

ARRI NEWS

IBC ISSUE 2016

THE BEST FOR HDR

ARRI cameras: the ideal route to HDR deliverables



SKYPANEL S120-C

The SkyPanel family grows with a double-length LED soft light



MASTER GRIPS

Ergonomic handheld control of camera and lens functions



TRINITY

Combining mechanical stabilization with new gimbal technology



DEAR FRIENDS AND COLLEAGUES

For this issue we have HDR as our cover story, as it is such a current topic in the industry. At ARRI we have long argued that higher dynamic range is at least as important as resolution when it comes to improving viewer experience, but HDR workflows are still in their infancy and there are many unresolved issues. The biggest question is how HDR can enhance visual storytelling, and it is only the creative film and program makers who can answer that. Our article explores some of the issues and explains why – with HDR yet to be fully established – many content producers with HDR and UHD deliverables are choosing to shoot with ARRI cameras. At IBC, you can see the evidence for yourself in our HDR showreel.

New products at the show include the SkyPanel S120-C, extending this family of LED soft lights still further following the highly successful Firmware 2.0 update earlier this year. Our new Master Grips offer users of ARRI or third-party cameras and lenses incredible levels of comfort and control when shooting handheld. The rollout of ALEXA SXT

illustrates our promise to protect customer investment by prioritizing ALEXA XT owners, with various upgrade options giving them first access to the improved image quality, expanded recording options and new look management.

Also in this issue Anthony Dod Mantle ASC, BSC, DFF talks to us about his work on Oliver Stone's *Snowden*, which was one of the earliest feature films to utilize our ALEXA 65 system and is now about to hit theaters. During the intervening period ALEXA 65 has firmly established itself as the premier high-end motion picture camera system, being used on many more prestige productions, inspiring a fruitful partnership between ARRI Rental and IMAX, and last month winning the top technology prize at BIRTV in China.

Dr. Jörg Pohlman

Franz Kraus

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SKYPANEL® GOES LONG

ARRI expands its family of SkyPanel LED soft lights with the big and bright S120-C, a handheld remote and a firmware update.

SKYPANEL S120

The highly acclaimed ARRI SkyPanel range of LED soft lights is growing, with the new SkyPanel S120-C joining the S60 and S30 family of products. The S120 is twice as long as the S60, but weighs nearly the same. Its larger light aperture makes a great soft light even better. Retaining the same features and color tuneability as its smaller counterparts, the S120 consumes less than 400 watts, yet it is slightly brighter than the S60-C and has an outstanding efficacy of 90 lumens per watt.

A large surface area is one of the crucial features of a good soft light. With an aperture of 1290 mm x 300 mm (50.8" x 11.8"), the S120 outputs a beautifully soft, even beam of light that has a wide range of uses. The long aspect ratio wraps light around objects and is perfect for vertical lighting of people. In addition the S120 works well as an overhead light for large areas, with the increased dimensions meaning that fewer lights and less cables are required.

Released alongside the S120 are all the accessories needed for sculpting and controlling the light. Among the S120 accessories are honeycombs, eggcrates, barndoors, diffusion panels, the SkyBender and a new fabric barndoor called the FlexDoor. This wide range of accessories makes the S120 more versatile and easier to control.



S30-C



S60-C



S120-C



SKYPANEL REMOTE

Inspired by the requests of users, the SkyPanel Remote adds new flexibility and ease-of-use for the popular SkyPanel line of luminaires. This handheld remote connects to any SkyPanel via a USB cable and allows for full control of the fixture remotely. This is particularly useful if the SkyPanel is high up on a light stand or in a position where the on-board control panel is difficult to access.

FW
2.5

**Pure Creativity
Vision. Control. Freedom.**

SKYPANEL FIRMWARE 2.5

Concurrent with the release of the SkyPanel Remote comes a firmware update that brings new features to the SkyPanel, improves the experience of using the remote and adds various other enhancements. SkyPanel Firmware 2.5 introduces five key new features: master/slave mode, expanded gel library and DMX protocol, xy coordinate DMX protocol, battery low voltage warning and control panel lock.

The new master/slave mode allows for one SkyPanel to control several other SkyPanels via DMX. When this mode is enabled, any SkyPanel connected to the master fixture by DMX cable will mimic adjustments made to the master's control panel. This is an ideal option for smaller applications where a large DMX network and lighting console are not practical. When coupled with the SkyPanel Remote, the master/slave mode becomes a powerful solution to control a small network of fixtures linked together.

Firmware 2.5 expands on the popular gel mode introduced in Firmware 2.0. LEE Filters 700 Series is now implemented in the SkyPanel gel library for an increased total of 318 colors. This expansive palette of well-known colors also has an updated DMX protocol, which allows users to fade between two different gel colors and also to select the way in which the transition between colors is carried out.

The xy coordinate DMX protocol provides a new way to select a color with SkyPanel. Using the familiar CIE 1931 color space chromaticity diagram, this protocol allows users to select x and y coordinates to produce a particular color within that color space. This new mode is useful for advanced applications where selecting a specific point in the CIE 1931 color space is critical.

If using a battery to power the SkyPanel, Firmware 2.5 now gives a warning if the battery voltage has dropped below a user-defined value, taking the guesswork out of battery changes. A lock feature has also been implemented in the SkyPanel control panel, which is turned on and off by holding down the encoder for five seconds.

Other interface enhancements in Firmware 2.5 include large text during CCT or saturation adjustments, better menu layout, and voltage readout on the main screen when a battery is in use.



Visit the SkyPanel website:
www.arri.com/skypanel



Download Firmware Update 2.5:
www.arri.com/lightingsoftware



Photos: Michael Moriatis and Lawrence French ©AMC

AMIRA[®] LOOK MANAGEMENT

*Director John Ealer's account of using an AMIRA look workflow on the documentary-style miniseries *The American West*.*



The eight-part AMC miniseries *The American West* recounts how, in the aftermath of the Civil War, the United States conquered and settled the American frontier, transforming the vast western lands into “the land of opportunity.” The show focuses on little-known personal stories of such legendary figures as Jesse James, Crazy Horse, Sitting Bull, George Armstrong Custer, Wyatt Earp and Billy the Kid.

This series marks my fifth directorial collaboration with executive producer Stephen David on a “hybrid” documentary –

a form David pioneered that fuses the power of nonfiction with the immersive appeal of scripted entertainment. David's earlier hybrid-documentary series include *The Men Who Built America*, *The World Wars* and *The Making of the Mob: New York*.

Unlike other documentaries, these shows are much more than just recreations. We're doing a full historical narrative that needs to connect seamlessly with traditional documentary elements such as talking-head interviews and archival materials. With *The American West*, we were also basically making

an action movie, complete with gunfights, cavalry battles and train robberies – and we were doing it all on a 25-day shooting schedule.

To meet the challenge, I turned to a longtime collaborator, cinematographer Kevin M. Graves. “Working with John can be described in one word: intense,” Graves acknowledges. “He often wants to move at a startling pace, but he never loses sight of the look we’ve created. So, going into this, I knew it was going to be a fun but challenging shoot, and that my background in documentary would be a huge help.”

For this project, Graves chose ARRI’s AMIRA camera. “These shows have one foot in the documentary world and one foot in the scripted space,” he explains. “The AMIRA seemed to balance those needs perfectly.” The camera’s light weight, small form factor, built-in NDs, and ability to shoot at a maximum frame rate of 200 fps were all important features.

For Graves, an even more important consideration was the AMIRA’s workflow for creating and maintaining looks. “In preproduction,” he says, “I spent many hours working in the AMIRA Color Tool [since renamed the ARRI Color Tool]. The power and simplicity of the application made it possible to test dozens of looks on a laptop before presenting them to John for discussion. After we found what fit the feel of our show, an .aml file was created for the A and B cameras, and a copy was also given to Johnny Saint Ours, our second unit director/cinematographer.”



Digital imaging technician Bradley Crane created H.264 dailies using the LUT Graves had made, adjusting it as necessary so the compressed footage would more closely match the on-set viewing LUT. “On set, the look would be applied to the viewing monitors, and it would be attached to the ProRes 4444 camera files as non-destructive metadata while the cameras were actually recording in Log C gamma,” Graves explains. “No additional hardware or LUT boxes were required on set. The editors could then access this look info with ease for the offline edit.”

Offline editing was done on Avid Media Composer using the DNxHD 36 codec, under the supervision of co-executive producer Tim Kelly. Tim’s oversight was critical to the finished show; he worked tirelessly with Final Frame Post colorists Charlie Rokosny and

Sandy Patch to ensure continuity with the looks Kevin and I established in the field.

Having this ability to track looks throughout 30 years of story time – from Civil War-era Missouri to Tombstone, Arizona – and have those looks follow all the way through postproduction was critical, especially given how fast we had to move on set. To further facilitate post and finishing, we used the 1.78:1 aspect ratio, capturing 1920x1080 resolution files. Final masters were delivered to AMC as 1920x1080 ProRes 422 QuickTime files.

Excerpted from a July 2016 article in *American Cinematographer* and reprinted here with permission.





IT'S ALL IN YOUR HANDS

New ARRI Master Grips offer unprecedented fingertip control of ARRI and third-party cameras and lenses.



The primary function of traditional cine-style handgrips is to firmly stabilize a camera on the operator's shoulder. Documentary camera setups include a servo zoom with the handle, allowing certain lens and camera functions to be controlled. In today's industry, the previously separate worlds of cine and documentary equipment have merged. In addition, small cameras like the ALEXA Mini have a reduced user interface and require external camera controls. This has created demand for solid, cine-style camera handgrips with documentary-style controls.

In response, ARRI has developed the Master Grips, the latest addition to its ECS (Electronic Control System) range. Combining effective camera stabilization with comprehensive lens and camera control, they are available in four versions: right-side and left-side, with either a rocker for super-smooth zooming or a thumb wheel for iris or focus adjustments. Lightweight and built to ARRI's unsurpassed quality standards, the Master Grips are aimed at ALEXA, AMIRA and third-party camera users who want flexible and responsive fingertip control while shooting handheld.

WELL-PROVEN DESIGN

Based on the classic ARRIFLEX handgrips trusted by generations of filmmakers, the Master Grips follow a proven ergonomic design. With controls that are easy to reach and yet protected from accidental triggering, they allow for prolonged handheld operating without any discomfort or strain. Constructed around a lightweight magnesium cast housing, the Master Grips are solid, rugged and reliable – able to withstand sustained use in harsh shooting environments.



VERSATILE CONTROLS

The Master Grips provide full control of focus, iris and zoom settings on cine lenses, including adjustable motor speed, zoom response and motor limits. They also offer a comfortable way to control the integrated servo motors of ENG and EF lenses (from ALEXA Mini/AMIRA SUP 5.0 – initially only iris support for EF lenses). Mounted on tripod pan arms or studio pedestal heads, the Master

Grips can be used as focus and zoom demands for multi-camera setups, such as when using the AMIRA in Multicam mode. Camera control functionality includes user button access and REC start/stop for ARRI and third-party cameras, with the latter requiring the LCUBE CUB-1 accessory, updated with CUB-1 SUP 2.0.

EASY TO USE

With an intuitive user interface, the Master Grips are easy to set up either via the integrated touchscreen or physical buttons. The controls are fully configurable and a status readout boosts user confidence, with the multilingual display allowing menus and status to be read in English, Chinese, Spanish or German.



ACCESSORIES:

LCUBE CUB-2



A miniature signal converter that integrates the 12 pin Hirose ENG protocol into the LBUS ecosystem. It provides two options for iris control: auto-iris from the camera or manual iris from a Master Grip.

HANDGRIP EXTENSIONS



Available in three lengths (80 mm/160 mm/240 mm) and featuring a lightweight 15 mm tube design, these extensions include a solid steel ARRI rosette and cable clips.

PAN ARM ADAPTERS



Clamp adapters of various sizes, allowing ARRI Master Grips to be used on all common pan arms, including Sachtler, O'Connor and Vinten.

ROD MOUNTING ADAPTER FOR AMIRA



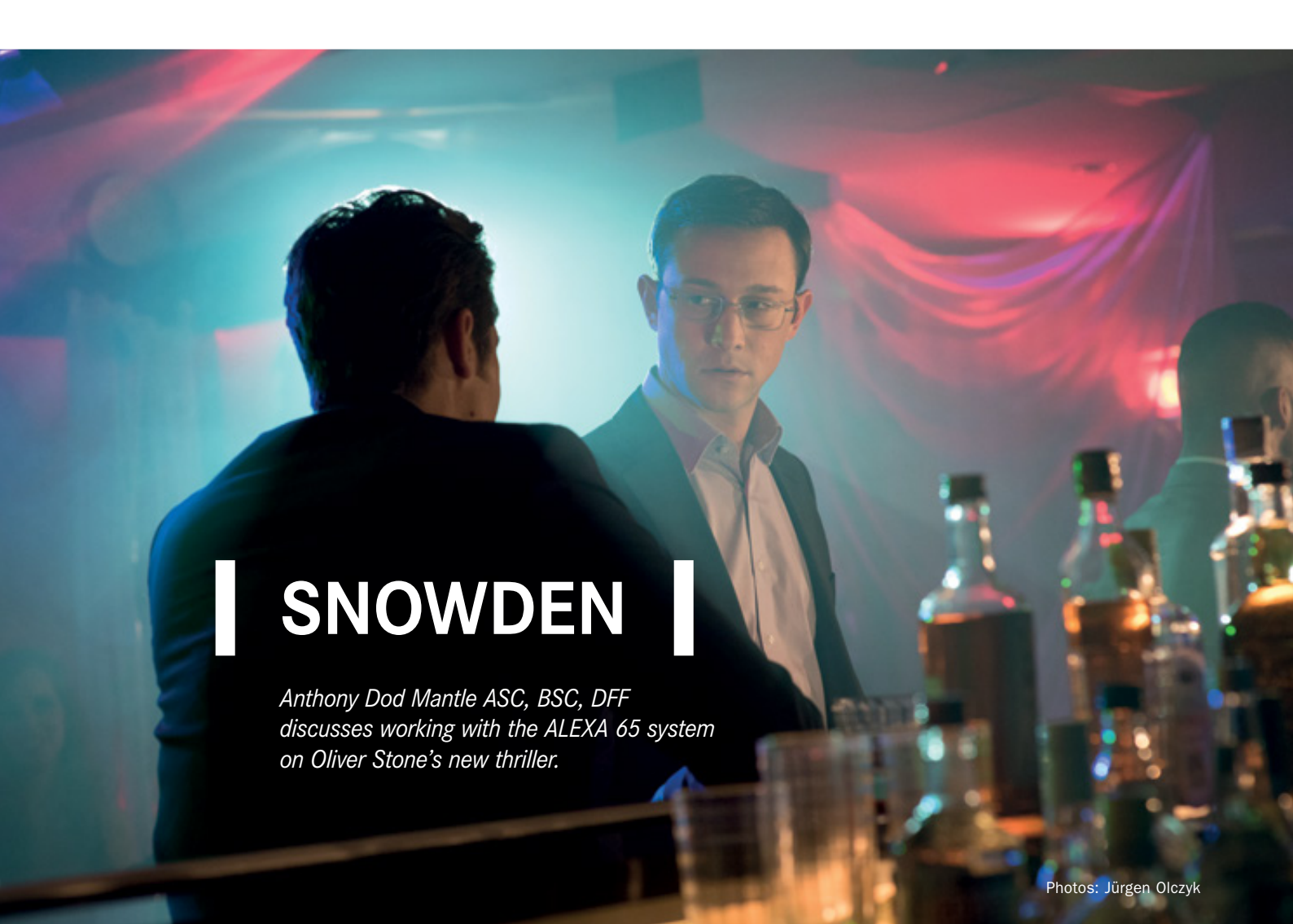
The new Rod Mounting Bracket RMB-4 attaches to the top-right of the AMIRA body and holds a standard 15 mm or 19 mm rod. It provides a solid mount for lens motors while retaining free back-and-forth movement of the sliding shoulder pad, viewfinder and handle, for optimized shoulder balance.

MASTER GRIP CASE AND CABLES

The sturdy, compact and purpose-designed case can safely hold a set of two Master Grips, three motors, handgrip extensions, LCUBE converters and cables. A new set of cables, in dedicated lengths and with angled connectors, provides optimized cabling solutions for the Master Grips.



Visit the Master Grips website:
www.arri.com/ecs/mastergrips



SNOWDEN

Anthony Dod Mantle ASC, BSC, DFF discusses working with the ALEXA 65 system on Oliver Stone's new thriller.

Photos: Jürgen Olczyk



For director Oliver Stone's first digital movie, a political thriller about the US whistleblower Edward Snowden, cinematographer Anthony Dod Mantle ASC, BSC, DFF worked with ALEXA XT, ALEXA 65 and ALEXA Mini. ARRI Rental provided camera and lighting gear, while ARRI Media handled dailies and other on-set services. Here, Dod Mantle details how he made use of the ALEXA 65 system.

How did you want to use the ALEXA 65 on this film?

For a film about the visible and invisible worlds, I thought about the whole idea of the size of the sensor and how we use imaging, and what resolution means about truth and the depiction of reality. From an early stage I didn't think of the ALEXA 65 as a camera to capture plates or massive vistas. I actually thought about exploring a face on this massive sensor, or seeing what happens when you start to journey into the picture through digital zooming.

What kinds of shots did you do in pursuit of this idea?

There's a great deal of surveillance that goes on in the film and sometimes it's about what the cameras on the lids of computers can do, and how certain programs watch people when they don't even know. So I started to explore the possibility of traveling farther and farther towards a computer and then into the eye itself. There's a shot I really adore that is based on this idea and was inspired by the big sensor, though we did it on both the ALEXA 65 and an Open Gate XT Studio to try different lens options. It was achieved thanks to the patient work of my 1st AC Telfer Barnes and gaffer Thomas Nievelt.



DP Anthony Dod Mantle ASC, BSC, DFF on set with ALEXA 65. Behind him are 1st AC Telfer Barnes (left) and gaffer Thomas Nievelt.



I wanted shots like these to be slightly abrasive and violent. Another one was a kind of time slice for a moment when the character sees something and has a revelation. I wanted to travel around him, but again I didn't want it to be a refined, smooth move. With the support of Manfred Jahn at ARRI Rental I locked three ALEXA 65 cameras at about a 270-degree angle, just overlapping. In the After Effects suite I chipped them together and you have this strange, disturbing journey around a face.



Director Oliver Stone (left)

How did you use the Prime 65 and Vintage 765 lenses?

The first four or five weeks in Munich involved quite a bit of VFX, so I shot with the newer Prime 65 lenses and they performed perfectly. But then we were travelling to Washington, Hong Kong and Hawaii, with less VFX, and I instinctively felt that I needed a change. There wasn't time to test the Vintage 765 lenses, but I took them because I knew they were beautiful and softer, and the wrap-around and fall-off would be different. It was a leap of faith and they are slightly more irregular in the colors, but it was an intuitive thing and I was very pleased I did it.

What was the ALEXA 65 like on location?

Sometimes the resolution itself was helpful. At one very difficult nightclub location it was impossible to get a crane inside the

building, so we replicated a crane shot by shooting certain tracking elements with a dolly and then reframing in post to give the impression of a track and jib from a tight close-up to almost a full figure.

At other locations the difficulty was a lack of electricity, but I wanted to catch places the way we see them. I didn't push the ASA, I just exposed what I could, sometimes a couple of stops under and struggling in some areas of the picture; but the blacks were still solid and as you lifted the image up for the dailies, it was robust and peaceful, and that was incredible to work with.

I was shooting in natural light in a place called Tong Lau, a very poor area in Hong Kong that's like an organic painting – there's so much detail, so many little things you can see. If you hold the camera and take your time, letting the audience slowly feel this place, it's like licking the windowsills of these slum buildings. So yes, it was an amazing advantage having the ALEXA 65 on the journey.

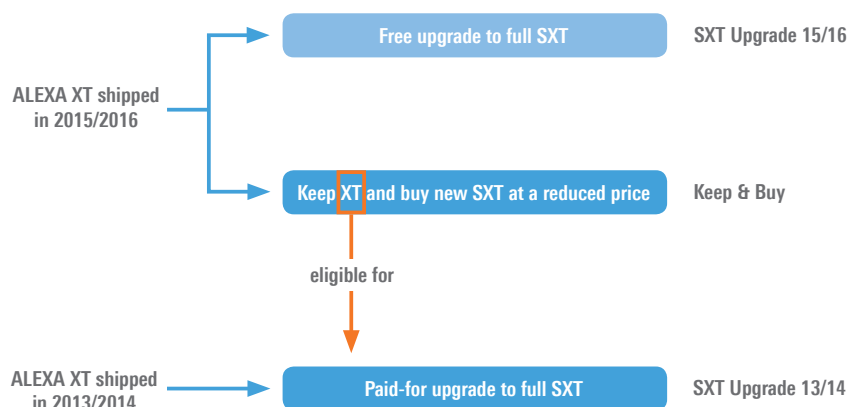


UPGRADES

A range of upgrade options gives existing customers priority access to the exciting new ALEXA SXT feature set.



With ALEXA SXT almost completed, ARRI has been preparing for the task of updating the many ALEXA XT cameras that have been steadily selling while ALEXA SXT was under development. As a result of much customer feedback, the upgrade program has been refined with extra options. ARRI service centers worldwide have been equipped to perform SXT upgrades locally and service technicians have undergone extensive training. This is all part of ARRI's commitment to protect the investment of its customers by offering easy and financially viable upgrade solutions.



UPGRADES FOR:

2015/2016 ALEXA XTs

As promised, customers who received their ALEXA XT EV, ALEXA XT Plus or ALEXA XT Studio in 2015 or 2016 can send their camera to ARRI and receive a free upgrade of the ALEXA XT camera body to an ALEXA SXT body. This is called "SXT Upgrade 15/16" and is an ideal option for anyone who is happy with the current number of ALEXA cameras in their inventory.

By popular demand a second option has been added: "Keep & Buy". Customers who choose this option keep their ALEXA XT and purchase an ALEXA SXT Basic Camera Set for approximately 40% below list price. This is a great choice for those who need additional cameras. The retained ALEXA XT camera body is then no longer eligible for the free "SXT Upgrade 15/16" program, but is eligible for the paid "SXT Upgrade 13/14" program.

2013/2014 ALEXA XTs

The previously announced option of an "SXR Upgrade" has been scrapped and replaced by a full SXT upgrade called "SXT Upgrade 13/14". Customers who received their ALEXA XT EV, ALEXA XT Plus or ALEXA XT Studio in 2013 or 2014, or retained it as part of a "Keep & Buy" upgrade, can send their camera to ARRI and pay to upgrade the ALEXA XT camera body to ALEXA SXT. This includes the full ALEXA SXT feature set, name plate and future upgrade potential.

PRIORITIES AND LOCAL SERVICE

Once ALEXA SXT development is concluded, ARRI will service the "SXT Upgrade 15/16" and "Keep & Buy" programs with priority. As soon as capacities

are freed from those programs, new ALEXA SXT cameras will be sold and the "SXT Upgrade 13/14" program will be rolled out. Upgrades can be performed locally at

ARRI service centers in Munich, London, Los Angeles, New York, Beijing, Hong Kong and Mumbai.

ALEXA SXT MAIN FEATURES

New Recording Formats

- **14 carefully fine-tuned recording options**
- **All sensor modes in ARRIRAW and ProRes**
- **7 new recording formats:**
 - 16:9 ProRes 4K UHD
 - Open Gate ProRes 4K Cine
 - 6:5 ProRes 2K Anamorphic
 - 6:5 ProRes 4K Cine Anamorphic
 - 4:3 ProRes 2.8K
 - Open Gate ProRes 3.4K
 - 16:9 ARRIRAW 3.2K

Improved Image Quality

- **Optional mild ARRI Noise Reduction (ANR)**
- **Advanced defect pixel correction**
- **More range for baked-in looks with 3D LUTs**

New ARRI Look Management

- **Look management - preproduction to post**
 - maintain and share DP's look on set, in dailies and in editing
 - wide range of unique looks possible
 - new ARRI Look File contains CDL and 3D LUT
- **Look file always stored in metadata for**
 - live grading on set
 - automated dailies creation
 - editing with looks

New SXR Capture Drives

- **High reliability**
- **High speed**
- **High capacity**

Super Flexible On-Set Monitoring

- **High Dynamic Range (HDR) monitoring**
 - for on-set HDR quality control
- **4 independent monitoring outputs**
 - 1x viewfinder and 3x MON OUT
- **Rec 709 or Rec 2020 outputs**
 - for future-proof monitoring

New Media Bay

- **Supports wide range of media**
 - XR and SXR Capture Drives
 - SxS PRO and SxS PRO+ cards
 - CFast 2.0 cards
- **ProRes RAID**
 - Redundant recording to XR and SXR Capture Drives
 - Increased frame rates for many recording formats



BERLIN STATION

Cinematographer Hagen Bogdanski uses a range of ARRI products and services on the Berlin-based US espionage drama series.

Following the efforts of CIA agent Daniel Miller to investigate a leak from the titular Berlin station, this new spy series – produced by Paramount TV and Anonymous Content for EPIX – was the first project to be supported by the German Motion Picture Fund. Based in Berlin and with 90% German heads of department, the series demonstrates how the uniquely wide range of integrated products from ARRI Rental and services from ARRI Media provides efficiencies that make Germany an attractive destination for international productions. Cinematographer Hagen Bogdanski spoke with *ARRI News* about his work on the show.

What drove the look of *Berlin Station*?

Well it's a spy story, but we wanted to avoid any clichés from the Cold War and instead present a modern look for today's Berlin. That meant a lot of fluid camerawork, including Steadicam and handheld, often working with available light. Apart from our main CIA headquarters set, which was in a studio, almost everything was shot on

location. On a big show like this it can be a real challenge to shoot at several locations per day, so the camera department had to be fast and flexible. Choosing ALEXA cameras helped us meet all these requirements.

Were you usually shooting with more than one camera?

We shot with two cameras most of the time; I was on the A-camera with Karim Rahmani on focus and Robert Patzelt was B-camera Steadicam operator with Won-suk Park on focus. Robert did an amazing job being another pair of eyes and I think that without the flexibility of two ALEXA cameras with integrated accessories, great focus pullers and a committed crew, we'd never have got through so many script pages a day.

How did you use the ALEXA Mini?

It was the first time I'd used it, so I was eager to try it out. We had two ALEXA XTs and my initial idea was that the Mini would be an occasional third camera, useful for pre-rigging and tight spaces, but it quickly

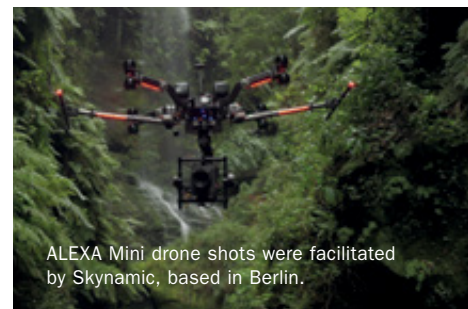
went beyond that. We ended up using it on the Steadicam, for handheld – it became as much of a workhorse as the other two cameras. For me, the Mini is a full camera; it is fast to work with and you can cut seamlessly between it and other ALEXAs, which was always a problem with small cameras from other brands.

Why did you choose the Ultra Prime lenses?

I love the Ultra Primes for different reasons. They're solidly built and a compact size but most of all – especially with digital cameras – they're cinematic: not overly sharp or technical, but also not too arty, not too many flares, not soft in the corners. It's a perfect mix that, to my eyes, has the look of film. And of course they are totally reliable – in and out of the box every day, thousands of times over the course of the production, and they just work. Great lenses.

How did you find working with ARRI Media?

The ARRI Media team was very supportive and told us we didn't need a DIT, just a data



ALEXA Mini drone shots were facilitated by Skynamic, based in Berlin.



DP Hagen Bogdanski

wrangler – they took care of everything else. After a 12-hour day I didn't have time to spend three more hours grading dailies, so I worked with the ARRI colorist Maiken Priedemann for the whole six months and that was invaluable. She did a tremendous job achieving the look I wanted and was able to grade day scenes, night scenes, exteriors, interiors, second unit – everything. I was happy and the producers were happy; it was a very efficient dailies workflow.

So will you not have to change much in the final grade?

Exactly, that was my goal. I wanted to go into the final grade in LA with a different colorist and say, "Look at the dailies – this is what we want." Of course you still have to do detailed little things like working with windows, but in terms of the look we are 90% there.



Photos: Stephanie Kulbach



“The M-Series helped us stay on budget and also on schedule.”

DP Hagen Bogdanski

Bogdanski and his gaffer Janosch Voss opted to light the main CIA headquarters set entirely with practicals, working with the art department and rigging crew to build industrial LED lighting into the ceiling. For location shooting, however, they were reliant on film lights. Here, Voss joins Bogdanski to discuss how ARRI M-Series and SkyPanel fixtures helped them cope with difficult conditions and a tight schedule.

How did you use the M-Series lights?

Hagen Bogdanski: We used them mostly on location, for punching in daylight wherever we needed it. I really think the whole M-Series is another great ARRI invention. If you use the M18, which is a 1.8 kW lamp, it has an output like a 4 kW from the old days. So these fixtures are unbelievable; they're small and they have an enormous output. The M-Series helped us stay on budget and also on schedule, as they are so fast to set up. The other thing is that they are reliable; we shot through the whole winter and it can be very cold and wet in Berlin, but we could leave the M-Series lamps outside and they just worked, which was great.

Janosch Voss: The fact that we shot from October until April often guided our approach to daylight scenes. The first four months of the shoot were basically the darkest days of the year in Germany, so we had to think about how to create continuity of light between interior and exterior scenes. Very often we just had butterflies attached to cherry pickers and bounced in M90s from a distance. With so many different locations, sometimes four per day, we had to find fast, efficient solutions, without sacrificing the quality of our lighting. The M90 is much quicker to rig than bigger and heavier Fresnels.

Is it helpful that the M-Series is a full family of fixtures?

HB: Of course, the less you have to change between different brands and systems, the better – especially on a tight schedule. We had the full M-Series range on the truck, so for any situation we could quickly decide if we wanted a small, medium or large fixture. The same design concept and size-to-output performance is shared by the M18, M40 and M90 – I think that is very helpful.

JV: We also had the newest member of the family with us, the M8, which I found is a very good size to complete the M-Series. The whole family shares the same features: they



are quiet, ruggedly constructed, easy to handle and whether you light directly or indirectly, the quality and output is very high. When I need stronger bounce for interiors I love to use the M40 or M18, and now I have the M8 as well.

What were the SkyPanels used for?

JV: For interior scenes the fastest way to work was with LED lights, so we could easily switch from daylight to tungsten without gels. My best boy Max Dreusch and I developed soft boxes, some on wheels and some to hang. Inside we placed an LED lamp, mostly the SkyPanel, giving us a light source for

either day or night scenes that was very soft, but still controllable with eggcrates. I really love the soft quality of the SkyPanel, and the fact that I can adjust to any color temperature at the turn of a knob.

Were you lighting the actors' faces with these SkyPanel soft boxes?

HB: Yes, sometimes in the studio but mainly on location. The soft boxes on wheels could just be rolled in and turned on, so they were very quick to set up. And they were dimmable, color controllable, so we could dial in tungsten, daylight or any mix we wanted. There was a lot of time pressure on us and

without tools like the M-Series and SkyPanel we might have needed more shooting days. But you get the schedule, you see the script and you have to get it done; the whole ARRI family was unbelievably helpful in achieving that.





Seasons one and two of Amazon's *Mozart in the Jungle* were shot with a 4K camera from another manufacturer, but the series switched to ALEXA for season three, recognizing the more efficient workflow and higher overall image quality for UHD and HDR.



THE BEST FOR HDR SINCE 2010

Ever since the introduction of ALEXA, ARRI cameras have been equipped to offer the best overall image quality and production value for HDR capture and display.

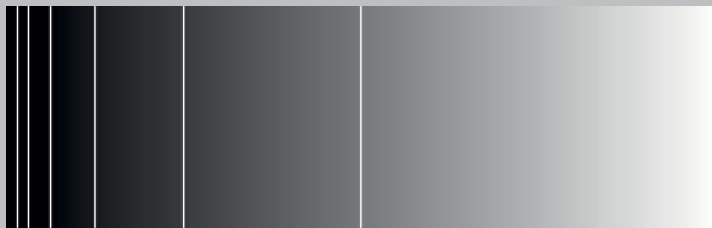
WHAT IS THE DIFFERENCE BETWEEN HDR CAPTURE AND HDR DISPLAY?

HDR display technologies for cinemas and private homes are evolving rapidly, bringing vast improvements to image quality and richness. However, technical standards and workflows for creating and delivering HDR content have yet to be established. ARRI has been pushing the boundaries of high dynamic range digital imaging since the development of the ARRILASER and ARRISCAN, and is involved in the ongoing discussions that could see HDR become an important storytelling tool for filmmakers.

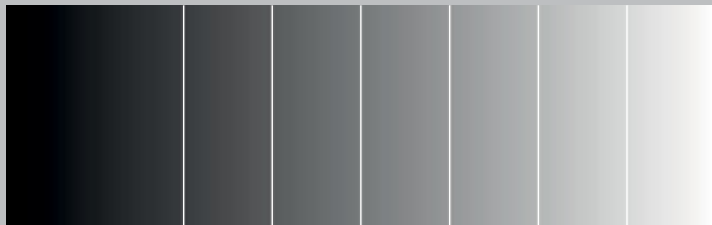
With HDR still in its early days, there is much confusion and misinformation across the industry. Amidst this, an increasing number of productions that already create HDR deliverables – such as the Amazon streaming TV series *Patriot*, *The Man in the High Castle*, *Mozart in the Jungle* and *The Grand Tour* – are turning to ARRI cameras, which have offered unsurpassed dynamic range since the launch of ALEXA in 2010.

While there are minimum requirements for HDR display, most notably from the UHD Alliance, there are none for HDR capture. Footage from any camera will need to be specially graded for HDR; no camera captures images that can immediately, without processing, be displayed in HDR. The most suitable images for HDR display and distribution will be those with the highest dynamic range and the most natural colorimetry.

DISTRIBUTION OF STOPS IN CODE VALUES



Linear file (top six stops)



ARRIRAW file (top six stops)

ARRI cameras capture 16 bit data and package it in ARRIRAW or ProRes images using a 12 bit log scale. This assigns a fairly equal number of code values to each stop, which is more efficient than a 16 bit linear scale and better represents how the human eye perceives light.



An image from the ARRI HDR showreel

HOW CAN A CAMERA'S DYNAMIC RANGE BE MEASURED?

Different camera manufacturers use different measuring methods, so their claims about the absolute number of stops of dynamic range cannot be compared. The most practical way to assess the relative difference between cameras is to shoot a test similar to that used to determine the latitude of film stocks. A scene is set up that contains test charts, specular highlights and real faces, allowing skin tones and color rendition to be assessed; it is lit to a latitude of 10 stops and exposure-bracketed to at least +5/-5 stops. When the over-exposed and under-exposed clips are graded to match the normal, they will at some point show clipping in the highlights and noise masking detail in the blacks. Such a test will not only reveal the dynamic range of the single photocells, but also of the whole sensor, which may yield a different result due to characteristics such as line noise or fixed pattern noise.

Top cinematographers do not just believe what manufacturers tell them, they do their own tests. Many have told ARRI that dynamic range is the single most important parameter of image quality to them, which is why they choose ALEXA and AMIRA after conducting comparative tests.

IS A HIGHER BIT RATE THE KEY TO HDR CAPTURE?

Some manufacturers claim that 16 bit linear is the key to HDR, but it is important to make a distinction between the bit rate used in the camera and that used to store and transport the resultant images. ARRI uses 16 bit linear to capture and process images inside the camera, but then packages them in 12 bit, either as Log C in ProRes files or as a similar log curve in ARRIRAW files. Representing digital images with a logarithmic scale is an efficient allocation of the bits, because a relatively equal amount of code values is assigned to each stop. It also mirrors the incremental way the human eye responds to light, storing the same fractional increments in the highlights as in the shadows.

Packaging images in 16 bit linear results in larger files that bring no added benefit, whereas 12 bit log allows for smaller files that avoid heavier data compression and higher costs without sacrificing image detail, making it the perfect basis for HDR mastering. Just as ARRI has always stated that better pixels are more important than more pixels, when it comes to HDR, better-allocated bits are more important than just more bits.

ARRI is not alone in this attitude. The industry has been aware of the wastefulness of linear encoding for decades, which is why video and computer images, film scans and now HDR distribution formats such as PQ and HLG have always been based on non-linear encoding.

SHOULD I MONITOR FOR HDR ON SET?

Opinion is widely divided because workflows are so new and practical on-set HDR monitors are not yet available. Some see little benefit in monitoring for HDR, while others consider it vital – ARRI covers both options. ALEXA SXT offers HDR monitoring, as will AMIRA and ALEXA Mini from SUP 5.0. Currently, however, most productions that are graded and distributed in HDR use SDR monitors on set and simply take care to capture a well-exposed image.

The main reason to monitor in HDR on set with ARRI cameras is not to avoid actual technical problems with highlight clipping or shadow losses; it is more to ensure that the creative intent of a scene is appropriately represented on both SDR and HDR displays, without the audience's attention being distracted when bright elements or strong colors within the frame become too prominent in HDR.



Read the full ARRI HDR FAQ:
www.ari.com/goto/0916/hdr

PATERSON

Cinematographer Frederick Elmes ASC shares his experience of working with ALEXA XT Studio and ALEXA Mini cameras on director Jim Jarmusch's new film.



After I finished shooting *Paterson*, friends would ask what the film was about and I start to explain, "It's about a bus driver who lives in Paterson, his name is Paterson, he's a poet," and then I'd struggle and end up saying, "It's a Jim Jarmusch film where nothing much happens, but in fact it's rich in texture."

Jim and I have known each for many years and have done several films together. The needs for each film are different, but

the approach to details is always the same. When we talked about *Paterson* Jim was focused on the routine of a man who eats the same breakfast, walks to work the same way, drives a bus on the same route at the same times — all of which frees his mind to focus on his poetry. Part of my job was to make it visually refreshing every time. We aren't duplicating the same shot five times as he walks to work. We approach it slightly differently to give it some visual style and a sense of what goes on in Paterson's head, what he sees along the way that inspires his poetry.



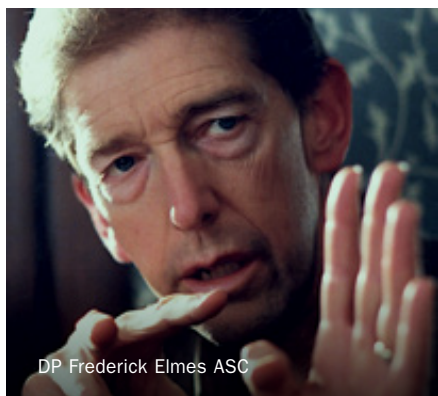
“The footage from the Mini matched well with the ALEXA Studio.”

The lucky thing is that on a bus you get to see it all. In Jim's eyes the town became part of the dream, part of the collage that drives his main character's imagination when writing poetry. In doing research, I visited Paterson a number of times and rode the bus around town for a couple of hours. And what struck me was the visual texture...all those things that pass by, all those faces and the quality of the light inside the bus and how it changes. All those things became little visual cues that we could once again abstract and then put them together as you were seeing his poems unfold.

The mechanics of shooting on a bus are really difficult because of the vibrations of the bus itself — they have horrible suspensions — and the reflection on the windows. What's worse is you form a route driving around the city and find blocks that

you like because the texture and colors are just right for a particular scene, but then you realize if you are driving north in the morning and the sun is coming in the right way, when the loop turns and goes south, it's only good in the afternoon. It complicates and confounds your day, and your plans go out the window. So you break it up into parts and find routes that get you the right scenery, all with the knowledge you can't afford to stop shooting because it's a relatively small film and there's a time limit because there are children in the cast.

To stabilize the camera we had a bunch of special heads that absorbed the vibration.



DP Frederick Elmes ASC



Director Jim Jarmusch

One of the cameras we used was a smaller ARRI ALEXA Mini, which was easier to mount and lightweight, so we could cram it into a corner. For all the bus shots — because of the limited time and once you get the bus in motion you want to keep moving — we used two cameras. While one camera was doing the dialogue, the other would either be doing a close-up or something unrelated, like looking out the front window to capture those little details.

The footage from the Mini matched well with the ALEXA Studio, which is a great camera. ARRI has managed, as close as I can determine, to see things the way I see



them. They see things similarly to the way film sees them and that's what Jim and I grew up with. ALEXA is flexible and all the lenses I could want go on it. The Studio version also has a great optical viewfinder system, so I can look through the lens and get an honest picture of what the lens is seeing. All those things contribute to it being the right camera system.

Excerpted from an *IndieWire* article written by Chris O'Falt and reprinted here by permission.



The famous Great Falls of the Passaic River in Paterson, a key location for the film.

ARRI LED LIGHTS IN JAPAN

Fuji TV revamps a multi-purpose studio with versatile SkyPanel soft lights and L-Series Fresnels.

Covering Tokyo and the Kanto region, and broadcasting nationally via Fuji network local stations, Fuji Television produces programs that encompass drama, variety, sports, news, music and more. This major Japanese broadcaster, also known as Fuji TV, recently upgraded one of its studios with S60-C and S30-C SkyPanels, as well as L10-C and L7-C L-Series fixtures. Chief Lighting Designer Koichi Uematsu and Junichi Sato, Head of Lighting Division Technical Production, here discuss why they chose ARRI LED lights.



What prompted your studio upgrade and what led you to LED?

Koichi Uematsu: After 20 years of use the facilities and equipment were due for renewal. In addition, life has changed since the 2011 Tohoku earthquake; as a TV station we are required to take effective measures for eco-friendly energy saving and also disaster management. LED lighting was a prime choice for this size and type of renovation due to its low power consumption, reduced daily costs and UPS (Uninterruptible Power Supply), allowing us to operate for longer during emergency situations.

I have designed a few LED studios over recent years, but choices on the market were limited. Last year I attended ARRI's Lighting Symposium in Germany and was impressed by the SkyPanel – it's really a great fixture. The combination of color tuneability and power in the SkyPanel and L-Series is unique. This studio is designed for sports news, music shows, variety shows, news broadcasts and many other types of program; it is a flexible space, so we needed a flexible lighting solution, which the ARRI LED lights provide.

Junichi Sato: My background is as a cameraman, so I know how important it is to match color temperatures when shooting. For some of our programs we have multiple lighting sources such as fluorescent, tungsten and LED, but it has always been difficult to match them and deliver even colors for a nice image. The tuneable function of the ARRI LED lights is therefore extremely helpful, as it lets us match these different light sources.

Did you go through an evaluation process before investing in the ARRI lights?

KU: Numerous brands were tested, from manufacturers all over the world. We compared the color performance of different LED brands against tungsten, and we also tested brightness and light balance, meaning the light field and edges on focus and flood. The ARRI lights had tuneable colors, which made them better for color reproduction, but brightness is important as well. After the evaluation I chose ARRI LED lights for the main studio lighting and some other brands to supplement them.

For the studio's key light I actually chose the SkyPanel S60-C rather than a Fresnel. With the intensifier and honeycomb accessories the beam angle can be made tighter, which is good for a key light. I think this is a totally new application for the SkyPanel – using a soft light as a key. Then if I need a bit more punch or accent on the subject I use the L7-C, L10-C or S30-C, with the L10-C and L7-C also able to provide a strong edge light, if required.

What other features of the ARRI LED lights are important to you?

KU: For studio operation we have to assign a DMX address to every fixture. The RDM functionality of the SkyPanel and L-Series increases our operational efficiency because we don't lose time manually assigning a DMX address to each lamphead; we can do it from the console without any hassle.

JS: I think the SkyPanel Firmware 2.0 upgrade was a great enhancement and I really appreciated the addition of the Rosco and LEE gel libraries. ARRI's development approach reflects the fact that the company makes cameras as well as lights, so it addresses the needs of cameramen like me. It also considers not just how color and light are perceived by the human eye, but how they are captured and represented by cameras and monitors.



Koichi Uematsu and Junichi Sato (back left and right) with two engineers





TRINITY

ARRI proudly presents the future of camera stabilization.



ARRI TRINITY

TRINITY is the first hybrid camera stabilizer that combines classic mechanical stabilization with advanced active electronic stabilization, provided via 32 bit ARM-based gimbal technology. This combination results in five axes of control and enables uniquely fluid, wide-ranging and precisely controlled movements for unrestricted shot-making and total creative freedom.

New angles for the operator and new storytelling options for the director and DP are opened up by TRINITY. By inverting the post the camera can be moved from low mode to high mode during a shot; using the joystick-controlled, fully-stabilized tilt axis to look up or down during this motion is also possible, so a low angle can smoothly transition into an over-the-shoulder shot. By holding the post at 45 degrees and twisting it left or right, the camera can even look around corners, whether in low or high mode. Additional stabilization in the roll axis permits the use of telephoto lenses.

All of these extraordinary new shots, angles and movements are possible when TRINITY is used in its fully stabilized mode. For situations when a more classical style of operating is required, TRINITY can be put into a locked mode, whereby the tilt axis is connected directly to the post in the traditional manner.

TRINITY is available as a complete 5-axis rig or as a 2-axis head upgrade to existing mechanical stabilizers. While it works especially well in a compact configuration with the ALEXA Mini, TRINITY's 30 kg maximum payload and height adjustability mean that larger cameras and heavy lenses can also be supported. Full-size digital cameras such as ALEXA SXT are easily accommodated, as are film cameras such as the ARRIFLEX 235 and 416.

With gimbal technology and usage accelerating fast, the symbiosis between cameras and stabilizers is becoming increasingly sophisticated, which is why ARRI has incorporated the new CSS (Camera Stabilizer System) product group into its camera systems division. The flagship of the range is ARRI TRINITY, incorporating the MAXIMA gimbal, though behind this unique 5-axis hybrid stabilizer is a complete system that covers varied requirements across the film and TV industry.

MAXIMA

The MAXIMA gimbal is a crucial component of TRINITY, though it is also available separately as the MX30 – a 3-axis electronically stabilized gimbal, suitable for a wide range of users. The slick, lightweight design, with perfect center of gravity, provides a level of freedom that has not previously been possible. With MAXIMA, the creativity of filmmakers need not be stifled by camera length or weight limitations.

At the center of the unique MAXIMA design is an extremely durable ball bearing roll cage, as well as specially designed brushless motors. Optimized bearings

and high torque ensure that there is always enough power in reserve, no matter how demanding the application. Carefully selected components enable seamless, reliable operation and impressive heat resistance.

Direct and intuitive handling of this high-capacity gimbal is managed by a 32 bit multiprocessor; additional slave RISC processor support means multi-sensor data is processed without losses. The maximum angular deviation is just 0.05 degrees. In addition to a variety of preconfigured profiles, customized profiles can also be added.

The 1.5" OLED screen allows users to keep tabs on the operating mode and battery status, and to quickly toggle between different profiles. 'On the fly' configuration of software setups and rapid changes between the five customized camera settings can be done via the smart GUI, while bigger setup alterations and software updates can be implemented via USB.

Changes of angle are achieved with a highly sensitive and ultra-precise joystick mounted at the outer frame of MAXIMA, close to the handles. An optional bidirectional 2.4 GHz wireless remote control is also available, allowing tilt, pan and roll movements. The intelligent software and precise hardware enable vertical swivels of up to 90 degrees.



OTHER SYSTEM ELEMENTS



ARRI artemis Vest
Great adjustability and unrivaled comfort



ARRI artemis Cine Broadcast and EFP HD
Modular and upgradable mechanical stabilizers



ARRI artemis Spring Arms
High payload in a lightweight design



ARRI CSS Accessories
Brackets, monitors, cables and equipment protection



ANAMORPHIC LENS SYSTEM

DP Matias Boucard works with the Anamorphic Ultra Wide Zoom and Master Anamorphics on French feature film The Odyssey.



Director Jérôme Salle's new film *The Odyssey* (*L'odyssée*) is a biopic of the legendary French explorer and scuba pioneer Jacques Cousteau, covering the years 1946-1979. Cinematographer Matias Boucard worked with ALEXA cameras and speaks here about combining them for selected sequences with ARRI/ZEISS Master Anamorphics and the ARRI Ultra Wide Zoom AUWZ 19-36/T4.2.

Why did you choose ALEXA for *The Odyssey*?

This was my third feature film with ALEXA in ARRIRAW; it's such a good combination of sensitivity, color range, and texture, and color was a big issue on this film. ALEXA also allowed us to shoot in the full 4:3 sensor mode with 2x anamorphic lenses and get an aspect ratio of 2.66:1. I showed it to Jérôme and we both fell in love with the width because it gave us the freedom to put different actors in the frame and still have a view of the background.

They weren't your main lenses on the shoot, but what were the specific situations for which you wanted Master Anamorphics?

I always had a case of Master Anamorphics with me, all through the movie. You can work at full aperture with the Master Anamorphics at night and not have any problems, so I used them for maybe 70% of the night sequences. When I didn't have the chance to light and I had to shoot with available light, I was using the Masters. I also used them for some interior sequences where we had actors to the sides of the frame and I didn't want distortion on those edges, and for all the underwater sequences.

How did you use the Anamorphic Ultra Wide Zoom?

We used it particularly for the opening sequence, where we followed a Catalina seaplane flying over the sea, and it was



amazing. Usually for a helicopter sequence you take a zoom with the biggest focal length range you can get, but I wanted to give a sense of how big the Catalina is and a wide lens was the better choice for that. If you want a medium shot with a wide lens you have to get close and when you're close with the AUWZ, it's like an explosion! Seeing the plane flying from that perspective was fantastic. We did have a bigger zoom with us, but in the end 90% of the shots were from the AUWZ.

Did the 2.66:1 ratio make it even more important to have an undistorted horizon?

I was a bit afraid of the horizon, but once we were shooting I didn't have to worry about it at all. For the first shot of the movie I did



DP Matias Boucard

a top shot looking down at the sea and then the plane comes in and I tilt up to reveal the sun on the horizon. If you don't end up with a really nice horizon composition, then this movement doesn't work. A distorted horizon entering the top of the frame would be distracting and you don't want the spectator's attention on the horizon; you want them to look at this plane and just sense the sun burning in the background. Without the AUWZ this shot would have been really hard.



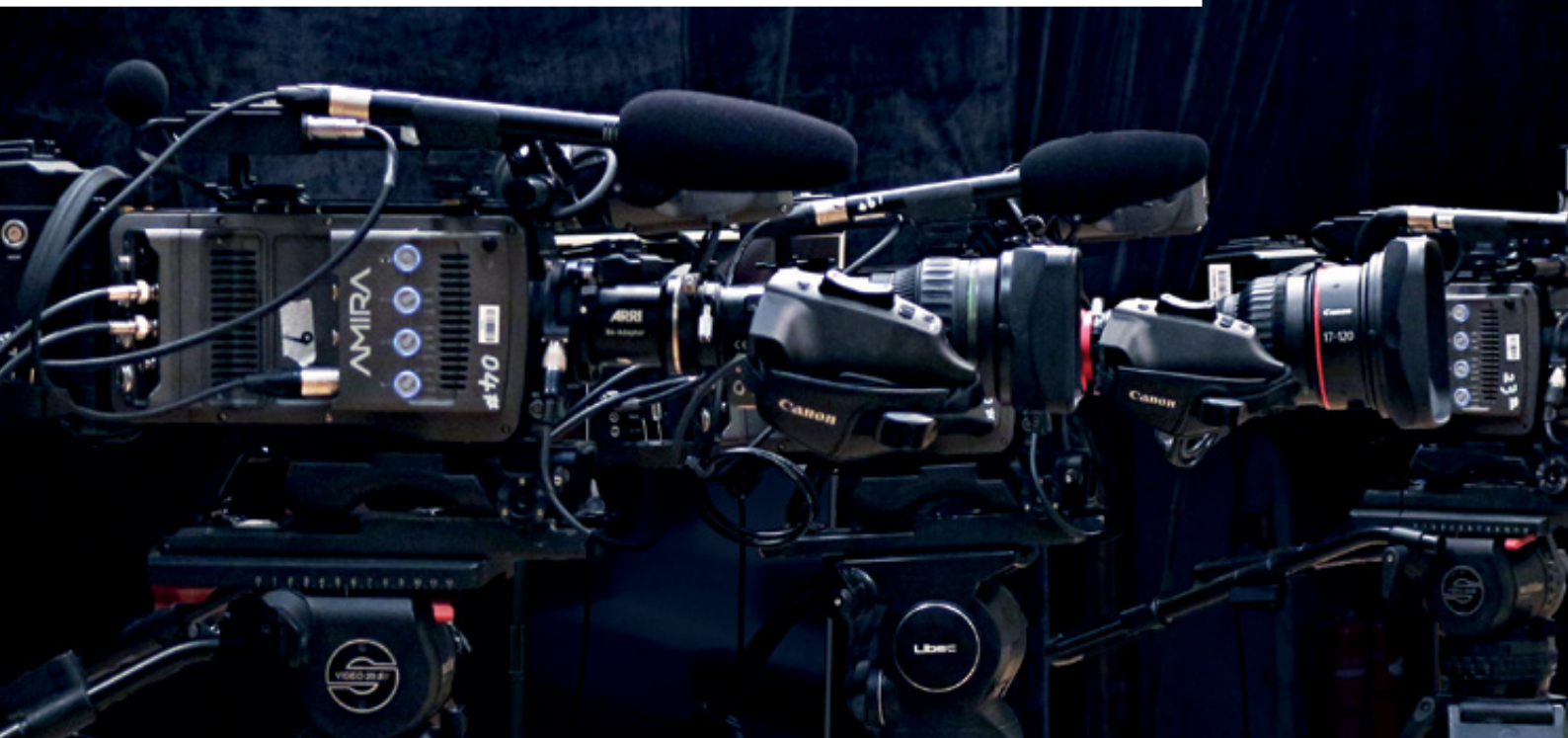
Do you feel the AUWZ has the optical quality to be used alongside the Master Anamorphics?

Completely. My next movie is with the Master Anamorphics and I will certainly keep the AUWZ close to my camera. It's easy to use and in terms of color and clarity it matches perfectly; for me, it's the same family. They deal with distortion in a similar way, so the feeling they give and the way they respond to things is really close. Sometimes with very wide lenses the flare can be a bit weird, but not with the AUWZ. The whole opening sequence was backlit, with the sun in the frame, and all the time we had beautiful flare. I can't wait for people to see this sequence because it was such a pleasure for me.



AMIRA[®] MULTICAM IN CHINA

Chinese TV talent show *I Am A Singer* uses 23 AMIRAs for a grand finale live broadcast.



I Am A Singer, the popular Chinese TV talent show produced by Hunan Television, concluded its fourth season with a grand finale attended by international guest singers and Chinese pop stars. The production team used 23 AMIRA cameras to film season four and the live broadcast of its finale, utilizing the Multicam mode and recording ProRes 422 in Log C. Several members of the technical team here share their experiences of working on the show.

Why did you start shooting with AMIRA from season three of *I Am A Singer*?

Lihong Zhou (technical director, head of production control center): Mainly because of its cinematic look. We preferred AMIRA's large sensor, high resolution and of course its high dynamic range, and hoped that we could bring some exciting new changes to the show with the strengths of AMIRA.

Liang He (equipment manager, preproduction equipment section chief): It's also worth mentioning that AMIRA is constantly being upgraded and adapted to different production environments. With the finale of season four, AMIRA has fully adapted to shooting reality shows. It's such a versatile camera; we can use it for reality shows, promotional videos or as a studio camera, so it has turned out to be very cost effective.

Was the workflow efficient?

Li Jiang (visual designer): We managed to seamlessly integrate the cameras with our Sokong EFP system, which enabled us to control iris on lenses ranging from cinema zooms to wide-angle HD broadcast lenses and box lenses. AMIRA integrated very well into our traditional live TV workflow and so far we have been very satisfied.

Chao Zhang (video engineer): The cameras output signals to Sokong CCU for adjustments of iris, color temperature, gamma and look, and after that they are sent back to the director for live switch and then live broadcast. Last year we relied on the operators for these adjustments, but this year we managed to control iris and exposure with our dedicated technical team. It liberated the operators and greatly



Camera director Shichuan Huang

simplified the workflow. Using cinema-style cameras for live TV was a big innovation and set an example in the industry.

Compared with traditional broadcast cameras, what's the difference shooting on AMIRA?

Shichuan Huang (reality show section camera director): The difference was striking: AMIRA has much better sensitivity and

“AMIRA integrated very well into our traditional live TV workflow.”
Visual designer Li Jiang

overall image quality, so we didn't have to use a lot of light. With greater tolerance for exposure we can easily balance images in post, allowing us to focus more on creativity.

Jiabei Peng (camera operator): AMIRA has beautiful color rendition and high sensitivity. The lighting was fairly dim when we were doing dress rehearsals; we had to dial up the ISO as high as 3,200 but it looked totally fine. For a TV show the image quality was a huge step up thanks to AMIRA. In post the footage was very pliable and had greater latitude for manipulation than other cameras, and the new EVF with focus magnify feature made manual focusing a breeze.

Linxuan Zhou (studio 400 crane operator):

I mostly used broadcast lenses with a B4 adapter; the depth of field was shallower so I had to take extra care on nailing focus. The images from AMIRA in Rec 709 mode looked more vivid, with better detail in the highlights and shadows. The camera's menu system was the most intuitive I have ever used. Sometimes when we were following a subject we had to walk backwards and occasionally we would bump into the wall, but AMIRA is so robustly built that we never had any issue.

How and where were the 23 AMIRAs used?

Shichuan Huang: The setup varied but during live broadcast we used seven AMIRAs to follow the singers and another seven with their agents. We also had two interview rooms, each with one AMIRA on a dolly track and another in a fixed position. The judges had one AMIRA on them and the others were used in the audience seating area, or for cutaways.





ARRI ACADEMY

Strengthen your knowledge through certified training courses, bespoke one-on-one tuition and master classes.

Offering a wide range of multi-day training courses, individual sessions and educational events in different countries and languages worldwide, ARRI Academy is the best route for users of all abilities to gain hands-on knowledge of ARRI products and workflows, and build their on-set confidence.

The focus of ARRI Academy courses is on practical teaching, covering everything from on-set techniques to postproduction workflows. A strict limit on the number of people who can attend each course ensures that everyone gets the same experience of working with the equipment, whether it's a one-on-one session or group training with up to 12 participants.

Recent training events have taken place in London, Dubai and Munich, with more to follow soon. After attending an ARRI Academy course, Charlie Cook said: "I particularly enjoyed working in a small

group, it was all very hands on. The trainer was engaging, with great communication skills: it never felt intimidating or that any question was not worth asking. There was great access to cameras, a variety of kit and different setups, and it was really good having the iMacs set up so we could check our footage immediately."

An attendee of an AMIRA course, Kaithlyn Nesbitt, commented: "I loved the training style, the atmosphere and the balance between teaching and hands-on practice. I now feel very comfortable with the functions and operations of the AMIRA, but also appreciate that I'm walking away with a lot of knowledge that's applicable to filmmaking in general. The instructor was excellent and always keen to make everything clear to all participants. We had plenty of one-on-one time with him during our practice sessions; there's no better way to learn."

CERTIFIED TRAINING

Taught by ARRI-trained industry professionals, ARRI Academy courses provide unrivalled insight into the full possibilities of working with ARRI camera systems, lenses, lights and accessories. Courses cover specific products and participants come away at the end with a certificate indicating their product competence.





CUSTOMIZED TRAINING

ARRI Academy also offers custom-designed training courses for cinematographers, operators, DITs, lighting professionals, gaffers, electricians, assistants and rental technicians, with or without prior experience. The most important functions of the products are covered in detail, as well as the numerous application areas and setups for which they can be used. These modular, professionally tutored courses are tailored to the specific needs of participants and can cover whatever subjects are most relevant to their careers.

form of a practical workshop presented by one of the industry's top creative professionals, sometimes backed up by a member of the ARRI team. The goal is to pass on real-world skills, with the presenter often demonstrating how they approached well-known scenes from their own body of work.

MASTER CLASSES

It doesn't matter whether attendees have previous experience, or how much or how little time they have spent on set. In all cases they will leave an ARRI course with expanded knowledge and skills, and complete confidence in their ability to handle the equipment in a professional environment.

These very special events allow participants to benefit from the close relationships ARRI maintains with many of the best known and most widely respected cinematographers, gaffers and VFX supervisors working today. Hosted by ARRI Academy, master classes typically take the



Check the schedule for upcoming courses:
www.arri.com/academy

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- Discuss different working practices with other industry professionals.



CONTINUOUS LIGHTING

Photographers and studios turn to ARRI lighting fixtures such as the SkyPanel for professional photo shoots.



With the increasing trend for video footage to be captured at the same time as stills on photo shoots, as well as advances to film and broadcast lights fuelled by new technologies such as LED, continuous lighting is being used more and more by professional photographers. ARRI lights that are commonly employed for photography applications include tungsten fixtures, the M-Series daylight range and the SkyPanel family of LED soft lights.

On a recent photo shoot in New York, taking portfolio images of professional

dancer Akua Noni Parker, photographer Matt Karas of Karasmattik Studio worked with continuous lighting fixtures supplied by FotoCare Rental.

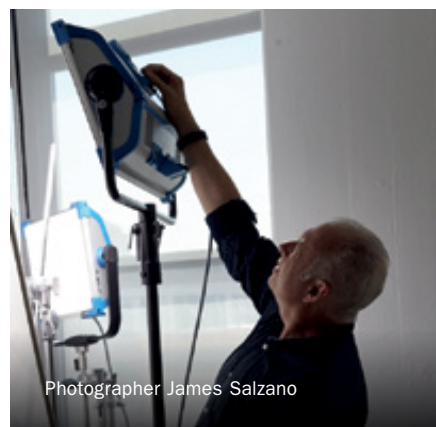
“We adopted ARRI lighting only a few years ago,” says Fred Blake, Rental Department Manager at FotoCare. “When core customers started shooting more video with their still projects, it was quite apparent there was a big change underway. Now we have a large inventory of ARRI tungsten and daylight options. I find ARRI to be an excellent choice for us, in that we get great support from the manufacturer in the service area, as well as technical support.”

Karas needed a lighting solution that would not be disturbing to the dancer and that would facilitate beautiful still images, as well as moving footage utilizing stills shot at high speed. “In discussing it with Fred and Julian Bernstein, my lighting tech, we decided on a continuous light source,” says Karas. “Using a combination of SkyPanels and various ARRI tungsten lights we achieved a gorgeous look, shooting at 14 fps with a DSLR and capturing

movement without any motion blur. I could see exactly where the light was falling and how it was helping to shape the model. We were able to work quickly and in a short time get the results I wanted.

“Using ARRI lights provided consistency of color temperature across all the different fixtures,” continues Karas. “The quality of light was stunning and I felt as though the skin tones could not have been better; even in the shadows the light really looked great. The SkyPanels were incredible. They were easy to use, produced a good amount of light, never got hot, are fully loaded with just about every color gel you could think of, and allowed us to dial in the exact color temperature we wanted. We balanced them with the tungsten fixtures to get the right blend for making the model’s skin look beautiful. I would definitely use the SkyPanels again, especially in situations where I wanted to painlessly fine-tune the color, hue or saturation on a shoot.”

Another New York photographer turning increasingly to SkyPanels is James Salzano, who used them recently on a shoot for a



Photographer James Salzano

“The versatility of the SkyPanels really made them the best solution.”

major US department store chain. The brief called for environmental portraits of young professionals, with short depth of field and a daylight feeling requested for all shots.

“I had my usual complement of strobes on the shoot, but they wouldn’t let me combine a wide aperture with the very fast shutter speed I needed to capture the daylight, so continuous light from the ARRI SkyPanels was a great solution,” says Salzano. “Not only was it easy to adjust the intensity of output, but the color tune feature worked really well for us. When we moved locations the color in the room shifted as the light changed, but the SkyPanel was so easy to control that we were able to instantly match the changing daylight as we shot. We also didn’t have to wait for the lights to cool down when changing locations.”

Salzano used S30 and S60 SkyPanel units, aimed through a 4x4 solid diffusion. “It gave me the soft, natural feel I was looking for,” he says. “The versatility of the SkyPanels really made them the best solution for this shoot and I was happy to have them.”



Lighting tech Julian Bernstein adjusts a SkyPanel

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Cover image: captured with ALEXA for the ARRI HDR showreel

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Ident Nr.: 80.0012375

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Once again, leading figures and technology providers from the world of film archiving and restoration have come together for ARRI's Archive Workshop at the company headquarters in Munich.

In total, 165 restoration professionals travelled from 25 countries to attend the 2016 workshop. Nine exhibitors showcased the latest hardware and software for film restoration tasks in the ARRI studio, while 23 guest speakers gave 12 presentations in the ARRI cinema, sharing knowledge, discussing challenges and detailing case studies.

This year, a special focus was put on emerging topics such as colored film in all its variants, reaching back as far as 1900, as well as classic video technology.

“Meeting and chatting with colleagues of so many provenances was inspiring and productive.”

Matthias Rajmann & Claus Üblacker of Film Shift

Presentations covered the digitization of early color processes, bacterial artefacts on film, hand repairs to nitrate stock, restoration of video material, unusual film formats, magnetic tape degradation and color rendering via LED illumination.

Among the specific restoration projects cited by guest speakers were Veit Harlan's Agfacolor films *Immensee* and *Opfergang* (1942-1944), Georges Méliès'



ARRI ARCHIVE WORKSHOP

165 restoration professionals from 25 countries attend ARRI's 2016 Archive Workshop.



Joan of Arc (1900), Werner Nekes' *Uliisses* (1980/1982), Heiner Carow's *Die Russen kommen* (1968/1987) and the classic soviet movie *Chapaev* (1934).

Products showcased at the expo included current ARRISCAN archive options and a preview of the forthcoming ARRISCAN XT,



which is based on ARRI ALEXA camera technology. Also Phoenix and Nucoda software from Digital Vision; FAST LTA's Silent Brick Library Controller; Spider from Filmlager Unterföhring; DIAMANT restoration software from HS-ART; KEM Studioteknik; Kodak's P-200 film cleaning system;

Sondor's VERSA scanner; and Blackmagic workflows from VISION2see.

Feedback from exhibitors and attendees was very positive. Among those who made comments at the close of the event were Matthias Rajmann and Claus Üblacker of Film Shift, who said: "Seeing the archive technology presentations, talking to manufacturers directly and seeing their products in the studio, as well as meeting and chatting with colleagues of so many provenances was inspiring and productive."

The success of the event means that it will certainly continue into the future, with dates for the next workshop to be confirmed in due course.



The sky just got bigger.

SkyPanel goes long: the S120-C

The highly acclaimed ARRI SkyPanel range of LED soft lights is growing, with the new SkyPanel S120-C joining the S60 and S30 family of products. The S120 is twice as long as the S60, but weighs nearly the same. Its larger light aperture makes a great soft light even better. Retaining the same features and color tuneability as its smaller counterparts, the S120 consumes less than 400 watts, yet it is slightly brighter than the S60-C and has an outstanding efficacy of 90 lumens per watt.



S30-C



S60-C



S120-C

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