

Letting the Work



ARRI is well known for providing the professional motion picture community with innovative, high quality tools and services. Our mission has always been to enable customers in building a sustainable business based on reliable ARRI products and empowering creatives to realize their visions. While digital film-style cameras offer many creative benefits to customers, it can also result in complex workflows. ARRI carefully packages innovative technology into easy and efficient workflow solutions. This exclusive introduction provides an overview of how simple, efficient and cost effective the ARRI ALEXA is in getting the job done and simply letting the work flow.

With a legacy of over 90 years in filmmaking, ARRI understands the need for simple to use tools that are dependable to allow the filmmaker to focus and the creative process to blossom. The unavoidable complexity needs to be effectively and ergonomically integrated "under the hood", allowing the user to focus on the job at hand. Developing technology to serve creativity, ARRI must also be aware of the budget considerations that are made and how this impacts production.

A digital camera system with unsurpassed imaging capabilities and integrated workflow features: Like the ARRIFLEX D-21, ALEXA cameras provide widely adopted, proven technologies such as uncompressed HD output over HD-SDI and full sensor resolution that is uncompressed, uncompromised ARRIRAW output through the T-Link interface. Additionally, ARRI has been working on integrating Apple ProRes codecs and QuickTime for unprecedented ease of use and workflow speed.



© Cinematographer Style

Russell Carpenter, ASC comments on the material he shot with the D-21 in anamorphic ARRIRAW:

"I'm timing 5 KILLERS at Efilm. The footage is pretty damn sensational and there is tons of latitude to move the image around... picking out great detail in the highlights... with a minor tweak it looks completely filmic..."

Flow

Shoot > Edit
ALEXA



Apple ProRes Direct-to-Post Workflow

Completely new to ARRI cameras is the power to record compressed audiovisual files onto removable solid state memory cards. The unique ability to write QuickTime MOV files containing Apple ProRes 422 (HQ) or ProRes 4444 onto SxS cards directly in the camera is a groundbreaking step towards interfacing effortlessly with postproduction. In-camera generation of additional files, such as a Final Cut Pro (FCP) XML, allows for transporting additional metadata and workflow automation details to complete a true Direct-to-Edit workflow for Final Cut Pro systems.

ProRes is a high quality, intra-frame codec especially designed for postproduction and editing purposes. The native support provided in Apple Final Cut Studio offers direct access to the complete suite of postproduction tools. The recently introduced ProRes 4444 addresses high quality production demands, emerging as a state-of-the-art finishing codec. It works without the need for chroma subsampling, thus treating colour information as equally important as luminance. In addition, it addresses even higher quality demands by supporting 4:4:4 RGB colour at bit depths of up to 12 bit. This is especially beneficial for cinema releases, VFX, keying and image content with detailed, fine colour transitions.

Recording with ProRes codecs, QuickTime wrappers and FCP XML onto SxS cards, creates Direct-to-Edit (DTE) functionality for Final Cut Pro, with an extremely quick editorial timeline. Accessing captured files consisting of images and audio is as simple as taking the SxS card from the camera, entering the card into the ExpressCard34 slot on a Mac and dragging the XML file into FCP. The files load directly into FCP.

Look Files and other Metadata

The ability to apply "Look Files" in ALEXA provides the option of instant dailies straight out of the camera in a directly accessible format – a major time and cost saving feature. An SD card slot is provided in the ALEXA to exchange Look Files. These Look Files can be applied to the output signals for baking the look in, or can be passed on as metadata in files on the SD card.

Besides the integration of the DTE functionality, ARRI enhanced the HD-SDI output capability through the use of embedded metadata. Whereas previously it was necessary to choose LUTs (Lookup Tables) or set ARRIRAW parameters manually, now with the development of the new ARRIRAW v3 Header, ARRI has extended the .ari file format to facilitate a better communication between camera, recorder and postproduction systems. As a result of long term development collaborations within the ARRIRAW Partner Program, auto-selection of LUTs or processing parameters for ARRIRAW are possible. This enables simple offline-to-online conforming from compressed or uncompressed HD to uncompromised, highest quality ARRIRAW. ARRIRAW is the only way to access the full potential of the ALEV III sensor, which has colour and dynamic range capabilities far beyond standard HD.

Metadata that will be embedded in the HD-SDI output will also enable remote start and stop functions as well as an auto-selection of conversion LUTs when shooting Log C HD on compatible recording systems.

Other benefits of recording directly in ProRes QuickTime files are:

- No time consuming, processor-hungry and quality-degrading transcoding or codec cascading
- No extra storage requirements for additional files are needed
- No error-prone converting, selecting or entering of metadata is required
- ALEXA generates everything you need, internally, in real time and in the right format.

ARRI Automated Workflows (AAW) are now possible with the ALEXA by embedding metadata in:

- HD-SDI Stream
- QuickTime Header
- XML Files
- ARRIRAW v3 Header

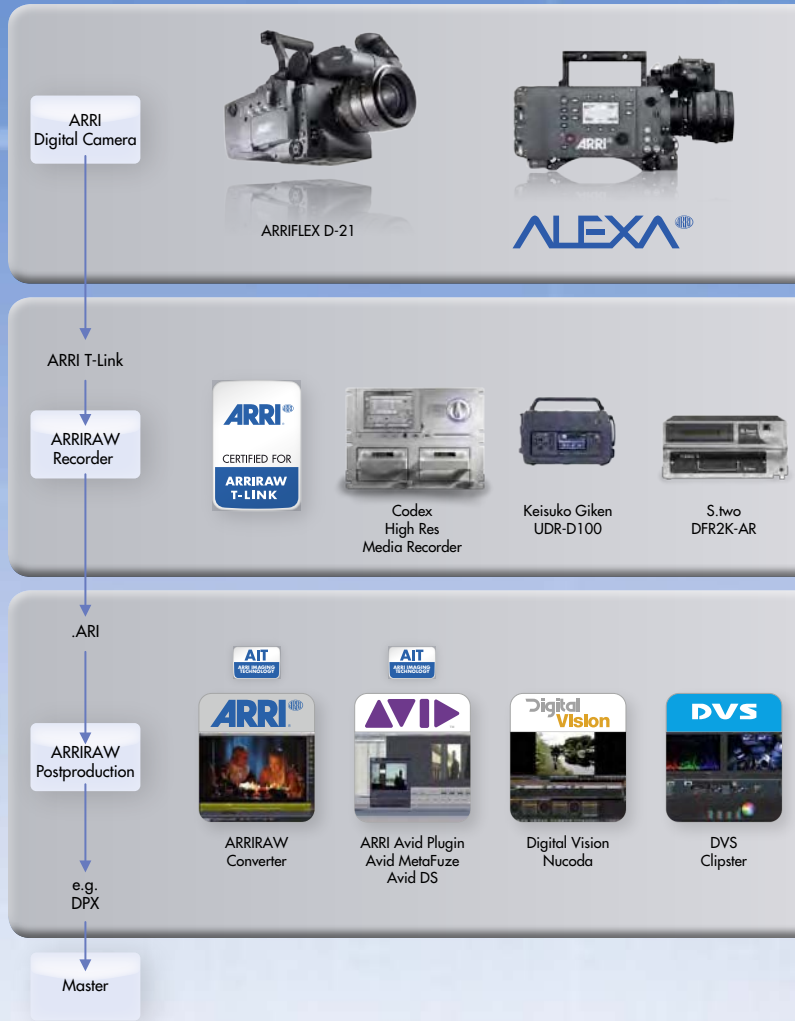
Conform Workflows

A possible uncompressed workflow that takes full advantage of ALEXA's powerful internal processing capabilities is one where the simultaneous recording of ProRes MOV files is made onto removable SxS cards in-camera, performed together with ARRIRAW recorded over T Link to certified recorders from companies such as Codex, Keisoku Giken or S.two. The ProRes MOV files offer immediate editing capability in Final Cut Pro. Once the editing sequence is finalized, a tool such as Glue Tools Digital Conform for Final Cut Pro can be used to link the edited ProRes data to the uncompressed ARRIRAW files. This new Glue Tools package consists of a Shot Management Tool, a Conform Tool and a Consolidate Tool. The combination of each of these tools allows the editor to not only perform an "Online/Offline" conform, but also manage colour as well. Such a simple, automated workflow will completely revolutionize the future for uncompressed recording, offering accessibility and security for productions ranging from low-budget commercials to high-end TV dramas and of course for motion picture films as well. The Glue Tools ARRIRAW Toolkit and Conform Tool are available at www.gluetools.com

ARRIRAW Uncompressed Bayer-Sensor Data Transported via SMPTE 372M

ARRIRAW Uncompressed Bayer-Sensor Data Header / Metadata

For Example YCrCb Rec 709 or RGB DCDM



ARRIRAW Converter

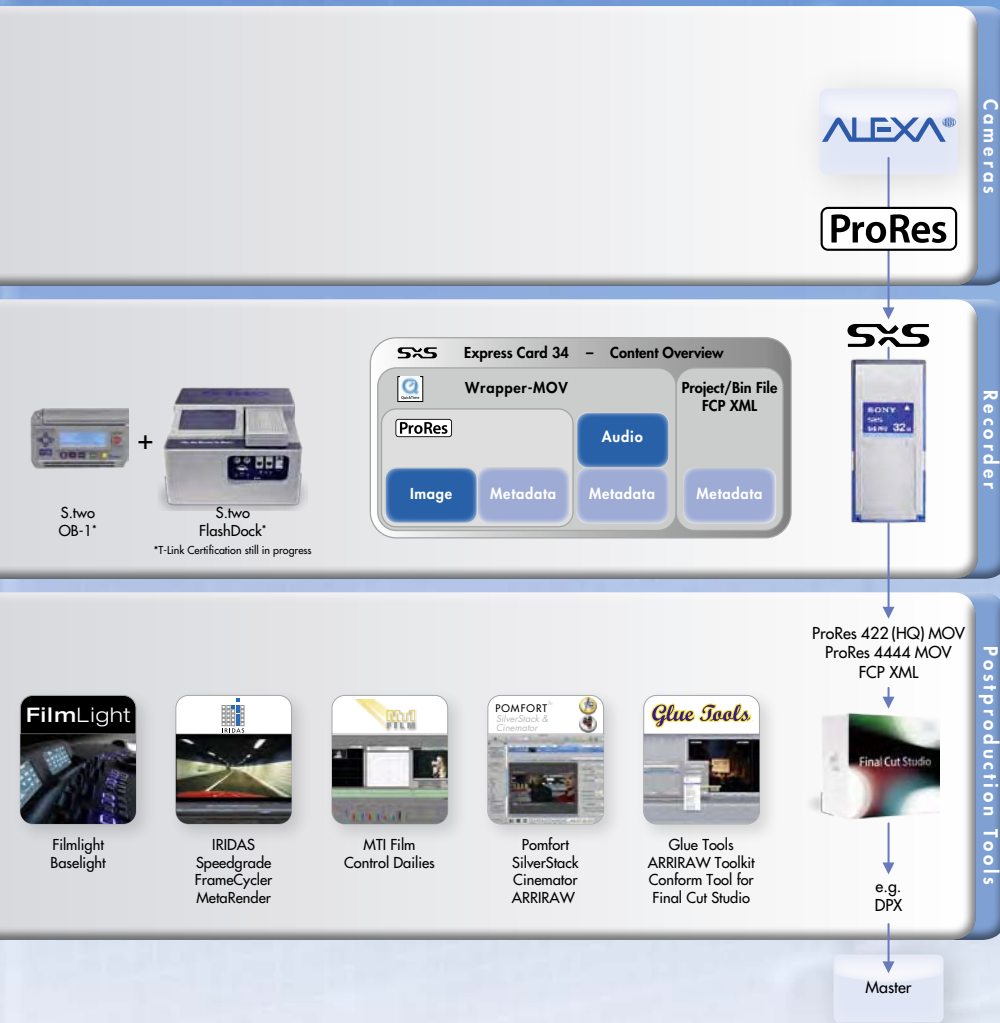
The ARRIRAW Converter (ARC) has also been updated to support new ALEXA formats and features. The Graphical User Interface (GUI) version for Windows now offers a GPU-based viewer that allows instant previewing of ARRIRAW files. Additionally new command line versions are available for several Linux distributions. ARRI is very pleased to offer ARC also for Mac OS now. The latest ARC installers can be downloaded at www.arri.com/arriraw and www.arridigital.com/arc

ARRIRAW SDK and Real Time Capabilities

With the introduction of the new ARRIRAW SDK, partners will be able to integrate ARRI debayering and image processing algorithms into their systems. Instead of requiring dedicated hardware for fluent playback of ARRIRAW file sequences, our approach is to utilize Nvidia GPUs, allowing the use of standard hardware to accelerate playback and real time processing – creating yet another cost saving and efficiency benefit. Systems using the ARRIRAW SDK can be identified by the ARRI Imaging Technology (AIT) label.

Adrian Widera





Summary

The ALEXA digital camera system with its variety of recording options and seamless integration into the most advanced postproduction systems embodies the ARRI philosophy of building better products for professionals.

By integrating most appropriate technologies, defining interfaces and harmonizing formats, the exchange of media and metadata is optimized between all workflow components. The ARRIRAW Partner Program has proven to be a great network to exchange and co-develop technologies and workflow solutions that reduce complexity and offer increased efficiency.

ALEXA Workflows – simplicity and efficiency from the multi-award winning, leading professional motion picture camera manufacturer – offering the best tools for the job, and bringing creative freedom and competitive advantage to the user.



“We’re very excited to see ARRI leveraging the power of NVIDIA® CUDA™ technology” said Andrew Cresci, GM Vertical Marketing at NVIDIA®: “If you’re a director of photography and you’ve got an entire crew waiting for directions on a series of shots, you want to streamline the decision making process. With CUDA™ parallel processing technology, ARRI can now deliver real-time preview of RAW video at full resolution – greatly accelerating the quality and speed of making critical decisions.”

Weblinks:

ARRIRAW Website and Support

ARRIRAW Website www.arri.de/arriraw
www.arridigital.com/contacts/partnerprogram
 ARRIRAW Customer Support ARRIRAWSupport@arri.de

ARRIRAW T-Link Certified Recorders

S.two www.stwo-corp.com
 Codex www.codexdigital.com
 Keisuko Giken www.keisoku.co.jp

ARRIRAW Capable Tools

ARRI ARRIRAW Converter (ARC) www.arri.de/arriraw
www.arridigital.com/arc
 ARRIRAW Avid Plug-in www.avid.com, www.arri.com/arriraw
 Digital Vision Nucoda www.digitalvision.se
 DVS Clipster www.dvs.com
 FilmLight Baselight www.filmLight.ltd.uk
 Glue Tools www.gluetools.com
 IRIDAS Speedgrade www.irdas.com
 MTI Film Control Dailies DA www.mtifilm.com
 Pomfort Silverstack/Cinemator www.pomfort.com

