New Year’s Eve
Interview with Charles Minsky, ASC

The Three Musketeers
Paul W. S. Anderson and Glen MacPherson, CSC, ASC, on reinventing the adventures of D’Artagnan in 3D

Sinbad
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Tom Sawyer
2-perforation makes widescreen 35 mm affordable for remake of boyhood classic

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The ALEXA family grows
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VisionARRI would like to thank the following contributors: Susanne Bieger, Mark Hope-Jones, Uwe Holt, Ingo Kingspan, Wendy Mattauck, Judith Petry, Angela Readwisch, Andrea Rosenwith, Michelle Smith, Sabine Welte
VisionARRI: How did you come to choose ALEXA for this film?

Charles Minsky: Very early on in testing the ALEXA it became clear to me that it was a real game-changer. I shot tests in the daytime, at night, in the studio and in Times Square, and went through the full DI process. We really scrutinized what the ALEXA looked like compared to film and we were just blown away. I was very excited and I said to Garry, ‘Listen, I know we’ve done every other movie on film and this is outside our comfort zone, but I think it could really have a positive effect on the movie.’ I explained to him that the ALEXA could make all the night shooting we were going to do much easier. He wasn’t opposed to it, but he was concerned about making the actresses look good, so I had to do quite a lot of tests to make sure he felt comfortable. As we went along he saw that the ALEXA wasn’t like earlier HD cameras that just looked brittle or excessively sharp – instead it seems to have the same quality as film.
VA: And of course with such an amazing cast you had a lot of top actors and actresses to make look good.

CM: Literally every few days we would get a new actor, or two actors, or three actors; it wasn’t like lighting the same person all the time. Each new actor would also mean new make-up, a new hairdresser and new wardrobe person, so it became quite a challenge. To keep them all looking good you’ve got to light them differently and I didn’t really have a chance to do any tests on them beforehand because they simply weren’t available, so it was clear that we would just have to do it on the spot.

VA: As you say, there were plenty of night scenes in the movie. Did you go above the EI 800 base sensitivity at any point?

CM: Yes. I remember we were halfway through a scene on a rooftop, 22 stories up, and suddenly all of the buildings around us just turned off their lights. Luckily we had already captured enough shots to lay the background lights in later, in post, but all of a sudden it was just much darker, so we went up to EI 1280 and it was beautiful. I was very pleased, I was thrilled actually.
VA: Was ALEXA’s dynamic range also an important factor?

CM: One of the things in cinematography that you look for is shadows; you look for blacks and with ALEXA the blacks are extremely rich. Even when I went to EI 1280, I didn’t have to worry about them. I think the bigger concern for me was the exteriors. We were shooting on snow, with a lot of light bouncing everywhere, and my experience with digital in the past has been that the highlights get very hot and you lose all the definition in the light. With ALEXA it’s much easier to shoot in high contrast situations. I felt like I had complete control and could retain as much detail as I wanted.

VA: What was your recording solution and image workflow?

CM: Basically the workflow we decided to go with was one that New Line had used on an earlier film. We recorded to HDCAM SR tapes, backed them up, sent them to the lab and the lab would transfer everything. The only time we recorded to the on-board SxS PRO cards was when we were shooting Steadicam. Garry loves to have dailies, so every day we’d have a truck follow us no matter where we were. Even if we were shooting nights we’d project dailies before the call time.

VA: Did you find that using ALEXA had much of an impact on your lighting?

CM: The idea that shooting with HD you don’t need lights just isn’t reality. Cinematographers deal with lighting emotion into various situations; you need lights because you’ve got to have control and continuity. That fundamental process hasn’t changed; the difference is that I’m lighting to a monitor in a dark environment and of course the immediacy of that is a huge advantage. If I have a question in my mind about whether to put in or take out a double, or turn a light on or off, I can see it right there in front of me and make a decision. I tend to ‘ball park’ the lighting on set and then go to the tent to figure out the subtleties of how I want to refine it.

VA: You shot in Times Square on the real New Year’s Eve with 13 ALEXAs, which was more than ARRI CSC had ever sent out on one job. How did that come about?

CM: That was before the main shoot, and as we were getting ready for it we realized that we would need a lot of plate cameras. I thought we’d use several different types of cameras, but when I talked to ARRI CSC they just asked how many we needed. I told them

“I ACTUALLY TOOK ONE OF THE CAMERAS MYSELF AND WALKED THE STREETS FOR EIGHT HOURS. I’M A NEW YORKER, BUT I HAD NEVER BEFORE EXPERIENCED NEW YEAR’S EVE IN TIMES SQUARE AND IT WAS FABULOUS.”
we needed 11 or 12 and they said they’d come back to me within a day. One day later they called back and said they could do it, by which time I’d realized I actually needed 13 cameras. They said OK, you can have 13 ALEXAs, which was fantastic because it made it so much easier than having two or three different camera systems. The quality was incredible and I know our visual effects supervisor was thrilled with what she had. It worked out really great and we were all very happy.

**VA:** It must have been amazing to be there and capture all of those New Year’s Eve emotions for real.

**CM:** I actually took one of the cameras myself and walked the streets for eight hours. I’m a New Yorker, but I had never before experienced New Year’s Eve in Times Square and it was fabulous, it was just great. At around the time when the ball drops it got very quiet and there was just a magical atmosphere, with everybody getting along with each other and being so friendly. I think that feeling is what Garry loved about the story. Everybody’s got their own thoughts and issues going into New Year’s Eve; building up to Times Square all of the characters have their own stories and then when the music starts it’s like OK, here it is – one night that might change your life, or might not.

Mark Hope-Jones

“**WITH ALEXA IT’S MUCH EASIER TO SHOOT IN HIGH CONTRAST SITUATIONS. I FELT LIKE I HAD COMPLETE CONTROL AND COULD RETAIN AS MUCH DETAIL AS I WANTED.**”
Interview with director Paul W. S. Anderson and DoP Glen MacPherson, CSC, ASC

Director and producer Paul W. S. Anderson’s spectacular new take on *The Three Musketeers* in real stereo 3D, produced by Constantin Film and Impact Pictures, is nothing short of a reinvigoration of one of the most traditional but rather timeworn film genres. The filmmaker, previously known for futuristic dystopias such as the *Resident Evil* franchise, and his DoP Glen MacPherson, CSC, ASC, chose ARRI’s ALEXA digital camera system for this undertaking. Postproduction of this large-scale British-German collaboration was completed in the brand new 3D grading suite at ARRI Film & TV in Munich.
VisionARRI: As a filmmaker you are not only exceptionally successful but also extremely versatile, taking on the role of director and writer, as well as producer. Which of these do you find most satisfying?

Paul W. S. Anderson: That keeps changing. When you’re working on a screenplay, you are usually alone with your thoughts. As the director of a film you discuss your ideas with hundreds of people. At some point you get tired of talking to that many people and you can barely wait to get home, to close the door behind you and focus on your own thoughts. After a few months of that, with no one interested in what I’m thinking or wishing for, it’s nice to be back on the set shooting a film. As a writer and a director, I can enjoy the best of both of these working environments. But in the end it’s part of a continuous process for me. I’m a very visual person in the way that I think. When I’m working on a script, I’m more or less already in preproduction on a project, especially if it’s an action movie. Then I think about how to capture all this with the camera.

Even as a child I wanted to become a director, at first without knowing what that entails. And since no one came by to entrust a young guy like myself with a film or a script, I wrote my own screenplays. That’s how I became a screenwriter. And the more I learned about directing, the more I wanted to be in control of the entire process. That’s how I became a producer. All of that was just a way for me to get on the set, next to the cameras and the actors.

VA: Your most recent film, a new take on Dumas’ The Three Musketeers, doesn’t – at least at first glance – fit into your previous body of work except for its action elements. Up to now the name Paul W. S. Anderson has been associated with apocalyptic scenarios and not with cloak and dagger period pieces. Was it an unusual challenge?

PA: Honestly, in terms of the method it doesn’t really make a difference whether you’re shooting a period piece or a sci-fi film. A sci-fi film is a period piece too, it’s just set in the future. In both cases you can’t just step out onto the street and start filming. You have to design each detail, each location, each costume and each mode of transportation deliberately. You create a unique world, whether it’s a futuristic scenario or the illusion of France in the 17th century.

VA: Knowing your body of work, it’s probably safe to assume that you weren’t interested in making a stereo 3D version of a traditional musketeer film?

PA: After the Pirates of the Caribbean films, which have redefined the genre, we needed a fresh and unique take in order to make an entertaining film that young audiences today are willing to see. Our idea was to portray the musketeers as a team of super spies confronted with nearly unsolvable tasks, like James Bond or Ethan Hunt in Mission Impossible – just 400 years earlier. The makers of Pirates of the Caribbean used the element of magic to elevate their story to an interesting and new level. In our case it’s technology that is moving our story along. We handed our heroes the high tech tools of the 17th century to complete their tasks. And so it’s no surprise that at the very beginning of the film they break into Leonardo da Vinci’s secret hiding place in Venice, where he kept all the designs and drafts of machines he hadn’t yet made, which become the source of the technologies of this film.
VA: You chose ALEXA digital cameras and Master Prime lenses from ARRI, rigged onto CAMERON-PACE 3D rigs for this film. What were the reasons behind these choices?

PA: After working on Resident Evil: Afterlife in 3D, Glen and I wanted to have the best camera system for this film. The ALEXA cameras don’t just reflect where today’s stereo 3D technology is, they are defining it. That’s why we went to ARRI last year and literally grabbed the first ALEXA models straight out of the hands of the engineers during manufacturing and put them on our rigs.

VA: It’s often said that lighting for 3D films is quite different compared to regular films. Can you confirm that?

Glen MacPherson: I don’t see a big difference. Many people say you need more light because of the depth of field and the 3D effects. But I can’t really confirm that. The biggest challenge was shooting in these old castles here in Bavaria. The delicate tapestries and the furniture prohibited the use of floodlights, for the most part. We had to work with a very low level of lighting and we tried to make do in those huge rooms with just a few lamps. That’s when the ALEXA, combined with the Master Primes, showed its enormous potential.

VA: What can you say about the composition and the framing of the film?

GM: The composition overall was very symmetrical, mostly with a large field of vision.

VA: What look were you going for?

PA: I wanted to make a very colorful, bright and enjoyable film, a real popcorn movie. Glen and I developed a look while working on our last two pictures that I would call “hyperreal.” Most of all I wanted to make a real 3D film. When the image is bright, you get much more depth. That’s true for the night shots as well, when there are only torches in the frame. Even though the shots are extremely light and bright, you still know that they are night scenes. We shot in a historical environment but gave it a look that’s fresh and modern so that it also appeals to a younger audience. Having up to eight ALEXA cameras on the set made it possible to create this hyperreal, saturated and very colorful look, which, in my opinion, is perfect for this film – giving it an expensive, glossy look.

VA: Are there set rules for the use of lenses on stereo 3D films?

PA: What I liked about Glen from the start was that he warned me about experts who insist there are rules for 3D. One frequently repeated rule, for example, is not to use lenses with a long focal length, because they apparently reduce the depth of field so that the 3D effect gets lost. On our first 3D project we tested whether or not that was really true. We even shot with 150 mm lenses and found that you can still distinguish between 3D and 2D. We continued to question these rules. We shot a fight scene with 75 mm lenses, which is rather...
unusual. At the same time I often drove Glen insane with my insistence on using wide lenses as often as possible. It’s very effective to shoot a close-up with a 150 mm lens, if the story calls for it, and then to cut to the wide shot. That’s when the 3D effect really grabs you.

**VA:** How do you balance fast action sequences and the effect that stereo 3D has on the audience during editing?

**PA:** The biggest impact of 3D is probably on editing. Comparing my last 2D film, *Death Race 2*, to *Resident Evil: Afterlife*, my first 3D project, the edit list for 3D was only half as long – even though both are action films. In order to give the audience the possibility to really get that sense of space, you can’t cut as quickly as we used to. This affects the actors the most, because they have to get used to longer and more choreographed action sequences. For *The Three Musketeers* the actors had to take fencing lessons for several weeks so that the 3D fight sequences would look believable.

**VA:** Does 3D affect the length of a production?

**PA:** We shoot our films very quickly; that didn’t change in 3D. We filmed our last three films in exactly 55 days. My co-producers, Jeremy Bolt, Robert Kulzer, and I joke about that. We gave up on shooting schedules. What you need is a vision that you can follow. For each day we’re on the set we have a plan. That doesn’t mean we follow it slavishly, but we at least have one. That gives you a sense of security and gets you through the day.

**VA:** That sounds like there is little room for spontaneous decisions?

**PA:** On the contrary, but you have to make spontaneous decisions quickly. If you’re shooting films at a fast pace you are constantly confronted with situations that you have to react to quickly. For example, the weather in Bavaria is like the weather in England, it changes almost hourly. Sometimes it rains, sometimes there’s sunshine, sometimes there’s fog. Poor Glen had to be prepared for that so we could keep shooting.

**VA:** The Three Musketeers was graded in the new 3D grading suite at ARRI Film & TV in Munich. What was your experience?

**PA:** Perfect preparation thanks to Harald Schernthaner [ARRI Head of Digital Filmworks] and Christopher Berg [Postproduction Supervisor] made this the best postproduction experience I can think of. We were the first film crew that got to enjoy the technological capabilities of the brand new 3D grading suite at ARRI Film & TV. Glen was in Munich a few days before I arrived to perfect the depth grading with Constantin Seiler [Post Stereographer] and to complete the color grading with Traudi Nicholson [ARRI Lead Color Grader], which went exceptionally well. Traudi is an incredibly talented color grader. In particular, the speed and flexibility in the workflows of the ARRI team convinced us. For example, when we received VFX data updates from Toronto [Mr. X Inc.], they were online and projected onto the large silver screen in the 3D grading suite an hour later. Later, in LA, the test screenings confirmed just how good the results were. The reactions were extremely enthusiastic.

**VA:** Where do you see the future of 3D in cinema?

**PA:** The production of feature films in 3D in terms of technology is, at the moment, certainly the most dynamic realm of international filmmaking. The 3D workflow is currently being redefined more or less every six months. And ARRI’s camera technology and postproduction capabilities are setting international standards, which is the reason we chose to post the *The Three Musketeers* here in Munich. Paying higher ticket prices the audience rightfully expects higher quality, meaning films that are actually conceived as 3D productions need to be designed and executed to make good on the promise of providing a unique viewing experience.

Ingo Klingspon
As of ALEXA Software Update Packet (SUP) 4.0, ALEXA cameras have been able to apply custom ‘looks’ to manipulate the image output for different applications and individual creative preferences.

ARRI Look Files are XML files that can be created with a MAC OS X application and then loaded into an ALEXA camera in order to modify the look of images coming out of that camera. They enable DoP to define various looks for a production and view images on set that are as close to their final intentions as possible. A look can be previewed on monitors or recorded into the image; either way all the associated metadata travel embedded in the media into postproduction.

Look files are different from look-up tables (LUTs), which change one color space to another, for example from Log C to video. In essence, ARRI Look Files are a purely creative tool and whether they are created by the colorist or by the DoP, they encourage greater and earlier interaction between production and post.

The ARRI Look Creator is a MAC OS X application that can create look files for ALEXA through an easy-to-use interface based on film lab thinking, with printer light settings. This free-of-charge program is currently under beta testing; it can be downloaded at ARRI’s website, along with a quick guide. ARRI Look Files can also be created using Silverstack SET from Pomfort, with other developers planning to release their own applications in the near future.

Each look file is based on a Log C DPX picture grab taken from an ALEXA and imported to the camera; creating looks based on ARRIRAW will be possible in a future software upgrade.

Download the free ARRI Look Creator: www.arri.com/downloads/alexa
In response to feedback from end users and the rapid take-up of the ARRI ALEXA camera system on professional productions of all kinds, ARRI has created a High Speed mode that can record slow motion images using frame rates from 60 to 120 fps.

The 120 fps feature will become available with the release of ALEXA Software Update Packet (SUP) 5.0 and the appearance on the market of Sony’s new 64 GB SxS PRO cards (SBP-64A), which offer a write speed more than two times faster than the current 32 GB cards. Like the ALEXA anamorphic de-squeeze feature, 120 fps functionality can be activated via a license – available through ARRI’s rental facilities.

ALEXA’s High Speed mode can record slow motion images to 64 GB SxS PRO cards using all codecs up to ProRes 422 HQ. The 64 GB cards also allow ProRes 4444 filming at up to 60 fps in Regular Speed mode. High Speed mode retains ALEXA’s unique high image performance including the film-like, organic look, wide exposure latitude and natural skin tones. Since High Speed mode uses the same Super 35, 16:9 sensor area as Regular Speed mode, both the cinematic depth of field and the lenses’ field of view match perfectly between the two modes.

Having full quality 120 fps functionality available on ALEXA cameras will be of tremendous benefit to a range of different production types. It gives directors and cinematographers the opportunity to create slow motion images without the expense and possible delay of having to get a specialized high speed camera to the set. In simple terms this means greater creative freedom, which is the guiding principle of the ALEXA system.
**Sinbad**

*Sinbad* is an Impossible Pictures production for Sky1 HD and BBC Worldwide, with assistance from Nine Network Australia. This epic 12-hour drama follows the mythical exploits of 21-year-old Sinbad, who flee his home town of Basra under a curse and finds himself cast out to sea in the company of an intriguing band of travellers. Serving as cinematographer alongside director Andy Wilson on the first 10-week block of an eight-month shoot – and establishing the look for the series – was Gavin Finney, BSC. The Malta-based production, serviced by ARRI Media and ARRI Lighting Rental in London, made the decision to shoot with ARRI ALEXA cameras.

**VisionARRI: How did ALEXA come to be chosen for *Sinbad*?**

**Gavin Finney:** You always have to look at what the production requires and in this case we were shooting entirely in Malta, which is a hot country with bright sunshine and a lot of dust flying around, so we needed a solid and reliable camera. In addition, the director wanted very fluid, handheld camerawork, so we were after a lightweight system, but also one that could cope with the sunlight and shadow. The ALEXA, with its wide dynamic range and on-board SxS card recording, was exactly what we were looking for.

**VA: And how did you set about visualizing such an ancient legend for today’s young audiences?**

**GF:** It was very much a modern day approach, both in terms of the casting and the way it was shot. We always worked with two cameras and we were handheld about 80% of the time, which kept it very free and loose. The core cast were all fairly new actors, in fact the guy playing Sinbad hadn’t even graduated from drama school, so we wanted to let them go and just follow them, in order to capture some of that energy. If we’d locked the camerawork down on tracks, that in turn would have meant the actors being locked down to their marks.
VA: As well as Cooke S4 primes, you had the ARRI/FUNION Alura 18-80 & 45-250 zooms. What did you think of them?

GF: The Aluras were something I really wanted to try. The normal package of two Optimo zooms is very adaptable, but they are quite heavy lenses. I was interested in a lighter weight alternative because of the speed at which we’d be working. We were doing 40 or 50 setups a day, so having less weight to move around really helps the crew. I also knew it would be good to have a zoom that could go on a crane without overloading it, so the smaller and lighter Aluras looked like a good bet. And technically they were fantastic – very sharp and solid, with no vignetting or irising.

VA: Did you stray from the EI 800 base sensitivity?

GF: I prefer to stay at EI 800 and use IRND filters for day exteriors, even though it is a lot of ND. I did occasionally push it to EI 1600, which was very useful when we had to extend the day. In Malta you’re nearer the equator, so the sun sets very quickly; you don’t get a magic hour, you get a magic few minutes and then it’s dark. Being able to push the camera to 1600 allowed us to wring every second out of that end of the day. It was extraordinary really – the director would be convinced that it was too dark to shoot but you’d look at the monitor and it was fine.

VA: Were your crew comfortable with the camera’s functionality and menu structure?

GF: Yes, the crew adapted very quickly. The ALEXA menu structure is simple to learn and knowing that there is a limit to how much you can change is great; I really hate cameras that have 75 pages of menus and you have no idea what tweaks have been made deep down. Being able to change the frame rate without changing the SxS card was also useful – it’s all timesaving and often means the director can have an extra take.

VA: What were your recording and image workflow solutions?

GF: We shot everything ProRes 4444 Log C onto SxS PRO cards and the quality was excellent. On the camera truck we had a MacBook Pro that we used to do our own backups of the SxS cards. Then the cards went to the editors and they did another backup before we wiped them. The great thing about having our own archive of the original material was that we could check back on anything without relying on DVD rushes, which are usually very low quality.

I used the ALEXA’s frame grab facility a lot, which was something I’ve always wanted in a camera. It means that at the end of a production I’ve got a library of perhaps 500 stills, taken by ALEXA on each lighting setup and captured on a little SD card, which I can then grade at home and use as a starting point for the online grade. It’s great if you’re operating the second camera, as I was, because you can have it as a user select button and quickly capture frames whenever you want.

Sinbad will premiere on the UK’s Sky1 HD channel in 2012. At the time of press, cinematographers that have followed Gavin Finney on subsequent blocks are: Peter Sinclair and Fabian Wagner.

Mark Hope-Jones
As a young boy, Schönfelder was a huge Tom Sawyer fan and fondly remembers growing up with Tom Sawyer und Huckleberry Finns Abenteuer, a German-Romanian-French co-production from the Sixties. Now this timeless classic has been remade for the next generation with an adaptation by screenwriter Sascha Arango that stays faithful to the original text. In the film, just like in the novel, Tom Sawyer (Louis Hofmann) prefers to spend his time with his best buddy, Huck Finn (Leon Seidel), who lives at the outskirts of town in a barrel – much to the dismay of his Aunt Polly (Heike Makatsch), who raises Tom and his half-brother Sid (Andreas Warmbrunn) in St. Petersburg, a town located on the shores of the Mississippi.

With Arango’s well-crafted screenplay, acclaimed German director Hermine Huntgeburt, known for her successful literary adaptations, began to prepare this period piece. She conducted extensive costume and make-up tests, although producer Schönfelder’s main concern was the film’s locations. To him, it was never an issue whether or not the American classic could be shot in Europe; instead, it was simply an issue of finding suitable locations. The river Havel, in Berlin-Brandenburg, quickly proved to be an ideal substitute for the Mississippi. “You just have to look at the latitude of this town Mark Twain is talking about,” says Schönfelder. “What type of vegetation does it have? And you’d be surprised – it’s quite similar to Central Europe. We tend to think of the American South, but that played a greater role in Huckleberry Finn, when there’s a real journey.”

It was far more difficult to find Mark Twain’s St. Petersburg. During the extensive location scout, Schönfelder had reservations because he knew “we couldn’t afford to build the whole town. It would cost one-and-a-half to two million Euros to build a set like that properly, which meant that if we didn’t find a location that had some of these basic elements then we wouldn’t have been able to do it. I was quite concerned until we found this set in Bucharest, which was actually what was left of the Cold Mountain set. Once we found that, I told everyone: now we can make this film.” The set was originally built in the mountains, about a three-hour drive from the capital, for director Anthony Minghella’s Cold Mountain, starring Nicole Kidman and Jude Law. After the film had wrapped, it was moved to the outskirts of Bucharest. “The entire village, except for Nicole Kidman’s house, is still completely intact,” says Schönfelder.

Once the production had the perfect costumes, make-up and locations in place to bring Tom Sawyer and St. Petersburg back to life, it was time to think about how to capture the envisioned images. Schönfelder, Huntgeburt and The Chau Ngo felt that a film look would best capture Tom’s
world, set in the late 19th century, and would be most effective in transporting the audience back to those times. The film was also meant to have a timeless quality, just like Mark Twain’s novel, although the viewing habits of the audience also factored into this, because audiences associate a certain look with period films. The production company was considering a widescreen format for the film, but Cinemascope, anamorphic lenses and 35 mm 4-perforation or even 3-perforation were not an option for budgetary reasons.

Schönfelder recalls briefly having considered shooting the film on a digital format. The ALEXA would have been an attractive alternative, but the producer and his team were convinced “that Tom Sawyer needed a film look, and we wondered how we could afford a potentially horrendous shooting ratio on 35 mm. That’s how we arrived at the 2-perforation option.” The decision to shoot 35 mm 2-perforation afforded the production the desired film look, the widescreen effect and the historical quality at a manageable cost. The film was shot on ARRICAM Studio and Lite cameras with 2-perforation movements and Cooke S4 lenses.

As a recording format 2-perforation has its origins in the Techniscope format of the 1960s, which Sergio Leone used to shoot his spaghetti westerns. With a native aspect ratio of 2.39:1, 2-perforation delivers a cinematic, widescreen look that takes advantage of the full width of a 35 mm frame. As film is advanced by two perforations instead of the traditional four perforations, previously unused space between frames is eliminated. This translates to less stock and, consequently, a reduction in processing costs, with only a minimal reduction in negative area compared to 4-perforation. For Schönfelder and his team this was a crucial consideration: “We knew we would be shooting with two cameras a lot because we were working with children, which meant the raw stock expense was definitely an issue.”

The 2-perforation format also allows longer individual takes, as a single magazine effectively lasts twice as long. Regardless of the shooting conditions, having to reload half as often compared to conventional 4-perforation means that filming doesn’t have to be interrupted as much. This was a great advantage on the Tom Sawyer set because the cast included a number of children, whose working hours are strictly regulated by labor laws. Filming on location in Romania was, due to the weather conditions, rather challenging as well, and so it was indeed a great advantage to change magazines less often and not have to worry about the raw stock usage.

The Techniscope format of the Sixties quickly went out of style, mostly due to the fact that the look was rather grainy. This had less to do with the smaller recording surface than the loss of one generation during processing in the lab. The current renaissance of 35 mm 2-perforation can be attributed to the improved 2-perforation movements for the ARRICAM Studio, ARRICAM Lite and ARRIFLEX 235 cameras, but most of all to the digital intermediate workflow, which eliminates the previous generational loss. The ARRISCAN film scanner scans 2-perforation footage exactly the same way as 3 or 4-perforation material. The DI process for 2-perforation doesn’t involve any additional work or expense and later, the ARRILASER produces perfect Cinemascope prints, just as ARRI Film & TV Services did for Tom Sawyer, having also been entrusted with the production of the release prints.

While 2-perforation brought definite advantages to Tom Sawyer, there were potential hazards, such as the flames of a campfire bleeding from one frame into the next, due to the lack of space between them. “That’s definitely a constraint of the 2-perforation format, but it’s not a critical issue,” says Schönfelder. “If that happens then it can be corrected and in the end, the upside is much greater than the downside. It’s a cost-efficient option and proved an interesting format for us, especially since we didn’t yet want to turn our back on film and also because we knew we would need a lot of raw stock.”

The advantages of the 2-perforation format, the unique cinematic, widescreen look and the excellent resolution – at a substantially lower cost – clearly outweighed the disadvantages.

The fact that the team around Schönfelder and Huntgeburt also went on to shoot Huck Finn on 35 mm 2-perforation indicates that everyone involved was pleased with the results. Shot during October 2011, Huck Finn, just like Tom Sawyer, was filmed in Berlin-Brandenburg, Romania and Cologne. Camera, lighting and grip equipment was provided by ARRI Rental Berlin. Huck Finn is currently in postproduction at ARRI Film & TV Services.

Susanne Bieger
It’s a great accomplishment to accommodate and support two such massive productions at the same time and without any problems. We owe it to ARRI’s logistics department and DI Producer Christian Herrmann,” marvels ARRI Lead Colorist Rainer Schmidt, who was responsible for the 3D color grading of Wickie and the Treasure of the Gods (producer: Christian Becker, director: Christian Ditter, DoP: Christian Rein). DI Colorist Bianca Pieroth supported him on the project. “For me,” Schmidt continues, “it was an incredibly educational journey. Both projects started postproduction here in-house, in the same suite, on the same day. ARRI Lead Colorist Traudl Nicholson, responsible for The Three Musketeers (director/producer: Paul W. S. Anderson, DoP: Glen MacPherson, CSC, ASC), worked the dayshift. We, the Wickie team, worked the nightshift. We met in passing every day, which was a definite advantage because we could share our 3D grading experiences working on a feature film shot on the ALEXA – a task that was still relatively new to both of us.”

Contrasts with less light
Currently, the biggest challenge grading 3D material lies in the technical limitations of 3D projection itself. “Never mind the fact that it can be slightly unpleasant having to wear stereo glasses all the time, a color grader with a 2D background has to get used to how much light 3D ‘swallows,’” says Schmidt. The luminance – the light reflected from the screen – has only one third of the intensity compared to 2D. “This means the contrasts have to be distributed differently during color grading to make sure the image looks correct,” explains Schmidt. “By that I mean, it looks the way we’re used to seeing it in the movie theater. It’s a much more involved process now and it takes more time than on a 2D film.”

Certain tools and functions of the Lustre system make grading for the right and the left eye easier, “but only to a point. The rest a color grader has to adjust by looking at it,” states Schmidt.
On the set two cameras with parallel optical axes record the shots, which means light can enter the lens of one camera slightly earlier than that of the other one, especially during a pan. If that’s the case, then the cameras record different images. This has to be rectified in the DI or the viewer will notice a distracting flicker.

Director Christian Ditter and DoP Christian Rein had very clear ideas about the kind of images they were looking for when they walked into the ARRI 3D suite. “They both knew exactly what they wanted,” Schmidt recalls. “The briefing for colorists on a children’s film is usually short and essentially boils down to two words: bright and colorful. But that wasn’t the case this time. Wickie has its own look, which is colorful but without bright candy-colors. Overall the color balance is leaning more towards pastel tones.”

Schmidt was especially pleased that the production company provided a great deal of leeway during the creative color correction. Thinking about one particularly challenging scene, he recollects, “There was a shot that was supposed to convey a mood of being neither day nor night. We created that feeling by using extremely bright light with very few details in the whites and reducing the color in everything. Breaking the look in that way made the following sequence appear even more colorful.”

It was important to Rein that the look generated in the grade recreated the feel of Kodak 35 mm film stock, which necessitated subtle and specific alterations to the digitally acquired images. “To give you an example, on ALEXA footage gray pavement looks as gray as it does in reality,” notes Schmidt. “On analog film, which is what we’ve been seeing in movie theaters for decades now, it has a slightly yellow, sunny touch. This meant that we had to adjust the digital images in color correction so they would look like the ones we’re used to seeing on the big screen.”

One year prior to the final color grading, Rein conducted camera tests for Wickie, the first big-budget German feature film shot entirely in 3D. Rein summoned not only the electricians, but also everyone from the make-up, costume and set design departments to prepare them for the specific challenges they would face on a digital 3D shoot.

**Depth and convergence leading**

After completing 3D color grading, which took about four weeks, Schmidt spent another two weeks working with Florian Maier, CEO of Stereotec and the stereographer on Wickie, to complete the depth grading. »
Having shot Wickie on the set with parallel optical axes, that is without convergence, the distance between the cameras is what defined the depth of the individual shots. In other words, in stereo 3D the traditional two-dimensional frame becomes a three-dimensional one because of the depth, the distance between the object closest to the camera (such as the actor) and the object furthest from it (such as the background).

This space, between the closest and furthest objects, can’t be condensed or extended in postproduction, but as a whole it can be moved away from or closer to the so-called dead window – the actual surface of the screen. “This is done to avoid focus problems in important areas of the image,” explains Stereographer Florian Maier. “If possible these areas should be on the same layer, in terms of the depth,” to ensure that the images are easy on the eye of the viewer, “who will be led gently from one shot to the next (convergence leading) without disturbing the viewer’s spatial perception.” During depth grading, decisions are made that affect the depth perception. In order to make characters emotionally more accessible for the audience they can be positioned accordingly in the three-dimensional space and the spatial integration can be supported by other means (i.e., with ‘floating windows’).

“In the beginning we didn’t have a Lustre tool to quickly move the 3D image in the three-dimensional space and we felt pressured for time,” reports Schmidt. “But that’s when the tight network of ARRI locations came in handy. I contacted Arne Hastedt from Technical Support DI at ARRI Film & TV Services in Berlin. He developed a program for us and sent it to Munich. With this new in-house software we were able to meet our two-week deadline – a wonderful example of internal ARRI synergies.”

The stereographer and colorist also optimized the color grading to create the best stereo effect. “Here the resolution capabilities and the dynamic exposure range of the ALEXA were crucial and ensured, even in difficult shots, that we could see the texture in the background needed to get the 3D effect,” says Maier.

Using the extremely sturdy 3D rigs made out of carbon fiber from Stereotec, which ARRI Rental had recommended, prevented possible alignment mistakes in the shots that would have had to be corrected in postproduction. “We were off by a maximum of half a pixel,” the stereographer points out.

On reflection, Schmidt is particularly pleased about the “wealth of S3D know-how and expertise that we’ve amassed here at ARRI over the course of those weeks. That’s unique here in Germany. We are now in the process of training our other colorists, bringing them quickly up to speed as well.” Working with 3D experts such as Stereotec was a great advantage in that regard.

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VFX and the deceptive Z-axis

In addition to ScanlineVFX, the company known for water simulations created with its Flowline Software, ARRI’s VFX specialists made a significant contribution to Wickie. The learning curve here, however, was much steeper. “The experience a VFX artist has gained working on 2D films doesn’t help much in S3D,” notes ARRI Head of VFX Dominik Trimborn. “You’re pretty much starting from scratch. Even a standard job such as a simple wire removal becomes a much more involved task. This doesn’t mean that the workflow changes that much, it’s the way you approach a shot that differs. Initially, this situation made it difficult to calculate the amount of time required.”

What makes VFX in the three-dimensional space so much more difficult is that there’s an added dimension: depth, the Z-axis. Therefore the objects in the frame are no longer on one layer but on many different ones. “This means that for every retouching task, for every change made in the frame,” explains Trimborn, “we have to determine the exact layer we are working on and we can’t be off, even by a pixel. Because if you are, you’re not removing a wire from a frame, you’re creating a bump or an indentation on that particular layer of the image.” There are some tools (OCULA for NUKE) that compare the recorded data for the left and the right eye in order to calculate disparity maps,
“but the results aren’t precise enough,” Trimborn states, “and there’s a lot of manual work to be done during compositing.”

It was therefore important to have the set measurements and all the camera data available while working on the 3D VFX. Those were obtained by the Data Capture System DCS-2, which is linked to the Lens Data System of the ALEXA cameras and the Stereotec 3D rigs. The DCS-2, which ARRI Rental had initially developed for the second Narnia film, was modified for the Wickie shoot so that the stereoscopic parameters, such as stereobasis and convergence, were recorded frame by frame.

Since the objects in the background of a frame are also three dimensional, unlike in 2D where they are flat surfaces, visual effects and retouching efforts for these objects can be rather elaborate as well. “Often it is easier to create a background from scratch in full CG than to work with the shot elements,” says Trimborn. “Entire 3D elements are by now often the cheaper solution compared to matte paintings from photos, because you can be faster and more flexible.”

One of the highlights of ARRI’s VFX work is the castle of ‘evil Sven’, which was created true to scale as a full CG element, including textures and the surrounding landscape, under the auspices of 3D Supervisor Michael Koch. “A major scene! It took eight days to render one of the shots,” says Trimborn.

Altogether it took five months to complete the 60 VFX shots that ARRI Film & TV created for Wickie. “It’s an extraordinary luxury that no other post house in Germany affords you, to have the new DI and its 3D projection system right here in-house,” Trimborn points out. “It enabled us to view our VFX shots in various stages of the process directly on the big screen. Often, the 3D monitors used during VFX work don’t reveal all possible stereoscopic problems. For example, if a particular layer is in the right place or not. In situations like that the big screen is extremely helpful.”

Final approval of the ScanlineVFX shots also took place in ARRI’s 3D suite, because the customer had become used to seeing the results on the large screen. This included a number of shots that the two VFX houses, ScanlineVFX and ARRI, had worked on together. A collaboration that, as Trimborn points out, was extremely collegial and harmonious.

In conclusion, the head of ARRI’s VFX department points out how pleased he is that everything went so smoothly: “Wickie and the Treasure of the Gods is a prestige project and we can now say that we were the first to have worked on a stereoscopic film here in Germany. And most of all, we enjoyed working with director Christian Ditter, who has an extremely keen eye and can articulate precisely what’s important.”

Ingo Klingspon
The ALEXA Studio is the flagship of the range; like the ARRICAM Studio, it is equipped with a quiet, adjustable mirror shutter and an optical viewfinder, giving operators a real-time, high contrast image with true colors. This enables them to judge focus more accurately and respond more organically to the action and performances in front of them. For maximum flexibility, operators can switch to the ALEXA EVF-1 electronic viewfinder should they so choose.

With its 4:3 Super 35 sensor, the Studio is the ideal partner for anamorphic lenses, which create a unique look that has been appreciated by directors and cinematographers for over half a century. The Studio also comes equipped with anamorphic de-squeeze and 120 fps high speed licenses.

At IBC 2011 ARRI launched the ALEXA Studio and showcased working prototypes of ALEXA M; the next two members of the ALEXA family. The M is a compact camera head designed for tight shooting situations and optimized for 3D rigs, while the Studio, with its optical viewfinder, combines cutting edge digital image-making with traditional elements of the film cameras that cinematographers know and trust.
The ALEXA M is a flexible solution consisting of a separate camera head and body; it is tailored for action and aerial photography, tight corner shots and 3D productions. Based on cutting edge ARRI technologies, the M model features the same sensor, image processing, build quality, efficient workflows and exceptional image quality that have made ALEXA such a worldwide success.

The head and body of the M are connected with a fiber optic cable, which in a hybrid form can also be used for powering the head. Weighing less than 3 kg, the compact front end offers multiple mounting points and versatile maneuverability. Meanwhile the body provides various recording options, just like the standard ALEXA: images, sound and metadata can be recorded onto SxS PRO cards or external recording devices, offering many different workflows.

ALEXA M has a PL mount, works perfectly with all existing 35 mm lenses and is compatible with a wide range of ARRI accessories.

Initial prototypes of the ALEXA M are currently at work in the field with high-profile industry leaders. The resulting feedback will inform the functionality of ARRI’s final ALEXA M production model, due to be released in early 2012.
Prior to The Jury, Fleming had tested the ALEXA but hadn’t used it on a real-world project. “I’d shot with the D-21 quite a lot and was interested to see the development from there, so I chose the ALEXA for this shoot,” he says. “It was a great experience - the ALEXA felt far more like a contemporary film camera and ergonomically it was fantastic, particularly as we were shooting in a lot of small locations and were able to use the camera remotely. My A-camera operator Sean Savage was just thrilled with it.”

Fleming tested various EI ratings, but found that the base sensitivity of EI 800 was ideal for most situations. “I was able to see if I was challenging the exposure and that was really helpful, but the native 800 rating was absolutely solid,” he says. “I think I tested up to around 1600; it was only at that point that I started to see any noise at all, but even then the noise level was negligible.”

Shooting in so many locations meant that there were many different lighting situations with some extremes in shadows and highlights, but Fleming found that the ALEXA handled the differences effortlessly.

“The one thing I was concerned about was the shadow, but the dynamic range with ProRes 444 is absolutely amazing and I think it’s completely new territory,” he comments. “I certainly haven’t experienced it before in terms of the amount of detail, the cleanliness of it. And again, I was exposing consistently at EI 800 and just using ND filters to bring the stop down when I wanted to have minimal depth of field, which worked really well.”

During the shoot, ALEXA’s solid performance gave Fleming the confidence simply to use an Astro waveform monitor to check exposures. He notes, “I basically light to my eye and then let the Astro guide the exposure. Michael [Offer, the director] was working off a handheld monitor and I was basing everything on the waveform. I didn’t want anything more than that – I had my meter with me, obviously, but I was quite comfortable with the Astro and the results were absolutely as I expected every time.”

Fleming also found himself turning lights off for the first time in his career. “The camera had such a fantastic mid range; previously you might have been using fill in some areas, but this camera provides so much detail and information,” he enthuses.

The premise of the series is the retrial of a man currently serving a prison sentence for the murder of three women, following the discovery of new evidence. The series follows this courtroom drama but also highlights the lives and stories of the barristers for the defence and prosecution, and the jury members. With so many intertwining stories, how did Fleming go about unifying – or separating – each strand?
“Michael and I talked a lot about this at the beginning of the process,” says the cinematographer. “There was a temptation to give every character a different look, but I felt that would be a little pretentious. Eventually we decided that as a whole it needed a feeling of cinematic realism, with the stories as the focal points rather than any kind of stylised look.”

In terms of setups, Fleming says he used “every trick in the book” to shoot the drama. “With so many different types of location – from offices, to urban houses, to exteriors with varying weather and light conditions – it was very much a case of mix and match. We used everything from studio setups to cranes and handheld, and we used dolly and track constantly in the courtroom,” he explains. “Much of the time we had two-camera setups, but there were times when the energy of the piece required it to be handheld. Other times, obviously, it needed to be more composed. We were very happy to let stuff happen and fill the frame.”

One of the challenges on the project was to prevent the many courtroom scenes from becoming boring or repetitive, says Fleming: “Michael’s instinct from early on was that if we could keep the cameras moving we would get ourselves through that, and I have to say that it really paid off well.”

Fleming worked with a set of Optimo zooms throughout, favouring the smaller lenses in the range for handheld work. He comments, “The choice of lenses was a pragmatic one relative to the pressures of schedule; we were able to adjust the frame quickly rather than spend time having to constantly change the primes.”

Fleming admits to being a little ‘old school’ when it comes to postproduction: “I know there are tendencies within digital acquisition to capture safe images and alter them in post, but I’m afraid with my background in the film world I still very much light what I want to see, and I’ve not encountered a problem with that at all,” he says.

The combination of Fleming’s lighting sensibilities and the ALEXA’s image capture meant a relatively easy grade for The Jury. “I had a very clear idea of where I wanted to go,” says Fleming. “Obviously there were some scenes shot over several days where we had to do some tweaking relative to the shift in ambience, but that’s all we’ve been doing really. Having said that, the grader that I work with, Jet Omosebi, is fantastic; she has a beautiful sensibility and she will always bring things beyond what I had expected.”

While some DPs like to take frame grabs from the camera and do some pre-grading during a shoot, Fleming only really does this occasionally for himself or the director to ensure that everything is on track. “I’m very much an exponent of the colourist – since we’ve embraced this digital world they are very much there to help you out,” he states. “Also, I don’t really feel the need to play too much with my image; I largely feel confident in terms of what I do and what I can get. I still very much feel that you must go with your instinct, which is one of the reasons why I test where the noise levels rise so that I am aware of the boundaries.”

So what of Fleming’s first experience shooting with the ALEXA? “Overall I have to say that the ALEXA has been amazing,” concludes the cinematographer. “The ergonomics, the ability to shoot onto cards, the savings in time and equipment on set were great, and the images really speak for themselves – even in low light I found that I was able to do pretty much anything I wanted.”

Wendy Mattock
lucie_p was founded in 1999 and immediately began to work with big name brands, creating emotionally powerful installations for Philip Morris and ambitious music videos for a number of international labels and artists including BMG, Universal and the German band Sportfreunde Stiller. Its current clients include Audi, BMW, Vodafone, Burger King and Sky. “Today we cover all aspects of motion design, create media installations for trade shows and exhibitions, and offer 3D visualization, 3D mapping and design facade projections,” says General Manager and founder Tina Maria Werner.
lucie_p and ARRI Commercial have worked together many times over the last few years, with one highlight being the Audi Q3 launch in Barcelona. Within a 5000 m² cube equipped with mirrors, a spyglass and a 45 m² LED screen, they created an audiovisual experience that manipulated space and time barriers. Visitors enjoyed a dramatic 2D/3D motion design installation highlighting the key themes of the Audi Q3 campaign in a unique way.

Now the two companies have put together a motion design team dedicated to advancing moving image installations. “This joint venture creates entirely new synergies for our customers. Together we are the perfect service provider for elaborate moving image projects,” says Philipp Bartel, Head of Commercial at ARRI.

Customers will be able to take advantage of the team’s conceptual ideas and creative advice as well as the technical expertise of the ARRI group – from its world-leading cameras to its Academy Award®-winning research division that is currently playing a key role in pioneering 3D stereoscopy, as well as a 160 m² photo and film studio for live action recording and visual effect shoots. All this is at the client’s disposal to create unique moving image installations. In addition there is room to build test constructions to the scale of the actual installation, and motion design programs can be viewed at the intended size in the ARRI theater.

“Our team and our hardware resources are flexible and can be adjusted to meet individual needs,” explains Tina Maria Werner. “This allows us to realize our clients’ projects efficiently and at the highest quality.” For more information about lucie_p, visit www.lucie-p.com

THE ARRI COMMERCIAL TEAM HAS JOINED FORCES WITH CREATIVE AGENCY LUCIE_P TO FORM A JOINTLY-RUN DESIGN STUDIO THAT WILL TAKE THE MOVING IMAGE TO A NEW DIMENSION.

A compelling force for moving image installations

▲ AUDI Q3 LAUNCH, The Cube
**VisionARRI: How did this partnership between lucie_p and ARRI Commercial come about?**

**Tina Maria Werner:** Over the years a strong bond has developed. We believe that ARRI Commercial and lucie_p complement each other perfectly – both in terms of competencies and with regards to our teams. Having worked together many times, the next logical step was to form a permanent collaboration that ensured the quality of our work and offered customers an improved cost-benefit ratio.

**VA:** ARRI Commercial and lucie_p have previously joined forces to create moving images in space: what has been the most challenging project so far?

**Philipp Bartel:** From a creative point of view, the Audi Q3 presentation in Barcelona comes immediately to mind. But also the motion design for the BMW World and the resulting projections in the ‘Auto Salon’ in Geneva were very ambitious; connecting the multiple projection surfaces technically and aesthetically was incredibly exciting and we were as delighted as the customer about the grandiose results we achieved.

**VA:** Together you create high-end moving image installations: What will the future bring in that regard?

**TMW:** Blending digital media and architecture and the increasingly affordable LED screens will soon make entirely new visual experiences possible. The moving image will literally advance further into the physical space and we are delighted that we get to experience this development first hand, and be part of shaping it as well.

**VA:** Are there any challenges that you are particularly looking forward to?

**PB:** Each and every new challenge! The more creativity a job calls for, the more interesting the projects turn out. It’s particularly exciting to respond to current trends and to let those inform our concepts. Topics such as augmented reality, interactive TV and mobile media are particularly interesting at the moment.

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**Tina Maria Werner & Philipp Bartel on the new design studio**

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LOOK: NO LENSES

The new M40/25, another fixture in ARRI’s award-winning, lens-less M-Series
At IBC this year, ARRI unveiled a new fixture from its award-winning M-Series, narrowing the gap between the 1800 W M18 and the 18 kW ARRIMAX. Sporting ARRI’s unique, patented MAX Technology, the M40/25 is a lens-less system that combines the advantages of a Fresnel and a PAR fixture. The unit is open face and thus very bright, but focusable from 18-52°, producing a crisp, clear shadow. By eliminating the need for spread lenses, the M40/25 speeds up workflows on set and reduces the risk of lost production time because of glass breakage.

The same lamphead equipped with a PAR reflector becomes the AS40/25, replacing the current ARRISUN 40/25. It is lighter than its predecessor, but has the same accessory diameter so that existing lenses, barndoors and scrims can be reused. The M40/25 and AS40/25 can be operated with 4 kW and 2.5 kW metal halide lamps.

Both fixtures implement the True Blue features ARRI customers have come to value in recent years. Two strong disc brakes keep the lamphead firmly in place even if heavy accessories are used, while the electronics housing is spaced apart from the actual lamp housing to keep temperatures down and prolong the lifetime of components. The units are ruggedized and IP23 certified to withstand rough location handling and weather.

ARRI offers a CCL ballast for use with the M40/25 and AS40/25. CCL means compensation for cable loss, which can be considerable with long head-to-ballast cables: at 100 m cable length only around 3500 W might arrive at the lamp, instead of 4000 W. The new ballast fully compensates for such power losses, ensuring a uniformly high light output regardless of cable length.

MAX TECHNOLOGY
With the Academy Award®-winning, lens-less 18/12K ARRIMAX, ARRI unveiled a new type of reflector; the patented MAX Reflector is a multi-faceted mirror that eliminates the need for spreader lenses and combines the advantages of a PAR and a Fresnel.

It was used again for the M18, which introduced a new power class and redefined on-set workflows. The industry quickly realized that MAX Reflector fixtures make lighting easier and demand increased for the same technology to be applied to traditional power classes, leading to the release of the M40/25.

MAX Technology is a banner under which to position all ARRI lights with a MAX Reflector. As well as the M-Series, the latest ARRILITE Plus lampheads feature MAX Technology, with more fixtures to come soon.
Based on novelist Ken Follett’s global bestseller, World Without End is the follow-up to Golden Globe-nominated television mini-series The Pillars of the Earth. Produced by Tandem Communications, Take 5 Productions and GalaFilm, in association with Scott Free Films, the eight-part sequel is set 200 years after The Pillars of the Earth in the same fictional town of Kingsbridge. ARRI Rental Budapest supplied ARRI ALEXA cameras for the five-month shoot, which took place on location in Hungary, Slovakia and Austria. Directed by Michael Caton-Jones, World Without End was shot by cinematographer Denis Crossan, BSC, who recently spoke with VisionARRI about his work on the project.

VisionARRI: Was World Without End always going to be a digital production?

Denis Crossan: Yes. As it was essentially eight hours of television, it was always budgeted to be shot digital. Film was never an option. I don’t know of any television that’s shot on 35 mm these days.

VA: Why did you choose the ARRI ALEXA?

DC: I had worked with the ALEXA a number of times on commercials and had used it early on when it still had a few teething problems, but I was impressed with its image quality, and as a DP, you want to get the best you possibly can. It had the same feel and purpose as a film camera, so I felt comfortable using it. The other consideration was that we shot two cameras all the time, sometimes three, but I knew we would have five cameras or more on the action and effects days, as well as second unit cameras, so I had to be sure all that equipment would be covered. That’s where ARRI came in.

VA: What kind of visual approach did you and Michael discuss?

DC: We intended the production to have a film look, with scale and depth. If Michael could have shot it 2.40:1 he would have been really happy. When I first met him about World Without End he had an idea of applying a Victorian Pre-Raphaelite romanticism to the Middle Ages and combining that with a classic style of shooting similar to The Sweet Smell of Success (1957), directed by Alexander Mackendrick, or Kubrick’s Paths of Glory (1957), where the shot constantly develops as the camera moves, or the actors trade positions or move you to a new frame.

In terms of lighting I wanted to apply a certain naturalism and try to stay true to the light sources. If I lit through windows I wanted the light to fall off dramatically in the backgrounds. Generally, I would use little or no fill light. For night exteriors I kept them predominately warm, using all tungsten light and balancing the color temperature to match firelight or torches.

I also used Cooke S4 lenses, which I’ve used for many years. The image quality and resolution are superb, and worked well with the ALEXA.

VA: What are your thoughts on ALEXA’s sensitivity and dynamic range?

DC: I was certainly impressed with its performance in low light. Being set in Medieval England, all the interiors on World Without End were lit with candles. I found I could light the actors just enough to create contrast and depth, and let the backgrounds go, using candles to pick out specific areas; I didn’t want to go completely dark. I also did quite a number of aperture pulls on this production, which is something I never did on film. Many of our sets on location had low roofs and small windows, so it gets to a point where it is impossible to balance the exterior with the interior lighting; doing a stop pull as someone comes from a window or door into the room saved time. The great thing is you can see immediately if it works or not.

VA: Were aperture pulls utilized creatively, as well as pragmatically?

DC: Absolutely. In one particular scene Godwyn (Rupert Evans) proposes that his mother Petranilla (Cynthia Nixon) should kill her brother to further Godwyn’s ambitions. We shot in a doorway looking out onto a busy exterior square in full sunlight, and Michael, the director, wanted to keep the character semi-silhouette. I blocked most of the light from him, but let the background overexpose so it looked fiery and harsh. When he finishes his dialogue he steps back into the daylight and I did an aperture pull, stopping down, which shows his face and makes the background the correct exposure and normal. Hopefully it enhances the emotion in the scene, without anyone realizing the mechanics of it.
VA: What were your recording and workflow solutions?

DC: We shot ProRes 4444 to the on-board SxS PRO cards. I’m not really keen on the word workflow; it sounds like processing paperwork in an accountant’s office. Everyone in preproduction is very keen on discussing workflow and LUTs, and likes to throw in other similarly inane acronyms. I just knew I wanted to keep it as simple as possible. I did three basic color grades at Colorfront in Budapest: one for candlelight and another for torches, which covered day and night interiors and night exteriors. The third was a daylight grade for interiors and exteriors. With that in place I would change the lighting within scenes or occasionally change color temperature on the camera, as I always had a reference of where I wanted it to be. Colorfront would send daily reports and dailies were posted on the internet. I also got daily color-corrected frame grabs, which I found really useful as a reference.

VA: Have there been any particularly challenging setups or sequences?

DC: All of them! OK, not exactly true, but Michael is very particular about framing and because of our style of shooting, actors and camera had to be very precise about hitting marks. It was difficult in the first weeks but I was amazed at how quickly everyone got to grips with it. For me, the challenge has been trying to keep focused and push myself. I’ve never been involved on a production for this length of time, with over five months of shooting to get eight hours of material. There’s a lot to get everyday, but to do it in a way that doesn’t sacrifice quality – that’s the challenge.

VA: What motivated the decision to shoot in Budapest, and how has it been for you?

DC: From the production point of view it comes down to cost; from my point of view it doesn’t make much difference, apart from being away from home. As long as equipment and crew are available you can make a film anywhere. Hungary has great studio space, locations, enough film and camera equipment to service several productions, and the crews are good. I’ve also been really pleased with the service from ARRI Rental. They have managed to put a large package together, which gets amended frequently depending on our filming schedule, but they’ve always been on top of it.

~ DENIS CROSSAN, BSC, (right) lines up a shot
Cinematographer Hagen Bogdanski on shooting Madonna’s second feature film

On a whistle-stop tour across the UK, France and the USA to shoot Madonna’s hotly anticipated film, W.E., cinematographer Hagen Bogdanski relied on a talented lighting and camera team, as well as equipment provided by ARRI’s UK-based rental companies. ARRI Lighting Rental supplied the lighting kit, while the ARRI camera package came from ARRI Media.

“There was never any question that I would use any other brand of camera on this film,” states Bogdanski. “I’ve used ARRI cameras on nearly all my films and frankly I think they’re the best in the world. They are intuitive to work with and I know how they are going to react in different conditions. They always perform flawlessly and produce great images.”

The film intertwines the legendary affair between Wallis Simpson and King Edward VIII (and its dramatic consequences), with a contemporary romance set in New York between a married woman, who is obsessed with Wallis Simpson, and a Russian security guard.

This was Madonna’s second film as a director and Bogdanski was impressed by her attention to detail. “Madonna was involved in every element of the film and it was very important to her that the visuals conveyed the emotions of the story,” he says. “We discussed every aspect of the filming throughout the shoot – the camera movement, the lighting, every setup. She was precise in what she wanted, but also very collaborative and open to suggestions.”
While preparing to shoot *W.E.*, Madonna and Bogdanski looked to period films such as *La Vie en Rose* and the intriguing 1961 film *Last Year in Marienbad* as inspiration and reference points. The cinematographer explains: “These films were really the blueprints for *W.E.*; they both feature very long, elegant takes with no edits and this was an element that Madonna really wanted to include. We also thought about shooting all of our period sequences in black-and-white, although in the end we only shot some specific scenes this way and used other methods to differentiate the period scenes from the contemporary story.”

Bogdanski worked closely with his gaffer – “the legendary Chuck Finch,” as he calls him – to create a soft, warm light for the period sequences and a much harsher, colder lighting range for modern-day New York.

“For the period scenes we used lots of light boxes and wedges to keep the light soft, bouncing off muslins and cloths to achieve a heavy diffusion,” notes Finch. “We also let some areas fall off into black for that period effect. By contrast the New York scenes were much more raw and hard, and we lit directly through frames or tracing paper to keep it more immediate.” Exteriors for both the period and modern sections were largely shot with natural light, though Finch used scrims to reduce the intensity of the top light.

The look was everything on this production. As one might expect with a Madonna-driven project, great attention was paid to the details of production design, costumes, make-up and location settings, all of which helped to convey the different time periods. Bogdanski chose to use ARRI/ZEISS Ultra Prime lenses for both strands of the story, using the full range of focal lengths from 16 mm to 200 mm. “The Ultras are very precise and sharp, but they are neutral—not warm or cool—so you can portray what you need to,” he says. “They also have a beautiful fall-off, which can be very effective.”

Perhaps surprisingly, there was little discussion about whether to shoot digitally or on film. “We talked briefly about it right at the beginning, but the digital format was dismissed very quickly,” says Bogdanski. “This was to be mainly a period piece and it was all about the visuals—skin tones, fabric textures, gleaming jewellery, bright Mediterranean sunlight and contrasting interiors. I still think film is the best format to bring these things to the screen.” To give a further visual reference to the period, Bogdanski used an ARRIFLEX 16SR 3 Advanced 16 mm camera for certain scenes.

The main camera package included an ARRICAM Studio and an ARRICAM Lite, but rather than shoot with two cameras Bogdanski preferred to shoot in the main with a single-camera setup. “It was a very traditional approach for static shots, just one camera was running for much of the time,” he says. “But Madonna was very keen to have lots of movement in the camera so we did several long tracking shots and a lot of Steadicam shots, for which we used the ARRICAM Lite; it’s small and light, so perfect for Steadicam work. The Steadicam operator Robert Patzelt did a great job.”

As inspired by one of the reference films, *Last Year in Marienbad*, the key scene of King Edward VIII’s abdication speech was given added poignancy through the device of a long, uninterrupted take—something that Bogdanski is very proud of in the finished film. “Madonna wanted to achieve a long dolly shot weaving through several rooms in the castle and ending in a close-up of the King as he gives his speech,” he says. “It meant meticulous rigging and a lot of testing for our lighting setups, but it worked fantastically well—it’s a beautiful shot.”

Finch agrees that it was a challenging shot to light: “It was quite difficult because all the rooms we used were south-facing and very bright, so to take control of the light we tented the windows from the outside along the length of the castle,” he says. “We put lights on rostrums outside and shone big HMI sources through the windows, diffusing them with grid cloths to achieve a really soft spread.”

However, Bogdanski and Finch agree that the most challenging aspect of the project was the number of locations used and the tight schedule. “With the exception of the week-long New York apartment shoot, I don’t think we shot anywhere for more than a day, so getting the setups right quickly and achieving the right atmosphere in a short amount of time was sometimes hard,” says the cinematographer. “However, that also led to one of the best things about the shoot—the camera and lighting teams really worked hard and together we achieved great results. In particular, I couldn’t have done it without [1st ACs] Oli Loncraine and Glenn Kaplan, and also [key grip] Stuart Godfrey. It truly was a team effort.”

Bogdanski makes special mention of the staff at ARRI Media and ARRI Lighting Rental: “On a film like this where you’re travelling from location to location, the support of your rental house is imperative, and the crew at ARRI were so helpful to us every step of the way.”

**W.E. producers**

Nigel Wootl executive producer
Scott Franklin executive producer
Donna Gigliotti executive producer
Kris Thykier producer
Colin Vaines producer
Sara Zambreno co-producer

Wendy Mattock
The technical parameters of filmmaking have changed radically in the last couple of years. More and more productions record on digital formats, while new camera, recording and postproduction systems hit the market all the time. While this opens up a great number of opportunities it is also disconcerting, not only for the decision makers at production companies but also for directors and cameramen on set. Constantly changing and increasingly intricate equipment, as well as a lack of practical experience can result in a potentially precarious information deficit in an already high-risk film business. ARRI’s rental and postproduction teams are responding to this situation with a new concept: on-set support. The main advantage for ARRI customers is that they can count on the unique know-how of the leading equipment manufacturer in the film business. The company has even created a new division, Digital Services, that concentrates this specific expertise for the benefit of customers. The goal is to eliminate technical problems early on in the planning stages of film projects, while offering maximum creative freedom.

In the film business, production and postproduction teams have always worked closely together. New to the process is that digitalization is no longer just a part of postproduction, particularly with regards to the DI and special effects. In particular, the latest generation of digital camera systems has found its way onto the set, and not just here and there, but across the board. These new data-based recording systems have altered familiar workflows, created new responsibilities and changed communication on set.

“There’s an increased number of interfacing issues, to an extent previously unknown. Production companies simply weren’t aware of them. For decades negative film was the recording format of film and television productions and as a result the workflow, including recording, lab and postproduction, had become standardized,” explains Michael Hackl, Production Supervisor TV Post at ARRI Film & TV in Munich. “There are a great number of experts who know exactly how to treat and handle film. Even the highly complex DI process has become standard practice today.”

“But what has been standard practice in film production no longer is, now that the newest digital camera systems have arrived,” says Steffen Scheid, Sales Manager at ARRI Film & TV Berlin. “Digitalization hasn’t made the work on set more complicated but the available options have become more complex. Suddenly, it is possible to work on recorded data-based footage right there on set and in a number of different ways. Digital technology merges production and postproduction on the set. Now the choice of a particular camera system determines the course of postproduction.”

As a result, camera tests during the planning stages have become all the more important. “When we used to work with analog equipment, tests were conducted to check and verify that the camera and the related gear had no technical defects and were ready for use,” continues Scheid. “Now camera tests are conducted to determine the ideal technology for a particular project. This is done in close collaboration with the colorists, the experts from postproduction, who together with the director and the cameraman define the creative objective of a film. This objective is determined during the camera test and measures are taken to ensure that it is then consistently and exactly met through the entire postproduction process, all the way to the final release print.”
The look of a film, as defined in preproduction, now runs through the entire production phase. A look can be created on set and then passed on from the dailies phase to the cutting room stage and maintained throughout postproduction. “This expedites the process, which is an enormous advantage, particularly for TV productions,” Hackl points out.

The goal is to create a consistent look throughout the various stages, including testing, recording, editing and the final grading phase. The director and the DoP have more creative control now. “Each project has its unique challenges and requires different approaches. Every cameraman has a special way of working. It is our task to create a tailor-made, individual workflow utilizing the extensive range of services ARRI offers,” continues Hackl. “We want to ensure that our customers can benefit from the advantages that digital recording technology offers by providing them with reliable production workflows that minimize the risks.”

During the development stage of the project there is a greater need for guidance during the format and system decision making processes because on digital productions the entire workflow has to be planned and steered carefully through all stages, including recording, postproduction, distribution and even archiving. There can’t be a glitch anywhere between production and postproduction. Discrepancies in the workflows and inadequate communication can create delays and diminish the quality. This can subsequently be corrected, but at a cost for the production company that is difficult to estimate.

“It isn’t easy for line producers and production managers to keep up with digital workflows, because we are dealing with processes that constantly change, almost daily,” says Scheid. “Even if people have had prior experience working on digital productions, too much time may have elapsed between projects so that the experience is technically no longer relevant. This makes outside support and guidance from a competent service provider indispensable.”

“This situation has made many customers nervous,” Scheid notes. “The strength of the ARRI Group is to assist the customer, leading them as a competent partner with a unique expertise in film and recording technology through the entire digital production process. This includes the entire chain of steps involved, from recording to postproduction, distribution and archiving, thereby preventing interfacing issues and quality loss from one stage to the next.”

This new approach has created additional positions on the set of digital production. There is now a data wrangler, who ensures that the digitally recorded material has been recorded and copied properly and contains the necessary metadata required during postproduction. But there are also the digital imaging technicians (DITs) and colorists, who have become the link between production and postproduction. ARRI, relying on its staff as well as on freelancers, offers these services on set or in-house, depending on the client’s preference. ARRI constantly trains, re-trains and certifies its staff and freelancers. “This certification has to be regularly renewed when new camera or recording systems become available,” explains Scheid.

“The really exciting part about the new digital recording technology is the flexibility that it affords the creative heads involved,” says Hackl in conclusion. “They have a plethora of possibilities, all they have to do is utilize them properly. For production companies it is therefore extremely important to have someone at their side who’s paving the way for them. Here the service team of the ARRI Group can be a competent and reliable partner for production companies.”

Ingo Klingspon
VisionARRI: In May you returned to ARRI Film & TV Services, Munich, after spending two years at the Constantin Film Group. What has changed in the interim and has that shifted the focus of ARRI's postproduction?

Josef Reidinger: It was during these two years that a major technological shift occurred in the film business – away from 35 mm and towards digital recording formats. My responsibilities then and now confirm that this development occurred at an incredible speed. What was state-of-the-art yesterday is outdated today. An avalanche was set off, putting the entire business under an enormous amount of pressure, technologically, creatively and monetarily.

VA: Could you briefly outline the resulting workflow changes and the effect on ARRI services?

JR: Until recently, the majority of productions shot on film were then sent to the lab, where they were developed and transferred to a chosen video format. This included a color correction to the specifications of the color grader and the DoP. The result was the actual product, the ‘content’. Using digital recording technologies means content is created right there on the set. The material is ready instantly and can be viewed on location. All that has to be generated now are dailies, because the raw data direct from the camera is quite soft and without a specific look. That’s where look-up tables (LUTs) come into play, to convert the data and create the desired image. The DoP determines the look of his images right there on the set and doesn’t have to wait a couple of days for dailies. The LUTs enable the DoP to create his own look and these specifications will be relied upon throughout the entire postproduction process.

More and more DoPs set these parameters, which provide the basis for color correction and are the foundation of the remainder of postproduction, right there on the set. It is this unique undertaking, generating this new type of digital dailies, that ARRI’s postproduction services will be more closely involved in from here on – as well as on-set quality control and data backup.

VA: For over 90 years, ARRI has stood for technological advancement in film. How can ARRI preserve this amassed know-how under these changed production conditions and continue to offer the entire range of technologies competently in the future?

JR: That, of course, is and will remain our goal. And it is one of the reasons why we are expanding our archiving and restoration efforts. It helps that ARRI already has an outstanding reputation in this area, having restored, among other films, Berlin Alexanderplatz (2007) for the Rainer Werner Fassbinder Foundation. Experts called the result exemplary and the work received international recognition. The restoration of four famous films directed by Ernst Marischka – Victoria in Dover (1954) and the Sissi trilogy (1955, 1956 and 1957) – also garnered ARRI a great deal of attention. This in turn had an effect on the market. It set an example for archive and film institutions aspiring to achieve similar results when restoring their valuable collections.

We are delighted that we now receive restoration inquiries from outside Germany as well, and are pleased that our previous accomplishments attracted the attention of the rest of the film world.

There’s a surplus of recording formats, production companies and service providers working outside the realm of traditional filmmaking. The market must and will rectify that over time.
But at the moment, this surplus poses a challenge even for a company with such undisputed expertise as ARRI’s. It’s a challenge that we have to take on, here and now, if for no other reason than to ensure that this expertise finds its proper place in the changing landscape.

As a service provider we have to adjust to the market every time a new technology gains acceptance and we have to bring the staff up to speed. Take our lab for example: it’s quite small compared to others because we adapted early on to the changing market and found a solution – deploying staff as needed to different areas – that gives us flexibility. Analog distribution, in the form of 35 mm release prints, will remain on the decline but we are well prepared for digital distribution. Our digital cinema mastering meets international standards and we are able to generate digital copies. We have also gained the trust of theatrical distributors.

Although digital acquisition, postproduction and distribution will continue to rise, long-term archiving still requires a 35 mm negative because currently there simply isn’t a suitable digital format available – while the 35 mm negative has proven that it holds up for decades.

In short, the current task of any company in this business must be to adjust to the rapid speed of these technological developments and to reposition itself accordingly, all the while ensuring the quality and security of the product for the customer.

**VA:** In what direction will ARRI Film & TV be heading?

**JR:** The main focus over the next few years will be on-set/ near-set and on-location editing. We can’t sit in the lab like we used to, waiting for the material to show up. Today the wide range of recording and postproduction possibilities requires that we assist clients sooner, even prior to and during filming, that we make our know-how available during preproduction. We won’t concentrate on specific areas either; on the contrary, we want to be a competent partner for large and small feature films, TV productions, documentaries and commercials, and for analog as well as digital production and postproduction.
If a customer decides to shoot on a digital format he should still be able to rely on the same trusted people as on analog shoots. This means our color graders will no longer work exclusively in-house. They will have to be flexible and make their expertise available on set and on location. This gives productions the needed security on the set.

Another key issue in the months to come will be even closer coordination of our rental and postproduction efforts to ensure that the workflows ARRI created best serve the interests of clients seamlessly. An invaluable advantage is our close contact to research and development, which means that we are always up to speed with the latest developments. For example, concerning ALEXA cameras, we are closely involved early on in creating the best possible workflows. We can pass this invaluable knowledge on immediately to our customers.

VA: How will ARRI customers be introduced to these new services?

JR: That’s the main challenge facing the sales team. They will be brought up to speed on these latest technological advancements through in-house training provided by our developers so that they can competently offer these new technological capabilities to our customers. Also key are our digital image technicians (DITs), who we train continuously and certify here at ARRI. The certificate that we issue to a DIT is the customer’s guarantee that the color grading and data backup of their film won’t go off the rails.

VA: Will there be additional changes in other postproduction areas?

JR: There’s great potential for change in the VFX realm. We have exceptional VFX staff with incredible know-how and extensive international experience. We have VFX teams not only in Munich, but also in Berlin and Cologne, and we collaborate with renowned companies in Hesse. We are creating a network consisting of a permanent crew here in-house and a pool of external visual effects people who can come on board as needed and provide the same quality of work as our in-house staff. This allows us to work on projects that exceed the VFX work usually required for German film.

“ULTIMATELY, OUR PRIMARY CONCERN HERE AT ARRI IS TO ENSURE THE QUALITY AND SAFETY OF THE IMAGES OUR CLIENTS ENTRUST US WITH, REGARDLESS OF THE FORMAT.”

The clear winners of this current wave of developments are no doubt the creative minds, the filmmakers. They have an incredible set of tools at their disposal: the entire range of traditional analog film technology on the one hand and the newest 3D digital technology on the other. Ultimately, our primary concern here at ARRI is to ensure the quality and safety of the images our clients entrust us with, regardless of the format. And that will continue to remain our goal.

Ingo Klingspon

♦ ARRI VFX TEAMS are located in Munich, Berlin and Cologne
Introducing the new ARRI Master Prime 135

ARRI’s continuous dialogue with cinematographers, operators and directors has revealed demand for a new Master Prime with a focal length of 135 mm. This is the ideal portrait lens for many situations, fitting nicely between the Master Prime 100 and 150; it brings the Master Prime set up to an astounding 16 focal lengths.

Discussions with both cinematographers and photographers identified four crucial criteria for a perfect portrait lens: the right focal length, high image quality, shallow depth of field and the ability to get close to the subject.

A focal length of 135 mm is long enough to separate a subject from the foreground and background, but not at the expense of a pleasing, three-dimensional perspective. Like the rest of the Master Prime range, the 135 mm produces a high resolution, high contrast image with very low flares and veiling glare: a clean starting point from which the cinematographer can shape and sculpt the image through lighting, filters or digital manipulations during the DI grade.

It also shares the same lens markings and 114 mm front diameter as other Master Primes, allowing the use of the same matte box and making lens switching fast and easy.

The widest aperture of T1.3 and the Master Primes’ unique ability to maintain their high image quality even wide open allow for an extremely shallow depth of field when desired. Depth of field is a creative tool that can be used to control the level of separation between the subject and its surroundings. Last but not least, to facilitate close-ups, the Master Prime 135 has been designed with a close focus distance of 0.95 m (37”), retaining its high image quality even at this close range.
Just as the ALEXA camera system has developed and progressed over the last two years, work has also continued on the lenses designed to function as its perfect partner. A crucial part of this work involves consulting with creative professionals and ascertaining what tools are most needed by today’s filmmakers. A clear message from the market has been that, with cameras getting smaller and shooting styles becoming more action-oriented, lightweight zooms are in great demand.

The new lightweight Alura Zooms are perfect for handheld and Steadicam work, while the original Aluras, with their much wider focal ranges, are the ideal choice for tripod and dolly setups. Together, the four color-matched lenses comprise a complete and affordable solution for 35 mm format film and digital productions of any kind.

All of the Aluras exhibit high contrast and high resolution, producing sharp, punchy images with clear highlights and true, deep blacks. The special optical design ensures an evenly illuminated image on the sensor or film plane, while flares, ghosting and veiling glare are greatly reduced by FUJINON’s multi-layer EBC (Electron Beam Coating) lens coating. Breathing (an unwanted change in image size when focusing) has been minimized, as has color fringing, through the use of extraordinary dispersion glass.

Lightweight zooms are also becoming popular for 3D applications. Having a zoom instead of a prime lens on a 3D rig allows easy adjustment of focal length without time-consuming lens changes, rig readjustments and calibration. Since 3D rigs are inherently cumbersome affairs, regular studio zooms tend to be too large and heavy, whereas the lightweight Alura Zooms are ideal. In addition, their compatibility with the ARRI Lens Data System allows vital lens information and image metadata to be recorded.

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</table>
ARRI Rental implements exacting product testing procedures

As part of ARRI Rental’s ongoing commitment to providing equipment that meets the reliability requirements and expectations demanded by productions, new product testing procedures have been implemented. This means all equipment is now tested to the guidelines issued by the BGETEM (Trade Association for Energy, Textiles, Electrical Engineering, Media Products) and to BGV A3 DIN (German Industrial Standard) specifications VDE 0701 and 0702.

To achieve this, ARRI Rental commissioned the Schleich Company to design and produce state-of-the-art test stations. In future, these will also include mobile systems for carrying out tests on set over long hire periods. Since each individual product has its own testing demands, so far nearly 700 test procedures have been programmed. Only when testing has been successfully completed without any errors is the item of equipment then issued with a test seal, which acts as a reminder of when the next test is due. Every completed test procedure also includes a log, which is stored in a special database.

With this sophisticated testing methodology ARRI Rental is setting new benchmarks for quality and reliability, ensuring trouble-free deployment of equipment to productions.

“Our product testing procedures demonstrate our efforts to ensure the quality, delivery and dependability of our products and service,” says Thomas Loher, Managing Director of ARRI Rental. “They are a continuation of our commitment to maintain our position as a premier rental facility and a clear sign that we are committed to superior product quality and customer satisfaction.”
Investing in the future
Sponsoring awards for young, innovative filmmakers

For ARRI, supporting the next generation of filmmakers is a crucial investment in the future, because today’s film students and first-time filmmakers will be the directors, producers and cameramen – the decision-makers and potential customers – of tomorrow.

“Sponsoring film festivals and competitions and supporting film school projects are the pillars of ARRI’s continued efforts to foster up-and-coming filmmakers,” explains Angela Reedwisch, Key Account Manager at ARRI Film & TV Services in Munich. The capital of Bavaria, home of ARRI’s headquarters, is the host of numerous cultural events throughout the year, some of which ARRI proudly sponsors.

One of these events is the International Film School Festival, which has been one of the most important film festivals for young filmmakers from all over the world for 30 years. “The festival is the perfect occasion to gain valuable insight about current trends, reflected in the films of emerging international talent, and to meet the best young directors personally,” says Reedwisch. It is here that future Oscar winners, such as Caroline Link (Nowhere in Africa), Florian Henckel von Donnersmarck (The Lives of Others) and Florian Gallenberger (Quiero Ser), started their careers. ARRI supports the festival with an award for Best Documentary, endowed with a 4,000 Euro voucher to be redeemed for services at ARRI Rental or ARRI Film & TV.

There is also the Starter Film Award from the City of Munich, recognizing aspiring directors. In September this event was held for the fourth time in the cinema at ARRI’s headquarters. ARRI Film & TV’s contribution consists of a producing award, which comes with a voucher worth 6,000 Euros for ARRI’s lab and postproduction services. The films are judged based on the courage, creativity and quality of the work, which must also exceed expectations given the film’s budget. In 2011 the recipients were Claudia Lehmann and Daria Onyshchenko (C & D Films) for their dramatic love story Dogs of Ukrainka.

But ARRI’s sponsoring efforts aren’t limited to emerging talent or to German film productions. On the contrary, the global player is looking beyond the local market, recognizing foreign filmmakers with the ARRI Award. Presented by an independent jury at the Munich Film Festival, it comes with a 30,000 Euro prize. This year the ARRI Award went to renowned Finnish director Aki Kaurismäki for his most recent film Le Havre. The idea for this award came from Andreas Strohle (festival director of the Munich Film Festival, 2003 to 2011) and ARRI Chairman Franz Kraus. “The intention was to attract further international feature films in order to bring more foreign directors and producers to Munich for the festival,” recalls Reedwisch. “We are continuing this dialogue with the new festival director, Diana Iljine, and are thinking about additional projects for the coming years.”
ARRI also has close ties with independent festivals outside of Munich. Among them are the Hofer Filmtage, the Kinofest Lünen and the International Berg & Abenteuer Filmfestival Graz. ARRI supports these festivals by assisting them with the production of their trailers and the conversion of festival entries to digital formats. Currently, ARRI is considering creating a separate award for the DOK. Fest in Munich, which up until now has received help with the production of their festival trailer. Other festivals that have received ARRI’s support with their trailers for many years are the Munich Film Festival and Berlinale.

ARRI also supports ‘Highlights’, an annual event hosted by another German film school, the Baden-Württemberg Film Academy in Ludwigsburg, with a special producing award. “In this particular case we are trying to set ourselves apart from other content-related awards,” says Reedwisch, “by putting the spotlight on young producers, who are rarely recognized.” The award comes with a 5,000 Euro voucher for postproduction services and goes to the producers of the winning film, selected from among the Filmakademie’s annual roster of graduation films.

ARRI staff members also support German film schools by taking on academic roles. ARRI’s Chairman, Franz Kraus, for example, is head of the Technology department at the University of Television and Film (HFF) in Munich. ARRI Film & TV Creative Director Jürgen Schopper is dean of the School of Design at the Georg Simon Ohm University of Applied Sciences in Nuremberg, where he teaches classes in the Film & Animation department.

Axel Block and Michael Ballhaus spearheaded efforts to set up a camera department at the HFF in Munich. Their plan became a reality in 2010, when ARRI and Bavaria Film committed to making an annual six-figure contribution over the course of the next three years. Franz Kraus, one of the initiators of this undertaking, explains: “DoPs have always provided ARRI with important ideas pertinent to new product development and have always had close ties to our services sector. Therefore Alex Block and Michael Ballhaus’ suggestion to set up a camera department at the HFF appealed to us. And I’m delighted that, together with Bavaria, we were able to help bring this idea to fruition.”

ARRI’s academic involvement also entails a number of internship possibilities. Selected students, depending on their specialty, become interns in one of ARRI’s divisions – rental, lab or postproduction – for several weeks or even a year. Often, they come recommended by their tutors, but some students approach ARRI directly. “They don’t necessarily have to go through the official channels,” explains Reedwisch. “Internships create a special bond between the emerging talent and the company. The students are part of the actual workflow, come in contact with other companies in the business, establish their own network and, in some cases, are hired right here at ARRI.”

Ingo Klingsepp
New management structure for ARRI Group companies in the UK

UK companies within the ARRI Group have put in place a solid, new management structure, continuing the consolidation of recent years and strengthening links with ARRI’s wider rental operation in order to move forward as an integrated, European business.

Key to the restructure is the appointment of Russell Allen as Director of Operations at ARRI Media, the camera and grip equipment branch of ARRI’s UK rental division. Allen, who has many years’ experience as Head of Features and Dramas at ARRI Media, will be tasked with overseeing the day-to-day running of the company as well as expanding its proven ability to service all types of motion picture and television productions in the UK and across Europe. He will be assisted by Harriet Cannon, recently appointed as ARRI Media’s Business Manager.

Thomas Loher, Managing Director of ARRI Rental in Munich, Budapest, Prague and Berlin, and now also of ARRI Media, will be responsible for ensuring that all of ARRI’s European rental companies work together to function as a coordinated, Europe-wide organisation, with a unified, European approach. ARRI Lighting Rental in the UK will continue to be run by Managing Director Tommy Moran, with support from General Manager Mike O’Hara and Business Manager Sinead Moran, and will also be involved in the new European rental approach.

Another new appointment is that of David Everitt, who takes on the role of Financial Director for the ARRI GB group of companies: ARRI CT, ARRI Media and ARRI Lighting Rental. Camera and lighting sales staff will continue to report to their respective business units in Munich and Berlin, as has been the case since the UK sales operation merged with ARRI’s EMEA sales structure in 2009.
ARRI Rental appoints Mirek Obrman as General Manager of Prague

Following the acquisition of Panther Rental Prague s.r.o. by ARRI Rental Germany in August 2011, Mirek Obrman has been appointed General Manager of ARRI Rental Prague. Obrman will head both the former Panther facility, located in the Zličín district of the Czech capital, and ARRI Rental’s existing branch in Slivenec. He succeeds Robert Keil, who departed in August.

“The acquisition of Panther Rental in Prague was an opportunity for us to further expand our market position in the Czech Republic and Eastern Europe,” says Thomas Loher, Managing Director of ARRI Rental. “I’m very pleased to welcome Mirek Obrman as General Manager, his profound knowledge of the sector, extensive experience in the rental business and his language expertise – he speaks fluent Czech, German and English – will be of huge benefit. All this gives him the perfect profile for supporting our Czech and international customers.”

Obrman was born in Prague and grew up in Switzerland and Germany. His language skills were further rounded out by many months spent in Canada and the USA. After completing his economics degree in Munich, he returned to Prague and worked in the banking sector before joining Panther in 2002. Following intensive training in the camera, lighting and dolly grip departments, he then became General Manager of Panther Rental in 2003.

“I’m very pleased to bring the benefit of the experience I’ve gained in the film industry to ARRI Rental,” comments Obrman on his new role. “The focus for myself and my employees will continue to be on intensive consulting and full service, so that Czech and international customers know we’re taking good care of them. We offer a comprehensive range of services, particularly in the area of commercial and feature film production, with a large inventory of high-quality camera, lighting and dolly grip equipment. For example, we’re currently servicing an ambitious international 3D film project with the necessary technology.”

ARRI Rental Prague is now at the following locations:

**ARRI Rental Prague (new)**
- **Lighting equipment**
  - Na Radosti 420
  - Hala Císlo 5
  - 155 21 Prague 5 - Zličín
  - Czech Republic
  - Tel: +420 234 707 500

**ARRI Rental Prague**
- **Cameras, cranes & dolly grip**
  - K Holyńi 833/42
  - 154 00 Prague 5 - Slivenec
  - Czech Republic
  - Tel: +420 251 01 35 71

www.arri-rental.com
# ARRI RENTAL

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<th>DoP</th>
<th>Equipment</th>
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<td>Paul Sarossy</td>
<td>ARRI ALEXA, Grip</td>
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<td>Peter Gersina</td>
<td>Gerhard Schirlo</td>
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<td>Ankor Film</td>
<td>Stephchenko Oleg</td>
<td>Vladimir Smuty, Iaroslav Piluslky</td>
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<td>Vatergabe</td>
<td>ClaussenWöbbePutz Film</td>
<td>Ingo Rasper</td>
<td>Ueli Steiger</td>
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<td>Unter Verdacht – Das Blut der Erde</td>
<td>Eikon Media</td>
<td>Andreas Herzog</td>
<td>Wolfgang Aichholzer</td>
<td>ARRI ALEXA, Lighting, Grip</td>
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<tr>
<td>Nachtmärm</td>
<td>X Filme, T&amp;C Film</td>
<td>Christoph Schaub</td>
<td>Nikolai von Graevenitz</td>
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<td>World Without End</td>
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<td>Michael Caton-Jones</td>
<td>Denis Crossan BSC</td>
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<td>Cloud Atlas</td>
<td>Oberon Film</td>
<td>Tom Tykwer, Andy &amp; Lana Wachowski</td>
<td>Frank Griebe, John Toll ASC</td>
<td>ARRICAM Studio &amp; Lite 3-Perforation, 4-Perforation, Lighting, Grip</td>
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<td>Wüste Film</td>
<td>Franziska Buch</td>
<td>Hagen Bogdanski</td>
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<td>Sebastian Edschmid</td>
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<td>Kein Wort zu Papa</td>
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<td>Cinecentrum</td>
<td>Dominik Graf</td>
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# ARRI LIGHTING RENTAL

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<td>Green Twig Films</td>
<td>Joe Wright</td>
<td>Seamus McGarvey BSC, ASC</td>
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<td>Fox Searchlight (UK)</td>
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<td>Howard Atherton BSC</td>
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<td>Erika Wick</td>
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<td>Jordan Perry</td>
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<td>Kudos Film &amp; Television</td>
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<td>Silk (Season 2)</td>
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<td>Game of Thrones (Season 2)</td>
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<td>Neil Marshall, David Nutter, David Petracca, Alix Sakharov, Alan Taylor</td>
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<td>Sinbad</td>
<td>Impossible Pictures</td>
<td>Brian Grant, Colin Teague, Andy Wilson</td>
<td>Gavin Finney BSC, Peter Sinclair, Fabian Wagner</td>
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<td>Lawrence Duffy</td>
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# ARRI CSC

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<td>Declan Quinn ASC</td>
<td>Denny Mooradian</td>
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<td>Tak Fujimoto ASC</td>
<td>Rusty Engles</td>
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<td>Anne Mieselwitz</td>
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<td>Wer's glaubt, wird selig</td>
<td>Wiedemann &amp; Berg</td>
<td>Marcus H. Rosenmüller</td>
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### ARRI FILM & TV - POST PRODUCTION SERVICES - COMMERCIALS

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<td>Serviceplan Campaign</td>
<td>e+p commercial</td>
<td>Sven Bollinger</td>
<td>Kristian Leschner</td>
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<td>Hager Mass Commercial</td>
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<td>Heye &amp; Partner</td>
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<td>ZDF</td>
<td>ZDF Winterspot</td>
<td>Made in Munich</td>
<td>Commercial</td>
<td>Nina Pfeifenberger/Forgeign Office</td>
<td>Nina Pfeifenberger/ Marius Herzog</td>
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<td>Appel Feinkost</td>
<td>Genießerhappen &amp; Salat</td>
<td>Serviceplan Design</td>
<td>e+p commercial</td>
<td>Claude Mougin</td>
<td>Daniel Gottschalk</td>
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<td>Triumph</td>
<td>Shape Sensation</td>
<td>Bloom Project</td>
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<td>Nik Summerer</td>
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### ARRI MEDIA

<table>
<thead>
<tr>
<th>Title</th>
<th>Production Company</th>
<th>Director</th>
<th>DoP</th>
<th>Equipment</th>
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<tr>
<td>Skyfall</td>
<td>B23</td>
<td>Sam Mendes</td>
<td>Roger Deakins, Crispian Mills</td>
<td>ARRI ALEXA, Codex Recorders, Grip</td>
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<tr>
<td>Trance</td>
<td>Fox Searchlight UK</td>
<td>Danny Boyle</td>
<td>Anthony Dod Mantle</td>
<td>ARRI ALEXA, Codex Recorders, Grip</td>
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<td>All Things to All Men</td>
<td>All Things to All Men</td>
<td>George Isaac</td>
<td>Howard Ahterton BSC</td>
<td>ARRICAM Lite 3-Perforation, Ultra Primes, Master Primes</td>
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<td>Now Is Good</td>
<td>Now Is Good</td>
<td>Of Parker</td>
<td>Erik Wilson</td>
<td>ARRICAM Studio &amp; Lite 3-Perforation, Master Primes, Grip</td>
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<td>uwantme2killhim?</td>
<td>U Want Film</td>
<td>Andrew Douglas</td>
<td>Tim Wooster</td>
<td>ARRICAM Lite 3-Perforation, Grip</td>
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<td>A Fantastic Fear of Everything</td>
<td>Sensitive Artist Productions</td>
<td>Chris Hopewell, Crispian Mills</td>
<td>Nigel Willoughby</td>
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<td>Downton Abbey (Season 8)</td>
<td>Carnival Film &amp; Television</td>
<td>Brian Percival</td>
<td>Simon Chaudoir</td>
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<td>Hostile (Season 8)</td>
<td>Kudos Film &amp; Television</td>
<td>Alrick Riley</td>
<td>Simon Archer, Damion Bromley</td>
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<td>Episodes (Season 2)</td>
<td>Hat Trick Productions</td>
<td>Jim Field Smith</td>
<td>Rob Kitzmann</td>
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<td>The Café</td>
<td>Jellylegs Productions</td>
<td>Craig Cash</td>
<td>Daf Hobson BSC</td>
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<td>Call the Midwife</td>
<td>CTM Productions</td>
<td>Philippa Lowthorpe, Jamie Payne</td>
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<td>Game of Thrones (Season 2)</td>
<td>Fire &amp; Blood Productions</td>
<td>Neil Marshall, David Nutter, Alix Sakharov, Alan Taylor</td>
<td>PJ Dillon, Martin Kenzie, Sam McClurdy, Kamen Margentuth ASC</td>
<td>ARRI ALEXA, Codex Recorders, Grip</td>
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<td>Sinbad</td>
<td>Impossible Pictures</td>
<td>Grant, Colin Teague, Andy Wilson</td>
<td>Gavin Finney, Peter Sinclair, Fabian Wagner</td>
<td>ARRI ALEXA</td>
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</tbody>
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