ARRINEWS

NAB ISSUE 2013 I

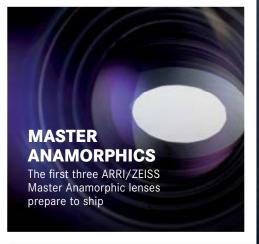
ALEXA XT

System refreshed with four new models featuring in-camera ARRIRAW









EDITORIAL

DEAR FRIENDS AND COLLEAGUES

2013 got off to a great start when the National Academy of Television Arts & Sciences honored us in January with a Technology and Engineering Emmy® for our work with large format CMOS

sensors. Awards season swiftly followed, with many of the top prizes going to productions that worked with ARRI equipment. For the second year running, a film captured with ALEXA won both the cinematography and VFX Oscars® (Life of Pi), while 70% of all Oscars® for live-action features went to films shot with ARRI cameras.

We're excited to be promoting our new ALEXA XT cameras at NAB. It is too easy, amid all the hype surrounding 4K, to lose sight of the fact that overall image quality is a delicate balance of many different factors, of which spatial resolution is just one. We know that our approach results in images that are of the highest possible quality today, and that are safe for tomorrow; top filmmakers using ALEXA know it too. Almost all major feature films are currently postproduced and distributed in 2K,



but ARRIRAW allows working at a higher resolution through post, a route taken by Skyfall in preparation for its successful IMAX release. When 4K is truly ready, we will be too. In the pages of this issue you

will find details of our other camera developments, as well as exciting new lighting and DI products. A fuller picture can be gleaned at our revamped show page - arri.com/nab2013 - where all materials are gathered together and new videos from the show floor will be uploaded every day.

Going into NAB we are desperately sad to be mourning the loss of our good friend and colleague Bill Lovell, who as Head of 3D and Digital at ARRI Media was a key figure in our work with digital imaging. His absence at this year's show will be





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Schaefer has shot many of his films, such as The Kite Runner and Quantum of Solace, with ARRI film cameras and lenses, although he had not worked with ALEXA before. He decided to combine the camera with ARRI/ZEISS Master Prime lenses, with which he was very familiar, and to use Hollywood Black Magic filters throughout. Partly due to the extensive visual effects in the film, he chose to record ARRIRAW, the highest quality possible with ALEXA, using Codex Onboard recorders.

"The image quality was surprisingly good," says Schaefer. "Right out of the box, the ALEXA has a really nice quality to it. It has a softer patina and isn't quite as harsh-looking as some digital cameras. In the DI suite, I didn't need to do as much defocusing, softening, and contrast reduction as I might have had to with another camera."

In the story, parasitic aliens have come to Earth and taken over human victims. The two main characters, Melanie and Jared (played by Saoirse Ronan and Max Irons), escape this fate and discover a community of other "normal" humans living in a network of underground caverns. By contrast, the world of the alien-humans features spare, angular architecture with clean lines and a modern feel. Schaefer applied LUTs on set to distinguish the two worlds and later worked at EFILM with colorist Mitch Paulson to carefully enhance the overall look.

The Host was shot in Baton Rouge, Louisiana and New Mexico with a camera package supplied by West Coast Camera. For a





sandstorm scene in the desert Schaefer shot directly into the sunset. "We never had any clipping problems," he says. "I was rating the camera at 800 ASA to preserve the highlights. In fact, when we first went into the DI, someone from the post house said, 'I have to really crush this because there's all this noise on the ground here.' And I said, 'No, that's actually sand moving and blowing through the shot.' And yet the bright orange sun was also visible in the shot, and it all held up beautifully."

Though the 16-strong Master Prime series has a focal length range of 12 mm to it just takes me out of the movie." 150 mm, it was the lenses between 40 mm and 75 mm that were used most often on The Host. Some longer focal lengths were brought out for desert vistas and car shots, and an 18 mm was used for some wide exteriors to show off the landscape. Schaefer also used the ARRI Shift & Tilt System to create an unusual look for flashbacks. "We really stretched them out and played with them, and we put gold Glimmerglass filters on top

of them to warm it up a little bit," he says. "We got some very pretty images that really gave us a feeling of memory shifting."

On The Host, Schaefer did not feel the need for greater resolution and the massive amounts of data that comes with it. "I think the ALEXA's look is much more pleasing for a fiction film," he says. "Some of the other digital cameras come off looking more videolike and crisp, as though you're looking through a window. That's great for a sports event or a nature documentary, but I don't really want to see fictional dramas that way,

David Heuring (@DavidHeuring)



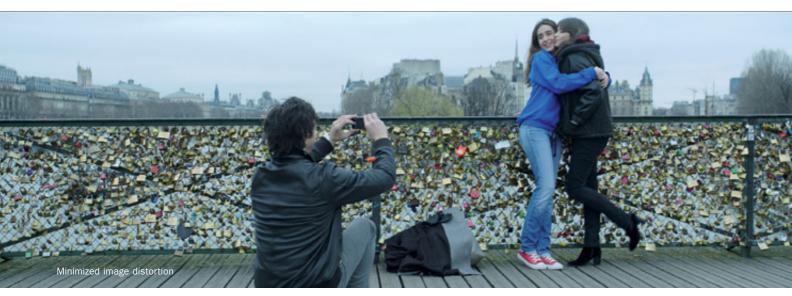


A MASTER **ANAMORPHIC** IN PARIS

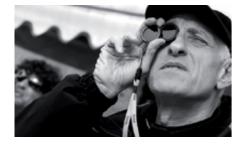
DP Michel Abramowicz, AFC, takes the 50 mm ARRI/ZEISS Master Anamorphic lens for a fast-paced test shoot in Paris











The first three focal lengths of the highly anticipated new ARRI/ZEISS Master Anamorphic lens series are due to start shipping in May (the MA35, MA50 and MA75). In the build-up, ARRI loaned the first the respected French DP and President of the AFC. Michel Abramowicz.

The MA50, which recently won a prestigious iF product design award, was put to use by Abramowicz on a short film titled

A Trip to Remember, which was directed by Roberto de Angelis and shot on location in Paris over three days in January. Combining the Master Anamorphic with an ARRI ALEXA camera, Abramowicz put ARRI's new stateof-the-art lens through its paces and found that it combined the convenience of modern design with the unmistakably cinematic look AN: Did you try the lens at its maximum of classic 'scope' movies.

Michel Abramowicz: I agreed to do the test but I wanted to do it like a movie, under production model, a 50 mm MA50 lens, to the normal conditions of filmmaking. Our main concern at the beginning was how to make a short film with only one lens, but when I was a focus puller I did a movie with the great French director Robert Bresson, who only worked with a 50 mm lens, and I

remember that the main problem was finding locations that worked. It was the same on this shoot; when we recced the locations we looked for places that would work with the one lens we had, so it wasn't a problem.

aperture of T1.9?

MA: We decided to work a lot at T1.9 ARRI News: What were your thoughts going to keep the background out of focus and keep a shallow depth of field. With ALEXA's sensitivity it would have been easy to work at T4 or T5.6, but we really wanted to restrict the depth of field. I was very happy with how the Master Anamorphic performed at T1.9 because there was no distortion and no loss of the color structure, the colors remained completely stable. The flaring is nice but not too strong.

We were trying to maximize the out-of-focus backgrounds and highlights, and we loved the effect. When you focus on something specific in the frame then you are really telling your story; with the Master Anamorphic there is a graduation as the focus falls away that is very nice.

AN: Were you pleased with how the skin tones were rendered?

MA: Yes, absolutely. For the nice skin tones I think it was a combination of four elements: the most important is the lens; then the ALEXA; then the lighting; and finally the make-up girl! There is a misconception that shooting digitally at 800 ASA or higher means you don't need to light anything, but it's not true. Cinematographers need to adapt to digital but we also need to continue to light the image – this is fundamental. However, it is true that this lens helps a lot with getting a very nice skin texture and color; in fact these were the nicest skin tones I have ever seen on digital. The film looked fantastic at Micro Salon with a 4K projector, it was just incredible.

AN: Were you able to work quickly and efficiently on set with

MA: On this shoot we had to move fast. Of course we only had one lens, which made it easier, but it was clear to me that with the Master Anamorphics you could do a movie in the same way as a regular spherical movie; you wouldn't need additional people and changing location wouldn't be any harder. Always in the past I would push to work in anamorphic but the producers knew it would be more expensive in terms of people and transportation, but now those days are over, which I'm very glad about. Now, if anamorphic is right for the movie, then there is no reason not to use it - everybody can work in anamorphic today.









The three focal lengths that start shipping in May





Production is ramping up on the M90, the latest addition to ARRI's popular M-Series of advanced HMI lighting units. The M90 introduces a new power class for daylight fixtures at 9,000 W, which is exactly half the wattage of the ARRIMAX 18/12 and just over double that of the M40/25. With the M18 at the lower end, the M-Series now offers a versatile range of eight evenly-staggered wattage options from 1,200 W to 18,000 W.

LA-based gaffer Cory Geryak makes regular use of the ARRI M-Series in his day-to-day work on major features such as *The Bourne*

Legacy and The Dark Knight Rises. "For HMI I am almost exclusively using the ARRIMAX, M40 and M18," says Geryak. "I've stopped ordering 6K and 12K PARs, which is why I'm anxious to start using the M90 to fill that gap."

Like all M-Series lampheads, the M90 is equipped with MAX Technology, a unique, patented reflector design that unifies the advantages of a Fresnel and a PAR fixture. The unit is open-faced and very bright; it is also focusable from 16° up to 49°, producing a remarkably even light field and a crisp, clear shadow. ARRI technology partner Osram developed a new 9,000 W lamp for the M90, which is stable at 1,000 Hz and almost as small as the 6,000 W lamp that can alternatively be used. This allowed ARRI to design the M90 in a very compact housing, barely larger than the ARRISUN 60.

"It's really exciting to have a fixture that's close to the size of a 6K, but with this kind of punch," says Geryak. "I did a side-by-side test with an 18K Fresnel and on my meter I was getting the same amount of light, if not more, out of the M90. For most applications what I'm looking for is punch, so to have just as much punch with a fixture that is smaller, weighs so much less, and with so much less amperage, is extremely useful. When we're dealing with weight restrictions on Condors, to be able to put more fixtures in the basket and have even more output is a huge benefit."

By eliminating the need for spread lenses, M-Series lampheads speed up workflows on set and reduce the risk of lost production time due to glass breakage. "Not using lenses on the HMIs is a big "I did a side-by-side test with an 18K Fresnel and on my meter I was getting the same amount of light, if not more, out of the M90."

plus because it's less hardware to carry around and the fixtures are lighter without the weight of the extra glass," explains Geryak. "They fit on the carts better and it's faster to make adjustments on set because you don't have to change lenses. It's also safer because you don't have electricians trying to pull hot lenses out of lights."

Accompanying the M90 is a new ballast, the EB 6/9 kW, available in standard and high speed versions. Like other recent



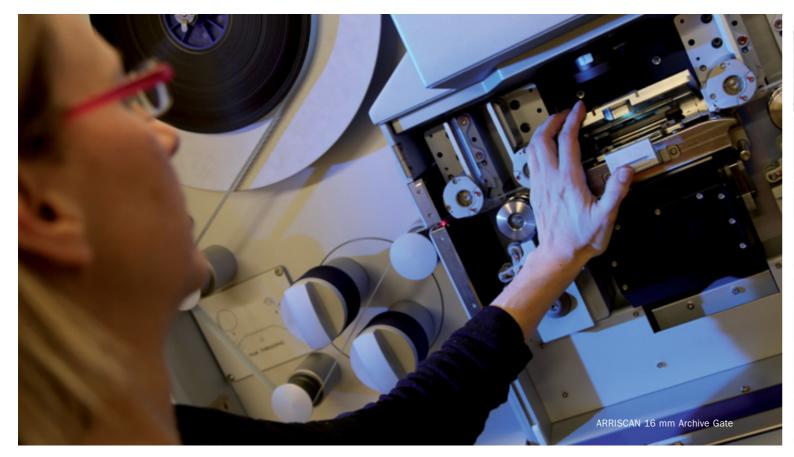
ballasts from ARRI, it features CCL (Compensation for Cable Loss) technology and the power-saving ALF (Active Line Filter). The EB 6/9 kW is DMX compatible and no bigger than ARRI's existing EB 6000 Baby ballast.

"The fact that the ballast is interchangeable between 6K and 9K is a big deal, especially now that the newer digital cameras are so sensitive," says Geryak. "Let's say we have a situation where we

tie-in to a building instead of running generator power. The electrical box isn't enough to power a 12K, so you get the 9K in there, but suddenly you can knock it down to a 6K for cases where you have even tighter amperage; that's very useful. Also, high speed ballasts are starting to become more important with the high speed HD cameras. Up until the M90, 4K was the largest wattage high frequency ballast out there, so it's such a benefit to have this availability now. This is the biggest, brightest unit you'll find with a high speed ballast."

Geryak concludes, "ARRI is so ahead of the curve; when the ARRIMAX came out, that set a new standard. I can't wait to get hold of the M90 and have something in between the ARRIMAX and the M40. There are so many applications that I can imagine using this fixture for."

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STABILIZING CANADIAN HISTORY

The National Film Board of Canada helps ARRI perfect on-the-fly image stabilization with the ARRISCAN 16 mm Archive Gate



Since its creation in 1939 as Canada's public film production and distribution body, the National Film Board of Canada (NFB) has created a legacy collection of more than 13,000 films that have won some 5,000 awards, including 12 Oscars®, and total approximately 6,000 hours of content. Now the NFB is engaged in a complete digitization of its film and tape-based collection, developing innovative processes that have earned it a reputation as a global leader in digital preservation and archival management, including pioneering solutions for just-in-time delivery from mezzanine files.

Luisa Frate, Director General of Finance, Operations and Technology for the NFB,

"The challenge was to preserve this priceless audio-visual legacy."

comments, "The NFB produces and distributes bold and distinctive social-issue documentaries, auteur animation and innovative digital content from a unique 1950s, 1960s and 1970s, documentaries Canadian perspective. In developing our Digitization Plan, the challenge was to preserve this priceless audio-visual legacy

for future generations, while making these collections available to all on the platform of their choice, including theatrical screenings, online streaming and mobile devices."

In 2008 the NFB invested in an ARRISCAN and put its Digitization Plan into action. Initial scans were mainly of 35 mm materials, which were the most recent additions to the collection. NFB R&D Engineer Jimmy Fournier notes, "The basic idea was to start with the part of the collection that is easier to scan. In the made by the NFB were often shot on 16 mm or Super 16, while fiction and animation was on 35 mm. Then from the 1980s the

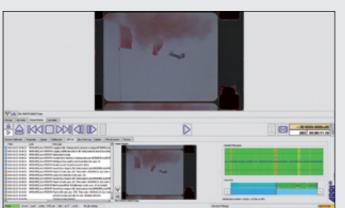
documentaries started to shoot with 35 mm as well, which is why our 16 mm materials are generally older."

Occasional degradation issues were encountered with the 35 mm materials, but nothing that prevented scanning with the ARRISCAN's pin registered movement. When it came to the older 16 mm holdings, however, it was clear that degradation to the film was more prevalent due to its delicacy and age. For much of the collection's 16 mm material, pin-registered scanning would not be

The NFB had purchased an ARRI 35 mm Archive Gate with its ARRISCAN, which allows pinless scanning outside of the normal frame area. "Sometimes we would scan material with pin registration and still get complaints that the image was unstable," says Fournier. "The fact that the Archive Gate can see the perforations helped us realize that the instability was nothing to do with the scanner, it was to do with how the material was shot or the age of the film. I started



The ARRI Built-In Stabilization interface



learn at NAB last year that ARRI had released Built-In Stabilization software for the ARRISCAN, in collaboration with HS-Art."

but it was designed for use with the Archive Gate, which at that time existed only for 35 mm; the NFB would need a 16 mm version. Fournier continues, "The real goal for us is to be able to scan without using pin registration at all, because with older films it increases the risk of causing damage. Up until now we have only scanned IP

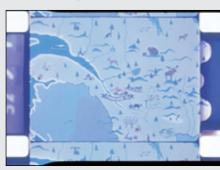
Image content in perforation area



looking around for different stabilization options and was pleased to start scanning original camera negatives for some of our most important films. Scanning pinless has real advantages for us, but we need the Built-In Stabilization to do it because stabilizing after the ARRI's Built-In Stabilization option looked like the ideal solution, scan would add too much time to our day-to-day workflow."

Following the feedback from NFB representatives, ARRI introduced a 16 mm Archive Gate for the ARRISCAN at IBC 2012. "The ARRI DI team told me that they had developed this new gate, but that they didn't have a lot of 16 mm material to test the stabilization software, which of course we did," says Fournier. [interpositive] and IN [internegative] materials, but we would like to "Instead of just sending our films over to Munich, we decided to

Disturbances in perforation area



actually travel there and collaborate on the technology directly. I took a selection of 14 IP and IN reels that contained, in my opinion, the worst cases of perforation difficulties and therefore the most challenging materials for 16 mm stabilization."

Fournier set out for the ARRI headquarters in Munich with the goal of testing how effective the stabilization software was with old 16 mm film. The types of difficulties presented by the 14 reels he took with him included twisting to the film; damaged, missing, enlarged and one-sided





perforations; and copied images, low contrast, or other disturbances within the collection alive and make it accessible to perforation area.

"The collaboration with ARRI's R&D step process," concludes Fournier. "First is team was really successful," says Fournier. the digital source master, which is the raw "I was very happy with the results of all 14 tests and only minor adjustments were and might incorporate varying levels of image required to the software in order to detect restoration. The final part is the mezzanine perforations for each possible pitch value. file, for which we follow a just-in-time We found a work-around solution for the time I was in Munich and ARRI later adjusted the software slightly to deal with any different television, DCP, 3D, or cell phones; in this pitch. It was only a minor tweak to the way we can cater to any kind of deliverable configuration; the algorithm for the or audience." stabilization itself functioned very well."

Subsequent to the successful test, the NFB decided to install an ARRISCAN 16 mm Archive Gate along with the Built-In Stabilization software. These arrived in March 2013 and will soon be used to carry the NFB's Digitization Plan on to its next phase, working with delicate original camera negative and adding further titles to the online NFB screening room.

Low contrast in perforation area "Our first mandate is to keep our

people, so the Digitization Plan is a three-

scan. Then the digital master is color graded

workflow. This allows us to encode for

different platforms, whether it's online,



Visit the NFB online screening room: www.nfb.ca

LDS EXTENDERS FOR ALURA ZOOMS

1.4x and 2.0x extenders vastly increase the total focal length range of the four ARRI/FUJINON Alura Zooms



MAIN FEATURES

- Multiply the focal length by a factor of 1.4x or 2.0x
- · Loss of only one or two T-stops at full aperture
- · Highest optical performance and robust mechanics
- Transfer of LDS metadata signal
- · Automatic extender ID with LDS ALEXAs
- · Color matched to the Alura Zoom range

The new 1.4x and 2.0x Alura LDS Extenders are the ideal tools for significantly extending the focal length range of the ARRI/FUJINON Alura Zoom lenses. Easily and quickly mounted between the camera's PL mount and the taking lens, these additional lens systems are compact and lightweight, with state-of-the-art optical elements and typically robust ARRI build quality.

Using the protocol of the ARRI Lens Data System (LDS), the new extenders have the ability to transfer lens metadata to the camera from the ARRI/FUJINON Alura Lightweight Zooms, ARRI/ZEISS Master Prime and ARRI/ZEISS Ultra Prime LDS lenses. ARRI ALEXA cameras equipped with LDS can automatically identify which extender is being used and immediately display the correct lens data. The lens metadata is extremely useful for speeding up postproduction and visual effects tasks, saving both time and money.

While the extenders will function with many ARRI lenses, they have been specially designed to accompany the four Alura Zooms, Multiplying the focal length of the taking Alura LDS Extenders provides a huge focal lens by a factor of either 1.4 or 2.0, with length range of 15.5 mm to 500 mm only a one or two T-stop loss at full aperture, they extend the reach of the Aluras all the way up to 500 mm.

Veiling and glare are minimized due to the special FUJINON multi-layer EBC coating, while exceptionally high contrast and resolution are maintained. Combining the Aluras with these new extenders creates a far more affordable solution for long range zoom requirements than specialist telephoto zooms, with little or no influence on the optical performance of the Alura lenses.

Alura T2.6/18-80 mm	+	Alura LDS Extender 1.4x	=	Alura T3.7/25-112 mm
Alura T2.6/18-80 mm	+	Alura LDS Extender 2.0x	=	Alura T5.2/36-160 mm
Alura T2.6/45-250 mm	+	Alura LDS Extender 1.4x	=	Alura T3.7/63-350 mm
Alura T2.6/45-250 mm	+	Alura LDS Extender 2.0x	=	Alura T5.2/90-500 mm
Alura T2.8/15.5-45 mm	+	Alura LDS Extender 1.4x	=	Alura T4.0/22-63 mm
Alura T2.8/15.5-45 mm	+	Alura LDS Extender 2.0x	=	Alura T5.6/31-90 mm
Alura T2.8/30-80 mm	+	Alura LDS Extender 1.4x	=	Alura T4.0/42-112 mm
Alura T2.8/30-80 mm	+	Alura LDS Extender 2.0x	=	Alura T5.6/60-160 mm

















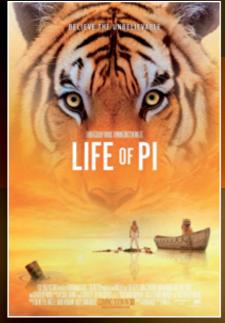
45-250 mm

15.5-45 mm 30-80 mm 1.4x Extender

2.0x Extender

AWARDS SEASON _____

SUCCESSES



For the second year running, a film captured with ALEXA won the cinematography and VFX Oscars®

- DP Claudio Miranda, ASC
- 4 Oscars®, incl. Cinematography and VFX
- 2 BAFTAs, incl. Cinematography and VFX
- 5 Visual Effects Society Awards

ALEXA and ARRI/ZEISS Master Prime lenses

2013's awards ceremonies got off to the best possible start when on January 10 the National Academy of Television Arts & Sciences honored Arnold & Richter Cine Technik (ARRI) with a 2012 Technical Engineering Achievement Award. Acknowledging the ARRI ALEXA's high performance and prevalence in broadcast television, the accolade recognized, "Improvements to Large Format CMOS Imagers for Use in High Definition Broadcast Video Cameras."

Since then, productions shot with ARRI film or digital cameras have won many of the big prizes at the Academy, ASC, DGA, PGA and Golden Globe Awards, and other international awards events. For the second year running, a film captured with ALEXA won the cinematography and visual effects Oscars®, while 70% of all Oscars® for live-action features went to films shot with ARRI cameras. The film and television productions highlighted here represent just a sample; ARRI congratulates all of the winners and nominees.



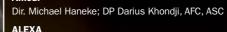


Dir. Ben Affleck; DP Rodrigo Prieto, ASC, AMC

ARRICAM, ARRIFLEX 435, 235 and ALEXA

- 3 Oscars®, incl. Best Picture
- 3 BAFTAs, incl. Best Film
- 2 Golden Globes
- PGA Award
- DGA Award





- Oscar® for Best Foreign Language Film BAFTA Film Award
- Golden Globe Award
- 5 César Awards, incl. Best Film
- 4 European Film Awards



Farewell My Queen

Dir. Benoît Jacquot; DP Romain Winding, AFC

ALEXA and ARRI/ZEISS Master Prime lenses

- 3 César Awards, incl. Best Cinematography
- Prix Louis Delluc for Best Film



meland : various; DP Nelson Cragg

3 Golden Globes, incl. Best Drama Series

Dir. Jay Roach; DP Jim Denault, ASC

- 6 Primetime Emmys®
- PGA Award



Game of Thrones

Les Misérables

4 BAFTA Film Awards

3 Golden Globes

ASC Award

■ 2 Oscars® 2 BAFTA Film Awards

■ Golden Globe Award

ARRIFLEX 16SR 3

4 Gaudi Awards

and Cinematography 8 CEC Awards

Dir. Pablo Berger; DP Kiko de la Rica

10 Goya Awards, incl. Best Film

Dir. Tom Hooper; DP Danny Cohen, BSC

ARRICAM and ARRI/ZEISS Master Prime lenses

Dir. Sam Mendes; DP Roger Deakins, ASC, BSC ALEXA and ARRI/ZEISS Master Prime lenses

Dir. and DP various

ΔΙΕΧΔ

- ASC Award to Kramer Morgenth for the episode "The North Remem
- 6 Primetime Emmys®
- 5 Visual Effects Society Awards



Dir. and DP various

ALEXA and ARRIFLEX 435

ASC Award to Balazs Bolygo, HSC, for the episode "Mort"



Great Expectations

Dir. Brian Kirk; DP Florian Hoffmeister

- 3 BAFTAs, incl. Cinematography and VFX
- 4 Primetime Emmys® incl. Cinematography





PGA Award

DGA Award

■ 5 Primetime Emmys®



Four new ALEXA XT models with in-camera ARRIRAW and a host of other features



























With the ALEXA XT cameras (Extended Technology) ARRI is refreshing the ALEXA line-up with new features inspired by feedback from professional users. The ALEXA XT, ALEXA XT M, ALEXA XT Plus and ALEXA XT Studio cameras will replace all previous models except for the original ALEXA. Owners of existing ALEXA cameras will be able to purchase individual upgrades that deliver some of the key features of the ALEXA XT cameras.

The ALEXA XT cameras were introduced at a series of international launch events earlier this year, starting with an open house at the ARRI Inc. offices in Burbank on 22 February. This was followed by Micro Salon in Paris, where the camera was even shown to French Minister of Culture Aurélie Filippetti, and subsequent events in London, Beijing, Mumbai, Berlin, Munich and Milan. The ALEXA XT concept was well received at all events and will soon be in use on productions worldwide.

FASTER, LIGHTER, MORE AFFORDABLE ARRIRAW

All ALEXA XT cameras come with the new XR Module (Extended Recording), a side panel that was co-developed with Codex and that replaces the previous SxS

Module. The XR Module allows in-camera ARRIRAW recording up to 120 fps onto exceptionally fast and rugged 512 GB XR Capture Drives. This not only makes for a smaller, lighter and more affordable camera package, it also simplifies setup and operation. The result is an even faster and more reliable way to record ARRIRAW, ALEXA's highest quality image output. Once removed from the camera, the XR Capture Drive offers a number of different paths into post, using the proven Codex workflow.



IMPROVED PRORES / DNxHD RECORDING

In addition to ARRIRAW it is also possible to capture ProRes or DNxHD to an XR Capture Drive for significantly longer recording times, as well as ProRes 4444 recording at 120 fps. ProRes 4444 at 24 fps can be recorded for a total time of 107 minutes. With an SxS Adapter it is possible to record ProRes or DNxHD to a single SxS PRO card, thus protecting the inventory of existing cards.

TIME AND WEIGHT-SAVING INTERNAL ND FILTERS

The In-camera Filter Module IFM-1 allows ALEXA XT cameras to be rated at the base sensitivity of EI 800 without the need for external Neutral Density (ND) filters, even in are equipped with an LDS lens mount. The bright sunlight. Filtering behind the lens rather than in front saves time and reduces weight, reflections and complexity. The FSND (Full Spectrum Neutral Density) filters used with the IFM-1 are based on high-tech manufacturing methods that assure a unique feature: neutral color balance at all of the eight available densities, from ND 0.3 to ND 2.4.

TRUE ANAMORPHIC WITH A 4:3 SENSOR

For the most effective use of anamorphic lenses, each ALEXA XT model is equipped with a 4:3 sensor, the same size and shape as a Super 35 mm film frame. This is crucial for delivering the unique and cinematic widescreen look that can trace its origins back to the CinemaScope films of the 1950s. An anamorphic de-squeeze license is included with all ALEXA XT cameras, as is a high speed license for filming at up to 120 fps. The 4:3 sensor is also useful for non-anamorphic productions as it permits significant reframing of the image in post.

VFX EFFICIENCY THROUGH LENS METADATA

Lens metadata is invaluable for efficient working on the set and a speedy VFX post workflow, which is why all ALEXA XT models ARRI Lens Data System (LDS) reads the lens settings and writes them into metadata in every ALEXA recording format. Some 41 ARRI lens models have LDS built-in, compatibility with the Cooke /i system is in the works, and for all other lenses it is possible to gather metadata by using an ARRI lens motor and storing the lens table inside the camera with the Lens Data Archive.

COMFORTABLE. **FLEXIBLE VIEWFINDER**

To provide maximum comfort for the operator, the new Viewfinder Mounting Bracket VMB-3 has a much stronger design, partially achieved through the use of two 15 mm lightweight rods. These rods also facilitate rapid changes in camera support, since accessories such as lens motors or follow focus units can be hung from the rods rather than cluttering up the

SUPER SILENT FAN

ALEXA cameras are already among the quietest digital cameras, but an even quieter fan has become available and ARRI has incorporated this new fan into the ALEXA XT models, providing an extra safety margin in very quiet or hot environments.



ALEXA UPGRADES: A PROMISE FULFILLED

Upgrades and accessories for classic ALEXA owners fulfill ARRI's promise of a modular, future-proof system

When the ALEXA concept was first unveiled in early 2010, ARRI made a commitment to protect customer investment through long product cycles and modular upgradability. Three years later ALEXA is still the camera of choice and still offers the best overall production value, with a wide range of upgrades, licenses, accessories and free-of-charge Software Update Packets having been released to maintain its market edge.

From the beginning, the idea was to give ALEXA users the option to purchase new modular components as technology improved. This was why the ALEXA Plus was offered as both a new camera and an upgrade in 2011, and why the XR Module and several other (though not all) key components of the ALEXA XT configuration are being offered as upgrades to owners of classic ALEXAs in 2013.

ALEXA XR MODULE

The ALEXA XR Module (Extended Recording) upgrade comprises a new side panel and circuit board that replaces the current SxS Module; it is available for all classic ALEXAs, but must be installed at an official ARRI service center.

UPGRADE



- Upgrade any ALEXA with Extended Recording (XR)
- In-camera ARRIRAW
- · Record ARRIRAW onto 512 GB XR Capture Drives
- · 16:9 up to 120 fps, 4:3 up to 90 fps
- Faster, lighter and more affordable ARRIRAW
- Proven, flexible Codex ARRIRAW workflow

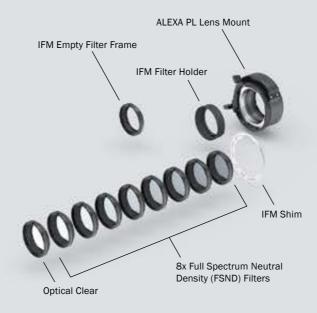
Improved in-camera ProRes/DNxHD

- ProRes 4444 16:9 HD up to 120 fps onto XR Capture Drives
- ProRes onto SxS PRO cards with SxS Adapter
- · Proven, flexible ProRes workflow
- Six different-colored top covers for easy camera ID

INTERNAL FILTER MODULE IFM-1

The IFM-1 upgrade allows the use of special internal Neutral Density (ND) filters; it is available for all classic ALEXAs except the ALEXA Studio, which has its own motorized ND filter.

UPGRADE ▲



• Internal filtration advantages

- · Internal filters reduce reflections
- · Sensor protected from dirt during lens changes
- · Lighter and easier to use than matte box filters

• New Full Spectrum Neutral Density (FSND) filters

- · Neutral color balance at all densities
- $\boldsymbol{\cdot}$ High contrast through anti-reflective multi-coating
- · High image sharpness through precision polishing

VIEWFINDER MOUNTING BRACKET VMB-3



Greater operating comfort

UPGRADE ▲

- Strong and rigid construction
- · Hard, low friction anodizing on all moving parts
- Built-in bubble level

Enhanced flexibility

- Based on standard position 15 mm lightweight rods
- Rods take lens motors, matte boxes, follow focus etc.
- Uncluttered base plate speeds up camera changeovers

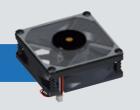
VIEWFINDER EXTENSION BRACKET VEB-3



- New, sturdy design
- Blue safety catch
- Fold-out arm holds viewfinder when moving camera

ALEXA XT FAN





- Makes the already quiet ALEXA even quieter
- Super silent operation in all environments
- Available for all classic ALEXAs

HEATED EYECUP HE-6

- Designed specifically for ALEXA EVF-1
- Additional heating element for greater power
- Spring loaded mechanical lock

20 ARRINEWS 21

STUDIO GOES GREEN



ARRI L7-C LED lights help equip an eco-friendly BBC TV studio

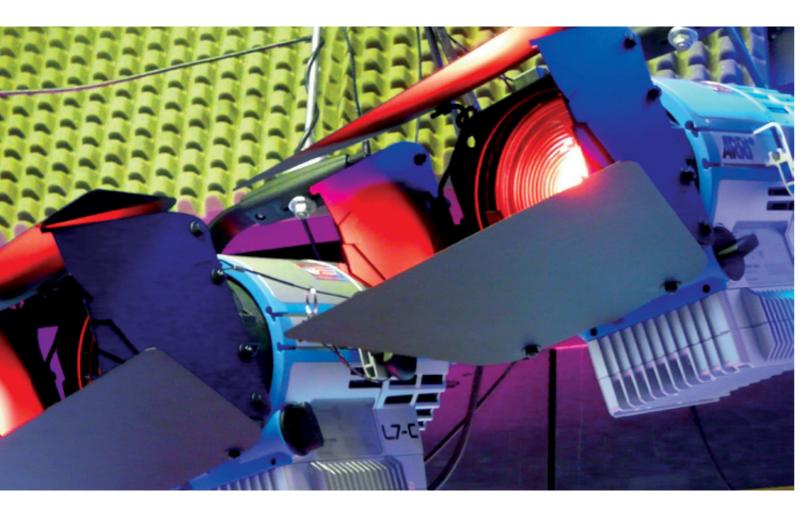
The One Show, the BBC's flagship live magazine television program, has installed ARRI L7-C LED Fresnel lights at its London studio, facilitating complete color control on the set and improving the show's green credentials. The L7 lights were supplied to the BBC by ELP, a lighting services company that is expanding its LED-based offerings and has offices all over the UK.

ARRI's L-Series of LED lights, which now comprises the L7-C (Color), L7-T (Tungsten) and L7-TT (Tuneable Tungsten) models, has quickly been accepted by the lighting industry as an efficient, eco-

friendly and cost-saving alternative to traditional tungsten Fresnels. Offering reduced electricity usage and maintenance, long-life light engines and minimized power distribution, the L-Series can provide a rapid return on investment for studios of all sizes. No sooner had the first batch of L7 units arrived with ELP, than lighting directors Dave Evans and Stuart Gain requested them for The One Show.

"Producers here at The One Show are very environmentally aware; they're continually looking to do things more efficiently," explains Gain. "We've always had an LED-based set using ELP's





wide range of PixelPars, ChromaFloods and ChromaBattens to decorate the studio, so we were pretty 'green' before. Now we've decided to swap out all our 250 MSR Fresnels for the latest ARRI L7-C fixtures, we must be one of the most environmentally friendly mid-sized studios. Other than some newsroom studios, I can't think of any that would pull less power."

The ELP lighting team on The One Show, headed up by Chris Rand and including made the studio upgrade for the show's return to UK television screens in January 2013. Rand notes, "The ARRI LED Fresnels are so close to their conventional equivalents in function and performance that they create a perfect opportunity for a like-for-like replacement. I predict that many next year or so."

Flattering, true-to-life color rendition, previously achievable only with full-spectrum tungsten sources, is a hallmark feature of the L-Series. The L7-C models supplied to The One Show are the top-of-the-range L-Series fixtures, allowing precise manipulation of intensity, color temperature, green-magenta point, hue and saturation. The fully tuneable

white light of the L7-C can be adjusted for different skin tones, camera sensors and mixed-light environments, while specific color shades can be matched through full gamut color mixing. Unlike other LED fixtures, this level of color control does not involve compromising the quality of the light field; L7 Fresnels are unique in combining uniform light and single shadow rendition with absolute control of color attributes.

Impressed by the performance of the electricians Andy Stacey and Saul Harris, L7-C, Gain comments, "For a topical magazine program like The One Show where you never know what's coming next, it gives us the flexibility and versatility to light any situation. Broadcasting daily from this large-windowed studio throughout the year means that we are at the mercy of seasonal weather changes and outdoor lighting conditions, but the L7-C other productions will follow suit over the allows us to cope with it all quite easily. I think this new fixture will be a game-changer for anyone working in the broadcast industry looking to seamlessly integrate LED technology into established working

"The ARRI LED Fresnels are so close to their conventional equivalents in function and performance that they create a perfect opportunity for a likefor-like replacement."





Gabriel Beristain, ASC, BSC, combines the ARRI ALEXA with vintage lenses to evoke 1950s Miami Beach



The Starz drama series Magic City revolves around the fictional Miramar Hotel in 1950s Miami Beach, where mobsters have a grip on the hotels and entertainment industry. Mitch Glazer, the show's creator, was inspired by the 1974 film The Godfather Part II and told cinematographer Gabriel Beristain, ASC, BSC, that he wanted Magic City to be bathed in pinks, aqua blues and golds to suggest the time and place. He initially hoped to shoot the series on film, in part out of a concern that digital acquisition might lend a modern

look that would undermine the period feel. But Starz was clear from the start that film wasn't an option.

After discussions and tests, Beristain decided to shoot with the ARRI ALEXA, a camera he'd had very positive experiences with previously, but to add a bit of the vintage feel Glazer wanted by using older Bausch & Lomb Super Baltar lenses. He notes that shooting in Log C mode (capturing ProRes 4444 to SxS PRO cards) complemented the creamy feel of the Baltar lenses. "While the project's tone suggests dark, moody photography," says Beristain, "the extended latitude the camera offers ensured that the shadows still maintained a beautiful gradation of subtle details."

The cinematographer credits DIT ("and good friend") Nathan Levine-Heaney and colorist Tony D'Amore of Encore for

feeling, rather than the harsher, 'digital' look we often associate with crushed black levels. We designed custom LUTs that we use on set to effectively preview this image, so everyone involved can get a good sense of how the final version will work." He also acknowledges colorist Jill Bogdanowicz, who worked with him on the series' first season.

On Magic City, Beristain rates the ALEXA at a reduced EI (exposure index) for lowerlight interiors, going down to 400 or even 250, while for day exteriors he tends to rate higher, at 800. "It's sort of the opposite of the way you'd think it would work," he says, "but I find that in lower-light conditions the lower rating helps me preserve more of the shadow detail, and in bright Miami sun it helps to work at 800 to hold detail when there's so much contrast in the scene. So I use a lot of ND and polarizers and IR filters contributing to what he calls a "celluloid in front of the lens outside. Inside, I might

bring in a little more light than usual because I'm at the lower rating and the Super Baltars really don't perform well if you open wider than T4 or T4.5. If I were working with Master Primes, it would be different; I could open them up to T2 or even T1.3 with no problem.

"It's interesting," continues Beristain, "how using uncoated lenses affects the whole philosophy of the work. It brings back the way cinematographers worked with these types of lenses in the 1950s and even the 1940s. You have to be very careful of flares, especially when using filters, but I enjoy it. It's back to the way I did films in England in the 1980s and I'd experiment with my Christian Dior nets, moving these pieces of lingerie around and stretching them out in front of my lens until I got something that looked right."

Jon Silberg (@jsilberg)





PRO CAMERA ACCESSORIES **FOR F5/F55**

A full complement of accessories bring robust ARRI quality to Sony's latest digital cameras

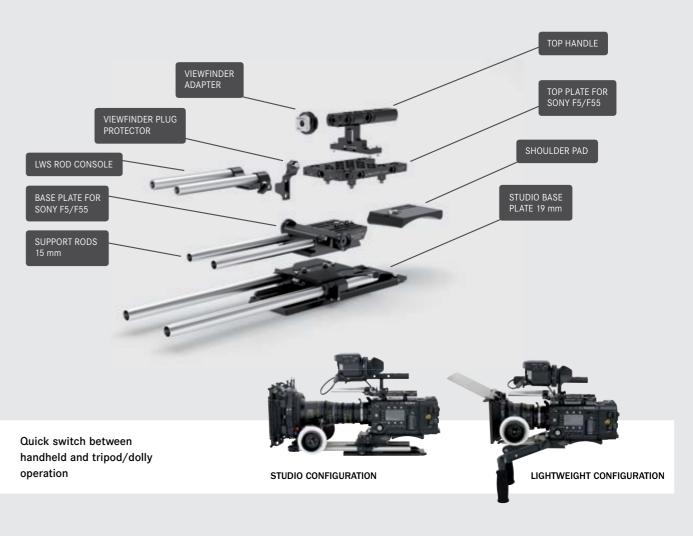
Continuing its trend of swiftly bringing to market high quality Pro Camera Accessories for the latest DSLRs and digital cameras, ARRI has introduced accessories for Sony's recently released F5 and F55 cameras. These accessories render the Sony cameras suitable for the rigors of professional filmmaking by making them fully compatible with ARRI support and all industry-standard matte box and follow focus systems. Transitioning from studio to lightweight configurations and back again is quick and simple, minimizing delays on set.

BASE PLATE

This ARRI base plate makes the Sony cameras compatible with lightweight support standards and includes a built-in "Touch and Go 35" plate. With this, the camera can be mounted to a head or anything else with a standard quick release plate, allowing it to be quickly and safely secured, for example in between takes when shooting handheld. Two ARRI rosettes extend out to the sides of the base plate in order to attach handgrip systems and extensions. For studio configuration, the base plate accepts studio bridge plates such as the ARRI BP-8 or BP-9.

TOP PLATE

The top plate is designed to offer multiple mounting interfaces for accessories. An ARRI handle can be attached at three different positions to optimize balance, although the original Sony handle remains compatible. With its multiple centered interfaces, the top plate can also be used as a low mode plate for Steadicam shots. An optional 15 mm lightweight support rod adapter can be attached to the front of the plate, optically centered to the camera.



VIEWFINDER ADAPTER

The Viewfinder Adapter VFA-1 allows the 16" interfaces. This permits the viewfinders of the F5 and F55 to be attached at the most ergonomically suitable position, in combination with the ARRI top plate and handle.

SHOULDER PAD

mounting of Sony viewfinders to all ARRI 3/8- underside of the cameras via a hand screw, 35" quick release system. This allows and can be used independently of a base incredibly swift transitions between studio plate. When used alongside the ARRI base plate, the shoulder pad can remain in place even when the camera is secured to a head

This ARRI shoulder pad mounts to the via the base plate's built-in "Touch and Go and handheld configurations.

NEW VIEWFINDER PLUG PROTECTOR



The new viewfinder plug protector can be attached to the ARRI top plate, protecting the Sony viewfinder cable connector against cable stress and the time-consuming damage that can often be caused by unforeseen incidents on the set. This allows operators to concentrate on the action without being distracted by cable concerns.





Succeeding the classic LMB-4A, the TOP AND BOTTOM FLAG LMB-6 makes all of the innovations of the successful LMB-25 available for larger-sized on the camera.

TWO AND THREE-FILTER STAGE GUIDES

Moving from two to three-stage filtration LMB-25. The filter stage guides have wellspaced, independent filter frame locks and are machined from solid aluminum.

Constructed from a sheet of carbon, filters, up to 6.6" x 6.6". This allows a the LMB-6 top flag offers rigidity without lightweight matte box to be utilized even adding excess weight. The flag can be fitted when extremely wide angle lenses are used to the top or the bottom of the matte box and folds onto the hood, protecting the lens front element when the camera is moved.

WIDE-ANGLE HOOD

The LMB-6 hood is easily removable via is as easy with the LMB-6 as it is with the captive screws that remain attached to the hood at all times and therefore cannot get misplaced. On the ARRI ALEXA, the LMB-6 will cover wide-angle lenses up to the super wide ARRI/ZEISS Ultra Prime 8R.

ACCESSORY MOUNT AND TRAY CATCHER

Like the LMB-25, the LMB-6 can be fitted with an accessory mount for 3/8" accessories such as ultrasonic measuring devices. The tray catcher offers security by preventing the loss of a filter frame in precarious and potentially dangerous situations, for example when the matte box is flying on a crane.

NEW LIGHTWEIGHT MATTE BOX LMB-6

A sturdy matte box that accommodates larger filters and wide angle lenses

INTERCHANGEABLE CLAMP **ADAPTERS**

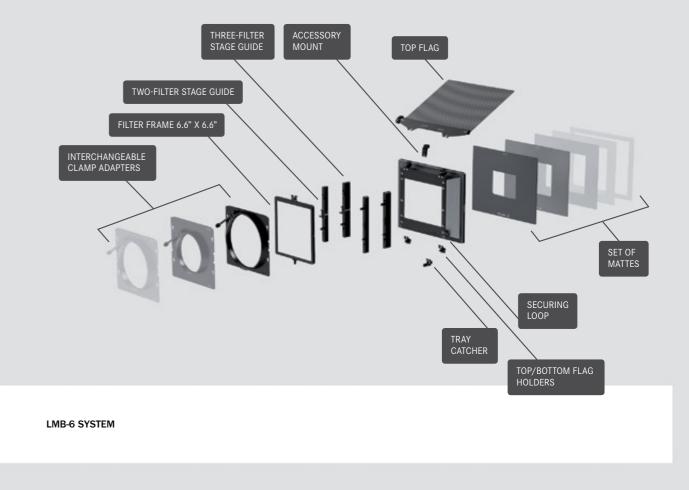
diameters via a series of interchangeable clamp adapters. The 156 mm clamp adapter will accept all existing LMB-4 ring adapters. the lens being used. A 162 mm clamp adapter is available for the popular Angenieux Optimo 24-290 and 28-340 zoom lenses. Other sizes available are 136 mm, 134 mm, 125 mm 114 mm, 110 mm, 104 mm and 95 mm.

SET OF MATTES

The LMB-6 has its own set of five The LMB-6 can adapt to various lens mattes that can be clipped onto the hood, helping to reduce unwanted glare and reflections according to the focal length of

SECURING LOOP

For shooting situations where safety is paramount, such as when the camera is flying on a crane, the matte box can be secured to the camera rig using a karabiner fixed through the 10 mm securing loop located next to the LMB-6 hood.



ACCESSORY DEVELOPMENTS

New products extend the breadth of the Pro Camera Accessories range

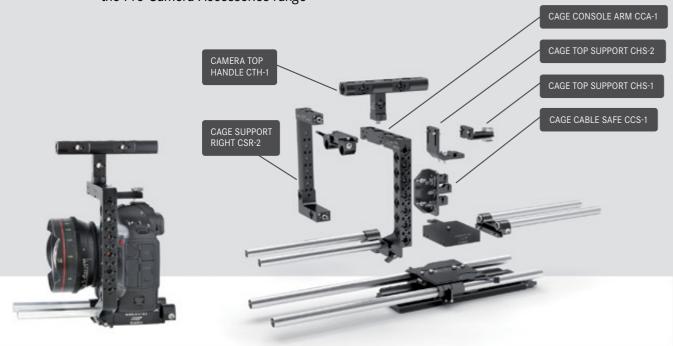


PLATE FOR CANON 1DC AND 1DX

ARRI is introducing a base plate solution that allows standard 15 mm accessories to be used with the top-of-the-range Canon 1Dc and 1Dx DSLR cameras; these models have deep bases that prevent them from working with the classic Mini Base Plate is compatible with the ARRI Cage System II and makes use of features on the base of the Canon cameras to prevent body rotation.

CAGE SYSTEM II

The new cage system is designed for cameras that have a base lower than the 15 mm LWS rod standard and that cannot be used with the MBP-3-based ARRI Cage System I.

Cage Console Arm CCA-1 offers a full cage arm without compromising access to the battery pack on DSLR cameras. Accessories and MBP-3. The new plate for the 1Dc and 1Dx handles can be attached via a 3/8" ARRI interface, and an optically centred 15 mm LWS console can be top-mounted.

> Cage Support Right CSR-2 attaches to the Cage Console Arm, providing uncompromised grip and additional mounting options for accessories

> Cage Cable Safe CCS-1 offers protection to internal electronics against accidental stress when using HDMI, USB or audio cables.

> Camera Top Handle CTH-1 attaches via a 3/8" ARRI interface and provides grip and various 3/8" and 1/4" interfaces for mounting

> Cage Top Support CHS-2 or CHS-1 links the top of the cage system to the upper base of the camera, preventing any flex in the camera rig.

ROD MOUNTING BRACKET RMB-2



The RMB-2 can be attached to the 3/8-16" interface on ARRI film and digital cameras, or any camera fitted with the ARRI Cage System. The RMB-2 holds a standard 19 mm rod or, using a reduction insert, a 15 mm rod, and is ideal for mounting accessories such as lens motors without cluttering up the base plate.



MMB-1 TO MMB-2 **ADAPTER RING**



RECORDER/BATTERY **BRACKET**



156 mm -114 mm CLAMP ADAPTER FOR CANON 14 mm T3.1 CN-E



with the MMB-2 range of clamp-on rings and the flexible light protection system, this ring can be used directly on lenses with a 114 mm their power sources to be integrated into front diameter.

Making the Mini Matte Box MMB-1 compatible Mounting to ARRI bridge supports and angled as required via a rosette-based hinge, this bracket allows Codex or other recorders and lightweight support setups.

Designed around the Canon CN-E 14 mm T3.1 wide-angle prime lens, this clamp-on ring allows the LMB-4a and LMB-6 lightweight matte boxes to cover the full sensor size of EF mount cameras.

ACCESSORIES AT ALTITUDE



Adi Geisegger of the Austrian production camera movements near to the ground and company Parafoto recently used an ARRI provides a solid handle for carrying the Pro Camera Accessories rig with a Nikon camera. Once I had the cable holder D800 DSLR camera at 6,500 m on a balloon and paraglider shoot, working in without having to keep checking the HDMI temperatures of -40°C. He notes, "I like the plug. I also tested a Nikon D4 with the ARRI new shoulder pad for the MBP-3, it fits Cage System and mounted a couple of exactly and I found the counterbalance of gyros to it, capturing some very nice images the complete rig to be very good with the from a tandem paraglider." D800 and a 24-70 mm lens. The top handle is also very useful as it allows you to make

properly adjusted it allowed me to work



The ALEXA Fiber Remote Option is a version of the ARRI ALEXA camera that has been adapted specifically for the multi-camera environments typical of broadcast studio or OB van productions. Using a certified system that includes CopperHead from Telecast Fiber Systems, ALEXA and ALEXA Plus models can be connected through a SMPTE 311M fiber connection and remote controlled for live painting of the image. The system introduces ALEXA's exceptional exposure latitude, highlight and shadow details, color rendering, natural skin tones, high sensitivity and low noise to an entirely new set of applications.

Freelance DP and cameraman Nat Hill, who frequently works on high profile, live-performance shoots, immediately saw the potential of the Fiber Remote Option to significantly increase the production value of televised music events. He learned of the system while researching options to integrate large sensor cameras into the extensive OB coverage of a spectacular Coldplay concert at the Stade de France in Paris. United Broadcast Facilities in Holland, working with Amsterdam-based rental house Camalot, got hold of prototypes of the ALEXA Fiber Remote Option for the shoot.



"I knew that the ALEXAs would make a massive difference to the whole look of the production," says Hill. "The shallow depth of field is beautiful and the latitude was a huge bonus, especially as the show included moments when the only light in the stadium was from the wristbands worn by the audience, yet at other times pyros lit up the sky in bright flashes. This would present most digital chips with a real challenge, but is something that the ALEXA has been designed to capture with ease."

Four ALEXA cameras were put to use on the shoot, working seamlessly alongside 17 other HD cameras as part of a vast OB setup. Three of the ALEXAs were equipped with the Fiber Remote Option and were positioned to the front of the stage for a master wide shot, behind the drum-kit for tracking reverse operated wirelessly on a Steadicam.

Hill continues: "Slow motion was important on this project and we were able to record 50 fps Log C in the camera, while the director could watch a 25 fps fully graded image in the OB truck, giving him yet more options in the edit. The ARRI system allowed



the vision engineer in the truck to have in a gallery, reducing time in the grade to a control of iris, color balance, blacks, gamma, shutter, knee, gain and detail. This all helped to achieve the desired look of the concert on site and to match the ALEXA image and setup with the Sony broadcast cameras."

Another opportunity to use the Fiber shots, and in the pit to stage-left for artistic Remote Option came when Hill was asked by close-ups of the band. The fourth ALEXA was Fulwell 73 Productions to film performances of pop star Robbie Williams in a London recording studio as part of a Sky interview special. He notes, "From the outset I wanted to shoot on 35 mm chip cameras and having gallery." used the system for Coldplay, I knew that the ALEXA Fiber Remote Option would allow Sky and Fulwell 73 to watch fully graded images

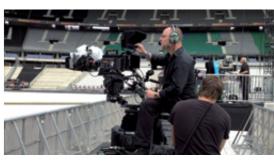
Three ALEXAs with the Fiber Remote Option were put on pedestals in a 48-squarefoot studio, with Robbie Williams in the center of a circle of track and his band around the perimeter. "The tracking camera had to be cable-less," says Hill, "but the other two were linked via a SMPTE fiber to the Telecast RCPs, giving the vision engineer live control of image settings and permitting graded images to be recorded on solid state recorders in the













KEY CONTACTS

Europe, Middle East, Africa, India

Arnold & Richter Cine Technik GmbH & Co. Betriebs KG Headquarters Munich, Germany +49 89 3809 0

ARRI Lighting Solutions GmbH Berlin, Germany +49 30 678 2330

ARRI Cine + Video Geräte Gesellschaft mbH Vienna, Austria +43 1 89 20107

ARRI Italia S.r.I. Milan, Italy +39 02 2622 7175

ARRI CT Limited London, Great Britair +44 1895 457 000

Australia / New Zealand

ARRI Australia Pty Limited Sydney, Australia +612 9855 4300

www.arri.com
ARNOLD & RICHTER CINE TECHNIK
GmbH & Co. Betriebs KG
Türkenstr. 89 · 80799 Munich
Telefon +49 89 3809 0
Fax +49 89 3809 1244

Published by:

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

Editor & Chief Copywriter:
Mark Hope-Jones

Additional contributors:

Natasza Chroscicki, Siobhan Daly, Markus Duerr, ELP, Darina Enz,

Jeanfre Fachon, Syna Greiser, David Heuring, Emily Huang, Will Loyd-Holmes, Sibylle Maier, Catia Marini, Thorsten Meywald, Judith Petty, Stephan Schenk, Marc Shipman-Mueller, Jon Silberg, An Tran, Philip Vischer, Michael Wagner, Franz Wieser. Markus Zeiler

Editorial Design & Art Direction: polta.co

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Americas

ARRI Inc. East Coast New York, USA +1 845 353 1400

ARRI Inc. West Coast Burbank, USA +1 818 841 7070

ARRI Canada Limited Toronto, Canada +1 416 255 3335

Asia

ARRI Asia Limited Hong Kong +852 2571 6288

ARRI China Co. Limited Beijing, China +86 10 5900 9680



Following the rapid industry adoption of the color-controllable L7-C and single color L7-T fixtures, ARRI has released two new additions to the popular L-Series range of LED Fresnels: a tuneable tungsten model, the L7-TT, and an optional active cooling version of all L7 models.

As a tuneable 2600 K - 3600 K tungsten version of the popular L7-C, the L7-TT (Tuneable Tungsten) is more than 20% brighter than the L7-C, while maintaining the same size and weight. It offers the same calibrated color quality and adjustable green-magenta point as the L7-C, and is particularly suited to applications requiring precise color matching to conventional tungsten lampheads.

Additionally, all versions of the L7 are premiering an active cooling option with reduced size and weight, making them perfect for location shoots, portable lighting kits and space-constrained studios.

L-Series fixtures can reduce electricity usage by more than 75% and further savings are brought about by the exceptional life span of the LED light engine, which lasts around 200 times longer than a conventional tungsten lamp. The reduced maintenance and minimized power distribution combine with other cost-saving attributes such as built-in dimming to provide a rapid return on investment for both studio and location applications.

L7 lampheads provide the same light quality and simplicity-of-use as conventional tungsten Fresnels, and can easily be used alongside them. This allows studio facilities to make a gradual transition from older tungsten fixtures to the L-Series, spreading the cost over a longer period without workflow inefficiencies or changes to working practices.



L-SERIES ADDITIONS

The ARRI L7 range of LED Fresnels now offers a tuneable tungsten model and active cooling





M90 - THE SMALLEST BIG LIGHT ON SET

The new M90 is the latest fixture in ARRI's M-Series of HMI lampheads with patented MAX Technology. Similar in size and weight to a 6K PAR, yet with light output that equals a traditionally lensed 12K PAR, the compact but punchy M90 could easily be the biggest light you need on set.

ARRI MAX TECHNOLOGY. TRULY CINEMATIC.



