

Jon Fauer ASC

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FILM AND DIGITAL TIMES

Technique and Technology, Art and Food in Motion Picture Production Worldwide



Photo of
Claire Mathon AFC
by Ariane Damain Vergallo

FILM AND DIGITAL TIMES

Art, Technique and Technology

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

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

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Pieter-Rim de Kroon and *Silence of the Tides*



Claire Mathon graduated from the film school *École nationale supérieure Louis-Lumière*. She started as a camera assistant and quickly began working as a cinematographer.

Credits include *L'Inconnu du lac* (*Stranger by the Lake*, 2013, nominated for the César Award for Best Cinematography); *Atlantics* (2019); *Raoul Taburin* (2018), *Les deux amis* (*Two Friends*, 2015).

Portrait of a Lady on Fire (*Portrait de la jeune fille en feu*, 2019) and the cinematography of Claire Mathon AFC are both also on fire. She won the Los Angeles Film Critics Association Award for Best Cinematography and New York Film Critics Circle Award for Best Cinematographer.

Portrait of a Lady on Fire came to my attention during Cannes 2019. After the screening, Claire met with Danys Bruyere of TSF (who supplied the equipment on the production) and Olivier Garcia of HD Systems to discuss the experience of using a Preston Light Ranger 2 on the film. Eager to learn more about *Portrait of a Lady on Fire*, I got in touch with them. Claire's replies to my questions are edited under topic headings that follow.

Cinematography on *Portrait of a Lady on Fire* by Claire Mathon AFC

The Louvre

The film takes place in the 18th century. It is the story of an artist who is commissioned to paint the wedding portrait of a young

without her knowledge. Of course, we felt the need to go see paintings of the eighteenth century. But we were not looking for direct references, nor to imitate a particular painter.

I remember one visit to the Louvre where we mainly looked at the textures, the material, the touch and the precision of the renderings. Our pictorial inspirations were not limited to eighteenth century painting. For my part, I was struck by the rich colors, in daytime and at night, and the nuances that were very present.

The Look

We had to find the balance between life and the timelessness of skin tones. Staying true to the era while keeping up with the precision of contemporary exigencies led me to choose the RED MONSTRO 8K VV camera with Leitz THALIA lenses. The Large Format sensor was chosen for its perspectives and for the depth it gives to the image. It contributes to the feeling of being immersed in the scene. From the beginning, we talked about incarnation, of this strong presence that we wanted to give to the faces. I also liked the pictorial dimension of the RED MONSTRO combined with THALIA lenses and how they rendered colors, which brought a lot of precision and modeling to the faces. I also chose them for the rendering of the flames and candles.

The richness of the shades of color in the faces that we first filmed during the day exteriors, and the precision without harshness encouraged me choose the MONSTRO / THALIA combination. The softness, the shape and this slightly satiny finish are also the result of a combination of the light quality, makeup, SATIN filters

Portrait of a Lady on Fire



Above and below: Framegrabs from *Portrait of a Lady on Fire*. Noémie Merlant as Marianne (above left) and Adèle Haenel as Héloïse (above right).

Opposite Page: Claire Mathon, AFC. Photo by Ariane Damain Vergallo.

RED MONSTRO 8K VV, Leitz THALIA 65mm T2.6, Teradek Bolt, OConnor head. A Preston Light Ranger 2 was used on the night scenes.





Claire Mathon, AFC. Day interior. A Cinematography Electronics CineTape was used on most daytime shots.
Photo by Margaux de Paint Preuve.

and post-production. We also sought to minimize flares as much as possible in situations with strong backlight.

RED MONSTRO 8K VV

In April 2018, I had the chance to participate in tests initiated by TSF around large sensor cameras (ALEXA 65, VENICE and MONSTRO 8K VV cameras). Testing gave me a chance to discuss with other colleagues the specifics of these new cameras. At the very first tests for *Portrait of a Lady on Fire*, we wanted to see 35mm images and digital images. I chose the RED MONSTRO 8K VV for these tests, convinced that the large sensor would bring the desired presence to these portraits. Its texture and color rendering, which I really like, also reminds me of 35mm film.

With Céline, we chose the RED MONSTRO for the actual resonance it gave to this film, combining memories and period films. We were talking about re-inventing and enhancing our 18th century image to current realities.

We shot in 7K, using 8K as a reserve to be able to stabilize the image when it became necessary in post production.

After several series of tests, we established, with the color grader Jérôme Bigueur at Hiventy laboratory, two LUTS. One LUT was for day and the other for night, and these LUTs that we visualized on the set were used for the rushes. I did not have a DIT. Throughout the shoot, Jérôme oversaw the rushes and sent me framegrabs that allowed me to react daily and thus get as close as possible to my visual intentions.

Leitz THALIA Primes

I never compensated for the different maximum apertures of the THALIA Primes (from T2.6 to T2.9) with the ISO sensitivity of the camera. After testing with other optics, I definitely liked the rendering of the flames at this aperture and ISO sensitivity. This constraint pushed me to illuminate, to highlight the faces whatever their locations and that was the line to follow for this film.



Claire Mathon describes the Epinay studio lighting: “ARRIMAX M90 (9K), Maxi 9 fixtures and Ruby Seven accompanied by 20x SkyPanels S60 and 2x S60 to recreate the daylight entering the glass windows in the set of the Studio. We recreated a color difference with the cooler north side having light that is diffused by a large white muslin and the south side with the additional passage of warm light.” Photo: Ernesto Giolitti.

Lighting by zones also allowed me to keep contrast in the image without adding contrast to the faces.

The THALIA 70mm T2.6 Prime was one of our favorite focal lengths to capture this film about the looks and the proximity of these women.

Flames and candles

Once the camera and lenses were chosen, I was lucky enough to be able to perform several series of wardrobe tests (the green dress) with the paint, the candles, and the smoke and to then select the filters, the materials and the sources that we would use at night.

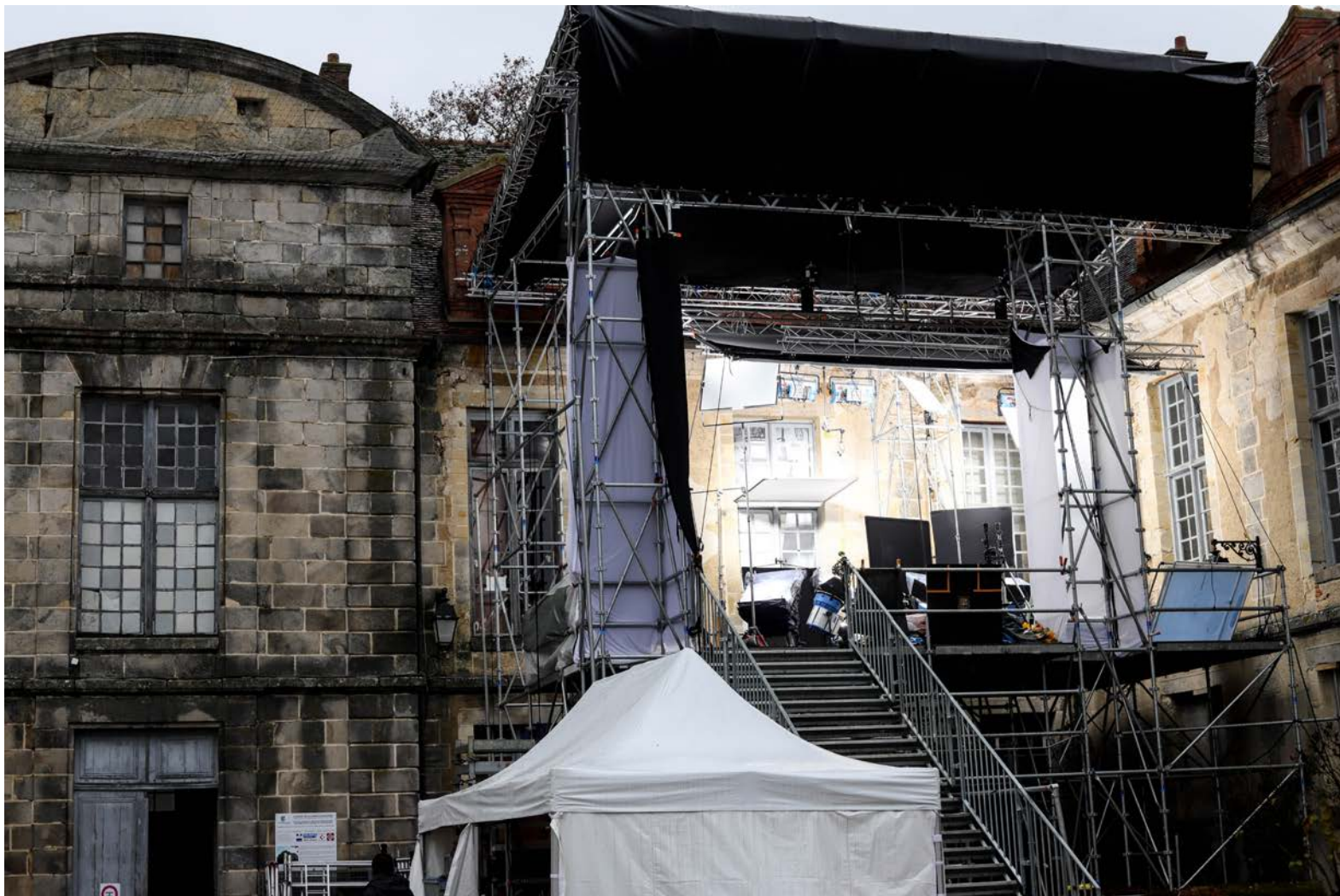
For the candle light, I did not want to be too realistic, to be too subjugated to candles even if we had to, of course, believe in how this light would have appeared in that epoch.

I kept the idea of obscurity, of mystery, without necessarily respecting the directions of the light sources. I’ve been looking

for the right warmth, the right color for a long time. Despite the warmth of the light, I wanted to keep a richness in the colors, especially for the painting and the skin tones. This issue of color at night was the most difficult thing to calibrate.

From the first attempts, Céline and I felt our desire for purity encouraged us, as much as possible, to move the candles (or their accessories) offscreen. Another challenge was the movement of the light, the flicker of the flames, which we tried to minimize as much as possible.

I liked it when the light from the candles was the result of a mix of various sources, like candles installed in 2K blond (Ianiro open face style) fixtures with their lamps removed, 2000 K Ribbon LEDs (from Softlight in Paris) and Ropelights (small tungsten bulbs installed in flexible plastic tubes). The complexity of the shots sequences often required that several light sources be used simultaneously during the shot.



Lighting

It is a film of portraits, of faces. We had to erase the raw and contemporary look of the faces in order to capture the variations, the slightest trembling, to reveal their redness, to feel their emotions without ever letting the light take over. I tried to de-emphasize the light's directionality by working on an all-encompassing softness.

The film was shot in natural locations which also made it possible to use a wealth of discoveries. Natural light greatly influences my work. I like its subtle mixtures of color and its ever-changing reflections, but in this case it was necessary to hold on to its softness, its modeling in the skin tones—as if the light emanated from their faces.

We shot all the exterior scenes at the beginning of the film in Brittany, and then at a castle in Seine-et-Marne. It was an 18th century castle had not been inhabited or restored in many years. Its woodwork, colors, and parquet floors were frozen in time.

Our Production Designer Thomas Grezard worked with great finesse to respect the existing materials and the purity of the décor.

Because of the castle's size and the workshop's location on the 1st floor (with windows that were 8 meters above the courtyard side and 16 meters above the moat side), it was difficult and expensive to light the interiors from outside. And of course there were constraints due to its status as a historical monument. Nevertheless, all

the lighting in the workshop is artificial.

I had the gaffer and key grip build a large structure on one side that allowed us to control the lighting and change it according to the different scenes. The lighting fixtures were often controlled through DMX via an iPad. During the pre-light, I also had the art department manufacture sets of frames (tailor-made for each window) fitted with different densities of NDs and scrims.

I mostly lit from the outside and reworked the light on the inside with many diffusion frames and flags. The large number of the setups and filming in late autumn forced me not to rely on ambient light. Photo #1 and 2 show the exterior lighting plan. Photo #3 shows the effect inside the location: artificial light coming in through the large windows of the workshop. At this time of the year, the sun did not come in through the castle windows at all.

Camera moves

Director Céline Sciamma's staging is very precise, very choreographed. It was important to reveal the simplicity of movement, their daily intimacy. It's a film about the look. In order to display the exchange of glances and the strength of the attraction between the two women, we were led to set up many subjective tracking shots with a Dolly or Steadicam. It was exciting to look for the right distance, the right composition and rhythm to give life to this camera of ours that watches, that scrutinizes.

Claire Mathon AFC on *Portrait of a Lady on Fire*

Photo #1, opposite and #2 at right: Exterior view of castle.

SkyPanels aimed from above directly through windows. ARRIMAX and Maxibrute 9 fixtures bouncing onto reflectors, mirrors or white fabric to recreate daylight in the workshop of the castle (the place where Marianne paints the portraits of Héloïse).

Photos: Margaux de Paint Preuve.



Photo #3, below: Claire Mathon AFC in discussion with gaffer Ernesto Giolitti. Interior of workshop in the castle.

This is the reverse of photos #1 and #2. NDs and scrims are on the windows in the areas that will be behind the actress.



Portrait of a Lady on Fire

The precision of the movements that Céline wanted urged us to choose the Peewee 4 Dolly from Chapman. The work on the gaze, and the need to embody this gaze, to make it sensitive and vibrant, went in the direction of centering the scene as much as possible in the eyepiece. Hence the choice, for example, for the end shot at the theater, of the GF8 X-TEN crane from GFM. I had a lot of fun doing both the framing and the lighting, experiencing the scenes and feeling how the light lives on the faces of the actresses.

Focus / depth of field

Putting the two characters in the same shot was important and part of the desire for equality between them. It was necessary to find the positions and the depth of field that included them as naturally as possible. Of course, I shot the majority of the night sequences wide open at T2.6 to T2.9. This resulted in a very shallow depth of field and that led us to consider the Preston Light Ranger 2 during the camera tests and then to rent it for 10 days of shooting.

Technique and technology and style

I like to look for the most appropriate tools for each project. I find it necessary to experiment, question and change the choice of the camera, the optics and the tools, which allows me to invent the images that seem to be the most appropriate for each film.



Rope light. "We created frames of different sizes with these garlands. They allowed us to combine the brightness of small bulbs and to be able to work with fairly large sources." — Claire Mathon, AFC.

Portrait of an LR2



Photo: Ariane Damain Vergallo

Comments from Alan Guichaoua, 1st camera assistant / focus puller about the Light Ranger 2 (LR2)

The LR2 uses an infrared LED and sensor system that allows the focus puller to visualize the depth of an entire scene without looking away from the monitor. It transmits and receives at the speed of light and there is no time lag when an actor moves suddenly. Note: most other traditional systems are ultrasonic.

The LR2 has 16 distinct measurement zones. Each is represented by a rectangle overlaid on top of the image on the focus puller's monitor. For example, it can differentiate the distance of an actor on the right side of frame from that of another actor on the left side.

The LR2 also has an autofocus mode. It is possible to switch from automatic mode to manual control during the shot. The autofocus area is indicated by a red rectangle on the monitor screen. The rectangle can be moved and modified to avoid an unwanted foreground.

The automatic mode is therefore particularly effective when a single subject is in front of the camera, moving forward and backward. This was particularly the case during the heroines' climb and descent of stairs.

The trick was about defining the point in the shot at which it was necessary to switch the automatic mode on or off. I would sometimes go back and forth 3 times during the same shot. I would systematically disengage it while going through a doorway, during a wide shot, or on a lateral movement of the actress.

Indeed, the slightest appearance of something in the foreground in automatic mode would cause a violent and irretrievable focus shift.

Switching from automatic to manual mode requires pressing a button while displaying the distance marked at that precise moment by the LR2. It is necessary to identify this "breathing" period before the start of the shot. It requires sang froid and training.

DaVinci for DPs: Blackmagic's DaVinci Resolve Editor Keyboard



Editing is a contact sport.

Ideally, both hands are at play. In medieval movie times, cutting on an upright Moviola involved not only hands, for marking and cutting, but also feet for forward or reverse.

Cutting on the current crop of nonlinear editors with a keyboard and mouse is not the most ergonomic or efficient way to do things. Hours of repetitive mousing is not the best. You certainly don't operate a camera with keyboard and mouse.

Introducing the DaVinci Resolve Editor Keyboard. It is the best thing in editing since DaVinci Resolve and the best thing in editing with DaVinci Resolve.

The DaVinci Resolve Editor Keyboard will bring tears of reminiscent jog-shuttle joy to the eyes of anyone who edited videotape in the linear analog days.

The DaVinci Resolve Editor Keyboard is intuitive and significantly speeds up your editing. The reason is that both hands are working in tandem. Your right hand is controlling transport: spinning the satisfyingly weighted jog / shuttle dial. It feels smooth as a good geared head, thanks to roller bearings and meticulously machined metal components designed for editing 12 hours a day.

While your right hand is searching the footage, your left hand controls edit functions, tapping on appropriate keypad buttons to insert, append, overwrite, ripple, slip or slide. Your most-used functions on the left side, the IN and OUT buttons, are huge and unmissable. There's a small gap above the IN and OUT buttons so you can find them by feel.

At the DaVinci Resolve Editor Keyboard's launch during NAB 2019, Grant Petty referred to differences between the days of linear tape editing and today's nonlinear file-based editing. He said, "One of the limitations with non-linear editors today is editing with a mouse. And a mouse is like having one hand tied behind your back. One of the advantages of linear editing was being able to use two hands."

The DaVinci Resolve Editor Keyboard could almost qualify as a medical tax deduction for professional editors because it relieves wrist fatigue and muscle strain from long hours mousing around.

This article, however, is intended for DP and Director colleagues rough-cutting their demo reel. The incredibly intuitive DaVinci Resolve cut page and the salubriously ergonomic DaVinci Resolve Editor Keyboard make this a breeze.

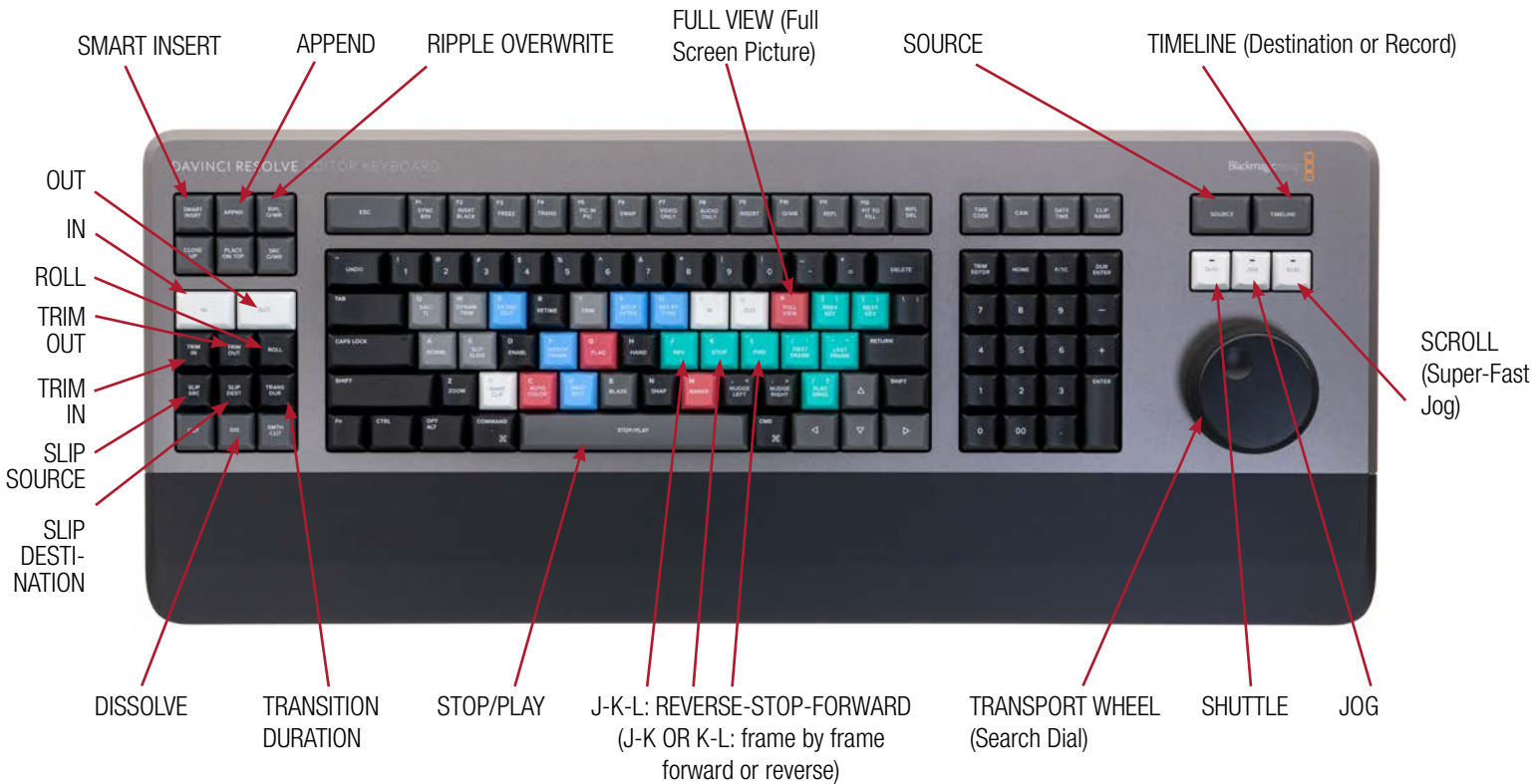
Clips in the examples on the following pages are from Maher Maleh's LITZ THALIA demo film.



Connecting your computer to the two USB 3.0 ports on the keyboard will not work. These USB ports are to power accessories or to charge your phone.

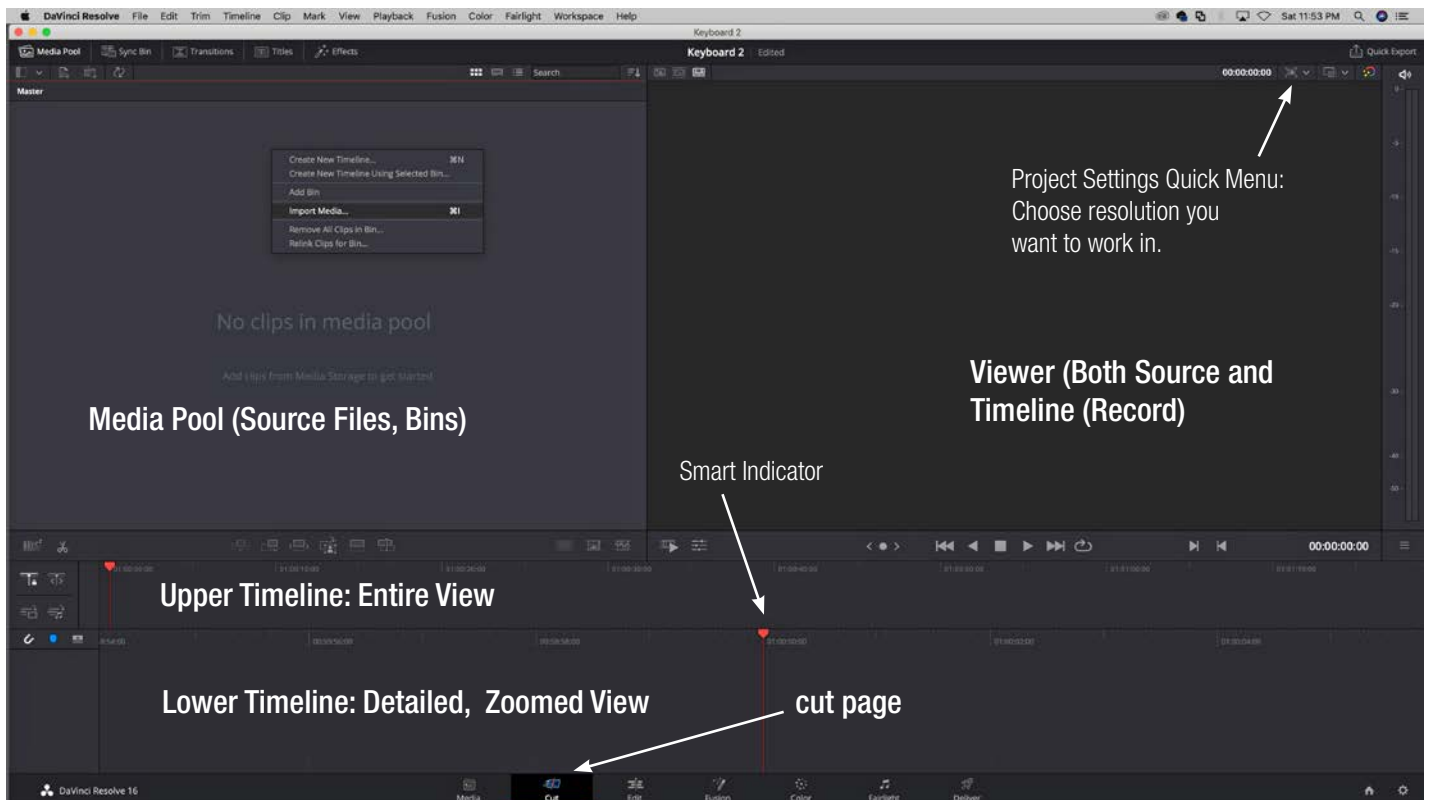
Connect keyboard to computer with a USB-C cable. If your computer is USB 3.0, use a USB-C to USB 3.0 cable or an adapter.

DaVinci Resolve Editor Keyboard



DaVinci Resolve 16

1. Launch DaVinci Resolve. Create a New Project. Click on the cut page tab at the bottom of the screen. The screen will look something like this. Drag your files into the Media Pool. Or, right click in the Media Pool and select files. Or go to FILE > IMPORT FILE > IMPORT MEDIA.



DaVinci Resolve Editor Keyboard with DaVinci Resolve 16

2. Your clips are loaded into the Media Pool at left. You can mark IN and OUT points for each SOURCE clip, but why wait? Highlight all the clips you want and hit SMART INSERT on the keyboard. All clips load instantly and sequentially into the TIMELINE.

You can then trim and rearrange in the timeline.



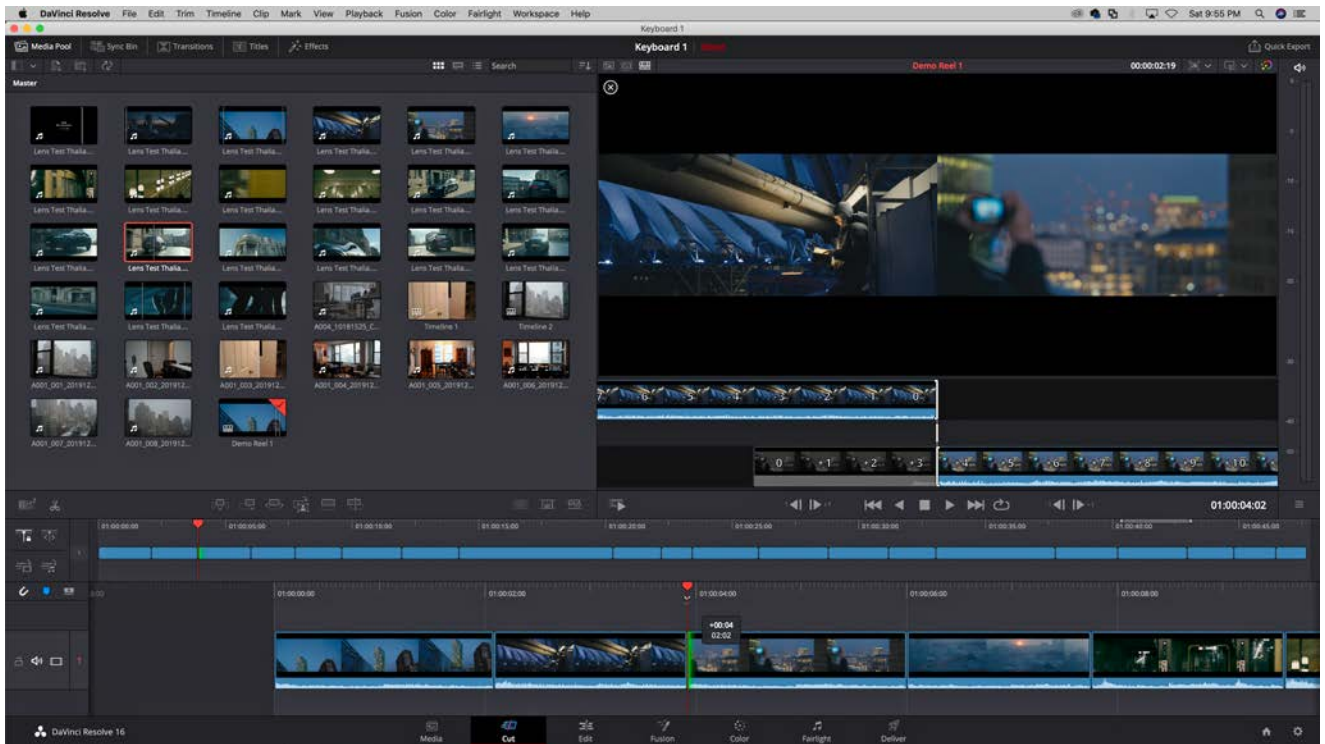
3. When working with individual clips, SMART INSERT inserts it at the nearest edit point, moving all remaining clips to the right. APPEND adds a clip to the end of the timeline. RIPPLE OVERWRITE replaces a clip in the timeline with source footage. If the source is shorter than the destination, the gap is closed. If the source is longer, the rest of the clips move right.



DaVinci Resolve Editor Keyboard with DaVinci Resolve 16

4. TRIM IN: Press and hold to trim the nearest IN point (which will glow green) by rotating the Search Dial forward or back. (It glows red if there are insufficient frames.) Release the key to make it so.

5. TRIM OUT: Press and hold to trim the nearest OUT point, same way as above.



6. ROLL: Press and hold to move the edit point of two contiguous clips left or right by rotating the Search Dial. The trim point glows green. Release the key when done.



DaVinci Resolve Editor Keyboard with DaVinci Resolve 16

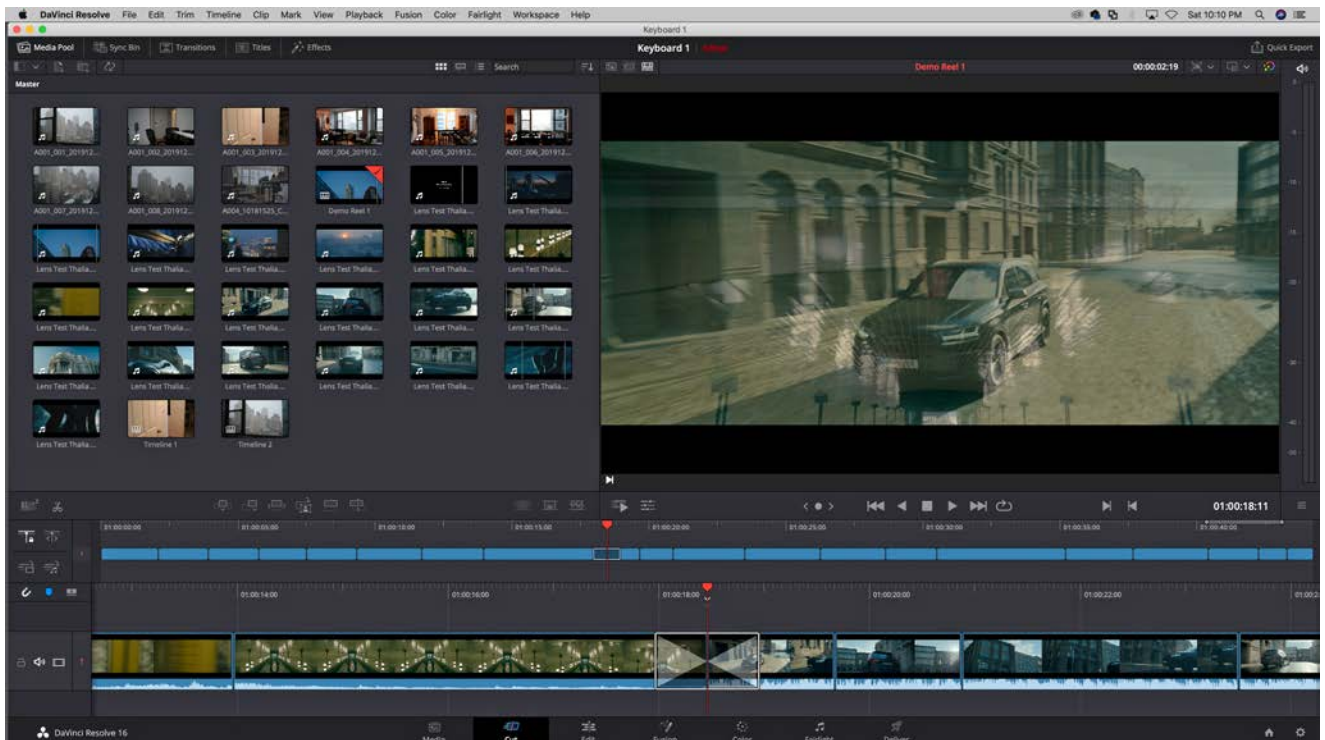
7. SLIP SOURCE - SLIP SRC: Press and hold to slip the footage within the clip left or right with the Search Dial. The length of the clip in the timeline remains the same. You are just moving the start and end of the shot earlier or later. The viewer shows a 4-way split of the In and Out points for incoming and outgoing clips.

8. SLIP DESTINATION - SLIP DEST: Slips the clip to the right of the position indicator.



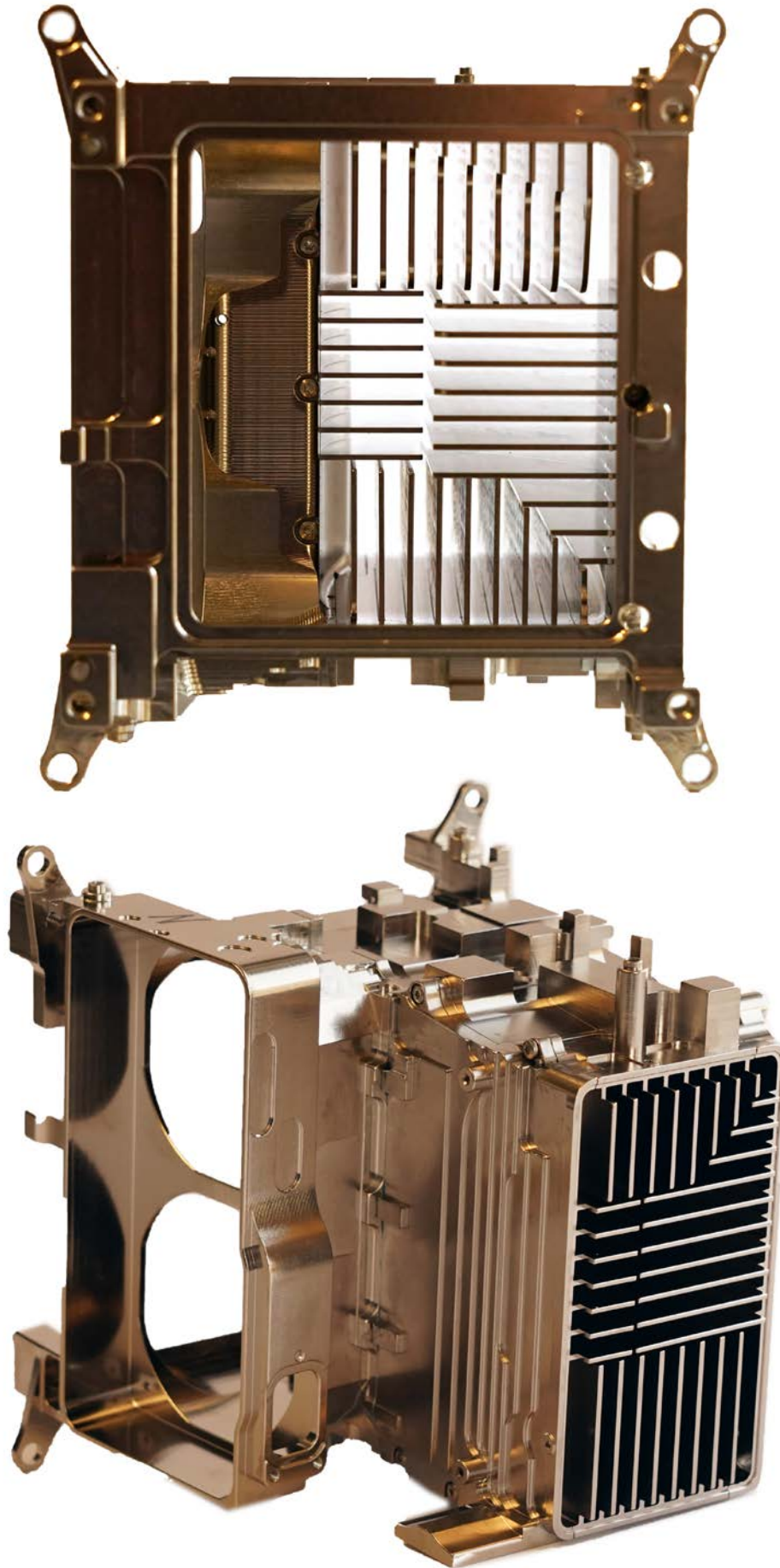
9. DISSOLVE - DIS: Centers a 1 second dissolve between two clips in the Timeline at the Smart Indicator.

10. TRANSITION DURATION - TRANS DUR: Change the length of a dissolve or Transition using the Search Dial. Rotating left will make it shorter and to the right will make it longer.



ARRI ALEXA Mini LF Deconstructed

Coming soon: a factory tour and report on building the ARRI ALEXA Mini LF.



ARRI Signature Prime 12mm T1.8 Large Format



L-R: Dr. Susanne Fiebig, Joachim Jaeger, Dr. Matthias Pesch, Thorsten Meywald

ARRI Signature Prime 280mm T2.8 Large Format



ARRI Rental DNA LF



If you dream of tuneable, repeatable vintage looks for Large Format/Full Frame, look into ARRI Rental's DNA LF Primes.

It's one thing putting an LPL mount onto an ancient optic. It is an altogether different experience having access to more than 22 sets of 9 DNA LF lenses that match, can be tuned, restored to normal, and retuned again to the same or different specifications. You can do this at ARRI Rental facilities in Munich, Berlin, London, Burbank and New York.

Picture prepping at ARRI Rental London. Three months later, you get the dreaded word: "reshoot." The location has moved to Hollywood. But, you are confident in the knowledge that ARRI Rental Burbank has the same tuning and calibration equipment as London. The DNA LF lenses you had in London can be re-tuned in Burbank to the same specifications because they have been carefully calibrated. You don't even need the same serial number.

How are lenses tuned, detuned, customized? The process is almost the opposite of optimizing for maximum performance in manufacturing. Lens designers may weep when they see this. In the eternal quest for individuality and creative distinction, cinematographers and their favorite lens gurus can deconstruct "perfectly good" lenses to change:

- field curvature (focus at the edges of frame),
- focus fall-off (how gently or abruptly the out-of-focus area becomes softer),
- halation (glowing highlights),
- contrast (how rich shadows are),
- spherical aberration (decreased sharpness)
- and more.

Previously, the process may have been random and not necessarily repeatable. You repositioned internal elements and air-gaps with shims, set-screws and days of trial and error.

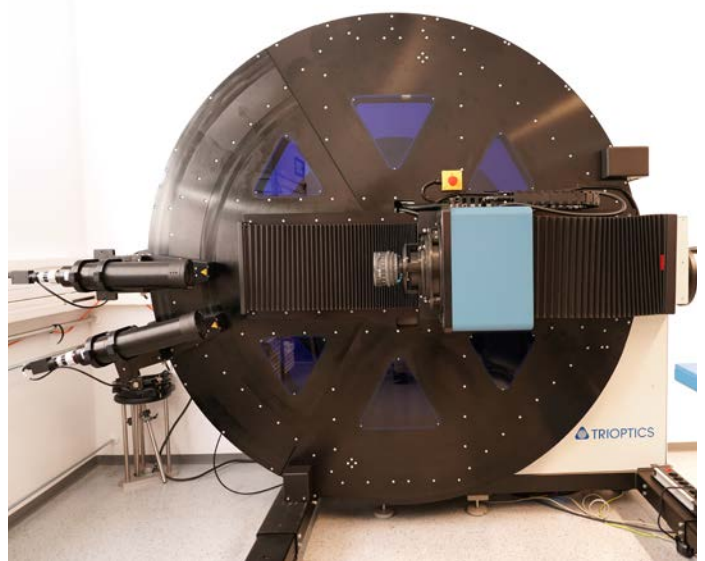
As with ALEXA 65 DNA lenses, ARRI Rental rehoused vintage lenses in modern DNA LF housings. Elements were recoated for consistency of color and flare, internal adjustments calibrated, irises replaced. Millions of dollars were invested in the latest test equipment at each major ARRI Rental facility.

Note that ARRI Rental ALEXA 65 Prime DNA lenses cover a 60 mm image circle. ARRI Rental DNA LF primes cover a 46 mm image circle.

DNA LF Prime Specifications

Focal Length	Aperture	Close Focus / ft	Weight
21 mm	1.5	7"	1.1 kg
25 mm	1.5	8.6"	1.2 kg
29 mm	2	11"	1.2 kg
35 mm	2	11"	1.2 kg
50 mm	1.5	1.6"	1.2 kg
75 mm	1.5	2'	1.2 kg
85 mm	1.5	2'3"	1.3 kg
100 mm	2	2'6"	1.5 kg
135 mm	2	4'2"	1.5 kg

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



Optical designers know that "if you cannot measure it, you cannot build it." Each ARRI Rental facility in Munich, Berlin, London, Burbank and New York is being outfitted with a custom-designed Trioptics MTF optical testing device.

DNA LF From Amsterdam to Munich



It was time to put DNA lens theory to the test. Andrew Prior, Head of Camera Technology and Development at ARRI Rental UK hand-delivered a 35 mm T2 DNA LF prime to IBC this September. The idea was to try this lens in Amsterdam. Then, rent a fast BMW X5 at Sixt Car Rental in the RAI Convention Center and drive 814 km to ARRI Rental in Munich. It is not a fun drive: 220 km/hr one minute, crawling along single-lane construction zones behind diesel-belching trucks the next.

Mark Hope-Jones, Content Marketing Manager of ARRI Rental, was waiting in Munich. It was a quick and easy process to tune a completely different 35 mm DNA LF to the very same tolerances and with the same look. Manfred Jahn, Head of the ARRI Rental Camera Department in Munich, explained all the different degrees that DNA LF lenses can be tuned, detuned, distressed, restored.

Above: Evening sky over RAI, the convention halls of IBC. Shot with ARRI Rental DNA LF 35 mm at T5.6. The lens has been tuned to accentuate field curvature. Notice how the image is softer at the edges than the center.



ARRI Rental designed special tools to dismantle each lens in the set. The DNA LF 35 mm delivered from Amsterdam is about to be dissected, above.

At left, several lens groups removed, the DNA LF 35 mm is ready for further tuning. Calibration mechanics and markings inside the housing make this a repeatable affair.

ARRI Rental DNA LF



Above: a seriously de-tuned Manfred Jahn, taken with ARRI Rental DNA LF 35mm at T2. Focus on his shoulders fall off gently. The bright exterior adds ghosting to his dark shirt. Below, lens technician Christian Millim taken with DNA LF 35mm at T2. The ARRI Rental logo is glowing with halations.



ARRI Rental DNA LF



Above: lens technician Patrizia Starke assembling a DNA LF. Taken with DNA LF 35mm at T2. Her right eye is sharp, but focus falls off gently everywhere else. Below: Christian Agerer taken with DNA LF wide open at T2, with focus fall-off, shading and ARRI Rental logo almost “vibrating.”



ARRI Rental DNA LF



As seen with a DNA LF tuned for extreme field curvature, this is the ARRI Rental lens assembly and adjustment room. In addition to tuning and detuning DNA lenses, ARRI Rental can also work with clients to customize Signature Primes, Master Primes, Ultra Primes and more.



The DNA LF lens concept is a unified set of mechanical housings designed and made by ARRI Rental. Carefully sourced vintage optics are rehoused into these modern lens housings. Elements come from a curated collection from the late 1950s to the late 1970s.



Elements are assembled into lens groups that are designed with calibrations for repeatable tuning by ARRI Rental facilities worldwide. New iris assemblies provide smooth, round bokeh and fast apertures of T1.5 to T2.



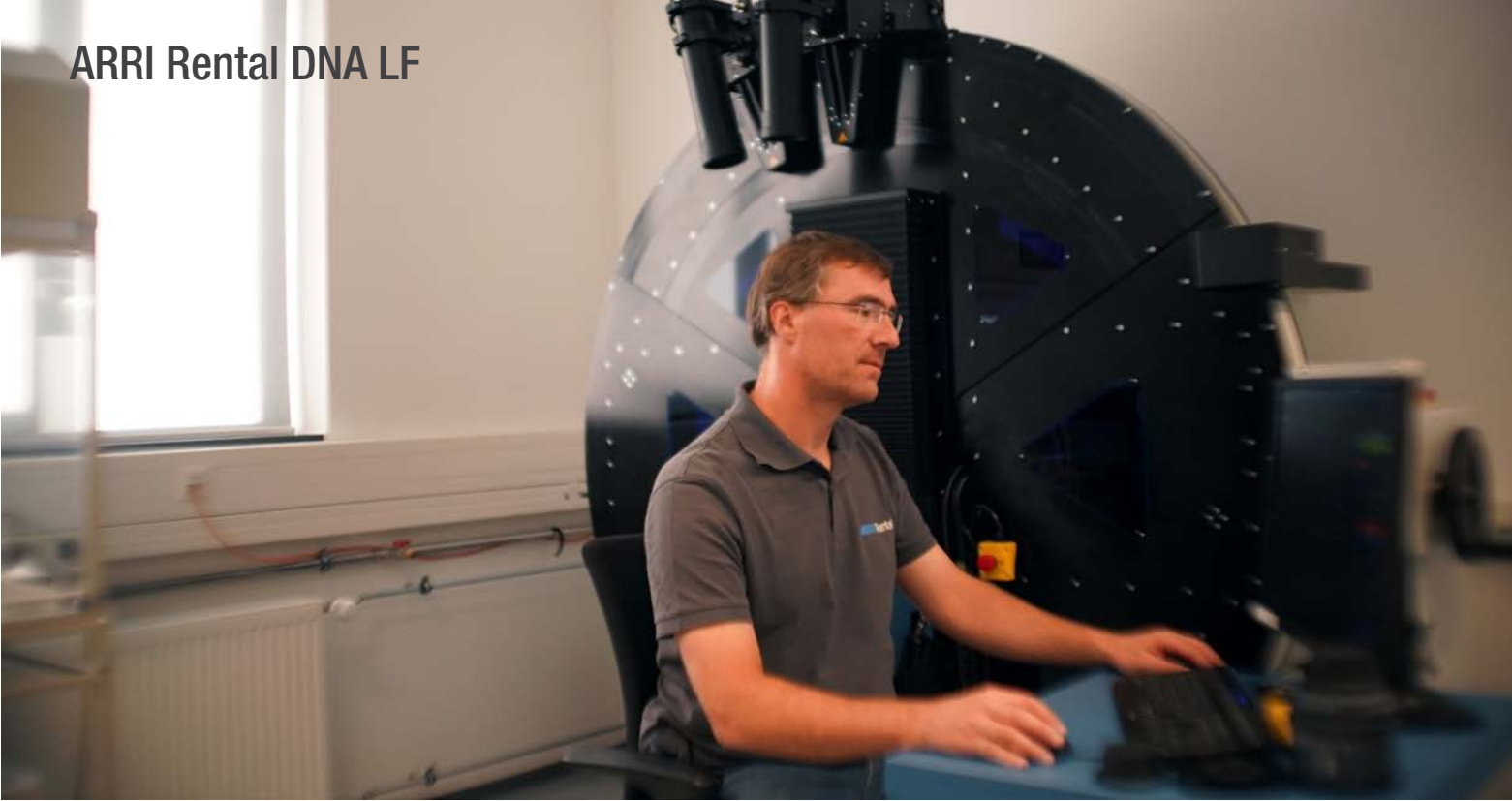
Focus scales for each lens are calibrated individually, by hand, before engraving the focus rings.

Internal lens metadata rings and electronic sensing modules are installed.

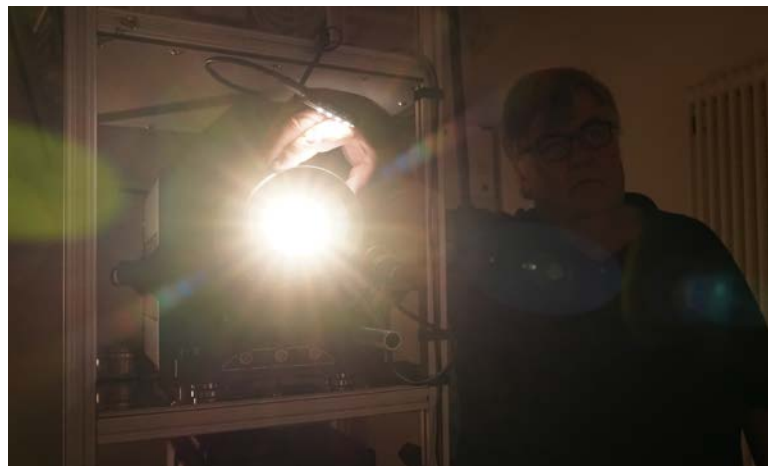
DNA LF lenses come in LPL mounts with LDS-2 contacts.



ARRI Rental DNA LF



Christian Agerer “driving” the custom-designed Trioptics MTF optical testing device. As mentioned, each ARRI Rental facility in Munich, Berlin, London, Burbank and New York has commissioned one of these. ARRI Cine Technik also uses this machine in manufacturing and QC of Signature Primes. In this photo taken with an ARRI DNA LF 35mm at T2, note how the extremely tuned field curvature blurs and distorts the keyboard, above at right.



In addition to having a Trioptics MTF Tester, ARRI Rental offices worldwide use the same DENZ MFC 65 lens projector.

Each ARRI Rental office also receives a case with custom tools to adjust and tune every focal length in every set.



Peaky Blinders is a BBC television crime drama series set in Birmingham, England after World War I. The fifth season began airing in September on BBC One and, for Netflix Subscribers outside the UK, in October 2019. Director Anthony Byrne and cinematographer Si Bell (above, right) worked with RED DSMC2 MONSTRO 8K VV cameras and Cooke 2x squeeze Anamorphic/i lenses.

JON FAUER: Why did you go from spherical to anamorphic?

SI BELL: Going anamorphic for the new season made absolute sense. There's a time jump between the fourth and fifth seasons, with a new storyline for the Shelby family, so a new look was reasonable and it made the series look more cinematic.

Why Cooke Anamorphic/i 2x lenses?

We decided on the Cookes as they had a great look that wasn't too far away from the normal spherical look that *Peaky* is normally known for, but with a slightly less in-your-face anamorphic look. I was excited to give *Peaky* an anamorphic feel, and the Cooke Super35 format 2x squeeze Anamorphic/i lenses, with their subtle bokeh and no big anamorphic flares, gave it that look. It was a cleaner look, not extreme. We needed and got a softer, more naturalistic style that didn't make a statement that we were changing the look of the show.

We wanted an anamorphic cinematic look with the ability to shoot fast, but the lenses also had to be very reliable through varied environmental conditions and have good accuracy for the focus pullers. That may seem like a lot to ask, but the Anamorphic/i just stood out from the rest.

What focal lengths did you have? What were your favorites?

Cooke Anamorphic/i 25, 32, 40, 50, 65 Macro, 75, 100 and 135 mm. The 40mm was a real workhorse for handheld and establishing shots. The 65 Macro was the go-to lens for getting really close to the actors and to pull focus from the background for developing shots, etc.

Why RED DSMC2 MONSTRO?

I thought that the RED MONSTRO 8K sensor had the best look for the project, with the right combination of flexibility, sensitivity and physical size. I loved using the RED MONSTRO. We worked with it a lot on the ARRI Trinity Rig, so we needed a small camera. The image quality was amazing with its massive dynamic range and high resolution. The skin tones were natural and I really liked the sensor's look. We also needed a true 4K camera for Netflix release [with anamorphic lenses].

So, if you were shooting with Super 35mm format lenses, why did you need a Full-Format RED MONSTRO 8K VV?

We used the MONSTRO instead of the HELIUM because it had a cleaner look in low light scenes.

But the most important reason was because we shot in 4K 2:1 aspect ratio with Cooke Anamorphic 2x squeeze lenses. This allowed us to take advantage of the MONSTRO 8K VV sensor's full 21.60 mm height. Therefore, we get a larger image area compared to the HELIUM's 15.77 mm sensor height.

Aspect ratio and sensor area / sensor mode?

RED DSMC2 MONSTRO 4K 1:1 4320 x 4320 Format desqueezes to a 2:1 aspect ratio release.

Cropped in post or in camera?

Desqueezed in post to 2:1. No cropping is necessary in post with RED DSMC2 MONSTRO. (The squeezed picture area is windowed within the sensor. Of course, the R3D file itself is squeezed, so it has to be desqueezed in post, but not cropped.)

Describe look achieved with the anamorphics? Compared to spherical and vintage lenses. And did you use any filters?

It's a more subtle anamorphic look. We didn't want too many flares and artifacts that you would get with vintage glass.

Tiffen 1/4 Black Satin.



Photo by Robert Viglasky

Rented from where?

From Picture Canning, a company I've worked with a number of years and who have helped me a lot as my career has progressed.

How did your career progress and begin? Film school?

I went to university and took film production courses where I got to make a few small drama projects and try different roles. I thought camera was for me so I started working in the camera team on British TV dramas, then feature films, first as a camera trainee then a loader. I learned a lot from those days working with lots of different cinematographers. I was always shooting shorts and they gradually got slightly bigger budgets.

I moved to working as a cinematographer doing small independent features and small commercials. I did that for a number of years, trying to build a reel, a name, and just shoot as much as I could. There were a few hard years. But I stuck at it and eventually got a feature film backed the BFI and that gave me a step up when it was released. After that I got my first TV drama and went from there.



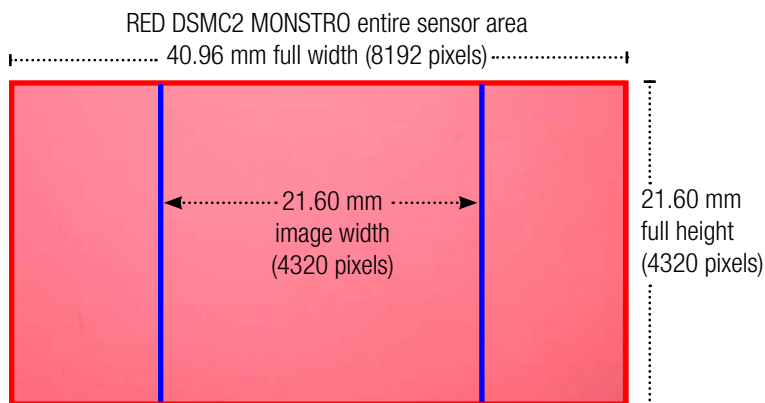
Peaky Blinders Framegrabs



2:1 Aspect Ratio MONSTRO Math with S35 Cooke Anamorphic/i



4K 1:1 4320 x 4320 RED DSMC2 MONSTRO Format using S35 Cooke Anamorphic/i with 2x Squeeze for a 2:1 aspect ratio release



The entire sensor area of RED DSMC2 MONSTRO is 40.96 x 21.60 mm \varnothing 46.31 mm with 8192 x 4320 sensor photosites.

The math for 2:1 aspect ratio release is $(2 \div 1)$ aspect ratio \div 2x squeeze = 1 and then, $1 \times 21.60\text{mm}$ (image height) = 21.60mm (image width) So: 21.60 x 21.60 mm is a 1:1 picture area when squeezed with an image diagonal of \varnothing 30.55 mm and 4320 x 4320 sensor photosites

MONSTRO Full Height with Cooke Anamorphic S35

Even though the Cooke Anamorphic /i lenses were designed for Super35 format, not Full-Frame, they fill the full height of the RED DSMC2 MONSTRO (8K VV) sensor. That is because the Cooke Anamorphic /i lenses have a 33.54mm image circle, which is larger than other Super35 format anamorphic lenses.

Peaky Blinders is released in a 2:1 aspect ratio, common to many Netflix and other recent shows, instead of widescreen 2.39:1. Actually, long before Netflix, this was Storaro's cherished format, Univisum 2:1.

To determine the sensor's picture area for a 2:1 release with 2x anamorphics, you can look it up on page 119 of the DSMC MONSTRO Operation Guide. It is listed on the line for 4K 1:1 Format.

Or you can do the math. The formulas are shown above and explained as follows.

Divide 2 by 1 (the aspect ratio) by 2 (the 2x anamorphic squeeze factor), and you get 1.

Then multiply 1 by 21.60mm (image height) to get the image width of 21.60mm.

Therefore, your image area on the sensor has an aspect ratio of 1:1 after being squeezed. If this were a film gate, that would be it. The image diagonal is 30.55 mm.

Now, the entire RED MONSTRO 8K VV sensor has 8192 x 4320 photosites. Since we want to work with full picture height, multiply 4320 x 1 to get 4320 photosites for picture width.

How nice. 4320 x 4320 resolution is more than 4K resolution in both horizontal and vertical. Cooke S35 Anamorphic/i 2x lenses conveniently cover RED DSMC2 MONSTRO full sensor height for 2:1 release.



Osmosis is a French-language Netflix original series about a dystopian dating app. Jean-François Hensgens AFC SBC was the cinematographer. *Osmosis* began streaming in March 2019.

Jon Fauer: What cameras did you work with on *Osmosis*?

Jean-François Hensgens AFC SBC: We used two RED MONSTRO 8K VV cameras, covering the entire area of the full format sensor with spherical lenses and composing for a 2:1 aspect ratio.

Did you crop in camera or in post? (RED MONSTRO 8192 ÷ 4320 = 1.9:1 native aspect ratio.)

We cropped in post to a 2:1 aspect ratio. RED MONSTRO 8K VV is 8192 x 4096. So we cropped 224 pixels from the vertical.

You mentioned spherical lenses. Which lenses?

When we started this project in May 2018, there were only a few lenses that would cover Full Format. I tested and compared almost all of them. I also compared them with Super 35mm lenses.

Ultimately, I was very comfortable with the beauty of the images shot with Cooke S7/i Full Frame Plus lenses, especially wide open at T2. They created a kind of poetry that was very effective. The S7/i had a Cooke look that I liked and reminded me of the S4/i—but filling the larger format.

I have regularly used Cooke lenses. I love the characteristics of the flares and the beautiful fall-off that you get wide open. The S7/i Full Frame primes have gentle transitions from the area that is in focus to the areas that are in front or behind. Using Full Frame sends us a step further with shallow depth of field, especially at T2. The faces in close-ups have a quality I have not seen anywhere else in Full Frame 8K. And that historic roundness of Cooke lenses was always present.

Why Full Format/Full Frame/VV? Last year in France I felt a bit of resistance against Large Format.

On the contrary, using the larger sensor of the RED MONSTRO 8K VV with Cooke S7/i FF Plus was an extremely attractive combination. We shot locations in present-day Paris that had to represent a futuristic world. Because I was able to focus on the subjects and put the background completely out of focus, production did not have to add VFX work in post to change those backgrounds.

A lot of people watch Netflix on their Smartphones and it is often difficult to notice depth of field fall-off. But shooting Full Format on MONSTRO 8K with lenses wide open at T2, we put the focus on the area of our desires. Since it's mostly about the actors, they were the focus of that attention. I should say that in prep, the director was leaning toward shooting S35 in 5K sensor mode on the RED camera. But when he saw the Full Format comparison, the choice was clear. The main reason for Full Format is depth of focus—or, I should say, very shallow depth of field.

Why not anamorphic Full Format? It also has a very shallow depth of field.

For this series, I did not want to have the distortions and aberrations inherent in an anamorphic system. This was a series for Netflix about the future. That's why I was very comfortable to use a new system of Large Format with a new set of lenses like the Cooke S7/i. Ultimately, I pushed the entire process to the maximum. I was not afraid of losing control of it from time to time. I'm comfortable with that — sometimes losing control in terms of focus.

Was focus difficult?

It was very difficult. It must have been a nightmare for my 2 focus pullers because I was shooting hand-held and very often wide open. We were shooting with two cameras and that is why we had 2 focus pullers.

I was a focus puller for 12 years on more than 40 movies. It is a great pleasure is to work for the director deciding where to put the focus. You make choices where you want the audience to look. The Camera Assistant / Focus Puller is a good friend of the director. You can even see when viewing on an iPhone. Our assistants pulled focus off monitors. They were helped by having Cinematography Electronics CineTapes. I was pleasantly surprised by the results. It was not perfect but it was a dangerous style, trusting in focus, with the assistants almost playing it like a video game.

TSF Camera Rentals?

We shot in Paris and rented the camera, lenses, lights and grip equipment from TSF. We worked with Danys Bruyere at TSF and I was very comfortable with that because I know him and the company and I'm very happy with that.

Focal lengths of the Cooke S7/i that you used?

25mm, 27mm, 32mm, 40mm, 50mm, 65mm, 75mm, 100mm and 135mm. The 65mm was my favorite for the majority of shots.

Shooting style?

We shot *Osmosis* mostly handheld. Flashbacks were on a dolly. I used the Easyrig almost all the time. Sometimes we added 2 batteries at the rear of the camera for balance.

We shot with two cameras mostly handheld, either simultaneously or with one camera shooting and the other being prepped. We only had one set of S7/i lenses, so we did our best to share focal lengths, and at times, used a 2x extender. Sometimes, we even changed the RED MONSTRO 8K VV to 7K to increase the focal length to have the ideal reverse shot."

Because it was episodic, we worked with 4 different directors. The first director liked to shoot with 2 cameras all the time. The second director liked just 1 camera at a time. The third director liked continuous shots.

Jean-François Hensgens AFC SBC on *Osmosis*

Cameras?

I have been working with RED cameras for the past 7 years. Most of the time, I have worked at an ISO of 2000 to create a little texture. I add a little grain in post.

With the MONSTRO 8K VV, I pushed the camera to 3200 ISO. With the RED, we can work with the compression. My goal is not to have too much resolution, my goal is to have a little less detail. I prefer 8K Large Format, but with 5:1 or 12:1 REDCODE compression to kill some of the definition and have smaller files. It makes it easier to work with lighter files.

Filters?

Lots of ND.3 to ND2.1 and Polarizers all the time because I'm working at high ISO sensitivities. Also Schneider DigiCon filters all the time to create interesting flares and adjust the black level. The camera, lens, lighting and grip package were rented from TSF.

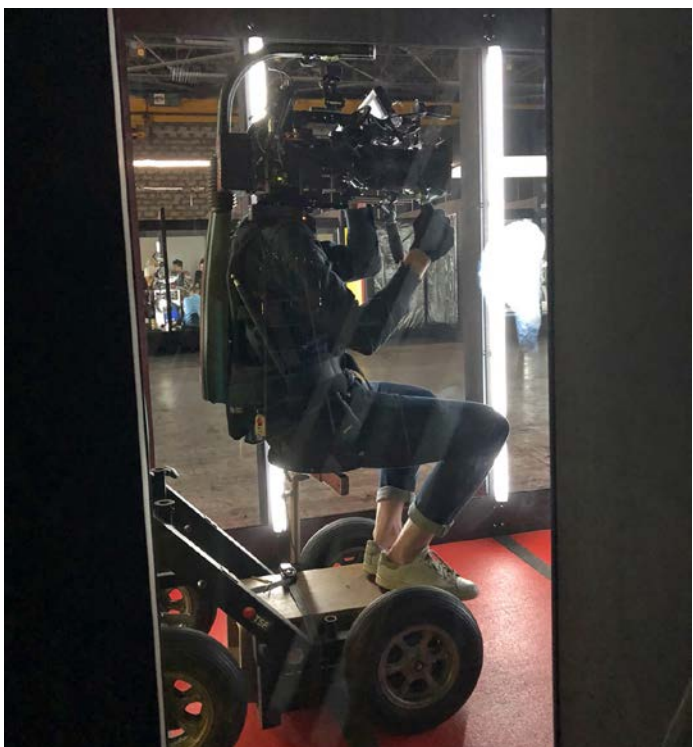
Lighting

The lighting was Japanese style, with different colors, practical lights everywhere, atmosphere, a futuristic look. We had Astera tubes everywhere. We used the ARRI S360, S30 and S60 SkyPanels, which was amazing and can plug into a household electric socket. So, I did not need 6K or 12K fixtures. This fulfilled my intention and challenge to do an entire film without a generator. Today you have to be fast and easy. Our gaffers use iPads to regulate intensity and color.

Half of the movie was shot in studio, with a lot of light. Because the film takes place in a future with lots of artificial intelligence, I figured the lighting should almost breathe and vibrate. We used Ayrton Mistral moving lights like they have in discos and concerts, controlled by computer. The light is the reflection of the state of mind of this world of AI. I also wanted to make sure that there was a visual difference in the way people look today and how they and the world might look in the future.



Above: Lens tests. Below: Riding with an Easyrig.
Below left: Basketball on OConnor 2575D camera support.



Cooke S7/i Full Frame Plus (Spherical)



Cooke S7/i Full Frame +	T-Stop Range	Min. Marked Object Distance (MOD)		Close Focus from Lens Front		Rotation of Focus Scale	Rotation of Iris Scale	Length: Lens Front to Mount	Maximum Front Diameter	Total Weight	Maximum Image Diagonal
16mm	T2 - T22	400mm	16 in	151mm	6 in	270°	90°	197mm	136 mm	4 kg	46.31mm
18mm	T2 - T22	400mm	16 in	158mm	6.2 in	270°	90°	200mm	110 mm	3.5 kg	46.31mm
21mm	T2 - T22	350mm	14 in	109mm	4 in	270°	90°	189mm	110mm	3.3 kg	46.31mm
25mm	T2 - T22	350mm	14 in	109mm	4 in	270°	90°	189mm	110mm	3.3 kg	46.31mm
27mm	T2 - T22	350mm	14 in	109mm	4 in	270°	90°	189mm	110mm	3.3 kg	46.31mm
32mm	T2 - T22	350mm	14 in	109mm	4 in	270°	90°	189mm	110 mm	3.4 kg	46.31mm
40mm	T2 - T22	450mm	18 in	209mm	8 in	270°	90°	189mm	110mm	3.5 kg	46.31mm
50mm	T2 - T22	500mm	20 in	259mm	10 in	270°	90°	189mm	110mm	3.4 kg	46.31mm
65mm	T2 - T22	475mm	19 in	234mm	9 in	270°	90°	189mm	110mm	3.0 kg	46.31mm
75mm	T2 - T22	475mm	19 in	234mm	9 in	270°	90°	189mm	110mm	3.0 kg	46.31mm
100mm	T2 - T22	700mm	30 in	459mm	18 in	270°	90°	189mm	110mm	3.3 kg	46.31mm
135mm	T2 - T22	950mm	39 in	709mm	37 in	270°	90°	189mm	110mm	3.7 kg	46.31mm
180mm	T2 - T22	1300mm	51 in	1050mm	41 in	270°	90°	198mm	110 mm	3.6 kg	46.31mm

Breaking News: 85mm Macro Cooke Anamorphic/i 1.8x Full Frame Plus



Stop the Presses. Cooke Optics announces the breakthrough 85mm Macro Anamorphic/i Full Frame Plus prime.

It will join the 32, 40, 50, 75, 100, 135 and 180 mm Cooke Anamorphic/i FF+ series.

This is exciting news because front anamorphics typically do not focus closely. For example, the 75mm Anamorphic/i FF+ focuses to 39 inches. Certainly, you could use diopters, but that limits far focus to a couple of feet away.

So, if you want to fill the frame with an ECU, or crave beautiful bokeh on a 4:1 macro product shot or a rack focus from infinity to 22 inches, take a look at the new Cooke 85mm Macro Anamorphic/i Full Frame Plus.

FF A+	T-Stop	MOD		CF fr Lens Front		Focus ∪	Iris ∪	Length	Front ∅	Weight	Image ∅
85mm Macro	T2.8 - T22	500mm	22 in	181mm	7.1 in	270°	90°	272mm	136mm	5.2 kg	Full Frame

Wooden Camera for Canon C500 Mark II

Wooden Camera now has accessory kits and power plates for the new Canon C500 Mark II.

Accessory kits come in Base, Advanced, and Pro models, depending on the number of components.

Each kit includes the Top Plate (Canon C500mkII) and Unified Baseplate (C500mkII).

The Top Plate has arrays of ¼-20 holes with standard spacing and ARRI Accessory Mount in several places as well as 15mm rod openings at the front.

A Canon LCD Bracket Adapter is included with the Top Plate for reinstalling the L bracket and LCD that comes with the camera.

The Unified Baseplate (C500mkII) has ARRI standard base plate quick releases that work in two ways: letting you to keep the rods attached to the camera or leave them behind (e.g. still attached to a tripod head).

Power the Canon C500mkII via the WC Pro Gold Mount or V-Mount plate with 4-pin XLR (straight or right angle) connector.



Wooden Camera Canon C500 Mark II Unified Accessory Kit (Pro)



The Unified Baseplate (fits Canon C500 Mark II, C200, C200B, C700) is a quick release baseplate that provides lightweight 15mm rod support at the correct lens height.

To remove the camera and leave the LW 15mm rods behind, unlock the right side thumbscrew, slide the camera backwards a short distance, and lift straight up. The dovetail attached to the bottom of the camera is an ARCA Swiss standard shape which can fit many third-party products.

The bottom of the baseplate has 1/4-20 and 3/8-16 threaded holes for attaching to a tripod plate or ARRI style standard bridgeplate. To remove the camera from the included Lower Quick Dovetail and keep the 15mm lightweight rods with the camera, unlock the left thumbscrew, slide the baseplate backwards a short distance, and lift up. This exposes an integrated ARRI dovetail slot on the bottom which can attach directly to any 2060 Dovetails, Safety Dovetails, or Shoulder Rigs.

Includes: 2x ¼-20 and 2x ⅜-16 low profile screws.

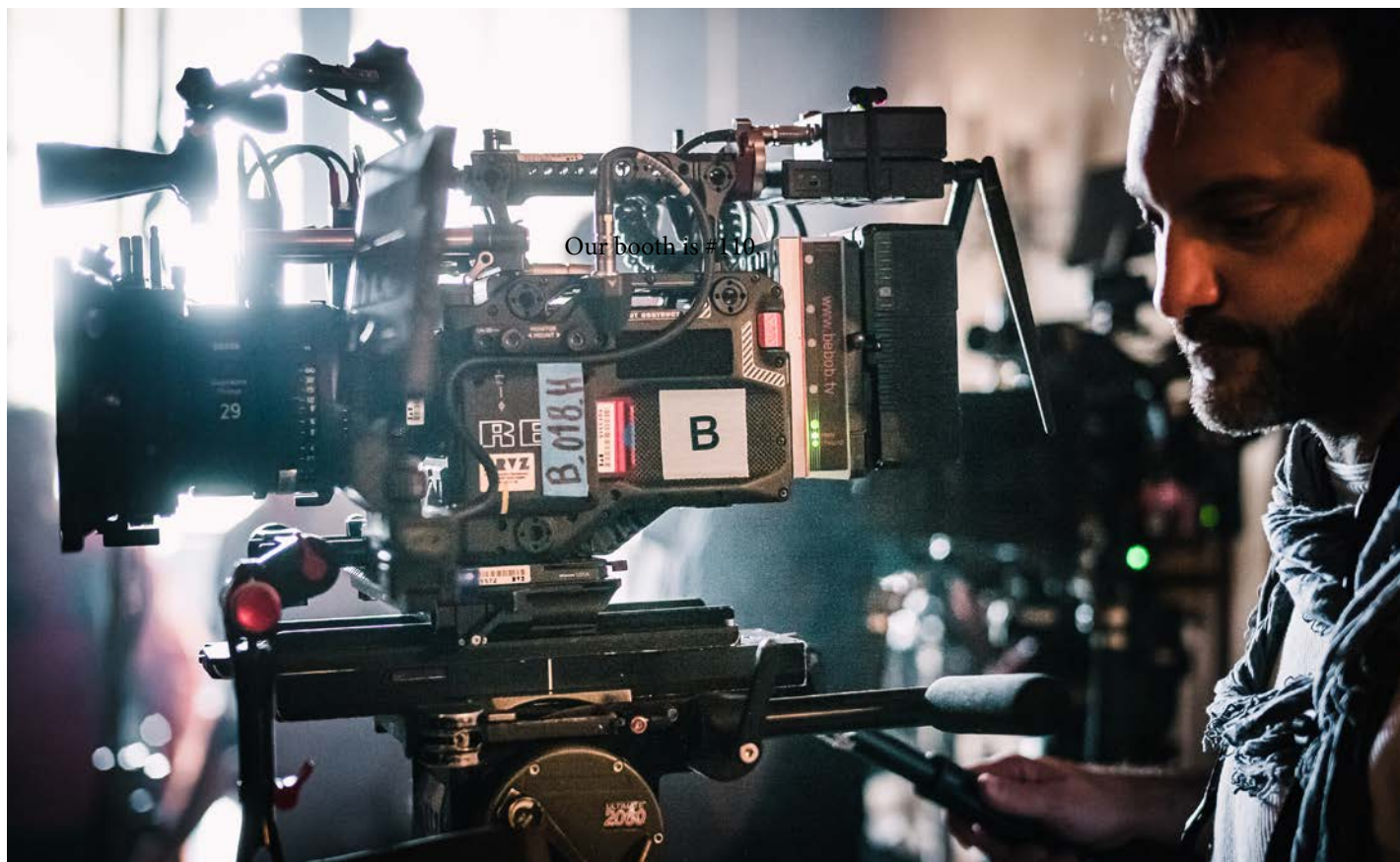
The Top Plate for Canon Canon C500 Mark II cameras has arrays of ¼-20 holes in standard spacing and ARRI Accessory Mount in several places (⅜-16 threaded hole with locating pins adjacent).

A Canon LCD Bracket Adapter is included with the Top Plate. It allows you to reinstall the L bracket and LCD that comes with the camera. This piece can be attached to the front of the Top Plate or to the front of Wooden Camera handles—like the NATO Handle Plus V2 and the Top Handle V2. If a longer handle option is desired, consider the Master Top Handle.

Note that while the Top Plate is in use, it is not recommended to attach the original Canon top handle.

The Top Plate for Canon C500 Mark II works very well for mounting Wooden Camera EVF Mounts, Handles, Ultra Arms, and more.

Includes: 4x ¼-20 Captured Screws



Our booth is #110

Paul Mignot (above) wrote, directed and operated All Blood Runs Red. It is a well told story with much production value, beautifully directed, acted and shot. Eric Dumont AFC was Cinematographer.

Jon Fauer: How did this project start for you?

Paul Mignot: Thank you so much. The idea started two years ago when I heard the story of Eugene Bullard. I thought it would make a beautiful feature film or TV series about an incredible individual. He was born in Columbus, Georgia; stowed away on a ship to Europe; became a boxer in Paris; enlisted as one of the few black combat pilots in World War I; played as a jazz drummer; managed a jazz club in Paris; married; fought again for France in World War II; and eventually moved back to the US. His life was amazing.

Our short film began when ZEISS contacted me through RVZ. They wanted a film that would demonstrate the qualities of their new Supreme Radiance Primes under different types of lighting to show how the lenses react. Other than that, they left it up to us. It evolved into a proof of concept, a nine-minute story.

The production value was superb. How were you able to achieve all that? Were you able to get outside funding?

Amazing producers, an inspired DP and a great team were key. All departments consisted of very talented and experienced people who worked hard to achieve a film that we could be proud of. Our first AD Armel Gourvennec also helped a lot in the writing process, making the piece doable in 4 days. The production value came from 10 years of experience in the commercial business: of finding the right locations, being in the right place at the right time, having good wardrobe, good actors and appropriate locations. Also, we had great support from many partners who do-

nated cameras, lighting, trucks and logistics. It was a little project that became a large scale passion project.

Your attention to detail in the film is extraordinary. How did you begin your career?

Thank you. I attended a film school called 3iS (Institut International Image & Son) in Paris. I started as a camera assistant and Steadicam operator. I worked in the feature film industry for years, moving up to directing second unit. Then I started directing and shooting commercials.

You directed and operated on this film?

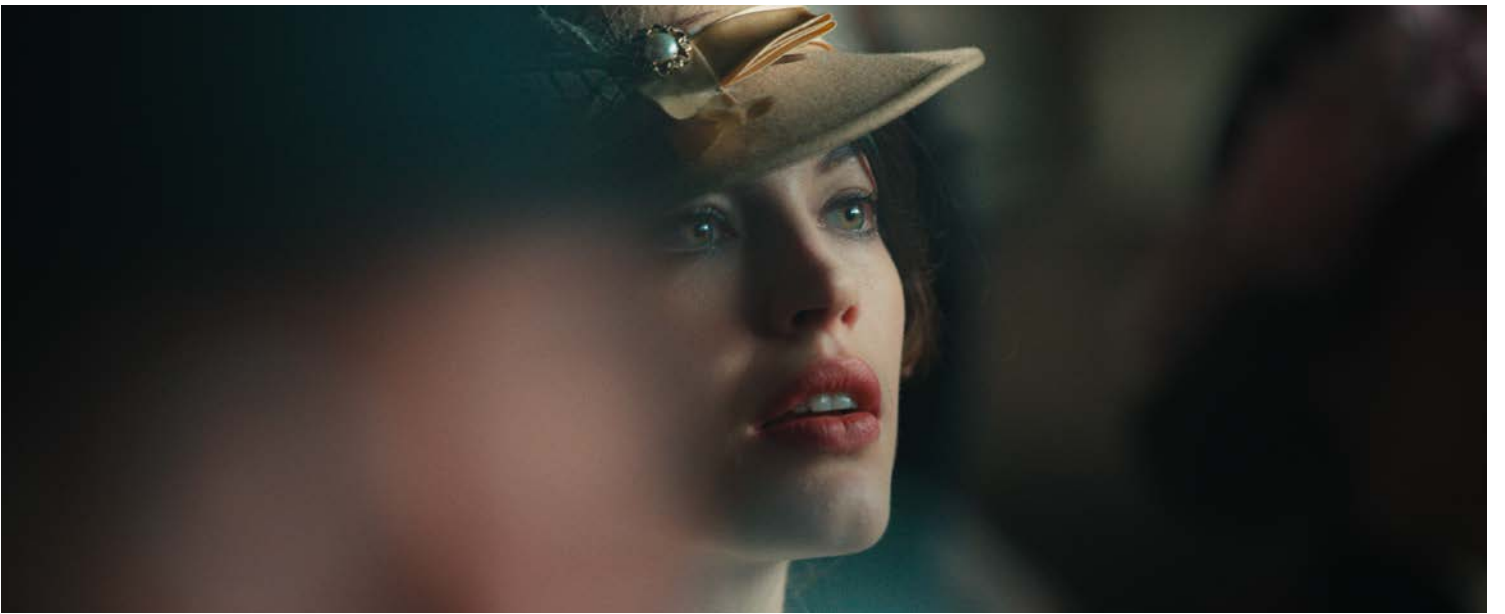
We had two RED RANGER MONSTRO 8K VV cameras. Eric Dumont AFC was the DP and A-Camera operator. I directed and operated the second camera. I cannot separate directing from camera operating. Not on every shot—sometimes I step back a bit, but it helps me to have a connection with the actors. It makes me feel as if I'm in the scene with them.

You mentioned RVZ. What is the connection?

Samuel Renollet was also a camera assistant before becoming head of the camera department at RVZ. We can talk the same language. It's not only about the story; it's also a story of tools, and Samuel is amazing. I'm a director who is very interested in technique, optics, cameras, and all of that.

In this story of tools, what was your impression of the ZEISS Radiance Primes? How did you decide that they were the right lenses for your story?

To be honest, it was the other way around this time. We had the opportunity to shoot with the ZEISS Radiance Primes. Then the story was developed around them. So, it was a bit reversed from



Paul Mignot with RED RANGER and ZEISS Radiance



Eric Dumont AFC handheld with RED RANGER and ZEISS Radiance.

the usual procedure. I loved them. And I'm in love with Large Format. We are much closer to the actors. It redefines our distance to the subject, the location and everything. With Large Format, I was amazed by the quality of the details and the texture of the lenses. Many brands of new lens families are super sharp or super modern in a way. I really liked the vintage quality of these modern lenses. ZEISS found a very good balance between having sharp details and lenses with a soul, that says something.

They have texture, the blurs are beautiful and it's smooth on the skin. Their blue flares are superb and they are broken into different types of shapes that were very pleasing. It is interesting to see this amazing mix of wide focal lengths, Large Format and textures.

When you work with flares, it appears that you are using them artistically to tell the story. It's not just for the flares' sake.

The flare is, of course, a very easy way to make things look beautiful. But, the more you use this trick, the more you have a lack of meaning. So when I started thinking about this movie, I wanted to tell the story of a man who fought his entire life. But why? It came from his feeling weak as a child when facing forces that were stronger than him, even stronger than his father. The concept of going back into the past, to have this recurring image of a child facing moments of struggle, led to the need to build an esthetically compelling universe. For that, I worked with the idea of dynamic lighting, of flares, to build that narrative. The flares became elements of the world and moments where he was struggling in his childhood.

Throughout the movie, flares become a narrative step to create a space in his mind. For example, when a journalist asks him a question, he does not answer. It is a memory. It is a narrative bridge to the past.

Even though it's a period piece, there are flashbacks that do not have a typical vintage lens look that's soft and degraded. It was like an artistic and beautiful modern narrative.

I like the idea of having texture. This is where ZEISS really scored with these lenses and enabled us to shoot a period piece that is not surgical or super sharp everywhere. You get smoothness and texture on the skin, but you can still have the softness that we love in vintage lenses that we formerly used to bring back this idea of the past.

Did you use filters or smoke? In the boxing arena, it almost looks smokey when you're looking against the windows?

We did not have smoke. We used NDs. I like to work wide open with very shallow depth of field where the lenses express themselves more. We used diopters on some shots just to go very close. We did not use smoke because of production logistics. We had only 15 extras, so for the wide views we shot some plates to multiply the people and make it feel as if there were 120. I played around with putting the extras in the background and changing their wardrobe. We couldn't use smoke because of this, mainly. You get the feeling of rays of light thanks to the lenses.

Please explain how you feel closer to the actors when shooting in Large Format.

Large Format allows you to cover a wider angle with a longer focal length. Put another way, for example, if we are framing a close-up with a 50mm lens in Super35, we might be 5 feet from the actor. Now, if we want to shoot the same size close-up with the same 50mm lens in Full Frame, we are 3 feet from the actor. So, we get the same framing but we are closer to the talent. This is very interesting as a director because it changes my habits. It allows me to have a different experience with the space, the actor in that space, and with the camera.

Is Large Format catching on in France?

Everybody is starting to move there. It definitely will be among the new things in the coming year. Not everyone is equipped yet. Some producers are still asking questions about data size. But I'm pretty sure that Large Format will gain even more of a share in production. Ultimately, the important thing is just to shoot a movie and tell a story, whether it's with an iPhone or with Large Format. But, as a director operating cameras, I think Large Format is super interesting.

Tell us about post production. You mentioned larger data files.

Most of the classic post production was done through my company because we have our own editing and color grading suites. All the visual effects were done by friends at their company DUCK FACTORY. They did amazing work, adding bullets, blood impacts and even full CGI flying planes. We are quite accustomed to working with the RED RANGER MONSTRO 8K VV in 5:1 REDCODE RAW.

We wanted to shoot RAW to keep the maximum amount of detail. We worked with proxies for the edit, conformed in the usual way and exported just the specific shots for final grading and conforming.

To summarize, RVZ introduced you to ZEISS. ZEISS wanted a film to show what the Radiance Primes could do. You had the story of Bullard already written and pitched it to ZEISS.

No, I wrote it specifically for this situation.

That's incredible, considering the amount of historical coverage. How long did it take?

It took 7 weeks to write, prep, scout, cast, shoot, edit and post-produce.

What is the next step? Maybe a full length feature?

I would like to do that, for sure.

All Blood Runs Red Framegrabs



Paul Mignot with RED RANGER and ZEISS Radiance



Paul Mignot, above left with Easyrig. Eric Dumont AFC, above right handheld and below on OConnor 2060 and Slider.



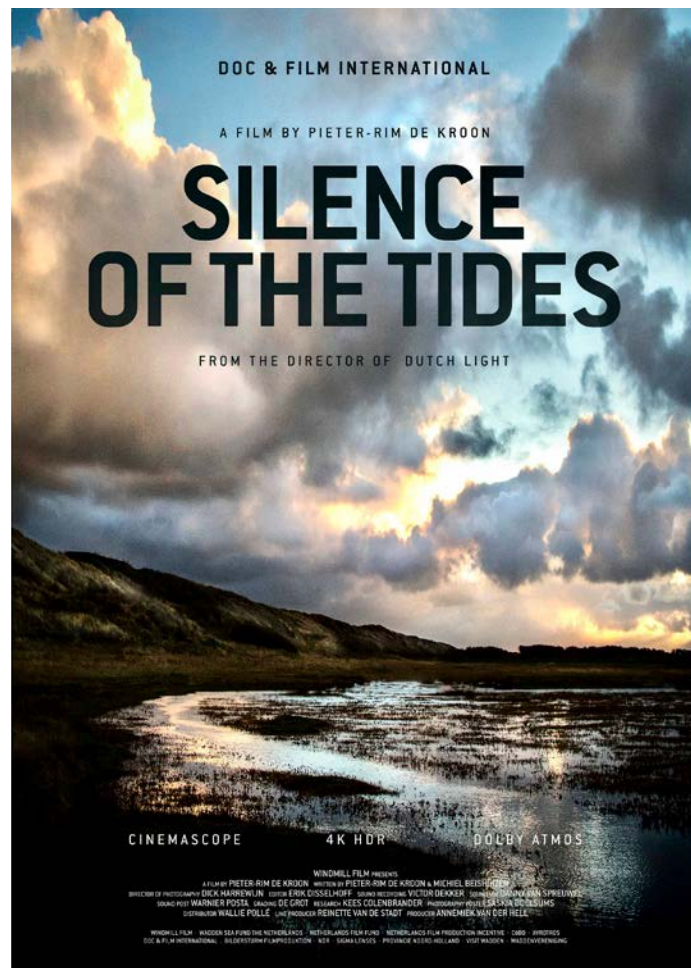
RED RANGER and ZEISS Radiance



Paul Mignot, RED RANGER and ZEISS Radiance on Easyrig Vario, above. Below right, with RED RANGER, ZEISS Supreme Radiance Prime, and Canon DSLR perched on top for additional off-speed cutaways.



Pieter-Rim de Kroon on *Silence of the Tides*



Pieter-Rim de Kroon is an award-winning director, cinematographer and producer. His *Dancin' The Camera* is about a tap dancer magically transported inside an antique Parvo L. He shot most of *My Old Handcranked Camera* with a restored 1900s Kine-Messter. My friend Ruud Dobber of Vocas introduced us because Pieter-Rim just completed *Silence of the Tides*, an epic feature documentary on which he was director, co-writer and second cameraman. The film is scheduled for release in mid 2020.

Pieter-Rim describes *Silence of the Tides* as “a cinematic portrait of the largest tidal wetlands in the world, the Wadden Sea. The film plays witness to the rough yet fragile relationship between people and nature as it pulsates with the inhaling and exhaling of the tides. It’s a hypnotizing large screen look into the cycles and contrasts of the seasons: life and death, storm and silence, the masses and the individual. All this is set against a larger than life backdrop of sky, water, wind, mist and constantly changing light.”

The Wadden Sea is a UNESCO World Heritage Site. It is the largest unbroken system of intertidal sandbars and mud flats in the world, consisting of tidal channels, shoals, sea-grass meadows, mussel beds, salt marshes, estuaries, beaches and dunes.

Here is the story of the making of the film: sky, mud, sand, cameras, lenses and a very resilient crew. Pieter-Rim is such a good story-teller, my questions have been replaced with titles.

Background

Pieter-Rim de Kroon: It started towards the end of 2016. A number of people were interested in doing a film project about the international Wadden Sea area. One of them was the Dutch Wadden Sea Fund, which is linked to the Dutch Film Fund. They invited pitches for a film. I was called by my producer at Windmill Film, Annemiek Van Der Hell.

I had visited the Wadden area many times in the past and had been thinking for many years about this concept. And that brings us to the basic concept of the film, *Silence of the Tides*, and the story of a tidal process that happens there every six hours. I see this tidal

process as a breathing in and breathing out process, low tide and high tide, ebb and flood. This breathing cycle is the main subject and the constant awareness of this process makes it the main character of the film.

It’s not a traditional documentary: no dialogue, no interviews, no voice-over, no narration, not even music. It has everything to do with observation. I like to call it radical observation.

Silence of the Tides is a film about the relationship between people and nature. So human beings play an important role. We meet all different kinds of characters on the islands and in the middle of the Wadden Sea. Everybody relates to the quality of life in this area and its tidal process.

Locations and Shooting Days

The area stretches from the Dutch coast in the Northwest part of the Netherlands towards the West coast of Germany, to the West coast of Denmark. This whole area stretches along 500 to 600 kilometers of coastline and it is an area of 10,000 square kilometers, with 43 islands. I spent about 8 months doing research, location scouting and talking to people. The financing of this international co-production took another couple of months.

The cinematography started in the beginning of 2018. We shot for six seasons, finishing in July 2019. We did about 150 shooting days and then an additional 50 second-unit nature photography which always takes a lot of time. Editing was completed by mid-summer 2019.

Pieter-Rim de Kroon on *Silence of the Tides*



Living and breathing the film for two years

We were living and breathing salt water and our feet were in the mud. There was a lot of maritime shooting. We started with maritime training, safety, security, rescue and first aid with our basic crew. Selecting the crew members was an important thing because we needed people with outdoor experience. You can't do 150 days of shooting during 6 seasons with crew who are not used to tough conditions. I told the crew that the days could be really long and wet and there would be no cozy restaurants in the middle of the Wadden Sea and many times they have to pack their own meals.

We lived on boats, in small hotels, in small houses and sometimes in a camper. Many nights were on small boats. We would often wake up at low tide, aground in the middle of a sort of a muddy desert with 360 degrees of mud and water around us with a 360 degree view of the horizon. And at low tide, you get out of the boat and are in the mud. We did a lot of shooting in these muddy areas. You get the feeling that you are on a different planet. There are a lot of surrealistic landscapes.

The Crew

We usually had a small crew: director, director of photography, camera assistant, sound technician and production manager. I tend to keep the crew as small and flexible as possible. At the same time, we sometimes had one or two second unit wildlife nature cinematographers operating on their own. Some days became more complex with camera grip and rigging, construction and extra lighting with a gaffer and a best boy. There were a few days with a big crane and remote head. But basically it was quite a small documentary crew.

Choosing the Sony VENICE camera

I started my career as a director of photography at the beginning of the 80s working in cinema newsreels where I shot everything on 35mm film negative with an Arriflex 2C. For me, quality always has involved 35mm motion picture film. When I shot for cinema newsreels, I saw my results every week in the big screen cinema. It made me aware of camera handling, exposure, focus and framing.

And so, for this film, the image quality was key to the concept I developed. It's a film with a gradual approach of discovery. In a lot of situations, nothing really happens. The camera is just there observing. We did really wide shots with an endless horizon of water and mud around us, changing under the light and the effects of the wind in this landscape of gray textures and everything related to gray. Therefore, I really wanted to have the highest image quality. When we started prepping for this film, originally I wanted to work with the ARRI ALEXA 65 camera system. But imagine the rental costs and data handling for 150 shooting days over one and a half years.

During our prep period, I was talking to Ruud Dobber, the CEO of Vocas in the Netherlands and at that moment, Sony was introducing their Full Frame Sony VENICE camera. I was intrigued not only by its Full Frame sensor, but also its new color science and extremely wide exposure latitude. I thought this could be a really interesting camera system to try. We started talking to Sony and ended up being the first film production in Europe to shoot a long production on the VENICE camera. It worked out really surprisingly well. I say surprising because some people advised me not to do it because this was a brand-new camera, untested



on long feature productions, and this was going to be a rough and wet and salty salt-water shoot. They were unsure whether it would be reliable. But somehow I had a good feeling about the VENICE and we just started working. After the first six months of continuous shooting, we didn't have one single problem with the entire camera system.

That was really quite amazing because we subjected the camera system to everything that might put it out of commission. We rigged the camera under a Falcon F-16 jet with many G-forces and air speeds of 600 to 800 mph. After every day of sand, salt, wind and spray, our camera assistant derigged and cleaned everything.

SIGMA Full Frame High Speed Prime Lenses

As I have done with most of my previous films and documentaries, I always shoot on prime lenses. I don't like to use zoom lenses for a couple of reasons. I find that prime lenses are much more interesting. Using prime lenses enables you to have a very consistent style in the film. You don't mess between a 24mm and a 28mm focal length as you would with a zoom. You just stick to the available focal lengths there are. During prep, we tested all the major brands. We required primes that were Full Frame, light-weight, and weather-sealed. Also, the SIGMA Cine Primes are small and they're easy to carry. That's an important thing because we were shooting with a three to four member crew.

We shot a lot of the wide landscape scenery in backlight and the lenses handled internal reflections from the enormous amount of highlights in the water and bright skies very well. The sharpness and contrast made the landscapes come out on the cinema screen the same way you would experience it if you were there yourself.

SIGMA Weather-Sealing

We found the SIGMA FF High Speed Primes were quite interesting because they are among the few cine lenses that are well-protected and weather sealed against dust and spray. Of course, we did tests comparing them to other lenses and we liked what we saw with the SIGMA lenses. They have a slightly smoother,

slightly warmer look. We tested the complete combination of lenses, camera, exposure and post production. We shot the whole film on SIGMA Cine Primes.

Lens Tests

That was quite an important reason to work with the SIGMAS. We did some serious tests and when we projected our tests on a big screen we were really happy with them. That's another thing about lens testing. Although I have a technical background, I am not so interested in looking at lens charts and MTF curves. I like to shoot live action shots under different conditions. I output the whole thing to a color correct master DCP. So, I go to a big theater and then I project the results from the DCP master and then everything follows from there.



Silence of the Tides



Pioneering with new equipment

You need some luck as well. Everything went well together. We had very close contact with our camera rental company, who are all personal personal friends, with Vocas, the dealer in the Netherlands, with Sony and with SIGMA.

150 shooting days: Buy or Rent?

We did not buy. That's always an interesting discussion. It's always a money thing when financing a documentary with as many shooting days as this. If we had bought the camera and lenses, maybe in the end, it would have turned out to be slightly more attractive financially. But then there's the whole matter of service. If we dropped our expensive, owned camera in the water, then there is no backup. That's why we think the relationship with a professional rental company is very helpful. If you have problems and your camera is out of order because it's dumped in the water or because of other reasons, then you just make a phone call to your rental company and they set you up with a new camera within 24 hours. Our rental company is called Het Raam; the exact translation is 'The Window'. It is run by Edwin Versteegen, a friend and former cameraman who is very involved in everything to do with new, digital techniques.

Vocas

Vocas is a distributor and dealer in the Netherlands for the main brands like ARRI, RED and Sony cameras as well as lenses, support and accessories. You could also say that they run the market. They also are developers and manufacturers of a lot of camera accessories like matteboxes, bridgeplates and follow focus devices. I have a long term relationship with Ruud Dobber, the CEO of the company. He helped sponsor us by supplying the rigging and accessory systems.

Ruud was involved in this production. He liked the concept and felt it should be supported because it's a documentary. I talked to him and he was enthusiastic about the whole project. Then he talked to Sony and he arranged for the first Sony Venice to be available for our production.

Vocas also was responsible for a particular sequence in the film. One of the islands in the Dutch Wadden is called Vlieland. The islands of Vlieland have a huge, sandy surface. It looks like a desert. It is the largest sandy area in the whole Northwest part of Europe. At that location, the Dutch, American, Danish and German Air force use it for training and target practice. We have a sequence in the film where we follow a pilot in his F-16 from the airbase, through the clouds, towards the Island of Vlieland to do some heavy shooting practice. We wanted to share this experience. What does an F-16 fighter pilot experience when he is approaching at high-speed through the clouds low over this Wadden Sea area? How does it look and how does it feel? It took us a lot of time, with many different cameras—ground to air, air to air, and air to ground shots. We hard-rigged the Sony VENICE with a 35mm SIGMA prime lens under the F-16 aircraft. There were many aircraft and safety rules, and the specially wedged base, sliding plate and secure battery rigging construction was done by Vocas.



Special camera housing from the Danish Air Force containing Vocas camera support of Sony VENICE and SIGMA 35mm HS FF mounted to F-16.



Hannie the Postman driving his *Lore* through the Wadden.

We didn't use any stabilizing system. From previous experience, I knew that the F 16 aircraft is extremely stable. It's totally different than a regular aircraft or helicopter. So we just made a rigid connection from the camera and brackets to the F-16 and this turned out to be extremely stable shooting footage.

Protecting front lens element from dirt and insects

We protected the lens with a front safety glass in front. That was important because during taking off and landing at high speed, small stones and rubber were kicked up by the front nose wheel and hit the lens. But the moment you were airborne, the speed was so great that there was an aerodynamic effect and nothing hit the lens, even when it was raining. We were not allowed to be in the F-16. We were also not allowed to operate it remote controlled because of safety procedures. So we just inserted the biggest data card in the camera, attached a double set of batteries and started the camera before take off. And then 40 minutes later when it touched down again, we had about 40 minutes of footage. It's just old school but it worked.

SIGMA focal lengths

The 24mm SIGMA FF High Speed prime was used for most of this film. For extreme wide angle landscapes, we liked the 14mm. We also had the 20, 35, 50, 85 and 135 mm primes. SIGMA has added more focal lengths afterwards.

Sony firmware from version 1 to 3

We started with firmware version 1. It was only possible to shoot 6K in 3:2 X-OCN ST format. We were very happy when version 2 made it possible to shoot 6K 17:9, doubling the number of minutes on a card but still leaving us the possibility to reposition the image outside the 2.39:1 frame in post. We had no exposure tools in the camera with firmware version 1, leaving us to expose everything using a light meter. Eventually the exposure tools came with firmware 2.0, but we never gave up the light meter.

We were very happy with the latest software because we could use the pre-record function. Because there was a lot of nature pho-

tography, you are waiting and waiting for something to happen. That's why the pre-record is important. We also enjoyed going to higher frame rates.

Filters

We rarely used any filters. Basically we didn't use polarizing filters because you lose the highlights on the water. And we liked having all the original contrast in the final result.

Recording and Post Production

We used Sony X-OCN Standard recording format. [X-OCN (extended tonal range Original Camera Negative) file sizes are much smaller than typical camera RAW and offer 16-bit linear encoding.]

In conforming the original footage and online, our 6K data files were transcoded to 4K DPX files. Grading was done on a Baselight system and it worked well with DPX files. I graded the film with a very talented young Dutch colorist named Joppo at a company called De Grot.

Editing

It took us something like 75 editing days. Together with my editor Erik Disselhoff, I have a process established from previous productions with long shooting schedules. Every two months, we go into the edit suite and rough edit two or three scenes. Then we go into post production, grading, transferred to a Digital Cinema master and project our rough edited scenes onto a large screen cinema. This is really important because you get into close contact with what you're doing. You see your results, the visual approach and timing. This teaches you a lot and is very valuable. After wrapping the shoot, we had almost 30 scenes that we had already rough edited. That was a really good start to the whole offline.

Footage

I think we shot about 120 hours. We shot it like a documentary, but it was more or less a feature documentary. We prepared for months and some sequences were precisely scripted and storyboarded.



Release

It will be released in cinemas in 2020. The distributor is Windmill Film Distribution. The sales agent is Doc & Film International. We had some preview screenings at the festival in Cannes. There will be an international film festival release and international distribution. We put a lot of attention into a delicate and dynamic three dimensional sound design in full Dolby Atmos. For us, that's important because the impact on a large screen with a lot of attention on the photography and full Dolby Atmos sound should make for an interesting viewing experience.

Widescreen 2.39:1

We shot for a 2.39:1 widescreen aspect ratio. We mostly didn't do any operating or movement with the cameras. I call this radical observation. It has to do with what happens in the human mind because change increases our awareness. The human eye perceives differences. In the area we were shooting, a lot of really intricate but small processes are happening during the change of the tides. A small bird may be in the left side of the frame and a small insect right in the frame. The moment you start moving the camera, you miss important and delicate processes. My approach was to not mess with the camera, but to put the camera on a solid base and just observe. Of course, in some situations the camera was moving because it was rigged under an F-16 or a train car. We mostly observed and didn't move the camera because the whole film happens in front of the camera and you should not involve the camera.

Hannie the Postman

The locomotive is called a *Lore*. We shot with a MoVi stabilizing system from another train. Our main character is Hannie. And he is the postman of a couple of small islands near the West coast of Germany. We follow him during the film and during the seasons He travels on a very small powered railroad truck. It's like a small, self-powered locomotive thing that runs on narrow-gauge railroad tracks. These small islands in Wadden can only

be approached on small railroad tracks. They can go through the mud, through the water. Sometimes the rails completely disappear when it's extra high tide. So you cannot approach these small islands by boat because it's too slippery. There are maybe 25 to 30 families who live there and every family has its own small locomotive. We filmed our famous character Hannie the postman during several seasons throughout the year. These rails and traditional old locomotives are really shaky, shaky, shaky. So we rigged our Sony VENICE onto the MoVi, but it was still too shaky. Then we connected the MoVi to a shock absorber. We still had to do some image stabilizing in post production as well.

Light and horizons

The position of the horizon in this film is something I thought a lot about. I did a feature documentary called *Dutch Light* about the myths and phenomena of the famous Dutch light, which has its origin in 17th century landscape paintings. For that film, we did a lot of research on where the horizon should be in all the wide shots. And then we looked at the Dutch landscape painters. We decided to put the horizon very low in the frame to experience the effect and the way the light manifests itself in the landscape. For *Silence of the Tides*, we did it the other way around, putting the horizon high in the frame to accentuate the muddy salt marshes of the Wadden areas in the lower 2/3 or 3/4 of the frame. The funny thing is when you have the horizon high in the frame, it feels like somebody is pressing on your shoulder. As a result of this, the viewer comes closer in contact to the essence of the film—the mud flats, salt marshes and landscapes. I think a part of the magic of the film is in the carefully selected position of the horizon.

Could have been an assistant's and rental nightmare.

Our crew took great care of the equipment and the rental house was very pleased when everything was returned in good condition after so many shooting days.



Cinematographer Dick Harrewijn (right) and Director Pieter-Rim de Kroon (left).

Jon Fauer: How was it working with director Pieter-Rim de Kroon?

Dick Harrewijn: His way of storytelling and his feeling for light and framing was very inspiring and resulted in many great images in the film. Pieter-Rim had very specific wishes like shooting the whole film on prime lenses, with long takes of landscapes and an absence of moment in the shots. These choices made the film what it has become: a distinctive piece of cinematic observation. I think the absence of camera movement is also part of allowing the viewer to looking closer, scanning the screen for details. It adds to the relationship between the viewer and the screen much more than when the camera dictates where to look.

You also have a background in wildlife cinema documentaries. How were you able to use that experience on this film?

Although *Silence of the Tides* is a film about the relationship between man and nature, the nature part itself and wildlife also played an important role bringing in my wildlife documentary experience. It's about understanding nature, outdoor experience and endless patience.

We spent multiple weeks trying to film the rare, but very aggressive, fights between male seal bulls and the birth of the seals in midwinter. We also spent days filming birds on remote islands that are closed to the public and are without any facilities.

Was this the toughest job you ever did?

Every job has its own challenges and difficulties. But this film was definitely the most challenging for the crew, the equipment and above all logistics. We had some really challenging weather and

conditions, but eventually most of these led to the most interesting images of the film. But I have to say, this project has also been the most fun and cinematographic project of my career so far.

You had 2 cameras and probably no DIT. How did you wrangle/manage the data? Did you offload the data card each night? Laptop, hard drives, backup?

Before the shoot we were indeed worried about this and at first we planned to have a DIT with us for most of the time. But the more the story developed and the more we made decisions considering the equipment, we decided that we would treat the footage as traditional analog motion picture film stock to start with, shooting as limited as possible and thereby keeping the data low. Also after testing we found out the Sony X-OCN codec was a great option for shooting with much smaller file sizes but keeping the possibilities of RAW footage. The VENICE camera with the AXS-R7 recorded the data to AXS cards.

Every evening I would copy the data myself, often on a boat or hotel room. Doing this myself also offered me a first look at the footage, directly seeing what we shot during that day. At times we even used the moment together with director Pieter-Rim de Kroon to discuss the footage and talk about the next day.

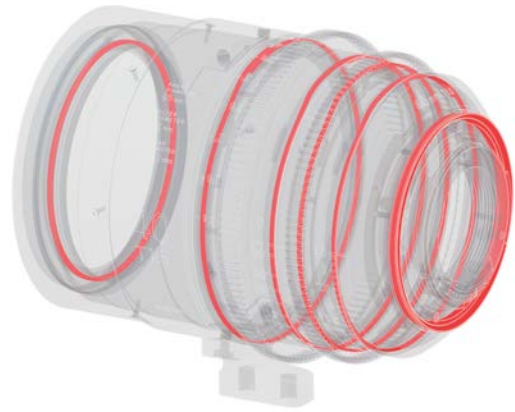
How did you manage the data?

Using a 2017 MacBook (it must be the one with four USB-C ports) and the Sony USB-3 card reader for AXS cards, I copied the footage to G-Tech 1TB SSD drives. I've been using Hedge software to copy my footage for years and I've been really pleased with the speed and security it gives. Using this setup, it took about

Dick Harrewijn, Cinematographer



L-R: Pieter-Rim de Kroon, Dick Harrewijn, Eva Kok (Marine Biologist), Jeffrey van Houten (1st AC), Klaas Daalder (Captain Navicula), Job ten Horn (Marine Biologist), Victor Dekker (Sound Recordist).



Above: Engineering drawing courtesy of SIGMA showing dust and splash-proof sealing inside their 40mm T1.5 FF High Speed Prime. Below: Dick Harrewijn, cinematographer.



35 minutes to copy one 512GB (30 min 6K XOCN ST) card to two SSD drives at the same time. Typically it was just a matter of opening the laptop, connecting everything and before we had a chance to drink a good whisky in the galley to celebrate the day, the Hedge App on my phone said the footage was already copied. We had plenty of inexpensive SSD drives and we kept both copies until all footage was copied to two different locations in Amsterdam by our data manager Govard-Jan de Jong. For most of the trips we were able to also keep the original camera card until the footage was copied at the office in Amsterdam as a third backup.

How did you view the footage?

I've mostly used Sony RAW Viewer. The 2017 MacBook I was using managed to do 24 fps X-OCN ST playback at 1/8 resolution which I think is fine for field checks. For focus checks I just looked at full res at 4 or 8 fps playback. I like the Sony RAW Viewer for just that. It works brilliantly on a laptop and it does what it is supposed to do. (I only wish there were a 'create still' button in there just like in REDCINE.)

It did not play back the audio though. Sometimes I used DaVinci Resolve for quick grading checks or to apply my own LUTs.

As the cinematographer, how do you think audio and especially Dolby Atmos help to tell the story in this film?

The effect of Dolby Atmos soundtrack was a great surprise to me as a cameraman. It is not only about more speakers in the theatre and more audio channels, but most of all it's about placing the sound where you want it to be. To me, Dolby Atmos is where sound and image comes closer than ever before. Previously it

was mostly the photography that directed the eyes of the viewer, but Dolby Atmos directs the eyes of the viewer to every spot on the screen. Whether it is a bird calling or the arm bracelets of a woman moving, you can locate them on the screen with your eyes closed. The sound is not coming from left, center or right of the screen but can be placed exactly on the screen where the origin of the sound is coming from. To me, the use of Dolby Atmos in a film like this adds to the story, the immersive viewing experience and very much complements my work in cinematography.



Dick Harrewijn (left) and Amrit Khalsa (Camera Assistant, right).

Amrit Khalsa, Camera Assistant



Amrit Khalsa (above) was the 1st AC on the first part of the film.

Advice on working in conditions that would make any camera or lens designer cringe: wind, salt, spray, sand, cold, wet...

Amrit Khalsa: All of the shooting days I worked on were outdoors in the elements that were indeed usually windy, wet and cold. For some shots we would have the camera out on the *wad* on a tripod (that we had secured to stay put) while the tide came in, which is quite cringe-worthy the first time around.

A *wad* is a tidal mudflat that appears when the tide has gone out. At high tide it is covered by water but when the tide goes out you can often walk across it, as long as you make it back to land before the tide comes in again!

Other times we were on a sailboat trying to get to the best *slenk* (tidal channel) to shoot, but to get to those we would have to get dressed in our full *waadpak* (waders), hoist the camera and lens bag off the sailboat onto a small dinghy and then steer all of it including ourselves to the wad where it had to be unloaded carefully not to let anything touch the water. We carried our lenses in a backpack that could be quickly opened and closed to minimize sand and salt blowing in.

Once on the wad it was almost quicksand-like, so you had to be very careful not to stand in one place too long because it would suck your boot down and you could not get your foot up again without physically digging it out, which led to entertaining situations. I think the most cringe-worthy shots occurred with the F-16 fighter planes doing test bombing on old shipping containers. We were standing on the control tower with the VENICE and we had a B-camera set up out on the wad to shoot the explosions. It was outside the danger zone but any time you shoot a scene with actual explosions during an actual practice routine, in theory, things could go wrong. We connected the B-camera to a block battery and left it there rolling to catch the action which would happen within the amount of time we knew we had on the card.

What was your end-of-day routine?

Our end of day routine was to check the camera, wipe it down with a damp cloth, brush it off with a brush and check the lenses. We checked the sensor regularly and had a sensor cleaner that was rarely needed. We cleaned the lenses like we always do with dust and particles—using a light blower and only lens cleaner when necessary. When everything was clean and packed away, it was time for a drink and good conversation.

Jeffrey van Houten, Camera Assistant



Jeffrey van Houten (above) was 1st AC on the 2nd part of the film.

Tips on working in these kinds of conditions.

I remember spring this year. We walked on the beach of Texel. The wind force was 8-9 Beaufort (gale force, 68-82 km/h) and there was sand everywhere. We protected the camera with raincovers and the front element of the lens was protected with a SIGMA clear ceramic protection filter. The force of wind and sand was extreme. For example, we also used a mirrorless camera that same day and sand was blown through the lens mount and reached the sensor. Happily, everything survived and nothing was broken. The Sony VENICE and SIGMA Primes coped with all these conditions.

End-of-day routine, cleaning cameras and lenses.

We had to clean the equipment daily due to the ever-present salt in the air. At the end of the day, the camera, lenses, rigging and tripods had to be cleaned. I always tried to have a room with a bath, not for myself but for the equipment. I filled the bath (if available) with fresh water for the tripod legs and camera rigging. I washed down the tripod and let it soak in the bath for a while. Then, I started with a big brush on the camera to remove sand and salt grains followed by a microfiber cloth with alcohol to remove the salt, spray, mud, sand and other dirt. I cleaned the display and viewfinder of the camera the same way as the lenses.

For the SIGMA primes, I carefully used a blower brush to remove sand or salt grains on the surface. Next, I used a lens cleaning liquid on a microfiber cloth. First, I cleaned wet and then used a dry microfiber cloth to remove the last dirt from the surface of the lens. The bodies of the lenses were cleaned first with a brush, then alcohol on a microfiber cloth and then dried with another cloth. We left the lens cases open at night in the hotel room and we always had a few silica gel bags in the cases for additional drying.

Lens changes and preventing sand or salt getting on the sensor.

In the beginning of the shoot, we were very careful when changing lenses in windy and wet conditions. We even briefly thought of using zooms in the most precarious moments. Pieter-Rim canceled that idea immediately. "Stick to the plan," he said. We discovered that using a small, dedicated handheld wind screen provided stable, dry and wind-free protection that did the job. But mostly it was also a matter of proper planning based on Pieter-Rim's years of experience using of primes and knowledge what a certain focal length does and what he had in mind. I think we only had to clean the sensor about 5 times in 16 months.

ROSCO MIXBOOK Digital Swatchbook



MIXBOOK fits stylishly around the neck or conveniently in a meter case.

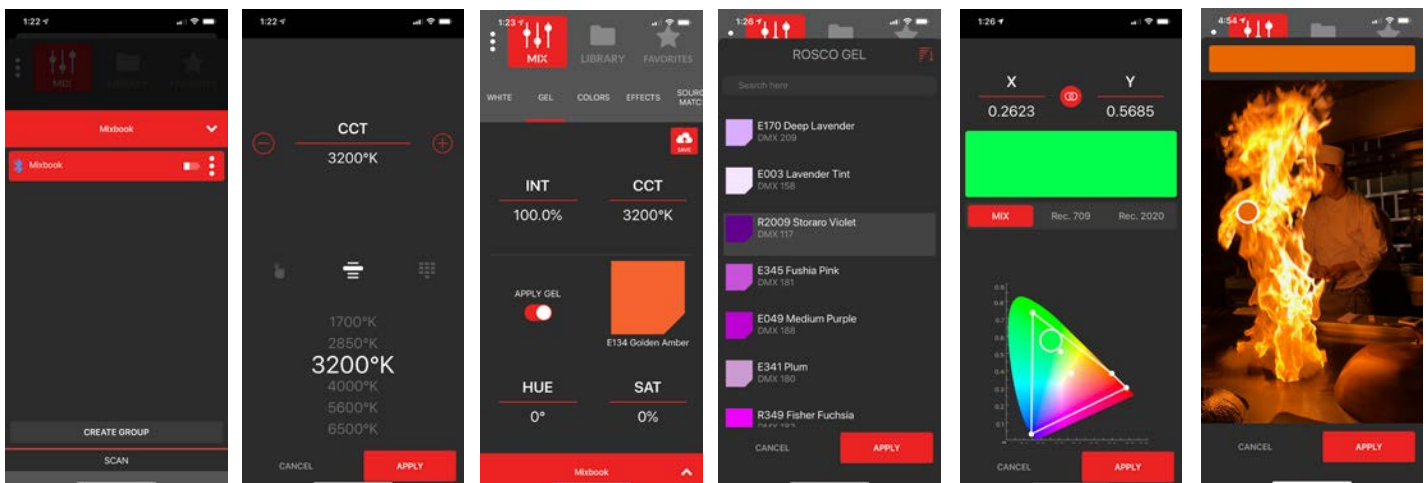
MIXBOOK is like a familiar Cinegel swatchbook with a built-in six-chip LED light engine—the same type used in DMG Lumière MIX LED fixtures. MIXBOOK lets you quickly and accurately pick gels, match LED sources and play the color spectrum like a maestro.

In the good old days, you would flip through a swatchbook of gels, hold it up to your eye in search of a light source, and hope for the best. If you had a jumbo size swatchbook the size of a Victor Hugo novel, it was possible to hold the various gels against small light fixtures and inks. The vagaries of magenta or green from fluorescents or older HMI bulbs added to the challenge.

MIXBOOK is controlled by the myMIX LED app. It is available as a free download for iOS and Android devices. This is the same app that a gaffer uses to control DMG Lumière MIX LED fixtures from the palm of their hand.

The myMIX LED app lets you adjust CCT, G/M, intensity, hue and saturation. You can enter exact x-y values or choose them from an interactive diagram. MIXBOOK's Capture function in Color mode works with your photo library to choose and match any color in the image. Results can be saved to the cloud and shared with others.

myMIX LED app shown here on iPhone 11 Pro Max



Bluetooth connection is seamless

Pick color temperature and Green/Magenta

GEL includes more than 130 swatches

Sort by color, number or name.

X - Y coordinates provide exact colors.

Colors - Capture is like a color picker.

MIXBOOK Features and Specs

- Full spectrum white light from 1700K-10,000K
- Proprietary combination of 6 LEDs (phosphor-coated Red, Green, Blue, White, phosphor-coated Amber, Lime) for a wide color gamut
- Over 130 True Rosco Color gel choices
- Controlled with Bluetooth via the myMIX LED App
- CRI Average > 95 TlCI Average > 90
- Full Color Gamut with Hue, Saturation and White base control
- GelsTrue Rosco Color gel matches
- Full Minusgreen to Full Plusgreen adjustments
- Size: 10 x 6 x 2.6 cm (3.9" x 2.3" x 1")
- Weight: 110 g (3.8 ounces)
- Color Temperature: 1700°K to 10 000°K
- Photometrics: 100 lux @ 0.5m 26 fc at 1 foot
- Power: Internal battery rechargeable via Micro USB
- Input Voltage: 5 VDC Power Consumption 2 W

For more information about MIXBOOK: dmglumiere.com



MIXBOOK also works nicely as a tabletop accent light or for night interiors in restaurants, cars and interesting locations. There's a ¼-20 socket on the bottom.

Christophe Nuyens SBC, ALEXA Mini LF and Technovision 1.5x Anamorphic



Christophe Nuyens SBC is currently shooting a series produced through Gaumont in Paris.

Jon Fauer: You're shooting in Full Frame with Technovision Classic 1.5x Anamorphics and ARRI ALEXA LF and Mini LF?

Christophe Nuyens SBC: We have the Technovision Classic 40, 50, 75, 100 and 135 mm Prime and the 40-70mm zoom. I was looking for interesting lenses for the show I'm shooting right now, and we decided to work with Full Frame anamorphics. That's where it became complicated because at that moment there were not a lot of Full Frame anamorphic lenses. I tested the P+S Technik Technovision 1.5x Anamorphics and found them to be beautiful. They have a really nice vintage look.

What do you like about them?

They have a little bit of distortion, but they're really beautiful. Especially the 75mm. The thing that's really nice for my project is the squeeze factor of 1.5x, which helps me in the end to have a 2:1 aspect ratio for release. ($1.5 \times 1.5 = 2.25:1$ and then crop the left and right sides to 2:1 in post.) So I'm using almost all of the Alexa LF sensor.

So tell us about the cameras.

We're using two ALEXA Mini LF and one ALEXA LF normal, so we're shooting in Full Frame. During pre-production, I watched *Apocalypse Now*, on which Vittorio Storaro ASC AIC used original 2x squeeze Super35 Technovision lenses. When I'm shooting now, sometimes I see exactly the same flares. P+S Technik did a really good job recreating the look of the original lenses in these new ones.

You can control the look of these lenses. If there is too much flare, you just close the iris down a quarter of a stop and it's gone,

They're easy to control.

What is the look you were looking for?

We're shooting everything in Paris and it's contemporary. We had to look for something that helped to get a distinctive look for the show. Also we have a tight schedule and the director likes to shoot a lot of coverage, so I have to light for almost 360 degree coverage. So we needed lenses and cameras that quite easily give a distinctive look and the lenses are helping me a lot with it.

You mentioned that the look is different from anything else. How would you describe it, either in technical or artistic terms?

They have a sharpness as well as a soft fall-off and also there's a bit of aberration in the corners. They flare nicely when you want them to. I love those imperfections especially on a big sensor camera. This is my second time shooting Large Format. The first time I used vintage spherical lenses and I thought even then it felt a little bit too sharp. I think it's a good combination of lenses: ALEXA LF or Mini LF and Technovision Classic. We had a lot of locations, like the Louvre in Paris, where we were not allowed to use smoke. But shooting wide open, they give a slightly smoky and soft feel and that helps me a lot.

You're shooting multiple cameras?

The director is operating one camera. As the DP, I'm operating the other. I monitor both and can switch from one to the other with my on-board monitor. We're shooting with two Minis and one normal LF. I'm shooting with the normal LF, because it can go up to 90 fps. The Mini goes to 40 fps. So, we have two cameras shooting and the third camera is used to prepare for the next setup, because we really have a really tight schedule and we have to leap off from a crane to a Steadicam to something else.

Christophe Nuyens SBC and Technovision Classics



Who is supplying the equipment?

The equipment is coming from TSF. Dany's Bruyere organized everything.

I spoke to Dany's Bruyere the other day and he said that almost every show is now shooting Full Frame. Why did it suddenly take off in France?

I think because of productions for the streaming services.

How many sets of Technovision lenses do you have? They are very new and probably building them as we speak.

We have two sets. We started with one and a half, actually, because they are so new. But I liked them so much, we worked that way for a couple of weeks and then P+S Technik worked really hard to get us the rest of the second set.

Do you have zooms?

Christophe: We have one 40-70 Technovision zoom. But on the Alexa in Full Frame, it covers only from 48mm or 50mm at the wide end. I use it a lot on the crane. It's also a beautiful lens with really close focus. Even closer focus than some of the primes.

[Editorial update: Gerhard Baier says that P+S Technik is working on a modification to fully cover from 40mm.]

How do you get really close with the primes?

Christophe: We use Diopters a lot of the times. They are also beautiful and work quite well with the lenses.

A number of colleagues were wondering about bokeh with the 1.5x anamorphics.

The Technovision Classics give us beautiful bokeh. The bokeh in *Apocalypse Now* resembled these quite a bit.

How do you connect 2 cameras, monitors, wireless lens control?

Everything is wireless. We have ARRI wireless lens control and wireless video going to the focus pullers as well as to video village. So it can be quite a puzzle to make all those things work together.

Do you have a DIT?

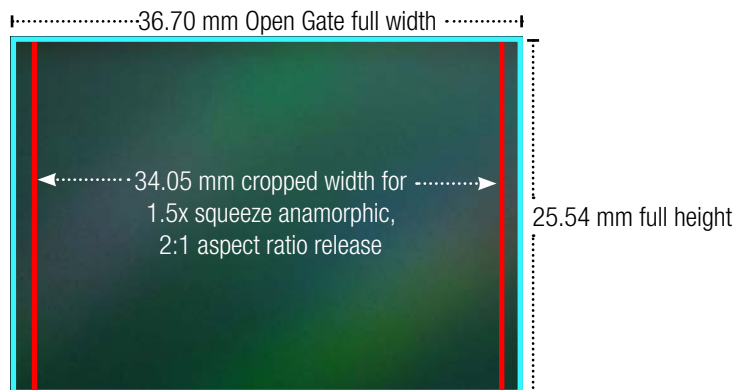
Christophe: We started with the DIT and now we have a DIT and a data Wrangler because we're shooting between 4 and 7 terabytes a day. So there's a lot of data. And that's even with the 40% reduction of file size using ARRIRAW HDE (High Density Encoding) of Codex.



Anamorphic Full Frame ALEXA Mini LF Math with Technovision 1.5x Classics

2:1 Aspect Ratio Full Frame Anamorphic with 1.5x Squeeze Technovision Classics on ARRI ALEXA LF & Mini LF Open Gate

Entire Full Frame Sensor: 36.70 x 25.54 mm \varnothing 44.71 mm
4448 x 3096 sensor photosites



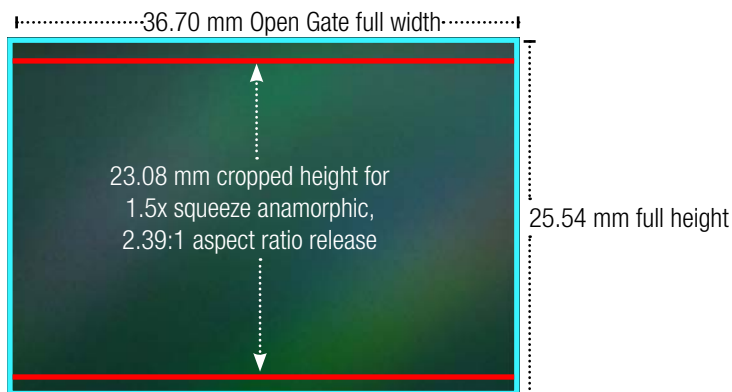
The math for 2:1 aspect ratio —
 $2 \div 1$ (aspect ratio) \div (1.5x squeeze) = 1.33
 and then,
 $1.33 \times 25.54\text{mm}$ (image height) = 33.96mm (image width)

Set your framelines for an image area of:
 34.05 width x 25.54 mm height, image diagonal \varnothing 42.56 mm
 4128 x 3096 sensor photosites

Image has to be cropped in post.

2.39:1 Aspect Ratio Full Frame Anamorphic with 1.5x Squeeze Technovision Classics on ARRI ALEXA LF & Mini LF Open Gate

Entire Full Frame Sensor: 36.70 x 25.54 mm \varnothing 44.71 mm
4448 x 3096 sensor photosites



The math for 2.39:1 aspect ratio —
 $2.39 \div 1$ (aspect ratio) \div 1.5x (squeeze) = 1.59
 and then, 36.70 (image width) \div 1.59 = 23.08 (image height)

Set the framelines for an image area of:
 36.70 x 23.08 mm \varnothing 43.35
 4448 x 2796 sensor photosites

Image has to be cropped in post.

If you want to bypass all this math, simply go to the ARRI Frame Line & Lens Illumination Tool: tiny.cc/ARRI-frameline

Specs: Technovision Classic 1.5X Full Frame Anamorphic Lenses from P+S Technik

	40mm Prime	50mm Prime	75mm Prime	100mm Prime	135mm Prime	40-70mm Zoom	70-200mm Zoom
T-Stop	T2.2	T2.2	T2.4	T3.0	T3.0	T3.2	T3.2
Anamorphic Squeeze	1.5x	1.5x	1.5x	1.5x	1.5x	1.5x	1.5x
Image Circle min. \varnothing	43.3mm	43.3mm	43.3mm	43.3mm	43.3mm	min. 43.3mm	min. 43.3mm
Min. Marked Object Distance	0.7m / 2'3"	0.7m / 2'3"	1m / 3'3"	1m / 3'3"	1m / 3'3"	0.85m / 2'8"	1m / 3'3"
Angular Rotation ∞ to MOD	350°	350°	350°	350°	350°	350°	350°
Angular Rotation of Iris Scale	~ 90°	~ 90°	~ 90°	~ 90°	~ 90°	~ 70°	~ 90°
Front Diameter	136mm	136mm	136mm	136mm	136mm	136mm	136mm
Weight w/ PL mount	2400 g	2700 g	4000 g	4200 g	5500 g	3650 g	6100 g
Length	167mm	179mm	262mm	275mm	448mm	264mm	310mm

Specifications subject to change

David Svenson on Steadicam M-2



by David Svenson

For more than twenty years I've been operating Steadicam in broadcast, film and commercial applications and have owned a variety of different sleds. In 2010, I purchased the Steadicam Ultra 2 and at that time I assumed it would possibly be the last Steadicam I would own. It had all the modern features at the time including a motorized tilt stage and for the last nine years has served me well. As industry needs changed I found myself doing modifications and creating workarounds for things like needing multiple video lines down the post along with more power options. In 2019, I added the Steadicam Volt when it became available for the Ultra 2.

As I researched the Steadicam M-2, I was convinced that it was time to upgrade. This sled contains the power connections, multiple video lines, and the expandability I need for a diverse workload. I constantly switch between live event and sports broadcasting to commercial and narrative feature work and the new features of the M-2 provide the flexibility I've needed.

One of the big selling features of the M-2 was the integrated Volt technology. The Steadicam Volt is a game-changer. Even though this feature has been the biggest change to my operating in years, it has not changed the basics of how I operate at all.

For me, the Volt does two things exceptionally well: it frees up my mind to focus on other parts of my operating, and it prevents me from creating bad habits. As operators, our post hand becomes a very smart part of our body and provides most everything we need to know about our horizon. The Volt has been vital because it gives a small amount of feedback to my hand when I am get-

ting out of position prompting me to make adjustments and make better choices.

For newer operators, the Volt can help them learn to focus on what is important, but it does not do the work for you. The Volt will tell you if your horizon is off, but you still have to operate well and compensate accordingly.

Having the Volt has made me perform better and operate with more confidence. Traditionally, on any given shot, I may focus thirty percent or more of my attention on just maintaining horizon. With the Volt, I can decrease that attention and focus on other areas of operating like footwork, balance, framing, and storyline. If I start to make a mistake the Volt doesn't prevent me from making it, but it does give me the feedback I need to make an adjustment before I go too far.

I've been using the Volt for over a year now and I am constantly finding new ways to use it. Sticky Mode is a great example. When I began using the Volt this was a mode I used minimally. After discovering its value for holding tilt angles in shots, I now find myself using it often. Prior to the Volt I would have had to use my motorized tilt stage and presets or set my trim level for the majority of the shot and had to struggle through the rest. Now with the Sticky Mode I can operate normally and know that when I get to the portion where I need that help in tilt, I have it there to assist me.

My new Steadicam M-2 with its updated features and integrated Volt has been a welcome, powerful tool that has allowed me to continue to learn and progress in my Steadicam journey.

Focuspulleratwork at Camerimage 2019



Left to right: 1st AC Aidan Gray (Washington D.C.), 1st AC Vincent Aaron Segers (Belgium), 1st AC Fabio Giolitti (Italy), 1st AC Rozemarijn Stokkel (Netherlands), 1st AC Carlos Canal (Spain), 1st AC Gunnar Mortensen (L.A.), 1st AC Martin Larsen (Norway)

At this year's Camerimage, the focuspulleratwork.com forum invited 8 community managers from around the world to meet in Torun and visit this unique festival.

Since most of the community managers only knew each other through WhatsApp, the forum and Instagram, it was exciting to meet in real life and talk about focus pulling and the future of the forum itself. Considering that the focuspulleratwork.com forum is quite a young platform, it is truly impressive what it has achieved in just 10 months. With almost 600 subscribed 1st ACs from over 40 countries, the focuspulleratwork forum is already the largest specialized platform for professional focus pullers. And, the future looks bright. Recently partnering with IMA-GO and now working together with similar organizations from around the world, focuspulleratwork.com is evolving fast.

Although the forum provides an interactive platform accessible from all over the world, one of the fundamental goals is to create opportunities to bring passionate focus pullers together to openly discuss all aspects of this profession face to face. And, during Camerimage 2019, this was no exception. The community managers organized a focuspullerafterwork event with over 50 1st ACs meeting at the Jan Olbrachts Bar in Torun. The evening represented the spirit of the focuspulleratwork where focus pullers could discuss the industry, challenges, share their experiences on set and form life-long friendships.

The focuspulleratwork platform is open to all focus pullers and provides a quality forum to connect, discuss and learn from one another.

– Report by Clemens Hoenig

LEITZ PRIME Lenses Delivered

It was a big surprise when the first sets of Full Frame, Large Format, Leica Format LEITZ PRIME lenses arrived at lucky rental houses in the past few weeks.

This is warp speed in the world of optics, which some wags have compared to a turtle race. After all, the LEITZ PRIME hands-on, eyes in the eyepiece debut was only a year ago at the CVP Lens Bar during BSC Expo in January 2019.

They must have been working long hours in Wetzlar. The lenses are shipping now. And not just a few focal lengths. LEITZ PRIME deliveries are almost full sets of 8 lenses: 21, 25, 35, 40, 50, 65, 75 and 100 mm — all T1.8, all with 114mm front diameters.

From around the world: happy recipients are Camalot in Amsterdam, Ljud & Bildmedia AB in Stockholm and Sanwa Cine Equipment in Tokyo.

Camalot



Rainer Hercher (Leitz) and Camalot's Sebastiaan van Zuylen and Yke Erkens (L-R).



Yke Erkens and Sebastiaan van Zuylen of Camalot picking up their primes at Leitz Wetzlar (L-R).



LEITZ PRIME set in Wetzlar. Photos by Laura Kaufmann.



LEITZ PRIME set at Camalot in Amsterdam. Photo by Olaf Nagtegaal.

LEITZ PRIME Lenses Delivered



Ljud & Bildmedia



Above: Daniel Thisell, CEO of Ljud & Bildmedia AB in Stockholm.
Below and top of page: Ljud & Bildmedia lens prep area.



Sanwa



L-R: Osamu Tsukada (Leitz), Masa Yasumoto (Managing Director of Sanwa) and Makoto Fujishima (Lens Tech). Below: LEITZ 50mm with MACROLUX.



LEITZ PRIME Set Updated Specs



Focal Length (mm)	18	21	25	29	35	40	50	65	75	100	135	180
Maximum Aperture	T1.8											
Image Circle	46.5 mm											
Close Focus (ft)	1'10"	1'10"	1'10"	1'2"	1'6"	1'2"	1'7"	2'2"	2'6"	3'11"	3'11"	4'11"
Close Focus (m)	0.55	0.55	0.55	0.35	0.45	0.35	0.47	0.65	0.75	1.2	1.2	1.5
Weight (lb)	7.1	6.1	6.2	5.9	6.3	6.0	6.0	6.1	6.2	6.1	6.4	6.8
Weight (kg)	3.2	2.76	2.8	2.67	2.87	2.71	2.7	2.78	2.83	2.77	2.89	3.1
Length (in)	7.9	7.2"										7.9
Length (mm)	201.5	183.7 mm										201.5

- Shipping Now: 21, 25, 35, 40, 50, 65, 75 and 100 mm - Shown in red above
- Same Gear Positions: Focus and Iris gear rings are at the same distance from mount for all focal lengths
- Same Length: All focal lengths are the same length (except the 18 mm and 180 mm)
- Lens Mount: PL and LPL — both with /i Technology metadata and contacts in mount
- Iris: T1.8 for all. 15 blades, circular through all stops
- Front Diameter: 114 mm Front Filter: 112 mm
- Rear Filter: Net holder Focus Scales: Easy to swap between Imperial and Metric
- Focus Rotation: 270° Barrel rotation - cam driven (except 18mm which is 207°)
- Iris Rotation: 70° - Barrel rotation cam driven (except 18mm which is 63°)



LEITZ PL Mount and Leica L-Mount

Flange Focal Depth and Inside Diameter

PL MOUNT	52 mm FFD	54 mm ID
LPL Mount	44 mm FFD	62mm ID (not shown here)
L-Mount	20 mm FFD	51.6 mm ID



LEITZ PRIME 21mm T1.8
PL Mount



LEITZ THALIA 90mm T2.2
PL Mount



Leica Summilux-SL 50 f/1.4 ASPH
L-Mount



LEITZ PRIME
PL mount with /i
Technology metadata
and contacts.
LPL mount also
available.

LEITZ SL2 PL-L

In case you've been wondering how to attach Leitz Cine PL Mount lenses to the new Leica SL2 Camera and its L-Mount, here is the Leitz SL2 PL-L — a PL Mount to L-Mount adapter. Note: metadata is not passed through.



Front side: PL Mount



Rear side: L-Mount



Julián Redondo Bueno, SL2 and LEITZ PRIME



Julián Redondo Bueno with SL2, LEITZ PRIME 65mm and MACROLUX 114 +0.5. Photographed at the Leitz Café in Wetzlar by Robert Hoeft of Leitz.

Laura Kaufmann, Marketing Manager at Leitz, emailed the other day: “Jon, here’s an idea for an article that I’m sure especially you would be interested in. We have been working for a while now with a food photographer, Julián Redondo Bueno.

His latest project used the Leica SL2 camera with a LEITZ PRIME and the three MACROLUX 114 diopters. He has been shooting in Michelin Star restaurants.”

How could I resist? Julián and I were on the phone very soon.

Jon Fauer: You specialize in food photography. I hear you have been working with a Leica SL2 and new LEITZ PRIME lenses?

Julián Redondo Bueno: I have been using the LEITZ PRIME 65mm T1.8 along with the new MACROLUX 114mm +0.5, +1 and +2. I use the diopters to get very close to the food I am photographing.

The lenses are just starting to ship and you are the first person I have spoken to who has used them. It would be very interesting to hear your comments.

Why did you want to work with a LEITZ PRIME Cine Lens and not a regular Leica L-Mount prime like the Summilux-SL 50 f/1.4? What are the advantages?

That’s an interesting question. The LEITZ PRIME offers a unique point of view. The look is different. I never saw anything like the photos taken with the Leica SL2 with LEITZ PRIME. It almost seems like a crazy thing, but when you put the MACROLUX on it, it becomes even more magical.

Are you working with a tripod?

Actually, I shoot everything handheld. The viewfinder is so sharp that it is no problem to focus. The SL2 camera has 5-axis in-body stabilization, so that keeps the image very steady and free of vibration. Otherwise it would have been very difficult.

Because you’re focusing manually, do you enlarge the image in the viewfinder?

Yes. I press the joystick next to the viewfinder to enlarge for focusing. I think I picked the camera and lens up on Monday and I was already shooting with it that evening. I didn’t have much time to learn how it works completely, but it’s really easy to use. This is a good point about Leica.

Why are you shooting handheld and not using a tripod?

I always like to have the camera in my hand because this gives me the flexibility to catch the moment and get different points of view. A tripod would fix the lens and the camera in just one position, but that is not my style of photography.

What are you using for lighting?

Nothing. Just available, natural light.

Typically what are your camera settings: ISO sensitivity, shutter speed and aperture?

Normally it is around 800 ISO. The LEITZ PRIME has a maximum aperture of T1.8, so it’s a really bright lens. When it gets dark in the evening, and there is almost no light, then I have to go to 3,200 ISO. Shutter speed is usually around 1/100 to 1/175 sec. And the aperture is usually T4 to T5.6, but sometimes wide open at T1.8.

What were the locations in which you shot?

I mainly focus on gastronomy. So I contacted some chefs I know in Frankfurt. The best three have Michelin Stars.

The first restaurant is Lafleur, which is the only two Michelin Star in Frankfurt. My idea was to photograph three different high-level restaurants with three unique chefs in the same city. These chefs are among the best in Germany. All them like to get very close to their food in the picture.

The second is Carmelo Greco, a Michelin Star restaurant that many consider has some of the finest Italian cuisine in Germany.

The third is also a one Michelin Star restaurant. It’s vegetarian and called Seven Swans. They grow all their own vegetables and plan the menu ahead according to the growing season. It’s very interesting how they cook.

How do you have contacts at these restaurants?

I shot for several years at a prestigious culinary competition in Germany. It’s called *Koch Des Jahres*, which means Cook of the Year. The finals were in Cologne, and there were around 15 or 20 Michelin Star chefs together in the same place.

How did you get into food photography?

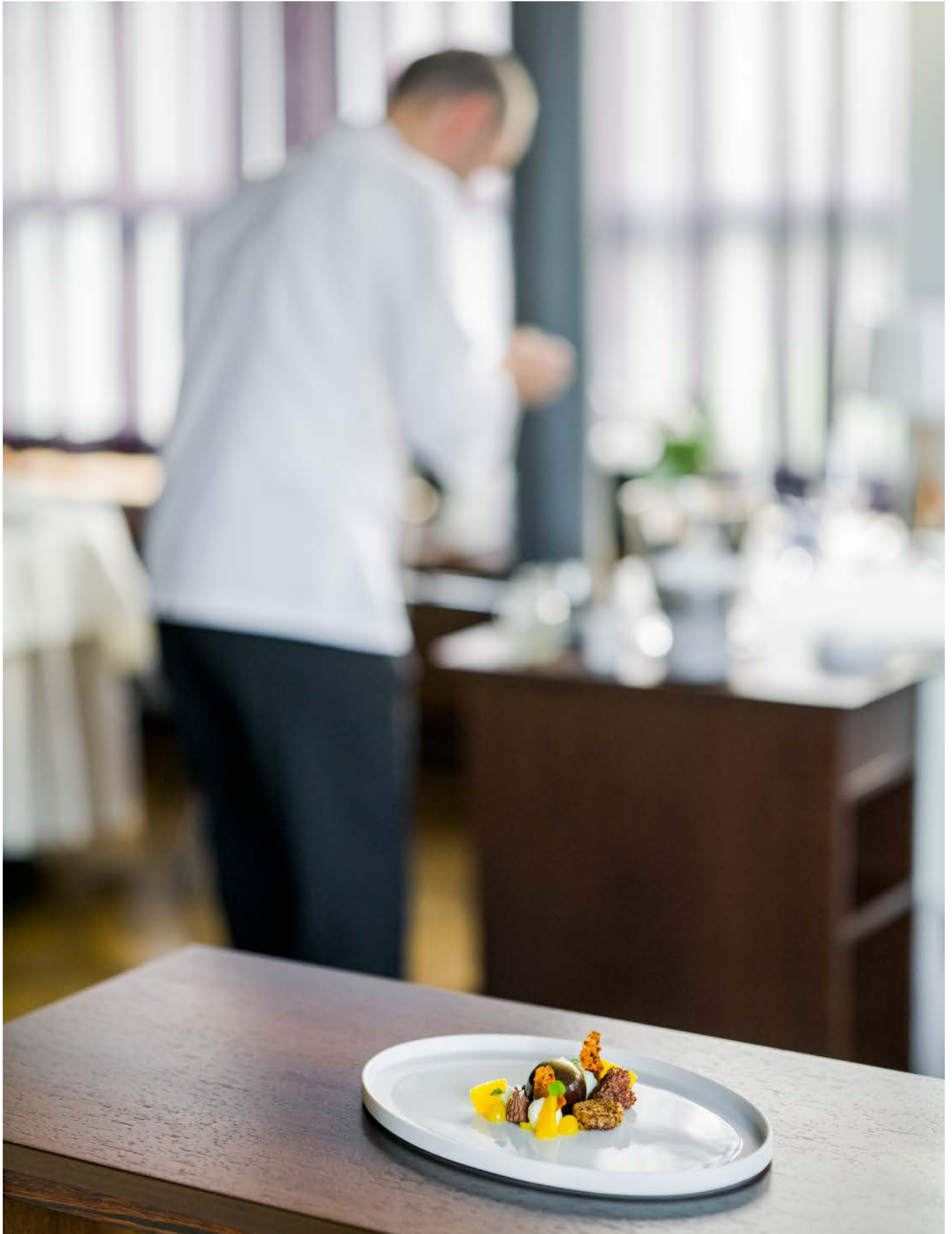
I got my first camera at age 7.

I completed my studies in Art Photography at the School of Arts in Córdoba in 2009. Since then I have travelled the world, combining passions for gastronomy and photography. Then I started shooting in Germany for the *Cook of the Year* competition and for a few other restaurants.

I was born north of Andalucía in Spain. But I grew up in La Mancha. Like Don Quixote. I think you’ve heard of him.

Yes. And I think we are going to hear much more from you.

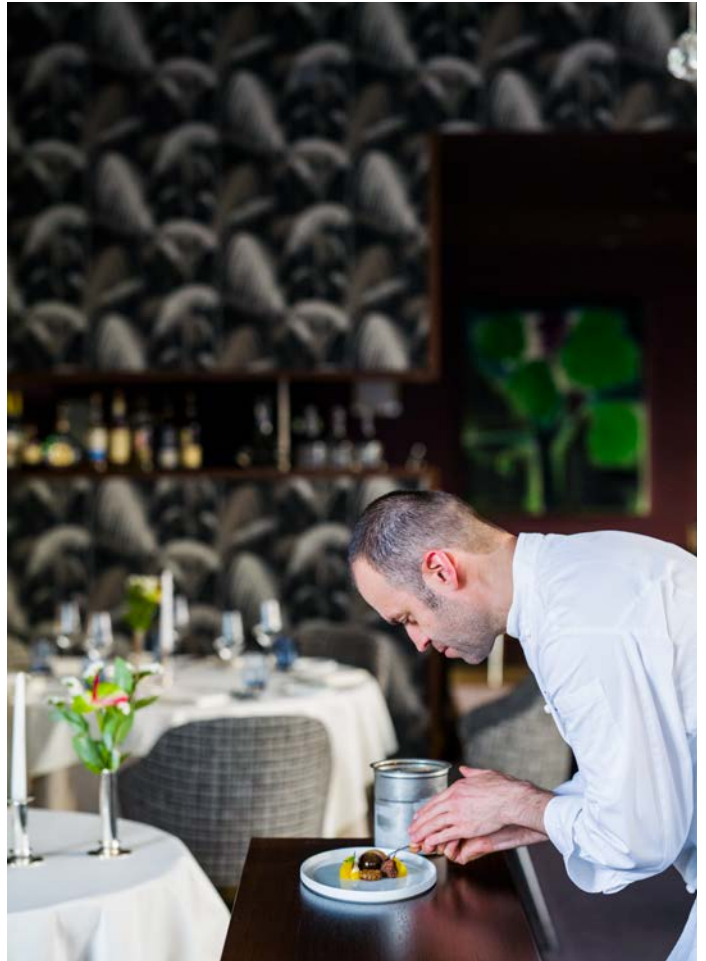
redondobueno.com





Seven Swans photographed by Julián Redondo Bueno





Leica SL2

The new Leica SL2 (Type 2998) has a solid body, and form follows function design, that might remind you of a Range Rover. It is a camera that feels almost indestructible and dares you to try. Would you not prefer an SL2, solid as any legendary Leica, rather than some namby-pamby thing that malfunctions in the moments you flee a charging rhino displeased at the decisive moment you captured its decisively peaceful snooze?

That's the thing. The SL2 is positioned as the professional's professional model in the latest Leica lineup. The venerable Leica M, beloved by so many for more than 65 years, is, after all, a range finder camera. In the hands of maestros, those Leica Ms probably captured more decisive moments than any other camera in history. But, speedy they were not. In Henri Cartier-Bresson's New York Times obituary on August 4, 2004, Michael Kimmelman wrote, "The director Louis Malle remembered that despite all the turmoil at the peak of the student protests in Paris in May 1968, Mr. Cartier-Bresson took photographs at the rate of only about four an hour."

If four frames an hour will not cut Louis Malles' Maille mustard, then it's Godard's "cinema is truth 24 frames per second" one wants. And the Leica SL2 nimbly shoots cinema nicely, including Cinema 4K 4096 x 2160 Full Frame 4:2:2 10-bit at 400 Mbps.

The SL's autofocus and auto-exposure capture decisive moments instantly. Summicron-SL lenses employ internal Dual Syncro Drive stepping motors controlling individual elements to achieve focus anywhere within the entire range in about 250 milliseconds.

Leica SL2 buttons are good and tactile. The knurled control wheels silently click through settings. The menu is smart and logical. Navigation is not like deep scuba diving. It is as intuitive as another well-remembered northern European exemplar of great user interfaces: early Nokia smartphones.

The Leica SL2 has a 47 MP sensor. The familiar three-button tactile controls and menus on the back unify Leica's ergonomic design concept across M, Q, CL and SL product lines. The L-Mount's 20mm shallow flange depth and the in-camera stabilization accommodate Leica M, S and R lenses. PL, LPL and other cine lenses not only fit but also benefit from the sensor's 5-axis image stabilization.

Meanwhile, Leica continues to roll out an impressive series of new SL lenses that are among the finest the company has ever created. Simultaneously, sister company Leitz is delivering the latest Full Frame cine lenses: LEITZ PRIME and LEITZ ZOOM in addition to THALIA, Summicron-C and Summilux-C.



Leica SL2
with
Leica Summilux-SL 50 f/1.4 ASPH
L-Mount Prime Lens

Decisive Moments: Leica SL2

Henri Cartier-Bresson and his Leica camera made Decisive Moments famous.

James Estrin wrote in *The New York Times*, “When Henri Cartier-Bresson first picked up a tiny Leica 35mm film camera in 1931, he began a visual journey that would revolutionize 20th-century photography.

“His camera could be wielded so discreetly that it enabled him to photograph while being virtually unseen by others — a near invisibility that turned photojournalism into a primary source of information and photography into a recognized art form.

“Cartier-Bresson’s concept of the ‘decisive moment’ — a split second that reveals the larger truth of a situation — shaped modern street photography and set the stage for hundreds of photojournalists to bring the world into living rooms through magazines such as *Life* and *Look*. In 1947, he and Robert Capa helped create the photographer-owned cooperative photo agency Magnum.”

Michael Kimmelman wrote, “Other photographers couldn’t believe Mr. Cartier-Bresson’s luck, much less his skill. The term that

has come to be associated with him is “the decisive moment,” the English title of *Images à la Sauvette* (*Images on the Run* might be a closer translation), a book of his photographs published in 1952. Mr. Cartier-Bresson described ‘the simultaneous recognition in a fraction of a second of the significance of an event, as well as the precise organization of forms that give that event its proper expression.’ Content plus geometry.”

Leica Camera Supervisory Board Chairman Andreas Kaufmann is known for decisive decision-making. He sticks to a strict 45-second rule when ordering in restaurants. No matter how complex the wine list or formidable the menu, he will invariably shut it with a flourish, ready to order when the second hand of his synchronized Leica L1 watch strikes 45.

That decisiveness is why menus are standardized across the entire Leica camera line and intuitive to the point of letting you figure out most functions in 45 seconds.

Let’s see if the 45-second rule applies to getting Leica’s new SL2 camera into video mode. Read on.



Leica SL-2 with native L-Mount



Leica SL-2 with Leitz PL to L-Mount Adapter (SL2 PL-L)



Leica SL-2 with Leitz PL to L-Mount Adapter (SL2 PL-L) and LEITZ PRIME

SL2 - Cine Menus in 45 Seconds

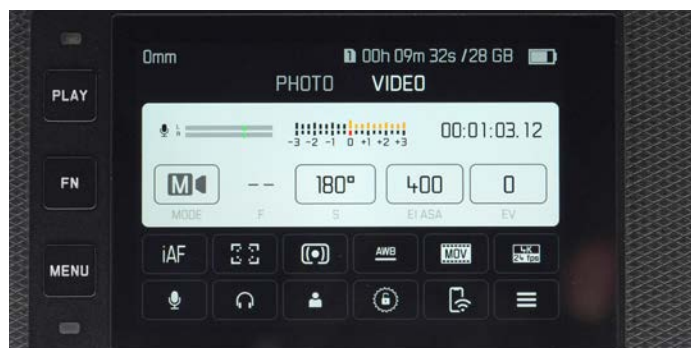


1. Begin by resetting the camera to factory settings—especially if you are not sure who else has been playing with your SL2. Push the MENU button 6 or 7 times (depending on mode, more on that in a bit), until you get to the last screen. The joystick is the easiest way to navigate within menu pages. Push in to select. Push RESET CAMERA.



3. RESET CAMERA SETTINGS? YES. The next menu ask if you want to reset User Profiles, Wi-Fi / Bluetooth and Counter. Probably not.

4. After restarting the camera and entering date/time, push MENU. You mostly likely will see this screen, above: PHOTO mode.



5. You want to start shooting video immediately. Touch VIDEO on the touchscreen display. If you have just eaten a jelly donut, you may prefer analog style controls. Jump from PHOTO to VIDEO by using the joystick or rear thumb wheel. Initially, the screen will show shutter speed. But we want to see shutter angle.

PHOTO Mode: display shows ISO and Shutter Speed

FUNCTION Button

7. (Above and Below) Another quick way to toggle from PHOTO still photography mode to VIDEO is by pressing the FUNCTION button closest to the TOP DISPLAY. By default, this button is mapped to change between PHOTO-VIDEO modes.

VIDEO Mode: display shows ASA and Shutter Angle



6. Push MENU to go to screen page 3. Toggle the RECORDING MODE from VIDEO to CINE. ISO is now called ASA.

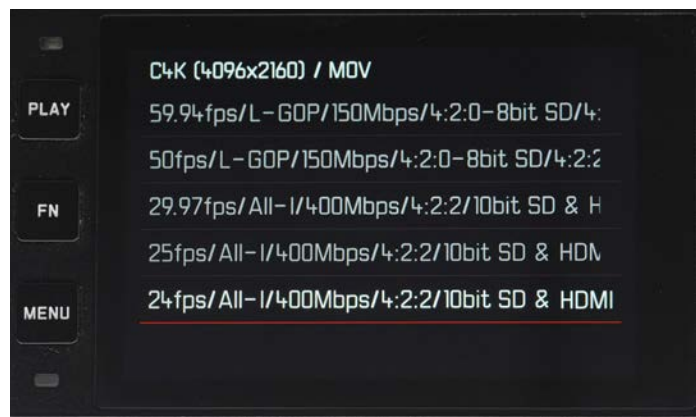
SL2 - Cine Menus in 45 Seconds



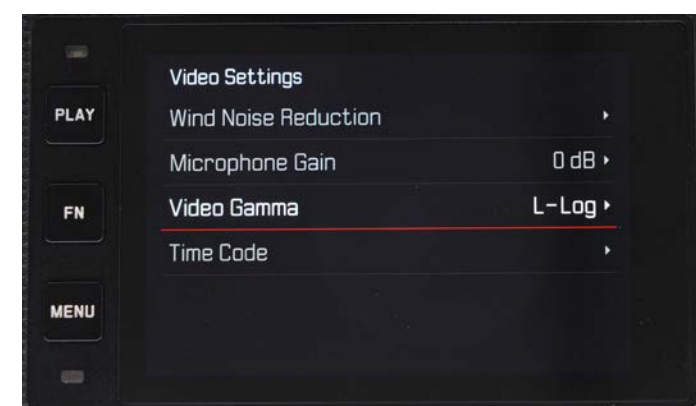
8. WHITE BALANCE is on Menu page 2. Surely we're not wimping out with AWB. Navigate through many choices and pick a numerical color temp.



9. VIDEO FORMAT/RESOLUTION is on page 2. Joystick to the right and select MOV files. (MP4 files are LONG-GOP, so you may not like them.)



10. Select C4K (4096x2160), jog right to: 24 fps / All-I / 400 Mbps / 4:2:2 / 10-bit / SD & HDMI (Record to internal SD card or externally via HDMI).

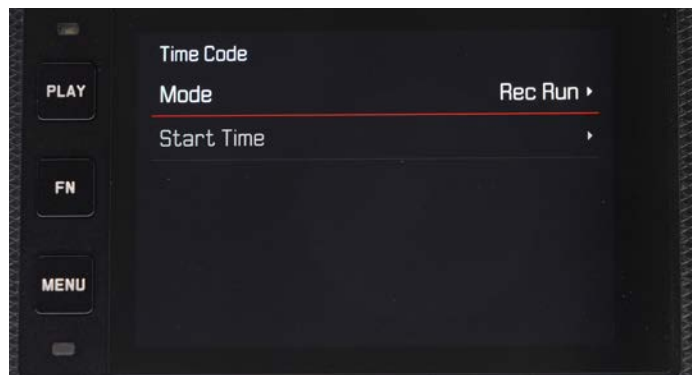


11. VIDEO SETTINGS: Video Gamma L-Log (Leica Log). From L-Log, you can jog right and adjust sharpness. Instead of L-Log, you can choose HLG.

SL2 - Cine Menus in 45 Seconds



12. VIDEO SETTINGS: TIME CODE...



13. Time Code MODE: RECORD RUN. The clock counts up when you record. Clock stops when you stop. The clock stops when recording stops and will continue when the next recording starts.



14. RECORD RUN is popular. In FREE RUN, timecode is displayed as time of day whether recording or not. Good for music videos.



15. SENSOR FORMAT: 35mm. That means Full Format / Entire Sensor. Push joystick to toggle between 35mm and APS-C (cropped image).



16. VIDEO ASPECT RATIO: push joystick to select one or more framelines. This does not crop or window the recorded image.



17. Press RECORD on top of camera halfway to preview framelines.

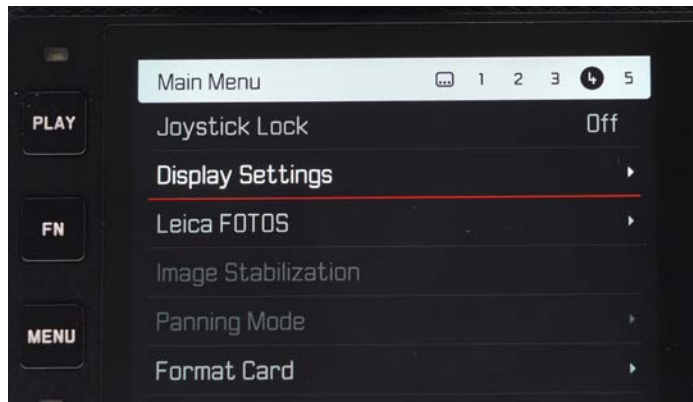


18. HDMI OUTPUT. (Framelines are not displayed with HDMI video output.)

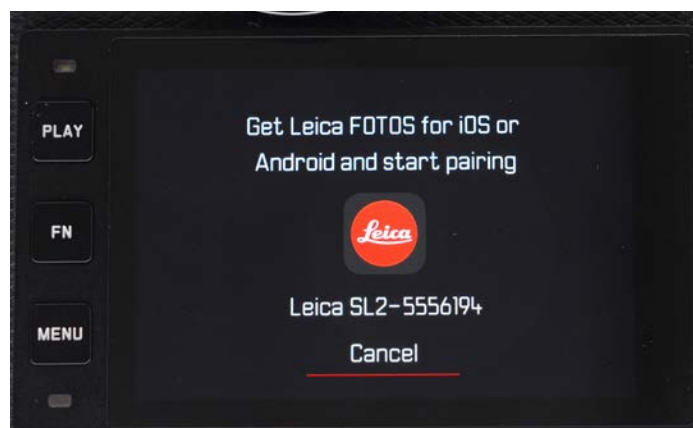
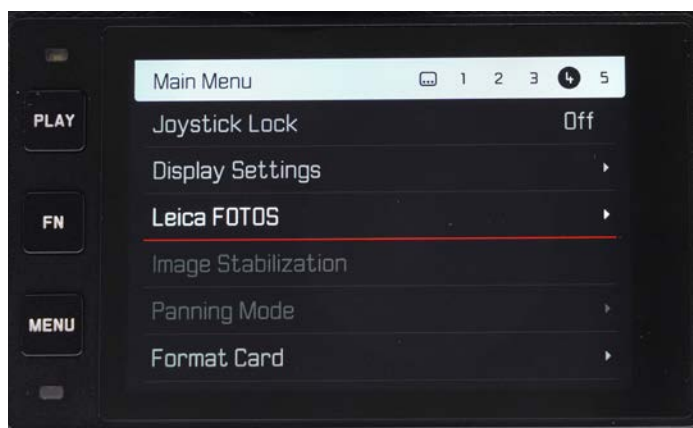
SL2 - Cine Menus in 45 Seconds



19. As described earlier in frame #5, RECORDING MODE: VIDEO or CINE determines whether you want to see shutter angle or shutter speed, etc.



20. DISPLAY SETTINGS adjusts EVF and LCD brightness, EVF frame rate, EVF sensitivity, and whether you want EVF or LCD or both on at all times.



21. LEICA FOTOS is an app that lets you remote-control, view and wirelessly tether the SL2 to an iPad or tablet.



22. CAMERA SETTINGS: change DISTANCE UNITS from Metric to Imperial, turn camera beeps on or off, and to enable USB battery charging. So, that should have been about 45 seconds. As always, menus change as firmware is updated, and there are other ways to do these tasks.



Photos: Matt Kennedy courtesy of STXfilms

21 Bridges is a story about a New York Police Detective in pursuit of two suspected cop killers as all 21 bridges of Manhattan are closed to traffic. The film takes place over the course of about 14 hours.

Jon Fauer: How many shooting days were there?

Paul Cameron, ASC: We shot for about 42 days in Philadelphia (standing in for New York) and 4 days in New York. The NYC footage was to tie in locations and to establish how they lock down the bridges and tunnels.

Why in Philadelphia?

Interestingly enough, Philadelphia is a great double for New York City. It has a lot of industrial interiors, funky locations and what we regard as a little more of a New York period look. It's also just extremely easy to shoot on the streets of Philadelphia.

Tell us about the camera and lenses. How and why did you choose them, use them, and how did they look?

I recommended the Sony VENICE because I've been using it on a number of commercials and for a short film I shot for my wife Laura Stabilini. Brian Kirk our Director determined to use anamorphic lenses. My big concern was the large amount of Steadicam. I was looking for the right optics but I also wanted something smaller, lightweight and faster in speed. I wanted to be able to shoot nights at 2500 ISO and T2.2 or T2.8. With that combination, the Scorpio Full Frame Anamorphic 2x attracted me. The Scorpio FFAs are incredibly clean. They have very little distortion and they're Full Frame anamorphics. They emulate Full Frame lenses to me more than they emulate anamorphic lenses.

So you don't have the distortion and you don't have the curvature top and bottom.

There's no fall-off of density on the sides and the bulk of out-of-focus areas in the background actually have more of a Full Frame look than an anamorphic look.

So, I was getting the best of both worlds: fast lenses to shoot wider open and wider angles of view. The 25mm T2.2 and 40mm T2.2 lenses gave us a really beautiful selective focus even though they are wide angle lenses. The depth of field wide open at T2.2 would have been the equivalent of shooting in Super 35 of something like T0.7.

It's a new landscape in a way, and the amazing thing for me about the Sony VENICE was not only the color space, but also a more natural look than any other digital camera I have shot with. The skintone rendering and certain colors in the spectrum come through on the Sony sensor so beautifully. I like the internal eight-step optical ND filter system (ND.3 - ND2.4). As a Director of Photography who operates the camera a lot, I can look at lighting through the camera at the push of a button and the servo control eliminates the need to pull the filter from the mattebox.

In this anamorphic world, the wide Scorpio anamorphics did not have the expected distortion. Suddenly we had these beautifully clean, geometrically correct, fast lenses to get big landscapes at night. That was empowering.

What focal lengths of Scorpio FFA did you have?

Scorpio Anamorphic Full Frame 25, 35, 40, 50, 75, 100—all T2.2 and 150mm T2.8



Framegrab courtesy of STXfilms

Did you shoot wide open often?

I tried to avoid it. But I certainly shot a lot of wide shots wide open with the Scorpios. Managing this more shallow depth of field was very appealing to me. I stayed more open than I normally do with anamorphics, for sure.

How do your ACs deal with FF shallow depth of focus?

Fortunately, everybody is using some kind of system like the CineTape or Light Ranger. In this new era of focus pulling, I still try to get actors to show us where they will be going if there are complicated moves, even though nobody wants to rehearse. I've been doing this long enough that I want to be sure that my assistant is able to get basic marks or have set-up time with stand-ins. Nevertheless, our focus pullers Derek Smith and Michael Leonard are both incredible. They came up working in the film days, so they use a combination of tape measures and CineTapes.

You shot for 2.39:1 widescreen release. And you were basically filling the Full Frame of the Venice 6K sensor with 2x squeeze anamorphics. So when you desqueeze, that's a 3:1 aspect ratio. Did you crop the extra picture area in post?

Yes, it was cropped in post. Also, because we designed this movie to have a little bit of a grittier New York night feel to it, I added a product called LiveGrain to the final DI. LiveGrain emulates the texture of film grain beautifully. It's interactive and you can see the changes as you do the DI. Livegrain was developed by Suny Behar. More people should use his product.

Who did the grading?

It was Tom Poole at Company Three. Tom is an absolute joy to work with. He's an incredibly talented DI artist. He has great taste and he's lightning fast. He graded on DaVinci Resolve.

Did you have DIT on set?

Ted Viola was our DIT. He uses Pomfort Livegrade. Ted is an in-

credible DIT technically but he's also very experienced and adept at balancing for dailies. I pretty much locked into one or two LUTs for the entire movie.

Where did you rent the camera package?

Keslow Camera. Brad Wilson suggested I try the Scorpios when I was shooting tests. Another thing I can say about these anamorphic lenses is the way they halate. They hold up very well and don't wash out like some anamorphics do when there's an extreme flare or something like a police light. They don't blow out or wash out. The Scorpio lenses were shooting into police lights and halating, but they added an inherent reality—the way you would see the scene in real life.

Let's talk more about Full Frame, and lenses, and pristine or normal like the Scorpios, versus vintage, distressed, distorted anamorphics.

I think we've had a resurgence of anamorphic in the last few years and now in Full Frame with ALEXA, RED, Sony and Canon. So this was all happening on the heels of the Alexa 65 which is a format and a lens system unto itself. I think we've seen a lot of established, as well as younger, filmmakers welcoming and exploring the use of anamorphics, whether it's for big screen or a commercial.

In the past, we were in pursuit of shooting our bigger films in anamorphic mostly to get a beautiful, clean, widescreen image. And then, for our digital productions, we suddenly had the availability of Panavision C and E series lenses from the past and we're getting flares and trying different looks.

Then we had the advent of Panavision G Series and the J.J. Abrams obsession with flares. Now we have a new resurgence of anamorphic Full Frame lenses. The issues are the same. Optics can give cinematographers a sense of self and discovery. That may come from experiencing flares uniquely. Even at this point in my career,



I still have a feeling of self discovery when I get a certain flare in a certain way. It feels like your own signature, even though it's just vintage glass.

The interesting thing now is there are so many points of view. Do you go with a more vintage anamorphic lens like the traditional Panavision C and E series? Or do you go after newer lenses with a kind of vintage look like the Cooke SFs? Or you can go after this cleaner, precise anamorphic look we're experiencing now with the Scorpio FFA or the ARRI/ZEISS Master Anamorphics in S35?

It's also a matter of what's available when you're ready to shoot, especially in Full Format. A lot of people make decisions to go a certain route, but when you're ready to shoot, certain manufacturers may not have full sets of Full Frame lenses ready to go. Companies like ARRI, ZEISS, Cooke, Scorpio and others are making more new series and focal lengths than we ever had in the past at such a rapid pace. It's fabulous to have these choices. But sometimes you have to ask yourself, "Is it okay to shoot this movie with just four focal lengths?" If that's the look you want, you'll find a way to do it, but maybe you want a complete set, as we did with the Scorpio FF Anamorphics.

And then there's lens tuning.

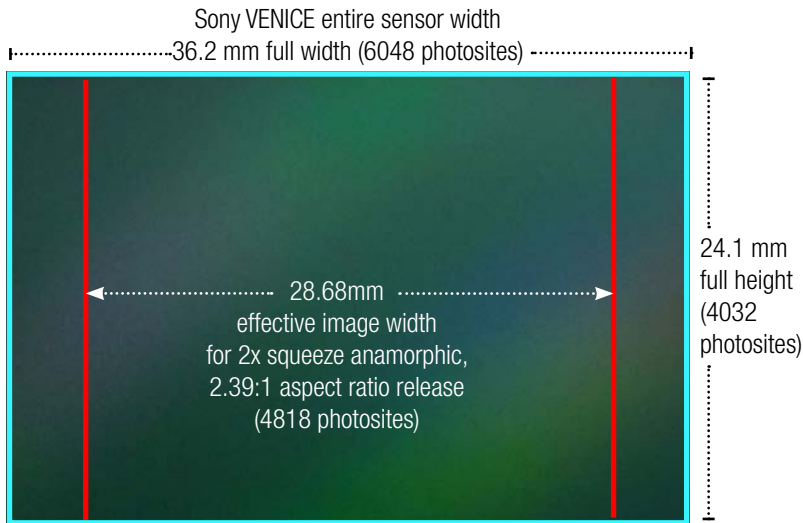
We're in such a complex time now because you've got companies like Panavision where Dan Sasaki and Guy Vicker have taken things even a step further and they have a whole lens detuning service. Theoretically, you can take any of their lenses and tune them in any way you want. You can add contrast, maximize it, you can reduce contrast, you can add halation, and glow highlights. Suddenly you have lenses were very familiar and you can actually tune them like a guitar into a different key. That's new.

You picked the Scorpio FFA over many other choices.

After I locked onto the idea of shooting with VENICE, I thought I would shoot the movie with other lenses. Brad Wilson at Kessel Camera brought the Scorpios to my attention. He said, "You might like these lenses. They're clean, and they're distortion free. They go wide to 25mm." I tested the Scorpios against other lenses and they felt like a different sound. It was like there was more base coming out. It was like a more guttural, real halation. And I thought, this lens really adds good energy. It was perfect for this movie. They're super lightweight, distortion free, small, with the same front diameters. The barrels all turn the same amount. I was very impressed. And the results look beautiful on the big screen.

2.39:1 Aspect Ratio Sony VENICE Math with Scorpio FFA Anamorphic

4818 x 4032 Sony VENICE Image Area using Scorpio Full Frame Anamorphics with 2x Squeeze for a 2.39:1 Aspect Ratio Release



The entire sensor area of Sony VENICE Full Frame Sensor is: 36.2 x 24.1 mm 43.3 mm Ø (1.5:1) with 6048 x 4032 sensor photosites

Fully Full Frame

The Full Frame math for 2.39:1 aspect ratio is as follows. (2.39 ÷ 1) aspect ratio ÷ 2x squeeze = 1.195 and then, 24.1 (sensor height) x 1.195 = 28.68 (sensor width)

So, 28.68 x 24.01 mm is a 1.195:1 sensor area (when squeezed), with an image diagonal of Ø 37.4 mm and 4818 x 4032 sensor photosites.

Image is cropped in post.

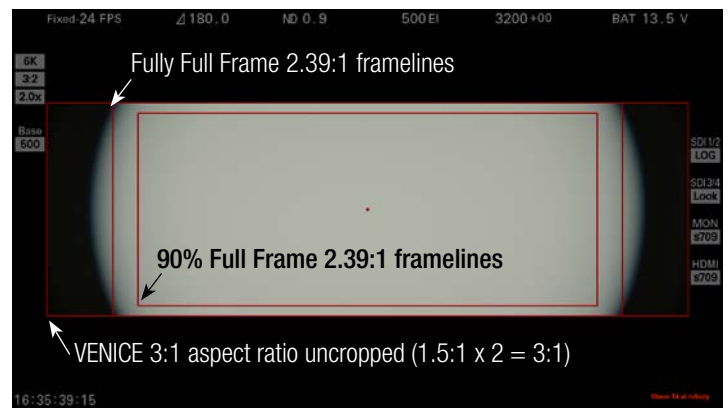
Keslow Camera Math

90% Full Frame (+ 10% Safe Area)

However, the Fully Full Frame math above can get even more interesting.

What if you'd like picture safe / surround view to see mike booms and C-Stands lurking on the edge of frame? Or what if your widest lenses show a little bit of shading or vignetting around the edges, as the wide 25, 35 and 40 mm Scorpios may have done?

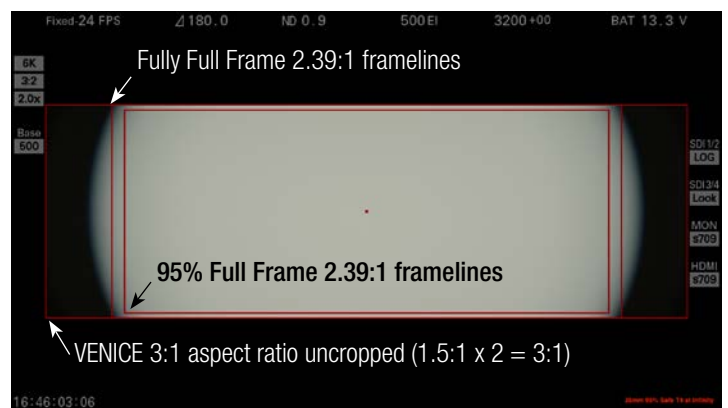
As Scott Eisner, Digital Workflow Technician at Keslow Camera demonstrated with monitor framegrabs (shown at right), Paul Cameron also shot with a slightly reduced active image area. For example, a 10% reduction changes the actual image area to 25.81 mm sensor width (when squeezed) x 21.61 mm sensor height. This is an image diagonal of Ø 33.66 mm with 4336 x 3629 photosites.



95% Full Frame (+5% Safe Area)

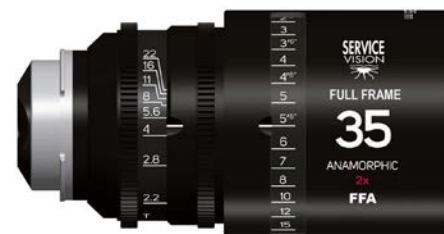
If you don't like the idea of giving up so much sensor real estate, you can go for a 5% reduction in picture area.

So, a 5% reduction changes the actual sensor area to 27.25 mm picture width (when squeezed) x 22.89 mm picture height. This is an image diagonal of Ø 35.59 mm with 4577 x 3830 photosites.



Cropping 3:1 to 2.39:1

The Sony VENICE (and ARRI ALEXA LF) have 1.5:1 Full Frame sensors and they do not window or crop in camera. So a 2x squeeze anamorphic desqueezes the 1.5:1 image to a 3:1 aspect ratio (as shown in the pictures at right). Therefore you will crop the extra left and right sides to 2.39:1 in post.



Scorpio 2x FFA Anamorphic Full Frame Lenses

25mm T2.2	50mm T2.2	100mm T2.2	200mm T2.8
30mm T2.2	60mm T2.8	135mm T2.2	250mm T2.8
35mm T2.2	75mm T2.2	150mm T2.8	300mm T2.8
40mm T2.2			

12-bit ProRes RAW from Nikon Z 6 and Z 7 to Atomos Ninja V

Big news broke on December 16, 2019. Nikon Z 6 and Z 7 now record 12-bit 4K/UHD or Full HD ProRes RAW to Atomos Ninja V monitor/recorder via the HDMI. I thought HDMI was limited to 10-bit—but here we have not only 12-bit but also RAW. RAW output requires a modestly priced upgrade at a Nikon service center with free Nikon firmware v. 2.20, and AtomOS 10.2 upgrade to Ninja V.

Atomos CEO Jeromy Young explained, “Working in collaboration with Nikon, we’ve given two mirrorless cameras the capability of recording in the Apple ProRes RAW format. The message this sends to content creators everywhere is game-changing.”

Quick refresher from Apple: “Apple ProRes RAW brings the same great performance, quality, and ease of use to RAW video that ProRes brought to conventional video. When you store a clip in the ProRes RAW format rather than in a proprietary camera raw format, you get more control over the processing of the image, including demosaicing, linear-to-log conversions, and custom LUTs. With ProRes RAW, you can import, edit, and grade video with RAW data straight from your camera sensor — without slowing down your edit. ProRes RAW also provides maximum flexibility for adjusting the look of your video while extending brightness and shadows.”

ProRes RAW is fully supported in Final Cut Pro X, Assimilate Scratch, Colorfront, FilmLight and Baselight. Adobe and Avid will support it in 2020.

The Z 6 and Ninja V combination offer the quality and flexibility of recording Pro Res RAW from a Full Frame sensor in 12-bit 4K UHD. Ninja V users can now update to the free AtomOS v. 10.2 to enable RAW recording from HDMI.

atomos.com/proresraw
nikonusa.com/RAWvideo
support.apple.com/en-us/HT208671



Atomos Ninja V
Monitor / Recorder

AtomX SSDmini

PL to Z-mount

Nikon Z 6



Native Z-mount

Nikon Z 6 Full Frame Mirrorless Camera

Nikon Z 7 and Z 6 mirrorless Full Frame cameras launched in New York and Tokyo on August 24, 2018. Their Z-Mount has a 55mm inside diameter and 16mm flange focal depth, the widest and shallowest of any mirrorless Full Frame camera. This enables interesting lens designs and a plethora of adapters. (Sony E-mount: 18mm FFD, 46.1mm ID. Canon R-Mount: 20mm FFD, 54mm ID. Leica, Panasonic and SIGMA L-Mount: 20mm FFD, 51.6mm ID.)

Z 6

- Effective Pixels: 24.5 million ISO 100 - 51,200
- Full Frame (FX) in UHD 4K

Z 7

- Effective Pixels: 45.7 million ISO 64 - 25,600
- DX crop (S35) from FX (Full Frame) sensor in UHD 4K mode

Common to both Z6 and Z 7

- Sensor Size: 35.9 mm x 23.9 mm Nikon FX Format
- Storage Media: XQD or, with firmware ver. 2.20, CFexpress cards
- Video: up to 4K UHD 3840x2160 at 24, 25, 30 fps
- 3.69 million dot OLED Viewfinder
- Size: 5.3 x 4 x 2.7 in. / 134 x 100.5 x 67.5 mm.
- Weight of camera body: 20.7 oz. (585 g)
- Tilting TFT 2.1 million dot touch-screen 3.2" LCD monitor
- Weight of camera body: 20.7 oz. (585 g)

Nikon Z 6, Atomos Ninja V, ProRes RAW



Nikon FTZ Mount Adapter lets you use more than 360 F-mount lenses on Z-mount cameras—retaining full Autofocus and Auto Exposure, as well as image stabilization. 46.5mm to 16mm FFD.

Vintage Nikkor 50mm f/1.2 — courtesy of Andrés Vallés of Servicevision.

ARRI Signature Prime 125mm T1.8

LPL to Z-Mount 44mm to 16mm FFD



HDMI RAW input

On Atomos Ninja V, be sure to set:

- RECORD > CODEC > ProRes RAW
- INPUT > TRIGGER > HDMI
- TIMECODE > SOURCE > HDMI

See setup video:
youtu.be/L-fzUsb0y0k

Atomos Ninja V
Monitor / Recorder

Nikon Z 6

HDMI RAW output

Nikon Z6 Settings

DISPLAY:
 Set switch to Movie camera icon.
 Button cycles through 4 display modes on the Nikon (not on the Ninja V) — All Data On, Simplified Data, Virtual Horizon, and Histogram.

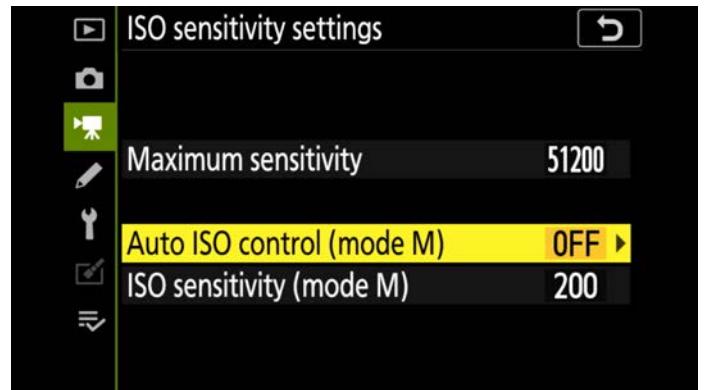
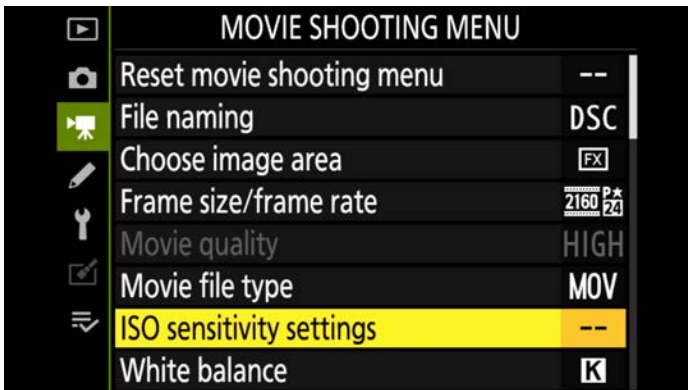


Enter / Exit MENU MENU Navigation

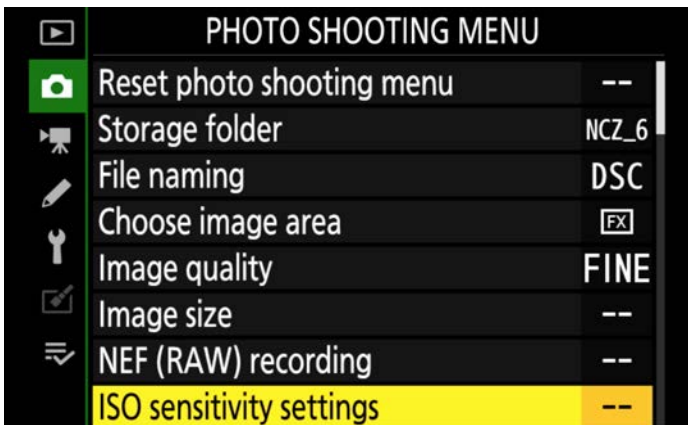
EXPOSURE MODE: Set to MANUAL (M)
Camera ON / OFF
SHUTTER Release for Stills. Can also be configured to trigger video



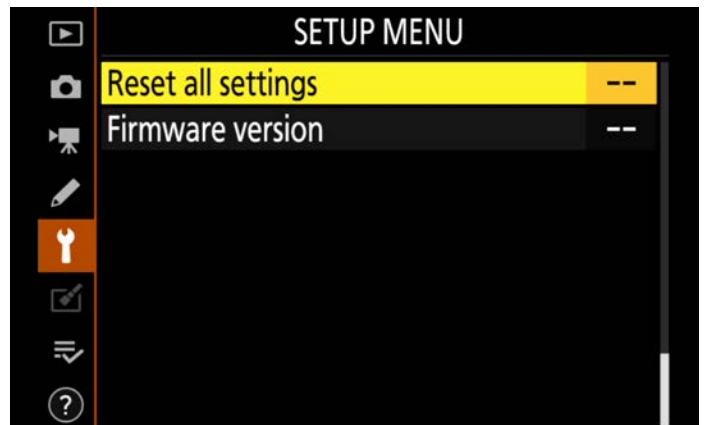
Nikon Z6 Menu Settings for ProRes RAW



1. MOVIE SHOOTING MENU > ISO SENSITIVITY SETTINGS > Auto ISO CONTROL (MODE M) > OFF...turns off Auto ISO and lets you select ISO manually.

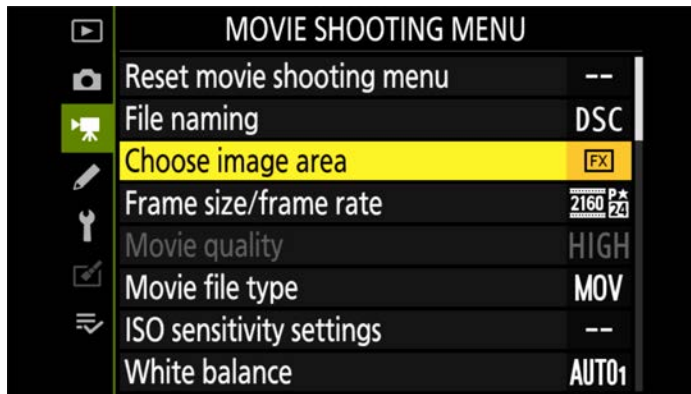


2. If you cannot seem to set ISO manually, you may have turned automatic off in the PHOTO SHOOTING MENU but not the VIDEO MENU.

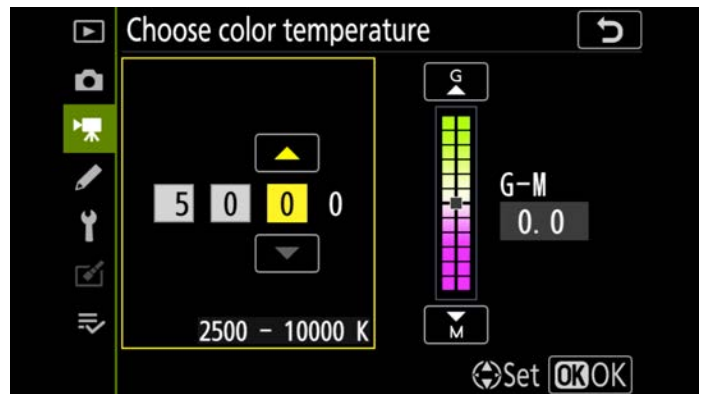


3. Like rebooting a laptop, when all else fails, you can RESET ALL SETTINGS.

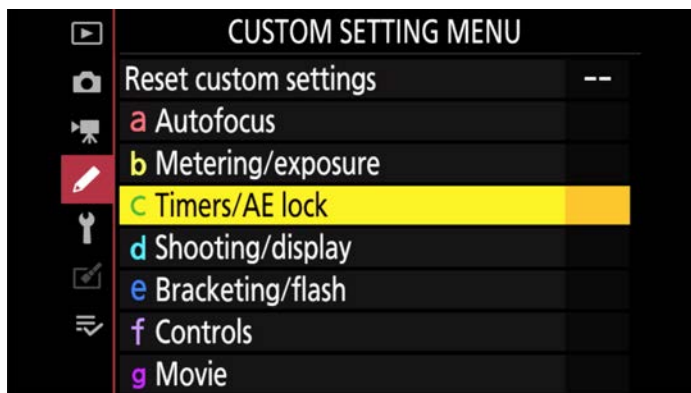
Nikon Z6 Menu Settings for ProRes RAW



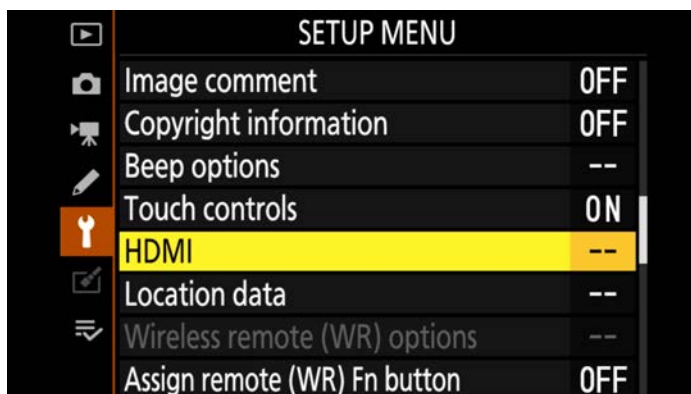
4. MOVIE SHOOTING MENU > CHOOSE IMAGE AREA > FX... if you're shooting Full Frame. Choose DX is you're shooting APS-C (Super35).



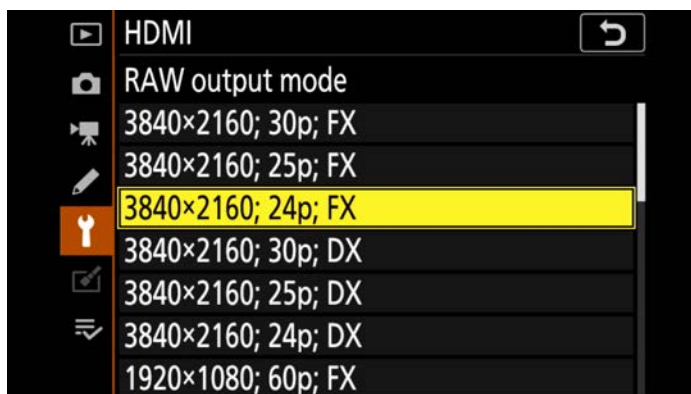
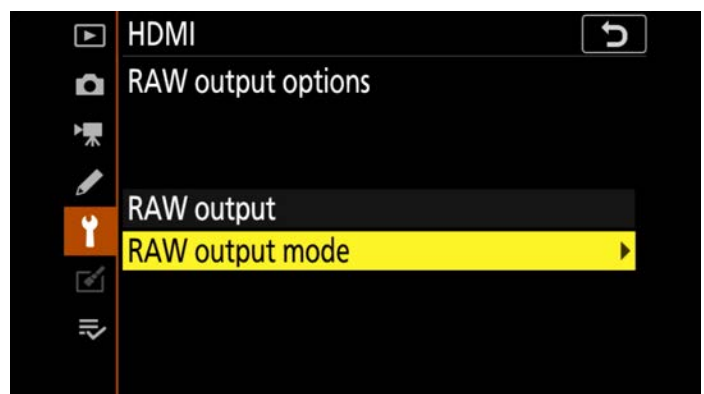
5. MOVIE SHOOTING MENU > WHITE BALANCE > K CHOOSE COLOR TEMPERATURE...lets you enter numerical degrees Kelvin.



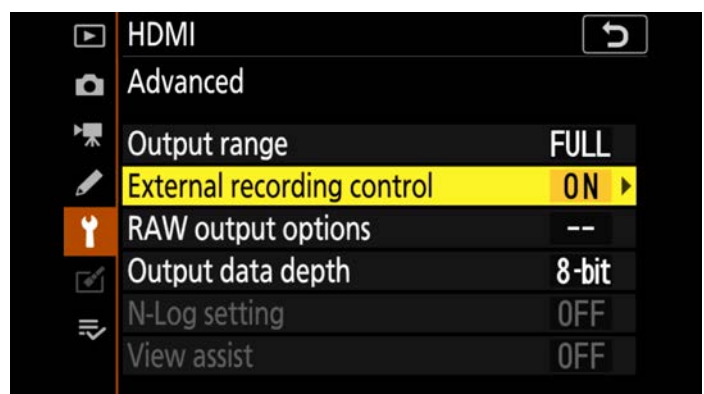
6. CUSTOM SETTING MENU > C TIMERS / AE LOCK > C3 POWER OFF DELAY > STANDBY TIMER > NO LIMIT...so camera does not go into power saving standby in the middle of a take.



7. SETUP MENU > HDMI (scroll down 3 pages) > ADVANCED > RAW OUTPUT OPTIONS > RAW OUTPUT MODE...goes to a page of choices...



7b. RAW options range from 4K UHD 3840x2160 30p FX (Full Frame) or DX (S35) to 1920 x 1080 24p FX or DX (scroll down 3 pages). UHD is Full Frame on the Z6 only. Z7 is DX crop (S35 equiv) in UHD 3840x2160.



8. SETUP MENU > HDMI > ADVANCED > EXTERNAL RECORDING CONTROL > ON...to trigger Ninja V recording with Z6 Start Button.



Ben Steele at Emit in Paris replying transatlantically via phone and email to Jon Fauer's questions from New York for this interview.

FDTimes: Emit moved into new facilities almost a year ago. Tell us what has changed for you and your customers.

EMIT: *Plus ça change, plus c'est la même chose.* Everything but nothing. [laugh]. We really wanted to keep all the same ingredients of Emit's DNA from the early days since 1982—but on a larger scale and built to the latest standards. All our decisions revolved around offering more efficiency and comfort for our customers and our team. The previous office was more of a warehouse. It was very service orientated and had a small cluttered showroom. In the past, our customers were mainly large rental houses and TV stations who mainly expected stock and after-sales support from us.

Nowadays, we have a more varied customer base that includes smaller rental houses, independents and owner-operators. They need a space where they can test and “play” before investing. For that reason, our 200m² showroom is like a “big play room” where customers can be hands-on and try any configurations of a wide selection of cameras, lenses, filters, lens control systems, support, rigs, dollies and many more accessories. Our product range includes Cooke Optics, ARRI, Angénieux, IB/E Optics, cmotion, Easyrig, Flowcine, Panther, P+S Technik, PAT, Ronford-Baker, Betz Tools, Tiffen and Transvideo. After all this testing, customers can relax in the Emit Pub “Abros Arms” and soon, in springtime, in the Emit Beer Garden.

FDT: Have you been busy hosting events in the new facility?

Yes. In 2019, we already organized four “open house” events, with support from the manufacturers. We focused on the latest new products of the moment such as the ARRI Mini LF, Steadicam M2, Flowcine XaRM, and very recently the cPRO and Cinefade system from cmotion. The idea is for manufacturers and Emit to share knowledge and experience to end users and vice versa—in a convivial atmosphere. We plan to do more of these events next year.

FDT: During my last visit in May you were building a new lens room. Can you tell us more?

Operating a Lens Test Projector in a dark room can sometimes be hazardous, especially when handling expensive lenses. In order to leave the floor free from obstacles we initially wanted to bury the tracks for the carriage of the Lens Test Projector into the floor. Unfortunately we realized that our floor wasn't thick enough to embed the tracks.

So we decided to suspend the carriage and the tracks from the

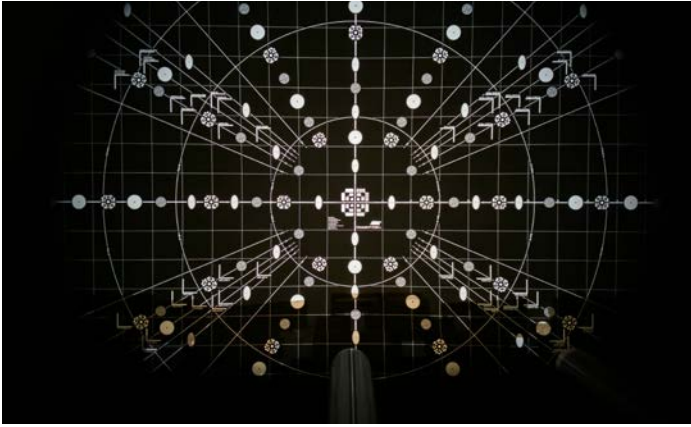
ceiling. We called Jeff Lawrence from Ronford-Baker. They custom-designed a special and ultra-steady carriage and installed 5 meters of overhead track for us.

We also replaced our previous P-TP6 Chrosziel Lens Test Projector with the new P-TP7 in order to be able to check all Large Format lenses. Compared to the P-TP6, the P-TP7 uses a quick-release Large Format base mount instead of the Éclair C mount. It allows speedy swapping between mounts such as LPL, PL, EF, E and more. We are very satisfied with the illumination of the test target. The light intensity across the entire lens image circle is consistent and bright. The built-in light source consists of an LED pad with a 5,000K color temperature that can be operated in a high mode or in low mode for bright high-speed lenses. Also, the low mode is a comfortable feature when you work for a long time in a dark room and you need to give your eyes a rest. Additional good features of the P-TP7 are nearly silent operation and minimal heat.

We also chose the new Chrosziel test target P-T65L to cover most formats and cameras. It's very practical because it not only shows you the lens format but it also indicates the various cameras. This



Chrosziel P-TP7 Full Frame projector on Ronford-Baker overhead tracks.



Chrosziel test target P-T65L covers Large Formats and cameras.

means that you can immediately see at a glance whether a lens is covering your camera's sensor.

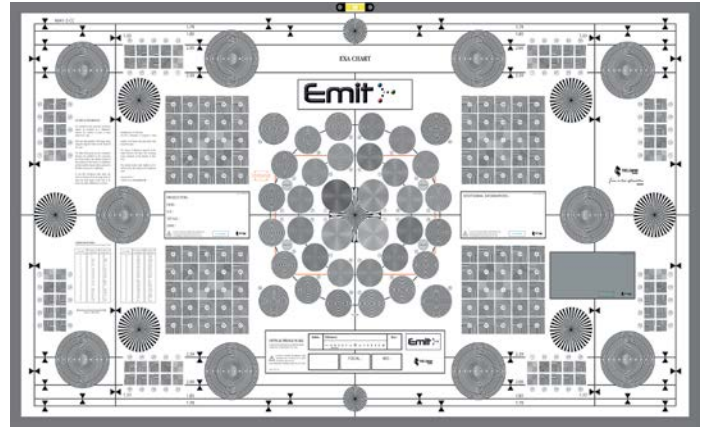
In the back room we have a collimator and a clean air bench for minor lens servicing. Our technician uses the lens room every day. This has been integrated into our daily routine of checking all incoming lenses from our sales or rental department. Stéphane Paillard of Prêt à Tourner Accessories installed a PAT high resolution (8K +), no-glare, camera & lens test chart at Emit.

FDT: You are the distributor for Panther in France. What news do you have about the new Panther S-Type Scissor Dolly?

Glad you asked. As we speak, the first S-Type Dolly is being delivered in France to Studio LB in the center of Paris. They have



Panther S-Type Dolly.



Prêt à Tourner Lens Chart at Emit.

stages for Cine and Photo Shoots. They also rent lighting, grip, camera and lenses—and now the new S-Type Panther Dolly.

FDT: Seen by Emit, what were the trends this year in France?

Clearly the launch of the ALEXA Mini LF in summertime was the awaited signal for many customers to embrace Large Format. Normally, by this time of the year, most of the budgets have already been spent. But, it seems that this year customers saved their funds for this camera. We've been very busy trying to deliver Mini LFs to all our customers on time.

The Mini LF has also boosted the request for Large Format lenses such as the Cooke S7/i, Cooke Anamorphic/i Full Frame Plus, ARRI Signature Primes, Angénieux EZ zooms, etc.

FDT: What new products are you showing at AFC Micro Salon?

ALEXA Mini LF , Cooke A/i FF+ , cPro One, Cinefade, xArm and xReach, Flowcine Gimbal Vest, Easyrig Stabil, Pag Mini Paglink, Innovativ Axis, Ronford Lightweight Slider with motorized unit, Betz RIG UMB, Steadicam Volt, and of course, Team Emit.



L-R: Ben Steele (Emit Directeur Général Directeur Admnistratif & Financier), Stéphane Paillard (PAT-ACC), Andrew Steele (Emit Président Directeur Technique & Commercial).

SHAPE Rigs for Sony FX9 and Canon C500 Mark II



Canon C500 Mark II



Just in time for imminent deliveries of Canon C500 Mark II and Sony FX9, SHAPE has rigs and accessories ready for these new cameras. (www.shapewlb.com)

The SHAPE Pro Shoulder Rig Kit lets you add accessories and go from tripod mode to handheld with your new Canon C500 Mark II camera. In the photo above, it is shown in tripod / studio mode with the handgrips cleverly folded alongside the base.

The baseplate includes an integrated shoulder mount that lets you quickly convert a tripod-mounted camera into a handheld shoulder rig. A rear insert plate attaches to the rear of the camera to support it on the baseplate. The 15mm rods allow you to mount accessories, including the 4 x 5.6" matte box and the follow focus pro. The push-button handle attaches to the baseplate and rotates by means of a rosette for the most comfortable position.

The modular top handle can be adjusted to be longer or shorter according to your preference, and the viewfinder rod clamp with 25 mm push-button attaches to the front of the top handle.

Complete system for Canon C500 Mark II

- Form-fitting cage with ARRI rosette mount and several anti-rotating threaded holes (3/8-16, 1/4-20).
- Shoulder baseplate matches the C500 Mark II optical center.
- 15 mm rod block system to attach accessories in front and back.
- Left handle with ARRI rosette and Push-Button Technology.
- Modular top handle, made of CNC aluminum and Canadian maple wood, let you configure the handgrip in up, side or down positions.
- Top handle has several 3/8-16 anti rotating threaded holes and a 15 mm EVF rod clamp with a 25 mm Push-button.
- Follow Focus pro and Matte box 4 x 5.6".



Sony PXW-FX9



The new Sony PXW-FX9 camera gets equal ergonomic opportunities with the new Pro Shoulder Rig Kit from SHAPE. It is shown in handheld mode here.

A tripod-mounted camera quickly converts to handheld shoulder mode by folding out the left and right handgrips.

Complete system for Sony PXW-FX9

- Form-fitting top, side and bottom plates connecting together to protect the camera.
- ARRI rosette mount and several anti rotating threaded holes (3/8-16, 1/4-20).
- Top plate compatible with the native Sony FX9 handle.

- Rear insert plate with 3/8-16 and 1/4-20 threaded holes provide more surface area to securely mount FX9 to tripod or shoulder mount.
- Shoulder baseplate with ARRI rosette matches the Sony FX9 optical center.
- 15 mm rod block system to attach accessories in front and back.
- Left handle with ARRI rosette and Push-Button Technology
- Modular top handle, made of CNC aluminum and Canadian maple wood, let you place the handgrip in up, side and down positions.
- Top handle also features several 3/8-16 anti rotating threaded holes and a 15 mm EVF rod clamp with 25 mm Push-button.
- Follow Focus pro and Matte box 4 x 5.6".

Preston LR2-M



LR2-M is the low-profile successor to the LR2, which has become *de rigeur* for anyone focusing on Large Format. Like the original Preston Cinema Systems Light Ranger 2, the “M” (as in Mini) model is for mid to long focal length lenses. Its 16 independent measurement zones cover a 20° horizontal field of view. The 1¼° horizontal coverage of each of 16 zones within the image allows precise focus to be pulled between multiple subjects in close proximity to each other.

Together with the 50° wide angle “W” version, these two sensor modules cover camera set-ups from wide-angle to telephoto, anamorphic or spherical. The same Video Interface Unit works with

both modules and automatically scales the monitor graphics.

The height of the LR2-M is approximately half of the original LR2: 2.86 inches vs. 5.2 inches, and weighs 592g.

The LR2-M sensor module comes with an adjustable-height dovetail bracket/clamp for a 15mm rod.

An optional bracket (P/N 6008) connects the LR2-W dovetail bracket to a 15mm rod assembly with 3/8-16 threaded bolt for attachment to an ARRI style carrying handle.

Available March 2020. prestoncinema.com



LR2-M: 3.9" x 2.8" x 2.5"
M as in Mini



LR2-W: 3.9" x 2.8" x 2.5"
W as in Wide



Original LR2 dimensions: 3" x 5" x 1.5"

LR2-M Specifications

Operating Range: 1 to 40+ feet (typically). Actual range depends on the size and reflectivity of the subject as well as the presence of smoke and/or fog—either of which will diminish the usable range. (But wait, see Defog software below.)

- Horizontal angle of view: 20°
- Vertical angle of view: 3°
- Number of detection zones: 16
- Detection zone width (each): 1.25°
- Emission wavelength: 905nm
- IEC Eye Safety: Class 1 (Eyesafe)
- Size: 3.9 x 2.8 x 2.5 inches
- Weight: 592g
- Power: 10-32VDC through Serial Cable or optional 2-pin Lemo-to-D-Tap power cable (PN 4641).
- The optional power cable is highly recommended as voltage fluctuations of the camera can result in intermittent operation.



Ordering Information

- | Part No. | Description |
|----------|---|
| • 6000-M | Package: 20° Sensor Unit, Video Overlay Unit, Serial Cable, Dovetail Clamp. |
| • 6001-M | 20° Sensor Unit only. |
| • 4641 | 2-pin Lemo to D-Tap power cable. |

The Light Ranger operates exclusively with the Preston FI+Z System.

Required System Components:

1. LR2 and/or LR2-W and/or LR2-M Sensor Module
2. Video Interface Unit

And a full FI+Z system consisting of:

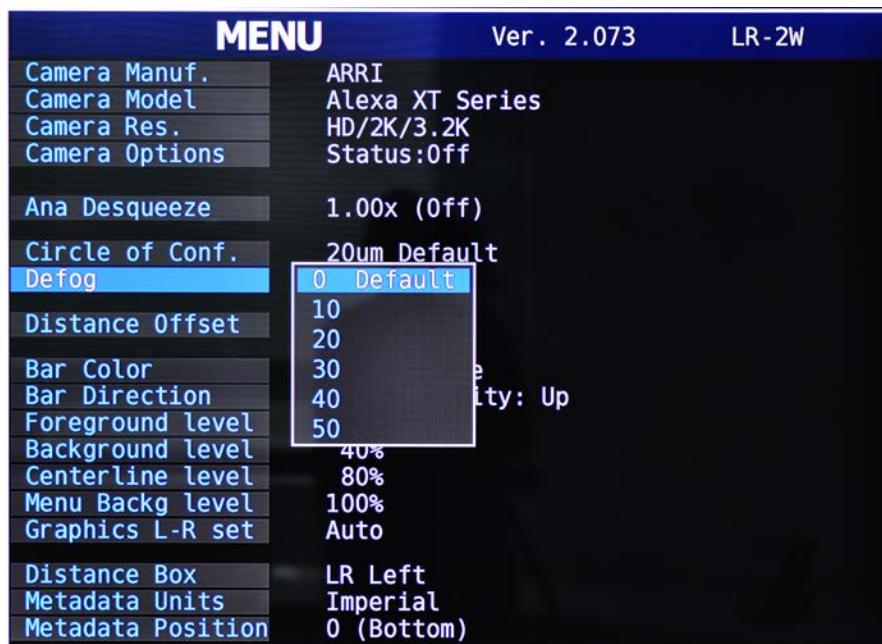
1. MDR3 or MDR4 motor drivers
2. HU3 or HU4 Hand Unit
3. Digital Lens motors

Light Ranger Defog

Additional capability for all LR2 units will be announced: Fog Filter. This new software will appear in the Video Overlay Unit and enhance the range of all units in the presence of smoke or fog. Many DPs are using “atmosphere” in conjunction with Full Frame, so this software will be a welcome addition.

The new software for the Light Ranger 2 system (LR2, LR2-M, LR2-W) approximately doubles the usable range of the LR2 modules in the presence of fog and haze.

The **Defog** item added to the Video Interface menu lets you enter a value for the Defog parameter in the range of 0 – 50 in steps of 10. This parameter removes low strength fog reflections from the data output of the LR2 sensor.



LR2 Modules – Complimentary Angles



Fig. 1: 16 bars occupy 100% of the picture width.



Fig. 2: 16 bars occupy 50% of the picture width.



Fig. 3: 8 bars occupy 100% of the picture width.



The LR2-W and LR2-M offer complimentary horizontal angles of coverage. The “W” version covers 50° horizontally and is optimized for wide angle lenses while the “M” version covering 20° excels with mid to long focal length lenses.

Where coverage over a wide field of view is the paramount consideration – using wide angle anamorphic lenses, Steadicam, or hand-held shots as examples, choose the LR2-W.

When the most important consideration is being able to distinguish between subjects in close proximity to each other at longer distances, the LR2-M is the preferred option.

The tables below show module recommendations based on lens focal lengths and camera format. Since the modules have fixed horizontal angles of view, the size of the overlay graphics will vary with the camera’s angle of view. The recommended range of focal lengths for each module correspond to how fully the 16 bars of the focus assist graphics fill the monitor - from 50% of the image width to 200% of the image width.

The photographs at left illustrate the appearance of the overlaid graphics (simulated) when the focus-assist bars occupy 50%, 100% and 200% of the picture width.

LR2-M recommended range of focal lengths

Camera Format	Lens focal length in mm for 16 bars occupying 100% of picture width (Fig. 1)	Recommended range of focal lengths in mm for 16 bars occupying 50% to 200% of picture width (Fig 2, 3)
Full Frame	102 mm	49 - 205 mm
Super35	71 mm	34 - 142 mm

LR2-W recommended range of focal lengths

Camera Format	Lens focal length in mm for 16 bars occupying 100% of picture width (Fig. 1)	Recommended range of focal lengths in mm for 16 bars occupying 50% to 200% of picture width (Fig 2, 3)
Full Frame	39 mm	15-81 mm
Super35	27 mm	10-56 mm

Preston Hand Unit 4 (HU4)

The new Hand Unit 4 (HU4) from Preston Cinema Systems was introduced in June 2019. It is lighter, smaller and smarter.

The HU4 has been designed for seamless, wireless, single-handed, fingers on buttons, focus control with the Light Ranger 2 System.

Here's a quick review.

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 accessed 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.
- Non-linear iris scales are mapped to a linear scale.

Touch Panel

- 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 LR2 AutoFocus.

Integral Zoom / Joystick Control

- Preston Micro Force control with the 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.

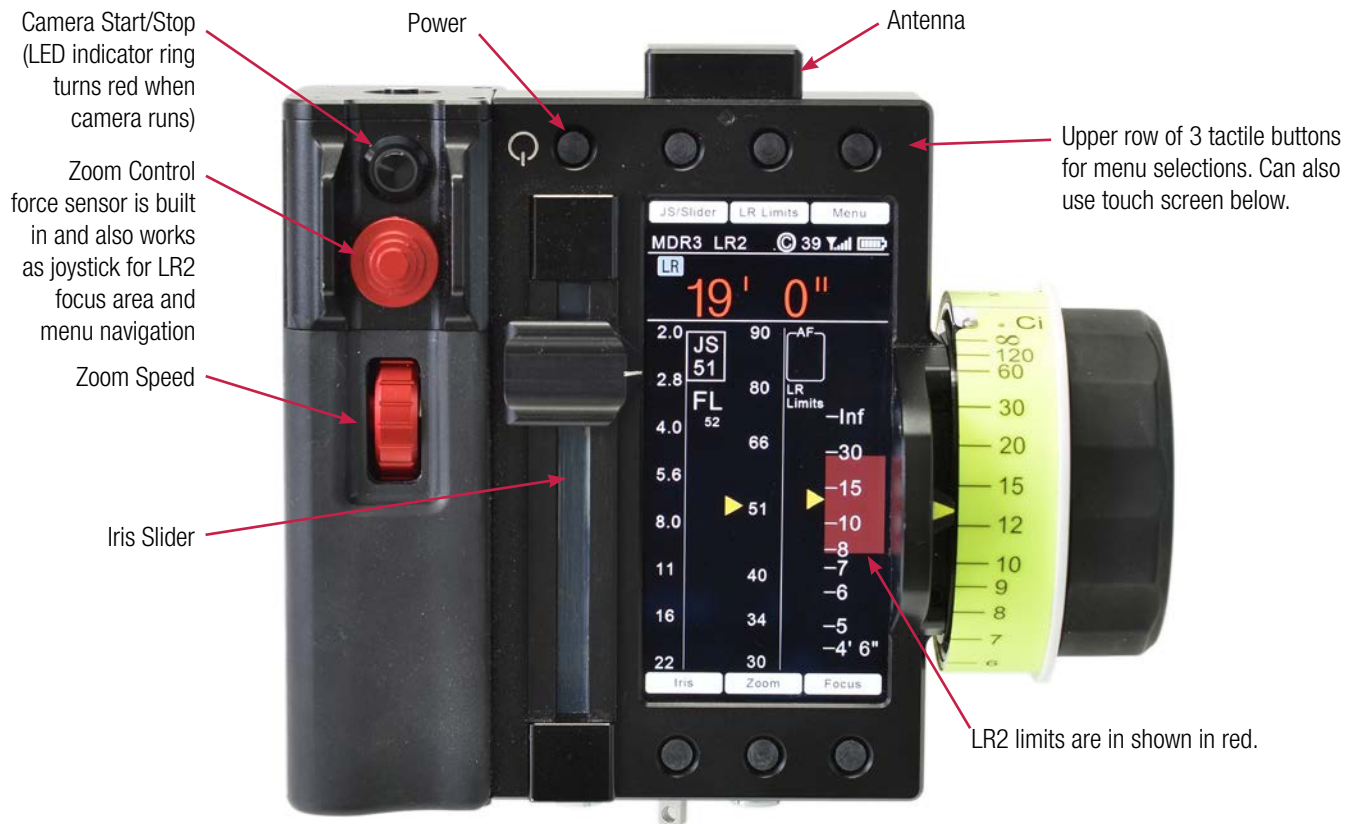
Switches on the molded handgrip control LR2 functions

- 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.

The HU4 As You Like It

As Jacques says in Shakespeare's *As You Like It*, "All the world's a stage, And all the men and women merely players; They have their exits and their entrances..." and a Focus Puller with an HU4 and LR2 system will will play many days on many Full Frame shows.

Production models of the HU4 will be shown at BSC Expo at the end of January 2020 in London. HU4 software now includes user-allocation of the switch functions on the hand grip, dual focus limits that can be applied independently to the manual focus range as well as the range for the LR2 to "see" a subject. HU4 is expected to ship by March 2020.



1. Limits Unlimited. Dual Limits for LR2 and Focus.

- To set distance limits for focus or the LR2: press and hold the respective soft-key while rotating the focus knob through the desired range. Release and you're done.
- To clear a limit, press the limit button for three seconds.
- Freeze the focus setting with a short tap of the focus limit button.

The HU4 As You Like It



2. This view shows both Light Ranger (LR) and Focus limits set. The display shows dots for the LR2 distance as the subject distance is outside the LR2 distance-limit settings. In Autofocus mode, Light Ranger limits prevent a foreground or background object from causing a focus jump.



3. Limits are set for Focus, Iris, Zoom, and LR2. The limits for Zoom and Iris are set in the same way as for focus: holding down the respective button while moving the respective control.



4. Program Switch Assignments.

- The Switch functions can be assigned as you like it.
- The Autofocus button located on the grip can be programmed to respond only while the button is pressed (momentary) or toggled on/off (toggle).



5. Control Assignments are changed with a few finger touches.

AJA 8K Support for HDR Image Analyzer 12G



At InterBEE in Japan on November 13, 2019, AJA Video Systems announced new 8K support for its HDR Image Analyzer 12G, a real-time HDR (High Dynamic Range) and WCG (Wide Color Gamut) monitoring and analysis system developed in partnership with Colorfront. The upcoming free software release will enable up to 8K/UHD2 HDR monitoring and analysis for high raster content with 12G-SDI for higher bandwidth productions with the simplicity of a single-cable connection.

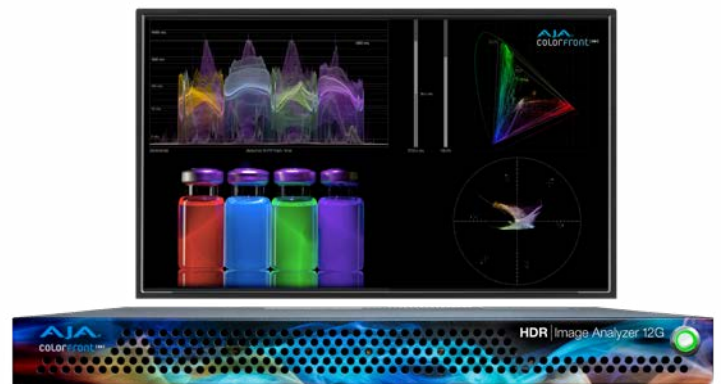
HDR Image Analyzer 12G fuses AJA's production-proven video I/O technology with powerful HDR and WCG image analysis tools from Colorfront, including waveform, histogram and vectorscope monitoring, and analysis of up to 8K content over 12G-SDI for broadcast and OTT production, post, QC and mastering. Within a compact 1RU chassis, HDR Image Analyzer 12G provides users with a comprehensive toolset to monitor and analyze SDR and HDR formats, including PQ (Perceptual Quantizer) and Hybrid Log Gamma (HLG). Additional feature highlights include:

- Up to 8K/UltraHD2/4K/UltraHD/HD 60p over 12G-SDI inputs.
- UltraHD UI for native resolution picture display over Display-Port.
- Configurable layouts for placing desired tools in the preferred window.
- Remote configuration, updates, logging and screenshot transfers via an integrated web UI.
- Remote Desktop support.
- Support for display referred SDR (Rec.709), HDR ST 2084/PQ and HLG analysis.

- Support for scene referred ARRI, Canon, Panasonic, RED and Sony camera color spaces.
- Display and color processing lookup table (LUT) support.
- CIE graph, vectorscope, waveform and histogram support.
- Nit levels and phase metering.
- False color mode: easily spot pixels out of gamut or brightness.
- Advanced out of gamut and out of brightness detection with error intolerance.
- Data analyzer with pixel picker.
- Line mode to focus a region of interest onto a single horizontal or vertical line.
- File-based error logging with timecode.
- Reference still store.
- SDI auto signal detection.

Price and Availability

HDR Image Analyzer 12G will be available soon through AJA's worldwide reseller network for \$19,995 US MSRP. To order or for more information, visit: aja.com/products/hdr-image-analyzer-12g



AJA FS-HDR v3.2



FS-HDR from AJA is a 1RU, rack-mount universal converter/frame synchronizer for real time HDR transforms and 4K/HD up/down/cross converter. For example, FS-HDR takes camera images and convert the LOG output in real time to 4K/UltraHD or 2K/HD as either HDR or SDR.

And now, AJA is releasing FS-HDR software update v3.2.

It adds:

- RGB Color Corrector for general use and to color correct a source signal prior to HDR LUT processing.
- Maintain A/V Sync coupling video and audio delay controls to maintain audio-sync when adjusting video timing.
- Audio Delay is now displayed in milliseconds and audio samples.
- Processor channel names can now be edited for easier identification.
- BBC v1.3.1 HLG LUTs are now enabled.

AJA Ki Pro Ultra Plus v5.0



AJA Video Systems has introduced new upgrades for Ki Pro Ultra Plus with v5.0 firmware. It includes a new Infinite Recording feature that allows the unit to act as an always-running backup recorder. The firmware update is available to customers as a free download.

The Ki Pro Ultra Plus is a multi-channel HD Apple ProRes and single-channel 4K Avid DNxHR and ProRes recorder.

The v5.0 firmware update adds numerous performance enhancements. The new Infinite Record mode, as mentioned, automatically captures all footage, and can all the time as a backup recorder. Infinite Record mode includes automatic formatting and rollover to both AJA Pak Media slots for uninterrupted recording, so there is no downtime when one drive fills up.

Ki Pro Ultra Plus offers up to 4-channels of simultaneous HD recording, or 4K/UltraHD/2K/HD recording and playback via SDI and HDMI.

AJA Ki Pro GO v1.5



At InterBEE in November, AJA Video Systems introduced new upgrades for its Ki Pro Family of file-based recorders. The new v1.5 firmware update for Ki Pro GO adds timecode recording and playback, expanded primary and backup recording to all USB ports, new clip naming and segment recording. The firmware update is available as a free download.

Ki Pro GO is AJA's new portable, multi-channel H.264 recorder and player. It can capture up to 4-channels of simultaneous HD and SD to affordable, off-the-shelf USB media.

With the v1.5 firmware update, Ki Pro GO now records and plays video with timecode. The timecode can originate from an incoming SDI video's RP188 data, be recorded as the time of day or be specified to start at a specific hour.

For playback, timecode values are automatically embedded as RP188 data on Ki Pro GO's SDI outputs.

The v1.5 update also expands backup and primary recording to all five USB ports, providing users with increased flexibility to choose their desired recording destination.

Additionally, the update adds new clip naming and segment recording, automatically creating a unique file name for each clip and identifying each segment of a continuous recording for extended event time needs.

All these updates are compelling reasons for DITs to have the Ki Pro GO on their cart.

Angénieux Optimo Primes Make it Personal

Angénieux Optimo Prime Lenses premiered at the Cannes Film Festival on May 23, 2019. A few months later, Angénieux hosted a special soirée on September 15 during IBC.

Camalot's Sebastiaan van Zuylen was awarded a bottle of champagne for being the first customer to order Optimo Primes in Europe. That was hardly surprising; Camalot loves to be first in line for the latest equipment. Vocas also got champagne for having sold those first Primes to Camalot.

At the event, the Angénieux team presented an in-depth look into the Optimo Primes. It was literally an "into" the lens look, with beautifully rendered animations showing how the interchangeable iris and internal element can be exchanged to create unique looks.

Some of those renders are shown on these pages.

Twelve Full Frame lenses are planned in the Optimo Prime series: 18, 21, 24, 28, 32, 40, 50, 60, 75, 100, 135, 200mm. All are T1.8 except the 18mm which is T2.0 and the 200mm which is T2.2.

Coverage is Full Format with a 46.5mm image circle diagonal.

The fully interchangeable mounts include PL and LPL, so far.

Both Cooke/i and Arri LDS is supported.

The lens gears are industry-standard 0.8M and all are located in the same positions across the entire 12-lens set.

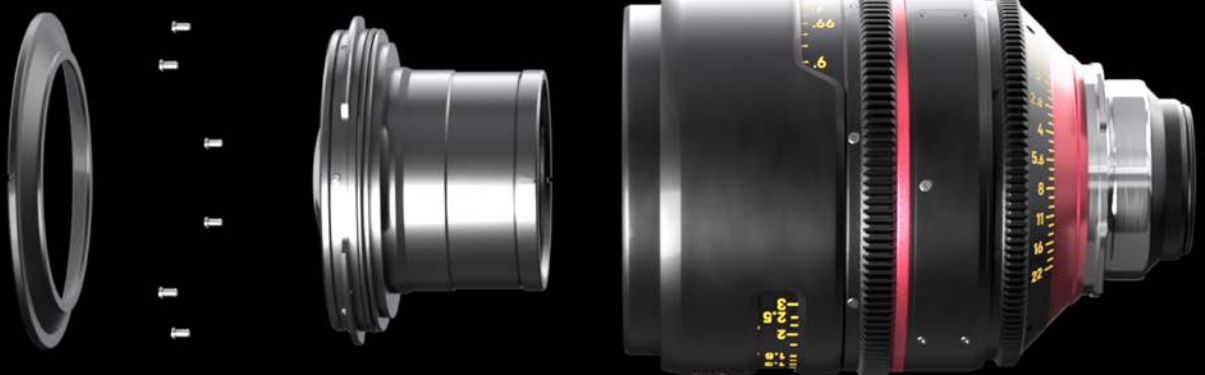
To Make it Personal, the Optimo Primes can be customized at the factory or by certified lens technicians to create distinct looks:

- The iris assembly is removable and exchangeable. Computer simulations shown on the following pages include views of what a mini model VW Microbus looks like with a 3, 6 or 9-bladed iris. Cinematographers and rental houses are dreaming of additional iris permutations, imagining matte black, gold, blue, warm, silver, shiny and dull for bokeh's of multi colors, sizes and shapes.
- An internal element in the middle of the lens can be swapped and exchanged to achieve a variety of different looks and degrees of internal flares, diffusion, coatings, chromatic aberration, or distortion. As shown in these framegrabs from the video, the front optical group is removed, the mid element is removed, replaced by another and the lens put back together.
- A special filter/net holder attaches to the rear of the Optimo Prime. This is where silk stockings can be attached for gauzy glamor shots or monofilament line can be stretched to create streaks.

Sales and distribution of the new Optimo Prime lenses will be handled in the Americas by Band Pro; in EMEA and India by Angénieux; and in Asia by Jebsen.

The following framegrabs from Angénieux's animations by Polar Media are not intended as a how-to-take-apart an Optimo Prime. They are for illustration purposes only. The procedure for exchanging iris assemblies and internal elements should only be done at Angénieux facilities or by factory-trained lens technicians. As they say in car commercials, "Performed by professional drivers on a controlled course," i.e. professional lens techs in controlled clean-room environments. Do not attempt on your own. Resist temptation.

Angénieux



1. Remove Front Cover held in place by 6 screws

2. Remove First Optical Group

Optimo Prime lens body

Angénieux Optimo Primes

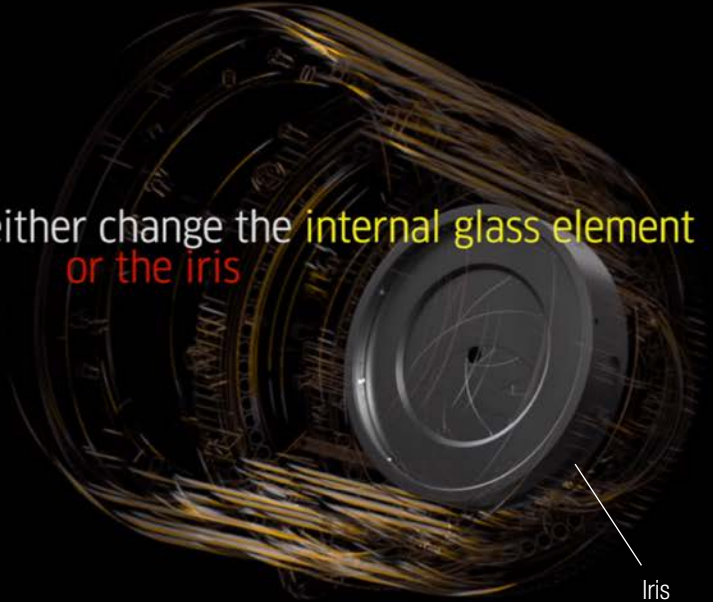
Angénieux



Retaining Ring

Interchangeable
Internal Optical Element

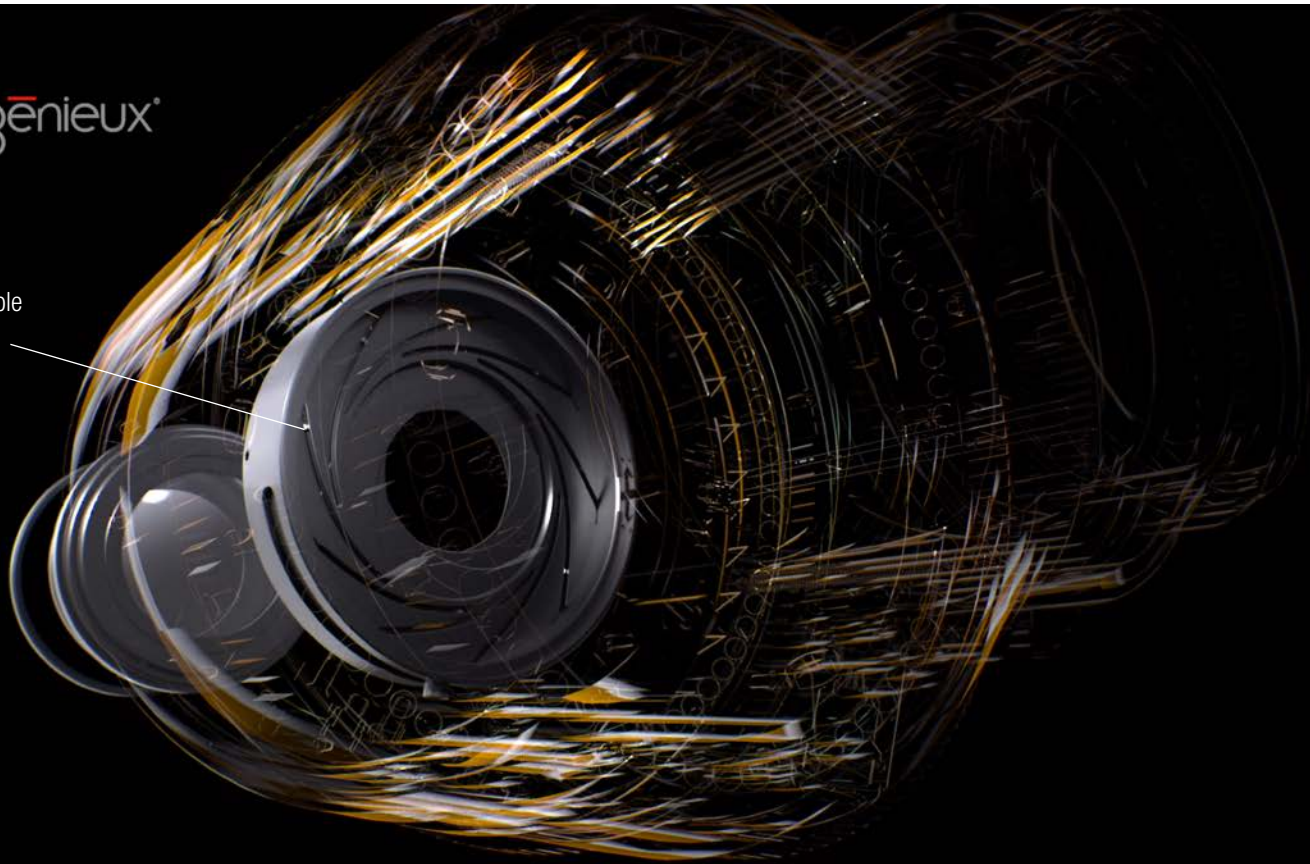
At this stage you can either change the **internal glass element**
or the **iris**



Iris

Angénieux

Interchangeable
Iris Assembly



Angénieux®

3 Blade Iris Bokeh Simulation



Angénieux®

6 Blade Iris Bokeh Simulation



Angénieux®

9 Blade Iris Bokeh Simulation



Angénieux®

Make It Personal



The Year 2019 in Review with Jon Fry of CVP



Jon Fry in CVP Fitzrovia - Newman Street Creative Experience

A business of the business discussion with Jon Fry, Sales Director of CVP, about the year 2019 in review.

Jon Fauer: Is this a good time to talk about the year 2019 in review?

Jon Fry: Sure. I'm just stuffing pizza in my face. That's fine. This is what happens now. We are so busy that I don't get time to eat.

Let's discuss the business in general and CVP in particular. What were the trends and highlights of last year?

It was an interesting year. If we go back to the beginning of 2019, you'll remember we had conversations about Full Frame, Large Format sensors. We talked about what the industry genuinely thought or what we thought the industry wanted. We debated whether or not it was going to materialize this year into something that people actually needed and wanted, as opposed to thinking they just needed to future-proof themselves from a technology point of view.

In the early months of 2019, we had the perception that it was more of an aspiration than a necessity at that point. Yes, we all saw *Roma* (shot with ALEXA 65) and we all thought it was great but was Large Format necessary for anything else outside of that?

If we bring the discussion back to tech, at the beginning of 2019 everybody was buying VENICE. Certainly that was the camera of choice in the UK because it had Full Frame and 4K Super35 capability. But most of the users of VENICE were shooting 4K Super35 in the beginning, not Full Frame. That remained fairly consistent up until late summer.

And then, all of a sudden in the UK, we saw a big turn around and change. I suppose it was the imminent launch of the ARRI ALEXA Mini LF together with a lot of the publicity that surrounded some of the larger productions that had been shot in Large Format. And all of a sudden, everybody seemed to be talking Large Format / Full Frame.

The ALEXA Mini LF in particular caught me by surprise because, at the beginning of 2019, I didn't see that camera being so hugely

popular. That was my opinion and we had lots of debates about this. I genuinely thought that there was going to be a Full Frame requirement, but I wasn't quite sure when it was going to happen. Almost everybody was speculating about a launch of a new ARRI 4K Super35 camera and what impact that would have on the market. I was unsure. But then, all of a sudden, there was a big switch over from Super35 to Full Frame. It seemed as if everybody suddenly said, "Aha, I understand what it delivers and it does look better." Or maybe it was the increase in Full Frame lens choices around that time and a lot of Full Frame lenses became more readily available.

Certainly, it offered more creative choices or maybe it was just the fact that customers said, "The Mini LF works for me and I still want to shoot ARRI." It was an accumulation of everything where, all of a sudden, everybody seemed to be talking about Full Frame and everybody was looking at Full Frame glass.

Therefore, the front half of 2019 was entirely different to the back half of the year. That was one of the highlights as well as a weird anomaly. It was a format change. It happened quickly but there was a very long run up to it. Just talking about our situation at CVP, we completely under-forecast on Full Frame glass and Full Frame cameras. And we actually over-forecast on Super35.

ALEXA Mini LF was announced in April 2019. When did it start delivering in the UK? And what about VENICE and RED

ALEXA Mini LF started shipping in summertime 2019. But even today, I still have more demand than I do cameras, so we're still fulfilling back orders. CVP delivered a huge quantity of Mini LF cameras into the UK so far this year. Maybe it's the fact that all of a sudden you had what many ALEXA LF users kind of wanted to have in the first place: smaller, slightly stripped down and cost effective.

We didn't sell many ARRI ALEXA Minis (as opposed to Mini LF) this year. And the year before, it was a large number of Minis. That business switched off. We don't expect to sell many more new ones. I think there's still a used market for it, but not for new.

Clearly the Sony VENICE was doing well because there really wasn't an alternative except MONSTRO and RED RANGER MONSTRO at the beginning of 2019. VENICE was great because it did everything. It made great pictures. It wasn't too far removed from the way an ARRI worked. The workflow was nice. People got their heads around it and it did a good job. The back end of this year has been more about ALEXA Mini LF. The demand for the Mini LF may not have been about whether it's a better camera. I think it's mainly because it's a newer camera and there were already a lot of VENICE cameras out there.

We sold a large number of VENICE cameras this year and we had 4 going out in December. I normally wouldn't expect to sell a high-end camera in December because that's typically when business is slow. But that's another part of the industry that is changing. Many high-end dramas and episodic productions were happening in the UK at the end of this year. And there will be more. There's a shortage of studio space because of the amount of production that's happening now. Crews are in demand. The rental companies were all still busy in December. Usually at the end of the year, we are all scratching our heads thinking it is going to be a

The Year 2019 in Review with Jon Fry of CVP



CVP Fitzrovia - Newman Street Creative Experience



CVP & ARRI Creative Space Charlotte Street Creative Space

disaster. Right now, the industry in the UK is absolutely booming. RED Gemini 5K S35 had a good year, especially for shooting in low light. Many customers in the natural history community also wanted to shoot with RED Helium 8K S35.

The rental companies are buying ALEXA Mini LFs mainly because they already have a lot of VENICE cameras and they don't want to have too many of one camera.

Were your customers this year mostly rental houses or owner operators?

The majority for us has been rentals. It always has been this way because we're the only reseller in the UK that doesn't have any sort of conflict of interest with other rental companies. Consequently, people are very confident in purchasing from us together with the fact that we make it very easy for them. We sell to a large volume of the rental market in the UK.

Do some people buy directly from the manufacturer in the UK?

Very few buy directly from manufacturers. Most rental companies in the UK, and this is the same for owner-operators, want to do a deal that is a complete package for them. They want to be confident that they can buy all of the kit from one place. As much as we plan, this industry is still "just in time" and we can bundle it up in one deal. They may require credit terms with us. Our long-standing, very loyal customers can get decent payment terms from us. They need to know that they can get the resources, expertise and knowledge prior to purchase to reassure them that they're making the right decision. We're the only company in the UK, manufacturers included, with the knowledge to cover everything that somebody might buy.

Customers need to know that the equipment can be serviced, can be turned around quickly by our core of good in-house engineers who can repair it. Rather than sending it back to the manufacturer and hoping they get it back to you in the next 30 days, we do everything. We need to ensure that our customers buy the right gear. We need to have tested that gear. Once we've supplied

it quicker than everyone else at the right price with the right bundle, we then have to look after those customers. The manufacturers can't do that all by themselves.

We maintain a competitiveness in terms of price. I think the industry is still complicated enough that people, especially at this level, want to pick up the phone and say, "I'm thinking of this project and I think this is the gear I need. Can you just help me and confirm that I'm not making a mistake?"

It could be as simple as that. It might be the only consultation we do. Or they might come to us and say, "I'm really not sure about this. I've got all sorts of things going around in my head. Can I spend a day with you in the Newman Street Creative Experience or in the Charlotte Street Creative Space and just speak to your team and test a few things and at the end can I get some clarity on what I need to do?" We get a lot of that. With Alan Piper back at RED and with the RED office undergoing refurbishment, I'm hoping that in Q1 2020, customers will find everything within a 400 yard circumference. Sony, Canon, Blackmagic, Panasonic are in Newman St; ARRI in Charlotte street; and then RED in Gresse Street. That's the Holy Grail.

You mentioned something before: "Just in time." What is that?

"Just in time" is a phrase we use when working with people on projects where we talk about a production for six months and they test it and we go through the conversations and talk about it and it is quite an exciting project and then it gets green lit and after all that time they suddenly want all of the kit next Tuesday. That is "just in time." And that means we must have an inventory with an enormous amount of stock in the warehouse. It's always way too much, but we need to have it and be able to deliver it just in the nick of time.

If for some reason we can't supply it immediately, we have the opportunity to get customers going by loaning them gear for a week or two just to get them out of the hole that they've dug themselves into by leaving it maybe a fraction too late, well let's call it "just in time."



CVP at BSC Expo 2019

What has been “just in time” lately?

There was a massive run at the end of the year for Canon C500 Mark II and Sony FX9. At year-end, I think we sold slightly fewer smaller type camcorders than we previously did: Sony FS7, FS5; Canon C300 C200, C100; and Panasonic EVA-1. All of these cameras are still doing well. But in November and December, it was all about the FX9 and C500 Mark II.

The C500 Mark II is doing very well. It's a camera that when people stand in front of it, very few find fault. Most of those people are probably previous Canon users. So they like the form factor. They like the way it looks and feels familiar. It's got all the features in it.

Tell us about the trend in lenses this year.

It seems to be all about Full Frame. Not very much Super35. I don't think Super35 will disappear; people will still shoot in that format. But you are also dealing with a saturation point; there are a lot of S35 lenses. If you're going to make an investment in glass, it's unlikely to be more Super35 unless you are absolutely convinced that for the next five years you're not going to have any Full Frame jobs.

The ZEISS Supremes have done very well. If you want a workhorse lens, Supremes are among the best sellers this year because they're technically fine at an affordable price point. The ZEISS Radiance primes add another flavor to the whole Supreme range. I think that they've done a good job this year.

SIGMA Full Frame High Speed Cine primes have also done very well in the past year.

Cooke S7/i Full Frame primes are also in demand, when we can get them.

ARRI Signature Primes took off around the middle of 2019. It's one of those situations where if you asked me in June, I would have said we were massively over forecast and were struggling and worried. But here we were in December and we delivered what we forecasted. Interest increased in June, July, and all of a sudden everyone wanted to have Signatures. They were intrigued by the look, the rear filter holder, and the light weight.

I think the ALEXA Mini LF helped and also the idea that there are more LPL mount conversion kits from Kippertie and Wooden Camera to put on other non-ARRI cameras. There were LPL mounts for Sony, RED, RED RANGER. It was almost a snowball effect.

Do your customers mostly ask for spherical or anamorphic lenses?

As ever with lenses, trends drive demand. Anamorphics right now are not something that I'm desperate for. In the beginning of the year, I would have taken them all day long. It's hard to keep up with the fads. Two years ago it was all about zooms. It's not fair to say that nobody wants anamorphics at all. But the demand for Super35 anamorphics isn't what it was at the beginning of the year. I'm not sure about Full Frame anamorphics yet.

You mentioned zooms just a minute ago. What's the trend between zooms and primes this year?

It's all about primes this year. We sold lots more primes than zooms in 2019. This is pure speculation, but maybe people go prime first and then follow with zooms. There are several good zoom choices: ZEISS CZ.2, FUJINON Premista, Angénieux EZ, LEITZ ZOOM.

You said something earlier about credit terms. Does CVP work with a bank or leasing company?

We do offer, through relationships, the opportunity for leasing. We can wrap up a particular deal with a lease by working in the UK with media lenders. We've got a very good relationship with Azule, a leasing finance company specializing in the media industry, or a number of other companies.

We can put a deal together for a customer, based on the equipment and the price and then introduce a finance company. When I talk about credit terms, if we sell to someone who has been a long time customer with us, who pays regularly, there is every chance we could offer them payment terms based on their specific requirements. So, we try to understand our customer's business and then we work within their capability and the restrictions that are attached to their business to make life easier.



CVP at BSC Expo 2019

We want to make sure that we are working with our customers. One highlight this year has been developing our Newman Street and Charlotte Street facilities to get closer to our customers, to production and the industry. I feel we are much better equipped moving into 2020 to build upon that knowledge and develop tools or facilities to enable the industry to continue its growth.

I think this is absolutely paramount. This coming year, I'm aiming to build an accredited training program for certain skills and activities that carry some sort of endorsement from the industry bodies, perhaps the BSC or ACO. It will enable customers to become better skilled, to give them something that they can use on their CV to move forward. We have a shortage of crews because so much is being shot in the UK, and we need to make sure that the right people are getting on the next job and that we're helping them learn the skillsets to get better. That's just one example of something we've identified in the past year that we need to help change.

If you looked into your crystal ball for 2020, what other things would you like to see?

From a technology point of view, I think possibly it will be a year of consolidation. That wouldn't be a bad thing. I think what we've had in 2019 was lots of new stuff coming to market and now it needs to find a level. 2019 saw an introduction of all of these products and now it kind of needs to find where it will fit. So when I say consolidation, what I'd like to see is less confusion with so many other bits of kit coming around. Let's just make sure that it's being used in the right way with the right accessories and lenses.

I think 2020 is going to be a good year from a sales perspective. Rental houses will be expanding on their rental fleets without over-committing themselves. I think in 2020 we will see more crews and more equipment because there's going to be more production, which is fantastic. I love it. Less confusion in the market. Less uncertainty, more of a consolidated view.

Last question and then I'll let you finish your cold pizza. Earlier you said that with all these different choices, it's sometimes very hard for customers to make a decision. How do they actually make a decision, with all these different choices of equipment,

when they come into one of your CVP facilities?

I think everybody makes a different decision based on different criteria. There isn't a formula. There are no written rules. We'll try to help a customer make a decision. And if I'm entirely honest, sometimes we don't. If a customer remains undecided, we may tell them not to buy anything at all, to just wait until they do know. I think that's important. The process we will always go through is one of initial questioning because I need to know the ins and outs of everything they're doing. We then need to communicate our understanding of those questions and make sure that we put it right.

At that point, we need to take them on a journey, which is to test our findings from the questioning and prove it to them. And if the outcome is that they say yes, 100%, that is what they want, then we know we gave them the right advice. If the outcome is they are still unsure, we encourage them to wait. And that really is how you take this forward. But, all of this depends on one thing and that is an absolute understanding of what customers are trying to achieve. Unless we absolutely, categorically know what it is they're trying to do, we are never going to get there.

Or maybe it just boils down to the job beginning in two days and, "just in time," they come racing to your office and they have to buy something!

"Just in time," they might have to buy something and then we might need to work out a deal where we can get them back out of it at the end if it happens to be wrong for them. If someone says, "I just got to have this because it is the minimum requirement" and we have something to facilitate that and it gets them working, then we'll expedite it. Let's say they come back to us in three months time and say, "I bought this and it was great but I can't make it work for me anymore because I'm now doing something different." At that point, I might offer to buy it back from them for whatever it's worth and we'll get them into something new.

It's about ongoing relationships. We do buy used equipment. So again, that's about total peace of mind we can offer our customers. Even if they get it wrong, come back to us and we'll work something out.

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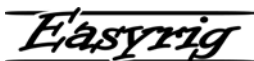
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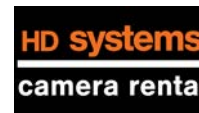
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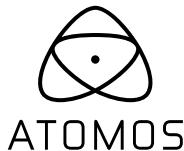


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