

ARRI NEWS

NAB ISSUE 2014



AMIRA IN ACTION

ARRI's documentary-style camera on set in Rio de Janeiro



ELECTRONIC CONTROL SYSTEM

New UMC-4 delivers lens control and data for any camera



M-SERIES

ARRI M90 and M40 lights used on Wes Anderson's latest film



ALEXA XT

Software tools and updates take ALEXA from strength to strength

EDITORIAL

DEAR FRIENDS AND COLLEAGUES

After showing a prototype of our new documentary-style AMIRA camera at IBC last year, we're pleased to give it full coverage in this issue of ARRI News now that the camera is about to start shipping.



ALEXA-shot movie. Of these, and of the accolades won by ALEXA users at the ASC Awards, BAFTAs, Goyas, Césars, Golden Globes and countless other international awards events, we are immensely proud.

Strong demand for the ALEXA XT continues in both established and emerging markets, and the first XT movies are starting to hit theaters. We feature *X-Men: Days of Future Past* in these pages, but many more of this summer's blockbusters will have been shot with XT cameras. The still unique 4:3 ALEXA sensor perfectly suits anamorphic capture, while ARRIRAW provides an uncompressed file format with a manageable data workflow, delivering image quality so high that it can easily accommodate 4K or IMAX release.

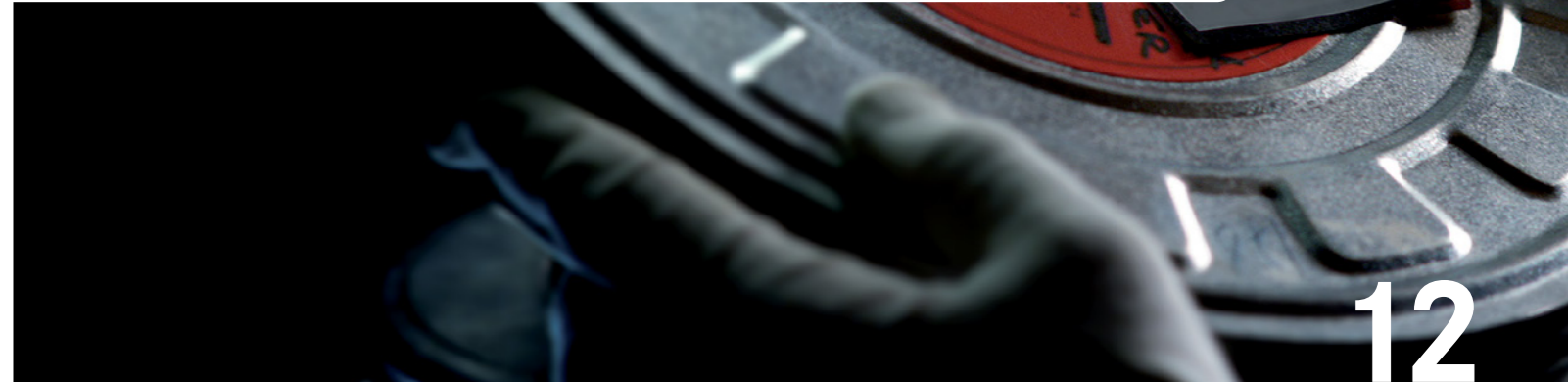
Meanwhile our M-Series and L-Series lights are gaining in popularity all over the world; our new PCA web pages and Electronic Control System have launched; our Ultra Wide Zoom and Master Anamorphics are making a hit; and our ARRISCAN archive tools are preserving classic films – a case study on the restoration of 1959's *Hiroshima Mon Amour* appears in this issue.

You can find up-to-the-minute NAB news on our show page arri.com/nab2014. If you're in Las Vegas, be sure to stop by and visit our booth.

The awards season this year has been the best in our company's history. Every single film nominated for the best picture, directing and cinematography Oscars® was shot with ARRI cameras – over half of them with ALEXA – and for the third year in a row, the cinematography and VFX Oscars® went to an

Dr. Martin Prillmann

Franz Kraus



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X-MEN



X-Men: Days of Future Past shoots with the ALEXA XT, alongside the ALEXA M

rated the XT so highly that he bought one. “The fall-off is so subtle and gentle. I was getting the same beautiful look except in full-resolution and a smaller profile.”

Sigel used the ALEXA XTs for the production’s 2D work, including 2nd unit. “The 2D work tended to be action photography that couldn’t be captured in 3D,” he explains. “It was converted to 3D in post and accounts for about 20 minutes of the movie.” Sigel appreciated the flexibility and simplicity of the XT’s in-camera ARRIRAW. “I didn’t need a recorder or extra cabling,” he says.

X-Men: Days of Future Past takes place in two time frames; scenes set in the future have a colder, blue-cyan look, whereas scenes in the past have a warmer, desaturated look. “One of the great things about the ALEXA is that, because it creates such a beautiful raw image, you have a lot of room for moving the image in one direction or another in post,” says Sigel. “The ALEXA has such nice highlights and a beautiful color range, so you can make those subtle manipulations and it looks very organic, rather than electronic. That was one of the selling points of using the ALEXA.”

The film integrates approximately 1,200 visual effects. “We shot greenscreen as extensions of existing sets,” says Sigel. “And the ALEXA is quite beautiful for greenscreen work.” For one sequence that takes place on the lawn in front of the White House, the crew built an enormous greenscreen box to contain the many actors involved in the action. Later, the VFX department replaced the greenscreen box with White House backgrounds in every shot.

The ALEXA’s low-light sensitivity was also a boon for the film’s native 3D. “You lose a stop in 3D due to the mirror, so having all that extra latitude with the ALEXA was a huge bonus,” says Sigel. “I definitely think we were able to use smaller lighting instruments in general than we would have in the past.”

X-Men: Days of Future Past posed a raft of tricky challenges: native 3D, heavy VFX and distinctive looks. The ALEXA M and ALEXA XT came through with flying colors. “I’ve gotten really good results and I haven’t found anything I like better,” says Sigel. “It’s my favorite camera.”

Debra Kaufman



Photos: Alan Markfield
TM and © 2013 Marvel and Subs. TM and © 2013 Twentieth Century Fox Film Corporation

The X-Men—those Marvel mutant superheroes created by Stan Lee and Jack Kirby—have enjoyed a tremendous transformation from comic book to feature film since director Bryan Singer helmed the first X-Men movie in 2000.

Now, 14 years later, the seventh film in the series is being released – *X-Men: Days of Future Past* in 3D. Bryan Singer again directed and this time brought in cinematographer Newton Thomas Sigel, ASC,

who shot with ALEXA cameras, just as he had on previous credits *Seventh Son* and *Drive*. “I’m a fan of ALEXA and really like the look,” he says. “For Bryan and myself, the ALEXA has been almost the gateway to getting the look we like in film.”

Singer wanted to shoot the stereoscopic 3D natively, which meant they would need compact, nimble 3D rigs. “The ALEXA M was on the market and had been field-tested, so we decided that was the way to proceed,”

says Sigel, pointing out that the ALEXA M’s smaller size was a big advantage. The film’s main unit carried three 3D rigs, totaling six ALEXA M cameras.

ARRI had also just unveiled the ALEXA XT, which offers in-camera ARRIRAW recording, internal FSND (Full Spectrum ND) filters and lens data for VFX, among other features, and Sigel liked what he saw. “It’s got the beautiful look we all like on the ALEXA that’s made it so popular,” says the cinematographer, who



ELECTRONIC CONTROL SYSTEM

A range of new motor controllers expands ARRI's Electronic Control System into a powerful, independent system delivering vital lens data with any camera and any lens



ARRI's Electronic Control System is a sophisticated toolset for remote camera and lens control. It includes the award-winning WCU-4 wireless 3-axis hand unit, which displays extensive lens data when used with ALEXA Plus and Studio cameras, as well as its smaller companion, the SXU-1 single-axis hand unit for controlling focus, iris or zoom.

New tools being released in 2014 give the Electronic Control System complete operational autonomy, allowing the WCU-4, SXU-1 and other system elements to be used with all kinds of lenses and cameras, including the new ARRI AMIRA but also any third-party camera on the market. All system components are built to withstand hard, prolonged use on set, and are backed by ARRI's worldwide network of official service centers.

NEW UNIVERSAL MOTOR CONTROLLER UMC-4

The new Universal Motor Controller UMC-4 is an advanced 3-axis motor controller that offers functions previously only available with ALEXA Plus and Studio cameras. By incorporating ARRI's LDS Lens Data Archive, the UMC-4 goes beyond mere camera and lens control to offer the added value of lens data that is useful both on set and in post.

Lens data provides the current setting for focus, iris and zoom. This information enables lens mapping to pre-marked focus rings and depth-of-field display on the WCU-4 wireless hand unit. It also enables the UMC-4 to do focus tracking – setting the focus motor to continuously follow a subject in the frame by using an ultrasonic measuring device. For VFX tasks in post, the UMC-4 records frame-accurate

lens data, with timecode, that helps match the virtual lens to the recorded image.

The UMC-4 includes multiple serial interfaces (RS232/422/485) that can be configured for peripheral equipment such as ARRI's UDM-1 distance measurer, or that can stream real-time lens data on set. Optional connector modules directly interface with focus and zoom demands from Fujifilm and Canon. An Ethernet connector integrates the UMC-4 with standard IT equipment, allowing convenient lens table programming and Ethernet-based system control. The intuitive user interface makes the UMC-4 easy to use, while its high-quality outdoor antenna offers improved durability and reliable radio connectivity. Software updates can be easily performed via SD card, ensuring a future-proof system that can adapt as new functions evolve.

WHAT IS THE ARRI LENS DATA SYSTEM?

ARRI's Lens Data System (LDS) comprises a range of products generating highly accurate lens data for use on set and in postproduction. Lens data generation has two basic requirements: encoders that determine the current setting of a lens axis, and a lens table that interprets these raw encoder values. ARRI offers two configurations:

1. LDS lens and LDS-mount camera: each LDS lens can detect the position of its lens rings and store its own lens table. When mounted to an LDS-compatible camera (AMIRA and most ALEXAs), the data is transmitted to the camera, which calculates the actual lens value internally. This 'plug-and-play' system requires no additional setup.

2. External lens encoders and the Lens Data Archive: As well as allowing remote control of the lens, ARRI's controlled lens motors deliver raw data about the position of the lens rings to either a UMC-4 or an ALEXA Plus module.

Both of these devices include the LDS Lens Data Archive, which provides the lens tables and enables them to calculate the lens data, making the advantages of ARRI's Lens Data System available to any lens.



UMC-4 FEATURES AND BENEFITS

- 3-axis remote control of focus, iris and zoom on any camera
- LDS Lens Data Archive for accurate lens data with any lens
- Long-range radio system for reliable connectivity
- Internal and external timecode for lens data synchronization
- Serial interfaces to peripheral equipment
- Focus tracking with ultrasonic measurement devices
- Large display for setup and vital status information
- SD card slot for lens data storage and file transfer
- Ethernet interface for IT integration
- Optional interfaces to Canon and Fujifilm focus and zoom demands

NEW MINI MOTOR CONTROLLERS SMC-1 AND EMC-1

ARRI is introducing two small and lightweight motor controllers that offer an alternative to the UMC-4, providing basic lens control functionality for setups where size and weight matter.

The ENG Motor Controller EMC-1 was specifically developed for use with ENG-type lenses such as the Fujinon Cabrio Zooms. The EMC-1 controls the integrated focus, iris, and zoom motors of such ENG lenses and provides lens data for display on the WCU-4 hand unit.

The Single Motor Controller SMC-1 is a compact 1-axis motor controller designed for weight and size-critical setups such as Steadicam or camera drones. It drives a single CLM motor and is the perfect counterpart for the SXU-1 single-axis hand unit.



Photo: Martin Scali
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LIGHTING THE GRAND BUDAPEST HOTEL

Gaffer Helmut Prein works with ARRI lights on Wes Anderson's latest film



Directed in typically idiosyncratic style by Wes Anderson and shot by Robert Yeoman, ASC, *The Grand Budapest Hotel* is set in the fictional Republic of Zubrowka and centers on the misadventures of concierge Gustav H. (Ralph Fiennes) and lobby boy Zero Moustafa (Tony Revolori). Set lighting gaffer Helmut Prein made use of numerous ARRI lights during the shoot in Germany, including M-Series fixtures with advanced reflector technology. All lighting and camera equipment was supplied by ARRI Rental Berlin.

How would you describe working with Wes Anderson and Bob Yeoman?

I would call it intense, because Wes is a director who has very concrete ideas about the design of the shots and is determined to execute them as precisely as possible. This requires the kind of rapport that Wes and Bob have developed over the years, working on seven films together. We shot about 75% of the film in the 4:3 aspect ratio, which is challenging because you often have parts of the ceiling and floor in the frame, so we had to find lighting solutions that worked in this format.

“The light of the M-Series is remarkable in terms of its quality and efficiency.”



Were any of the sets particularly difficult to light?

One of the main motifs of the film is, of course, the Grand Budapest Hotel, which was created inside a former department store in Görlitz. The 1913 Art Nouveau building has an impressive interior, consisting of two central cantilever staircases and a gorgeous stained glass ceiling, and our challenge was to light this large interior space in a way that allowed the camera to move as freely as possible.

Above the stained glass ceiling was another glass ceiling, which we covered from the inside with multiple 20 x 20 Ultrabounce panels. The space between the ceilings was tight and we couldn't get too close to the reflectors, which meant we couldn't use anything bigger than 4 kW lights. We tested an arrangement of four lampheads, which we set up in one corner of the roof. The result

was great; we were able to light the entire surface of one 20 x 20 Ultrabounce reflector evenly. Now all we had to do was extrapolate the total number of units we would need to light all the 20 x 20s and add a few extra for backup. We ended up using 40 lights – a combination of ARRISUNs and ARRI Compacts covered with half CTO. The result was impressive: it looked completely realistic and the aperture drop-off from T4.5 on the top floor to T2.8 on the bottom floor, along with the quality of light, felt very natural.

What else was in your lighting package?

Our basic package included daylight units from 18 kW down to 400 W – a mix of ARRI Fresnels (18 kW; 12 kW), ARRI M-Series (M40; M18), ARRISUNs (6 kW; 4 kW; Joker 800 and 400 W) and Kino Flos – as well as a large tungsten package of ARRI T12 Fresnels,

Dinos and Maxi/Mini Brutes, along with a variety of soft lights. We regularly used the 2 kW and 5 kW China Balls, which we mounted on Max and Menace booms, and since we often worked shadow-free we also had a Butterfly package. Then there was a dimmer system, operated by Mike Wächter.

Do you have any favorite lights at the moment?

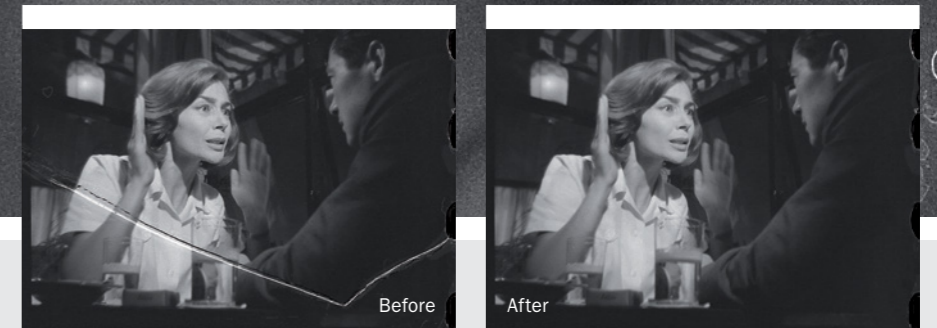
On the HMI side I like ARRI's M-Series. On most projects I need soft but focused lighting and the light of the M-Series is remarkable in terms of its quality and efficiency. That's why the M-Series units meet direct as well as indirect light requirements; at the moment my favorite is the M90, which almost has the power of a 12 kW but is easier to handle. I like the Barger-Lite, which ARRI Rental first sourced for me for a film I worked on called *Perfume: The Story of a Murderer*, but my favorite tungsten unit is the ARRI T12.



©Helmut Prein



*L'Immagine Ritrovata uses
ARRISCAN archive technology
to restore a French New Wave
masterpiece*



A 4K restoration of Alain Resnais's classic 1959 film *Hiroshima Mon Amour* was undertaken in 2013 by Argos Films, the Technicolor Foundation, the Groupama Gan Foundation and Cineteca di Bologna. The work was carried out at L'Immagine Ritrovata, Cineteca di Bologna's restoration lab, where facility director Davide Pozzi oversaw the delicate task of scanning the original camera negative. He speaks here about how the restoration process was aided by the unique advantages of the ARRISCAN and ARRI Wet Gate.

When did L'Immagine Ritrovata acquire its first ARRISCAN?

In 2009 we decided that in order to carry out the restorations we wanted to do, we needed a scanner that could digitize any kind of material, including nitrate and non-standard formats, as well as shrunken or damaged films. We went to ARRI Munich to do a test with some unusual Lumière brothers' footage, which had only one round perforation per frame. We scanned it with an ARRISCAN and the Sprocketless Transport, and it was one of the best days

of my professional life because I realized we had found a machine that could handle archive work. That was in March 2009 and by August we were finalizing our purchase of an ARRISCAN; I think ours was the first Sprocketless Transport to be delivered.

Did you invest in further ARRI archive tools?

We had already invested in an ARRILASER in 2008, and in 2012 we bought the 16 mm and 35 mm Wet Gates for our ARRISCAN, which was a very important step. Then in 2013 we bought our second ARRISCAN

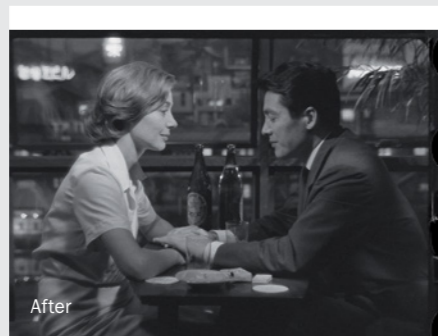
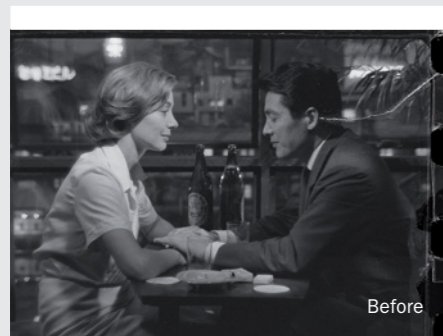
and at that point we decided to build a special, climate-controlled room for our ARRI machines. The new room is now completed and my hope is to buy a third ARRISCAN to go in there. We're doing restorations for clients worldwide and our scanners are running all day, but we'd like to increase our volume still further. That's why my goal is to have three ARRISCANs, two of them with a Wet Gate. We also have the 16 mm and 35 mm Archive Gates, and we hope to test ARRI's Built-in Stabilization soon.

What materials did you have for *Hiroshima Mon Amour*?

We had the original camera negative and an inter-positive. Mainly we were able to scan the film dry, but there were two reels that were affected by mold and we decided to scan those with the Wet Gate. The miracle of the Wet Gate was that in this case it completely fixed the problem and we didn't have to add extra digital cleaning hours into our schedule. Some people emphasize the Wet Gate's ability to fix scratches and dirt – and it can – but for me

its true power is in being able to fix mold that might otherwise mean having to use another element, rather than the original camera negative. We are working more and more with film that has been stored in humid countries and is often very affected by mold; since getting the Wet Gate the quality we can achieve for these films has increased dramatically.

There were a few shots with frames that were either missing or badly damaged, and for these we turned to the inter-positive, but having the Wet Gate allowed us to work



possible. Those tests were screened for Resnais and in the end he was happy with the result.

almost entirely from the original camera negative. The perforations were in good condition on this film, so we didn't have to use the Sprocketless Transport.

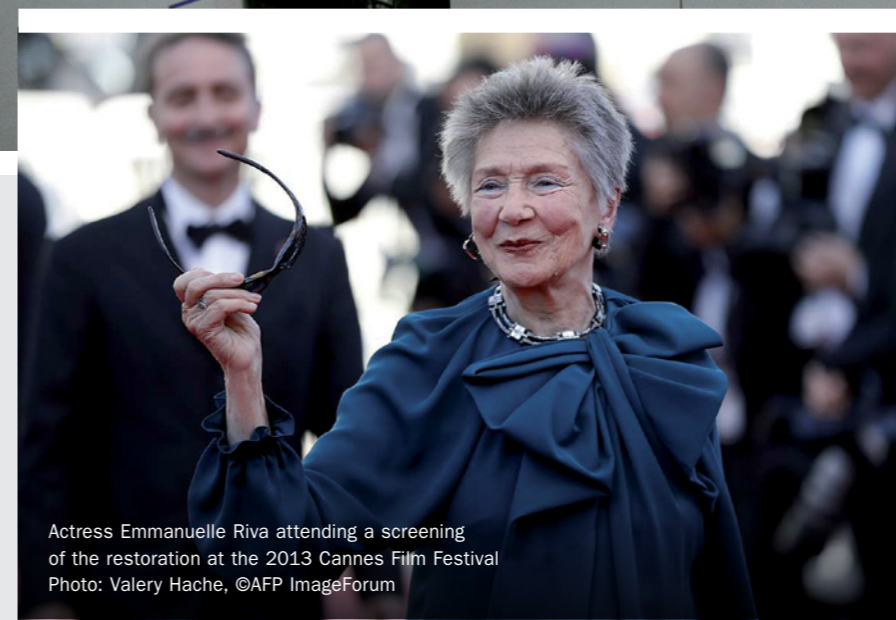
Did Alain Resnais get involved in the restoration?

Yes, we were fortunate to have his input and we were very sad when he passed away in March this year. At the start,

Resnais was concerned about the fact that he had created *Hiroshima Mon Amour* on film and we were going to restore and present it digitally. He wanted to be sure that the grain was going to look right – that the film would still have a cinema look, not a video look – so we spent many hours doing tests to ensure that our restoration respected the original grain as much as

How did you get the grain right?

The best way to respect the grain of the original film stock is with a 4K restoration. With a 2K workflow you can have a lot of trouble respecting the look of the original grain, but by following a very linear and simple 4K workflow everything is much more natural. Put simply, with a 2K workflow you see pixels, but with 4K you see the original grain.



What other challenges did you face?

Another important step in the restoration was the color correction. Our invaluable consultant was a cinematographer called Renato Berta, who didn't work on *Hiroshima Mon Amour*, but he did shoot other films for Alain Resnais and he came to Bologna to be part of the color correction process. He was very helpful, mainly because he was

friends with Resnais and could call him to ask anything we needed to know. But he also knew how Resnais worked on set and could tell us what kind of lighting he liked on faces and things like that. It helped us take the right approach.

Why was color correction necessary for a black-and-white film?

The color correction for a black-and-white film is very important because there are a lot of different kinds of black-and-white. You can have more contrast or less contrast, it really depends on the film, so it's vital to find out as much as you can about what film stocks and lab processes were used. Even with black-and-white films, color correction is always the most delicate issue of every restoration. Applying a modern color correction to a 1959 movie would have meant creating a fake. On every single film you have to respect what was originally done and the way it was released at the time; this is very important.



MASTER ANAMORPHICS

ARRI/ZEISS Master Anamorphic lenses and an ALEXA XT give short film *Domino Falling* a cinematic look

Domino Falling is a short film following a hit man in Mexico who is forced to carry out a brutal task in order to save his love. Written and directed by Siavash Farahani, it was produced as a showcase for a feature film that is currently in development. Cinematographer Maz Makhani worked with

an ALEXA XT and the MA35, MA50 and MA75 ARRI/ZEISS Master Anamorphic lenses.

Farahani knew from the outset that anamorphic would be the perfect format for his story. "From conception *Domino Falling* was inspired by the westerns of Sergio Leone and Sam Peckinpah," he says. "In those films

as in ours, the epic natural vistas are very much a character in the story and highlight the solitary journey of the anti-hero. I feel shooting anamorphic is crucial to capturing that kind of operatic scale."

Producer Andrew Molina notes, "Before we started I was trying to picture in my head



Photos courtesy of American Film Productions/Burn Pictures/Karma Film

how our location just north of Los Angeles was going to pose as an endless Mexican desert. It wasn't until I saw the first frame on set with the 35 mm Master Anamorphic lens that the entire process became a reality and I began to believe in the world we were trying to create."

Says Makhani, "I've owned a set of the spherical Master Primes since they first came out; the Master Anamorphics are reminiscent of those, combining that cinematic feel and sharpness with the magic of anamorphic lenses. The other huge advantage over other anamorphics is how fast they are at T1.9. I usually love to shoot wide open and with the Master Anamorphics the depth of field can get extremely shallow when they are wide open. It's a beautiful look."

The director wanted a retro feel for the visuals, which initially made him wary of capturing on digital. "I'd held off on this film for many years because I was worried that shooting digital would produce an image that was too clean," he says. "The Master

Anamorphics are a game-changer in that regard; they've made the divide between digital and film invisible for me. Of course any tool is only as good as the artist using it; Maz Makhani and the crew really brought out the best in our amazing toys."

Makhani is no stranger to shooting with ALEXA. "I love the organic image quality that the camera gives and when you mix that with anamorphics, it's as close to film as anything out there," he says. "Also, this short being a western, I felt like the wide aspect ratio was more appropriate for the genre and for our landscapes."

From a producing perspective, Molina appreciated how ALEXA allowed them to move fast on set. He notes, "The ALEXA XT gave us the feeling of using a film camera. We had the speed and versatility to shoot with a crane, a Steadicam, a jib and a dolly. We even did some handheld work; all this on a two-day, single-camera shoot. After considering different camera packages and the idea of using multiple cameras to make

up the aggressive schedule, I was relieved we decided on just one ALEXA XT."

Shooting on ALEXA was also a very positive experience for Farahani, a self-proclaimed celluloid lover. "Given our tight budget and schedule, we needed a camera that could not only deliver the cinematic aesthetic we were going for at a high resolution, but one that was versatile enough to shoot at different frame rates while being tough enough to perform on a demanding location and quick enough to move between our various rigs, mounts and setups. The ALEXA XT delivered on all of that and more. She's won my little cinephile heart."

Watch the short film at: www.arri.com/goto/0414/domino

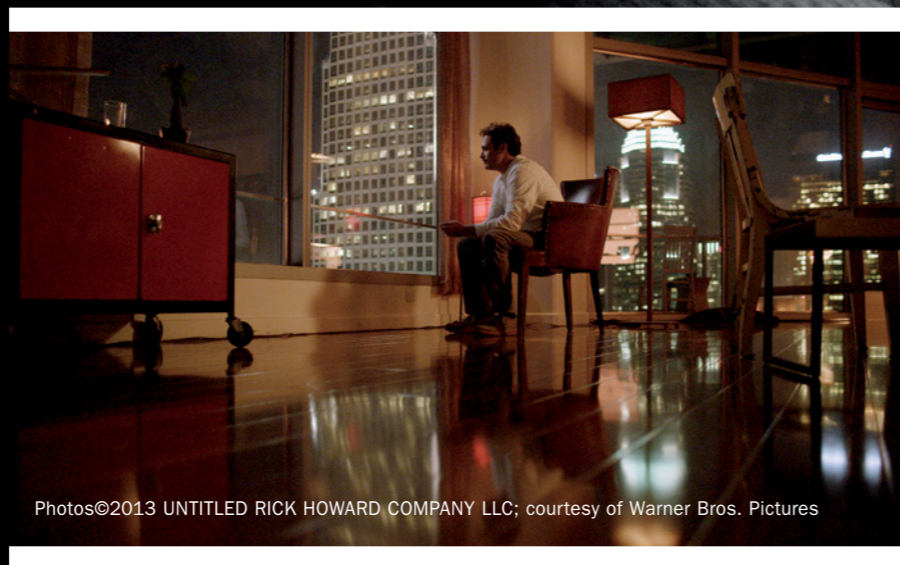
LIGHTING HER

Gaffer Cory Geryak lights Spike Jonze's film *Her* with ARRI L7 LED Fresnels

Gaffer Cory Geryak's work includes blockbusters like *The Dark Knight Rises*, *Inception* and *Transcendence*. He recently switched gears to light more intimate material with director Spike Jonze's critically acclaimed film *Her*, which was captured in ARRIRAW with the ALEXA Studio by cinematographer Hoyte Van Hoytema. Geryak speaks here about using ARRI L7 LED Fresnels on *Her*, one of the first released feature films to employ ARRI L-Series fixtures.

Tell us about *Her*.

It's a very performance-driven movie where the main character, played by Joaquin Phoenix, talks to his operating system and ends up having a relationship with her. He lives in a city apartment and we wanted to use as much existing lighting as possible. We shot in a real apartment and the windows were originally tinted, but they replaced them with clear glass so we could get as much exposure through them as possible. We often shot wide open, at T1.3 or T1.4, playing with very low light levels, which was interesting.



Photos©2013 UNTITLED RICK HOWARD COMPANY LLC; courtesy of Warner Bros. Pictures

We built a lot of practical lighting into the set that we could actually photograph. When we were in that apartment, Spike requested the smallest crew possible and there was very limited space to stage gear. It ended up being myself; Larry Sushinski, the best boy; and Scotty Barnes, our console operator. Michael Kenner keyed the three-man grip crew.

Where did you use the L7 lights?

The first time I used them on set we were shooting a day interior in a tiny bathroom. We were looking into a mirror and seeing out the windows, so we had to balance the daylight. We didn't change the glass in that bathroom and the windows were really green because of the window tint. We had to match the color with our lighting and



"We were able to dial in the color right there on the L7."

Did you use the L7s on any night exteriors?

We did some night exteriors downtown and we were using a lot of existing fixtures. When we did want to augment something, we would use the L7s so we could match existing streetlights. Sometimes the streetlights were metal halide or different colors; we were able to dial in the color right there on the L7 rather than changing gels. We were still a very small crew, so any time savings that we could gain, like not having to match or change gels, were a big advantage.

then balance it out in camera afterwards. I bounced two of the L7s off the ceiling and dialed the green in on the lampheads. It was a very low ceiling with sprinkler heads, but the L7s stayed so cool that the sprinkler heads were not a problem. They were the perfect tool for how we needed to shoot; we would have had trouble controlling the heat of HMIs on those sprinkler heads.

Has your lighting changed since working with digital cameras?

Now that cameras are so sensitive, I find I'm taking away light. You have to adjust your eyes to what your camera sees, because they see a lot more. Nowadays, you can just start shooting in almost any conditions, but I still want to control the image. It's about choices. Digital is still a tool and you have to use it in the right way; just because there is enough exposure, it doesn't necessarily mean that it is appropriate for the storytelling. You still want the lighting to serve your story and look a certain way. You still need to control the light; you can just do it at a lower level now if you choose to.



AMIRA

ARRI's new documentary-style camera, available in a range of upgradeable packages, is about to start shipping

AMIRA is a versatile documentary-style camera that combines exceptional image quality and affordable CFast 2.0 workflows with an ergonomic design optimized for single-operator use and extended shoulder-mounted operation. Ready to pick up and shoot straight out of the camera bag, AMIRA is hardy enough to take anywhere and features in-camera grading with preloaded 3D LUTs, as well as 200 fps slow motion. It is suitable for a great variety of production types, from reportage and corporate films to TV drama and low-budget movies.

CONFIGURATION OPTIONS

There are three camera configurations to choose from, differentiated by their feature sets. Customers then complete their package by selecting whatever combination of lens mount, battery mount and bottom plate meets their needs; these are configured separately because there are various options for each. Whichever AMIRA camera set is initially chosen, it can be upgraded with additional functionality by purchasing a license at the ARRI website.

The economical AMIRA CAMERA SET

Features include: HD 1080i and 1080p; 0.75-100 fps; ProRes 422 and 422 (LT) recording in Rec 709; three looks; adjustable in-camera image parameters for knee, gamma and saturation; peaking for focus control; zebra and false color for exposure control.

The all-rounder AMIRA ADVANCED





Features additional to the economical AMIRA set: 100-200 fps; ProRes 422 (HQ) recording; Log C; unlimited look functions; import looks; ASC CDL in-camera grading; dynamic auto-tracking white balance; WiFi remote control; Bluetooth audio monitoring; pre-record function.

The all-inclusive AMIRA PREMIUM

Features additional to the AMIRA Advanced: 2K (2048 x 1152) and ProRes 4444 recording; import custom 3D LUTs.



FEATURES AND BENEFITS

- 
EXCEPTIONAL IMAGE QUALITY
 - Same 35 mm sensor as ALEXA
 - Dynamic range of 14+ stops
 - Natural colors and skin tones
 - HD 1080/2K; Log C/Rec 709
 - ProRes up to 4444 on CFast 2.0 cards
 - Up to 200 fps – full sensor area
- 
SINGLE-USER ERGONOMICS
 - Quick start-up – ready to shoot
 - Optimized for the single operator
 - Sliding dovetails – perfect shoulder balance
 - Internal ND filters (0.6/1.2/2.1)
 - OLED eyepiece and fold-away LCD monitor
 - Multi-channel audio – easy-access controls
- 
COST-EFFICIENT IN-CAMERA GRADING
 - Preloaded/custom-built 3D LUTs and looks
 - Adjustable looks – total color control on set
 - High creativity, low postproduction costs
- 
SAFE, FUTURE-PROOF INVESTMENT
 - Rugged and reliable ARRI build quality
 - Upgradeable hardware and software
 - Solid lens mounts (PL/B4 2/3"/EF)
 - Sealed electronics and efficient cooling





AMIRA LICENSE SHOP

AMIRA customers can choose from a wide range of feature and accessory options to build their ideal package. Flexibility is the key: temporary and permanent software upgrades allow owners to adapt AMIRA according to the changing professional requirements of their evolving careers, extending the return on investment. If a particular project means you need a feature not included in your package, simply purchase and download a license for however long you want it.

THIRD-PARTY SUPPORT

Third-party developers are already hard at work building AMIRA support into their software tools. Adobe® Premiere® Pro CC is the first non-linear editing system to support the color management of AMIRA QuickTime/ProRes files, allowing full LUT control and automatic conversion from Log C to Rec 709 within an easy, fail-safe system. Similar announcements from other major developers are expected soon.

- 
 Visit the AMIRA website:
www.ari.com/goto/0414/amira
- 
 ARRI License Shop online :
www.ari.com/goto/0414/als

MATA MATA



Filmmaker Jens Hoffmann puts AMIRA to work on his unique documentary about Brazilian soccer

In anticipation of the 2014 World Cup in Brazil, Jens Hoffmann has spent the last three years making *Mata Mata (All or Nothing)*, a documentary about up-and-coming Brazilian soccer players. Having optimized his ALEXA for the handheld, single-operator shooting style used on the project, he jumped at the chance to try out AMIRA, ARRI's new documentary-style camera, during the final major stretch of filming.

What scenes did you shoot with AMIRA?

We were filming children playing street football in Cidade de Deus, or City of God – the infamous favela in Rio de Janeiro. The idea was to get quite stylized insert shots at 200 fps that we could use for the opening of the film; there's a section where Dante – the



Bayern Munich footballer and one of our six protagonists – talks about playing on the streets as a child, so we've used the AMIRA shots for that.

It was almost like a combat situation for the camera – more than 40 degrees, no wind, super dusty and dirty, sweat dripping, kids and dogs sniffing around the camera – everything you don't want. We started out working off a Steadybag and also just hand-holding the camera at the hip, which allowed me to walk among the kids as they were playing. From there we went to the shoulder and then to the tripod, so we used AMIRA in a number of positions.

Was it easy to go from one position to another?

Going to the tripod was fast and easy because you can leave the quick-release adapter plate on the camera while shooting handheld and then just mount it straight to the tripod. Being able to move the shoulder pad forwards and backwards is a big help as well; it's really quick and simple to find a comfortable position. With the weight of the AMIRA being less than the ALEXA, it was

“I think the AMIRA could be my perfect workhorse.”

totally possible for me to shoot handheld with a zoom for long periods. I love the ALEXA but for the work I do, I think the AMIRA could be my perfect workhorse.

How did you like recording to the in-camera CFast 2.0 cards?

They seem very rugged and the great thing is that they store so much, maybe twice as much as SxS PRO cards with ALEXA, so you don't have to worry about changing cards all the time. For the whole afternoon with AMIRA I only used one-and-a-half cards, even though I was shooting 200 fps. At regular frame rates I can imagine only needing one card for an entire day's shooting.



Did you use the AMIRA's multi-channel audio connections?

Because we were shooting at 200 fps, there was no audio recording, but we did grab some other stuff at 25 fps and it was nice that I could plug a microphone straight into the AMIRA's XLR connector without any device in between. It allowed us to record some atmosphere sounds of the kids playing football without any hassle at all.

How does the AMIRA footage compare with your ALEXA material?

The image quality and dynamic range are exactly the same as ALEXA; the only way to tell the AMIRA footage apart is because it's 200 fps. It was crazy bright in Rio, with very strong sunlight and very dark shadows, so we needed the dynamic range for those extreme contrast levels in the middle of the day, and then we needed the sensitivity once the light started to drop, because it drops fast. Even when it seemed too dark to shoot, we were still getting incredibly nice shots with the AMIRA.

What do you still have left to shoot?

The final scene of our film will be at the Brazilian national team announcement, where Dante will find out if he can fulfill his dream of participating in the 2014 World Cup. We shoot that on May 7th and our premiere at the ARRI cinema in Munich is only four days later. We'll have the editing finalized, but we'll leave a gap of about 90 seconds and as soon as we finish shooting we'll go to ARRI and add in the last bit, ready for the screening.



Jens Hoffmann shooting *Mata Mata* with AMIRA in the 40-degree heat of Rio de Janeiro's City of God
Photo: Cleo Comino, ©F24 Film GmbH

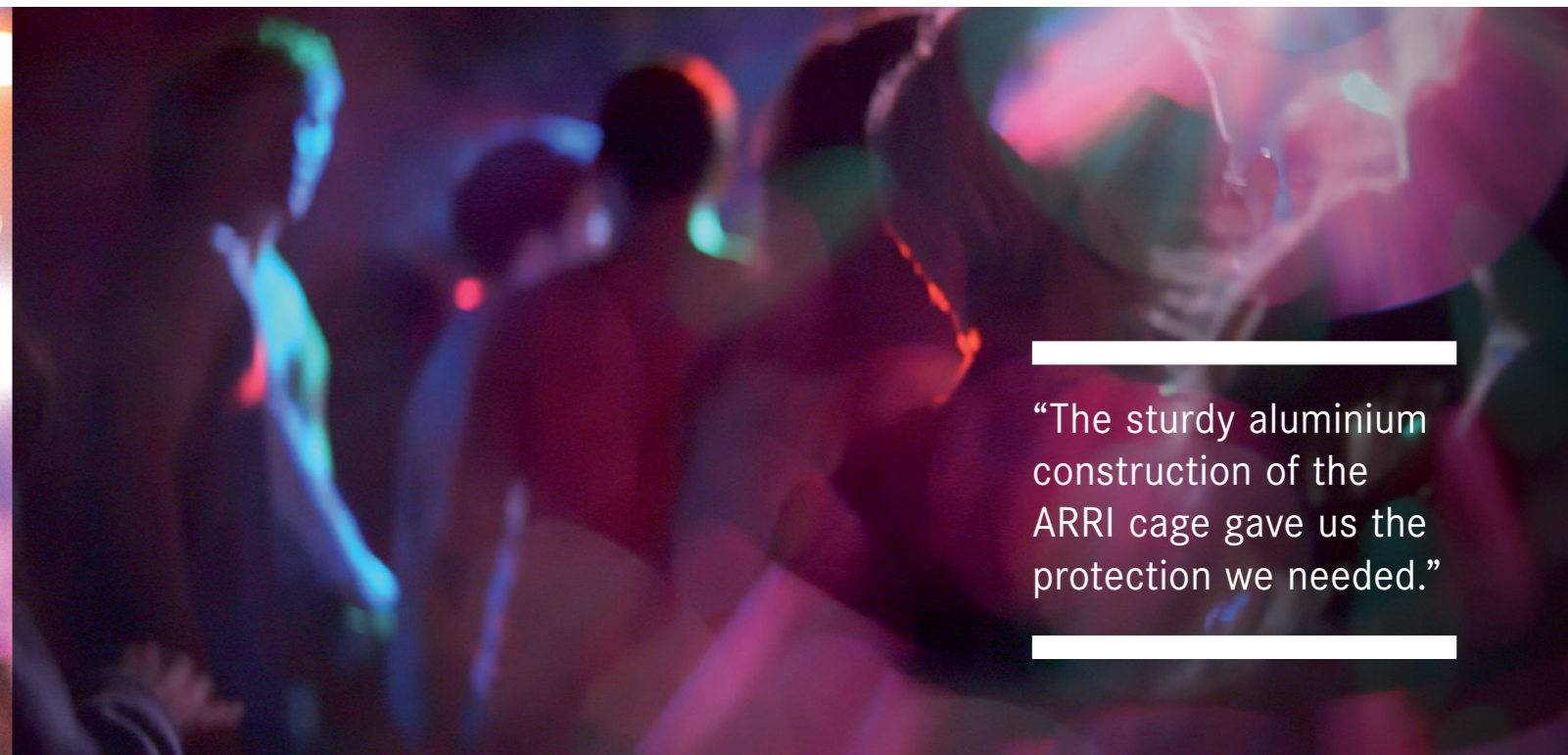
Watch the *Mata Mata* trailer:
www.ari.com/goto/0413/matamata



PCA PARTY

Christopher Aoun recounts his experiences working with ARRI Pro Camera Accessories on a documentary about the Berlin party scene

© Marco Müller



“The sturdy aluminium construction of the ARRI cage gave us the protection we needed.”

a WCU-3 wireless hand unit, which proved to be indispensable for the way we ended up working.

The sturdy aluminum construction of the ARRI cage gave us the protection we needed for the camera body and there were multiple mounting points for accessories. Moreover, the shoulder pad (USP-2) that came with the cage and attached to the 15 mm lightweight rods enabled us to create perfect shoulder balance and minimize strain by adjusting it on the rods and changing the rubber pads.

Another cool thing about the ARRI Cage System was that its universal modular

construction allowed us to customize and improve our setup over time, and adapt it to many different shooting situations. Feeling slightly like kids playing with a Lego set, we came up with more than three different rig configurations. They included a small car rig with the handles removed and mounted directly on the upper corner of the cage with the rosette adapters (RA-2), giving me much more room and flexibility, and a minimalist setup just for protection. When the need arose to use a different camera for high-speed shots we were easily able to adapt and use most of the rig, due to its universal construction.

A real plus for more discreet shooting styles was the handgrip adapter (HGA-1) and extension cord for Canon trigger, which we could attach directly to the handles and thereby run the camera without any extra movement or distraction.

Christopher Aoun

Last July I shot a documentary, a portrait of a DJ (ALEX / Schluck den Druck) and of the party scene in Berlin. The two directors and I wanted to stay as long as possible among the people partying to be able to get more intensive images and stories, without the camera team becoming an obstacle or an intimidating factor. We decided to shoot with Hawk V-Lite 1.3x anamorphic lenses in order to get a more organic and cinematic feel, and with a Canon C300 camera because of its low-light ability and size.

We knew that we were going to spend two months in clubs and bars, on dance floors and at festivals, without much sleep and at

times under extreme conditions. My camera assistant Marco Müller and I understood that we were in need of a rig that would offer us a greater amount of protection for the camera – a rig that would be reliable, able to take a hit, and that wouldn't loosen up over the long working hours. We also needed perfect shoulder balance to help us operate comfortably through those long hours.

Shortly after Marco joined the production he told me about the PCA kits ARRI offers for the C300 and so I contacted the ARRI PCA team in Munich. They kindly offered to support our project and supplied us with an ARRI Cage System I for the C300, in addition to





ALEXA SUP 10.0 PREVIEW

ALEXA Software Update Packet (SUP) 10.0 will deliver new features and refinements, further cementing the sustainability of the ALEXA business model

SUP 10.0

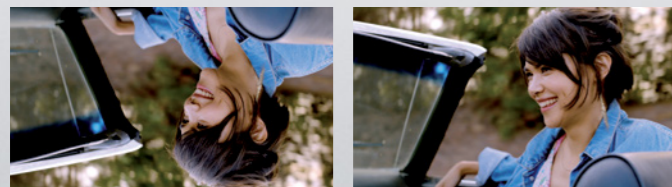
CONTINUAL ALEXA SOFTWARE UPDATES

Following the successful introduction of SUP 9.0 in 2013, which brought new features like DNxHD 444, CFast 2.0 card support, ProRes 4444 at 120 fps and ProRes pre-recording, ARRI released SUP 9.1 in March 2014 for DNxHD 444 at 96 fps (XR Capture Drives) and 90 fps (CFast 2.0 cards).

After careful analysis of hundreds of requests and discussions with cinematographers, assistants, DITs and rental houses, a number of new features have been selected for SUP 10.0 that will provide the biggest benefits for productions. Here are just a few of the planned improvements, due to be released – free of charge – during the third quarter of 2014.

↻ 180°

180° IMAGE ROTATION



This feature has two immediate beneficiaries: the ARRI Ultra Wide Zoom UWZ 9.5-18 and Steadicam operators. The revolutionary optical technology built into the UWZ delivers outstanding image quality even at extremely wide focal lengths, but the captured image is rotated by 180°. With SUP 10.0, all ALEXA models can rotate the image so it

looks right-side up in the viewfinder and on REC OUT and MON OUT. In addition, a metadata '180° rotation' flag is being set. The recorded image is still upside-down, but that can be easily changed in almost all post software. In some, such as the ARRIRAW Converter ARC, the change is automatic, based on the metadata flag. When playing back images with the rotation flag set, the ALEXA will automatically display the image properly.

Steadicam operators who want to quickly grab a low perspective can now turn on the 180° image rotation and flip the Steadicam upside-down without having to mount the camera in low mode. This saves time, one of the most valuable commodities on the set.

Log C

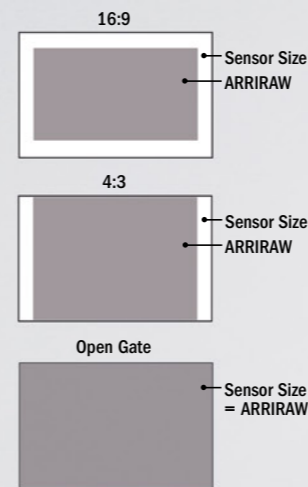
BRINGING BACK A CLEAN LOG C OUTPUT

When shooting in 16:9 at regular speed, ALEXAs provide two independent video outputs. One is usually routed as a Rec 709 signal with superimposed frame lines and camera status to the on-board monitor, while the other is fed as a clean Log C signal to the DIT for coloring, allowing a preview of the cinematographer's visual intentions. However, in various system modes introduced over recent years (High Speed, ProRes 2K, 4:3 and Open Gate), this second HD-SDI output has been sacrificed to free up processing power in the camera and the REC OUT becomes a MON OUT clone. Since this is not ideal, ARRI is working on ways to provide an independent, clean Log C output on REC OUT.

High Speed

FAST SWITCH BETWEEN REGULAR AND HIGH SPEED

Switching from Regular Speed (0.75-60 fps) to High Speed mode (60-120 fps) takes about 40 seconds, which can seem an eternity in high-pressure situations. To spare the nerves of camera assistants the world over, the switching procedure is being optimized in SUP 10.0 to a more reasonable time frame.



Open Gate

OPEN GATE FOR ALEXA XT M



Open Gate mode, i.e. recording all available photo sites on the ALEXA sensor, has been available since SUP 9.0 for ALEXA XT, ALEXA XT Plus and ALEXA XT Studio cameras.

With SUP 10.0 this feature is being extended to the ALEXA XT M, as requested by numerous aerial cinematographers.



“We've been shooting with ALEXA XT and using the new Open Gate format - the extra image space is wonderful for VFX.”

Bill Westenhofer won an Oscar® for his work on Ang Lee's *Life of Pi*, which was shot with ALEXA cameras. He has recently been working on Duncan Jones'

upcoming film *Warcraft*, testing out the ALEXA XT Open Gate option, which was introduced with SUP 9.0 and will be available for the ALEXA XT M with SUP 10.0.

SUP 10.0 FEATURES AND BENEFITS

- 180° image rotation
 - for UWZ 9.5-18
 - for upside-down Steadicam
- REC OUT = clean MON OUT
 - a clean Log C output for High Speed mode, ProRes 2K, 4:3 and Open Gate
- Fast switch between Regular/High Speed modes
- Open Gate for ALEXA XT M

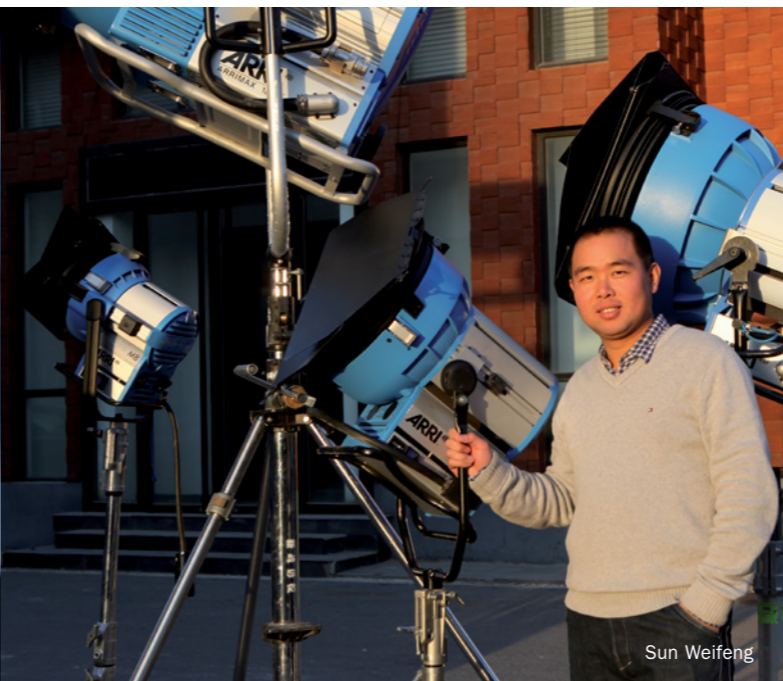
M-SERIES HITS CHINA

Gaffer and rental house owner
Sun Weifeng discusses the advantages
of ARRI's HMI M-Series lampheads

Sun Weifeng is the owner of Scenefone Film Equipment, one of the biggest rental houses in China. He recently invested in hundreds of M-Series lights, including ARRIMAX, M90, M40, M18 and M8 lampheads. As an experienced gaffer, he spoke with ARRI about why he thinks the M-Series out-shines anything else available on the domestic or international market.

What appeals to you about M-Series lights?

Firstly they are smaller than traditional PAR lights and yet are brighter and have a larger beam angle. Secondly, they can help reduce workload. When we tested the M-Series, the lensless design enabled a much more convenient workflow on set than PAR lights, which need to change lenses all the time. Lenses are always a problem because they are expensive, fragile, and susceptible to bad weather, so the M-Series can bring tangible benefits to the whole lighting industry – saving money for rental houses and production budgets, and saving time for crews.



Sun Weifeng



As a gaffer, I appreciate the brightness of M-Series fixtures. With MAX Technology, an M40 light with a 4 kW bulb is almost as bright as a normal 6 kW light. Being able to use a smaller unit is more convenient because it is easier and faster, and the light itself is of a higher quality, with better directionality and stronger penetrating power. On top of this, the M-Series now has ballasts with a 1,000 Hz option, which is perfect for high-speed shooting.



How will you build awareness of the M-Series in China?

I know that quite a lot of people in our country want to buy M-Series lights, but are holding back to see how they perform in the market. The equipment rental market is really large in China and many of the lights are made domestically. We saw an opportunity to distinguish ourselves from our competitors by investing in the M-Series, and we've already proved that gaffers and cinematographers respond very well to the lights.

We'll be encouraging more crews to try the M-Series on their shoots. A few days ago a client came in with 575 and 1.2 kW units on their lighting list; we let them try out a few M-Series M8 and M18 fixtures instead, and the crew loved them. Next time their list will include M-Series lights, because they know about them now and they recognize how good they are.

Can the ARRI lights succeed despite the number of cheaper Chinese alternatives?

I really believe in the superior quality of ARRI products, and I think they are a sound long-term investment. The heat dissipation, safety performance, durability and high-tech components of the M-Series set them apart, and from the perspective of a rental house, cheaper lights can cost more in the end because you have to keep spending money on them. ARRI lights last longer and need less maintenance, so although the up-front cost is higher, if you calculate your investment over the life of the product, then they are likely to actually save you money.

Since we are among the first to invest in authentic M-Series lights, we will have a shorter cost-recovery period. Every professional in China who has tried these lights has wanted to use them again, so by spreading awareness of the brand and of how much better it is than the alternatives, we will increase our market share.

Contrary to what most people think, the rental fees of ARRI lights are actually the same as domestic lights. We want to spread the message that by using ARRI lights, productions in China can have access to a far better and more reliable product, without a significant increase in costs. It's our responsibility to help improve the film and TV industry here by promoting high quality equipment.

Do you think the M-Series could totally replace traditional PAR lights on a production?

I think that wouldn't be a problem at all. We're currently looking for an opportunity to send out all of the M-Series lights on a single project, preferably a high-profile movie with a professional crew. This would be a great way for a gaffer and cinematographer to test how the M-Series performs as a set, independent of any traditional lights.



CANNIBAL

Pau Esteve Birba discusses shooting Manuel Martín Cuenca's macabre but touching film in ARRIRAW with ALEXA Studio and M cameras

Photos: Marino Scandurra

Director Manuel Martín Cuenca's film *Cannibal* tells the disturbing story of Carlos, a prestigious tailor in Granada who also happens to kill and eat women. He feels no remorse, until Nina appears in his life and love begins to stir. Despite its modest \$2 million budget, *Cannibal* was captured in the uncompressed ARRIRAW format because it gave the filmmakers complete freedom to delay any 'look' creation until post. Cinematographer Pau Esteve Birba has won Goya and CEC Awards, as well as a San Sebastián Jury Prize, for his work on the film.

What kind of a look did you and Manuel want to give this rather dark story?

Since the first chats I had with Manuel he insisted that this is a love story, even though it is about a cannibal, so we were always trying to find the love in it. I tried to approach these opposites of dark story/love story by mixing color temperatures. There is a particular image in the movie that is a good example of this: Carlos is looking up at Nina, who is at a window one floor above. Nina is lit with the warm interior light, which is surrounded and contrasted by the cool, ambient, exterior light that illuminates Carlos.

Why did you choose ALEXA?

I like the colors of the ALEXA, but I especially love the latitude that it gives you, so on a movie like this where we have either low light situations, such as the opening sequences, or high light scenes, like the walk in the snow, I thought it would be the best option. In addition to this, on *Cannibal* I had the option of working in ARRIRAW, which I had never done before, and it was really helpful in the grading.

Did you enjoy working with the ALEXA Studio?

For day scenes it was a pleasure to work with an optical viewfinder like you have with a 35 mm camera. By watching the scene through the finder, you can decontaminate the digital image and really focus on the light. There is something special that you feel when you put your eye to the viewfinder and see the spinning mirror shutter.

We also used the ALEXA M, with its 4:3 sensor, for all the car scenes. We needed a lightweight camera body that we could mount either outside or inside the car; we couldn't have done a shot like the one that opens the movie, where the camera was in the driver position for a driver POV, with a bigger camera.

How did ALEXA handle situations involving extreme highlights?

The sequence of the walk in the mountains of the Sierra Nevada was amazing for that. Everything was snow-covered, with millions of different whites, and you can see all of it on the screen. There is a shot where Carlos and Nina walk towards the camera with the sun as a backlight and from the faces to the snow everything is well exposed, with plenty of detail.

“Once you put a shot on the Lustre and start working with it, you can really see the power of ARRIRAW.”

Were you grading images as you went along?

Manuel likes to work with as small a crew, and as small an infrastructure around the camera, as possible. For this reason we shot the movie without a monitor or any playback. Following the same philosophy we decided to go without a DIT, so very little was done to the image on set. We had a data wrangler who downloaded and checked the clips, and made the proxies. The first approach to making color adjustments was in the grading.

The budget was relatively low, but you still recorded ARRIRAW?

Once you put a shot on the Lustre and start working with it, you can really see the power of ARRIRAW. The uncompressed 3K of ARRIRAW lets you push the shot in ways that you would never be able to do normally. It was because of this that I decided to shoot all the night scenes at 1,600 ASA; I felt it gave a better grain than 800 ASA and let us work with really low light levels.

PRO CAMERA ACCESSORIES

ARRI's range of high-quality camera-independent accessories continues to expand

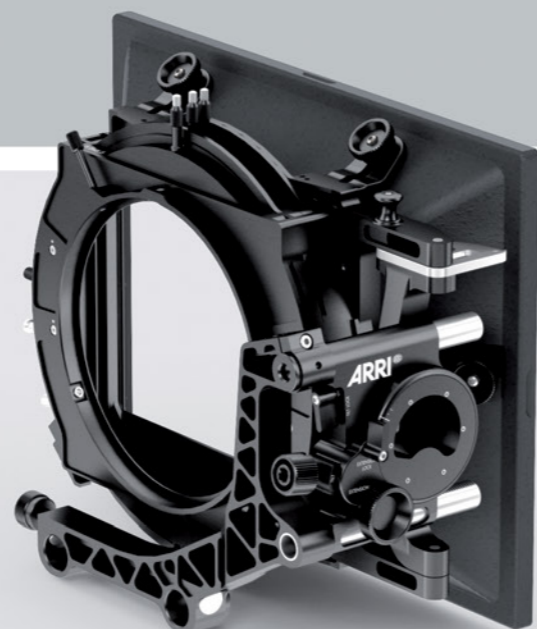
ARRI STUDIO MATTE BOX SMB-1

A studio matte box for filter sizes up to 6.6" x 6.6", the SMB-1 is designed to be used with bigger wide-angle prime lenses and also with zooms.

The SMB-1 Tilt has an integrated tilt module that counteracts image artefacts linked to filter reflections by allowing the matte box assembly to be quickly and easily tilted, without any need for additional accessories. A flexible, rear-extending control shaft is available for the module, making it simple for the camera operator to adjust the tilt angle.

Filter stages can be stacked together as single or dual filter stage modules, accommodating everything from wide-angle coverage to multi-filter situations while minimizing the number of components. Filters are fully rotatable, the 2-filter stage accepts one geared filter frame, and all filter stages are fitted with independent "tray catchers."

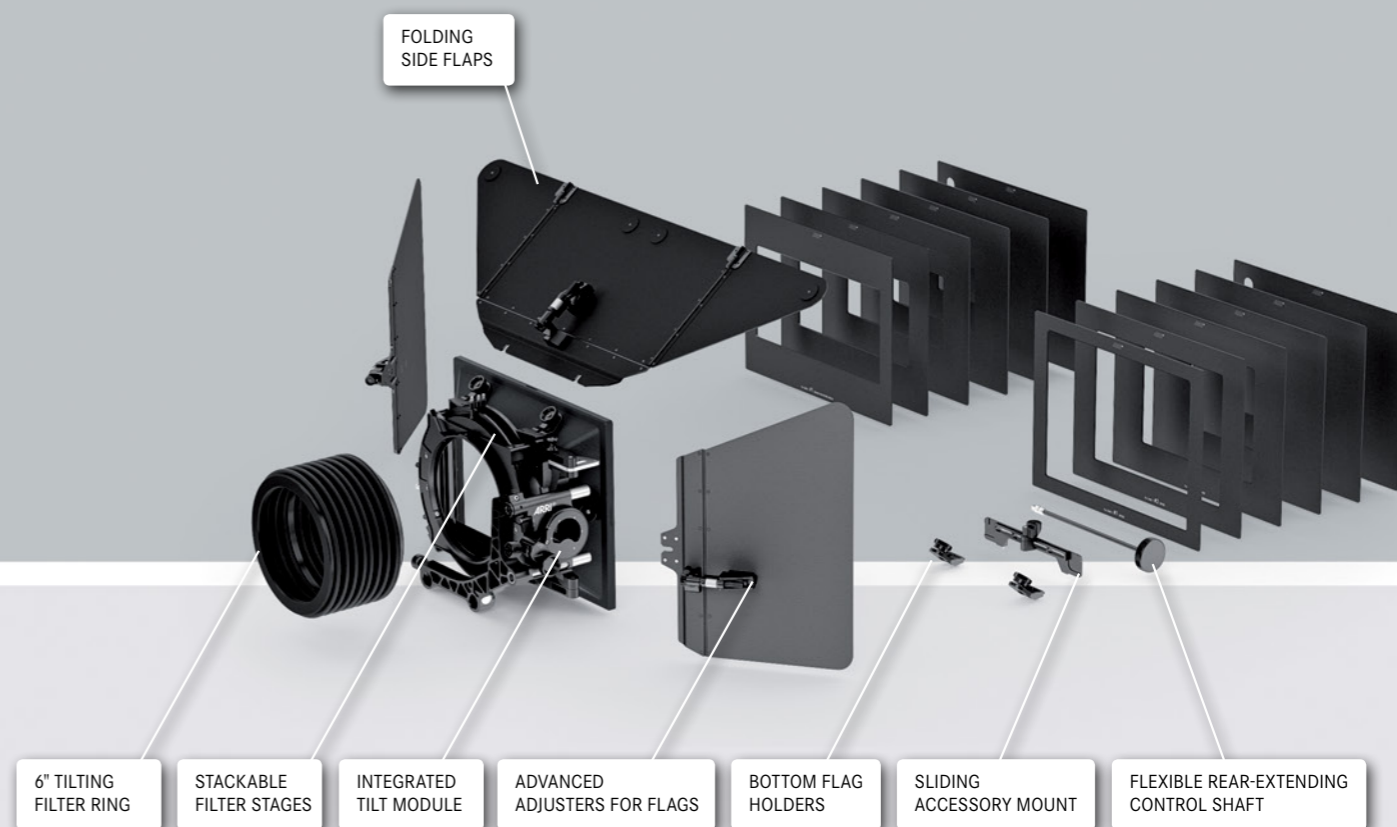
The matte box can be optimized for anamorphic filming by means of a unique 2:1 ratio sunshade, side flags and matte set.



The standard 4:3 ratio sunshade covers the full ALEXA sensor and permits repositioning in post. Top, bottom and side flags allow precise positioning thanks to advanced adjusters, and the top flag has folding side flaps to reduce overall width if required.

An accessory mount can be fitted directly onto the matte box body, offering surfaces for French flag arms and incorporating a 3/8-16" sliding mount that is ideal for ultrasonic sensors such as the ARRI UDM-1.

When used with the ALEXA, the SMB-1 covers the Master Prime 12 mm with a 2-filter-stage, the Ultra Prime 10 mm with a 1-filter stage, and the new ARRI UWZ 9.5-18 Ultra Wide Zoom with a 1-filter stage.



6" TILTING FILTER RING

STACKABLE FILTER STAGES

INTEGRATED TILT MODULE

ADVANCED ADJUSTERS FOR FLAGS

BOTTOM FLAG HOLDERS

SLIDING ACCESSORY MOUNT

FLEXIBLE REAR-EXTENDING CONTROL SHAFT



QUICK RELEASE PLATE QRP-1

The QRP-1 is a lightweight tripod adapter plate compatible with the standard quick-release attachments found on many broadcast cameras. It features hardened clamping surfaces and automatic clamping of the camera; the rear clamping mechanism ensures a solid and reliable interface between camera and tripod.



LIGHTWEIGHT RODS

Stainless steel rods still offer the best surface durability for effortless mounting of accessories. ARRI has developed lightweight thin-walled steel rods that are less than half the weight of classic rods, making them perfect for handheld filming. The 15 mm diameter lightweight rods come in 140, 240 and 340 mm lengths, while the 19 mm diameter rods come in 240 and 340 mm.

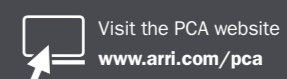


SHOULDER BELT ADAPTERS SBA-1

For documentary-style filming ARRI's shoulder belt adapters fit to any 3/8-16" thread and offer compatibility with standard broadcast quick-release shoulder belts.

NEW PCA WEBSITE WITH PRODUCT FINDER

The new PCA website is now live, with an improved user interface that makes it easy to explore the kits and accessories available for specific cameras, and to assemble a personalized wish list that can be submitted for a price quote.





UWZ FLIES HIGH

Bill Bennett, ASC, captures stunning aerial images of Los Angeles with the 9.5-18 mm Ultra Wide Zoom



The ARRI Ultra Wide Zoom UWZ 9.5-18/T2.9 is an exceptionally high-performing, distortion-free wide-angle zoom lens for the professional cine market. Cinematographer Bill Bennett, ASC, recently combined the UWZ with an ALEXA M on an aerial shoot in the skies above LA, using an MBB Bo 105 helicopter and Gyron gyro-stabilized mount from Wolfe Air Aviation.

Where exactly did you fly?

We were flying out of Hawthorne airport and went down to San Pedro harbor before heading back north along the coast and shooting the oil refinery near LAX. In downtown Los Angeles we flew below the tops of the buildings, very close to them, so that we could get that sense of objects stretching around a corner as they go past, which is what happens with such a wide angle of view.

How did you make use of the ability to zoom?

Sometimes I would zoom during the shot, particularly when I was looking at cars and traffic on the freeway interchanges. I could quickly zoom in so that the interchange filled the frame, which saved a lot of time because otherwise we'd have had to fly at a lower altitude and that would mean another pass. Being able to zoom allowed a lot of flexibility in terms of composition.

Where was the lack of distortion most noticeable?

I wanted to include the horizon line in my compositions and with any other wide-angle lens that horizon would have been curved, but

with the UWZ it was straight. It was also very noticeable that all the vertical lines in the buildings were straight as we were flying past, demonstrating the lack of distortion with this lens.

How did the lens handle flare?

Sometimes the city was front-lit and other times we shot directly back into the sun, because aesthetically that was the more attractive image. There are many situations where you actually want to shoot towards the sun, but some lenses won't let you do that because they have horrible flare characteristics. I was curious to see how the UWZ would behave and it did very well.

Did the image hold up right into the corners?

We shot 4:3 ARRIRAW and when I evaluated the images I extracted a 16:9 frame so that I could use the extra room top and bottom to correct framing decisions that were made on the fly. Often I was re-framing to use the upper or lower corners of the 4:3 image, but there wasn't any impact on sharpness because the resolution to the corners is astonishing. I've seen this lens up on



Bill Bennett, ASC

a lens projector and it's ridiculously good; in fact, for how wide it is, it's shockingly good. Every other wide lens I've seen has compromises with the resolution, but the UWZ does not.



Another advantage of the lens is that it will cover the ALEXA XT Open Gate mode.

We were not able to take advantage of Open Gate because the camera we had was not an XT camera, it was an ALEXA Classic upgraded with the XR Module, but I have no doubt that the combination of this lens and an XT camera will be very useful to people doing visual effects, partly because of the ability to re-frame but especially because of the lack of distortion.

What other kinds of shoots do you imagine would suit the UWZ?

I do a lot of car commercials and can imagine using the UWZ for a sporty car aimed

at younger people, because I think clients would be very open to that wide-angle aesthetic. I also think the music video crowd will absolutely love the UWZ because of its very unusual look. The fact that you can zoom means productions can move quickly because you can compensate for an actor not hitting their mark or the camera not being in exactly the right spot.

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Published by:

Arnold & Richter Cine Technik, Türkenstr. 89, 80799 Munich

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Main cover image: photo by Anja Bentzien

Editorial Design & Art Direction: polta.co

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Ident Nr.: 80.0001716



ARRIRAW CONVERTER ARC 3.0

ARRIRAW is ALEXA's uncompressed, unencrypted and uncompromised file format, popular for feature films and commercials. The ARRIRAW Converter (ARC) is a standalone software program for Mac OS X, designed as a reference tool to show the highest quality debayer for ARRIRAW files. The ARC allows ARRIRAW files to be viewed, colored and rendered into various output formats, and is available free of charge from the ARRI website. New features of the ARC 3.0, released in March 2014, include:

- Up-rez to DCI 4K or UHD-1
- Support for ALEXA XT Open Gate mode
- Support for the ALEXA black-and-white camera (available through the ARRI Rental Group)
- Support for user pixel masks



COMMANDING THE ARRIRAW POST PIPELINE

The ARC is also available as a command line tool (CMD) for integration into postproduction pipelines; it has been installed at high-end post and visual effects facilities around the world. The CMD is available from the ARRI website for Mac OS X, Windows, and the RedHat, SUSE and Centos distributions of Linux.

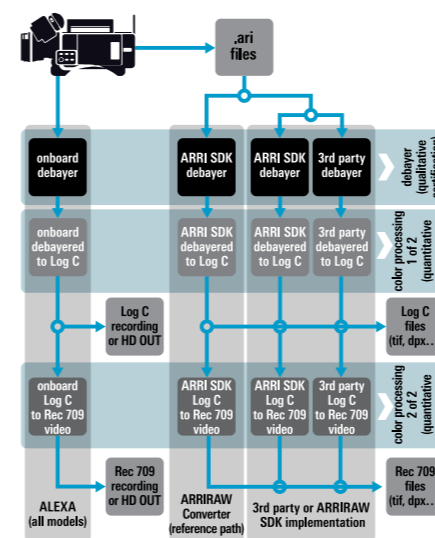
ALEXA SOFTWARE TOOLS

Various free-of-charge software tools ensure the smooth processing of ALEXA footage in post



BUILDING TOOLS BASED ON ARRIRAW TECHNOLOGY

The ARRIRAW SDK is a Software Developer Toolkit containing the same imaging science as the ARC and CMD. This SDK is used in several postproduction tools created by members of the ARRI Partner Program, such as Flame/Lustre from Autodesk, Pablo from Quantel, OSD from Colorfront, Digital Vision Nucoda, Adobe Premiere CC, Foundry Nuke and Hiero, Eyeon Fusion, Assimilate Scratch, and many more.



PREVIEW: IMPROVED DEBAYERING

One of the promises of shooting ARRIRAW has always been that research into improved debayer algorithms will provide better images from new and existing ARRIRAW material. ARRI is now implementing ADA-5, the latest ARRI Debayer Algorithm, for the next ARC/CMD/SDK release. ADA-5 shows even more significantly reduced aliasing for a smoother image and cleaner high contrast edges. It also exhibits less noise, especially in the blue channel, which is critical for bluescreen compositing work.

ALEXA's in-camera debayering, which is used to generate ProRes, DNxHD and the HD-SDI outputs, for now remains at ADA-3 (which was introduced with SUP 7.0). However, ARRI is actively investigating how the more complex ADA-5 algorithm can be implemented in the ALEXA image processing hardware.



ARRI META EXTRACT

ARRI Meta Extract, another Mac OS X or Windows software tool available from the ARRI website, facilitates the exporting of camera metadata from a QuickTime/ProRes clip, a DNxHD clip or an ARRIRAW file. ALEXA and AMIRA cameras store a rich set of metadata such as clip name, reel number, fps, shutter angle and timecode, as well as user information, LDS lens data and other information relevant for VFX. Extracting this metadata allows productions to create a more efficient post workflow. The ARRI Meta Extract tool has been updated to work with the latest ALEXA Software Update Packet (SUP 9.1) and with AMIRA.



CONGRATULATIONS TO ALL WINNERS AND NOMINEES

This awards season ARRI thanks the many winning and nominated productions that worked with our equipment. We salute your extraordinary successes at the Academy, ASC, DGA, PGA and Golden Globe Awards, and all other international awards events.

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