Section Meetings

Hollywood December 2004

Hollywood Secretary/Treasurer Patricia Keighley at the Section's December meeting.

The Hollywood Section held its annual holiday screening at the Academy of Motion Picture Arts and Sciences' Linwood Dunn Theater on Saturday, December 11. Through the courtesy of Warner Bros./Turner Entertainment Co., the 1939 MGM classic *The Wizard of Oz* was shown to 100 members and their families.

The presentation was preceded by a greeting from Secretary/Treasurer Patricia Keighley. Past Chair Dick May also provided information on the film. The audience was asked to indicate, by a show of hands, those who had never seen the film; two people responded. In asking how many had never seen it in a theater, almost all of the audience responded. The usual perfect Academy quality showing followed, using an answer print made directly from the original Technicolor 3-strip negatives.

—Richard P. May, Past Chair

Philadelphia November 2004

Ted Sheppard and Visual Sound in Broomall, PA, hosted the meeting on November 14, with refreshments provided by JVC.

Ken Freed, regional sales engineer at JVC Professional Products, discussed affordable HD production using the HDV format and also talked about JVC's HDV camcorder and D-VHS tape format. The HDV format, developed as a joint effort of JVC, Sony, Shar, and Canon uses open-standard MPEG-2 transport streams and allows for up to one hour of HD recording on a mini-DV tape. MPEG-2 compression helps make production more affordable than DV because it makes more efficient use of available bandwidth by using temporal and asymmetrical compression, which DV does not. Unlike standard MPEG, HDV supports video display during fast-forward and rewind by striping frames of video horizontally across the tape.

The HDV format uses the same cassette case, tape speed, and track pitch as the DV format and supports both 720P and 1080i formats. HDV files can be imported into a number of nonlinear editors, either directly or through the use of plug-ins. The HDV format also offers improved error-correction capability and enhanced resistance to lost data caused by dropout, because it uses error-correction across multiple tracks rather than just one track, as DV does.

Although HDV offers low-cost, high-quality HD production capability, it still lacks some capabilities that are essential for professional production, such as absolute time code for each frame and four audio channels.

—Dave Muckel, Secretary/Treasurer

Philadelphia January 2005

The Section meeting on January 11 was hosted by Bill Weber at WHYY in Philadelphia. It included two presentations: Encoding Technology, by Michael Guthrie, Harmonic, and Camera Technology, by Alan Keil, Ikegami. Ikegami also provided refreshments, as well as camera and monitor demonstrations.

Guthrie discussed the current state of digital content delivery, including MPEG-2, MPEG-4 AVC, and VC-1. MPEG-2 is the "new NTSC," i.e., a mature, widely accepted standard, but one that is still being improved upon. These improvements are focused primarily on noise reduction and "Look-Ahead" capability, which allows encoders to adapt better to dynamic content, and also for enhanced IPB rate allocation. MPEG-4 AVC provides more advanced tools for encoding, including artifact filtering, 1/4 pixel motion estimation, multiple reference frames, and variable size MC blocks. VC-1 is the standards-based version of Windows Media 9, which is currently undergoing SMPTE certification. VC-1 advanced profile includes two-layer entropy encoding and enhanced headers to enable closed captions and DVB Active Format Description metadata.

Guthrie also reviewed the practical impact of encoding advances on content delivery, including broadcast, satellite, cable, and TELCOs. Improvement in both encoder and decoder technology, all multiple program distributors to maximize bandwidth use, provide more advanced services and still maintain the video quality consumers demand.

Keil discussed the evolution of video cameras, and how advancements in both ASIC technology and image sensors have led to dramatic reductions in camera size and power consumption, as well as improvements in image quality. New HD production cameras using CMOS sensors can consume as little as 13 W. Keil also discussed the evolution of camera cables for HD, new wireless formats, and the development of tapeless camcorders, including optical disk, hard disk, and memory pack cameras. Keil's presentation was followed by equipment demonstrations from Ikegami.

—Dave Muckel, Secretary/Treasurer

Rochester
November 2004

Speaker Roland Zavada at the Rochester Section meeting in November.

With a capacity audience in the Building 205 Screening Room, Section Manager Christopher Wheeler, Eastman Kodak, introduced Honorary SMPTE Member Roland "Rollie" Zavada. Zavada, whose tenure at Kodak spanned reversal film product engineering to broadcast telecine evaluation, presented "An Update of Status and Preservation," covering the 26 sec of Double-8 film Abraham Zapruder shot of the JFK assassination on November 22, 1963. Attendees learned that as part of the work of the Assassination Records Review Board (ARRB) in 1997, Kodak provided pro bono "tools" for the authentication of the film through an analysis of all film and printing media, as well as the characteristics of the Bell & Howell Model 414PD camera. Zavada raised the curious point that until the ARRB study, no one had ever certified the vintage, type, and product information of the film that "we the people" have since paid $16.5 million to acquire.

In addition to interviewing surviving members of the Kodak processing laboratory in Dallas, TX, Zavada measured densitometrically, the Dmax of the film that corresponded to the history of Kodachrome II at the time. Results of the ARRB analysis went into his 1998 publication, "The Analysis of Selected Photographic Evidence," for the National Archives and Records Administration (NARA).

With colleagues from Kodak, Zavada became part of a 1999 subcommittee to recommend the procedures they believed necessary for preserving the film, anticipating no public access to the camera original or the two Secret Service copies. The subcommittee recommended 35mm black-and-white blowup separations of the film as the best means of archival preservation for at least 200 years, while making the image content available to researchers through 35mm color prints or video copies. Interformat at Monaco DigitalFilm in San Francisco, CA, did an outstanding job of creating 8mm to 35mm 4X blowup internegatives, black-and-white RGB separations, and recombined duplicate negatives and final prints to reproduce the films as they existed, with no color correction and no wetgate printing permitted. The inclusion of the RP9 test film confirmed high-resolution reproduction. There was no request for digitization of image content as part of the initial preservation effort.

Zavada dealt with some of the accusations and theories that the Zapruder film was a hoax and related, in part, to the many conspiracy theories that continue to persist. He addressed the missing processing laboratory punch code identification #0184; how the use of a negator spring in the camera achieved extremely stable motion velocity of 18.3 frames/sec; first-frame overexposure between consecutive shots, both as startup inertia and as a fog defect; and how *Life* magazine had a large number of still images from the film on the printing presses by November 27, making alterations of the original Zapruder film implausible within that time frame, or removal of frames unlikely without detectable artifacts. It is now evident that *Life* magazine received either the original or one of the copies as unslit Double-8 format because of the 16mm negative and dirty dupe printed in Chicago. (The so-called "Dirty Dupe" process is used for making "quick" readable images by processing a second negative print as reversal.)

A visual analysis was shown, comparing the apparent penetration of the Dallas "Jamieson" printer's septum line into the picture area beyond the perforations, which has precipitated speculation that the unslit version could possibly be from the camera original.

Turning to personal anecdotes, Zavada explained how he had the opportunity to view the original film four times and analyze selected scenes with a low-power microscope. Unfortunately, he was never allowed to excise a sample of even a blank frame for further analysis—nor was he able to conduct practical tests with Zapruder's B & H camera.

With a goal to obtain 35mm copies to add information to his research, Zavada did purchase a preservation copy of the original that allowed him to see the reproduced images and the information they contained firsthand. Kodak again supported further study, and a successful scan of that print was made using a Spirit DataCine to generate both HD and TIFF output. The audience viewed the video through a remotely operated D-5 HD machine feeding a CRT HD display, perhaps the most critical viewing possible of a preservation copy. A goal is to provide NARA copies of the digital data.

The audience inquired as to whether the film shows one or two assassins, Zavada offered only this response: "My role was to analyze the film and camera characteristics. Personally, however, I did not see that information clearly depicted in the film."

—John P. Weiksnar, Section Manager

Hong Kong Section
Tenth Anniversary Special
November 2004

The year 2004 marked the tenth anniversary of the Hong Kong Section. The anniversary event, held at the Hong Kong Jockey Club's spacious 290-seat theater in its clubhouse, was attended by more than 250 participants from the motion picture, broadcasting, and post-production industry, equipment manufacturers, vendors, and users. SMPTE President Gavin Schutz pointed out in his congratulatory message that Hong Kong is an important technology hub for media and entertainment and one of the primary gateways between East and West. The Section has leveraged its position to carry out the mission of SMPTE and thus organized a seminar to coincide with the tenth anniversary dinner celebration.

More than 250 participants from motion picture, broadcasting, post-production, equipment manufacturers, vendors, and end users were in attendance.

Titled "HD Workflow After Image Capture: from Post-Production to Exhibition," speakers took the opportunity to examine the new digital technologies affecting film, television, and video. In his keynote speech, John Chu, Centro Digital Pictures, said that for decades motion picture and television professionals had been working with one another, often against each other, in search of a single format for production, post-production, and exhibition that could be accepted by both industries. They finally found this in high-definition (HD). Chu cited examples of Hollywood's recent productions shot with HD and reminded attendees that HD was not video, but digital that inherited all the benefits and conveniences brought about by digital technology. He pointed out that the missing link in the HD equation had been the final exhibition stage, but anticipated that with the advent of affordable HD television sets and digital projectors, conventional film projectors would become obsolete. HD would bring unity to a world that had been plagued by so many different standards and formats. Both the film and television industries would speak a single language and be at peace with each other and spend their energy more in creativity rather than in fighting against each other. Chu ended his presentation with a screening of the trailer of an upcoming international film, which was mainly shot with 35mm motion picture film and transferred to HD for digital special effects and then completed with digital intermediate.

Joji Ezaki, technical advisor of Frontiers Co. Ltd., shared his views on the future of D-Cinema and program distribution in Japan.

In his presentation titled "Universal Content Production," Claude Guillaume of Thomson Broadcast and Media Solutions, the sponsor of this year's event, compared the production workflows of film and television, which were utterly separate industries. Both film and television, however, have embraced digital technology and the difference is narrowing, allowing universal content production and cross fertilization. As a result, the digital intermediate has played an important role in bridging the two media. Guillaume highlighted digital intermediate workflow and anticipated the shift to digital capture and digital cinema projection and highlighted its economic benefits. He concluded that with digitization in film and broadcasting occurring in parallel, the distinctions between the two separate industries would be blurred, opening up new business opportunities. Their respective creative differences would remain sacred, but they would be less differentiated by technology, and this would be conducive to their mutual economic advantage.

Percy Fung, Digital Magic, discussed the "Digital Intermediate (DI)," reinforcing the points made by the first two speakers. He put emphasis on the DI system,

which had to meet the requirements of filmmakers, and demonstrated the quality of DI filmout at different resolutions. With the evolution of digital technology and the cost-effectiveness of filmout, Fung envisaged that DI would be widely adopted.

Another reputable speaker, Peter Chu, principal engineer at Television Broadcasts Limited, discussed the "Transition to Digital Broadcasting and DTV Terrestrial Transmission." Chu highlighted the merit of digital television (DTV) versus analog television in respect to workflow and reception. He cited various test trials, covering fix point measurement, indoor, and mobile reception, etc. He also showed the timetable and the DTV standards that the Hong Kong government and broadcasters were considering to adopt by 2006/2007.

All speakers and committee members took a group photo after the seminar.

Michisuke Shimodaira, general manager of engineering at Frontiers Co., Ltd., Japan, presented the latest technology of advanced video transport where high-definition video signals in HDCAM format were transmitted live from NHK in Japan to Frontiers' facility in Hong Kong and then relayed by Hutchison Global Crossing via a DS3 signal line to the venue. Joji Ezaki, technical advisor of Frontiers Co., Ltd., shared his views on the future of D-Cinema and program distribution in Japan.

Finally, Hajime Kamata, business manager, Sony Corp. B & P Co., Business Strategy Department, demonstrated the latest state-of-the-art D-Cinema projector with 4K resolution and screened excerpts of *Spiderman II* on a 20 ft screen. The audience was impressed with the quality of the images.

After the seminar, more than a hundred local SMPTE members and invited guests attended the annual dinner at the clubhouse.

—Raymond Lai, Secretary/Treasurer