S30 SkyPanel and an S60 SkyPanel. For the camera moves, we only used a slider.

Locations?

We shot at the workshop of Régie Pianos southeast of Paris in Saint-Maur-des-Fosses and at the Theater Salle Gaveau in Paris.

I asked Samuel Renollet about piano tuning and lens tuning:

JON: How is piano tuning like lens tuning or lens rental?"

SAMUEL RENOLLET: I have known Cyril Mordant for a long time because our sons used to go to kindergarten together. I've always been amazed by his work. The more he explained to me how he approaches his job and described the relationship he has with the different piano players he works with, the more I understood the strong similarities between what we do.

Taking old instruments and modifying them to allow the artists to play music in unique ways is what we try to do when we take old lenses from the film days and rehouse them to make them usable on contemporary film sets.

I also was really inspired by the way Cyril listens to what pianists want to achieve and then uses his technical skills to help them achieve their goals. We camera and lighting rental technicians also have to find the right tools that will help cinematographers bring the look and images they have in mind to life.

Credits.

Samuel Renollet, RVZ Camera Department Manager
Marie Spencer, AFC

Renaud Michel, sound engineer	Élie Fischer, editor
Arnaud Gaudelle, focus puller	Falco Taoualit, focus puller
Thomas Landemann, 2nd AC	Evy Rosele, grader
Baptiste Burlot, sound mixer	RVZ
Grading at Be4Post on Baselight	ARRI
Cooke Optics	

Régie Piano Cooke Anamorphic /i Full Frame Plus Frames

Pacific Northwest Lens Summit Technical Training

by Adam Wilt

Why would twenty-six lens techs from rental houses across North America come to Portland, Oregon to spend a perfectly beautiful Spring day cooped up indoors? On Friday, May 3rd, a day before the Pacific Northwest Lens Summit, Koerner Camera Systems hosted training sessions where technicians learned from Lens Maestros and from each other.

This year, Koerner arranged four four-hour sessions: two in the morning and two in the afternoon. In the morning, Paul Duclos of Duclos Lenses tore down and rebuilt a Cooke S4 prime. Jeff Cree from Band Pro brought four Angénieux EZ-2 15-40mm T2.0 Zooms on which teams of techs experienced the joys and terrors of tearing down these lenses directly.

After a sit-down lunch kindly catered by Creative Solutions, AbelCine's Casey Ehalt explored the intricacies of a ZEISS Supreme Prime. Angénieux's Jean-Marc Bouchut dissected an Angénieux Optimo 45-120mm T2.8 zoom.

The value of the training wasn't just in studying the lenses used, but in gleaning nuggets of wisdom from the Maestros and in discussing techniques and procedures with the other participants. The sessions weren't simply the conveyance of canned procedures, but open dialogs in which individual experiences fed back into the mix: which brands of jeweler's screwdrivers are best, the virtues of the three different types of ThreeBond threadlocker, and using Windex Vinegar Glass Cleaner (yes, there is such a thing) to clean water spots from lens elements.

Michael Koerner said, "These training classes are aimed at rental house technicians in the secondary market—although techs from all markets are welcome. When you are in a smaller market like Portland, rental houses are basically starved for information and education. Lens training is some of the hardest knowledge to attain. I was originally inspired to do these classes at the suggestion of Tom Fletcher who suggested it last year. Next year there will be more classes, possibly an all-day class for some of the more advanced technicians. We already have four classes lined up for the PNW Lens Summit 2020. Often more valuable than the training that the technicians receive is the relationships they build with other colleagues and the instructors. I think the Lens Summit is really cool but the lens technician training classes are beyond cool."

Last year there were two of these classes, and this year there were four. Next year, Michael Koerner says he's thinking of five or six. If you're a lens tech and want to attend, please email michael (at) koernercamera.com. Technicians who attended this year will have right of first refusal for the future classes, and early adopters get preference. *koernercamera.com*

ZEISS eXtended Data Technology

by Christophe Casenave. Edited by Jon Fauer.

Speeding up VFX work with ZEISS eXtended Data

At NAB 2017, ZEISS introduced CP.3 XD lenses. They were the first ZEISS primes with Cooke's /i Technology. Supreme Primes, also with XD, followed in 2018. Given that /i Technology is an open lens data protocol designed and developed by Cooke Optics, the open standard can be extended by partners. And so, ZEISS decided to add lens data parameters that had been requested by Visual Effects artists for years: distortion and shading (also called vignetting).

Having this data and being able to record it together with video clips would simplify, accelerate and make image compositing much more accurate than it is currently.

As this was an extension to what Cooke's /i Technology originally offered, ZEISS named it "eXtended Data (XD)" and has opened the specifications to all Cooke /i technology partners both on the camera side as well as on the lens side. Cooke was kind enough to make this officially part of the Cooke /i³ (/i cubed) protocol so everybody has access to this technology.

Early on, companies such as Transvideo, Ambient, RED and Pomfort decided to support this initiative and implemented the use of this data in their products. Most recently, FUJINON also decided to implement XD in their new Premista zooms and SONY is adding XD recording into the VENICE camera.

In order to make this data easy to use, ZEISS also provides different tools to prepare the data and use it in VFX—among these are plug-ins for Foundry's NUKE and Adobe After Effects.

Shooting grids takes time and is generally done at only a few distances.

Let's look at some examples of how to use eXtended Data technology to speed up your VFX work. There is also a lot more information available on the ZEISS eXtended Data web page: *zeiss.com/cine/xd*

VFX, Compositing and CGI Integration Today

The process is well established: whenever there is a plan for Visual Effects work in a feature, the VFX supervisor should ask the film crew to provide grids, "checkerboards" and grey cards. These help calculate the lens characteristics that will then be applied onto the CGI elements so they match the geometry and the look of the footage.

However, this way of working has some drawbacks:

- The crew (usually the camera assistant) needs to shoot grids in pre-production or prep at the rental house. This is tedious, eats up time, and is redundant from job to job.
- Grids and cards are usually only shot at a couple of focus distances. But distortion and shading characteristics of a lens vary continuously when the focus and T-stop change.
- There is a lack of precision inherent in shooting grids and charts. Let's assume you are doing VFX work on footage where the AC did a focus change. You will need to choose one distance as the best compromise and use the grid associated with this distance to calculate the lens characteristics.

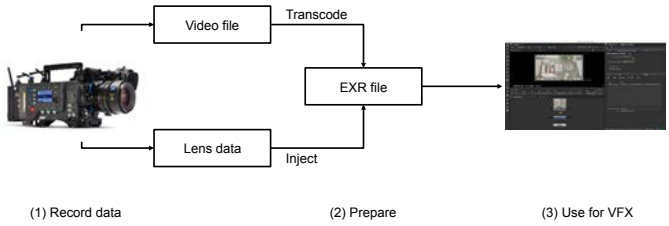
Easier, faster, more precise compositing with lens data

The idea of ZEISS eXtended Data technology is to replace the hassle and complexity of shooting charts with a simple method:

- ZEISS CP.3 XD and Supreme Prime lenses integrate distortion and shading characteristics. These can be recorded on set. Each frame will get a set of accurate distortion and shading data. [By the way, Cooke measures each lens at the factory so that their /i³ distortion mapping is unique to each individual lens.]
- The DIT prepares and hands over this data, together with the footage, to the VFX team. The easiest way to do this is to ingest the data directly into the EXR files. This can be done with the command line tool **zeiss-xdcp** which is available for download on the ZEISS eXtended Data website.

ZEISS eXtended Data (cont'd)

• VFX teams can use this data to either correct or exaggerate geometric distortion and shading or apply these parameters to the VFX elements. ZEISS plug-ins for Foundry NUKE and Adobe After Effects are for this purpose.



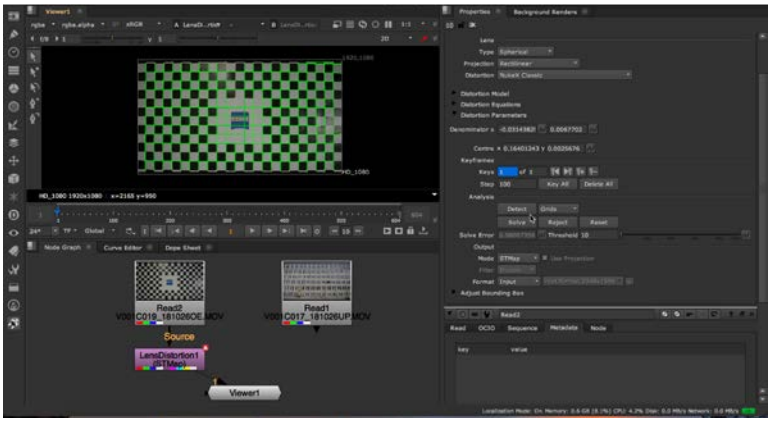
eXtended Data workflow is easy: record, prepare and use.

Benefits of eXtended Data

• With XD, there is no need to shoot grids during prep.

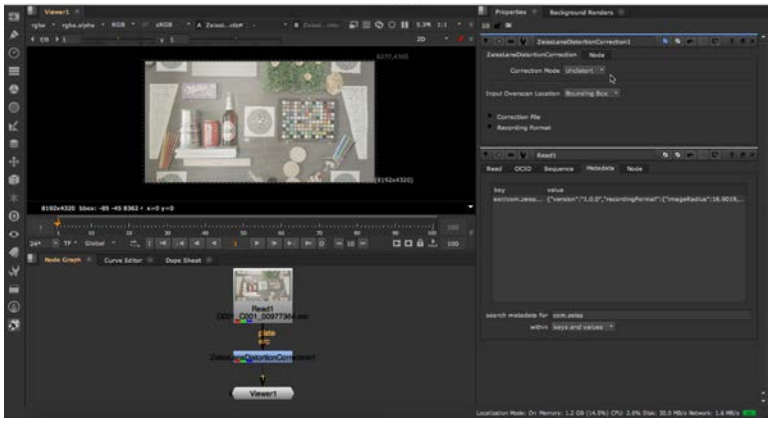
• The recorded characteristics are much more accurate than any grid and are available for any distance and for any T-stop. This means that if you pull focus during a shot, each frame will receive the correct lens characteristics.

• The way to correct or apply the characteristics in VFX is easier, faster and more accurate. ZEISS provides plugins for Foundry NUKE and Adobe After Effects that let the VFX artist use the recorded lens characteristics in a very simple way with one click.



VFX compositing with eXtended Data: use grid to evaluate lens distortion and apply to images. Above: NUKE Analyzer Checkerboard.

Below: NUKE with EXR Clip. Using eXtended Data, this step is much easier: ZEISS plug-in uses the lens data to undistort / distort. This is a one-step process and there is no guesswork.



Plugins for NUKE and After Effects can be download from the ZEISS eXtended Data website: zeiss.com/cine/xd

What are the choices to record and use ZEISS eXtended Data?

This is the most common question: how do I record the lens data on set and how do I prepare it?

In fact, there are different ways to record eXtended Data depending on the camera setup.

• The easiest: RED DSMC2 cameras (V. 7.1 and later) or SONY Venice (V. 4.0) can already communicate with eXtended Data lenses and record the distortion and shading data into R3D and X-OCN files respectively.

• ARRI cameras can record Cooke/i data but not the distortion and shading included in eXtended Data. The best way to record XD with ARRI cameras is to use the new Transvideo Starlite HDm Metadator monitor. This will record the data in a way that is directly usable by the ZEISS plug-ins.

• Ambient MasterLockitPlus is camera agnostic. It works with any camera that has the ability to receive timecode externally. It records the lens metadata and Pomfort Silverstack DIT software is used to prepare it for post-production.

There are many different ways to work with eXtended Data. Production teams should pick the one that works best for them. We will go through 3 examples.

ZEISS eXtended Data using a RED DSMC2 for VFX

RED DSMC2 Cameras can already record distortion and shading data provided by ZEISS CP.3 XD and Supreme Prime Lenses. The lens data travels through the connectors in the lens mount and the recorded data is then embedded into the R3D files.

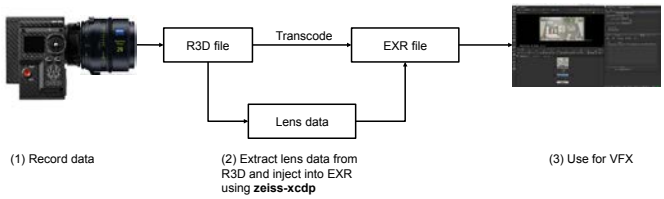
The workflow is quite simple:

• Lens data is automatically recorded into the video files.

• The DIT generates EXR files out of the R3D files as usual.

• The DIT extracts the lens data out of the R3D files and ingests them into the EXR files using zeiss-xdcp command line software.

• The VFX artist can then use Foundry Nuke or Adobe After Effects plug-in to apply the lens data to the footage or to computer graphics.



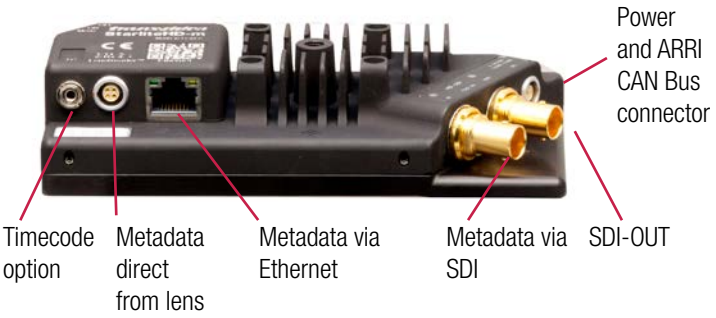
Easy: eXtended Data workflow with RED DSMC2 cameras.
Note: as soon as Firmware V. 4.0 of the SONY Venice is made available, the workflow will be similar.

ZEISS eXtended Data (cont'd)

ZEISS eXtended Data on an ARRI camera with Transvideo Starlite HDm Metadator for VFX

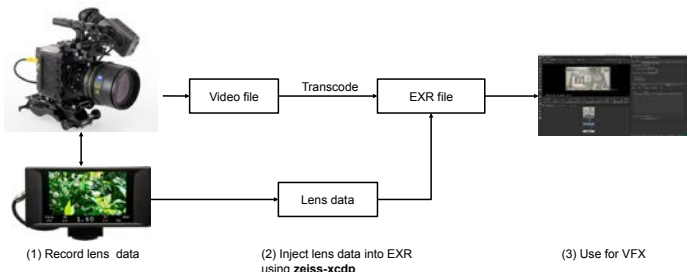
ARRI Alexa cameras generally support /i Technology. They can record focus and iris data, for example, but cannot yet record distortion and shading data provided by ZEISS eXtended Data.

The answer is to use an external recorder. In this case, our favorite method is with the Transvideo Starlite HDm Metadator. When connected to the camera and to the external 4-pin data connector of the lens, the Starlite HDm will record the lens data onto an SD card. For each video clip, one data file is generated—containing lens data for each frame of the clip. These data files have the extension .zlcf (Zeiss Lens Correction File).



With the Transvideo Starlite HDm Metadator on an ARRI Alexa camera, the workflow is extremely easy:

- Lens data is recorded on the Transvideo Starlite HDm Metadator.
- The DIT generates EXR files out of the video files as usual.
- The DIT ingests the lens data recorded on the SD card using zeiss-xdcp command line software.
- The VFX artist uses the plug-in for Foundry Nuke or Adobe After Effects to apply the lens data to the footage or to computer graphics.



Using an ARRI camera with the Transvideo Starlight HDm Metadator.

Transvideo Starlite HDm Metadator records not only ZEISS XD but also Cooke /i and ARRI LDS from ARRI, RED, Panasonic and Sony VENICE cameras.

Starlite HDm Metadator on ARRI ALEXA Mini with ZEISS eXtended (XD) lens data from ZEISS Supreme lens.

Starlite HDm Metadator on RED Helium 8K with ZEISS eXtended (XD) lens data from ZEISS CP.3 XD lens.

Starlite HDm with Panasonic Varicam LT.

ZEISS eXtended Data (cont'd)

Sensor Dimensions and Sensor Mode Data for VFX.

It is almost essential in VFX compositing to have data for the camera's sensor dimensions and sensor mode (active shooting area within the framelines.) The reason is that lens parameters might be quite different, for example, when shooting in LF Open Gate or shooting Super35 "cut out" from a Large Format frame.

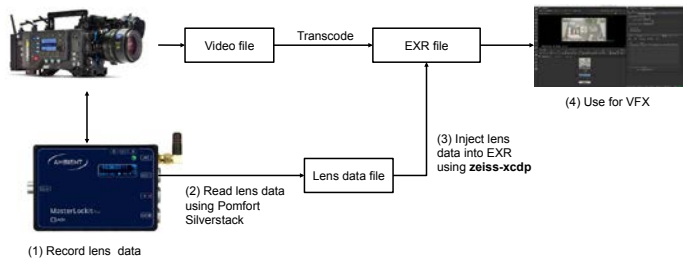
Transvideo Starlite HDm Metadator receives and records sensor dimensions , sensor mode and pixel pitch information from the SDI and Ethernet protocol of the Alexa camera.

ZEISS eXtended Data w/ MasterLockitPlus for VFX

If you are using a camera that is unable to record lens data, you can also record the data using an Ambient MasterLockit Plus timecode generator. The only requirement is for the camera to support timecode synchronization with the MasterLockit Plus.

The workflow is very similar, with an one extra step:

- Lens data is recorded on the Ambient MasterLockit Plus.
- The DIT generates EXR files out of the video files as usual.
- The DIT extracts the recorded data out the Master LockitPlus and generates ZEISS Lens Correction Files using Pomfort Silverstack.
- The DIT ingests the lens data recorded on the SD card using zeiss-xdcp command line software.
- The VFX artist uses the plug-in for Nuke or After Effects to apply the lens data to the footage or to computer graphics.



While this option is a bit more complex, it works with almost every camera and many film crews may already be using a MasterLockit Plus box to synchronize timecode on set.

Using ZEISS command line software zeiss-xdcp to ingest lens data into EXR files

As mentioned earlier, the easiest way to provide VFX artists everything they need to benefit from lens data about distortion and shading for their VFX work is to ingest the recorded lens data into the EXR data that they will be using.

In so doing, each individual EXR frame will receive a complete set of data that matches the camera and lens configuration used to shoot the frame.

First, download the ZEISS command line software zeiss-xdcp can be ZEISS eXtended Data website: .zeiss.com/cine/xd

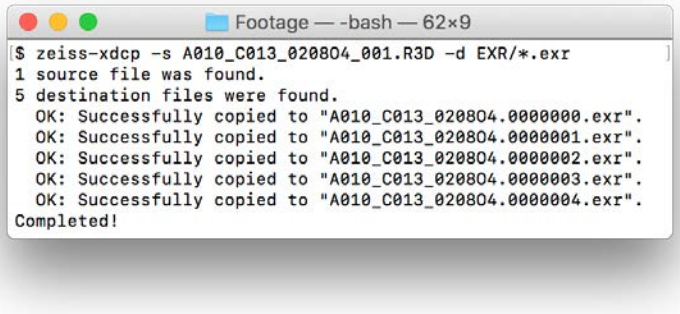
Now, let's go through two examples of how to use this tool.

Example 1

1. Let's assume your footage has been shot on a RED camera. You need to ingest data recorded in the R3D file named A010_C013_0208O4_001.R3D onto the list of .exr files generated out of it and placed in the directory EXR. The command to type will then be:

zeiss-xdcp -s A010_C013_0208O4_001.R3D -d EXR*.exr

The zeiss-xdcp will automatically read the data out of the R3D file and will read the right data set into each .exr file:



Example 2

Let's assume you used a Transvideo Starlite HDm Metadator to record the lens data and you now have a ZEISS Lens Correction File on the SD card of the monitor named clip.zlcf.

This file contains all the data that corresponds to the EXR files clip-001.exr to clip-099.exr.

The way to ingest the data contained in this file to the corresponding EXR files is also straightforward:

zeiss-xdcp -s clip.zlcf -d clip-*.exr

Christophe Casenave's official title is the Head of category management cinema products at Carl Zeiss. Essentially, he's in charge of cine lenses and all things related. From 2012 to August 2018, he was Senior Product Manager at Carl Zeiss.

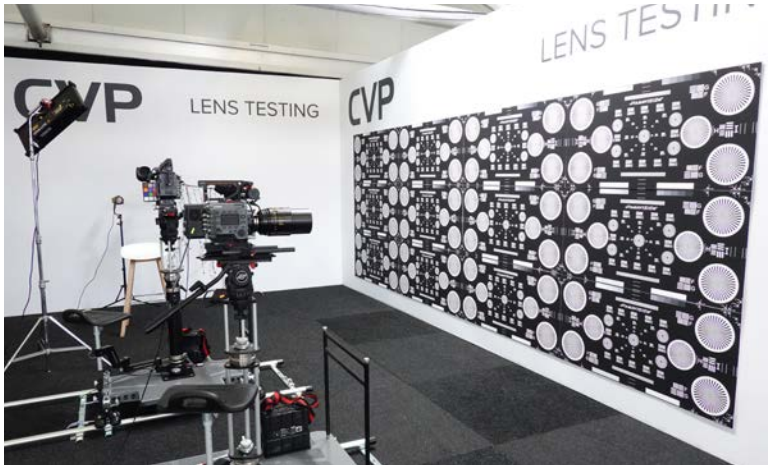
All Roads Lead to CVP at BSC Expo

With NAB over and Cine Gear upon us, it's good to reflect on the role of architecture and design on exhibition spaces. Choice overload is a cognitive phenomenon described by Alvin Toffler in Future Shock (1970). If the maze of merchants in Istanbul's famous Spice Market leaves you dazed and giant trade shows feel like Godard's Alphaville, it's the paradox of too many selections.

Not so at CVP's elegant exhibit at BSC Expo. It echoed the thinking behind their Newman Street and Charlotte Street creative facilities in London, which are designed to provide visitors a tranquil space, time and impartial expert advice to explore a wide range of leading production equipment to let you try out and find the right combinations for each project.

CVP's BSC Expo space was thoughtfully divided by production department or shooting style: studio stage with cameras on tripods and heads; handheld arena with shoulder pads and handgrips; monitor wall: motion, gimbal and slider playground; macro arena with little live creatures (and their wranglers); monitor wall; DIT and post area; engineering station; lens bar with a vast array of high-end, ancient and modern optics; and a real bar that was very long and very popular. This is how it's done right. *cvp.com*

CVP at BSC Expo (cont'd)



LEITZ THALIA-T

Leitz Cine Wetzlar extends their Large Format cine lens line with the new THALIA-T 90mm T2.2. But it's not a typical THALIA.

Silke Thape, International Marketing Manager at Leitz, explained, "Actually, we're not extending the set. With the THALIA-T, we're starting a new, independent line. The exterior looks like the rest of the THALIA series, but the optical attributes and characteristics are totally different.

The new THALIA-T 90mm cine lens offers cinematographers a sequential series of different looks by simply adjusting the aperture. You can't do this with filters. Wide open, it's a vintage, romantic, slightly hazy and soft look. Stop down from T2.2 to T5.6 and things become progressively sharper, perhaps less vintage, veering toward post-modern—and totally different.

Think of the THALIA-T as a time machine in a lens.

The story begins in 1930s Wetzlar. Venerable Leica lens designer Max Berek was at work on a portrait lens. It was known as Thambar. You pronounce Thambar like *Thalia and Thalia-T and Thape* — silent *h* as in the river *Thames*. The name *Thambar* is derived from the Greek *thambos* meaning, depending on context and provenance, amazement or wonder or blurred.

Now that's a good way to name a lens and hint at its look. It is certainly more evocative than naming lenses after birds, comparatives or superlatives, or a favorite pet, as Berek did with an earlier optical design, Hektor, named after his dog.

When the original Thambar lens was introduced in 1935, Leica lenses were known for their sharpness, resolution and contrast. Imagine the surprise of devoted photographers when this soft focus lens showed up in camera shops. It resonated of Hollywood heyday glamour portraiture (think photographer George Hurrell, movie stars, Marlene Dietrich, Greta Garbo, glowing highlights, luminous skin tones). Of course, Hurrell used an 8x10 view camera, a 40-foot-long shutter release, and hours of retouching. The optical designers surely dreamed how a much smaller Leica camera with Thambar lens could offer these effects to mere mortals.

A mere 3,000 Thambars were built between 1935 - 1949. It was quite difficult to use because the Leica camera's rangefinder did not reveal the soft focus effect. These were the analog days when you had to wait until the film was developed and printed to see the results. As with many things difficult and in limited supply, the original Thambars achieved cult status.

The optical design was an essentially a sharp lens with increasing spherical aberration toward the edges of frame. The soft, glowing look was most pronounced at wider apertures. As you stopped down, the lens appeared sharper. Backlight increased the opportunities for flare and internal barrel haze.

In October 2018, Leica introduced a revival of the classic with the new Thambar-M 90mm. The optical design is almost the same as the original, with the addition of a single coating to protect the optical elements. Best of all, in the new digital age, photographers can see the degree of softening immediately in the viewfinder.

And now, Leitz Cine Wetzlar has made this glamorous, legendary Thambar look available for moving images. The new THALIA-T 90mm comes with the familiar THALIA lens attributes. It has modern mechanics, rugged construction and lens barrels in the same position as the other THALIA lenses (24, 30, 35, 45, 55, 70, 100, 120, 180 mm). The large 60mm image circle diameter covers ARRI Alexa 65 and all FullFrame, VistaVision and Super 35 sensors.

Ms. Thape concludes, "This exceptional lens was created in synergy with the very unique characteristics of the legendary Leica Thambar from 1935 and the Thambar-M from 2017. These very distinctive attributes were then translated into a unique lens for motion pictures, moving from still to moving images, that combines the distinctive attributes of THALIA cine lenses with a very interesting set of looks.

leitz-cine.com

Focal Length (mm)	90 mm
Aperture	T 2.2 - T25
Image Circle / Illumination Circle	60 mm / 80 mm Ø
Close Focus	3' / 0.9 m
Horizontal angle of view on Alexa 65: 54.12 x 25.58 mm – 59.86mm Ø	33.5°
Horizontal angle of view Full Frame: 36 x 24 mm – 43.27mm Ø	22.6°
Horizontal angle of view Super35: 24.9 x 18.7 – 31.14mm Ø	15.7°
Weight	2.3 lb / 1.04 kg
Length (in)	4.9 in / 124.5 mm
Lens Mount	PL, LPL with /i metadata
Front Diameter	95 mm
Front Filter	92 mm screw-in
Rear Filter	via net holder
Focus Rotation	270°
Iris Blades	15
Iris Shape	Circular through all stops

LEITZ THALIA-T 90mm. Not Just for Portraits.

T2.2

T5.8

T2.2

T6.5

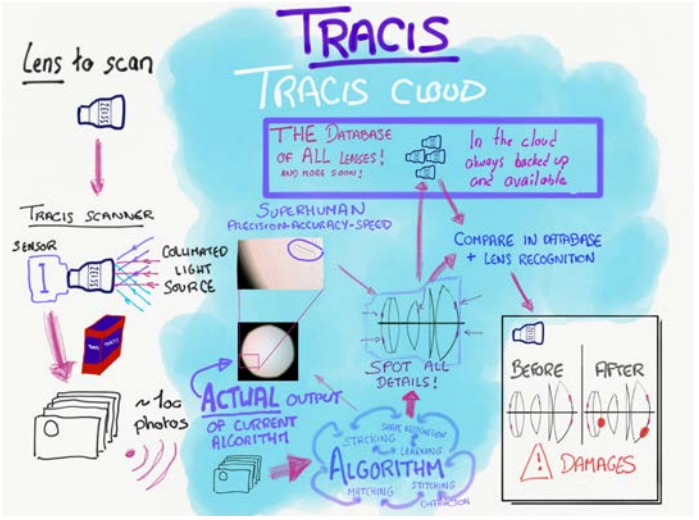
T2.2

T6.5 Photos by Andreas Wanner, Photographer/DP

Wide open at T2.2, the LEITZ THALIA-T 90 mm has a dreamily romantic look with distinctive bokeh created by deliberately under-corrected spherical aberrations. the 15-bladed circular iris creates smooth, round, out-of-focus highlights.

The aberration increases towards the periphery of the optical elements. That is the reason why the depth of field and the degree of diffusion can be precisely controlled via the step-less aperture ring. Widening the aperture increases the soft focus effect and stopping down reduces the effect. Essentially, the THALIA-T is many lenses in one: soft focus at full aperture, and a beautiful lens with great character as you stop down. And, as we see above, it is not just for portraits. Landscapes, tabletop, architecture, food, fashion and beauty beckon.

Scanner for Rental House Lens Checking from Tracis, Vocas and Camalot



Back row, left to right: Robert-Jan Huijsman, André Kan, Adrien Sicart. Front row: Erik Gils, Martin de Kock. Above right: whiteboard!

Picture this. You're a producer and the DP rented a set of the latest lenses that cost more than a house. You assume the AC did a thorough check-out. The job goes well. A week after wrap you get a call from the rental house: bad news—there's moisture and mold inside the lenses. How could that be? You were shooting in the Sahara desert. And so begins the all-too-often dance of responsibility and financial liability between renter, rental house, insurance company and crew.

Imagine you're a rental house. Every time a lens goes out and returns from a job, someone has to check it. First the lens technician looks for obvious exterior things: scratches on the front element and barrel, dings, physical smoothness of focus, iris or zoom barrels, and so on. Next, the lens tech looks inside for dust, moisture, residue and elements that might be out of whack from a drop or vibration. All of this takes lots of valuable time and the assumption that everything was checked properly.

What if disputes about lens salubrity could end? What if there were a test instrument to automate lens checking? Soon there will be. Camalot, Vocas and Tracis have teamed together to build and sell an exciting new lens "scanner" that promises to be a game-changer for the rental industry.

Camalot is a major camera, lens and accessory rental company in Amsterdam, founded in 1997 by Philippe Vié and Bernd Lesscher, and famous for a desire to be first to acquire the latest high-end equipment. In 2018, Sebastiaan van Zuylen and Yke Erkens became Camalot's new Managing Directors, with Philippe and Bernd onboard as advisors. Camalot has a vast inventory of cine lenses—modern, classic and custom. Clearly, having a test instrument to check them would save lots of time and headache.

Vocas is both a key distributor and also a manufacturer of cine accessories and tooling. Founded in 1989, Vocas distributes major brands, including ARRI, Blackmagic Design, ZEISS, Angenieux, Canon, Fujifilm, RED and Sony. Vocas Systems designs and develops innovative, high-quality camera accessories to enhance and customize camera packages. Their matteboxes, focus units, supports, rigs, handles, handgrips and tools are on productions worldwide. Of particular interest to rental houses is that Vocas also builds and distributes the LumaCon automated linear collimator.

Tracis Inc is a California technology company founded by Adrien Sicart and Robert-Jan Huijsman. Adrien has a Masters Degree in Math and a profound knowledge of optics. He has lectured on large format lenses and exhibited a lens prototype at Cine Gear, Micro Salon and Imago. Robert-Jan Huijsman joined Tracis as a co-founder after 6 years at Google in California and brought his knowledge of cloud computing and software to enable the development of the scanner. Founded as a Silicon Valley startup, Tracis aims to apply the tech industry's rapid pace of development to the field of optics and cinematography.

Interestingly, these companies didn't initially set out to build a lens-testing device. Adrien originally started Tracis to develop a software-controlled lens that could produce unprecedented visual effects on-set; it was the prototype of that lens that first attracted Camalot's attention. Only later did the experience of redesigning lenses with software in mind lead to the development of the technology that now powers the Tracis lens scanner.

The new Tracis lens scanner provides an entirely new way of looking inside (and outside) a lens. It is called a scanner because it is sort of like an MRI or CT Scanner for your lens. Instead of magnetic resonance or computerized tomography, this scanner is optical. The scan is fully automatic, takes just 1 minute, and shows scratches and dust that might otherwise be difficult for a lens technician to see. The Tracis scanner also reveals external damage to the lens barrel and housing. The technology will eventually also be able to spot misaligned elements and is accurate enough to see the difference between any two lenses, even of the exact same type, essentially identifying the "fingerprint" of the lens. It even can check for fingerprints on the lens. Rental companies can take scans before and after every job to show wear and tear on the lens and to immediately find new damage.

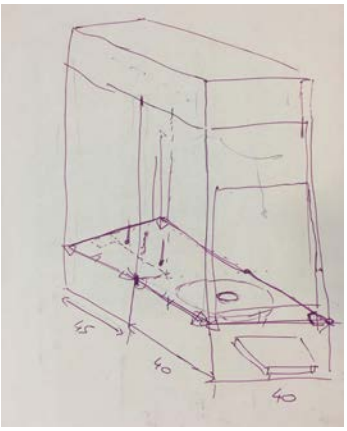
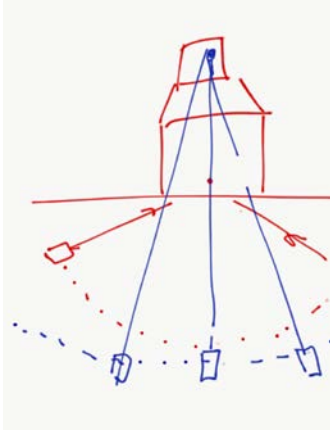
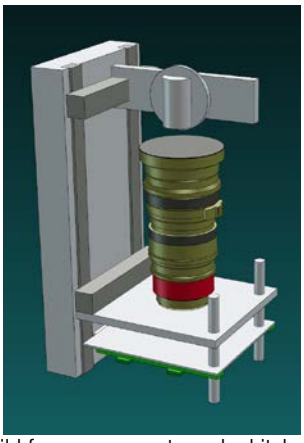
The Tracis Scanner represents a novel way of building optical instruments. It uses artificial intelligence, a supercomputer and cloud computing capable of solving computationally difficult problems. Tracis can run its software algorithms on thousands of cloud-based computers simultaneously, piecing together a complex puzzle of measurements in seconds, when previously it would have taken hours. To connect to this supercomputer, the scanner uses a normal internet connection.

An added advantage of the scanner's internet connection is that it will continue to improve even after it's been purchased. Like a Tesla or an iPhone, the Tracis Scanner will receive software updates to improve its capabilities for years to come. As more scans are processed, the Scanner's algorithms self-learn to produce increasingly detailed results over time.

The scanner will be available for purchase for less than a typical collimator. The cloud services it uses are sold on a subscription model, with pricing dependent on the amount of use.

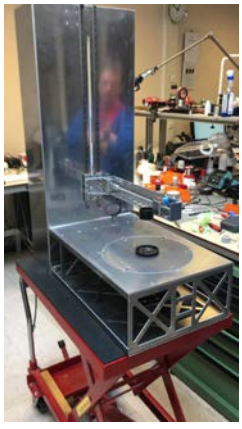
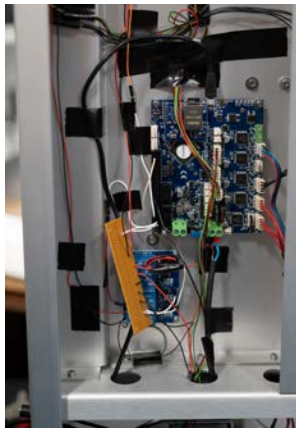
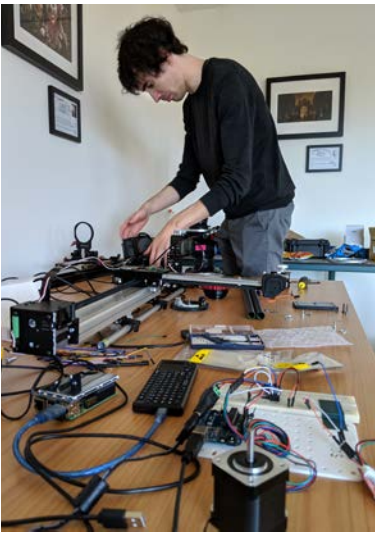
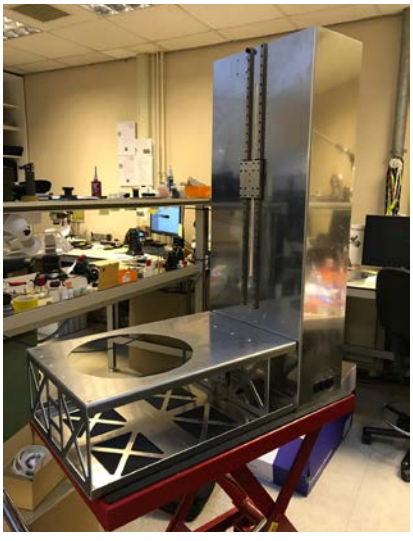
Vocas, working on their experience building the LumaCon linear collimator, will manufacture and distribute the Tracis Scanner. Camalot's expertise as a rental house proved invaluable to the project, offering design feedback and practical testing in real-life conditions. Together, Tracis, Vocas and Camalot developed a range of prototypes of the scanner. The latest prototype will be shown at Cine Gear, booth 37. Anyone who'd like to learn more can contact Tracis: *info(at)tracis.eu*

Tracis Scanner from Concept to Prototype

From drawings and calculations to first concept to prototype build from spare parts and a kitchen utensil—to production-ready model.






SHAPE near NAB

Mylène Girard et Charles Vallières, above, owners and founders of SHAPE WLB, in Nevada's Valley of Fire prior to NAB 2019 with SHAPE's fully rigged and ready RED system. From front to back: SHAPE mattebox, support, follow focus, handle, eyepiece support, SHAPE Full Play battery and brackets. *@SHAPEwlb #SHAPEtheworld #SHAPEshooter*

SHAPE at Cine Gear

SHAPE Two-Sided Organizer Cable Pouch
Tame your cables and small accessories with these SHAPE organizer pouches. Order empty, as a kit or buy the cables separately—all from SHAPE.

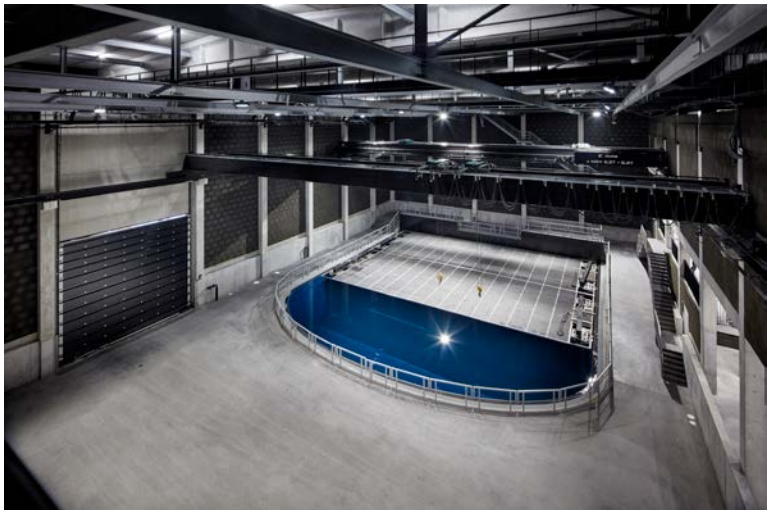
SHAPE 1ST AC BNC Camera Cable Kit BNKI comes with 12 thin 90-degree male BNC to BNC cables in 6", 12" and 24" lengths and in cool colors.

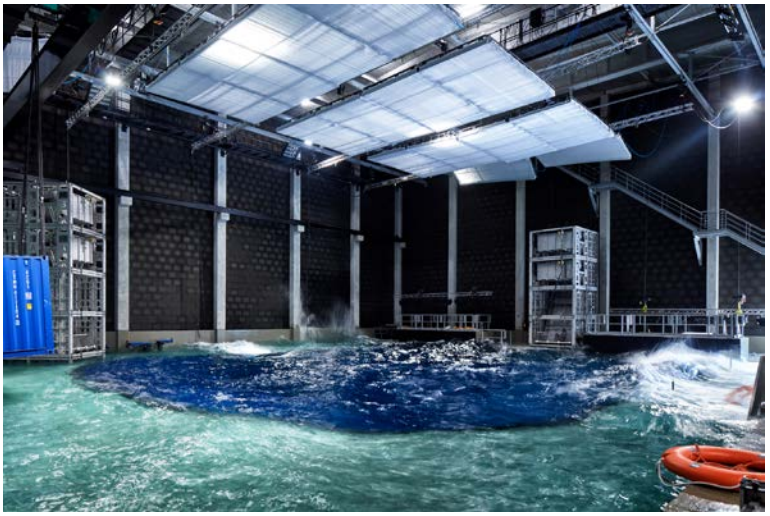
SHAPE 1ST AC Assorted Cable Kit BHDL comes with 12 cables: BNC, LANC, D-TAP and HDMI in 6", 12" and 24".

SHAPE Compact Revolt Shoulder Baseplate BP20. The rubber shoulder pad is secured with magnets. Flip it open for access to the camera mounting screws. Front and rear 15mm rods (comes with 4" and 8") attach with ratchening knobs. ARRI rosette on each side.
Shown here on Panasonic EVA-1. Compatible with ARRI Amira, Alexa Mini; Sony FS7, FS7M2, F5, F55; Canon C200, C300, C300M2, C700; Panasonic EVA1, Varicam LT Blackmagic Ursa Mini and many others.

SHAPE Compact Revolt Shoulder Baseplate With Hand15 Shadow BP22.
Same as above, with added SHAPE patented black push-button system of double-articulating handles. The arms attach to the ARRI rosettes on both sides.
shapewlb.com @SHAPEwlb #SHAPEtheworld #SHAPEshooter

LITES Water Stage & Film Studios Brussels





42% Tax Incentive in Belgium. Or more. If you are a feature or TV producer, those words jump off this page. And if you are a DP, AD, screenwriter, production or location manager trying to figure out where to shoot "INT. Water Stage - Northern Europe" — read on.

Wim Michiels, SBC and Karen Jensen opened their new LITES Water Stage & Film Studios in Brussels on April 3rd. It is one of the most advanced anywhere. The tank measures 24m x 21m (79' x 69'), holding 6 million liters of nice warm water that has been thoughtfully heated to an underwater-crew friendly 30° C (86° F). It is 9m (30' deep) and you can add another 1m (3') of depth by flooding the entire surrounding studio floor.

The reason it's so well designed is that Wim Michaels SBC happens to be an accomplished DP, underwater cinematographer and certified diver. LITES camera rentals was founded in 1992, renting the latest high-end cameras, underwater housings, lenses, and accessories for both topside and underwater production. The new studio facility also houses 4 additional dry stages with grids, greenscreen, daylight studio, production offices, dressing and makeup rooms, prop shop and even a restaurant.

Meanwhile, back at the Water Stage, if your script says "THE SHIP SINKS AMID THE CRASHING WAVES," that can be achieved with the motorized pool floor that adjusts to various depths. The water is clearer than almost anything you can find naturally, including Crystal Springs, FL or pristine Pacific atolls. A sophisticated water treatment system and filtration system controls conditions and also offers choices of water color and clarity. If it's giant crashing waves you want, 18-ton dump tanks are on hand. Waves, rain, mist, wind and storm effects are all ready to be summoned.

Overhead, Wim has installed an all-illuminating sky comprised of 32 LED bicolor/RGB waterproof LED panels. Softboxes diffuse the sources with ¼, ½ and Full Grid Cloth. A giant fabric is added to create a seamless sky. The light fixtures and diffusion frames are attached to 32 chain motors for adjustment of height and easy access below. Black, white, blue and green screen backgrounds are available topside and underwater.

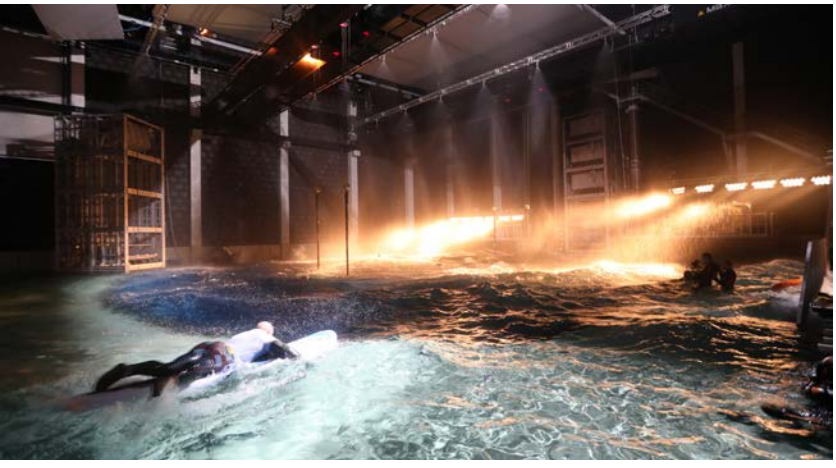
Additional dimensions of the Water Stage: 1,450m² (15,600 sq ft)—that's ¼ of an acre. Height from floor to grid: 14m (46'). Underwater cameras, housings, lighting and underwater crew are all available in-house. *lites.be* *litesstudios.com*

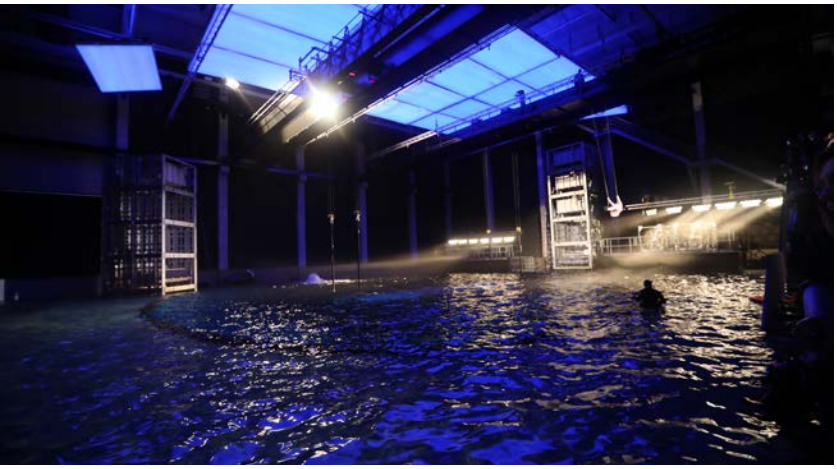
Above left: Huge LITES Water Stage interior showing dry area and tank. Above right: waves, water color, spray, overhead LED "sky."

Below: The set of *Breaking Surface* before it was submerged. This Swedish film was shot at LITES Studios for 3 weeks in January 2019. Directed by Joachim Heden. Eric Börjeson was Underwater DP. The 5.2m x 3m (17' x 9.8') soft LED panels are raised and lowered by 32 remote-control chain motors.

Opposite: Scenes from the LITES video that was produced for the Water Stage opening: a dramatic water rescue by kayak, underwater and topside, lightning, FX and massive waves. See video at: *litesstudios.com*

LITES Water Stage & Film Studios Brussels (cont'd)





Focus Puller at Work — Focuspulleratwork.com

by Clemens Hoenig

For the past 7 years, I have been visiting many trade shows and workshops all around the world. At each location, I was grateful to meet and speak with a lot of focus pullers (1st ACs). What I always liked was how we quickly found similarities and touchpoints. All the focus pullers I met, no matter where they came from or what their background was, shared the same interests in technology, faced the same challenges on the job an related similar experiences. More importantly, they all possessed the same passion for creativity meeting perfection.

With this in mind, we wanted to create a platform where focus pullers could connect, share ideas, swap stories, ask questions and learn from each other. It took a while, but last February, we finally launched the *focuspulleratwork.com* forum.

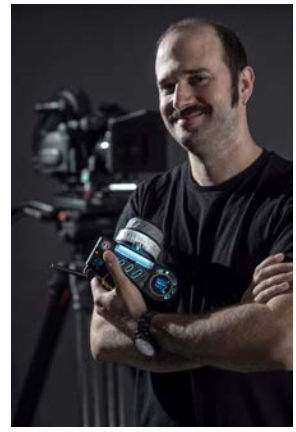
Of course, a forum needs time to spread and grow. Especially in the beginning, it is important to keep the users engaged so they also start to use it as a platform when they want to learn something, keep up to date, discuss different subjects, or simply have questions. Luckily, we have some community managers who are working together to put great content on the forum so we can grow. Community managers are focus pullers from different regions of the world with whom we are working closely together. Currently, our community managers are Fabio Giolitti and Carlos Canal (Spain), Gunnar Mortensen (L.A.), Rozemarijn Stokkel (Netherlands), Vincent Aaron Segers (Belgium), and Aidan Gray (Washington D.C.). To introduce them and let them explain what the forum is all about, I sent them some questions:

Clemens Hoenig

Rozemarijn Stokkel

E. Gunnar Mortensen

Carlos Canal



Fabio Giolitti

Aidan Gray

Vincent Aaron Segers

What were your first thoughts when you heard about the idea of creating *focuspulleratwork.com* — an international forum for focus pullers?

FABIO: I was very curious. I had been waiting for something like this for a long time. With all the new cameras, lenses and LCS systems, it's important to share experiences, tricks and tips with people from all over the world.

GUNNAR: I really enjoy the concept of focus pullers learning from each other to solve similar issues. With an international stage, now we are able to broaden our informational base.

VINCENT: Love at first sight! I always wanted a place where I could ask questions and find answers from fellow focus-pullers all over the world.

CARLOS: To have an international channel to share and connect camera assistants worldwide to me is an awesome idea.

ROZEMARIJN: When you are a focus puller, you have very little time to do anything besides your job. I like the idea because I feel there are many things to learn from each other and not be afraid to ask questions.

How do you think the forum will evolve?

GUNNAR: I hope to see this forum become a well-regarded source of information and reference tool amongst the film community

FABIO: A crucial evolution t would be to have people from the most important camera brands there so they can solve issues and collect suggestions to develop new products starting from the feedback of the ones that are constantly on set and working with this kind of gear every day.

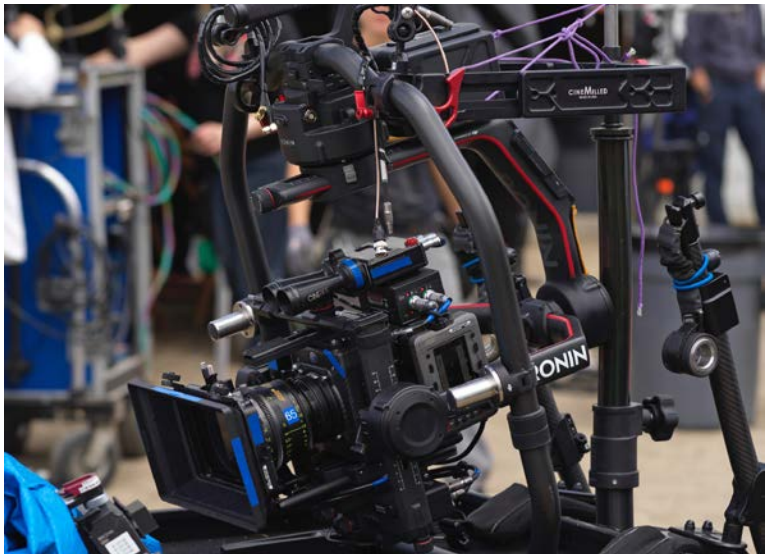
ROZEMARIJN: In my opinion, the forum can evolve to become an international question/answer archive...and a hangout for 1st ACs.

What`s your favorite post, or thread so far?

AIDAN:The 3D printing thread is easily my favorite. I've received lots of feedback on my designs and discovered new designs from my colleagues. I make all these designs for myself to overcome issues I run into, but if others find them useful, that makes it extra worth it. I'm hoping we can keep it going and encourage a little more open source sharing of ideas with the goal of improving the onset experience.

The adventures of Focus Puller at Work continue in future FDT editions. Full disclosure: Clemens Hoenig has a day (and night) job at cmotion, but focuspulleratwork.com is camera, lens, accessory and focus system agnostic. Photos by Clemens Hoenig, except Aidan Gray by Michael Patrick O'Leary and Clemens by Rozemarijn Stokkel.

Steven Finestone with DJI Master Wheels and Ronin 2



Steven Finestone is the Camera Operator on the Paramount Network TV series Yellowstone. *In April FDTimes, we heard from DP Ben Richardson. Here, Steven discusses his experiences:*

For many sequences, we worked with the DJI Ronin 2 gimbal system as a remote head controlled by DJI Master Wheels. As this was a modern day western, there were numerous scenes involving animals (buffalo, cattle, coyotes, bears etc.) and actors performing while riding horses over rough terrain. To capture these sequences we would rig the camera system on ATV vehicles at varied speeds. The Ronin 2 worked beautifully. It has robust brushless motors and allowed us to steadily follow the action at speeds from 40 to 60 miles an hour, which was quite impressive. The Ronin 2 on the ATV vehicle was supported by a Flowcine Black Arm and, added to this, our grips rigged a Flowcine Tranquilizer to isolate the vibrations.

I would sit inside the ATV and have the Master Wheels rigged into the vehicle to capture specifically designed and refined shots. For example, an interesting sequence involved a herd of about 50 buffalo being moved to another pasture. Having the remote wheels in the vehicle allowed us to move swiftly relative to the fairly unknown and at times erratic movement of the animals, designing compositions at times, in an improvisational method. For other sequences, the Ronin 2 was worn in a rig by the gimbal operator. And, at other times, the Ronin 2 was used as a remote head on a crane arm.

The Master Wheels were a game changer. New technologies provide opportunities to wonderfully conceive of methods to move the camera. However, it is imperative that the camera be positioned properly in space to achieve the appropriate aesthetic. I am only as good as our Dolly Operator (dolly grip), or the Gimbal Operator or the Crane Operator who have an innate sense of where the camera needs to be. There is something beautiful and fulfilling when these many moving parts come together to achieve the concept of the Director and Cinematographer. It's part of the magical experience of making movies.

Throughout Season One we utilized the prototype system of the Ronin 2, a leap of faith by our Director of Photography, Ben Richardson and Taylor Sheridan (Director/Writer). With excellent support from DJI and their team, and the eventual availability of the production model of the system, we captured imagery beyond the initial creative vision. The success of "Yellowstone" is in no small part attributed to Ben's bold and eloquent photography and the many crewmembers who embarked on a journey to achieve excellence each day.

Gecko-Cam Full Frame Lenses

GENESIS G35 Full Frame Primes

Lens	Max T-Stop	Iris Blades	Close Focus - I	Close Focus - M	Weight-kg
14.5mm	T3.0	9	11.5"	.28m	1.1
16mm	T2.4	11	1'	.30m	1.2
20mm	T1.8	11	8"	.20m	1.2
25mm	T1.4	11	10"	.25m	1.2
35mm	T1.4	11	1'1"	.33m	1.3
50m	T1.4	11	1"6"	.45m	1.1
85mm	T1.4	11	3'8"	1.12m	1.2
135mm	T2.0	11	2'8"	.80m	1.4

- Image circle 46.3mm Ø
- Optional motor for focus & iris. position;
- 114mm front diameters
- Interchangeable focus rings: Metric and Imperial.
- PL or LPL mount
- Gear rings all in the same
- Dustproof housing.

GENESIS G35 Vintage 66 Full Frame Primes

A Special Edition for more flares and slightly softer than the G35 series. Otherwise, the focal lengths and mechanical specification are the same as the G35 chart above. Also designed by Thoma engineering. Mechanics and housings made in Germany. Gecko-Cam describes the look: "GENESIS G35 Vintage 66 lenses have a Canon K-35 style vintage look with special flare and bokeh characteristics and warmer skin tones."

gecko-cam.com

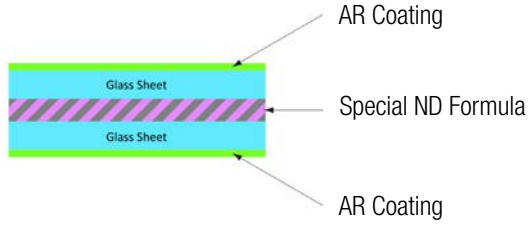
IDX ALPHA-I Full Spectrum ND Filters

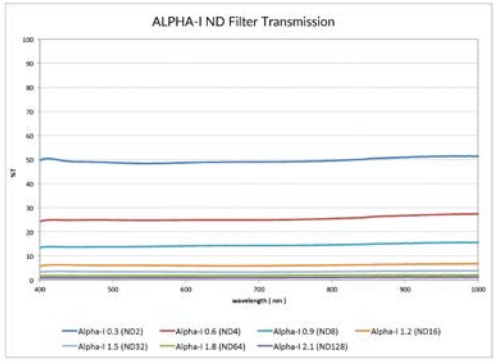
ALPHA-I Full Spectrum ND Filters are the newest addition to IDX's product lineup. You might ask why IDX decided to enter the camera lens filter industry. It turns out their R&D Director is a professional cameraman. He was not satisfied with existing ND filters and spent 3 years developing the ALPHA-I ND filters to be the most neutral ND filters available. His goal was zero color shift and zero color correction required in post.

In addition to color neutrality, a special formula also keeps reflections, ghosting and flaring to a minimum. While reflective ND filters have about 40% reflectivity, ALPHA-I ND filters have minimized reflection to about 3%. With the ALPHA-I, those night shots of oncoming car headlights can be achieved with minimal ghosting and flaring.

ALPHA-I ND filters are meticulously manufactured in Japan. The process involves sandwiching the ND substance between two glass sheets. Additional steps are included to polish both glass sheets until perfectly smooth and parallel to avoid imperfections and to maintain perfect focus even with very long lenses. Finally, an additional coating surrounds the filter to protect it from normal wear and to assist in easy cleaning. Try as I might, I was unsuccessful in leaving fingerprints on the filter. The surface is hydrophobic and oleophobic—resistant to water and oil.

ALPHA-I Full Spectrum ND Filters offer superb color neutrality, color consistency, and long-term durability.
idxtek.com/alpha-i-nd-filter





William Rexer on *The Hunt* in Full Frame

Cinematographer Will Rexer and Louma2 Operator Stuart Allen on *The Hunt*

"Stop the Presses" didn't work on this story about William Rexer on shooting *The Hunt*. We'll report in full in an upcoming edition.

JON FAUER: Your RED MONSTRO 8K VV camera package is substantial.

WILLIAM REXER: We're shooting in Full Frame with three RED MONSTRO 8K VV cameras. I am very impressed with the MONSTRO. I like it for the size, sensor and the IPP2 color space. We've created a very aggressive LUT for this show. I like the size and weight of the MONSTRO especially because we've been putting it on cranes and using it with the new Ronin-S gimbal as a remote head controlled by the DJI Master Wheels.

Sigma Full Frame lenses?

I was attracted to the Sigma lenses and then I was blown away by them. The price was attractive. And then I compared them to all the other Full Frame lenses out there—and it was shocking how good they were. We have three sets. Two sets in PL mount and one set in EF mount for smaller "crash cams" in scenes where trucks are driving right over them and the glass has match.

Was Full Frame a tough sell to the producers?

On the contrary. I'm a big fan of Full Frame. *The Hunt* is for Amazon. They want 4K deliverables. Al Pacino is the lead actor. It was very easy for me to explain that if we were shooting a medium close up and it was a perfect performance, you could easily pull a tighter shot out of it in the MONSTRO's Full Frame 8K resolution. You have that flexibility.

Very partial equipment list

3x RED Monstro VV 8K Camera
2x Sigma FF PL Mount Prime Lenses 14, 20, 24, 28, 35, 40, 50, 85, 105, 135
1x Sigma FF EF Mount Prime Lenses 14, 20, 24, 28, 35, 40, 50, 85, 105, 135
ZEISS FF Cine Zoom 14.5-45, ZEISS FF Cine Zoom 70-200
Angenieux 25-250 HR with Expanders, Angenieux 28-76mm with Expanders
Preston Light Ranger 2 w/ all AKS, Preston FIZ
Cinematography Electronics Cine-Tape
Panavision Geared Head, OConnor Head 2575D, Cartoni Lambda Head
Ronford Standard Legs, Ronford Baby Legs
SmallHD 1303 Monitor, SmallHD 503 Bright Monitor, Small HD 702 Bright Monitor
Sony 17" PVMA OLEDs w/ AB Backs, Teradek Bolt 3000 XT Complete Set
Teradek 10K Receiver... *and the list goes on for 2 more pages*

Vocas 5-Axis Diopter Holder

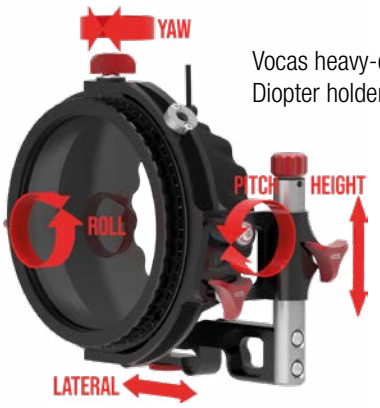
With an increasing variety of diopters from manufacturers like Tiffen, and the many creative choices available, Vocas has developed a dedicated diopter holder that allows you to take full advantage of these new options. Diopters give you the freedom to experiment with close focus. Split diopters allow both near and far distances to be simultaneously sharp.

With the new Vocas 5-axis diopter holder, experimenting becomes even easier. Using different diopters—for example, strip, letterbox or split field—you can create interesting effects and keep different distances in (or out of) focus in one shot.

The newly developed Vocas diopter holder accepts any 138mm diopter and, with its flexible cuff, will fit any lens while preventing stray light. Being a dedicated diopter holder, as opposed to a mattebox or a single filter tray, the Vocas diopter holder has the unique ability to vary the diopter position over 5 different axes.

You can adjust the pitch, roll, yaw, vertical and horizontal shift. These can be changed independently while still aligned with the optical axis, which means the diopter's position to the lens will not change while tilted, rolled or rotated.

Both 15 and 19 mm support is included. The diopter holder lets you attach flexible flags to its interchangeable 1/4-20 or 3/8-16 threaded hole. Visit Vocas at Cine Gear for a hands-on try-out at booth #37. *vocas.com*



Vocas heavy-duty Diopter holder

Split Field

Strip

Letterbox

New Mole-Richardson 20K LED

Nancy Murray, Sales Manager at Mole-Richardson Co. would be smoking if this were a 20K Tungsten and not a 20K cool LED.

Mole-Richardson introduced their new 20K LED at NAB. It draws 30 Amps and is the equivalent of a 20,000 Watt Tungsten unit.

You can plug the Mole 20K LED into 2 household sockets, as long as they are separate circuits.

Comes in Type 9391 Daylite or Type 9381 Tungsten. 24" Fresnel. Dimensions: 33.86"(w) x 31.97"(d) x 44.58"(h). Weight: 140 lb/63.5 kg. DMX Hardwire or Lumen Radio. Power: 90 - 250 V AC, 50- 60 Hz. 2 detachable 20' PowerCON TRUE1 to Edison cables. Built-in power supply. *mole.com*

Sony DMPC "Firmware" Update

Formerly located on Stage 7 of the Sony Pictures lot in Culver City, Sony's Digital Media Production Center has relocated just north of Dodger Stadium in the LA Media Center next to Radiant Images. As before, it has a shooting stage and 4K projection for testing cameras and lenses, with a newly added 23' CLED display. The DMPC now also includes a photo studio for testing Sony's mirrorless Alpha cameras and E-Mount lenses.

The facility is a resource for cinematographers and photographers to interact with Sony's imaging products and representatives. THE DMPC will host educational workshops and be available for programs, seminars, classes and activities. A Grand Opening celebration of the DMPC is planned for May 30th.

P+S TECHNIK LensChecker: Location Lens Projector

Klemens Becker was Second Unit DP on Sony Pictures' 2019 Charlie's Angels. *His credits include* The Girl in the Spider's Web *(2nd Unit Director/DP),* Beasts of No Nation *(A-camera/Steadicam operator),* The Bourne Ultimatum *(A-camera/Steadicam operator).*

by Klemens Becker

Shooting action-sequences, even with all safety precautions taken, can result in serious physical impacts on the crash boxes and handheld cameras that can result in various flange focal depth and lens calibration problems. Shim compression and off-center forces on the lens mount can result in serious focus issues.

This was the case when shooting a stunt on Sony Pictures' 2019 *Charlie's Angels* in Hamburg where the focus scale seemed offset by a significant margin. In order to troubleshoot the problem, First AC Jan Grunwald and Second AC Adrian Dumitrescu used the P+S TECHNIK LensChecker to determine the focus problem.

The LensChecker's fast setup and battery power option (it runs on 12 V DC) turned out to be of great advantage, saving time as the focus marks were checked directly on set.

After aligning and calibrating the LensChecker with the built-in stand and laser, the chart showed that the lens was fine and the problem was most probably originating from the camera mount. This turned out to be true after the mount was thoroughly inspected on the following day. The lens, though, could be used on the very next shot.

The LensChecker's interchangeable mount was also very useful for checking special effects spherical lenses because the switch from PV to PL mount is quick and very precise.

These are just a few examples of how the P+S TECHNIK LensChecker can be used to QC lenses and help troubleshoot optics on increasingly demanding sets. It also comes in handy for testing newly received lenses while shooting (without using a spare body), checking for sensor coverage on various cameras as well as center tracking for zoom lenses.

All in all, the P+S TECHNIK LensChecker is a formidable tool for prep, research, and troubleshooting.

P+S TECHNIK LensChecker is a compact and portable lens test projector with an IMS Interchangeable Mount System. Comes with support rods, PL Mount and base.
pstechnik.de
6,000 €

Musashi-Opt 23.9-195mm T2.9 Zoom

We do not often see a new, sophisticated long-range zoom arrive.

On May 31 at Cine Gear, Musashi Optical Systems introduces their first new zoom lens for cinematography: 23.9 -195mm T2.9. It comes in PL mount, covers Super35, and with the Musashi-Opt OptMag 1.7x Expander, covers Full Frame.

Many of us are familiar with Musashi Optical System Co., Ltd, based in Saitama, Japan. They design and manufacture high-end lens extenders (OptMore) and expanders (OptMag). With an optical design and manufacturing team of more than 80 highly-skilled employees, Musashi-Opt was founded in 2003. They also make ND, Low-Pass, IR-Cut and other optical filters; lenses and mirrors for EVFs; and other optical products using the latest equipment, MTF testers and clean rooms.

Musashi-Opt 23.9 -195mm T2.9 Zoom

- PL mount
- Super 35mm coverage in 16:9 aspect ratio: 25.71 mm x 14.46 mm
- Image diagonal 29.5mm Ø
- Covers Full Frame image with OptMag 1.7x Expander
- No ramping of aperture over entire zoom range; No focus breathing
- Optimized optical performance with 3 moving optical groups
- Minimized optical aberrations by use of ED glass
- 9 Iris blades provide natural-looking bokeh
- Industry-standard 0.8mm focus, iris, zoom barrel gear pitch
- Focus ring rotation: 280 degrees
- Zoom ring rotation: 160 degrees
- Flange back adjustment
- Length: 389 mm / 15.3"
- Front diameter: 136mm
- Weight: 8.9 kg / 19.6 lb

Courtesy of Duclos Lenses, Musashi-Opt will display this zoom lens at their booth 56 during the Cine Gear Expo 2019. The Extenders and Expanders are also available at Duclos Lenses. For more details, contact Mr. Yoichiro (Jess) Kodaira via email: y-kodaira(at)musashi-opt.co.jp

musashi-opt.co.jp/global/product/index.html

Panther Curved Track

Panther has new curved sections available for their Precision Leveling Track that provides interesting moves on uneven terrain. All the advantages of Panther's straight track, like fast and easy leveling thanks to telescopic support tubes, are now available with the new curved track. 3-Step leveling lets the grip crew adjust the track in seconds. With the 45° bend of the curved track, a full circle can be achieved with a total of 8 curved sections.

panther.tv

Cartoni Sport 200 Tripod

Photo: Mark Forman

Cartoni introduced their new Sport 200 heavy-duty tripod at NAB. It weighs only 10.5 kg (23 lbs) and supports camera packages up to 200 kg (441 lb). Set up is fast and easy. Each leg has positive rotary locking knobs and safety pins. The Sport 200 has both a spiked foot for soft terrain and also a pivoting rubber pad for flat surfaces. Simply twist the rubber pad to reveal the spiked foot.

cartoni.com

Full Frame 4K Production in Japan

Left to right: Yasu Mikami (FDTJ); Tetsuji Yamashita (colorist / IMAGICA); Yukihiro Morigaki (Director); Kosuke Yamada JSC (DP), Masayuki Nishimura (Lighting Engineer); Naruhiko Shinoda (Technical Director / WOWOW); Makiko Okano (Drama Producer / WOWOW)

Text by Yasuhiko Mikami. Photos by Arato Ogura and WOWOW.

Tokyo based satellite pay-TV channel WOWOW is well known for its premium content offerings. Serving approx. 3 Million households around Japan, their unique programming includes international & domestic feature movies, sports events, and exclusive live concert coverage of high-profile musicians. Episodic drama is also an important pillar, airing both domestic and international dramas.

WOWOW owns an impressive fleet of production tools by themselves, including a 4K live production OB-truck that can operate as many as twenty 4K live broadcast cameras. For episodic drama production, they recently acquired Sony VENICE cameras, ZEISS Supreme Primes, and Angenieux EZ zooms—all Full Frame. Although the current transmission pipeline limits WOWOW from airing any HDR content yet, they are definitely not shy about trying out new technology. Their first 4K production started as early as 2013 ("Chicken Race", 4K SDR / Sony F55), and their first HDR production ("Stars In The Deep" / RED EPIC) took place in 2015. This year, the new mini-series "Behind The Door" (6 stories) went HDR again—using an entire Full Frame camera/lens package for the first time. The FDT-J editorial crew met the production team to find out more:

- Naruhiko Shinoda: Chief Engineer, Technical Department, WOWOW Inc.
- Makiko Okano: Producer, Drama Production Division, WOWOW Inc.
- Masayuki Nishimura: Lighting Engineer
- Kosuke Yamada, JSC: Cinematographer, Toho Pictures, Inc.
- Yukihiro Morigaki,: Director, Kujira Office
- Tetsuji Yamashita: Colorist, IMAGICA Lab. Inc.

FDTimes Japan: Please tell us what the story is about

Okano: "Behind The Door" is a psychological suspense drama about a housewife who is on jury duty for a child abuse case. Through the trial, she recalls her own struggle in raising her own baby, confronting various family relationships. The camera has to look deep inside the human emotions.

How was the decision made to go HDR and Full Frame?

Shinoda: In 2018, the same crew shot the 10-episode "Cold Case 2," a Japanese remake of the Warner Bros. TV series on the RED HELIUM in 8K and posted in 4K/HDR. The crime story involved a lot of action and dramatic lighting, which was an excellent opportunity to explore and understand the possibilities of HDR. When we read the script of "Behind The Door," we felt this was another good opportunity to try HDR from a totally different perspective. A human drama requires fewer action shots with more reserved color and contrast. Lots of close-up shots are necessary to describe subtle facial expressions. We felt it was a perfect match for Full Frame cameras/lenses because of the enhanced selective depth of field, compared to the traditional S35 format.

Why HDR/4K when you are limited to SDR/HD transmission today?

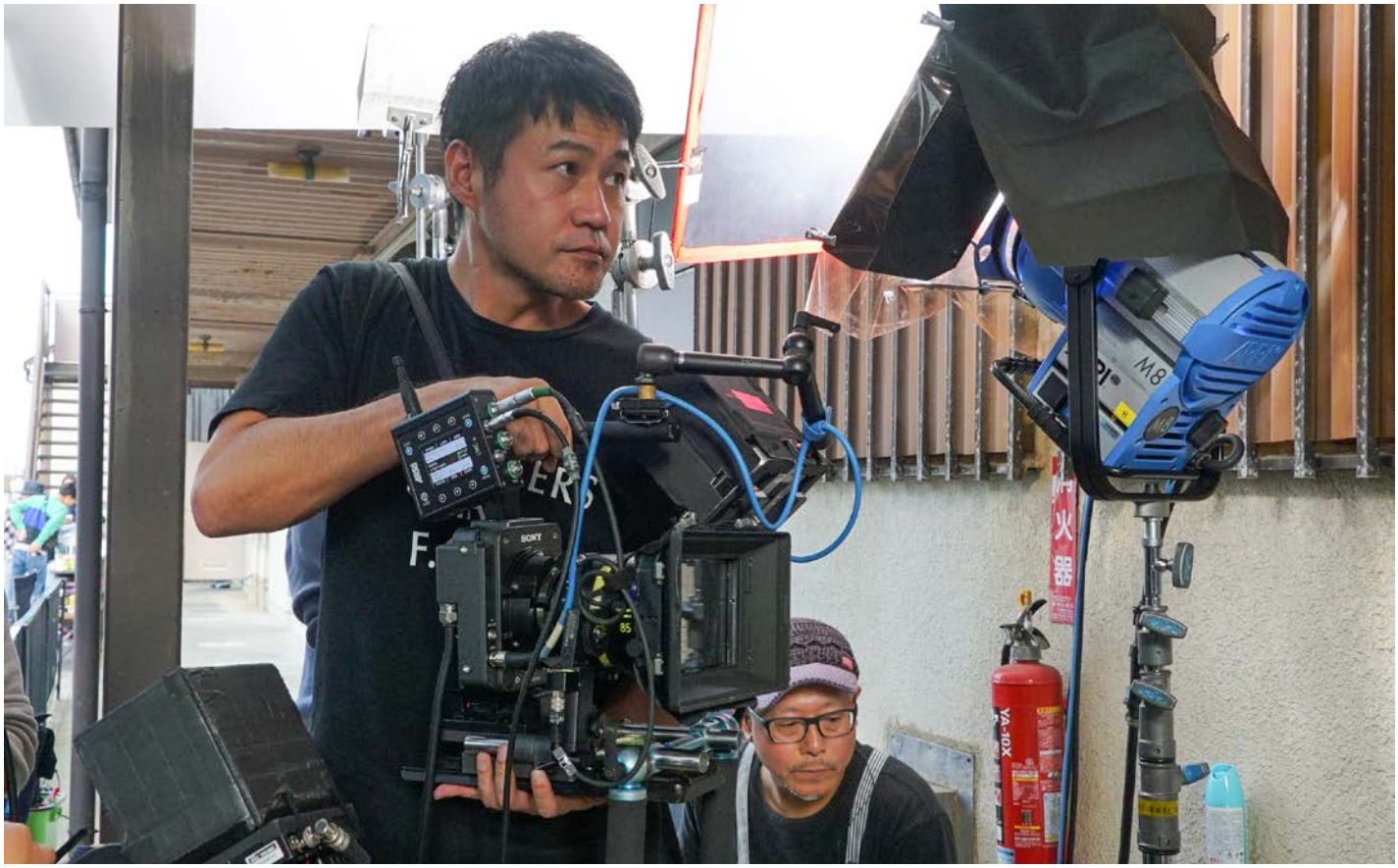
Shinoda: Beginning December 1, 2020 WOWOW will start 4K/HDR satellite transmission, and we have to build a catalog of content to serve this new paradigm. It is also important to stay ahead of technology from the perspective of the production crew's skill sets. Sooner than later, we need to educate our crews on how to light, focus, operate and post in 4K/HDR. That is why we produced our first 4K/HDR drama years before the transmission system was in place. In fact, our very first 4K drama production goes back to 2013.

Why do you own most of the equipment by yourselves, rather than renting them when necessary?

Shinoda: WOWOW is certainly a broadcaster, but we do work a lot with DPs and camera crews who primarily shoot feature movies. We are in a unique position of working in both genres: TV and Features. It is very important for us to treat these two worlds equally. Having our own cinematic tools available stimulates the creative staff within our organization. Not just the technical staff, not only people working on the creative side, but also the producers. Furthermore, by owning the equipment, we can reduce rental costs per production in the long run. Of course, we carefully examine which equipment should be purchased and we only invest in gear that we are confident will provide the best performance over a long period of time.

Tell us about the camera settings.

Yamada: The VENICE camera was set to 6K 3:2 (6048 x 4032 pixels), shooting at 23.98 fps. Recording was done in X-OCN ST, SLOG-3. The base camera sensitivity was rated at ISO 500 all the time. Note that most TV content in Japan is shot in 60i or 30p,



Kosuke Yamada JSC with Sony VENICE handheld in "Rialto" Extension System mode.

but WOWOW dramas are shot and mastered in universal 24p to facilitate international program exchange and to provide a more cinematic look.

How did you manage the High Frame Rate shots?

Yamada: We used the VENICE up to 60 fps. On specific shots requiring higher frame rates, we used the Sony F55 and even the HDC-4800, which is a very popular camera covering sports events like World Cup soccer. There is one very important shot where the actress drops her baby. That was shot at UHD/480P on the HDC-4800. We were very impressed with the 20x slow motion image; the camera was sensitive, yet had a very low noise level. Matching images coming from 3 different camera systems was not an issue.

Tell us about the choice of lenses.

Yamada: We primarily used the ZEISS Supreme Primes: 25, 29, 35, 50, 85, and 100mm—all T1.5. We mostly shot with the 50mm and the 85mm. I wish we had a 40mm as well, since the image perspective the 35mm focal length gives in FF feels more like a wide-angle lens than a standard lens. K. Yamada JSC is a big fan of longer telephoto lenses. We figured out that the Master Prime 135mm covers the VENICE in Full Frame. We also rented Century-Canon 200mm/T2 and 300mm/T3 Full Frame primes for specific shots. For zooms we had the Angenieux EZ-1 and EZ-2 to complement the primes.

Some actors are concerned about the combination of higher resolution cameras/lenses and having extreme closeups. However, the ZEISS Supremes work in their favor. The Depth of Field is so shallow that you can focus on one eye, leaving the rest of the face in pleasant and slightly softened out-of-focus. Skin detail was not a problem as many might think in high resolution and we didn't feel the necessity to filter closeup shots with Glimmer Glass filters as we used to do with other camera/lens combinations. We recognized how the lenses handled the transition from in-focus to out-of-focus becomes a key factor in determining the look on large format camera systems.

Was it difficult to match those different lenses?

Yamada: Not at all. We were not bothered with any differences coming from various lenses. What was more critical in post was maintaining continuity between shots. When compared to S35, the FF camera system created extremely shallow depth of field images and it was important that the audience would not be distracted by sudden changes in DoF. Perhaps a good analogy is like avoiding sudden changes in depth-cues when working on 3D projects.

Please discuss filters and lighting on this production.

Yamada & Nishimura: The internal ND filter of the VENICE camera is godsend, and we used it extensively so that we could keep shooting between T1.5 – T2.8. It is an extremely useful feature when you are shooting exterior at dusk, since you can instantly change the ND settings according to available light to maintain the desired lens T-stop. Due to the very nature of the story, we wanted to keep a rather subdued skin tone. We had a polarizer in front of the lens all the time to reduce light reflections on faces. On certain shots, we added the Schneider Radiant Soft diffusion filter to control skin tones. We paid a lot of attention on catch lights (Obies), as the human eye can tell a lot. Actually, the eye

was the brightest object in many shots. In terms of lighting gear, we did nothing special. We had HMI and LED lights. The ARRI SkyPanel was very helpful as you can easily dial in the color temperature to match the ambient light. We even used the light effect modes on the Skypanel to mimic emergency lights coming from (non-existing) police cars.

How did you manage on-set monitoring and critical focusing?

Yamada: On a typical Japanese TV budget, hauling around a large monitor running off AC current on location is extremely difficult. I only had a small 9" monitor powered from the camera and used peaking to judge focus. No other focus assist systems were deployed. Certainly, it was a challenge to follow focus actors on a Steadicam. The sheer fact that we were shooting most of the time with the iris wide open on Full Frame lenses actually helped to judge focus. Nevertheless, it was a nerve-wracking experience. We had the ARRI WCU-4 Wireless Control Unit managing cmotion cforce motors on the lens, connected to an ARRI AMC-1 Active cforce Motor Controller with LBUS Interface.

How did you manage grading SDR and HDR versions?

Yamada: Since our prime objective was to offer satisfactory grading for SDR viewers, we started off grading in SDR. It is somewhat tempting to push the boundaries at the very beginning and grade HDR first, but then we risk feeling like we had compromised on the SDR version due to the limited tone and color. We made sure not to grade SDR and HDR on the same day. We figured out that our human vision is very adaptive in adjusting between the HDR and SDR contrast/color palettes, however switching between the two within a short timeframe is very confusing and prevents us from making correct grading judgements. Thus, we decided to lock the grading and storytelling in SDR first, get a firm idea of what the grading should look like, then re-do it in HDR using the enlarged tonal range and color spectrum.

How large was the crew?

We were shooting with 2 cameras, looked after by the DP and 3 camera assistants. We had one person for grip and four in the lighting department. We did not have a DIT, since the entire production took place within the outskirts of Tokyo. At the end of each production day, we delivered the original camera memory cards to IMAGICA Lab.

How did you handle monitoring in the grading room, and what grading tool did you use?

Yamashita: The ever-trusted Sony BVM-X300 OLED monitor was our reference monitor. We recently got the new BVM-HX310 LCD monitor, which surprisingly comes close to the OLED, providing a maximum brightness of 1,000 nits. To mimic the home viewing environment, we had a Sony BRAVIA consumer TV set as well. Grading (photo below) was done with Blackmagic Davinci Resolve. Interestingly enough, we hardly used any Power Windows through the different grades; most shots worked fine with just some minor tweaks after a one-light grade.

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