

Jon Fauer ASC

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Issue 96

# FILM AND DIGITAL TIMES

Art, Technique and Technology in Motion Picture Production Worldwide



Cover photo by Pauline Maillet

# 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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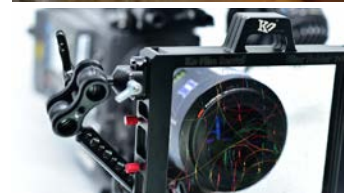
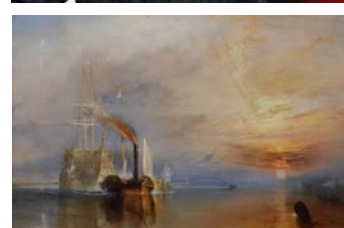
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Cover: Bruno Delbonnel, ASC, AFC at Cannes with Angénieux Optimo Prime on a Sony VENICE. Above: Bruno on the red carpet. Photos by Pauline Maillet.



Bruno Delbonnel, AFC, ASC and Angénieux Optimo Prime 40mm at Cannes. Photo: Pauline Maillet.

Angénieux unveiled Optimo Prime Lenses at the Cannes Film Festival on May 23. Leading rental houses and cinematographers from around the world gathered in a conference room of the Radisson Blu to learn about the concept, specifications and details. The meeting then moved to the rooftop terrace overlooking the bright blue Bay of Cannes and the Old Port grid-locked with the latest models of mega yachts. Prototype Optimo Primes were set up on cameras for all to see. What did these lenses look like? Breathtaking. Classic Angénieux.

The next day, Bruno Delbonnel, AFC, ASC was presented with the Pierre Angénieux ExcelLens Award for Cinematographer. And then, the Angénieux team was enroute from Paris to Los Angeles on Air France flight 72 to officially present the first Optimo Prime prototypes to the worldwide cinema community.

But first some details. (As with most cine things, some of these may change.) Twelve Full Frame lenses are planned in the Optimo Prime series. The initial 6-lens production run will be 21mm, 28mm, 40mm, 50mm, 75mm and 135mm—scheduled for delivery by Summer 2020.

The complete 12-lens set will include the above focal lengths as well as 18mm, 32mm and 100mm lenses. These should be ready by Winter 2020. The 24mm, 60mm and 200mm will complete the set in Spring 2021.

So: 18, 21, 24, 28, 32, 40, 50, 60, 75, 100, 135, 200mm. All T1.8 except 18mm and 200mm.

- Coverage is Full Frame, 46.5mm image circle.
- 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 in the same positions across the entire 12-lens set.

The Optimo Primes not only match the look and feel of Angénieux's celebrated Optimo Zooms, but also nicely complement the new Optimo Ultra 12x (which comes in Full Frame, Ultra35 and Super35). This is unique in the Full Frame lens arena: having both Full Frame primes and a long-range 12x Full Frame zoom.

Three additional features captivated cinematographers and camera crews at Cine Gear. The Optimo Primes can be customized at the factory or by certified lens technicians to achieve unique looks. There are three essential variables and possibilities limited only by permutations, imagination, resources, desire and (yes) budget. And you'll want a clean room. No, you will not do this on location.

- The iris assembly is removable. Imagine: various numbers of iris blades finished matte black or shiny for flares and in round, oval or other shapes.
- There's an internal element that can be swapped. The front optical group is removed. The element removed, replaced by another and the lens put back together. Imagine the effects of various air gaps, internal element coatings or lack thereof, perhaps a degree of diffusion or frost.
- A special filter/net holder attaches to the rear of the Optimo Prime with magnets. This is where classic silk stockings are attached for gauzy glamor shots or fishing line is stretched for streaks.



## Angénieux Optimo Primes unveiled at Cannes



Amnon Band (Band Pro), Emmanuel Sprauel (Angénieux) and Severine Serrano (Angénieux) unveiling Optimo Prime at Cannes. Photo: Pauline Maillet.

Optimo Primes are like a multi-national motion picture co-production.. They are the result of an Angénieux partnership with Band Pro Film & Digital, Inc and Jebsen Industrial Technology Co Ltd. The optical design, optical elements manufacturing, final quality check and project management is done by Angénieux in Saint-Héand, France. The mechanical parts and assembly are done by IB/E Optics in Germany on behalf of Angénieux.

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. These are the same partners who successfully delivered the Angénieux Type-EZ Full Frame/S35 Zooms. No doubt basking in the success of that project and appreciating the benefits of cooperation, the same partners decided to embark on an even more ambitious journey—the Optimo Prime Lens Series.

“But Angénieux is famous for zoom lenses,” you might ask. “What do they know about primes lenses?” Actually, a great deal. History repeats itself. We’ll get to that in a few more pages.



# Angénieux Optimo Primes



Lens	18 mm	21 mm	24 mm	28 mm	32 mm	40 mm	50 mm	60 mm	75 mm	100 mm	135 mm	200 mm
T-Stop	T2.0	T1.8	T1.8	T1.8	T1.8	T1.8	T1.8	T1.8	T1.8	T1.8	T1.8	T2.2
M.O.D.	14"	14"	14"	14"	14"	14"	16"	tbd	24"	tbd	3'3"	tbd
S35 equiv.	12 mm	14 mm	16 mm	19 mm	21 mm	27 mm	33 mm	40 mm	50 mm	67 mm	90 mm	135 mm

## There are three ways to customize Optimo Primes

- A rear filter holder attaches magnetically to the rear of the lens
- An internal element can be replaced. This is done by a certified lens technician.
- The iris assembly can be exchanged. Various iris blades will be available

## Current Delivery Plans

- Phase 1 will see 6 focal lengths shipping: 21, 28, 40, 50, 75 and 135 mm in Q2 of 2020.
- Phase 2 will add 3 additional focal lengths: 18, 32 and 100 mm in Q4 of 2020.
- Phase 3 will have 3 more focal lengths: 24, 60 and 200 mm in Q1 of 2021.

## Specifications

- Mounts: currently PL and LPL.  
Probably Panavision and others as well.
- Iris Barrel: 80° Rotation
- Focus Barrel: 320° Rotation
- Focus and Iris Gears are all at the same distance from the lens mount flange
- Constant Volume (front and rear elements remain in the same position when focusing)
- 10 of the 12 lenses are the same size

## Cost

The complete set of 12 lenses will cost € 245,359 and US\$ 308,910.





# Angénieux Launch at Cannes



Amnon Band, Emmanuel Sprauel and Severine Serrano in the moments before Angénieux goes Prime at Cannes.



Rental houses, cinematographers and luminaries from around the world gathered for the launch in a conference room of the Radisson Blu.



Jon Fry, Sales Director of CVP.



Darren Simpson, Account Director of CVP.



Christophe Remontet, Daniel Alzerra, Emmanuel Sprauel, Severine Serrano, Amnon Band.



## Angénieux Optimo Prime Cannes Launch



The Angénieux Cannes Launch Event moved to the rooftop deck of the Radisson Blu for Champagne at hand and hands-on time with the Optimo Prime Cecile Zhang, Bruno Delbonnel, AFC, ASC, Jean-Yves Le Poulain and Modhura Palit discuss the look. Photo: Pauline Maillet.



Cecile Zhang, Chinese cinematographer and Beijing Film Academy graduate, received the Angénieux Special Encouragement Award in 2018. Photo: Pauline Maillet.



Severine Serrano and Paul Fuller, Angénieux Optical Designer of the Optimo Primes.



Amnon Band enjoying the view with Optimo Prime while Panavision's Patrick Leplat pulls focus. Angénieux's Christophe Remontet is amused.



# Angénieux Optimo Prime Cannes Launch



Daniel Alzerra (Thales), Amnon Band (Band Pro), Emmanuel Sprauel (Angénieux), Serverine Serrano (Angénieux) with prototype 40mm Optimo Prime at Cannes launch.



Jacques Lipkau-Goyard and Elisabetta Cartoni.



Dan Lopez, Head of Lens Service/Repair Department at Otto Nemenz International; Nick Hayes, Sales Manager, North America at Angénieux; Christophe Remontet, Managing Director Cinema Optics; Paul Fuller, Angénieux Optical Designer.



Dany Bruyère, Deputy Managing Director at TSF.



## Cannes Red Carpet – Enroute to the Pierre Angénieux Excellens Award



Photos by Pauline Maillet.

Bruno Delbonnel, ASC, AFC ascends the red carpeted stairway.



# Cannes Red Carpet – May 24, 2019



Photos by Pauline Maillet. The Angénieux delegates, guests and stars on the red carpet.



Amnon and Ronit Band.



Jon and Noemi Fauer.





# Angénieux Reception on the Mouton Cadet Terrace



At the Mouton Cadet terrace on top of the festival hall. Photos by Pauline Maillet.



Christoph Waltz and Edith Bertrand, Communication Manager, Angénieux Cinema Optics.



Zhang Ziyi and Dominique Rouchon, Deputy Managing Director of Angénieux International Sales & Communication..





## The Pierre Angénieux Excellens Award – May 24, 2019



Bruno Delbonnel, ASC, AFC—honoree. Photos by Pauline Maillet.



Modhura Palit—honoree.



Zhang Ziyi, star in “Crouching Tiger, Hidden Dragon,” “House of Flying Daggers,” “Memoirs of a Geisha,” “The Grandmaster,” etc.



Jean-Pierre Jeunet, Director of “Amélie,” “A Very Long Engagement,” etc.



Bruno Delbonnel and Christoph Waltz.

# The Pierre Angénieux Excellens Award – May 24, 2019



We take our seats in the Salle Bunuel Theater. Pierre Zéni, Master of Ceremonies, gives the introductory welcome speech. Here is an edited summary. Any errors come from loss in translation from the original French.

## **Pierre Zéni**

“Welcome to this seventh edition of the Pierre Angénieux Excellens in Cinematography Award, a prize given every year in Cannes to acknowledge the outstanding art and work of an artist of light. We gather here to honor cinematographers not as technicians of images but rather as masters of shadow and light, sculptors of images and creators of frames.

Bruno Delbonnel is honored here tonight. He has been the wonderful cinematographer of films by Jean-Pierre Jeunet, the Coen Brothers, Tim Burton and others. He has been recognized with Caesar Awards and Oscar nominations. We owe all this inspiration to his boundless talent.

We also would like to recognize the mastermind of the superb selection of films in this, the greatest film festival in the world. Please welcome the Artistic Director of the Cannes Film Festival, Thierry Frémaux.

## **Thierry Frémaux**

It is a great pleasure for us to have this partnership with Angénieux, which is of course linked to creation. There are two partnerships at Cannes, one in the area of music and one with Angénieux for cinematography.

When you go into a bookstore and you open a book, you can read a work of literature. But when you watch a film on which Bruno has been involved, you know, it's a film.



Thierry Frémaux, Artistic Director of the Cannes Film Festival. Photos: Pauline Maillet.



# Pierre Angénieux Excellens Award



**Emmanuel Sprauel, President of the Angénieux brand. Cannes, May 24, 2019.**

Dear Bruno and Modhura, dear Jean-Pierre, dear Thierry, dear partners and friends, dear exceptional talents, dear all,

It is of course a great pleasure to be here with you and to share this moment dedicated to honor the passion of crafting cinema stories for the pleasure of the public.

When I first saw *Amélie Poulain*, I immediately felt immersed in the specific universe of Amélie, through colors and movement, music and charm. And the charm went on during the film. And the charm continued each time I saw the film afterwards.

Why did this film have such an impact for me and for all the people who loved the movie and still love it?

Among many reasons, there is for me the genuine ability of Bruno to give life to colors. In every moment of the film, he creates a meaningful atmosphere—so meaningful that we just perceive it, now, as if we were in the time of Amélie.

It is a journey in time.

How did Bruno do such a thing? Can we get to the point where we understand how?

Probably it is because he is a very curious man, always thinking of the reality of things, and the difficult, and sometimes painful—a confrontation with the perception we have of things that happen in the moment in front of us, things that happen with us, or through us.

He has given a very nice word for that experience: rare realities.

Maybe now we can understand why Bruno has this unique combination of strong curiosity, advanced thinking process and accurate visual translation. He can provide an inclusive effect into the eyes of the spectators. He is able to give the director and the public the power to feel included in the atmosphere of the story, that becomes, for a moment, our atmosphere and our story, whatever the story.

Bruno is also very inclusive with all the people and crew members who take part in the creation of his movies. He does not feel he is the author of the work. He even refuses the idea of authorship or leaves it to legal matters. He only works in a collaborative mode, including everybody bringing a piece of the creative material into

the camera, and later on for our eyes on the screen.

It is his way to reveal and raise and embark on the potential but invisible synergies of collective work, to bring more to the director and finally to the audience

What a lesson. Absolutely human. Absolutely true artistic leadership.

Do you know, Bruno, what is between black and white (and I am sure your know)?

All the colors of life. I really think you are a painter of the colors of life.

For all these reasons, as the President of the Angénieux brand, with all people with me in Angénieux, we share your passion, and we truly expect to help you bring your vision to life. We all are dedicated to make the best products possible so that they can simply suit you the best.

Angénieux is a star brand in the cinema industry in the world, with exceptional zoom lenses, and now—we announced it yesterday—with new exceptional Optimo Prime lenses. We all are very proud, here in the most famous cinema Festival in the world, joining history with Philippe Rousselot, Vilmos Zsigmond, Roger Deakins, Peter Suschitzky, Christopher Doyle and Ed Lachman, to dedicate the 2019 Pierre Angénieux Excellens in Cinematography to you. Thank You.



Bruno Delbonnel accepts the 2019 Pierre Angénieux Excellens Award from Emmanuel Sprauel: an Angénieux Optimo 15-40 zoom with his name engraved upon it.





# Pierre Angénieux Excellens Award to Bruno Delbonnel, ASC, AFC

*Suzel Pietri, Managing Director of Orbis-Media, took the stage. This would be the stuff of urban legends were it not the truth. Once upon a time, 8 years ago, Suzel was flying back to France from the Singapore Film Festival. Her seat was defective and would not recline. She complained to the flight attendants, but it could not be fixed nor were there any unoccupied seats to which she could move. A gallant young gentleman came to the rescue. He offered his seat. That man was Dominique Rouchon of Angénieux.*

*Neither of them slept on the 13½ hour flight. Instead, they concocted an interesting award for cinematographers. It would be at Cannes. It would be the Pierre Angénieux Excellens Award. The rest is history.*

## Suzel Pietri

“In Japan, when paper shapes float down a river, they grow bigger and bigger. Then they invade your entire imagination. I’m very pleased to welcome you all here. We are here thanks to the help of Angénieux and other partners in Asia, in China and in Africa soon as well. Of course in America, that’s already the case. What we’re doing is to ensure that images are indeed a universal language.”

*Next, Jean-Pierre Jeunet and Guillaume Laurant spoke about Bruno, their friend and colleague. And then Christoph Waltz spoke.*

## Christoph Waltz

When we talk about images, we always talk about results. We know your results, Bruno, and how fabulous they are. But there’s a process that leads to the result and in the beginning, so I’m told, it was dark and there was chaos and then someone said, ‘Let there be light.’ Light created order and the order that you created on the set that I had the privilege to work on was special. And why was it special? Because your smile remains when the lights go out in the cinema and we get up and talk about your images and the results that you create. Thank you.

*And then, Bruno took the stage.*

## Bruno Delbonnel, ASC, AFC

We all know its teamwork. That’s the most important thing for me. In many ways I owe this to all the wonderful technicians I have worked with over the years. Because it is a collaboration. I respect every job of every technician on set.

My job is to listen to everyone to see what kind of problems we can solve together. I listen to the actor who says, ‘I don’t want to be shot on this side because it’s my bad profile.’ And that is okay with me.

I respect the location manager who will get all our trucks to the right place early in the morning. I respect the director and the script and the story we are trying to tell. So it’s all this teamwork that starts with the director and actors and continues on even to the manufacturers of lenses.

I admire what the optical engineers at Angénieux have done and I owe them a great debt of gratitude. They have given us a kind of gift because without their beautiful work and their lenses, there’s not much I can do. So it all goes on from the work of the Angénieux engineers and that is absolutely fabulous. What’s happening on set is a territory where everybody’s moving the same way and when this happens it is absolutely fantastic. But sometimes it doesn’t.

I’m very grumpy in the morning. So I need my coffee and I need an AC to bring me my coffee and then I can start working. I can recall a lot of anecdotes. On the last movie I did, “Woman in the Window” (which hasn’t been released yet) I was lighting the set and struggling with it. I asked my second AC, Connie, ‘What do you think?’ She looked at me and said, ‘But you’re the boss, boss. I’m not supposed to tell you what I think.’ I replied, ‘I really want to hear your point of view. It is very important for me because you are going to be a cinematographer one day and you have your own point of view—everyone has an opinion. So I need to know what you think. Maybe it’s going to be helpful.’ She hesitated and after a while she said something. And then I said, very loudly, to the entire crew, ‘OK everyone, Connie said that we should move this light.’ She was red with embarrassment.

Welcome to my world.

To make a long story short, Jean Renoir once said that a movie is 50% the script, 50% the actors, 50% the key grip, 50% the AC. Yes, I think that’s true.

This award goes to all the directors I have been lucky enough to have worked with: Tim Burton, the Coen brothers, Joe Wright, Jean-Pierre Jeunet, Aleksandr Sokurov and others. So, in conclusion, this award really belongs to all the people I have worked with, who shared their talent. It was an honor to work with the best technicians on the planet and I owe them a lot. Thank you.

Read the comprehensive interview with Bruno Delbonnel in *FD-Times* June 2019 or online: [fdtimes.com/2019/05/22/delbonnel/](http://fdtimes.com/2019/05/22/delbonnel/)



Photo: Pauline Maillet.



# The Angénieux Emerging Cinematographer Award



Severine Serrano, French actress Amira Casar, Indian director Rajiv Menon and Modhura Palit. Photo: Pauline Maillet.

Severine Serrano was invited to the stage to present the Angénieux Emerging Cinematographer Encouragement Award.

## Severine Serrano

I am very pleased indeed to be with you here this evening. With each year that goes by, I notice the room becomes more full. It's a pleasure. Today, from Hollywood to Bollywood, from Paris to Beijing and Kolkata, the history of cinema is boundless and without borders. Everywhere, it's a universal story of passion, emotion, light and beautiful images.

The aesthetic and technological demands of cinematographers have influenced and fashioned the success of Angénieux lenses. Angénieux represents innovation, expertise, passion, excellence, and as we've seen in the past few days, the philosophy of offering technology in the service of creating works of art.

Angénieux has always believed in nurturing talent and passing along the art of images across generations. We want to focus, at the heart of this ceremony for the second consecutive year, on a very young cinematographer,

After China last year, our heart has taken us to India. India produces more than 1,000 films a year. There are 10,000 movie theaters with 20 million cinema goers every day. India is a great nation when it comes to cinema and India possesses a contemporary, generous, colorful film industry.

Women in cinema are too few in number both in India and worldwide. We want to encourage the work of women cinematographers by presenting an Angénieux award.

Modhura Palit's photographer parents transmitted this love and this art to her. She studied at one of the greatest Indian cinema schools, Satyajit Ray Film and Television Institute. She's a member of the Eastern India Cinematographers Association (EICA), the Indian Women Cinematographers Collective and the Asian

Film Academy.

By honoring the work Bruno Delbonnel and the career in the making of Modhura Palit, Angénieux would like to express our admiration for a rising star cinematography, a creator of images in the art of visual storytelling.

## Modhura Palit

Let me take a moment to breathe for a second. This is something like a childhood fairy tale. It is telling me that I am living in a fairy tale because I would have never imagined something like this. When I got the first email inviting me to Cannes, I didn't believe it. I thought that it was a spam email, like when it says that you won a \$1 million prize. My collective said, 'Are you nuts, please respond.' So thank god that I did and I'm here now, but I really still do not believe that this has happened to me. We as independent cinematographers and independent upcoming filmmakers are working with almost nothing and almost no budget.

We can't imagine ourselves to be standing here at this podium and talking to all the lovely people of the *creme de la creme* of the film industry. As a woman, I am thankful to Angénieux for giving me this award. But it's not just because I'm a woman and thanking for myself. I want to give thanks for all the other little girls who are back in India and thinking of holding up a camera and aspiring to becoming a cinematographer but can't—or think they can't do it because this is supposed to be a manly job. It's supposed to be a job for men. It's supposed to be a male dominated world. Can I do it? Can I ever pick up the camera? Can I work long hours? What if I miss my family? What if I have a kid? What if I'm married? What do I do?

Because, those things can actually end your career. But if this woman, standing here, wearing a sari and representing India, and this image goes out to all those people and all those girls then maybe they can believe that. If you dream hard enough, if you think strong enough, there is a chance of representing India on the global stage and doing work that you really like from the bottom of your heart. There should never be a male's world or a woman's world and I hope and pray for that day when we will be spoken about as just cinematographers and not women cinematographers.

I hope the day will come when we just talk about the craft of the DP and not issues of male or female. I hope that discrimination goes away very soon. We need more women. We need more feminine points of view in the industry in all areas. Angénieux has been making this possible a little at a time. I hope we have this legacy of more women coming in, stronger women, stronger than me, talented and brave, who have decided to break through the stereotypes, the glass ceilings, to fight it out for whatever it takes. She will come here and stand up and speak. If this is what it takes to show that, yes, I'm capable enough to make a film, then so be it. Because what we women put on our eyes each day is not just makeup, it's war paint, and this is war. This is war. We are here and plan to succeed. Thank you Angénieux so very much.

Now I can tell all young girls in India that fairy tales can come true. We need more women as cinematographers, more strong women in India to join the clan of cinematographers. There is no reason for attaching a gender to a job. Thanks to Angénieux I feel stronger. Many, many thanks"



# Pierre Angénieux Excellens Award



Photos on pages 18-19 by Pauline Maillet. Emmanuel Sprauel presents an Angénieux Optimo 15-40 zoom engraved with Bruno Delbonnel's name as the Pierre Angénieux Excellens Award for 2019.



Christoph Waltz, Bruno Delbonnel, Emmanuel Sprauel.



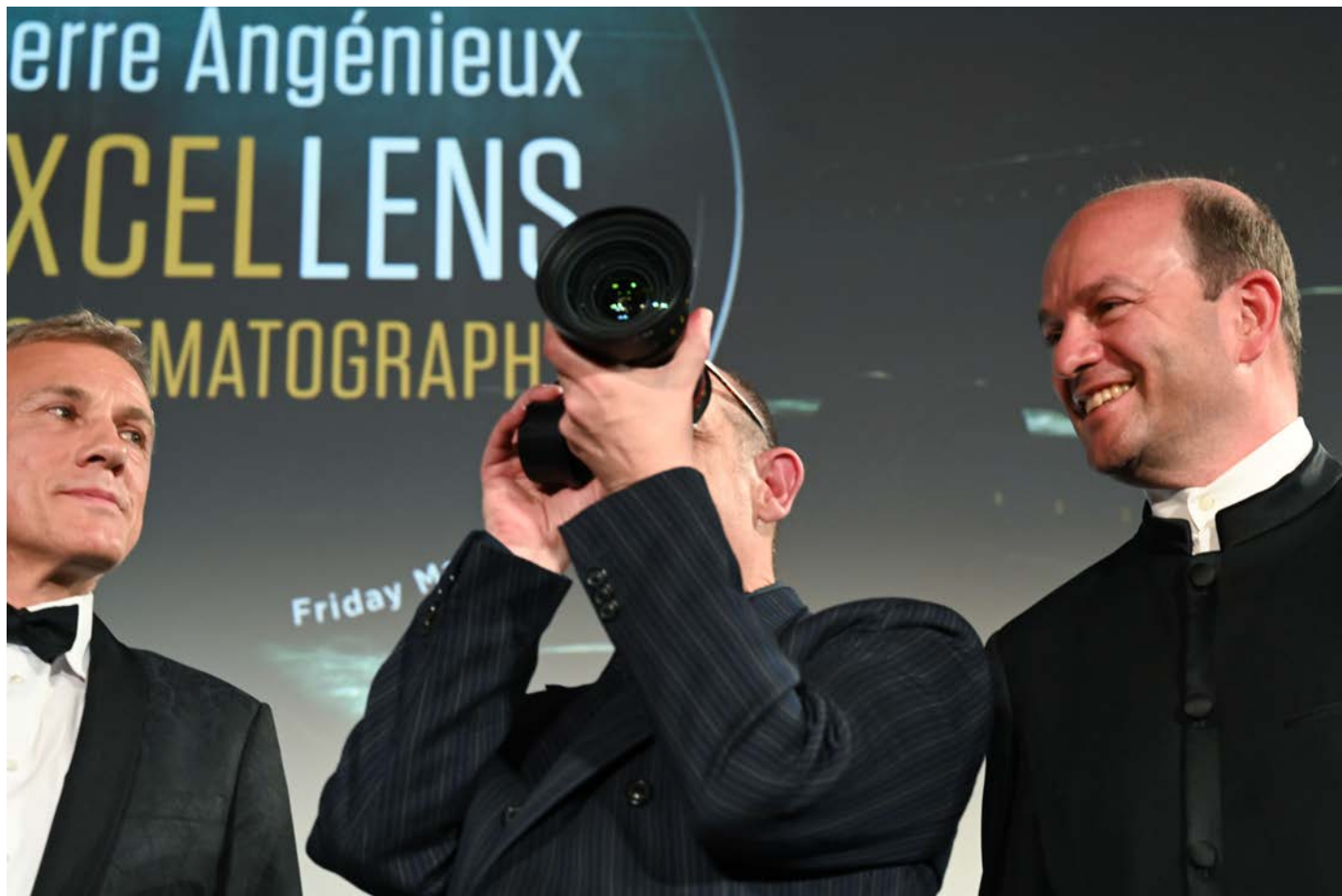
Modhura Palit, Bruno Delbonnel, Christoph Waltz, Severine Serrano, Zhang Ziyi.



Above: Christoph Waltz, Bruno Delbonnel, Emmanuel Sprauel. Bruno worked with Christoph Waltz on "Big Eyes" directed by Tim Burton. Below: Bruno Delbonnel "lending" his Optimo 15-40 to Modhura Palit.









## Angénieux Optimo Prime Frames at 36,000'



Above: Christophe Remontet. Below: Emmanuel Sprauel. Taken with 40mm Optimo Prime at T1.8 on Sony a9/PL.



# Angénieux Optimo Prime Interview with Severine Serrano

At NAB, April 2019, Severine Serrano, Managing Director, Angénieux International Sales & Marketing, suggests a meeting. Ferraro's Restaurant & Wine Bar is a five-minute escape from the LVCC. Severine takes the Risotto with mushrooms. I have Lasagna alla Gino (House made pasta, Bolognese sauce, béchamel sauce, ricotta cheese and tomato sauce), heavenly but almost heavy enough to be Louma crane weights. Under even heavier NDA, Severine outlines the Angénieux Optimo Prime project. Wow. I take notes, ask questions, and this interview begins to take shape.

"Of course, you'll be at Cannes," she says. "We will present the project for the first time there. After that, we will introduce the Optimo Primes to the worldwide community at Cine Gear."

Cannes is always a good idea, especially if there's a lens launch as enticing as this. Additional details are revealed and questions answered. The concept and strategy is explained.

There are only two direct, non-stop flights from Paris to Los Angeles each day, and Air France 72 is the more comfortable one. The Angénieux team is onboard, hand-carrying two Optimo Prime prototype 40mm lenses destined for Cine Gear. The flight crew kindly obliges as we try out the new Full Frame 40mm on a Sony a9.

The interview continues.

**JON FAUER: How did the Optimo Prime concept begin?**

**SEVERINE SERRANO:** The Optimo Prime Series had already been on our minds for a couple of years. Since it was a major strategic evolution in our product policy, we needed to wait until the market would provide us with the right trigger.

**What was that trigger and when did it happen?**

The arrival and wide acceptance of the Full Frame format for digital cinema was the right time for us to seriously consider making Optimo Prime lenses as part of our portfolio.

First of all, there were practical economic reasons. To pay for the huge investment needed to design such a high-end series, it is a *sine qua non* condition to have enough market potential. We saw that the Full Frame Format could generate, for the long term, a complete or major renewal of the lens equipment inventory already on the market. Second, complete compatibility with our Optimo Ultra 12X (36-435mm in Full Frame) was a good motivation, not to say a must. Third, for the Full Frame Format, we thought it was important for us to provide Cinematographers with prime lenses that would be a perfect



Severine Serrano enroute CDG-LAX with 40mm Optimo Prime for Cine Gear.

match for the high quality of our future Full Frame zoom lenses. The point was also to propose a full range of products to our customers: zoom and prime lenses for the high-end cinema lens market.

**Did you say future Full Frame zoom lenses?**

Yes. [Pinteresque pause]

**Was the Optimo Prime series the result of DPs and Rental Houses asking?**

Yes, it was part of our decision process. Directors of Photography and Rental Houses have been asking us to make prime lenses for more than 20 years, particularly after the Optimo Zooms were so well received and established such a high level of esteem for their optical quality. It is always more comfortable when you decide to launch a product line of such a large-scale to know that the market is waiting for it.

It was more than an intuition. Because of the Full Frame market opportunity and



# Interview with Severine Serrano

the fact that our customers were asking for it, we confidently made the decision to go for it. Despite the fact that other brands had already launched Full Frame prime sets, we were quite sure that there was a place for Optimo quality prime lenses because they would be totally unique.

**Let's talk about uniqueness in a minute. Why did Angénieux decide to focus on zooms and not primes from 1953-2019?**

Long story short, it was not possible for Angénieux to be in two places at the same time. This is actually why we stopped making primes decades ago. It was to concentrate on zooms and become a worldwide market leader in high quality zoom lenses. When you are in such a strong position on zooms, it is ironic that we considered it easier to design and manufacture primes versus zooms that require such an extremely high level of expertise, know-how and long-term experience.

We considered that it made sense first to propose a full selection of zoom lenses for our customers. You know, there is a time for everything and one must give everything time. Angénieux's business actually started with prime lenses. Even though we have been making zooms for decades, we are not beginners in making primes.

**Do Optimo Primes match Optimo zooms? And what about EZ Zooms?**

Yes, the essence of the Optimo Primes is to match the Optimo Zooms—especially the Optimo Ultra 12X and our other future Full Frame zoom lenses. It is part of a global strategy. Regarding the Type EZ lenses, they address a different market segment than the Optimos, even if customers like to mix on some projects.

**Please take us through the design process.**

It was important to establish a specific plan for the Optimo Prime Series to be able to anticipate the additional work load that we knew would result. For a long time, Angénieux has worked with partners, to a certain extent, in order to keep growing. This is exactly what we are doing on the Optimo Prime series, with a German partner who has been involved from the beginning of the design process.

The optical design, manufacturing of optical elements, final quality check and project management is done by Angénieux in Saint-Héand, France. It is a full Angénieux design with our characteristic DNA, famous Optimo Quality and Angénieux look.

The mechanical design is where the partnership comes in. Our German partner is the well-respected company IB/E Optics in Freyung, Bavaria. They are working on the mechanical parts and assembly on behalf of Angénieux. The lenses then go back to Saint-Héand for the final steps and QC. So, the Optimo Prime Series benefits from French and German expertise.

**Please tell us more about the interchangeable iris and interchangeable center element.**

When you are a manufacturer in this very competitive race to bring new Full Frame cine lenses to market, you must propose some major distinctions. We could have relied on the Optimo quality and the Angénieux look only—but we wanted to continue to satisfy the creativity of cinematographers and to serve the industry in a novel way. This is why we are offering modules and

customization possibilities for the Optimo Primes that allow users to create their own unique and individual variations of the look. These are essentially several series of lenses in one. It is good for cinematographers and good for rental companies.

**How did you arrive at the default “look?”**

Homemade secret! As we do with the zooms: the state of the art.

**What can you tell us about building the Optimo Primes?**

It goes without saying that despite the fact that these lenses are manufactured through a partnership, they are full Angénieux Optimo lenses and fully controlled by us.

**At the Cannes launch, they were described as made in France and Germany. Why not build them totally in Saint-Héand?**

For us, it is actually a major sales argument to be able to have German expertise in mechanics and assembling and our French expertise and background in optical design. We firmly believe that working with others can make you stronger—to progress and grow. Furthermore, we cannot push the boundaries of our factory walls any further. Our Saint-Héand factory is at full capacity with the Optimo Ultra 12X production.

I would also like to add that even if it is not the same type of manufacturing structure, the Type-EZ lenses were based on a partnership and look how successful they have been. Partnerships are the key in a world like ours, which is in continuous movement.

**Hopefully you are also at full capacity in Saint-Héand working on new Full Frame Optimo zooms?**

Absolutely. And as I said, this is part of a global strategy. There is even more to come. But, as the famous French writer Jean de La Fontaine said, “*Patience et longueur de temps font plus que force ni que rage*,” which means something like “Patience and persistence prevail over strength or rage.”

**At NAB, you said that partnerships with Band Pro and Jebsen offer new incentives for sales.**

Yes, the world has changed, and we cannot expect to make everything all alone on the top of our hill. We have to have partners. The new business model that we created for the Type-EZ lenses is a real success story.

Based on this extremely positive experience with Band Pro Film & Digital Inc and Jebsen, we thought we could climb one more step, working on a high-end project.

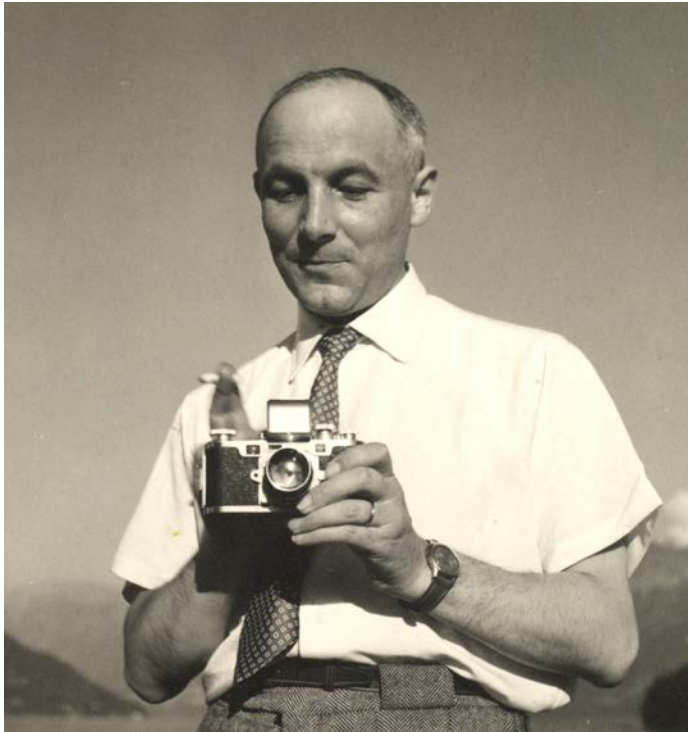
Even if we have a thorough knowledge of the High End Cinema market, with Band Pro and Jebsen we leverage our efforts and increase our forces in terms of financial power, sales and marketing in order to make a strategic approach in the market. It's quite important in such a competitive environment, don't you think?

**Do you want to discuss delivery schedule and prices?**

Like all prime manufacturers, the different focal lengths will come one after the other, but for the Optimo Prime series it should be quite fast over one year's time starting from Q2 2020.

The worldwide list price of the Platinum set of 12 lenses is € 245,359 and US\$ 308,910. We plan to propose a Gold set (9 lenses) and a Silver set (6 lenses) later on.

# What Does Angénieux know about Primes?



## 1950: Angénieux Full Frame Still Lenses

In 1950, Pierre Angénieux (above) and his company designed and manufactured wide angle lenses for Full Frame 24x36mm format still photography. The first Angénieux lens was the R1 35 mm f/2.5 Retrofocus. The R11 28 mm f/3.5 came in 1953, followed by the R51 / R61 24 mm f/3.5 in 1957.



35 mm f/2.5 R1  
Retrofocus Full  
Frame still format  
prime lenses.  
Photo courtesy of  
Angénieux.

A single-lens reflex (SLR) still camera requires the lens to be further from the image plane. Otherwise, the camera's mirror would hit the rear element. For example, the flange focal distance of a Leica rangefinder was 27.80 mm, while the flange focal distance of a Praktica SLR was 44.4 mm. This extra distance limited the use of traditional wide angle lenses. Retrofocus lenses solved this by being able to increase the back focal distance.

Pierre Angénieux's Retrofocus design allowed the use of wide-angle optics on the interchangeable-lens SLR cameras that were coming to market at the time: Exakta, Praktica, and Contax in Germany, Alpa in Switzerland, Rectaflex in Italy, and later, Canon and Nikon in Japan.

Angénieux was building around 45,000 Retrofocus still photography lenses a year in the 1950s.

## 1951: Angénieux Cine Primes

In 1951, Pierre Angénieux introduced cinema lenses. This was an era of peak production for both professional and amateur 8mm and 16mm format cine lenses and cameras. Angénieux equipped almost every one of these cameras with lenses, including Bell & Howell, Kodak (USA), Erksam, Pathé Webó and Beaulieu (France), Bolex (Switzerland), and Carena (Lichtenstein).

Angénieux supplied lenses for Bell & Howell's popular B&H 70 Filmo (16mm, revolving 3-lens turret camera) with the popular 10mm f/1.8 (10R21) wide-angle lens, a medium 25mm and a 75mm telephoto—all in C mount.

In 1953, Angénieux "broke the speed barrier" with their incredibly fast, ultra low light Type M1 25mm f/0.95 prime for 16mm format, fitted with a C mount.



B&H 70 Filmo. Courtesy of Angénieux Archives, photo by Eric Perrin. From *Angénieux and Cinema*, from *Light to Image*.



25mm f/0.95. Photo courtesy of Angénieux Archives, from *Angénieux and Cinema* book.

## 1951: Angénieux 35mm Cine Primes

The first Angénieux 35mm Cinema Lens also arrived in 1951. The 18.5mm f/2.2 (T2.5) Retrofocus R2 prime lens was the first Angénieux lens made specifically for 35mm cinematography. It had 7 elements in 5 groups. Aperture range was f/2.2-16. Minimum focus was .75 m / 29.5 inches.

This was followed by an entire set of 35mm format primes: 14.5mm, 18.5mm, 24mm, 28mm, 32mm, 40mm, 50mm, 75mm and 100mm. These Angénieux lenses were so good that some are still in use today, often rehoused with new mounts.



Angénieux 18.5mm f/2.2.

## 1964: Angénieux & NASA

Angénieux 16mm format prime lenses were onboard NASA's Ranger missions beginning in 1964. The ultra-fast Angénieux 25mm f/0.95 primes were deployed on Ranger 7, 8, and 9—capturing photographs of the Moon.

NASA Gemini missions (from 1964-1966) carried Angénieux 18mm f/2, 25mm f/0.95 and 75mm f/2.5 prime lenses on Maurer 16mm cameras. Apollo 7, 8, 9, 10 and 11 also carried the same 16mm camera and lens packages.

## Angénieux and Cinema, from Light to Image

Further details about Angénieux history, milestones and product information—including the famous Angénieux 6x25 16mm format zoom onboard Apollo 11—are beautifully described in the wonderful new book, *Angénieux and Cinema, from Light to Image*. It is available from major bookstores, online and (soon) on the Angénieux website.

[angenieux.com](http://angenieux.com)



## Pierre Angénieux Excellens Award



Bruno Delbonnel, ASC, AFC receiving the Pierre Angénieux Excellens Award at Cannes from Emmanuel Sprauel. Photo: Pauline Maillet.



The Panasonic Lumix DC-S1H was announced at the start of Cine Gear on May 31, 2019.

The S1H is a full-frame, 36mm x 24mm sensor, 24p, 6K video camera “hiding” in the body of a DSLM. The shape makes it great as a grab camera, handheld, on rigs, gimbals, drones, or fully outfitted with a studio rig. It gets interesting when you want to capture video and not look like a filmmaker but rather a street photographer in search of Significant Moments.

The name is suggestive: “S” as in Specialized and “H” as in High Performance, High-End and Hybrid. The S1H is color-matched to the rest of the Panasonic VariCam line. It has a dynamic range of more than 14 stops. Best of all, there’s a full-frame, 3:2 (1.5:1) aspect ratio sensor. Panasonic, SIGMA and Leica are partners in the L-Mount Alliance. That means there are many L-mount lenses ready now. And because the L-Mount has a flange focal depth of 20mm and an inside diameter of 51.6 mm, you can attach PL, LPL, PV and other lenses by using mechanical adapters.

*I met Mr. Yosuke Yamane, Director of Panasonic’s Imaging Network Business Division, at an L-mount Alliance unofficial dinner last November. The main topic of conversation was the increasingly rapid convergence of stills and cine. In the following discussion, those connections become even more interesting with the announcement of Panasonic’s new S1H camera.*

**JON FAUER: What is the meaning of the “S” in the S series?**

**YOSUKE YAMANE:** The S1, S1R, and now the S1H that we have just announced, were developed from our strong desire to offer a specialized tool for professionals and amateurs to enable them to capture their creative vision and to record their significant moments. Perhaps it is “S” as in “Significant Moments,” what our friends at Leica call “Decisive Moments,” without any compromise. As a pioneer in the mirrorless system, the name “S” carries our passion to enable serious photographers in various categories to expand their range of work and to pursue the creative expression of still and video.

**When did you start development of the S1H?**

We began to consider the full-frame concept beginning 8 years ago, but we created S1H concept in 2017, at the same time as the S1R and S1.

**Did you consider the wishes and demands from users at the early stages of planning and design?**

Yes. We talked to cinematographers and crews who were using the GH5 series as well as VariCam and EVA1. We gathered comments and visited their shooting locations worldwide to investigate what kind of camera and video shooting style they were looking for. We developed the S1H to include customer needs and the virtues of a single lens LUMIX system, and created a camera that we trust will offer new value.





## What is the meaning of “H” in S1H?

It has the same meaning as the “H” in GH5: High Performance, High-End and Hybrid. We aimed to create a camera that has not only high photographic performance but also high video performance that will be accepted by the cinema industry and the high-end of video content creation. At the same time, we also would like to include our will to succeed in the GH series’s DNA with the GH5/GH5S.

## When will the sales begin?

Sorry, that cannot be disclosed as this is the development announcement, but we would like to target fall of 2019.

## Why will S1H ship later and not concurrent with S1 and S1R?

When we developed our first full-frame camera, S1 and S1R, we focused our development resources to meet the professional photographers’ needs. Our efforts were to realize a high performance, flagship camera without compromise. In addition to this, S1H’s concept is intended to meet the needs of cinematographers and high-end videographers. So, more time was necessary to develop new features. An example of this is the lack of time limits for video recording in a full-frame camera.

Although it is not the same timing as the S1R/S1, we are very proud of our engineering team. They were on time to meet the development announcement of the S1H: only six months after the S1/S1R was released. This was very difficult task to achieve.

## How do you differentiate the positioning of S1H in the market and the target customers from those of S1?

S1 targets new creators who want to work mainly in still photography but also shoot some video. S1H is focused more on video, targeting cinematographers who work on movies, TV, commercials, corporate films, independents and other content creation that is at the top end of motion picture production.

## How do you differentiate the positioning in the market and the target customers from those of VariCam EVA1?

The main customers of EVA1 and of S1H could basically be the same, and we think both cameras can be used on the same projects. They both have similarities in look and format, but they also have their own unique features. EVA1 could be the main camera (“A” camera) on a motion picture production. Of course, it has a Super35 sensor size that many users are familiar with.

We expect S1H could play an important role in various situations because of its mobility and high potential for interesting visual story-telling thanks to picture quality, shallow depth of field and other functions such as Super35 cropping and anamorphic.

## I’m delighted to hear that S1H includes anamorphic capability. Another question: how do you differentiate S1H market positioning and target customers from those of GH5/GH5S?

The main use of the GH series, we think, is when you would like to enjoy deeper depth of field that also remains pleasing. You might also like the size and mobility that is available in the GH mirrorless system, for example, at weddings or event recording.

S1H is the camera that has the look and depth of field of full-frame. We are developing it for those who demand even higher picture quality. In the production of movies, commercials and various content creation, the S1H offers 6K 24p in 3:2 aspect ratio using the full area of the full-frame sensor and 5.9K 30p recording in 16:9 aspect ratio, among many other functions.

## How do you see the future of full-frame products in the cinema industry? Will the full-frame category continue to grow?

We believe that the full-frame market will grow further in the near future as it has huge potential in terms of resolution, depth of field and noise level, which are essential for the cine production industry to improve picture quality.

## When will an 8K camera be coming?

We have announced the 8K ROI (Region of Interest) camera to be released in July 2019. We cannot comment on any future product development of LUMIX.

## Do you plan to develop Cine Lenses?

First, we plan to concentrate on developing L-Mount cameras that can maximize the performance of superb quality L-Mount lenses, including those from LEICA and SIGMA as well as ours. We cannot comment on any future plans but we will keep studying how we should contribute to the cinema industry by carefully listening to customers’ voices.

## Do you plan to sell different mount versions such as EF?

No. We will develop only L-Mount cameras as a member of the L-Mount alliance.

## Why does the S1H have the shape of a DSLM (Digital Single-



## **Lens Mirrorless) camera? Why not design it like a camcorder?**

The DSLM/DSLR-like form factor is well accepted by the cine industry, thanks to the following points:

- Easy shooting when handheld
- Good operability and handling, including interchangeable lenses and balanced weight
- Compactness, including rigs and cages
- Good balance on a gimbal
- Good size on a drone

## **Excuse me for asking difficult questions. Do you plan on a shoulder-type Full-Frame L-mount camcorder? And what about a high sensitivity version, like the GH5S?**

Sorry, we cannot comment on future plans. We will keep developing new products while closely listening to customers' voices.

## **Is this a full-frame version of GH5/GH5S? Is the major difference sensor size?**

The concept itself might not be far from a "Full-Frame Version of GH series," but each camera in the GH and S1H series have their own features that suit the needs of each customer such as sensor size, body size and other functions. Please wait for the official announcement as this is just the first development announcement.

## **What are the differences between S1 and S1H as a cine camera for professionals?**

Today, we can disclose only 3 major differences because this is our official development announcement:

- 6K 24p recording in 3:2 and 5.9K 30p recording in 16:9 using full-area of the full-frame.
- 10-bit 4K 60p recording.
- Unlimited recording time.

Please wait for the official announcement with more details.

## **Does S1H work with PL mount or EF mount cine lenses?**

Yes, it will work with Cine lenses and PL lenses with the mount adapters of L-mount alliance.

## **Congratulations. I'm sure many people at Cine Gear will be extremely eager to get their eyes to the eyepiece of the S1H.**

### **S1H Anamorphic**

Panasonic engineers tell us that the S1H is anamorphic friendly. Since the GH cameras offer 1.3x and 2x desqueeze, presumably

that means the S1H will desqueeze and display anamorphic images correctly.

### **L-Mount Alliance**

Readers of FDTimes may have been following the quixotic quest for some kind of standardization in lens mounts. Alas, the opposite has happened. However, there's one beacon of cross-company compatibility and that is the L-Mount Alliance between Panasonic, Leica and SIGMA. The L-Mount has a Flange Focal Depth of 20mm. The mount's inside diameter is 51.6mm. With mechanical adapters, you can attach almost any lens greater than or equal to 20mm FFD.

Leica launched the L-Mount (originally called T-Mount) with their Leica T (APS-C) mirrorless, interchangeable lens camera in 2014. A year later, the Leica SL (Typ 601) arrived: Leica Format (36x24mm), mirrorless, autofocus, with the same mount now renamed "L-Mount." Panasonic has announced ten L-mount lenses by 2020. Leica announced eight SL lenses and SIGMA plans eleven L-Mount Art Series Full Frame lenses. Various sources suggest a total of 42 L-Mount lenses by the end of 2020.

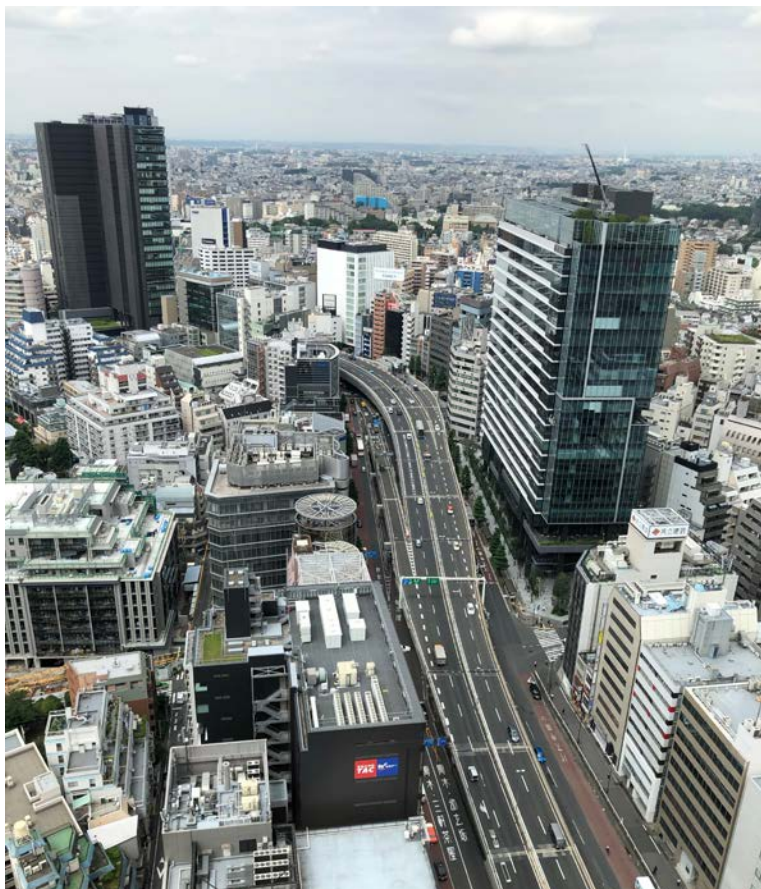
At Photokina in September 2018, Dr. Andreas Kaufmann, Chairman of the Supervisory Board of Leica Camera AG said, "In the rapidly growing market for mirrorless system cameras, users seek increasingly greater product diversity to fulfill a wide range of different photographic needs. To meet these needs, we have decided to work together with prominent partners in the photographic segment."

Mr. Junichiro Kitagawa, Executive Officer of Panasonic Corporation said, "Panasonic has always focused on revolutionizing the camera sector. Our longstanding partnership with Leica has enabled us to accelerate the development of excellent digital camera products, and the L-Mount alliance with Leica and SIGMA is a great example of such acceleration. This is an alliance of growing players, which will make a fundamental difference to the future of the imaging industry."

Mr. Kazuto Yamaki, Chief Executive Officer of SIGMA Corporation said, "As SIGMA strives to develop high performance, high quality and innovative products, this alliance will strengthen the level of our camera systems and provide greater user benefits. The L-Mount will evolve as an extremely attractive system for users. SIGMA plans to release more than 14 new lenses in L-Mount."



# SIGMA Full Frame Camera and Lens Launch



Left: view West from Cerulean Tower in Shibuya. Above: Shibuya scramble crossing. Below: Cat Street. Bottom: Omotesando Avenue.



Turn right at the bronze lady (sculpture) at the end of the street, just past the Vintage Clothing Company and the Vintage Coffee shop (foreshadowing vintage SIGMA things to come) and you're on Omotesando Avenue with its shrines to high fashion lining a wide, tree-lined avenue that originates at the Meiji shrine.

Aoyama, Tokyo. July 11, 2019. SIGMA CEO Kazuto Yamaki emailed a week earlier that it “might be interesting to visit Tokyo” at an undisclosed location for undisclosed products to be launched on July 11. It sounded somewhat like the scene in “VICE” and in real life as VP Dick Cheney was also whisked away to an “undisclosed location.”

SIGMA Corporation of America President Mark Amir and Rick Booth, Director of Marketing, increased the intrigue—assuring that, like a Michelin 3-star restaurant, it would be “worth the trip.”

And a long trip it was. Depart JFK on ANA 109 nonstop to Haneda. Arrive next day at 10:15pm. Attend the event. Depart on ANA 110 from Haneda at 10:20am on Friday and arrive JFK 11:20am the same morning. It could be worse, as they say in Austria. In addition to superb service, ANA refreshingly offers Ippudo Ramen on request. “Zuzutto!” Slurp nosily. There are few things better in heaven or earth to help hydrate so deliciously on such long flights.

So, here we are in Tokyo on SIGMA launch day at the trendy SPIRAL Art Center. The name derives from the building's interior and exterior shape, designed by architect Fumihiko Maki. It is an eclectic combination of event space, gallery, café and shop in one of the most stylish sections of Tokyo.

From the Cerulean Hotel and its dazzling views, navigate the Shibuya scramble crossing (busiest pedestrian intersection in the world) and head West a couple of blocks to Cat Street. The only things catty here are the cool cats window-shopping in this coolest boutique street. Its real name is Kyu-Shibuya-gawa Yuhodoro, and you'll pass Patagonia, Mystery Ranch, Paul Smith, Asoko, Too Cool For School and Supreme (clothing, not lenses).



# SIGMA Full Frame L-Mount and E-mount Lenses



Upon entering the SPIRAL, you wonder why the entire SIGMA staff is clad in cool black T-shirts with mysterious patches obviously concealing something important underneath.

And so, all these previous preambles about coolness, style and fashion would gain meaning soon enough as the mysteries of SIGMA's launch in Tokyo unfolded.

Mr. Yamaki took the stage, dressed in black T-shirt (with mystery patch in front), preppy chinos and Hamptons-style loafers (no socks from June to September). His presentation was in Japanese, with United Nations quality simultaneous translation via wireless headphones. The following excerpts are edited from the event, earlier comments and follow-up explanations.

Mr. Yamaki began, "Thank you for coming to SIGMA's new product announcement event. I represent the entire company in expressing our appreciation of your joining us here today. Let's dive right in with a presentation of our new products.

"As demand continues to grow for full-frame mirrorless cameras, expectations of lenses for those cameras is also increasing. SIGMA observed that many photographers may feel that the choices for DSLM (Digital Single Lens Mirrorless) systems are limited in terms of performance, size, lineup and system. Therefore, SIGMA has developed a new full-frame mirrorless lens series, designated DG DN. (DG refers to lenses designed for full-frame cameras. DN

designates a design for short flange back—mirrorless—cameras.) SIGMA is introducing three new models today, with more to come. They come in L-Mount and E-mount."

*(The L-Mount is a registered trademark of Leica Camera AG. SIGMA and Panasonic have joined Leica in an L-Mount Alliance. The L-Mount has a 20mm Flange Focal Depth and 51.6mm Mount Inside Diameter. Sony developed the E-mount. It has an 18mm FFD and 46.1mm Mount Inside Diameter.)*

Mr. Yamaki continued, "Up to now, we have produced lenses that are compatible with full-frame mirrorless cameras. However, they were designed for both DSLR and mirrorless cameras. These new lenses are the first ones we specifically designed for full-frame mirrorless systems and we will continue to design and develop additional lenses that benefit from the unique specifications and performance offered by the short flange focal depth of mirrorless cameras. These lenses will continue SIGMA's core concepts of designating three unique series: 'Contemporary,' 'Art,' and 'Sports' models."



# SIGMA Full Frame L-Mount and E-mount Lenses



SIGMA's first 3 full-frame mirrorless models all have precision brass bayonet L mounts or E-mounts. All are rugged and splash-proof. They are made in SIGMA's modern factory in Aizu, Japan, about 300 km north of Tokyo. A SIGMA Mount Conversion Service lets you go to and from L-Mount and E-mount. (This is nice because you can buy one set of lenses that work on SIGMA, Leica, Panasonic or Sony DSLM cameras).

SIGMA will develop at least 15 additional L-Mount lenses through 2020.

## SIGMA 14-24mm F2.8 DG DN | Art

This is a fast, ultra-wide zoom lens for L-Mount and Sony E-mount full-frame mirrorless cameras. It is astonishingly compact and almost impossibly small. Mr Yamaki said, "While maintaining the exceptional image quality of the SIGMA Art series, size is reduced significantly from a comparable DSLR lens thanks to the design benefits afforded by the shallow flange focal depth of mirrorless cameras.

- Wide and fast zoom with superb resolution
- Newly developed large-diameter, wide-angle, high-performance zoom lens optimized for full-frame mirrorless cameras
- High-resolution image quality developed with low dispersion glass elements and NPC (Nano Porous Coating)
- Rear filter holder as a standard accessory
- Ø 85.0mm × 131.0mm long / Ø 3.3" × 5.2" long.
- 795g / 28.0 oz.
- 18 elements in 13 groups
- Minimum focusing distance: 28cm / 11.0"
- Water and oil-repellent coating on the front element resists rain, spray and fingerprints.
- Autofocus (AF) mounts: L-Mount, Sony E-mount

If you shoot underwater, aerials, incredibly-close-and-very-wide action and stunts, landscapes, POV video shots, still or timelapse night-scapes, then this lens is for you.



14-24mm F2.8 DG DN E-mount



14-24mm F2.8 DG DN L-Mount



35mm F1.2 DG DN

## SIGMA 35mm F1.2 DG DN | Art

Here's an Autofocus 35mm F1.2 L-Mount and Sony E-mount lens for full-frame mirrorless systems. F1.2 maximum aperture. The optical design benefits from the short flange focal depth. The lens should be appealing for both still and video. Autofocus uses a large Hyper Sonic Motor (HSM). Manual focus is done with a focus-by-wire system. Torque is optimized for comfortable manual focusing. The aperture ring has a de-click function, enabling silent adjustment of the iris during video shooting.

Ø87.8mm × 136.2mm long / Ø 3.5" × 5.4" long. 1,090g / 38.4 oz.



45mm F2.8 DG DN

## SIGMA 45mm F2.8 DG DN | Contemporary

Compact size is achieved while maintaining high image quality. This prime for L-mount and E-mount cameras is an all-purpose lens that is intended to travel with the camera at all times, ready for rapid street photography and any other shot you might want to grab at a moment's notice. In fact, it is so small and lightweight, you might almost think of it as a permanent appendage of the camera—until you want to change lenses to something very fast or very wide and zoomy. See two lenses above.

Ø 64.0mm × 46.2mm / Ø 2.5" × 1.8" long. 215g / 7.5 oz.

# SIGMA Full Frame Classic Art Cine Primes



But wait, there's more. Remember in the introduction, mention was made of vintage shops on Omotesando foreshadowing things to come?

Mr. Yamaki had a mischievous smile. "Since you've gone to all the trouble of traveling here today between your busy schedules, let us give you a sneak peek at some of the products that are currently under development. Today we'd like to introduce SIGMA's first cine lenses with a vintage look." *Audience applause.*

"Recently, cinematographers worldwide have requested lenses that recall the look and atmosphere of classic films produced in the 50s, 60s and 70s. Many were searching the second-hand markets for vintage lenses that were manufactured around that time. Unfortunately, it is extremely difficult to find a complete set from wide-angle to telephoto. Using vintage lenses from various manufacturers and ages also means they may not match and may add significantly more time in the color grading suite.

"Therefore, SIGMA is preparing to release a new series of full-frame cine lenses with modern mechanics with specifications that produce a vintage look. We call them Classic Art Prime Lenses. The 'Classic' logo is engraved on the side of the lens.

"For this series of lenses, in order to replicate the look and characteristics of historic lenses, we have used many non-coated elements. In other words, they have absolutely no coating on their surfaces. Some glass elements in the lenses have a simple, single-layer coating. This enables a warm color tone reproduction, which is one of the characteristics of vintage lenses.

"We are planning to introduce a set of 10 Classic Art Prime Lenses from 14mm to 135mm. The focal lengths match our existing series of 10 full-frame high speed cine lenses."

Note, because most of the elements are not coated, the result is a reduction of light transmission. Therefore, the T value becomes T2.5 for lenses with a T1.5 maximum aperture in the high speed series and T3.2 for those with T2 in the high speed version.

So, the Classic Art Primes will come in 20, 24, 28, 35, 40, 50, 85 and 105 mm at T2.5. And 14mm and 135 mm at T3.2.

By the way, the mathematical value, the F number, remains the same at f/1.4 and f/1.8, so the bokeh effect does not change.

An additional difference is that the Classic Primes all stop down to T22. The original High Speed primes stop down to T16.

SIGMA's Classic and High Speed cine lenses all cover full-frame. Of course, they can be used on Super35 cameras as well. As mentioned, they are all built with modern mechanical components, with consistent 95mm front diameters and uniform gear rings. They are matched to produce the same color, look, amount of flare, veiling glare and bokeh qualities.

A demo film and prototype samples at the SPIRAL event showed beautifully smooth, warm skin tones, nice flares, controlled ghosting, and resolution that was nevertheless sharp and not murky. Eyelashes remained sharp. Contrast kept shadows rich until you pointed in the direction of an unflagged light. Large location interior windows bloomed around the edges and would be perfect if you have the rights to a sequel of Kubrick's "Barry Lyndon."

This is the kind of vintage lens set you can use, most likely, without fear of being fired for uncontrollable distress. (Imagine your tycoon producer sputtering, "I fired Itsy Bitzer for flaring the million dollar face of Gretel Gobo beyond recognition, and I don't want you to experiment with the face of our latest star.")

The SIGMA Classic Art Primes are classy, classic, controllable lenses with character and they are elegant, painterly, and most likely quite affordable.

Specifications and additional details will be forthcoming when the SIGMA Classic Art Prime Lenses will be officially shown at IBC in Amsterdam this September.



# SIGMA Full Frame Classic Cine Art Prime Lenses



SIGMA Classic Cine Art Prime 40mm T2.5 prototype.

Summary: to be officially launched at IBC in September, SIGMA full-frame Classic Art Primes are mostly uncoated inside, and single-coated on the outside front and rear element surfaces.

They are controllable, classic, flarey, vintage-looking lenses reminiscent of Hollywood's classic Golden Era. Picture glowing highlights and smooth skin tones of Garbo and Bacall and Dietrich.

Because uncoated optical elements reduce the amount light transmission, the SIGMA Classics are slower than the FF High Speed set.

So, SIGMA FF High Speed Primes with a T1.5 maximum aperture become T2.5 as Classics. T2 FF High Speed Primes become T3.2. They all stop down to T22.

Lens	Aperture
14mm T3.2 FF Classic	T3.2 - 22
20mm T2.5 FF Classic	T2.5- 22
24mm T2.5 FF Classic	T2.5- 22
28mm T2.5 FF Classic	T2.5- 22
35mm T2.5 FF Classic	T2.5- 22
40mm T2.5 FF Classic	T2.5- 22
50mm T2.5 FF Classic	T2.5- 22
85mm T2.5 FF Classic	T2.5- 22
105mm T2.5 FF Classic	T2.5- 22
135mm T3.2 FF Classic	T3.2 - 22

SIGMA Classic Cine Art Prime 40mm T2.5 prototype.  
But what is this little camera to which it is attached? Read on.



# SIGMA fp Full Frame Camera



*"One more thing."*

*Things became ever more interesting. The mysterious T-shirt patches came off, revealing lowercase letters "fp."*

"Fortissimo Pianissimo," Kazuto Yamaki declared holding up a palm-sized camera in his right hand. *Audible gasps in audience.*

"Please note, this is a development announcement of our new product, SIGMA's first Bayer sensor camera. As announced at CP+ earlier this year, we are working on a new full-frame Foveon sensor camera. We are doing our best to try to launch it next year.

"At SIGMA, Foveon is still our first choice as a superior image sensor for beautiful photography. Therefore, the new Foveon camera under development will still concentrate on still photography. On the other hand, the Bayer sensor camera I am introducing today is an entirely new concept. As we know, the market for digital cameras has been shrinking rapidly year by year. It is hard to deny that this has cast a pall of gloom over the camera industry.

"However, after looking around and watching users with their cameras, I can still be amazed at the fabulous world created by photos and movies. Therefore, I decided to rethink the situation.

"For example, the camera on a smartphone has evolved because of innovative image processing technology and AI that have entered into our lives for recording daily events. It is obvious that images taken with smartphones are playing a significant role in recording or communicating in the modern world.

"Let's look at the interchangeable-lens camera. As we know, mirrorless systems have become more popular and are improving daily with the innovative technologies. They are supported by a wide range of photography enthusiasts, from general users to professionals. For various reasons, we change lenses in order to take the "one" ideal shot. However, when it comes to 'the best interchangeable-lens camera,' I wonder if we have other options.

"We have expanded our business as a lens manufacturer into the cine industry. Here, new creative forms of expressions are supported by digitalization and the development of large-format cameras. Cinematographers have more choices than ever before of cameras, lenses and accessories that allow them to customize their own system. This very user-centric approach has taken root in the cine industry.

"However, there are still pros and cons no matter what category we are in. There is no 'one size fits all' in helping users make their decisions without hesitation. A smartphone camera can be con-



sidered very powerful because of its portability, but it has reached limits in some situations that are out of its league. For example, you might encounter a stunning scene but the only device to record it is your smartphone. Almost everyone has experienced that feeling of regret, I believe.

"On the other hand, making a full-frame mirrorless camera to a size suitable for daily use has been extremely difficult up to now. As for cine cameras, no matter how great we know they are, the pricing is prohibitive and the size is too massive for general users.

"To sum up, our aim was to deconstruct the parameters of a digital camera and reconstruct it. And so, I am pleased to introduce to you the 'deconstruction of the digital camera.' This is the SIGMA fp. There are three key features. First, it is Pocketable Full Frame camera. Second, it is Scalable. Third, it is Seamless." (*FDT has added 2 more key features: 12-bit RAW and Director's Finder.*)

## 1. Pocketable

"As a Pocketable Full Frame camera, the SIGMA fp is the world's smallest and lightest mirrorless camera with a full-frame image sensor (as of July 2019, according to SIGMA). Looking at our new 45mm F2.8 lens attached to this camera, you can see how compact it is for daily life use.

"The fp camera has a dust-and splash-proof body that is excellent for long hours in all types of environments.





SIGMA fp  
Actual size



## 2. Seamless

“The second feature is ‘Seamless.’ Our aim was to disrupt the hierarchy established by manufacturers’ camera-centric categories. The new fp breaks the boundary between still and cine camera.

“To achieve this concept, the camera is equipped with a full-time electronic shutter. That said, as this camera does use a global shutter, the speed of movement of the subject could cause a rolling shutter effect. However, the sensor’s read-out speed is fast enough to cope with most of these scenes.

“RAW still image processing is another highlight. And SIGMA Photo Pro software lets you display and manipulate, on your computer, RAW images taken with all SIGMA digital cameras.

“Fill Light is a unique function in the software, but with the fp, this is the first time that we included it in a camera. With the Fill Light function, you can process images through settings in the camera’s menu.

“The fp also features Eye AF, which is a crucial function of mirrorless cameras to track and focus on a subject’s eye.

“And, a highlight of the video function is shooting in RAW format.” *(More on that in a minute because it deserves an entire key feature section of its own.)*

## 3. Scalable

“The third feature is ‘Scalable.’

“Since the fp benefits from such a small and compact body, we can say it is an excellent camera for all kinds of situations: to be used on a gimbal or drone, on a Steadicam or stabilizer, tripod or handheld, with handgrip or hot shoe for flash, mattebox or sunshade. Because it is compact and lightweight, it enables comfortable shooting for hours on end.

“We are designing an LCD viewfinder, larger handgrip, flash holder and HDMI / USB module. Although we are planning to develop these accessories, in the interest of better user experiences, we are considering the release of 3D design data so that other brands can join and develop more options for accessories to expand the compatibility and possibilities of this camera.

“With a compact body like the fp that allows RAW format cine recording, we believe it can contribute to motion picture scenes that are not easy or have previously not been possible. We believe it can extend the creative options for cinematographers.

“I should also note that the name ‘fp’ is actually the abbreviation of the initial letters of ‘fortissimo and pianissimo.’

“Fortissimo is a term in music meaning ‘to be played very loudly.’ Pianissimo means ‘to be played very softly.’

“These words reflect the concepts of the fp nicely. It can be played very loudly to support professional cine production. And it can be played very softly as a simple, compact camera for daily use.”



## SIGMA fp. Actual size.

At 112.6 × 69.9 × 45.3mm / 4.4" x 2.8" x 1.8" and weighing 370g / 13.1 oz (without battery and SD card), the SIGMA fp is the world's smallest and lightest full-frame mirrorless camera at this time. It has a back-illuminated 35.9 x 23.9 mm, full-frame, 24.6 megapixel Bayer sensor. The L-Mount has a flange focal depth of 20mm and is compatible with Leica SL and Panasonic S1 series mirrorless camera lenses.



Hot shoe for flash



Hand grip



## fp 12-Bit RAW, Director's Finder



### 4. Cine 4K UHD 12-bit RAW Internal Recording

Mr. Yamaki was really getting my attention now, “The SIGMA fp camera supports CinemaDNG internal and external RAW recording, including 4K/UHD 24fps 12-bit. Therefore, the SIGMA fp becomes a super-compact cine camera that can support full-fledged production.

“At this point, you might ask how this compact camera can deal with the heat generated during long hours of filming. The image processing chip will generate heat when it operates at full power. Rising temperatures inside the camera can degrade the image quality and stop camera operation. To avoid overheating, a heat sink is incorporated on the back of this camera. It is common to install a fan inside a cinema camera to diffuse heat. But because of this special heat sink, our camera works seamlessly without fans.”

### 5. Director's Finder Mode

“The fp also features a Director's Finder mode. Previously, most optical Director's Finders (*below, right*) used interchangeable ground-glasses for different aspect ratios. However, at this time, there are so many formats, sensor sizes, resolutions and parameters from different manufacturers and there are disparities between them, even for the same aspect ratios. With the SIGMA fp, you can select framelines from menus of brand names, camera models, aspect ratios and setting preferences. With L-Mount to PL, LPL and Panavision mounts, almost any cine lens can be attached.

### Deconstruction of a Digital Camera

“As mentioned at the very beginning, the aim of this camera is the ‘Deconstruction of Digital Cameras.’ The fp is the result of pursuing that goal.

“From casual daily photography to professional shooting, whether still or cine, this camera allows for a free and flexible style and adapts to the needs of users. Free of predetermined genres or categories, a true user-centric camera is here.

“The SIGMA fp is the embodiment of an entirely new digital camera and we can deliver it quite soon.

“We are doing our best to continue working on the camera's development and aim to launch it around this Autumn. Please look forward to it. Thank you for your attention and your time.”

SIGMA fp in Director's Finder mode. Shown here is a Wooden Camera PL to L-Mount adapter. Leitz also makes an adapter. I understand that SIGMA is planning one as well.



Eye-piece module of the fp Director's Finder attaches to rear screen of the fp. It has an adjustable diopter.



In his presentation, Mr. Yamaki used this example of a Director's Finder with optical viewing and groundglass. Andrew Steele, President of EMIT in Paris, with Kish Optics UDF at Cinec a few years ago.



Above: Takuma Wakamatsu, SIGMA Cine Lens Project Manager, demonstrating flare characteristics of a SIGMA 40mm Classic Art lens.

Below Left: Takuma Wakamatsu with 40mm Classic Art lens mounted on a SIGMA fp in Director's Finder mode using a Leitz PL to L-Mount adapter.



Above: SIGMA fp menu of formats in Director's Finder Mode.

Below: Overlays of Director's Finder framelines on the fp display screen.





# SIGMA fp Details

As SIGMA CEO Kazuto Yamaki said at the fp camera's launch, "Our aim was to deconstruct the traditional digital camera and create a full-frame pocketable, scalable and seamless experience. The name 'fp' comes from 'fortissimo—pianissimo.' Fortissimo refers to music that should be played very loudly and pianissimo means it should be played very softly. This is the concept of the fp: a simple, pocketable camera for daily use that can also support professional cine production."

With the SIGMA fp bridging the gap between still and cine camera, a slide switch takes you seamlessly between modes. Video UHD/4K 12-bit CinemaDNG RAW files can be recorded at 24 fps as well as UHD/4K 24, 25 and 30 fps 10-bit or 8-bit H.264.

The fp camera is scalable: working alone with an L-mount lens such as the tiny, new 45mm F2.8 DG DN; or on a gimbal or drone; or in full studio mode with a PL to L-Mount adapter.

The SIGMA fp camera also features a Director's Finder mode. Attach the LCD Viewfinder/Diopter accessory to compose shots with framelines calibrated for various aspect ratios on (thus far) ALEXA LF, ALEXA Mini LF, ALEXA 65, VENICE, MONSTRO 8K, HELIUM 8K, DRAGON 6K, EPIC MX 5K, GEMINI 5K, ARRICAM, ALEXA SXT, ALEXA Mini, AMIRA, ALEXA XT, etc.

SIGMA joins the elite group of companies who design and build cameras and lenses and software—with panache and cool style.

## SIGMA fp Specs

- Sensor: 35mm full-frame (35.9mm x 23.9mm) back-illuminated Bayer CMOS sensor
- Effective pixels / Total pixels: Approx. 24.6MP / Approx. 25.3MP
- Aspect Ratio 3:2
- ISO: 100-25600, Expanded sensitivity of 6, 12, 25, 50, 51200, 102400
- Storage Media internal: SD / SDHC / SDXC memory card (UHS-II supported)
- Storage Media external: Portable SSD (USB 3.0 connection, USB bus power supported)
- Mount: L-Mount
- Shutter: displays shutter angle equivalent of shutter speed
- Dynamic Range: 12.5 stops in CinemaDNG 12-bit
- Image Stabilization: Electronic
- Shutter: Electronic
- Monitor: TFT color 3.15" LCD monitor, Aspect Ratio 3:2, Approx. 2,100,000 dots / Electrostatic capacitance system touch panel
- Interval (timelapse) shooting available
- Connections: USB 3.1 Gen1 Type C; HDMI type D (ver 1.4)
- Remote release jack: also used for external mic input
- Internal stereo mic, mono speaker
- Dimensions: 112.6 x 69.9 x 45.3mm
- Weight: 422g (including battery and SDcard), 370g (Body only)

### Still Photography

- Still Photo File Format: Lossless compression RAW (DNG) 12/14 bit, JPEG (Exif 2.3), RAW (DNG)+JPEG
- Image aspect ratios: 21:9, 16:9, 3:2, A Size ( $\sqrt{2}$ :1), 4:3, 7:6, 1:1
- File size RAW: 6000x4000 (High)
- File sizes JPEG High, Med, Low available. High values shown below:
- JPEG 21:9 6,000x2,576
- JPEG 3:2 6,000x4,000
- JPEG 4:3 5,344x4,000
- JPEG 1:1 4,000x4,000
- JPEG 16:9: 6,000x3,376
- JPEG 1.4:1 5,664x4,000
- JPEG 7:6 4,672x4,000

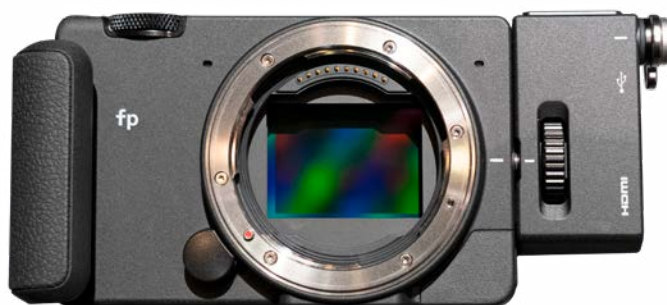
- Continuous shooting: HI 18 fps, MED 5 fps, LO 3 fps
- Maximum number of continuous shots: HIGH: 12 frames, MED: 12 frames, LOW: 24 frames

### Cine

- Cine RAW Format: CinemaDNG 8bit / 10bit / 12bit
- Cine Formats: MOV H.264 ALL-I and Long GOP
- Cine Recorded Pixels / Frame Rates in UHD/4K: 3,840x2,160 at 23.98p, 25p, 29.97p,
- Cine Recorded Pixels / Frame Rates in FHD: 1,920x1,080 at 23.98p, 25p, 29.97p, 59.94p, 100p, 119.88p
- Audio Format: Linear PCM (2ch 48kHz/16bit)
- ATOMOS Open Protocol Support: allows user to start or stop recording of an external recorder.
- Timecode: Recorded internally or output via HDMI. In Cine mode, Free Run or Record Run timecode is supported, with a choice of Drop Frame and Non Drop Frame.
- Live Streaming: connect fp camera to a computer via the USB C port for full-frame video and audio webcam streaming.



# SIGMA fp Scalable, Modular System



The SIGMA fp is the heart of a scalable and modular system. Clockwise from top left:  
1. In its basic form with the small L-Mount 45mm F2.8 D G DN. 2. With HDMI, USB-C connector and Hot Shoe module and medium handgrip. 3. A compact, lightweight companion for the DJI Ronin-S. 4. In full Studio regalia, with bridgeplate, baseplate, rods, mattebox, top handle, external SSD recording drive, onboard mini monitor, 12V battery and SIGMA High Speed FF Cine Prime. 5. Flash mounted on hot shoe module.





## Scenes from the SIGMA launch



Yosuke Yamane, Director of Panasonic's Imaging Business Division and a member of the L-Mount Alliance with Jon Fauer.



Wang Hao, General Manager of SIGMA China.



Mark Amir, President of SIGMA Corporation of America



Masa Yasumoto, Sanwa Cine Rental



Saki Crowne, SIGMA Japan Marketing Division



At right, from left to right: Yasuhiro Ohson, SIGMA head of product planning; Sayoko Yamashita, SIGMA Japan Marketing Division; Shin Yasumoto, SIGMA Japan Chief Financial Officer; Shinji Yamaki, Chief Clerk of SIGMA Japan International Division.



# SIGMA, Leica and Panasonic L-Mount Alliance



SIGMA fp with 45mm F2.8 DG DN



Leica SL with 45mm f/2.8 DG DN



Panasonic Lumix S1R with 45mm f/2.8 DG DN



SIGMA fp with 35mm F1.2 DG DN



SIGMA fp with 12-24mm F2.8 DG DN



Sony a7R with 45mm f/2.8 DG DN



DJI Matrice 600 w DJI Ronin-MX flying SIGMA fp with 45mm f2.8 DG DN lens.



SIGMA fp



# Fujifilm GFX100



Having harped incessantly about the influence of still photography equipment on our cine world and the “imminence grise” of full-frame, now see this. Time and tide, sensors and formats wait for no one. Welcome to the next chapter in digital imaging: Medium Format and even higher resolutions.

Fujifilm introduced the GFX100 mirrorless digital camera on May 23, 2019. It has a new 102 megapixel back-side illuminated sensor (55mm diagonal) with in-body image stabilization and near 100% coverage phase detection hybrid auto-focus.

The GFX100 records DCI 4K/UHD 4K MOV 4:2:2 10-bit video files at 400 Mbps and 23.98, 24, 25 and 29.97 fps. External 4:2:2 10-bit uncompressed video outputs through the HDMI port.

Spoiler alert: Coming in the September edition of FDTimes: we take the GFX100 for a spin in an ALPA XO cage and PL mount with a Fujinon Premista 28-100 T2.9 Full-Frame zoom. Amazingly, the Full Frame Premista zoom even covers Medium Format.

## Specs

- Sensor size: 43.9mm x 32.9mm
- RAW still image: 291 MB; 11,648 x 8,736 px. JPEG: 43.3 MB
- G mount: 26.7mm Flange Focal Depth, ~65mm mount diameter
- ISO: 100-12,800 and 50-25,600
- Dims: 6.15" (W) x 6.44" (H) x 4.05" (D)
- Weight: approx. 3 lb. including two batteries, memory card and EVF
- Suggested retail price USD \$9,999.95

## Hasselblad X1D II 50C

## Hasselblad CFVII 50C & 907X



X1D II 50C



X1D II rear



X1D II top



CFV II 50C digital back



CFV II 50C 907X

XCD 45mm f/3.5



CFV II, 907X, XCD 45mm

In this episode of Game of Formats, Hasselblad introduces their new X1D II 50C mirrorless Medium Format digital camera.

Quick review: Cinema formats somehow leapfrogged still photography nomenclature and so Cine Large Format (LF, aka Leica Format) is Full Frame 36x24mm. Still Photo Large Format is 4x5 inches and larger. Medium Format, aka Hasselblad Format was roughly 6x6cm (2.25x2.25 inches). Medium Format sizes include 120, 220, 2-1/4", 6x6cm, 645, 6x7cm, 6x9cm, etc. Large Format includes 4 x 5", 5 x 7", 8 x 10", etc.)

The new Hasselblad X1D 50C has the same lens mount as the original X1D introduced in 2016. However, there are many improvements, which we'll get to in a minute.

### XCD Lens Mount: short FFD and very big I.D

The XCD lens mount has an 18.3mm flange focal depth and ~61mm Inside Diameter. That's an extremely short distance from the lens mount to the sensor, which is nice. Google "Hasselblad XCD Adapters" and you'll see many mechanical mounts.

The 50 megapixel CMOS sensor has 5.3µm photosites. Maximum resolution is 8272 x 6200. The sensor measures 43.8 x 32.9 mm, which is 54.78mm diagonal. This is 1.7 times larger than Full Format. By the way, the ALEXA 65 sensor is 54.12 x 25.58 mm, with a diagonal of 59.86mm. I think FDT readers sense where I am wandering. Even though I don't have video specifications yet, look at the little movie camera icon lurking on the lovely function dial on the top right surface in the photo above right. Video!

The X1D II 50C has a 3.6" 2.36-million dot touchscreen monitor on the back.

The OLED EVF has 3.69-million dots and 0.87x magnification, letting you see the bigger picture.

The X1D II 50C has a faster refresh rate, reduced shutter lag, shorter black-out time between frames, improved continuous shooting rate, and a 2x faster startup time than the original X1D.

Hasselblad's new Phocus Mobile 2 app lets you connect the camera to an iPad directly via USB-C or Wi-Fi for live view, storage, editing and posting.

The body will cost around USD \$5,750 when it is expected to ship in September.

If you are lucky enough to own a classic, analog film Hasselblad V System (aka 500 series and "the camera that went to the moon"), Hasselblad has good news: CFV II 50C digital back.

The flange focal depth of the V System is 74.9mm. The lens mount inside diameter is 69mm and the image circle is 79mm. It covers an image area of 56 x 56 mm. The reason this medium format is called 6 x 6 cm / 2 1/4 x 2 1/4" is because that is the size of the actual film. Obviously, the photographed image is smaller.)

So, if you have a beautiful collection of V series Hasselblad cameras and lenses, you can now add a Hasselblad CFV II 50C digital back for classic V System cameras and lenses.

And, if you'd like to use new mirrorless XC lenses (the new series of lenses for the X1D with an 18.3mm FFD) then you can add Hasselblad's new 907X lens mount for XCD lenses. It places the XCD lens 18.3mm in front of the CFV II 50C digital back.



# Sony a7R IV



Here's where the dialog heats up. A couple of years ago we heard that bigger pixels make better pictures and if you want more pixels (higher resolution), you make the sensor bigger. Now this:

Sony announced their new a7R IV full-frame 61.0 MP mirrorless camera on July 16 in New York. It uses the first new sensor design since the Alpha series was introduced. In stuffing so many pixels into a full-frame area, Sony's sensor uses back-illumination, advanced noise reduction techniques and processing to provide images with extremely low noise even at high ISO settings.

But first, some background. Kenji Tanaka, Sony's worldwide head of interchangeable camera and lens imaging technology, offered some interesting facts. "Half of all smartphone sensors on planet Eearth have Sony sensors. More than 40 million people engage in still or video creation worldwide as consumers, prosumers and pros. Sony has been the #1 brand for full-frame cameras for the past 20 months. The global mirrorless Interchangeable Lens Camera (ILC) market is a massively growing segment, as customers change from DSLR (Reflex mirror) to DSLM (Mirrorless) cameras. 60% of the market this year is mirrorless."

Mr. Tanaka almost sounded like Panavision's Dan Sasaki and his 5 pillars of anamorphic. For Sony, there are 5 Fundamentals for Full-Frame Mirrorless: Lens, Image Quality, Speed, Battery Life and Size (compact and lightweight.) New technologies enhance the new cameras, especially with AI (artificial intelligence), faster processor speed, and real-time autofocus and tracking, even in cine mode.

## Sony a7R IV Specs

- Full-Frame 61.0 MP back-illuminated CMOS sensor (35.7× 23.8mm)
- Video Formats: XAVC S, AVCHD format Ver. 2.0 compliant
- Video Compression: XAVC S: MPEG-4 AVC/H.264, AVCHD: MPEG-4 AVC/H.264.
- 4K/UHD (3840x2160) video recording across the full width of the Full-Frame image sensor, and full pixel readout without pixel binning in Super 35 mode
- S-Log 2, S-Log 3, Hybrid Log-Gamma (HLG) HDR
- 2 SD media slots
- 5.76 million dot UXGA (Ultra-XGA) 1.3cm UXGA OLED EVF
- Still images in JPEG or Sony ARW v2.3 RAW 9504 x 6336
- Image Stabilization: 5-axis Image Sensor-Shift mechanism
- Dims (W X H X D): approx. 128.9 mm x 96.4 mm x 77.5 mm
- Weight (with Battery & SD Card) approx. 1 lb 7.5 oz / 665 g
- ISO Stills: 100–32000, 50 to 102400 as expanded ISO range.
- ISO Video: 100-32000, ISO 100-12800 selectable
- Real-time Eye AF for video, a first in any Sony camera. When activated, the eye of a subject is automatically tracked precisely.
- Wireless PC remote connectivity (wireless tethering shooting) is also a first for Sony cameras.



## All Roads Lead to CVP - Episode 2



Picadilly, London on a snowy night



## All Roads Lead to CVP - Episode 2

The word “bespoke” bemuses. To a New Yorker, it sounds very British, as in “bespoke tailor” or “bespoke recce” or “bespoke camera systems” as we’ll discover in a few minutes at CVP London. To get to CVP, take the scenic route: meander along Piccadilly, Old Bond Street, and then onto famous Savile Row. Savile Row is the center of the universe for bespoke tailoring, not that

I’ve ever indulged. The idea of spending as much on a jacket and pants as an Angénieux EZ Zoom or URSA Mini Pro seems preposterous. And yet, Michael Jackson’s Postillion Jacket was bespoke here. Winston Churchill, Mick Jagger, Elton John, Jude Law shopped here. Bespoke suits are awkward on set unless you’re a tycoon. Instead, let’s look for our bespoke outfitting at CVP.





## All Roads Lead to CVP - Episode 2

Continue onto Wardour Street in Soho, once the epicenter of the British Film Industry. Legendary names at the beginning of the business lined this film strip: Charles Urban, Pathé, Warner Bros, Rank, Hammer, the list goes on. Anthony Richmond ASC BSC and many others began their careers working as runners (messengers) for film companies on Wardour Street. A right and a left turn and you'll find the CVP Creative Experience at 27 Newman St, Fitzrovia. It's a four-story townhouse just off Newman Passage, which looks like Diagon Alley in Harry Potter.



### CVP Creative Experience

In Episode 1 of FDT's "All Roads Lead to CVP" Saga, Jon Fry, CVP Sales Director, called the Newman Street Creative Experience "a playground where crews can come to see, try and test every single bit of kit required to bring their project to life. From an HDMI cable to large format cine cameras and everything else in between, this creative space gives everyone in the industry a place to learn new skills and get hands-on with all the latest equipment, all year round."

And here's the reason we rambled along Savile Row. CVP might be very much like the cine version of those legendary bespoke outfitters: Huntsman, Kilgour, Sedwell, Maurice, Steed, Henry Poole, Gieves & Hawkes, Richard James, Cad & The Dandy, Dege & Skinner. You enter unequipped and emerge with everything necessary to shoot a doc or a major motion picture. Instead of a cloth tape measure to plumb your chest circumference for a bespoke jacket, the experienced CVP staff will patiently spend all day, if necessary, to fit you with the right shoulder mount that perfectly fits your physique. They will encourage you to fuss all day with charts and real props in selecting the right lens.

There are two big differences between Savile Row and Newman Street's CVP. While a suit may take up to a month from first fitting and set you back \$10,000, you can walk out of CVP the same day with your purchase. You can spend as little as the equivalent of one bespoke button on Savile Row or splurge on a carefully curated camera and lens package that might cost as much as 50 suits.





## All Roads Lead to CVP - Episode 2

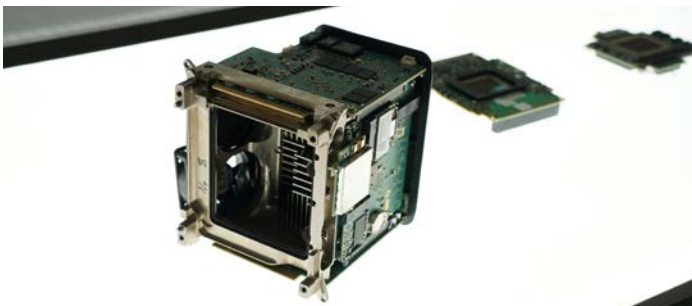


### CVP & ARRI Creative Space

From Newman Street, our CVP Fitzrovia tour ducks into Newman Passage and continues past The Fitzroy Tavern, a famous pub at 16 Charlotte Street, popular with London's artists, intellectuals and writers, including Dylan Thomas and George Orwell.



Look up, above the CVP entrance: from 1781 to 1867, Sir Robert Smirke, Architect, lived here. Nothing to smirk at here. Sir Robert designed The British Museum, Covent Garden Theatre, the Royal College of Physicians, more than 20 churches, 50 public buildings and 60 houses. *"Go to work, rival Smirke,"* began a popular song.



Another two blocks and we arrive at another historic townhouse: 81 Charlotte Street. This is The CVP & ARRI Creative Space, set up in April 2018 and run by CVP.



Inside CVP & ARRI Creative Space, you will probably be greeted by Aaron George and Lia Ryan. Like Newman Street, it feels like a very clean, very organized bespoke showroom. But instead of jackets and trousers, the display cases are festooned with all things ARRI—from bridgeplates and rods to the latest ALEXA Mini LF, ARRI Signature Primes, lenses and accessories. Support equipment is supplied by Codex, OConnor and Ronford-Baker.



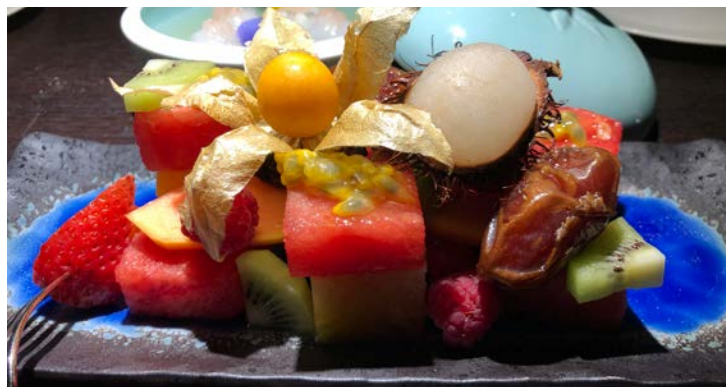


## All Roads Lead to CVP - Episode 2



Another thing quintessentially British, to this New Yorker, is the notion of the exclusive gentleman's and woman's club. Images from films come to mind: bastions of terrifying exclusivity where, as the FT wrote, "Members snooze in leather armchairs beside marble fireplaces, disturbed only by the occasional retainer." Peppared around Pall Mall and St. James in Neoclassical splendor, the clubs have whimsical names: White's, Brooks's, Boodles, The In & Out (no burgers here), Reform and Athenaeum.

Nevertheless, there seem to be clubs everywhere in London for almost every interest and occupation. And so it was a great honor when Aaron and Lia presented me with a membership card to the CVP & ARRI Creative Space Club. Members can descend to the lovely wood-paneled bar, screening room and gathering space on the lower level of 81 Charlotte Street. Relax between productions or steal away during lunch break if you're working nearby. And, if it's dinner time, take a 9-minute walk to Hakkasan Hanway Place for a Lychee Martini, Peking Duck and exotic fruits.





# Lighting with Paint: Turner

If you have been looking at lenses all day at CVP's Fitzrovia townhouses, you may be wondering where the next trend in look is leading. To find out, let's take a 15-minute walk to London's magnificent National Gallery and look at Joseph Mallord William Turner. His look and style varied—from carefully detailed and pristine to atmospheric and pre-impressionistic. Turner would have been an excellent cinematographer and he most certainly would embark on each new project with sets of lenses different from what he had used before.



*Calais Pier—English Packet Arriving.*

1803.

Joseph Mallord William Turner (age 28).

Oil on canvas.

172 x 240 cm.

The National Gallery, London. Photo: FDTimes.

Pristine. Fine details, classical, high resolution, contrasty, rich shadows, deep depth of field.

What lens would this be today? Wide angle, Full-Format 18mm at T11 no doubt.



*Sun rising through Vapour: Fishermen cleaning and selling Fish.*

Before 1807.

Joseph Mallord William Turner (age 32).

Oil on canvas.

134 x 179.5 cm.

The National Gallery, London. Photo: FDTimes.

Nice flares and atmospheric haze. Rich shadows and fine detail of the fisherman and shore. Shallow depth of field: the background goes soft. Note the ships' rigging in the distance is less focused than the foreground. If we were to imagine what lens series was used, probably a modern set with a vintage coating on front and rear elements.

## Lighting with Turner, cont'd

If you are a lens manufacturer, JMW Turner would be the person you'd want to grill about what to design next: modern or vintage, pristine or distressed. Turner would tell you to build all the above, because every painter...er...DP aspires to a unique style, different from all the rest. And style, like fashion, swings like a pendulum from one extreme to the other, sometimes stuck in the middle until a great talent gives it a shove. Oh, and yes, notice that Turner's aspect ratios on these pages are all 1.33:1 and the format is definitely Full-Frame.

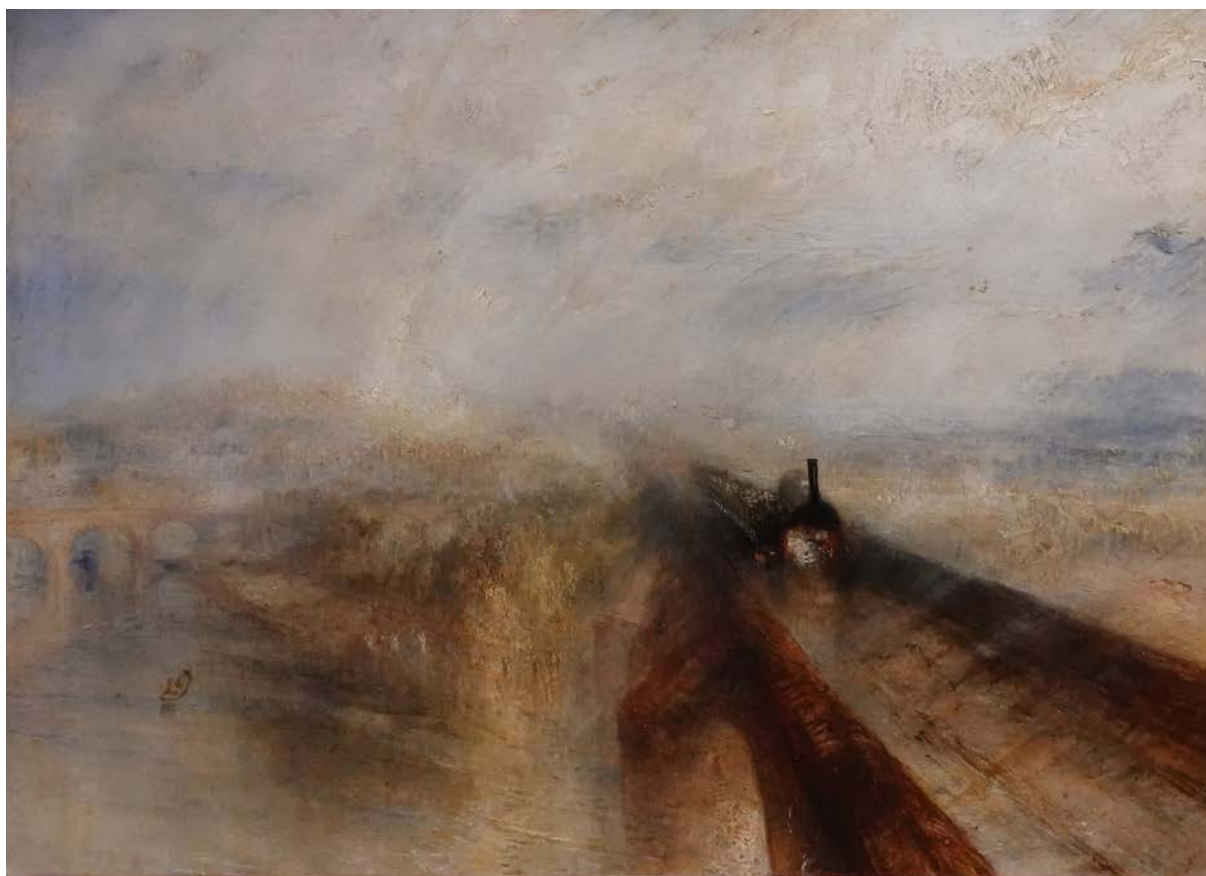


*The Fighting Temeraire tugged to her last berth to be broken up.*  
1839.

Joseph Mallord William Turner (age 64).  
Oil on canvas.  
90.7 x 121.6 cm.  
The National Gallery, London. Photo: FDTimes.

A modern lens: look at the detail of the masts and rigging. Hazy, flarey, glarey reflections from the setting sun.

Probably a Warm Pro-Mist filter on the front of the lens and a Fogal Noir net on the rear.



*Rain, Steam, and Speed—The Great Western Railway.*  
1844.

Joseph Mallord William Turner (age 69).  
Oil on canvas.  
91 x 121.8 cm.  
The National Gallery, London. Photo: FDTimes.

Definitely a very vintage lens, either ancient original or a modern re-creation.

This is 1930s vintage lens formula territory, uncoated or barely coated, aperture wide open with a wrench. Perhaps some Vaseline carefully smeared on an optical clear flat filter in front.



# The Innocents of Florence



by Davide Battistella

*When art restorers in Florence begin work on a 600 year old painting they lead the journey to uncover the story of the city's forgotten children, and the women who saved them.*

*"The Innocents of Florence" is a feature length Documentary. It's 1410. There is a huge social problem in Florence. Babies are abandoned and dying at an alarming rate. Florence's humanists organize and build a hospice for babies to assist young mothers. To celebrate the completion of the new building in 1446, they commission a painting to act as their poster, logo and symbol for the new Institute.*

*Flash forward 600 years to 2013. The very same painting sits in a museum within the original building. Two women, an American and an Italian, are tasked with the restoration of the work—to be displayed after a renovation and reopening of the museum.*

In April 2013, I began a film that would take me into the world of art conservation. My friend, art conservator Elizabeth Wicks, was taking on a new work in Florence Italy, created in 1436, and soon to be in her care and her conservation partner Nicoletta Fontani.

As I thought about the approach to the cinematography, I contemplated the work of many of the great artists I have seen on display in the private rooms, galleries, and museums scattered throughout this city, and what influence that was having on me. Many practical reasons were moving me toward coming up with a clean and classic approach; and with imagery that reflects the city, natural light, muted colors, light falloff, and classic composition.

I still had my trusty RED EPIC MX in my hands when I began filming and decided, as always, to record the full 5K image resolution that camera was capable of. Eventually, I upgraded to the 6K DRAGON which I used to complete the film. There were plenty of opportunities for other upgrades over the course of filming, but I stuck with the Dragon 6K sensor with no regrets.

In terms of lenses, I had just finished putting together a set of

hand-picked Leica R lenses and I knew that this would have to be the set that recorded this film. Even with the varying speeds (T2.8 and some T1.4 lenses), I was really pleased with the soft/sharp in the right places and look of the glass.

They are neither "sterile" nor too "vintage" and they render an image with nice dimensionality and good contrast even in available light. So the 19, 28, 35, 50, 80, 100, 135, and sometimes the 180 and 250 mm would be the lenses of choice. I also had a lightweight vintage Angenieux 70-210 zoom made for Leica. These lenses were the best choices I made in terms of the approach for this project. When you are getting into a project that is going to span years, the continuity of the glass is important.

I also knew I had to be light, flexible and able to grab scenes at the last minute as the schedule was at times on very short notice (as in, "this is happening today, tomorrow, or in a few days," so it was really necessary to have things packed in a way that I could move quickly, and also be on my own much of the time.

## The Conservators' Studio

I knew that the situation in the studio was going to be somewhat complicated. Liz and Nicoletta are accustomed to working with very green overhead fluorescent lights turned on, but I convinced them to work more with their daylight balanced work lights and a Southeast facing window. This gave me much more opportunity to shape the limited lighting and work with the window (mostly as fill) when possible. It also avoided some problems of mixed lighting and the unfriendly cast of the overheads. The studio is a small, shared and cluttered workspace, and I wanted backgrounds to fall off as much as possible and focus on the detailed work they were performing on the painting.

The 100mm macro was a godsend. That particular lens got me in tight enough to be able to tell the story of the painting and the millimeter by millimeter work that was being performed. The

# The Innocents of Florence, cont'd



raking light was also very helpful in showing the viewer an up-close view of a canvas that is almost six centuries old. That lens helped pull us deeply into their world, where they often work under magnification in order to inspect and perform their work in detail.

I had the very rare opportunity to film in the archive of the Innocenti Institute. This was only the second time, and the first “non-Italian” crew, to enter and film inside these 600-year-old archives that house hundreds of volumes of ledgers; the handwritten documents that hold the history of the Istituto degli Innocenti.

We had very limited time and needed to move quickly and without much fuss. In addition, I had to do a major interview setup for the film, so after the scout, I came up with the plan to do it with four battery powered LED panels and one main LupoLux 1K (this was factory modified with an updated LED with very high CRI). These were set up to boost what was coming through the windows (which was very little because the archive is protected from sunlight). I ended up shooting these scenes at 2000 ISO and then finally rated it at 1280 ISO when grading. It turned out that Dragon sensor saw a bit more than I had imagined.

## The City

The quality of the sunlight and narrow streets with delicate reflections shapes the city of Florence. This place, and the particular light and reflective qualities it creates, were observed by the greatest artists in history and portrayed in the works they produced.

The single source of the sun creates some special moments in this city at specific times of year. Apps like Helios Pro were absolutely essential tools to allow me to present this story and the city in its best light.

I wanted a Renaissance feel to the city without getting into making a docudrama or period piece. This story, although set in the past, is still happening in the modern world and times and yet I

wanted to bring the feeling of old world charm.

A Florentine friend of mine once said that Florence only belongs to Florentines after midnight and before eight in the morning. Living here, I understand this sentiment, as you can only really experience the beauty of its layout and architecture in its emptiness or loneliness. This emptiness was also an important theme, as it echoes the longing of mothers and orphans abandoned to the Institute. So I set out to present a “people-less” version of modern Florence.

Florence receives between 9 to 13 million visitors per year. That makes it very hard to find an empty piazza. It is also almost always under some form of renovation or reconstruction and scaffolding can cover important buildings or landmarks for months or years at a time. The Baptistry was behind scaffolding for 16 months during filming. I mention this for those of you who might think that living here makes it easier, when it really does present further and interesting challenges. I have managed to capture a very clutter-free version of the city’s major monuments, often returning to the same spots five to ten times to capture it in the light I was looking for.

Since I now live in a place that prides itself in the beauty and perfection of all things created by man, and those people would eventually see this film, I understood that it had to be done right, in the best light, at the right time of year and the right day and in a way that would be lasting.

## The Cathedral of Florence

At one point in the film, we had the opportunity to film a very rare original painting up close. Even for a large church on an overcast day there is not much light. Again here, there was a lot of improvisation with flashlights and a construction work light that I was able to have moved into a favorable position, without disturbing anyone or the flow of work that had to happen.



## The Innocents of Florence, cont'd



We filmed this on very short notice and scrambled to get permission, but it was well worth it to see this painting up close. Here the T1.4 lenses were very helpful and we shot these scenes on the 35, 50 and 80mm, but still managed to use the 100mm macro to capture details lit by the flashlights. This is probably the most famous image created of the poet Dante, so to see it this close was breathtaking; and yes, I did touch it.

### Post Production

Continuity of light and lenses were critical for this film because of the long documentary format. I captured the images in RED-CODE raw and that turned out to be an excellent choice. The production started out on older versions of the RED color science, but I was able to unify the images when it came time to grade, by applying the new IPP2 color even to the footage I shot five years ago. The R3D RAW container was a great concept in 2007, as it is today. Capturing with this system allowed me a great deal of flexibility in post, and many of the images I shot five years ago look better now because of the new color science.

A combination of home-brewed LUTs were constructed. The color palette of the film leans toward warm tones and the muted colors offered by the city and the stunning light it reflects. The film was graded in DaVinci Resolve.

I was happy to have selected RED for this project. The 4K images look great on the large screen.

The best takeaway I had from this production was that you can produce first class images and give documentary films a look and feel that can really raise the level of your visual storytelling. The realism of documentary filmmaking is having a great impact on all forms of visual storytelling as a gentle and credible way to reveal stories.

In the case of "The Innocents of Florence," shot over the span of many years, it gave me a lot of time to reflect on why it is important to be patient with the stories you want to tell and to create the images that support the tone and style in which you want to tell

that story. It's OK to slow things down and take some time, and more than anything, be considerate of your subject matter and honest in the retelling of what you witness. I am not trying to "tell you a story" with *The "Innocents of Florence,"* I am documenting a process and giving you an experience.

### Production Notes

- Cameras: 5K RED Epic and 6K RED Dragon
- Film is finished in 4K 2.39:1 widescreen.
- Lenses: Leica R Fetish
- 19mm F2.8—with Duclos 80mm front
- 28mm F2.8—A touch soft, so I do not use it as much
- 35mm F1.4—I love this lens. Something special.
- 50mm F1.4—classic Leica (soft/sharp look)
- 80mm F1.4—Incredible lens. Leica made them to make amazing portraits.
- 100mm F2.8 APO Macro—All the painting detail and close-up work is on this lens. Crazy beautiful and at one point was considered the reference lens for other still lenses.
- 135 F2.8—Not a focal length I used for much.
- 180 F4—This lens is gorgeous, weirdly very sharp.
- 250mm F4—I used this a fair bit on distant exteriors around the city; heavy but lovely.
- Angenieux 70-210 Macro Zoom - once you grade out the warm tinge, a beautiful lightweight zoom. Not a fast lens but an incredible look with a natural vignette that just kind works.

Often I would pick and choose a bit, but pretty much always had the 19mm - 100mm Leica R set in a Pelican case at all times and put the 70-210 in the camera bag.

I had all of these Leica R lenses converted to Nikon mount years ago to interchange on my Nikons. I used the RED Nikon mount.

[innocentimovie.com](http://innocentimovie.com)

[davidbattistella.com](http://davidbattistella.com)



# Paris Cine and Literary Landmarks



Hop on and hop off a brief FDTimes cinematic and literary tour of Paris. First stop: magic hour at the Hemingway Bar at the back of the Ritz Hotel. Proust dined here. F. Scott Fitzgerald and Ernest Hemingway drank here. Hemingway wrote, “When I dream of an afterlife in heaven, the action always takes place [here]...I knock back a couple of martinis in the bar.” Order the clean dirty Martini, called the world’s best by many. The glass is chilled to sub-Siberian temperatures. An olive is frozen inside an ice cube the size of Lake Baikal. Or ask Head Barman Colin Field for the Poire Victoire (Grey Goose pear Vodka with Normandy apple juice and lime.)

On the way out, my pace quickens passing the Proust Salon. Too many memories of Marcel Proust’s insufferable 4,215 pages of “Remembrance of Things Past” that we were subjected to in French class. I’m encouraged that French politician and crime novelist Frédérique Molay agrees, “Remembrance of Things Past’ corresponds to a lot of lost time.”

The next morning, visit the Cinémathèque Française, best in the world, designed by Frank Gehry, at 51 rue de Bercy. Next, salute the site of the Lumière Brothers’ first film projection in the Salon Indien, now the Hotel Scribe, at the corner of Rue Scribe and Boulevard des Capucines. Directly opposite, at 35 Boulevard des Capucines, is the former studio of photographer Nadar (Gaspard-Félix Tournachon). The first Impressionist exhibition was held here in 1874: 30 artists and 165 paintings. Time for lunch. Catch a cab or Uber and head for EMIT. *(Continued on next page.)*



Counterclockwise from top: Hemingway Bar, Proust Salon, Cinémathèque Française, former Nadar Studio, EMIT offices, former Salon Indien first film screening of Lumière Brothers.





# EMIT

EMIT is located at 6 Boulevard de la Libération in Saint-Denis. This is in the heart of Paris' cine rental and studio area, near the shores of the Seine, 5 miles north of the Hemingway Bar or Hotel Scribe. EMIT was founded in 1982 from the wreckage of Éclair by Trevor Steele. Today, his sons Andrew and Benjamin run the company in beautiful, brand new offices. It is a very personal, very service-centric boutique style company.

EMIT is known by the companies it keeps—a select selection of products that they know intimately: ARRI, Cooke, Angenieux,

SIGMA, Easyrig, cmotion, Panther, Tiffen, Transvideo, Betz Tools, Chrosziel, Flowcine, IBE Optics, Ronford Baker and Pag.

EMIT's airy, loft-like space fills 2 floors and a basement occupying more than 40,000 square feet. You enter a large showroom where the latest products are ready for hands-on try-outs. Service, lens projection and rentals are adjacent. The offices are upstairs.

France is the third or fourth largest film producing nation on earth, and EMIT supplies much of that equipment. [emit.fr](http://emit.fr)



Welcome to EMIT. Andrew Steele at the entrance.



Andrew and Ben Steele in the service area.



Reception desk straight ahead. Showroom to the right. Rentals at left.



Rental department.



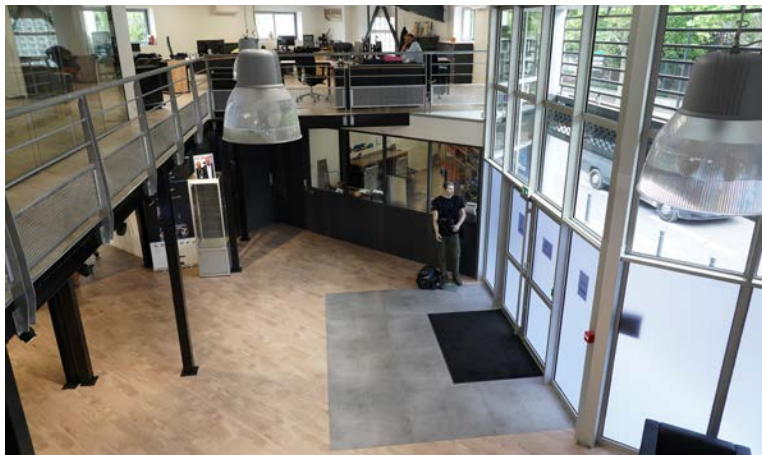
Showroom and sales areas.



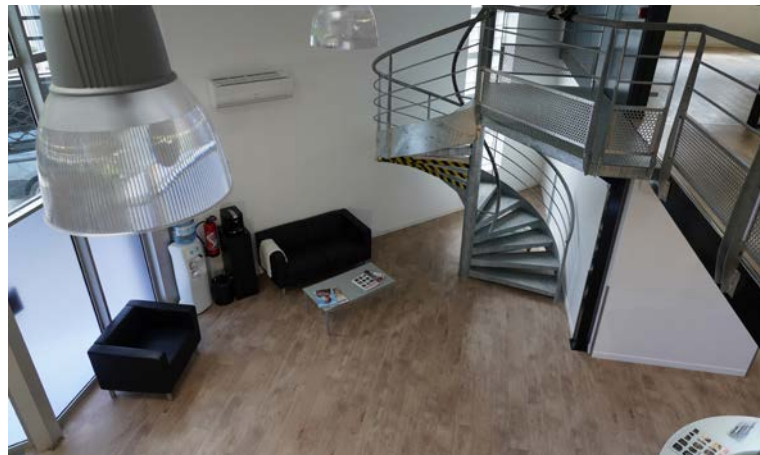
Lens testing and service department.



## EMIT Upstairs



Lofty view from the second floor offices.



View of the entrance and reception area.



"B" as in Ben. Benjamin Steele at work.



Andrew Steele at work.



FILM AND EMIT TIMES temporary Paris bureau.



Conference room.



Ben, Jon and Andrew under FILM AND DIGITAL EMIT edition.



Our tour concludes at the EMIT Bar and screening room.





KO Film Rental in Beijing keeps close ties with manufacturers and is known for providing the latest equipment to the Chinese market. To that end, KO Film Rental regularly hosts open house events with hands-on sessions and panel discussions to demonstrate new cameras, lenses, accessories, lighting and grip equipment. These popular gatherings also provide good opportunities to meet colleagues in the film industry. The most recent event is their annual open house a few days before BIRTV in Beijing in August.

It helps that the head of KO Film Rental is also an award-winning Cinematographer and Director. Lu Sheng graduated in 2005 from the film school 3iS (Institut International de L'Image et du Son - International Institute for Image and Sound) in Paris. He was the first foreign student from Asia to receive a diploma from 3iS.

Mr. Lu said, "As a technical service provider for film and television, KO Film Rental knows that the most beautiful images occasionally break traditional rules. We are now making interesting filters and hope that these KO Filters will be used by cinematographers to break more rules!"

Please break the rules—but try not to break their nice new filters.

### KO Colorful Effect Flare Filters - Peacock Set

The Peacock Set of KO Colorful Effect Flare Filters were first introduced in 2018. There are currently 18 filters in the set. They are made from water-white German glass, polished flat to precision tolerances over a long period of time and carefully coated at high temperature to achieve 99.3% light transmission. They also have hydrophobic (water repellent) and hard protective coatings. Each KO Peacock flare filter is made of two optical flats with specially colored wires sandwiched inside. This creates a unique glare or flare effect that works in conjunction with the lens. Unlike conventional streak or star effect filters, KO Peacock filters react with light in a rather random way. The irregular wire patterns inside the filter create images that are interesting, adjustable and very often "one-offs" that challenge duplication.

Cinematographers can customize the look and vary the effect of the KO Peacock Filters by changing lenses, focal length, light direction, light intensity, color, angle of incidence of light hitting the filter, flagging the light or lens, using hard or soft lighting, adding extra lights shining directly into the lens, and so on.

The Filter Holders are all made of magnesium alloy to reduce the weight of the system. The Filter Frame weighs only 105 grams. The engraving on each frame is meticulous.

The Filter Holder's lens slot can be fitted with one, two or three Peacock lenses at the same time. Three red metal thumbscrews secure the filters. A captive thread design prevents them from falling off. Mounting points on all four corners of the Filter Holder let you adjust the filters at any angle and position in front of the lens. The custom Wooden Camera support arm secures the Frame to the lens rods.

KO Peacock filters are available to rent, so far, from KO Film Rental in Beijing, Keslow Camera in LA, William F. White in Toronto, RVZ in Paris and Ljud&Bildmedia in Stockholm. The filters are also available for purchase internationally.

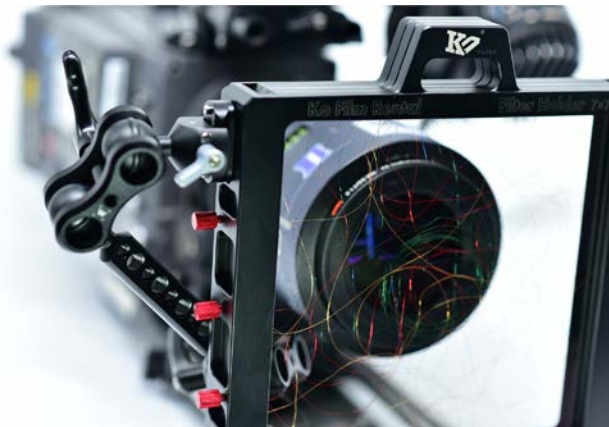
Looking ahead, KO plans to expand the line of Peacock Effect Flare Filters in 2019. There will be 4 series and 50 special filters in different styles. In the second half of 2019, KO begins producing customized filters on request.

See KO Peacock Filters in the Tilta booth at IBC.

[kofilmrental.com](http://kofilmrental.com)



# KO Peacock Filters



Above: the filter holder accepts one, two or three KO Peacock Filters. They can be positioned flat or angled, secured with 3 metal screws. Since you want flares, you probably will not need a mattebox.



The filters are manufactured by carefully arranging colored wires inside a sandwich of two precisely polished sheets of German optical glass. They are coated to achieve 99.3% light transmission.

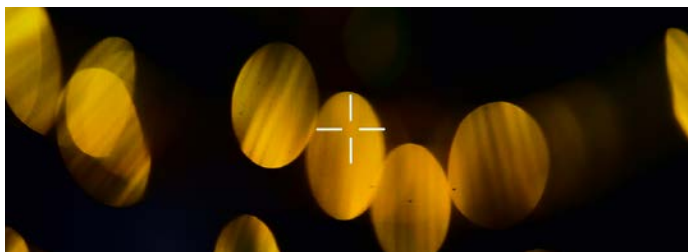


Shown here: Filter Holder attaches to rods with Wooden Camera bracket.



KO Peacock Filters and holders come in moisture-proof Pelican cases.

## Examples of KO Peacock Filter Effects







My last lunch with Franz Wieser, at left at Café Boulud. Late fall 2018.

It was a business meeting. A well-dressed still photographer was taking pictures.

By chance, a few months later I saw this photo of the two of us in an article on Grub Street "The Absolute Best Restaurants on the Upper East Side."

Photo by Melissa Hom for Grub Street. With kind permission of Grub Street and New York Magazine. [grubstreet.com](http://grubstreet.com)

Franz Wieser was one of my best friends in or out of the industry.

I first met Franz when we were shooting a commercial in the early 1990s. He had just arrived in the US to work at Arriflex Corp. Volker Bahnemann wanted to introduce him to the realities of actual New York film production. What better way than a trial by fire at the hands of Jonny Ercole, Jason Berry and me? I can still hear Ercole's trademark call, "Franzie, Whattayyyaa doin'?"

Franz endured and excelled. He worked with us on many jobs. Everyone—crew and clients alike—loved him. There was not a single person in the business who was not immediately impressed with his good nature and friendship. This was the beginning of a long and deep friendship for all of us. Franz became family. He was like a brother. His wife Philomena was like a sister.

Franz Wieser grew up in Rosenheim, Bavaria, Germany. He worked for the family food distribution company and then accepted an internship from Volker Bahnemann, President of Arriflex Corporation (later renamed ARRI Inc.) and now Member of the Supervisory Board of ARRI Group.

Franz worked at the Arriflex Corporation offices in Blauvelt, NY and Los Angeles, at first in market research and marketing. In July 1994, Franz became Marketing Manager at Arriflex and worked his way up over the next 25 years as International Marketing Director and then Vice President of Marketing. His career started in the film days and he was a major force at the beginning of the digital age of film. He lived in Nanuet and moved to LA about 8 years ago.

Franz was a god-like skier. Growing up in the mountains of Bavaria, he was a competitive downhill racer. I thought I was a pretty good skier as well. So, when Arriflex's first film-style digital D-20 camera was launched at the end of 2005, Franz invited me to try it out during the Sundance Film Festival. We filmed in town and on

the slopes of Deer Valley. When it was time for a break, we headed off for some free skiing. It was impossible to keep up with Franz. He zoomed ahead in a cloud of swirling powder snow.

Franz knew everyone in the business. He became an Associate Member of the American Society of Cinematographers (ASC) around 2004. Having served for years on the ASC publicity committee, organizing numerous cinematography events, workshops, demos and trade shows, he was so well-known that everyone assumed he had already been admitted as a member years earlier.

Franz and I worked on many projects together. He was Associate Producer of "Cinematographer Style," working selflessly and with inexhaustible energy on its inception, production, post and distribution. He produced the ARRICAM Book and instructional videos which were donated to the ASC and its education fund.

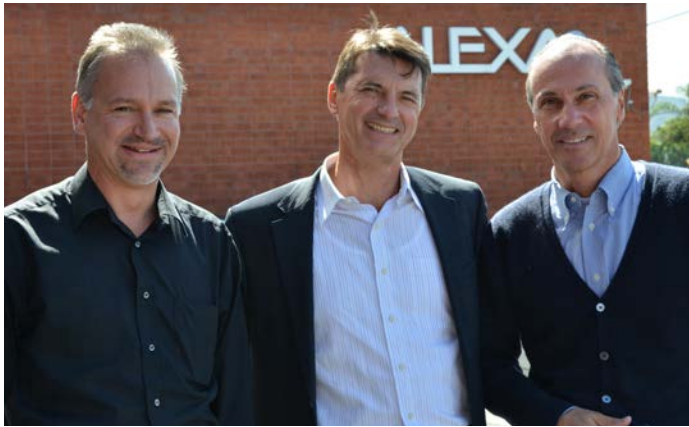
Volker Bahnemann, who was a mentor to both Franz and me, wrote, "Franz came to us with the expectation of staying for a limited time, two years or so to gain international marketing experience, but he liked the American business style and life so much that he decided to make it his career for good. Franz had a personality and charm that endeared him to all in our field of endeavor, inside the company and throughout the industry. He truly had an ideal personality, a strong sense of responsibility and consistently advocated the customer's position."

Franz leaves behind his lovely wife Philomena Ginhart, her son Dominik Ginhart and partner Isabelle Garnreiter and their son Leo, as well as sister Margit and her film-producer husband Eberhard Junkersdorf, daughters Bettina and Marie-Christine, and parents Leni and Franz Wieser.

This has been very difficult to write. My eyes keep filling with tears. Franz will be long remembered and greatly missed.



## Franz Wieser, cont'd



Oct 2011. ARRI Burbank. Glenn Kennel, Franz Kraus, Franz Wieser (l-r).



NAB, April 2010. Photo by Yousef Linjawi.



Franz buys a new house near Universal City around December 2011.



D20 at Sundance, January 2006. Franz is at right in black coat.



Franz in his office at ARRI Burbank, February 2014.



Franz Wieser and Philo Ginhart. New York, June 2017.



Philo Ginhart and Franz Wieser. Southampton, NY August 2016.



Franz Wieser in Southampton, NY. August 2016.



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