

Section Meetings

Detroit June 20, 2000

The June meeting was held a week later than usual, but the patience of members and guests was rewarded with a brief, but informative presentation by Randy Conrod, Leitch, Inc. The topics discussed were Universal Time Code and Time Division Multiplexing.

With the many means of transporting the variety of television signals in use, a need has been identified for assuring that time code attached to a particular program is still synchronous to that material when it arrives at its destination, as well as with the reference time for that facility. One key reason for this is the 5-frame cycle of the NTSC television signal. Leitch has been working on a system to manage these differences, which can be likened to a conveyor belt with a number of "wheels" of different sizes representing various types of time. By understanding these differences in phase—as well as the offsets from realtime, as is the case with GPS and TAI (atomic clock) time—an unknown time type can be derived from the relative position of the wheel representing it. There is currently a standard process for this under way at SMPTE (S22-16 is the working group) under the direction of Brooks Harris.

The second part of the program dealt with another proposed standard to Time Division Multiplex; up to 18 interleaved program channels onto a single 1.22Gbit/sec signal. This would enable an entire family of signals to be transported as one with propagation delay of no more than 4 microseconds. Additional information can be embedded in the horizontal ancillary data area. A typical payload might consist of a single 1080i signal, 2 x 480p/60, 4 x 4 80p/30, 6 x NTSC, or 18 x MPEG streams of no more than 68Mbits/sec each, or any combination of these that fit into the 1.22Gbit/sec overall capacity. SDTI, although considered more economical, poses some limitations.

Some key differences discussed were: SDTI latency is 1 field, TDM is a fraction of a line; HANC data is needed for every frame of SDTI, where required space is small in TDM; and with SDTI, multirate SDI cannot support multiple



New York Section meeting in June; Tom Tucker, Tektronix Inc.

streams. The key advantages of TDM are that any standard can be delivered over a single piece of coax within a facility. It is more cost-effective than wave division multiplexing, and supports all formats from 4:0:0 to 8:8:8, uncompressed or compressed at the same time. Interesting applications for TDM might include stereo (3-D TV) on a single wire, as well as medical and sports programming.

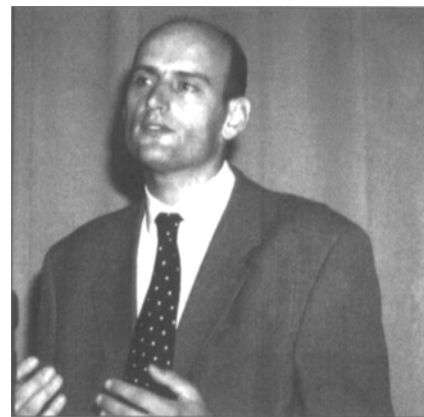
After the meeting, the group was given a tour of the (WKBD) transmitter site, where installation of a DTV transmitter is under way.—Frank Maynard, Past Chair

Germany March 26, 2000

The Ostdeutscher Rundfunk Brandenburg (ORB) operates the DVB Playground Center of ARD, the public regional broadcasters. Ralf Lenk, SMPTE Fellow, chief engineer, organized the presentation and very interesting discussion in Potsdam, where the ORB is located.—Peter H. Graf, Secretary

Hollywood June 14, 2000

The June meeting, which showcased high-definition applications in the market, was held at APS in N. Hollywood in conjunction with a symposium. The program attracted over 1,000 people from the area as far as San Francisco and Phoenix, AZ. Representatives from all disciplines including film producers, cinematographers, directors of photography, major studios, etc., were in attendance. Among the contributors were vendors and service providers



New York Section meeting; Ron Mandooks, Philips Digital Networks.

encompassing many facets of the industry. Technologies such as high definition, video post production, production, acquisition and film, and many other areas of interest were discussed. A HD theater with surround sound was set up allowing attendees to view tapes in HD via a DPS-5SX projector, and a screen measuring 18 x 22 ft. Fox network showed outtakes from the "X Files," and compared 35mm to digital video capture at 720P. Also on exhibit was a 24P camera from Panavision with its newly developed HD prime lens. National Mobile Television exhibited its HD production vehicle, HD-2, which provided coverage of the meeting. Presenters included Jim Gosney, associate director, Digital Video Task Force for Procter & Gamble and Bill Feightner, technical director of "E" Film. Gosney discussed commercial production in HD and Feightner spoke about HD video transfer to film. The meeting was a departure from the normal venue but gave members hands-on experience with HD.—Bobby Lee Lawrence, Section Chair

New York June 20, 2000

Members and guests were given a joint presentation by Philips Digital Networks and Tektronix, Inc., on watermarking techniques, which involve embedding low bit rate data into the active portion of a video signal for a variety of uses without becoming visible to the viewer. Both manufacturers have incorporated their ideas into actual products.

Tektronix uses watermarking as a means of measuring and correcting lip sync errors in television production. Tom Tucker, product marketing manager, Tektronix, described the origins of audio-video delay, which can occur in the production process through cascaded use of frame stores such as digital video effects and synchronizers, time code errors, and independent paths for audio-video signals. The technique involves encoding an audio delay reference signal into the active portion of the signal, which can be detected downstream and fed to a variable delay to restore coincidence. The maximum encoded data rate is 200 baud, and some of the data can be used for source identification.

Tucker suggested that audio-video delays might be much shorter than expected, although distraction is still evident. Several precisely delayed videotape segments were played for audience judgment.

Ronald Mandooks, business development manager for Philips watercasting products, outlined a different approach for watermarking that includes copyright protection, program ratings measurement, and remote signaling. The Philips watercasting technique embeds the watermark as a variable noise pattern in the luminance signal of the program material and it adapts to scene content. By means of a sophisticated detector, the signal can withstand all processing steps, including compression, standards conversion, cropping, and noise reduction. Philips claims the pattern is invisible on normal program material. Each watermark is unique and provides the basis for high security access. The maximum embedded rate is 72 bits/sec and the encoder and detector are designed for 525/625-line operation and will function within analog or SDI infrastructures.—Jay Ballard, Section Manager



Nordic Section visitors at the University of Art and Design in Helsinki, Finland.

Nordic May 23, 2000

Ten people attended the meeting hosted by the University of Art and Design, Helsinki (UIAH), department of film and television. Organized in cooperation with the Nordic Film and Television Union (NFTU), the program commenced with an excursion to the newly inaugurated UIAH media center, Lume. This was followed by presentations by Henry Gron, director of Lume, and Prof. Lauri Tbrhbnen, head of the department of film and television, who discussed the present state and future views of film and television education in Finland.

The UIAH, established in 1871, educates and pursues research in design, audiovisual communication, art education, and the arts; there are 11 departments and 17 fields of education and research. With nearly 1,600 students, 15% from abroad, and 400 teachers, UIAH is the largest art school in Scandinavia. Fifteen hundred students participate in extension studies annually and 1,000 study at the Open University.

The main purpose of the department of film and television is to support and develop the traditions of cinematic expression and the philosophy of the cinema. Consequently, the focus in all teaching is on the importance of professionalism and the distinctive characteristics of the cinema as an art form. The department is also committed to developing and strengthening education, sensitivity, and originality; already shown by the new generation of filmmakers spawned at UIAH. There are 120 students in the department, and 20 films are produced each year. The department has seven branches of learning: direct-

ing, screenwriting, editing, sound and sound design, cinematography, documentary, and production. Degree levels are B.A., M.A., and Doctor of Arts; in addition there are non-degree studies.

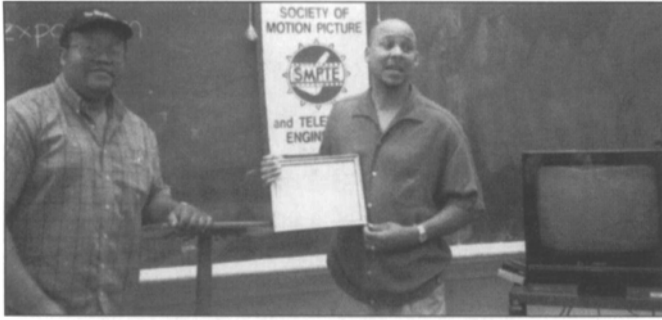
Lume, which is unique even from a global point of view, meets under the same roof as the departments of film and television, design for theater, and new media. It is a complete film and television production center and has all the necessary support services, including scenery building and audio post-production facilities. It also serves the public as a cultural center, by providing the neighboring community with movie theaters, a studio theater and auditorium, and a gallery for exhibition.—Otto E. Mikkela, Secretary/Treasurer

Pasadena City College April 11, 2000

With 30 in attendance, the meeting commenced with announcements and the introduction of guest speaker Ken Whittingham, director and first assistant director/stage manager.

Whittingham received an A.A. in journalism from Pasadena City College and a B.A. from Cal State Northridge. After completing his education, he was hired to work in the mailroom at KCBS news and was promoted to news producer within two years.

Whittingham lived in Europe for a few years and later returned to Los Angeles, where he was contacted by a former colleague, who asked if he was interested in working as a production assistant on the sitcom "227". The first year, he spent numerous hours observing the editors and directors. After his second year as a production assistant he became the stage manager.



Pasadena City College April 11 meeting. Guest speaker Ken Whittingham (R).



Pasadena City College April 25 meeting. Guest speaker Philip Lee (R)

While working on "227" Whittingham decided he wanted to be a director and spent several years negotiating to direct his first sitcom. He later got the opportunity to direct an episode of the sitcom "Malcolm and Eddie" and has been directing since then.

Whittingham explained in detail his responsibilities as a director. He gave a video presentation of a quad screen with film cameras A, B, C, and X, which illustrated four different shots taken of a scene simultaneously. He then showed the scene edited together for television.

In closing, Whittingham advised students to take advantage of the PCC facilities, courses, and instructors. He told students to keep their eyes and ears open and their paths would be revealed.—Kassa Zakadi Chairperson

Pasadena City College April 25, 2000

With 35 in attendance, the meeting commenced with announcements and the introduction of guest speaker Philip Lee, director of photography (D.P.).

Lee graduated from UCLA's film school, where he developed his passion for lighting and camera composition. He worked his way up from a film loader, first assistant cameraman (1st AC), and camera operator. Lee was 1st AC and camera operator for academy award winners Ronnie Taylor, BSC, Russell Carpenter, ASC, and many others, and was promoted to D.P. in 1994.

During a Q and A session, Lee discussed the responsibilities of the D.P., who is responsible for equipping production, as well as hiring and managing the camera, electric, and grip crews.

About four years ago, Lee was commissioned to compare 35mm film with high-definition mediums. He noted that both were similar, as far as low light, however, as far as day interiors, grips must utilize heavy diffusion to correct

the simulated daylight coming through windows. When comparing film prints and high-definition transferred to film print, he used a magnifying glass to tell the difference, and said that the next *Star Wars* movie would be filmed in high definition.

In closing, Lee advised students to take advantage of the professors and the facilities available at PCC and noted that communication is key to succeeding in the motion picture industry.—Kassa Zakadi, Chairperson

Rochester May 9, 2000

The Eastman Kodak Co. "Theater on the Ridge" Alcove Room was the venue for the Section's third annual National Association of Broadcasters roundtable review. Several members and regional representatives from major equipment manufacturers reviewed the hottest topics of NAB as Dr. Frederick J. Kolb moderated.

Arthur Cosgrove, Kodak, began by discussing the telecine progress. The Philips/Kodak Spirit datacine continues its high ranking, while the Voodoo promises 1080p/24 uncompressed capture in 25p, 48sF, 50sF, 50i, and 60i. Shadow is a low-cost, 3-sensor model with Zeiss lenses and 16- and 35mm gates, and the Spectre virtual datacine preserves film by scanning to disk in one pass.

John Cerquone, Cer-Tec, highlighted Sony and its new MPEG-based platform. Editable and shippable through the plant, MPEG IMX is a 50Mbit/sec, I-frame system with legacy 1/2-in. playback. He mentioned the designation SDTI-CP, short for "content package," being close to passing the technology committee and becoming D10. William Kennedy, Panasonic, recapped the DVCPRO-100 HD rollout, complete with new cameras priced competitively

against analog. The euphemistic term for tape, "heritage assets," became relevant in the Media Ark's capability of housing 7,200 DVCPRO cassettes for over 20,000 hrs of storage.

Arte Machia, Philips DNS, dwelled on transmission—both web-based and streaming. With MPEG-4 as the choice for 10kbit/sec to 1Mbit/sec A/V services over IP, he described the Clevercast encoding station and its capability to use existing transport and multiplexing formats.

Jan Pazral, WXXI (PBS), asserted that four days is not enough at NAB. Regarding datacasting, Dotcast "data over television" sends 4 to 5 Mbits/sec over NTSC, while burst.com provides faster than realtime in bursts. He also noted the Ikegami HD/SD HDK-790D/79D camera and Kaleido-QC PC-based integrated monitoring and control by Miranda. John Walsh, WHEC (NBC), closed the discussion by stating: "Right now, as broadcasters, we have an extraordinary opportunity to make bad choices." His concern over controlling the DTV bitstream was the reason, but ATSC splicing and logo insertion equipment from IBM, Divicom, and Agilevision should ease the transition.—John P. Weiksnar, Rochester Section Manager/ Membership Chair

Rochester June 8, 2000

In conjunction with the Society of Broadcast Engineers, the Section held a special meeting in the studios of WXXI-TV21. The glass-to-glass walk-through and demonstration of a DTV chain marked a first for Rochester, and succeeded as an innovative, hands-on paradigm for other chapters to follow. Introduced by Section Chairman-elect Vincent T. Slavin, WXXI director of engineering, Kent Hatfield, dubbed himself "Mr. Wizard" in his role over-



Rocky Mountain July meeting. Ron Vincent, KWHD, discusses DTV transmission at the annual Lookout Mountain seminar and luncheon.

seeing the daylong installation of equipment.

The spectacular array, beginning with HD camera, spanned switcher, microwave link, format conversion, excite, encode, transmission, decode, and display. Transmitting on channel 16—but allocated to the WXXI DT designation 21-1—the 1/2-W indoor exciter signal emanated from a mere Radio Shack bowtie antenna pinned to a studio curtain.

Reception via a set-top loop antenna located a few meters across the room allowed attendees to manipulate freely and simulate multipath. Attempts to foil the 8-VSB scheme resulted primarily in macroblock distortions to a DVCPRO-100 1080i sourced image and its station ID “bug,” inserted into the transport stream by a single ADC encoder. The encoder also resolved lip sync.

The event, which drew visitors from as far as Albany and Buffalo, continued

with individual presentations by manufacturers, representatives, and vendors, which included Panasonic, Hitachi, Fast, Insciber Technology, JVC, Videotek, Ross, ADC, Tektro-nix, and LeBlanc Broadcast.

The meeting concluded with personal demos and a Q and A session, followed by an opportunity for operators to view the displays.—John P. Weiksner, Rochester Section Manager/Membership Chair

Rocky Mountain July 19, 2000

Excellent weather greeted over 65 attendees at the annual Lookout Mountain seminar and luncheon. RIA Corp. and Burst Communications sponsored the meeting, with KWGN providing the facilities at their transmitter site. Ron Vincent, chief engineer at KWHD, and Rome Chelsi, Section Chair, provided keynote discussions that included topics relating to Denver’s transition to digital television. Technical staff from many of Denver’s television and cable operations were in attendance.—Rome Chelsi, Section Chair

SMPTÉ News

Xytech Appoints Hugh Heinsohn as GM

Xytech Systems Corp., has announced the appointment of SMPTE member Hugh Heinsohn as general manager. Based out of the company’s Burbank headquarters, he will be responsible for overseeing all of Xytech’s activities, including sales, marketing, and new business development in the U.S., Canada, and Mexico.

Heinsohn brings a 20-year background in the entertainment and communications fields to Xytech, having served in managerial positions for companies such as Digital Vision AB, 360 Systems, CAE Inc., and Gentner Communications Corp. Prior to joining Xytech, he served as general manager for the U.S. office of Digital Vision, which produces video image processing equipment. Heinsohn was also responsible for the execution of marketing and business plans, and the development of marketing and training materials for use

in direct mail, publicity, and sales campaigns.

Jeffrey J. Blatt Launches X Ventures

SMPTE member Jeffrey J. Blatt, Sr. vice-president of business affairs, Measat Broadcast Network Systems in Malaysia, provider of the Astro DTH service, has left Measat to launch a regional consulting company under the name X Ventures. The company will have its Asia-Pacific operations based in Bangkok, Thailand, and provide clients in the satellite, cable, broadcasting, internet, film, and entertainment industries with a broad range of services under the domain name Xventures.com.

According to Blatt, who will be the



new company’s founder and CEO, “X Ventures will provide clients with critical counsel and representation with which convergence companies need to develop, grow, and operate in Asia.”

KPIX Channel 5 Names Edwin Karl Chief Engineer

Edwin Karl has been appointed chief engineer of KPIX, San Francisco. Karl, a SMPTE member, was chief engineer of KBHK-TV San Francisco since 1994 and KTVX-TV Salt Lake since 1998. He was responsible for the construction of a new 50,000-sq. ft building in Salt Lake and worked on installing a new DTV transmitter and microwave site. Additionally, he worked on the conversion of the newsroom to Beta SX format to prepare the transition to digital editing. While at KBHK-TV San Francisco, he installed a new DTV transmitter and Ghz microwave.