

# IT'S ALL ABOUT THE CONTENT: Creation, Management, Distribution, and Display

## PRECONFERENCE SYMPOSIUM MONDAY, OCTOBER 26

### Seminar on Advanced Media Workflows and MXF

This SMPTE pre-conference, jointly sponsored by the Advanced Media Workflow Association and SMPTE, brings together production and post-production experts, vendors, and users to explore the current generation of file-based workflows and future expectations. The seminar will include a demonstration of MXF workflows handling essence and modifying metadata through the post-production process using a variety of vendor equipment. This will provide an opportunity to see how users and manufacturers are working together on solutions to improve metadata workflow, reduce re-keying of critical information and save money.

The seminar will feature a panel of studio, post-production and industry experts who will talk about what they are actually doing today regarding file-based workflows in their facilities. They will also share how they are looking to improve their metadata workflow through the production and distribution process. Confirmed speakers are:

- **Chris Carey** Senior Vice President of World-Wide Operations, Paramount Pictures
- **Chris Cookson** President, Sony Pictures Technologies
- **Michael Karagosian** President, MKPE Consulting
- **Tim Padilla** Executive Director, Digital Media Systems, Warner Bros.
- **Leon Silverman** General Manager of the Digital Studio; The Walt Disney Company
- **Michael Sterling** Principal Consultant; National TeleConsultants

Thank you to our Seminar on Advanced Media Workflows and MXF Sponsor:



## TUESDAY, OCTOBER 27

### 8:30 am – 9:45 am | 3D Opening General Session | Speaker: Rob Engle (Sony Pictures Imageworks)

Rob Engle is senior stereographer and digital effects supervisor at Sony Pictures Imageworks. His artistic and technical expertise is illustrated in movies such as *G-Force*, *Beowulf*, *Monster House 3-D*, *Open Season*, and the *Polar Express*, just to name a few. Engle will discuss the impact, importance, and opportunities of 3D.

## Technical Program

### 10:00 am – 12:45 pm | Service-Oriented Architecture (SOA) and the Media Facility

Get oriented to SOA and related technologies. This session provides information about the underpinnings of SOA in the media. Software services are hot; come learn why and how vendors and users apply SOA's principles to business solutions. Topics include SOA-enabled broadcast operations, production, media management and business process management. **Chair: John Footen (National TeleConsultants, USA)**

**SOA: An Orientation** | Joey Faust (National TeleConsultants, Inc., USA)

**Automation of Coordination—Business Process Management for Media Companies** | Felix Froede (CEITON Technologies Inc., USA)

**Beijing TV Station SOA Based on Network Production System** | Yang Chen (Sobey Digital Technology Co., Ltd., P.R. China); Jiang Bi (Beijing TV Station, P.R. China)

**Emerging Digital Post-Production File-Based Infrastructure, Workflow, and Process Enhancements for Theatrical and Episodic Television Content** | David Carroll (Sony Electronics, Inc., USA); Jim Farney (Consultant, USA)

**Decomposing Media Operations: Leveraging Advanced Content and Metadata Management Solutions** | Brian Campanotti (Front Porch Digital, Canada)

**On How Metadata Enables Enriched File-Based Production Workflows** | Dieter Van Rijsselbergen (Ghent University - IBBT, Belgium); Maarten Verwaest (V.R.T., Belgium)

### 10:00 am – 12:45 pm | Audio Issues in the Digital Environment

The transition to digital broadcast was foreshadowed by almost a decade of digital audio use in television plants. There are few mysteries left in A to D and D to A conversion, routing digital audio, embedding audio in SDI signals but there continues to be a persistent set of knotty problems including lip-sync (or lack thereof) and program and commercial loudness variations. Speakers in this technical session will address these issues and more. **Chair: Thomas Scott (Onstream Media, USA)**

**Audio/Video Synchronization in Compressed Systems: A Status Report** | J. Patrick Waddell (Harmonic Inc., USA)

**Audio Loudness—A Status Report on Standardization and the Legal Implications** | J. Patrick Waddell (Harmonic Inc., USA)

**Program Loudness and Loudness Management** | Kenneth Hunold (Dolby Laboratories, Inc., USA)

**Techniques for Establishing and Maintaining Audio Loudness for Digital Television: Understanding**

**How NBC Universal is Applying this ATSC Recommended Practice** | Jim Starzynski (NBC Universal, USA)

**Detection and Correction of Lip-Sync Errors Using Audio and Video Fingerprints** | Kent Terry (Dolby Laboratories Inc, USA)

**2:30 pm – 5:30 pm | Topics in File-Based Workflows and Technologies** File-based flows have replaced videotape methods for a majority of production and broadcast operations. Key to this is the transition to IT methods and techniques; flexible workflows built on the principles software services; architectural elements of QoS, networking, storage, control, scalability, reliability, management, security, and systems integration. Come learn the latest in file-based workflow best practices, case studies, standards, formats, and future concepts. **Chair: Al Kovalick (Avid Technology, USA)**

**Workflow-Driven Design in File-Based Systems** | Joey Faust (National TeleConsultants, Inc., USA)

**Case Study: Implementation of a File-Based Workflow from Acquisition to Air** | Michael Foti (WGBH Educational Foundation, USA)

**Creating a More “open” Automation Environment** | Rick Stora (Avid, USA)

**Taking File-Based Workflows to the Next Level: Project and Timeline-Based Integrations** | Ilja Strobbe (VRT, Belgium)

**Virtual File Systems for Dynamic Content in Digital Production Workflows** | Martin Libich (Cinegy, LLC, USA); Dmitry Klimov (Cinegy, LLC, Russia)

**File-Based Sports Production** | Michael Bergeron (Panasonic Broadcast, USA)

**2:30 pm – 5:30 pm | 21st Century Cinematography: New Tools and Trends**

Digital Cinematography has been evolving since before the first time a digital picture was compared to film. In recent years, the evolution has accelerated, and, as the pace of acceptance quickens, so does the number of questions and choices regarding sensors, format, lighting equipment, and other production issues. In this session speakers explore the status of cinematography in 2009.

**Chair: John Galt (Panavision, USA)**

**Selecting Production Parameters to Ensure that Picture Quality Accommodates the Intended and Possible Future Imaging Systems** | David Corley (DSC Labs, Canada); Moss Scott (Sky Television Studios, United Kingdom); David Adams (Sky Television Studios, United Kingdom)

**The State of Solid State Lighting: Color Rendering Index and Metamerism Considerations** | Jonathan Erland (Science & Technology Council of the Academy of Motion Picture Arts & Sciences, USA)

**On-Set Generation of Color Corrected Dailies in Digital Cinema Production** | Robert Currier (Gamma & Density Co., USA); Yuri Neyman (ASC, USA)

**Advancements and Innovation in Film Scanning Technologies** | Michael Senge (DFT Digital Film Technology, Germany)

**Optimum Red and Infra-Red Filtering for Digital Image Capture** | Ricardo Motta (Pixim Inc, USA)

**4K+ “Into Photometry”** | Hans Kiening (ARRI, Germany)

## WEDNESDAY, OCTOBER 28

**8:30 am – 11:00 am | Status of Display Technologies** This session will cover the latest developments in the rapidly evolving field of display technologies. Applications relating to both small-screen and theater presentations will be covered, along with important measurement considerations. **Chair: Peter Putman (ROAM Consulting LLC, USA)**

**Proposal for Practical Screen Luminance Uniformity Measurement** | François Helt (Doremi, France)

**What Will Replace the CRT for the Next Generation of Evaluation-Grade Monitors?** | Peter Putman (ROAM Consulting LLC, USA)

**Ultra High-Definition TV (UHDTV)—Development of Next-Generation TV Video Equipment** | Tomohiko Kudo (Japan Broadcasting Corporation, Japan)

**D-ILA LCOS Full 8K x 4K Resolution Projector** | Mastro Furuya (JVC, Japan); Rod Sterling (JVC, USA); Yasuo Inoue (JVC, USA)

**8:30 am – 11:00 am | Digital Asset Management and Storage Technologies**

This session will cover the latest developments in the rapidly evolving field of display technologies. Applications relating to both small-screen and theater presentations will be covered, along with important measurement considerations. **Chair: Jim Defilippis (Fox, USA)**

**Digital Storage Survey Results of Media and Entertainment Professionals** | Thomas Coughlin (Coughlin Associates, USA)

**Latest Developments in Content Management Standardization: the Content Management Interoperability Services Standard Proposal by OASIS** | Ugo Corda (National TeleConsultants, USA)

**The Importance of Media Verification for Effective Content Management Workflow** | Harry Aine (SAN Solutions, USA)

**Managing Content Integrity with MXF** | Oliver Morgan (Metaglue Corporation, USA)

**FS-Log: A New LUT for Digital Production Mastering and Interchange Applications** | Hugo Gaggioni (Sony, USA)

**8:30 am – 11:00 am | 3D Content Distribution**

3D has had a significant resurgence in the theater. 3D theatrical exhibition is not only driving higher box office numbers, but has also become a significant catalyst for deployment of digital cinema systems. This success of 3D is destined to migrate into the home. One day soon, we will have 3D televisions in our homes, and we will be watching the home releases of 3D cinema content. There are technical and political dimensions to the home deployment. A number of different television technologies will be potentially

deployed into the living room. A unified distribution standard will be required for successful deployment. This session looks at the activities that are driving toward standardization, and additionally addresses the question of whether eyewear will still be required to see 3D images.

**Chair: Matt Cowan (Real D, USA)**

**Developing End-to-End Standards for 3DTV to the Home** | Bill Zou (DTS, Inc., USA)

**Screen Gain and 3D Light Level Considerations** | Dave Schnuelle (Dolby Laboratories, Inc., USA)

**Approaches to Non-Glasses-Based 3D Displays** | Thomas Edwards (Fox Network Engineering & Operations, USA)

**MVC Compression Coding for 3D Applications** | Walter Gish (Dolby Laboratories, Inc., USA)

**Production and Presentation of 3D Live Events in Cinemas** | Walter Gish (Dolby Laboratories, Inc., USA)

**2:00 pm – 3:30 pm | HD News and Newsgathering** Viewers now expect their news to be in HD. Advances in low-cost, high-performance cameras, editing, and storage is making this transition much easier and less costly. This session will focus on specific new technology and workflows which allow stations to make the jump to HD newsgathering without breaking the bank.

**Chair: John Luff (HD Consulting, USA)**

**Building and Managing a File-Based Wireless ENG Infrastructure** | George Maier (Microwave Radio Communications, USA)

**Field-Centric HD Newsgathering: Getting HD Files from the Scene to Air in Record Time** | Fred Fourcher (Bitcentral, USA)

**Field-to-air-to-online-to-mobile: Cross-platform Integration and New Technology Approaches to News System Design** | Walter Raps (CBS College Sports Network, USA)

**2:00 pm – 5:45 pm | Next-Generation Digital Distribution and Network Systems**

Higher bandwidth video signals, ever-larger media files, and IP-based video, all place increased demands on distribution, routing, and network systems. This session covers developments in standards and techniques for real time and file-based program distribution to optimize quality and ensure efficient use of resources and infrastructure. **Chair: Graham Jones (National Association of Broadcasters, USA)**

**Super-Performance 3Gb/s in a Practical Application** | Peter Hoffmann (Director Market Development, Germany)

**The Roll-Out of 3 Gb/s Infrastructures** | Randy Conrod (Harris Corporation, Canada)

**ABC's Bandwidth Independent Fiber Optic HD Central Switching Center** | Christopher Bauer (ABC Television Network, USA)

**Increasing Efficiency in Digital Distribution of Media: Concurrency and Conforming** | Brian Stevenson (Digital Rapids, Canada)

**Error Concealment Methods for Improving HD Video Quality in Internet Transport** | Benny Bing (Georgia Institute of Technology, USA); Camille Mazataud (Georgia Institute of Technology, USA)

**High-Speed Digital Transport—A Critical Comparison of Available Technologies** | Michelle Munson (Aspera, USA)

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**4:00 pm – 5:45 pm | Content Security** The studios' requirements for content security has increased significantly with the transition from standard definition to high-definition video distribution. New tools to protect content and to identify and track pirated content have been developed for use in a wide range of video distribution channels. During this session, presenters will describe some of the latest developments in content protection, pirated content identification, and forensic tracking.

**Chair: Brad Hunt (Digital Media Directions, LLC)**

**The Evolution of Watermarking and Fingerprinting Technologies—From Protection to Monetization** | Floris Maassen (Industry research & Development, The Netherlands)

**Using LED Backlight Display Technology to Provide Passive Forensic Marking** | Michael Sterling (National TeleConsultants, USA)

**Audio Watermarking System for the Protection of Audiovisual Content** | Joseph Winograd (Verance Corp., USA)

## THURSDAY, OCTOBER 29

**8:30 am – 11:00 am | Film Archive and Restoration in 2009** Restoration and preservation of our motion picture and television heritage has become increasingly important as time marches on, but economic and technical problems abound. The papers in this session will demonstrate that archivists are confronting a truly international problem of monumental scale. We will present efforts from around the globe to deal with restoring the treasures of the past and correctly saving our cultural treasure-chest for future generations.

**Chair: Mike Pogorzelski (Academy of Motion Picture Arts and Sciences)**

**Architecture for Embedding Audiovisual Feature Extraction Tools in Archives** | Robbie De Sutter (VRT, Belgium)

**Automatic Flicker Removal by Digital Restoration Techniques** | Zhiyong Li (China Research Institute of Film Science & Technology, P.R. China)

**Restoration of Damaged Korean Films by Using Various Image Processing Techniques** | Chulhyun Kim (Image Processing and Intelligent Systems Laboratory, Chung-Ang University, Korea); Vivek Mike (Image Processing and Intelligent Systems Laboratory, Chung-Ang University, Korea); Sangjin Kim (Image Processing and Intelligent Systems Laboratory, Chung-Ang University, Korea); Joonki Paik (Image Processing and Intelligent Systems Laboratory, Chung-Ang University, Korea)

**State of the Art and Science of Film Archives** | Mike Pogorzelski (Academy of Motion Picture Arts and Sciences, USA)

**Restoration of the Apollo 11 EVA Footage** | Mike Inchalik (Lowry Digital, USA); Kimball Thurston (Lowry Digital, USA)

**8:30 am – 11:00 am | Mobile Video Architectures and Services** The technologies necessary to deliver live video from terrestrial television stations to mobile and hand-held devices have been

developed and are now being deployed. This session will review the major elements of the ATSC Mobile DTV Standard and examine the implementation work already under way. In addition, the infrastructure issues that need to be addressed at the station level will be discussed.

**Chair: Jerry Whitaker (Advanced Television Systems Committee, USA)**

**Basic Elements of the ATSC Mobile DTV System** | Wayne Bretl (Zenith Electronics, USA)

**Dealing with IP for Mobile in an MPEG World** | Richard Chernock (Triveni Digital, USA)

**A Bigger-Picture Perspective on the Small Screen and ATSC Mobile Broadcasting** | Glenn Reitmeier (NBC Universal, USA)

**Broadcaster Plans for ATSC Mobile DTV** | Sterling Davis (Cox Broadcasting, USA)

**Digital Terrestrial Television Broadcasting (DTTB): Is There A Future For It?** | Peter Putman (ROAM Consulting LLC, USA)

**A Systematic and Flexible Architecture for IP-based Media Services** | Byunghee Jung (Korean Broadcasting System (KBS), Korea); Myunghwan Ha (KBS, Korea); Moonsik Lee (KBS, Korea); Yeonhee Oh (KBS, Korea); Sungchoon Park (KBS, Korea)

**8:30 am – 11:00 am | Stereoscopic Production Techniques**

**Chair: Tim Sassoon (Sassoon Film Design, USA)**

**Development of 240fps Single Lens 3D Camera** | Yoshihiko Kuroki (Sony Corporation, Japan)

**Consider Stereoscopy from Outset: The Adjustments in 3D Scenes for Stereoscopic Presentation** | Shih-Chueh Kao (University of Leeds, United Kingdom)

**A New Single Camera System for Stereoscopic Image Acquisition** | Zoran Perisic (AMPAS, USA)

**2D to 3D Motion Picture Conversion for Post-Production, Advertising and Legacy Titles** | Yusuf Broachwala (BSAT Labs LLC, USA)

**2:00 pm – 6:00 pm | Station Monitoring and Control in the Digital World** It is not business as usual...In this business climate, most television stations are charged with doing more with less: Adding more channels, additional complexity in monitoring and control, automation and traffic, maintaining high-quality-of-service, while reducing costs. This session gives a good overview of practical new design and operational considerations necessary for improving efficiency and maintaining station quality. **Chair: Harvey Arnold (Sinclair Broadcast Group, USA)**

**Proposed New Simplified RGB Gamut Display with True Color Saturation and Value Scales** | Dan Baker (Tektronix, Inc., USA)

**Centralized Multi-Station Operation—Take 2** | John Wadle (OmniBus Systems Inc, USA)

**I Can See Clearly Now: A New Test Pattern for the Digital Age** | Norm Hurst (Sarnoff Corp, USA)

**Automatic Content Based Video Quality Analysis for Media Production and Delivery Processes** | Peter Schallauer (Joanneum Research Forschungs Ges.m.b.H.,

Austria); Hannes Fassold (Joanneum Research Forschungs Ges.m.b.H., Austria); Martin Winter (Joanneum Research Forschungsgesellschaft mbH, Austria); Werner Bailer (Joanneum Research, Austria); Georg Thallinger (Joanneum Research, Austria); Werner Haas (Joanneum Research, Austria)

**Next-Generation Multichannel Television Station**

**Monitoring** | Michael Wright (TI Broadcast Solutions Group, USA)

**Broadcast Service Quality Monitoring Strategies** | Richard Chernock (Triveni Digital, USA)

**Pitch Blue—A Realtime HDTV Store and Forward Program Delivery System** | Robert Seidel (CBS, USA)

**2:00 pm – 6:00 pm | Advances in Compression Techniques**

Advances in compression technologies and techniques. This session examines advances in digital video and audio compression in production, post-production, and transmission, considering both newer technologies and improvements to older technologies. **Chair: Paul Hearty (Ryerson University, Canada)**

**PART 1**

**The Use of Flowfield Motion Compensation for 3-D Stereoscopic Moving Image Compression** | Gary Demos (Image Essence LLC, USA)

**A Multiformat Hybrid Transcoding Platform** | Hugo Gaggioni (Sony, USA); Ali Etezadi-Amoli (Sony, USA)

**Move to HD Without Bandwidth Penalty—Perfecting HD Streaming** | Ned Mountain (Wegener, USA)

**PART 2**

**Keeping Video Quality Pristine Throughout the Production Process—Introducing 10-bit 4:2:2 AVC/H.264 Encoding** | Yasser Syed (ATEME, USA)

**Balancing New and Old: Multichannel Encoders Delivering MPEG-2 and MPEG-4 AVC Workflow Efficiencies** | Ian Trow (Harmonic, United Kingdom)

**Backhaul of Live Television Using JPEG 2000 in MXF over RTP** | Helge Stephansen (T-VIPS as, Norway)

*\*Program Subject to Change Without Notice*



**Exhibitors . . . . . Booth**

AJA Video Systems . . . . .	313
Aspera . . . . .	305
ATEME . . . . .	204
Avid . . . . .	302
Canare . . . . .	209
Cinegy . . . . .	101
Cinnafilm . . . . .	308
Cobalt . . . . .	214
DataDirect Networks . . . . .	303
Digital Rapids . . . . .	304
Doremi Labs . . . . .	212
Ensemble Designs . . . . .	207
Evertz Microsystems . . . . .	100
Harris, Corp. . . . .	208
Interra Systems . . . . .	108
Intopix . . . . .	206
Marshall . . . . .	310
Miranda . . . . .	203
Omneon . . . . .	311
OpenCube . . . . .	216
Photo Research . . . . .	205
Pixel Power Inc. . . . .	307
Ross Video Limited . . . . .	301
Sarnoff Corp. . . . .	309
SeaChange International . . . . .	104
Sencore . . . . .	106
Sierra Video . . . . .	306
Snell & Wilcox . . . . .	200
TANDBERG Television, part of the Ericsson Group. . . . .	201
Tektronix . . . . .	300
Telestream . . . . .	315
Utah Scientific . . . . .	211
Video Clarity . . . . .	202