



ARRI PAX Panel Kit:

One step beyond!

The introduction of an intelligent and dynamic lighting approach.

Two years ago, ARRI introduced a RGB-LED solution for background illumination. At the rbb Studio in Berlin, a LED-based background lighting system with a total length of 100m (328ft) and a height of 8m (26ft) was installed (see ARRI News 04/2007). At the beginning of 2008, ARRI installed another LED-based background lighting system of around 70m² (750 sq-ft) at the German TV station DWTV in Berlin. Further projects in 2008 and 2009 of this kind are already in the pipeline. Additionally, a working study of a soft light LED panel with various light control functions and film appropriate colour rendition was shown and discussed during several events in 2007.

Based on the working study, the development of a new LED concept was also driven by a close cooperation with lighting pros in all fields and market feedback. This resulted in a new design for an ARRI multi-chip LED module. This new module is called LEO, and offers a technology platform that provides enormous capacity in colour gamut, colour rendition and quality as well as light output and efficiency. The new light engine was developed with cooperation between OSRAM and ARRI Lighting. In principle, LEO is a multi-channel microprocessor-controlled LED light engine with algorithms working in the background controlling light output, colour and CRI. The algorithms also stabi-

lize colour and intensity at various ambient temperatures or dimming levels.

The compact size of the actual LED engine allows it also to design very efficient soft and spot optics. With the availability of the LEO module, ARRI engineers developed a prototype of an LED panel lighting kit offering four panels with exchangeable optics, wireless control of colour temperature, +/- green correction for matching fluorescents, dimming, selection of standard colour gels and hue/saturation levels.

The 8x16cm (3"x6") LED panels offer modular, mechanical, as well as electrical inter-

connection that allow for various arrangements of the panels. Equipped with a detachable backpack battery, soft and spot optics, plus a selection of mounting tools, the LED panel kit has gone through its first test applications with gaffers, TV broadcasters, lighting designers, DoPs, gaffers and rental organizations. The focus of these initial test applications was to approve the concept of a panel kit with an extensive range of possibilities and to find a desirable setup that covers the most lighting applications. The consensus of these tests was very promising. The potential of the ARRI LEO module was widely regarded as a step beyond existing technology.



A New Lighting Kit

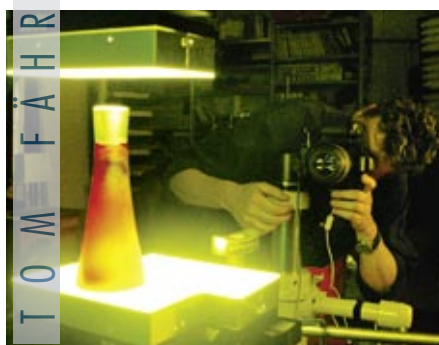
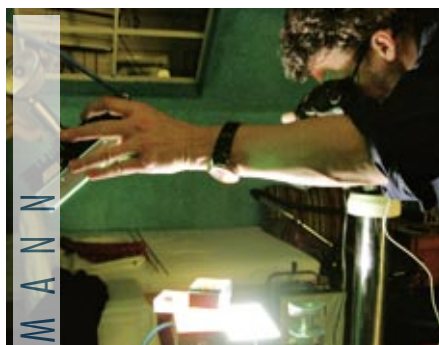
With the feedback from the prototype, the ARRI LED team designed the next generation LED panel kit called the "PAX Panel Kit". It comes with two LED panels, each containing eight LEO modules, exchangeable spot and soft optics, wireless control and an arrangement of accessories that were found during the discussions. Shortly after NAB 2008, a limited quantity of the new LED panel kits went to ARRI rental houses for further testing in the field.

Commercials and Feature Films

Tom Fährmann, a German DoP (DAS WUNDER VON BERN, CAMPUS, GESPEST VON CANTERVILLE) is well-known as a consultant to the ARRI camera department. He was one of the first testers. Fährmann used the ARRI LED panels for a test shoot of a perfume commercial. Fährmann's choice for realizing a highly efficient setup was an arrangement of three panels with the soft optic. He says, "It's fascinating how quickly the picture may be changed without struggling with gels, stands and hot fixtures. This system offers an enormous freedom in

creativity. The possibility to change colour temperatures or real saturated colours while shooting is phenomenal. I particularly liked the very even light distribution of the soft optic and of course, handling such a small

panel is quite different to a common setup with standard fixtures." Fährmann also uses the PAX Panel Kit on his current production POPE JOAN, which is shooting in Germany and Morocco.



Opera – La Bohème

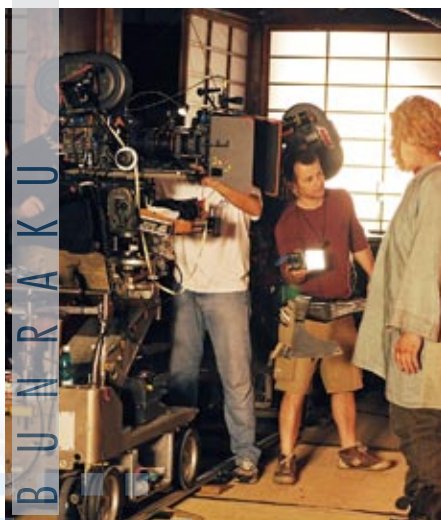
Another test application for the ARRI LED panels was found through our Austrian distributor, LB Electronics. Werner Wolf from LB Electronics was in contact with the production LA BOHÈME, a film adaptation of the famous opera, starring Anna Netrebko. DoP Prof. Walter Kindler (DER SPANIEN-KÄMPFER, OBEN OHNE, SOKO Kitzbühel) was especially interested in the function of remotely controlled colour shifts while shooting. Due to the very high colour rendition, the panels were also used as a beauty light for close-up shoots.



Beauty Light

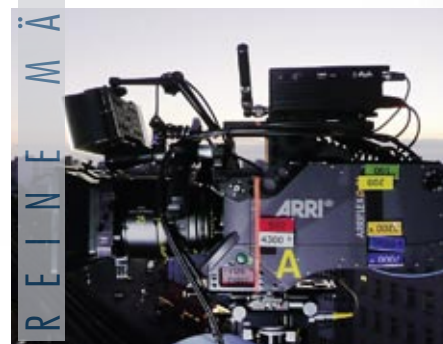
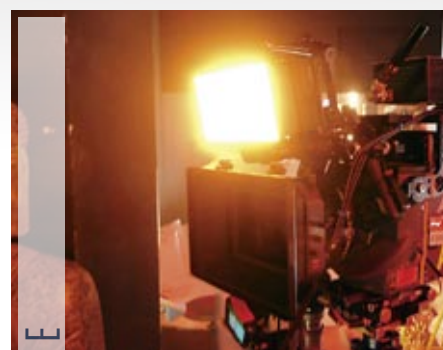
BUNRAKU (DoP Juan Ruiz Anchiá, gaffer Florin Niculae), a US production serviced by ARRI Rental Germany, relied on the PAX Panel Kit almost daily. The LED panels served as an on-camera light and as a beauty light. The wireless control was particularly interesting to them while operating the LED panels on a camera crane. Furthermore PAX was used as an effects and hidden light.

Florin Niculae: "This product is absolutely amazing, we used it every single day. The film will have many different coloured scenes, so we actually could utilize the full spectrum of the colour-functions. We used 90% of the time the soft optic, particularly with lighter colours; the spot optic was mainly used with strong colours to realize harsh effects."



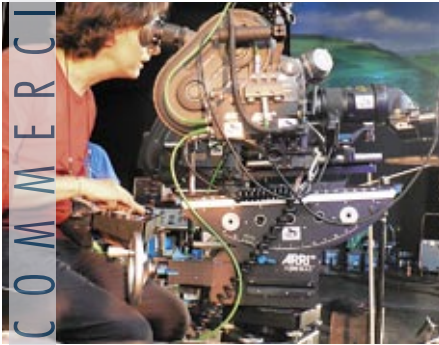
Uncommon Colour Temperatures

REINE MÄNNERSACHE, a German Constantin Film production (DoP Gernot Roll, gaffer Harald Hausschildt) also serviced by ARRI Rental Germany utilized the PAX functions on-camera (with the ARRI D-20) and effect light applications. Harald Hausschildt: "The LED panels turned out to be very useful especially because we could easily dial in uncommon colour temperatures for special effects. The speed of work that can be realized with these panels is great. Switching from a high quality, tunable, white light source into an RGB effect light within seconds and without converting the lighting setup really helped us in hectic situations."



Carrera Commercial

DoP Peter Aichholzer: "We used the LED pack shot kit for a Carrera toy commercial. This product is definitely an innovative step in today's lighting technology. It allows an extremely fast working style because of its compact design and the wireless remote control. The integration into miniature film sets is really easy and due to the countless



colour selection, it offers a unique potential for creative lighting situations. For the basic light level we always used high power HMIs and in addition we worked with small mirrors to bring the light into the right spot in our miniature scenes. The ARRI LED panels proved to be a good replacement for these mirrors with a much higher level of flexibility. I am looking forward to using the PAX Panel Kit again on my next production, which is a Playmobil commercial." The gaffer on this production was Ralf Hauschildt.

ARRI Lighting Rental and their commercial department ARRI Focus in London also introduced and tested the PAX Panel Kit in various applications. Feature films, TV drama productions and commercials had the chance to work with the new technology. Alessandro Leone from ARRI Lighting Rental and Rick Miller from ARRI Focus accompanied the field tests.

DoP Denzil Armour-Brown: "It could be really useful in pre-shoot meetings with directors when discussing which colours they want to use, obviously it's always quite difficult visualizing what a colour would look like with just a filter swatch, so to have the ability to demonstrate any swatch colour as if on a Tungsten or daylight lamp is fantastic."



U BE DEAD, DoP Mike Southon BSC, gaffer Mickey Brown: "Absolutely fantastic. We would like to carry this kit on every job. It has multiple uses, saves time as well when used in certain applications. We used it as a battery light on train. It is very interesting to have the ability to adjust the light, easy to fit in with ambient light levels. Ideal for lifts and car shots. Definitely the way forward."

New Department at ARRI

To fully support LED-based lighting solutions now and into the future, ARRI Lighting has established a new team. The LED team is primarily responsible for developing new product concepts and introducing them to the market. Product management, business development, marketing and PR will be the main focus of the new team. Furthermore, the R&D department will add new members to the team in order to produce more innovative products out of all the groundbreaking research and design.

The ARRI PAX Panel Kit is available at all ARRI rental houses (ARRI Rental Germany, ARRI Rental London, CSC New York and Florida, Illumination Dynamics Los Angeles, Illumination Dynamics Charlotte, North Carolina). Please visit our website www.arri.com for contact information.

Timo Müller

