

Jon Fauer, ASC

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FILM AND DIGITAL TIMES

Art, Technique, and Technology in Motion Picture Production Worldwide



Masaya Maeda, Canon Managing Director

Dan May, President of Blackmagic

Matt Danilowicz, Vitec Managing Director

ARRI Alexa Mini Factory Visit

RED 20x40 Full Frame

Cine Lenses that fit Full Frame

What's Cooking at Cooke

Vantage Films Hawk65

Blackmagic URSA Mini

Steadicam 40th Anniversary, M-1

Canon HDR Monitors

Dolby Cinema

Preston Light Ranger 2 Updates

Claudio Miranda ASC on *Tomorrowland*

Rob Hardy BSC on *Ex Machina*

Gavin Finney BSC on *Wolf Hall*: Summilux-C, T1.4

Roger Deakins ASC BSC Gets Cannes Pierre Angénieux Award

Easyrig Inventor Johan Hellsten
gets wound up at Band Pro's
NAB Booth with his new Vario 5

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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Cover: Johan Hellsten and Easyrig Vario 5 with Blackmagic URSA.
Photo: Jon Fauer

Bigger Sensors, Full Frame Format, Next Lens Mounts



Dr. Winfried Scherle, Senior VP and General Manager, Camera Lenses & Sport Optics, Carl Zeiss AG (R), and Michael Schiehlen, Dir. of Sales (L).

Why were Winfried Scherle and Michael Schiehlen smiling at NAB? Their ZEISS Compact Prime CP.2 and Compact Zoom CZ.2 lenses have been covering Full Frame sensors for quite some time. When asked whether he knew something we didn't, Dr. Scherle said, "I had a hunch."

A year ago, in February 2014, FDTimes brazenly proclaimed, "This is the year we will see more Full Frame 24x36 mm sensors, already familiar to the DSLR world, appear in digital motion picture cameras." Oops, that prediction was off by a year. Interestingly, RED was the only camera company to embrace 24x36 FF Cine this year at NAB 2015. With more than 200 million Full Frame still lenses from Canon, Nikon, Leica, ZEISS, and others already out there, what's taking the cine camera makers so long?

Kavon Elhami of CamTec said, "I love it. I don't care so much about the K as long as it makes a good image. With the RED 20x40 size, you already have millions of still lenses—they are already there—and they can be rehoused."

Canon CEO Masaya Maeda said (see next page), "Larger pixel sizes are an advantage in low light. And we are not restricted to the Super 35 size by the silicon wafer itself."

ARRI Managing Director Franz Kraus said, "Looking at the beauty of the ALEXA65 images, I think Full Frame sensors will lead us towards this esthetic. Having significantly more of these good and large pixels will also be very beneficial."

Otto Nemenz said, "This is where the business is going—bigger sensors. ARRI made the first step with the Alexa 65, and now RED. I think the industry may settle on the 24x36 format. It is an ideal format because it already has a huge base. Give cinematographers a bigger sensor and they will want to fill it up."

The makers of Hawk lenses are smiling: their recently announced Hawk65 Anamorphics will cover any format from Super35, to Full Frame Still, to RED 20x40, and all the way up to 65mm.

Amnon Band of Band Pro said, "For large sensor cameras, it's not a question of if, but when. It's inevitable. It's not a fad, it's progress."

Aspect Ratios

Here we are in April 2015, and 35mm digital motion picture cameras have aspect ratios of 4:3 (ARRI Alexas), 16:9 (Sony, Canon, Blackmagic, Nikon, GoPro, Phantom Flex4K) and 2:1 (RED Dragon). If you are a camera manufacturer, you are delighted if

your cameras have sensors 18 mm high—which do not crop the huge selection of new anamorphic 2x lenses now available. If your digital motion picture cameras are using sensors 13.8 mm to 15 mm high, your customers have probably been beseeching you to provide cameras that will accommodate all these anamorphic lenses. So, what's a designer to do?

My guess is that many camera designers, rather than try to stretch a mere 3 mm more in height to 18 mm, will decide to make the leap directly to larger sensors, 20 to 24 mm high × 36 mm wide.

I think the next generation of cine cameras will be multi format, scalable and croppable. The most important thing is to accommodate the smallest common denominator: if you are planning to put 16mm or B4 lenses on your camera, those formats should have at least HD capability. Super 35mm will want to be at least 4K. You then do the math up from there.

Multi format digital cameras

The idea of multiple formats goes back to the beginning of film history. 35mm film was a universal standard for more than 100 years. But many different formats were available within that standard. All you had to do was put a mask in the gate and change to a different groundglass. In fact, the permutation of film formats fill a 98-page Guide from ARRI and another from Clairmont Camera.

And not only 35mm. Want a larger format to get people away from their home TVs and back into movie theaters? If it's 1954 and you're Douglas Shearer at MGM, Robert Gottschalk, president of Panavision, or Mike Todd, you call Kodak and get a commitment for 65mm film negative and 70mm prints. But even that was not unique. 70mm film was used at the Henley Regatta in 1896 and the Paris World Exposition in 1900.

The VistaVision camera aperture, a cousin of Full Frame Still Format, is 37.72 mm x 24.92 mm. Martin Hart of Widescreen Museum writes, "The earliest VistaVision optics were still camera lenses by Leica, since the 35mm still frame size is roughly the same as VistaVision. VistaVision was created by Paramount Pictures in 1954. It was not an anamorphic process like CinemaScope. The 35mm negative ran horizontally through the camera gate."

PL and PV Predominate (for now)

Lest these pronouncements produce dispepsia among the lensmeisters of Leicester, Oberkochen, Wetzlar, Saint-Héand, Saitama, and Morigane, they can take comfort in knowing that 95% of high end features and commercials are using PL or Panavision mount lenses on variations of the Academy format. The new RED Weapon 8K camera will certainly accept all these lenses with its removable PL mount.

Universal Mounts for new standard of lenses

The big question is whether a new mount and a new standard may emerge. PL mounts have a flange focal depth of 52 mm. The Panavision PV mount is 57.15 mm. They were designed for spinning mirror cameras. Mirrorless digital cameras enable shorter flange depths, which enable smaller lenses.

Last week in Oberkochen, Winfried Scherle of ZEISS said, "There's a big need in the industry for a standardized interface. Leave the choice of lens to the customer, but I would be very glad if this idea of a common mount could be possible."



Photo: Jon Fauer
with Canon GX 7

Masaya Maeda, Managing Director & Chief Executive of Image Communication Products at Canon

“Lunch with the FT” is a weekly column in the Financial Times. Their weekly interview with a leading cultural or business luminary was something we have been doing—but to paraphrase Virginia Woolf, “It’s dinner one wants, not lunch.”

Wasn’t it Michael Douglas as Gordon Gekko who said, “Lunch? Aw, you gotta be kidding. Lunch is for wimps.”

“Lunch, one hour,” is the common call of the AD. Lunch is an interlude. Dinner is a reward. No matter how long or tough the day, a good dinner with colleagues after wrap on location is a reward not to be missed.

It was therefore a pleasant surprise to receive an email from Mr. Hitoshi Doi, head of the Future Product & Solution Group at Canon U.S.A. “Jon,” he wrote, “Can you slip away for a couple of hours during NAB to have lunch with Mr. Maeda and me?”

Mr. Masaya Maeda is Managing Director and Chief Executive of Image Communication Products Operations at Canon. I was delighted by the prospect of seeing him again. And I relished the chance of escaping the prospect of standing in line for an NAB ordeal of toxic fast-food. Mr. Doi proposed meeting at Ferraro’s, a family-run Italian restaurant and wine bar just minutes from the LVCC.

There was but one wrinkle. Ferraro’s is highly regarded by Zagat: expertly prepared osso buco, “huge bone with lots of marrow,” homemade pastas, and a “deep,” 1,000-bottle wine list. At din-

ner with Mr. Maeda in Tokyo and again in Las Vegas last year, we both recognized a shared appreciation for Chateau Margaux 2005. A repeat performance of robust Bordeaux to accompany homemade pasta primi, heavy secondi, hot Nevada midday sun—these did not bode well for my reporting back to duty at NAB later that afternoon. As Clint Eastwood’s Dirty Harry said, “A man’s gotta know his limitations.”

If it weren’t located in a sun-baked asphalt strip mall across from the Hard Rock Hotel, Ferraro’s could be in New York. The décor is Las Vegas Tuscan: dark wood and leather. A familiar gentleman greets me. It’s Jack Watanabe, who guided us across Japan during a visit to Canon last year. He leads me to a private room.

Mr. Maeda and Mr. Doi are waiting. Mr. Maeda has just landed from Tokyo, and we are both thirsty. The wine list is as thick as a telephone book, if anyone remembers what those were. We decide against Margaux at midday, and agree on a glass of Berlucchi Franciacorta Brut from Lombardy.

“The last time we met, you spoke about your dream of photographing black crows on a moonless night,” I say. “Are we getting any closer?”

Mr. Maeda raises his glass. “Maybe a little closer.” He agrees that filming in low light is a passion of his.

“And is that the wave of the future for cinema and stills—captur-

RED Full Frame (20×40 mm) 8K



RED's Weapon 8K, introduced at NAB, is an important new camera expected later this year.

The good news is that all current cine lenses will fit, will work, and will remain relevant for a long time. The other good news is that most full frame still lenses will also fit.

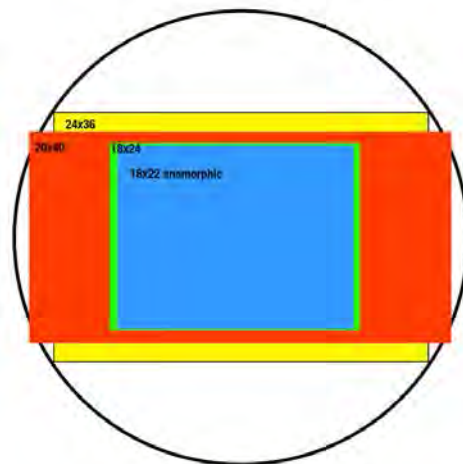
RED Weapon 8K 20 x 40 mm

It's not so much about the 8K. Yes, it's an 8K camera, but it will also do 4K in Full Frame and Super 35. What's important is the sensor size — 21.60 x 40.96 mm. For easy-to-remember math, round down to 20 x 40 mm. That's about the size of the most popular image format in the history of the world: 24 x 36 mm Full Frame Still, also known as Leica Format, Canon EF, Nikon FX. Hundreds of millions sold.

So, the new RED 8K sensor will accept almost every lens and format we know and love right now: Super35 18 x 24 mm PL mount lenses, anamorphic 18 x 22 full height format, VistaVision, and Full Frame Still. And, oh yes, you can fill the entire active RED Weapon 8K 8,192 x 4,320 35-megapixel sensor if you want to go a little wider. You will be able to record all these formats in 4K without reduction of image size.

By the way, you need an 8K sensor to window Super 35 in at least 4K. Jarred Land sent a diagram, to which I've added a few more formats and dimensions.

To calculate image circles and diagonals, download the Pythagorean Theorem Solver for iPhone. Or enter "Pythagorean Theorem Calculator" in Google.



I guess RED's reason for the 40.96 mm sensor width has to do with math. RED Epic Dragon sensors have a 5 micron pixel pitch. If you multiply 5 microns x 8,192 pixels, you get 40.960 mm width. But just because you have that many pixels doesn't mean you have to record them all in 8K. You can record in 4K ProRes or *K REDCODE RAW. Super35 24 mm wide can be covered with the same math as current Epic Dragon sizes (4.8K or more) with larger image circles.

The image diagonal (circle) of Full Frame Still is 43.27 mm, and the image diagonal of 20×40 is 44.72 mm. It's a whisker's difference. RED has a big bunch of users shooting fashion photography and video simultaneously, using still camera lenses. Samuel Renollet of RVZ in Paris has been a big advocate of this, and is looking forward to the new cameras. So is CamTec in LA, and many other rental houses.

What lenses cover RED Full Frame 20×40? Well, about 100 million Canon EF 35mm still lenses, and about 90 million Nikon FX lenses. Leica R lenses definitely, and many Leica M lenses with a new M mount. Leica Summicron-C lenses longer than 50mm should cover. Schneider-Kreuznach 18, 25, 35, 50, 75, and 100 mm Xenon FF lenses will cover. Certainly the ZEISS Compact Prime CP.2 and Compact Zoom CZ.2 lenses cover Full Frame: 15-30, 28-80 and 70-200 mm T2.9 zooms; and 15, 18, 21, 25, 28, 35, 50, 85, 100, 135 mm; 50 Macro; 35, 50, 85 mm T1.5 Super Speed CP.2...



RED Weapon
Carbon Fiber

Dan May, President of Blackmagic Design



URSA Mini

It's always good to spend time with Dan May at NAB for an interesting guided tour. He puts things in perspective and explains not only the what and how of new equipment, but why.

JON FAUER: It seems that you introduced more new products at NAB 2015 than ever before.

DAN MAY: We as a company have grown a lot over the last five years and we have made a number of acquisitions. We have had a number of opportunities with new product lines, new development, and the team has grown considerably. When you come to a show like this and are able to bring some 16 or 17 press releases and 38 new products, it's not without challenges. We want to be able to inform everyone about all these amazing announcements that we've done. Some of them will outshine other products, even though they're all important and even though they all have a really important message behind them. But, for better or for worse, cameras take a lot of the glory because almost every production starts with a camera. No matter whether you're doing live production, post-production, content creation or filmmaking, there's a camera involved. However, we feel that our other products, Resolve, Fusion, 12G hardware are equally important.

How long have you been working on these new cameras?

This is the first sensor that we've had custom developed for us, so it's been a little bit of a longer development cycle. The original URSA had basically off-the-shelf sensors. With the Mini, we went out and identified a great sensor that we could work with, add a bit of extra color science and debayering. That was great, but we really wanted a sensor developed the way that we would like it to be. Blackmagic has a pretty rapid development cycle, so things like the Micro cameras have come along pretty quickly. The URSA Mini is something that we knew was in the roadmap and as we were designing URSA to be a full-sized camera that could have multiple uses, we knew that there would have to be this follow-up version of the camera. The funny part is I jokingly said that we only came with 38 products. But I could come here with 80 products if we could get everything done that we're working on or thinking about. We have more ideas than we can get out the door.

Who decides what gets done, when?

Grant Petty decides all those things. There are a lot of people empowered to make decisions throughout the company and how we

do things, but for all intents and purposes, Grant is the decision-maker.

So you had a green light. Sounds just like a Hollywood studio.

Yep, absolutely. There's got to be someone with both hands on the wheel who can say this is the direction we need to go and how fast. Sometimes there are different lanes and different avenues, but particularly for product development, as CEO he's the final decision-maker of that road map..

Did customer input influence design of the URSA Mini?

There has been a tremendous amount of feedback from URSA in general, which we largely expected. But we basically had a catalogue of what we knew, what we prioritized, what we could do, and what we couldn't do. We had a lot of feedback that we took into consideration as we built URSA Mini.

There are four versions. We have a 4K version and a 4.6K version. They come in EF and PL. Because the 4K version uses the 4K sensor that we use now, it is more affordable.

The 4.6K sensor is a basic \$2,000 upgrade. It has 15 stops of dynamic range, a wider ISO range that is natively 800. It has the ability to do high frame rates up to 60 fps. The URSA Mini records to CFast 2.0 cards in dual slots, just like the regular URSA camera. It will do the same kind of ProRes and Raw recording as well.

The big difference you see between the URSA and the URSA Mini is size. URSA Mini is meant to be a handheld, single-user camera, so it's lighter, under seven pounds for the basic body. The lens mount and sensor assembly is not upgradeable like the URSA. If you're buying an URSA Mini, that's essentially the hardware that you're buying, like most cameras. The URSA is able to deal with higher frame rates because it has the electronics and the cooling capabilities to do that higher frame rate. URSA Mini does essentially half the frame rate (60 fps) that the full URSA can do (120 fps). So there are advantages to working with the URSA but the URSA Mini has a tremendous amount of capability for the price point that that's coming at. With the 4K version starting at \$3,000, the 4.6K version is going to be \$2,000 more. A lot of people will say "well worth it", especially for that extra dynamic range.

Back when we made the original pocket camera, Grant had a great line that you can always make a small camera bigger.

The Business of the Business: Matt Danilowicz, CEO Vitec Videocom



JON FAUER: You and I first met when you were at Avid. How did you get started and how did you wind up in this business?

MATT DANILOWICZ: I started in this industry after a very brief early part of my career as an economist for the U.S. Consumer Price Index. That was, shall we say, a very dry area. Then, in my mid 20s, I happily answered an advertisement in the newspaper to go work for a company traveling all over the world installing newsroom computer systems. Back in those days it was incredibly primitive. But journalists loved it because it introduced them to exciting features like email and electronic scripting. It was quite a breakthrough at the time. I'm dating myself when I tell you that.

That was my original foray into broadcast. I got the opportunity to really get a good sense of how television was done all over the world. From the world of computerizing text and teleprompting, I then had the opportunity to launch what ended up becoming the first disc-based computer system to play back commercials in the United States, a product called the Digistore.

After I launched that product, the guys at Avid had me come to work for them. I had a great run with Avid all through the '90s. I ran the New York operation for a number of years, so I had a lot of opportunities to plug into not only the broadcast community there, but the film community as well.

When I joined Avid, we were doing about \$40 million a year, and by the time I left we were about \$1 billion. It was an amazing, enjoyable ride. I helped broker a deal whereby Avid partnered with Grass Valley for a brief period of time and I ran the resulting joint venture, which we called iNews—a business that eventually came solely under Avid's control. I helped develop control room automation for a company called Parkervision, which we sold to Grass Valley a couple years later, after which I ended up going to Pinnacle for a short period of time as head of their broadcast group. Avid came in and bought Pinnacle, and then I got a call from a headhunter asking me to join a company called Vitec.

Honestly, I had never heard of this company called the Vitec Group. But I was very curious about it, and quickly learned that Vitec is a conglomerate holding company, and one of the most successful public companies in the broadcast landscape.

I ended up joining them and ran their Clear-Com subsidiary, one of the leading providers of audio intercom systems. I ran that for six years. Then Vitec sold it, and I went with the business to

the new private owner, HME. Two years later, Vitec asked me to come back and run the entire Broadcast Division. I've been having a blast ever since, getting to know the amazing brands and companies that Vitec owns. Since my arrival, I've been working on connecting our many Vitec products and businesses together to give customers a better experience.

How did you learn to become an economist?

I still am learning, in many respects. It's just in a much smaller theater. I studied economics at the College of William & Mary in Virginia. At the time, I started working for and ended up running my college radio station. I think that's where the bug bit me.

Where is Vitec listed as a public company?

They're on the FTSE Exchange, in the U.K. Our headquarters are in Richmond, just outside of the center of London. The company started about 25 years ago. The original idea was to try to bring together various products around the video camera. Not cameras themselves so much, but peripherals that go around the camera.

The original company started out as a merger between Vinten, which is a long-storied brand in the tripod and pedestal marketplace and another great brand, Sachtler, out of Germany. Vitec bought these two businesses and for the first 10 years of the company's history, the two businesses fought against each other in the marketplace. They actually competed and built a lot of similar products. It was an interesting way to run the business. Then Vitec bought up a bunch of other businesses, including OConnor, which of course you know very well from their strength in the film industry, another great brand for tripods and supports.

Gradually Vitec created a collection of businesses that for a long time competed against one another, and were run absolutely independently. Vitec was almost like a kind of a hedge fund in the early days. But about 10 years ago, we started doing a little bit of consolidation in the sharing of ideas and engineering and practices. We established a common back-office for the businesses. But we still held on to the idea that all these individual brands were run independently.

It's only been in the last year and a half, since my arrival, that we really began to accelerate the idea that we would start selling our products through a common sales channel and with a common marketing message. That's been a big change for the business, but I think in the long run it's something we had to do to be able to respond more quickly and to bring the full weight of our resources in areas where we're either challenged in the market or where we need to respond more quickly to changing customer requirements.

Our marketplace is moving much faster than it ever has before. I feel like there are more changes, more people entering the business than ever, and at the same time, more pressure at the high end financially than there's ever been.

All of those things require a faster and more powerful response from companies. I feel we will be better equipped to handle those challenges as a company that's working more in a larger, shared footprint, rather than a business that's simply a collection of smaller, individual companies. I think we're just going to be in a better position to handle these market changes if we can kind of band together and work more closely as a team.



"Wolf Hall" is the series on BBC and PBS Masterpiece Theatre about Thomas Cromwell, played by Mark Rylance—a blacksmith's son who rose to power as chief minister to King Henry VIII. Gavin Finney, BSC was the cinematographer.

JON FAUER: This is an interesting story. "Wolf Hall" was shot almost entirely handheld with Alexa and Summilux-C primes wide open at T1.4, and the night interiors were lit with candles?

GAVIN FINNEY: Yes. That was a practical solution and clearly an artistic one as well. It stemmed from the wish of the Director, Peter Kosminsky, to shoot the whole drama handheld. He wanted to shoot it in a contemporary documentary style. Handheld not in a waving-the-camera way, but as a proper documentary cameraman would hold it, which is as steady as you can, with a pleasing looseness and fluidity. He also wanted to give the actors freedom of movement within real locations.

Often, that meant coming into a room wide over the shoulder of Mark Rylance and then moving around to see his face, to see his reaction. We would never see anything that Cromwell's character doesn't see. That is why we don't meet King Henry until the end of episode one: because Cromwell doesn't meet him. Also, when you're in a grade-one listed building, where you cannot touch the fabric because it is so precious, and you're shooting on a wide angle lens handheld at night, where do you put film lights? I'm not a fan of lights simulating moonlight by coming through win-

dows to light up things. That's not how it was. And sometimes we'd be shooting during the day for nighttime, blacked out. It was in most cases real candlelight.

Your camera work was so beautiful, I didn't realize it was handheld.

It's 98.5% handheld. There's one crane shot and there are a couple of instances where we used a long lens with a 45-250 zoom, which is just too big to hold. For the jousting tournament in episode six, and one or two other times, we were on a ladder-pod to get up high. The camera was resting on a Halo Rig, which is like a miniature inner tube donut that you can rock. It gives the camera a slightly loose and handheld feel. We didn't take the tripod out of the van until week five.

It was not shaky-cam. It was good handheld.

That's the thing: all the static shots are also handheld. If you look at it you'll see there is a slight amount of movement but it's just my natural body movement. Peter's instruction was to have it look handheld when we're walking as well as when we're still—but to try to keep it as still as I could. It has an immediacy, a looseness, so the actors never felt pinned down by a track-run dolly. If they wanted to change where they were in the room, they could.

You had the freedom to move with the actors and the lighting allowed you to do that as well?

We had real candles in the rooms at night. During the day most of the light came

through the windows. Usually we had 18Ks on cranes coming through big windows. What surprised me is that Tudor buildings have a lot of glass: big, almost floor-to-ceiling windows, and so that was how we lit. You structure the scene so that people are near windows or near candles when you want to see them.

Did this documentary style come from starting your career in documentaries?

Certainly, I did documentaries both at Film School and when I left. It was a combination of drama and documentaries. Unfortunately, people tend to pigeon-hole you, so if you do dramas they don't see you as a documentary cameraman and vice versa, but when I was starting I did quite a few docs and I love them. You learn a huge amount just doing documentaries. You actually learn how good things look when you don't mess them up with lighting.

In the candlelit scenes, were they double wick or single wick normal candles?

Double wick candles are a problem in that they burn down faster, so you have to replace them more often for continuity. They produce more smoke. The locations we shot in required a huge amount of negotiation even to let us light any candles. But they prohibited double wick, because these are very precious interiors, 500-600 year old buildings, and they didn't want the heat or the smoke to damage the hanging tapestries and woodwork. So we had to use single wick beeswax candles or beeswax blend church candles, which have reasonably good sized single wicks.

In episode 2, Cromwell is talking to his sister-in-law and at the end of the scene he says, "I shouldn't have said that..."

Actually, it's one of my favorite scenes in the film. Because we'd done a lot of testing, we knew that it would work. When I read the script, it said, "Johane walks around the room putting out all the candles." And I thought there goes my lighting source, but it did work.

You can feel the darkness enveloping Cromwell. We lit to T1.4 at 1600 ASA. The camera sees significantly more than the human eye sees.

The learning curve of working with candles is putting them where they look correct for the room. It's also putting them where they look correct for the actors, because they are your lighting source, and

Cannes Pierre Angénieux Award to Roger Deakins, ASC, BSC



R-L: Pierre Andurand, President of Angenieux, James Deakins, Roger Deakins, Agnieszka Holland, Irène Jacob, Denis Villeneuve, Tanya Lapointe, Edward McDonnell, Claude Girard. Photo: D.Charriau

At 6:30pm Friday, May 22, Roger Deakins, ASC, BSC ascended the red carpet at Cannes, on his way to receiving the Pierre Angénieux Excellens Award for Cinematography.

First stop: a reception at the Mouton Cadet rooftop terrace of the Palais du Festival, overlooking the Cannes Mega yacht Harbor. Roger was joined by directors, producers, actors and actresses with whom he had worked. The award presentation was next—in the Salle Banuel, where words of praise were spoken by directors Joel and Ethan Coen (“Roger shot 11...or was it 12...” they lost count of the movies they’d done together). Speeches were given by director Agnieszka Holland (“The Secret Garden”), director Denis Villeneuve (“Prisoners,” “Sicario” which was in competition this year at Cannes), actors Frances Mc Dormand, Irène Jacob and Jake Gyllenhall, as well as Thierry Frémaux, Délégué Général of the Festival, Mike Eley, BSC and Richard Andry, AFC.

Angénieux President Pierre Andurand presented Roger with the award: an Optimo 45-120mm zoom lens specially engraved with his name. Roger concluded his acceptance speech with words that should be tacked up on every film student’s wall: “I wouldn’t be here without all the wonderful people I’ve worked with over the years, some of whom are in this room. It’s all right to celebrate the images and the work, but it wouldn’t be anything without the script or without the director.

“You can’t just shoot images—it would be totally meaningless. Films belong to a director. I hope over the years I’ve managed to contribute and add something and I’ve had a lot of fun along the way. I plan to do a lot more of it, so I’m a bit worried about an award like this because it’s far too early. Thank you so much.”

For those without IMDB Mobile, Roger’s credits include “Barton Fink,” “The Shawshank Redemption,” “Fargo,” “Kundun,” “The Big Lebowski,” “O Brother, Where Art Thou?,” “The Assassination of Jesse James,” “No Country for Old Men,” “True Grit,” and “Skyfall.” Roger and I spoke about the award, his career, cameras....

JON FAUER: Let’s begin by talking about boats.

ROGER DEAKINS: The last time I sailed was when I shot a documentary years ago. Now, I have a small boat and go fishing. It’s a little open boat with an outboard motor. It’s something I like doing in my down time in our place just south of Torquay. We’re opposite Dartmouth, half way between Torquay and Salcombe.

Your documentary about the Whitbread Race was probably the first film I ever saw of yours. How did that job come about? It must have been a grueling experience.

You always have happier memories. It’s funny. When I first heard about the project I hadn’t done much sailing. I’d been at film school for three years and I’d shot a film on the war in Rhodesia, as it was called back then. When I heard about this film, I thought it was going to be a dramatic film about Donald Crowhurst, the lone sailor who faked his own navigation around the world and it turned out that he never left the Atlantic.

But then I went to meet the producer and found, no, they were looking to make a documentary about life aboard an entrant in the Whitbread Round the World Yacht Race. I had sailed once or twice with my dad in a small dingy. That was the height of my experience with actual sailing. But I talked it up and said I had a lot of experience on the water, which was partially true. So I got the job.

But you were stuck on the boat for nine months or more, working as cameraman and sailing crew?

Nine months and we had to do a considerable amount of training. The yacht was based in North Scotland near Cape Wrath and I’d go up there and train with the guys who were going to be on the boat.

How many were you on board?

It varied between 9 and 11. There were several legs.

Do you remember what camera you used on that film?

Roger Deakins, ASC, BSC, cont'd

I do remember because I used an Éclair NPR which actually became my camera after that job. Had it for many years. In fact, it's the same Éclair NPR that sits in the ASC clubhouse right now. I gave it to them a few years ago. Actually, when I was shooting "Skyfall" back in England, John Buckley, an old friend, came up to me and said, "I think I have your old camera." And they had it at their rental house. I had been part of a small documentary company and we had sold it years ago. John gave it back to me. Now it sits in the clubhouse in Hollywood.

John Buckley of MovieTech in Pinewood Studios?

Yes, that's it. He used to work with Joe Dunton and they eventually ended up with that NPR.

Unbelievable. And what lens did it have?

I mainly used an Angenieux 9.5-57mm.

That would have been good on a sailboat, a short, wide zoom.

Yeah, it was a great lens. I used it for everything I did, actually. I owned that lens and it's what I shot with all the time. When the Aaton cameras came out, I still used that.

When you said you got the camera after the job, did you rent it first and then you bought it?

I took two cameras. Chris Menges worked for the company that did the job, ATV. They had a number of cameras. I believe, they were cameras that Chris's used. I took a complete set and spare body from them. So it was mainly their gear. I brought the lens in but it was basically two camera bodies and magazines. I think I picked up some other equipment such as specialized batteries and solar panels for charging.

Correct me if I'm wrong, but you rarely use zooms these days?

True, I rarely use zooms. However, on any film there will often be two or three shots that require a zoom or that particular look of a zoom. In fact, on "1984," we had three of four very specific zoom shots. We were angled over somebody's shoulder and we closed in as though we were going into a point of view on the zoom.

That's a particular shot that has a special feel to it but I don't like having a zoom on the camera all the time. I find that a little sloppy.

And why is that? You wouldn't even use it as a variable prime?

No, I like to say, "I want to be here, on a 32mm. I want to be here on a 50." I want to say, "This is the lens and this is where the camera goes for this particular shot." It's just the way I got used to working. For me, it is a cleaner, more direct way -- rather than being there and changing the focal length just to find the frame.

You like to be more precise.

I think so. I'd say it's probably just the way of working I got used to. Obviously, years ago the zooms weren't up to the quality of primes. So, I got used to that way of working. Of course, I know that now some of the zoom lenses are so good you probably wouldn't really know.

There is something about the size of the lens though. I tend to work with fairly wide lenses, close to people. And I like a very small camera package. I like things to be very small and intimate.

Going back to your documentary days, I suppose that was a different style and you probably used zooms then?



Pierre Andurand, President of Angenieux presents the Pierre Angénieux Award for Cinematography to Roger Deakins, ASC, BSC. Photo: P. Maillet

Yes, I used my 9.5-57mm nearly all the time. Sometimes I'd shoot with the 15mm prime lens I had on the NPR. On the yacht sometimes it was best just to shoot on the 15, because of the size and movement of the boat and everything. But obviously a little zoom on a documentary is really very advantageous.

Your documentaries in Africa—same camera package?

Yes. I did a film in Eritrea about the war for independence. It was 1980, '81 when Eritrea was fighting for independence from Ethiopia. I did the film with a journalist called Sarah Errington. She had been in the war zone before and I went in with her and the sound recordist Eddie Tise, who later went on to work with Kubrick. We spent some weeks inside Eritrea filming in one particular village, Karen, near the front line with Ethiopia. The film was about the way the guerillas were setting up a socialist society more than anything else. And yes, I took that same camera on that job, that same NPR.

How did you make the jump from documentaries to features?

I'd always wanted to do features but I only ever imagined that I would shoot documentaries. There were two things that started it, really. I'd been at National Film School so I had shot a lot of dramas. I shot something like 15 films for other students that were both documentary and fiction works but primarily fiction. In a way my calling card was the same calling cards that these students had left with. When they were showing their work they were showing my work.

I loved feature films since I joined a film society in Torquay as a teenager. But I didn't really think that it was a possibility for me as a career. I also love documentaries, so that's what I did for quite some time. One thing led to another. There was another ex-student of the National Film School called Michael Radford. We had done some documentary work together and he asked me to shoot a feature called "Another Time Another Place".



L-R: Geoffrey Chappell and
Cooke Chairman Les Zellan

Getting a coveted seat at the annual Cooke NAB users group meeting and dinner requires connections worthy of entry to a restaurant like Rao's in New York. It also helps to be the owner of a substantial number of Cooke lenses, spherical or anamorphic. In an undisclosed location at a distinguished Las Vegas restaurant, more than 80 prominent rental house owners, staff and cinematographers convened to discuss the latest topics and trends and to meet new colleagues. Later in the evening, fueled by a dinner of Jurassic-sized steaks and a workflow of wine, speeches were made on the state of the industry. Here are the highlights.

LES ZELLAN: This dinner achieves what we hoped for: the exchange of information and opinions that are highly valued in the industry. There are certain things we want to know about and I think you want to know about too, such as camera formats. It seems like there's a new one every week and it certainly affects rental houses and it affects us because we have to make the lenses to go on those cameras. It's hard to know where this market is going with an infinite number of formats coming out, so that'll be something we want to discuss.

Obviously, we'd love to hear how well or how poorly our anamorphic lenses are doing, but I'll assume they're doing pretty well. If you stay to the bitter end we may discuss some surprises. I'll tell you one of them right now. At Cine Gear, we plan to announce another anamorphic prime lens. As opposed to the zoom lens that we announced here at the show which should be ready toward the end of the year, or early next year, this is a lens that we'll start delivering shortly after Cine Gear, if everything goes smoothly. It's going to be a great addition to the anamorphic primes.

[This prime lens has now been revealed. Cooke's new 65 mm Macro Anamorphic /i 2x Prime is discussed earlier in this edition.]

GEOFFREY CHAPPELL: Ladies and Gentleman, on this stage from around the world, we are pleased to announce this evening we've got guests from over 46 countries. I've got a Magnificent Seven this evening to say a few words. I thought we'd start on home territory and I'd like to call upon Dennis McDonald from Keslow Camera to stand up and be questioned gently by Jon Fauers.

JON FAUER: We're going to ask pretty much the same questions to everybody. Dennis, tell us a little about your market. Is it mostly features, commercials, and how does it break down?

DENNIS McDONALD: We have a healthy balance of feature films, episodic television, and commercials, so I think we do well in all three markets. The percentage of anamorphic to spherical has changed. A few years ago I would have a different answer. Spherical was by far the leader, but as of late, anamorphic is exploding. Just last week we did a dishwashing liquid commercial on anamorphic lenses and it's absolutely huge. Every set of anamorphic lenses we own are currently working as of today.

JON FAUER: RED's introduction of a VistaVision size sensor drew a lot of attention at NAB. It wasn't totally VistaVision; it was roughly 20 mm high by 40 mm wide. That's close to our familiar Full Frame Still 24 x 36 format. So two questions: do we think other camera manufacturers are going to follow? And what does that mean for the lens business?

DENNIS McDONALD: Great question. I think other camera manufacturers will follow. I think PL mounted lenses are here to stay for a while, at least until our Cooke anamorphics are paid for. I think that what we have in our inventory is here to stay for at least a while. It's going to take a little time for larger format to take over. I'd like to thank Les and his team for a phenomenal evening. I think I can speak for everyone here that this event is without a doubt the highlight of NAB.

GEOFFREY CHAPPELL: One of our most celebrated and distinguished guests, Denny Clairmont, couldn't make it tonight. But we're pleased, in Denny's absence, to welcome Alan Albert, of Clairmont Camera.

ALAN ALBERT: I think the large RED sensor is interesting. I certainly have some questions about how big the sensors are going to be getting and that, of course, goes to the image circle of the lenses that we're all dealing with. It's wonderful, I think, to be able to have the higher resolution. But at some point in time it's going to get to a point where we're going to actually have lenses that we can't use. And that, from a rental standpoint, is very concerning and also from an aesthetic standpoint of what the directors of photography and directors are used to working with. So higher resolution is a wonderful thing, but I don't know that it's a be-all and end-all to our industry.

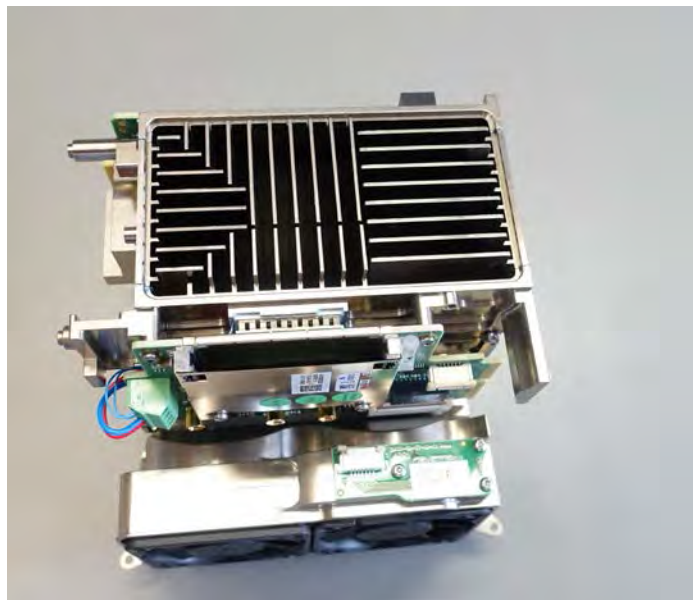
JON FAUER: May I just jump in with an observation about that? I think RED introduced this larger sensor not so much for higher resolution, but to accommodate more formats. Their Dragon sensor is 15mm high by 30 mm wide, so it crops 18x22 anamorphic on top. Everybody in this room probably has at least one set of Cooke anamorphic lenses, and many have, dare I say, ARRI/ZEISS Master Anamorphics, Vantage Hawks, Kowas, and others. These are all optimized for 18 millimeter high. So if you're RED and want to introduce the next camera, do you design it with an 18 x 24 mm sensor? No, you jump to the next larger size, the next multiple of 15x30, which is 20x40. You put a PL mount on it and everyone in this anamorphic room is happy. The 18x22 mm windowed area is more than 4K, inside of this 20x40 mm 8K sensor. Equally happy are all the fashion photographer/cinematographers who shoot both stills and video on RED cameras. So the big deal is compatibility with the 35mm cine 4:3 18x24 Silent Aperture, which up to now, only ARRI Alexa provided.

ALAN ALBERT: I agree with you. When we're talking about anamorphics it makes all the sense in the world. For VistaVision

ARRI Alexa Mini, cont'd



David Bermbach with skeleton of Alexa Mini. It's built somewhat like a Mac Pro, with a central cooling chimney and unibody skeleton. Unlike the Mini, Amira and Alexa bodies are structural.



Sensor module, lens mount, cooling and circuits are all assembled as a single unit.



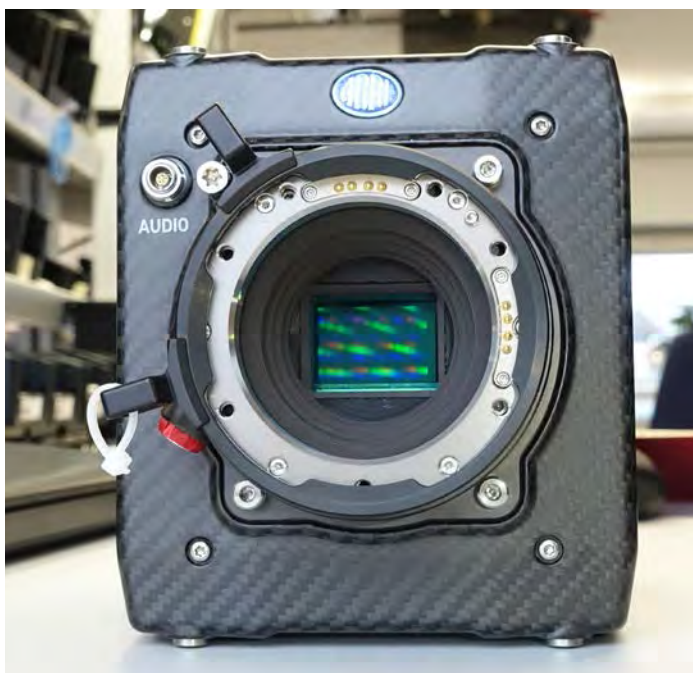
The front surrounds the lens mount but remains independent. If you crack the body, it's just cosmetic. You can keep shooting.

Below: Why is the lens motor connector on the lens mount and not at the back, as usual? Less cable clutter, and shorter cables as well.



Here's the lens mount with the front of the body attached.

Below: assembled camera with sensor, seen from the front.





Sony F65, ARRI/ZEISS Master Prime 21 mm, Cinematography Electronics CineTape. Photos: Kimberley French ©Disney Enterprises, Inc

JON FAUER: *Tomorrowland* is being distributed in SDR (Standard Dynamic Range), HDR Dolby Cinema and IMAX releases. Did you know about that from the beginning?

CLAUDIO MIRANDA: Yes, I knew from the beginning that there would be a separate pass for HDR and a separate pass for IMAX. The SDR and the HDR release aspect ratio is 2.20:1. The IMAX release is different from the regular film release. The IMAX aspect ratio is 1.9:1. “*Tomorrowland*” will be released in 4K and 2K.

Why is your widescreen 2.2:1, and not standard 2.39:1?

Brad Bird, the director, wanted to honor the classic 65mm format.

How do they project that? Do they just crop the sides?

It comes in a 1.85:1 container, and that is actually interesting. It gets slightly letterboxed on top and bottom, with special instructions going to theaters about that.

Did you have to grade the IMAX version differently?

We did a few repos. IMAX is not so much about the frame, as it is in a normal theatrical release. IMAX is about sitting in your seat and barely being able to see the sides of the screen. They want you to be immersed in the film. IMAX is more of an immersion, which I think is completely different from your sitting a little bit farther away in a regular theater watching a smaller screen where you really are conscious of the frame. You wouldn't want the same headroom in IMAX as you would in a 1.85. So, for the IMAX version, I gave it more headroom. For composition of the final conform, I sat very close to the screen to recompose for the experience of having it fill my field of view. And then in the grading theater, I just sat back a little bit to kind of make judgment calls about color and contrast.

Is contrast different for IMAX than for the regular version?

Yes, we did a different grade with David Keighley, VP of IMAX

and in charge of re-mastering.

Tell me more about the HDR because that sounds interesting.

The concept is having much more dynamic range in the theater. So, where a normal screening is 14 foot lamberts, you're getting a screen brightness that is much higher. In a normal DCP container, we're kind of dumbing down the contrast and bringing down our range into a space that lives inside this 14 foot lamberts. That's what I grade to. But HDR is interesting because it opens up the contrast. It's almost like adding more base to the subwoofers in the speakers of an audio system. For example, we can make explosions that don't burn out. You can have an explosion, with a lot of light. You can use it for an effect, and it really opens up more in the DI, which can add to the story. You can from inside to a blinding light outside if you want to make the audience kind of feel that kind of extreme contrast. You can have the dynamic range that you couldn't before. And the biggest thing is that you truly have black blacks.

When you run black on a standard cinema projector, you can put your hand in front of the projector and do bunny puppets. You can still see your hand. But in Dolby HDR, nothing, zero, zip. You cannot even see anything with your hand in front of the screen. You can go up there and black is finally black. Imagine a starscape or looking up at night sky. It almost makes me feel like this is truly what 3D should be for me. I think it's truly three dimensional, and I almost feel like it's even more three dimensional than 3D sometimes. Obviously I haven't seen HDR 3D yet, so maybe there's something to convince me...but what also it promises to do in the future is also make 3D HDR extremely bright, the thing that people are normally complaining about, beyond the glasses and artifacts.

Is it the brighter projection that makes it possible?

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