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# ARRI AMIRA WORKSHOP

On a cracking summer's day in mid June, the GTC workshop for the eagerly anticipated new ARRI camera, the 'AMIRA', a little sister to ALEXA, was held in the cinema at the National Film and Television School (NFTS) in Beaconsfield. It was also open to NFTS cinematography students for them to take advantage of seeing the new cameras and speaking to the ARRI reps on their own doorstep. I was curious to see what ARRI brings to the table in this current climate where so many cameras pop up in a blink of an eye from every conceivable manufacturer. Also why a 2K camera, when everybody else seems to be heading for 4K?

The morning session was presented by Business Development Director Milan Krsljanin from ARRI, accompanied by Marketing Executive, Siobhan Daly, and Business Development Manager Mark Dollery. They brought us two AMIRAs for demonstration, one prototype model and one production model. Many of us have seen the camera at trade shows since its announcement last year, but the workshop gave us an opportunity to ask questions and play with the cameras in much more detail.

We are familiar with 800 ISO as a native sensitivity on many digital cameras now. Milan explained that the decision originally came from the discussions with

productions during the development of their next generation of digital cameras. There was a demand for saving time and money on production costs and, in particular, the ability to work with lower light levels.

We watched a couple of clips,

including the AMIRA showreel, but the first was an aerial shoot over downtown Los Angeles shot from a helicopter with their new Ultra Wide Zoom UWZ 9.5-18/T2.9 in both day and night. The details were rather impressive. The night cityscape in particular was so clean and the myriad of lights stretching into the horizon was stunning. It was shot by Bill Bennett ASC on ARRI Raw originally and we watched it as an HD ProRes HQ 422 file. As Milan pointed out, there was very little distortion even on the wide end of the zoom, 1% on 9.5mm and 0.1% on 18mm, to be precise. This lens would be a perfect companion for AMIRA, although there are many other choices due to the four replaceable mount options, namely, B4, PL with/without LDS(Lens Data System) and EF.

ARRI never take things lightly. Whatever they do, they do it to perfection. The winners of the Academy Award for Best Cinematography for the last three years were all shot on ALEXAs; 'Gravity' this year, 'Life of Pi' last year and 'Hugo' a year before that. Most of the TV dramas are shot on ALEXA. AMIRA has the same sensor as ALEXA. This means that features such as Log C, ARRI skin tone, and 14-stop dynamic range that were previously reserved for high-end productions are available in a housing that is much more friendly for ENG work. You have the ability to shoot ALEXA





quality image for the small screen but also you have scope to shoot for the bigger screen with the same camera. As ARRI suggests, AMIRA's highest recording mode, 2K ProRes 4444 12bit with Log C, can be used for any distribution format. In this sense, AMIRA could accommodate a greater variety of productions than the ALEXA range.

Milan explained, however, there are three main differences between ALEXA and AMIRA: firstly, AMIRA cannot record ARRIRAW; secondly, the AMIRA sensor isn't 4:3 as with ALEXA XT, therefore it cannot do anamorphic de-squeeze; and thirdly, AMIRA doesn't have Plus model/Crew functions available, i.e. there are no built-in multiple connectors for wireless remote control. With respect to the two latter points, it would be no different to using a standard ALEXA. If you need to use a lens control

system, you could always use a separate system such as a Preston. AMIRA is designed for a single operator for more of a documentary-style work.

At tea breaks and lunch time, we gathered in the foyer to play with the cameras. Everyone tried it on the shoulder for a handheld feel. I am a 5'3" female and had a go with it after a very tall cameraman, but by sliding the dovetail underneath and adjusting the eyepiece mounting brackets, which is connected to the sliding top handle, I could find a combination that would fit me perfectly just as the person did before me. These features could also be useful for compensating the weight shift from using a different lens or adding an accessory. It is a quick and easy way to balance the camera. In terms of the weight of the camera, it was heavier than I expected,



but it is made of solid metal for robustness and durability as with ALEXA.

The OLED viewfinder was very sharp and clear. It was easy to see the focus and the contrast of the scene. The fold-away LCD monitor, which has access to the camera functions, is a particularly useful feature for high and low angle shots when you cannot physically

look through the eyepiece. It can also be flipped outward, so that a director could be watching the image on the LCD screen right next to you, while you are looking through the viewfinder as an operator at the same time.

Before anybody had a chance to ask, Milan confirmed that built-in NDs on AMIRA are full spectrum. This is good



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news because it negates the necessity to carry a matte box and glass filters all the time. ALEXA XT was the first model to introduce full-spectrum NDs in ARRI cameras, but they go behind the lens. I personally think AMIRA's built-in NDs might be more convenient in some circumstances. If you are filming on a tracking vehicle all day and the camera is rigged up with a zoom lens with all the lens motors attached to it, it might not be possible or you don't have time to change a ND filter behind the lens. Using IRNDs and/or a Hot Mirror in the matte box is an alternative but may cause a weight shift when you take out or add a filter, and a potential colour tint in the image. Flicking a switch to change a ND filter, on the other hand, would be much easier and there is no potential balancing issue. There is no colour issue, either, as these built-in NDs are specifically

designed for the AMIRA's sensor. Moreover, the AMIRA is lighter and slimmer than the ALEXA. It might be beneficial to use the AMIRA, in some circumstances, from a weight point of view.

The switch design on the body is very simple and clear, giving the operator a direct access to the key functions. It looks like there are enough user buttons to add many more functions that you might need, and all the dials and switches seem to be in the right places. Even the position and the angle of XLR sockets for sound seems sensible and well thought through.

Milan went on to explain other key features. The AMIRA records in minimum of 10bit, which gives you a greater colour pallet and dynamic range than typical 8bit broadcast cameras that are

widely used at the moment. Milan also said you can go up to 1600 ISO safely before you start worrying about the noise level. The newly developed CFast 2.0 cards seem to make the workflow manageable even when shooting on 2K at ProRes 4444. It has a write speed of up to 350 MB/s and can store 2K footage at up to 200 fps. SanDisk is currently the only manufacturer that meets ARRI's stringent criteria to be used in AMIRA. If, by any chance, the camera loses its power halfway through the recording, a SanDisk CFast 2.0 will let you keep the footage up to the point of losing power, rather than losing the whole take.

AMIRA is the first ARRI camera that gives you full use of a 3D LUT facility in camera, which could potentially simplify the post-production process in a tight schedule and you can still be sure that the colours are as you intended in the final product. The easiest option would be the preloaded 3D LUTs. Alternatively you can create one or adjust preloaded ones directly in-camera, or AMIRA Color Tool, which is free to download from the ARRI website, allows you to create, modify and store AMIRA Look Files outside the camera. However, by using a third-party grading software, you can create a custom-built 3D LUT with much higher precision. You can then load it during

the prep and even modify it in-camera while filming. Unlimited creative looks are available for both destructive and non-destructive workflows. Furthermore, some editing software, when loaded with Log C footage, can display it with the LUT applied already so that editing can be done with the intended look rather than leaving it till the grade.

ARRI also ensures the AMIRA's future-proofing with 'FPGA' (Field-Programmable Gate Array), a term I learnt on this workshop. It allows them to upgrade the camera later on, so you can be sure that it is a long-term investment with AMIRA. If ARRI thinks HD and 2K are good enough for a while, perhaps AMIRA is going to be a good work horse for some time to come.

There are three models of AMIRA: Economical (Eco), Advanced and Premium. The main differences are the restrictions on the resolution, type of codecs and the frame rate. However, you can buy a temporary license to upgrade on a weekly basis. If all you need is to shoot up to HD ProRes 422 and 100fps, you would only need Eco. The weekly rate for an upgrade from Eco to Advance is €220 and €490 to Premium. If you need to go up to HD ProRes 422 HQ and 200 fps, you would need Advanced, which

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The ARRI AMIRA is a versatile documentary-style camera that combines exceptional image quality and affordable CFast 2.0 workflows with an ergonomic design optimized for single-operator use. Easy-access controls and an intuitive menu structure make working with AMIRA simplicity itself.



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costs €3,300, and the weekly rate for an upgrade from Advance to Premium is €295. For €7,350, you can have Premium, which can record up to 2K ProRes 4444 and 200fps. It would depend on what your shooting demands are, but Milan said all the people who placed an order so far chose the Premium model.

At the end of the presentation, Milan showed us some stills of DoP Mike Carling, using AMIRA on a series of commercials for Jeep and the National Geographic Channel, and also DoP Susan Gibson, shooting in Kenya with AMIRA for 'One Planet: Mountains and Grasslands'.

After a pleasant lunch with more chatting, GTC member Mark Langton, presented his experience with AMIRA in the field. He gave us his views on pros and cons of using the AMIRA on a three-camera shoot with Directors UK at Covent Garden in April.

On the pro side, he seemed impressed with its usability as well as the ergonomics. Even though he was thrown into the deep end with a brand new camera and no prepping, he was able to shoot some nice footage straight away.

In terms of ergonomics, he made a comparison with the Canon C300, which is a camera he uses regularly but considers front heavy when used handheld. He also noticed no obvious rolling shutter effect no matter how much he tried to induce it and that the battery life was on par with ENG cameras. Mark thought the body felt solid and EVF was sharp for critical focus. He also felt that the ability to do in-camera grading, record at 10-bit as opposed to 8-bit on the C300 and selectable frame rate at the flick of a switch were all positive features.

On the negative side, he thought AMIRA was quite heavy. The body with PL lens mount weighs 4.1kg (9.2 lbs). There is also no 50Mbit/s option to satisfy BBC's requirement of lowest acceptable data rate. Features such as 2K, Log C and 200 fps are not included in the basic model. There is no internal colour bars generator with Pluge for a correct EVF set-up.

Also in the afternoon, some of us took the cameras outside into bright sunshine and shot a few high contrast scenes with skin tones. We went back into the theatre and watched it back on the big cinema screen. I was surprised how nice the AMIRA managed to make an ordinary scene look. It had a nice tonality and details in the highlight. Both the face and the blurred background looked very pleasant.

Now ALEXA has a companion. As Milan pointed out, lens could influence the look in film days, but today a sensor determines the look. With AMIRA, the ARRI look is no longer reserved for high-end productions. Milan said that perceived resolution very much depends on the viewing distance, however, our eyes can tell the difference on nits, a measurement of brightness over a certain area such as a TV or cinema screen, and that of contrast at any distance. Furthermore, higher contrast improves perception of image sharpness and saturation. In other words, we need better pixels, not more pixels to make stunning pictures. This is a camera that puts the beauty of an image first rather than being caught up in the rat race of technical specs.

In this digital revolution era, maybe we are witnessing a strange phenomenon, where a high-end digital cinema

camera and a trusty old Digi-Beta that once dominated the video world for so long are merging into one - a film-style camera with added video functions such as Zebra. Incidentally, some of us also noticed a slight lack of students' presence in the workshop. There was only one student turning up briefly at about 3pm. Maybe it had something to do with the England's first match in the World Cup?!



GTC member Mark Langton presented his experience with AMIRA in the field.



### An extract from Mark's conclusion on AMIRA:

"In my opinion the AMIRA could be the missing link to today's creative demands: satisfying the director who still wants the C300 / 5D look for interviews and pretties, but the AMIRA can also have the fast response of an ENG camera, for fast-changing or unpredictable situations.

Its physical design means no more expensive and ridiculous shoulder rigs with cables everywhere just waiting to get snagged - a return to how a professional television camera should be.

We don't fall for all the 4K hype. I've yet to meet anyone who thinks the ALEXA doesn't have enough resolution"