

Section Meetings

Detroit

October 14, 1997

Thirty-five people gathered for an overview on Digital Versatile Disks presented by Mark Anzicek, Zen Technologies, Inc., at the October meeting.

Anzicek began his presentation with a discussion of the mechanical aspects of compact discs of all formats. He explained the manufacturing process, dimensional tolerances, and the use of various wavelengths of laser light as a part of the design criteria for a given format. DVDs use a shorter wavelength laser than audio compact discs, so the pits carrying the data can be packed much closer together, producing a higher data capacity. Using props, he demonstrated the method by which layers are sandwiched together to produce a finished disk of various types, including multilayer and two-sided disks.

A discussion of the manufacture and marketing of DVD followed. Anzicek included information on the issue of compatibility with other digital-disk formats, copy protection schemes, initial production and sales figures, and a profile of who is buying the players and software.

While playing a disk of a motion picture on a consumer player, Anzicek described the compromises in picture quality resulting from the extreme compression ratios necessary with DVD. He said the data rate can vary from a nominal 3.5 Mbits/sec up to 8.9 Mbits/sec to accommodate greater detail in the picture. However, as the rate goes higher, the running time gets shorter because the total data that can go on the disk remains constant. Even though DVD is a worldwide format, the technical universality has been compromised by the restrictions imposed by content providers. Anzicek also covered the various combinations of video format and regions.

Mastering issues were discussed, including the importance of using the best source material available, such as original film, to cut down on undesired artifacts, provide a clean transfer, and minimize the bit rate.

Anzicek concluded his presentation by touching on audio issues, DIVX and its ramifications on the DVD market, Data VHS, and the untitled single-layer recordable format under development. Questions from the audience followed.— Frank Maynard (Secretary/Treasurer), WKBD-TV

Florida/Caribbean

September 23, 24, 25, 1997

Serial Digital Video (ITU-R BT.601) was the subject of the meetings held at WCPX-TV, WJXT-TV, and Becon on



Mark Anzicek discusses technical details of Digital Versatile Disks with attendees at the Detroit Section meeting on October 14, 1997.

September 23, 24, and 25, respectively. Topics discussed by guest speaker David L. Jackson, Tektronix, included sampling and encoding theory; ancillary data and embedded audio, serial transmission, digital errors, and how to detect them; SDI shortcomings, the RP 178 pathological signals, and error detecting and handling (EDH) per SMPTE RP 165. There was also a short discussion on illegal colors and methods of detecting them.—Al LeBoeuf, Section Chair, Lockheed Martin

Florida/Caribbean

October 16, 1997

Section members continued to look at technologies supporting ITU-R BT.601 (CCIR 601) Digital Video at the meeting held at WMFE-TV-24. Earl Higgins, Pluto Technologies, briefly discussed the evolution of videotape-based recorders in the 20th century. He also talked about a number of tape based digital recorders, formats, and disk array and digital-based video recorders. Higgins demonstrated Pluto's Space video recorder which plays full bandwidth 8 or 10-bit CCIR 601 digital video. The unit had 16, 2-Gbyte drives with 21 min of storage. Utilizing larger drives, the unit could store up to 120-min of full-bandwidth, uncompressed video.

A strong emphasis was placed on the compatibility of the disk-based digital video (recording, storage, and networking) recorder that will interface and work with all videotape formats. This type of digital technology will help post-production facilities build the bridge between the numerous videotape formats and the all-digital video formats to come in the 21st century.—Al LeBoeuf, Section Chair, Lockheed Martin

SMPTE SECTION CALENDAR

New England

For further information contact Section Chair John C. Gates, Gates Service Group Inc., tel: (716) 477-8503, fax: (716) 477-8794

Dates for future meetings

January 21, 1998: Annual Nonlinear Equipment Open House

February 5-7: 32nd SMPTE Advanced Motion Imaging Conference in Toronto

February 18: Digital Day Seminar on Management of Large Video Data Bases

March 18: DVD and AC3 Audio Technologies

April 15: NAB Wrap-up

May 20: Moving WLVI-TV: Tour and Presentation (Tentative)

June 19: High-Speed Duplication/Annual Retrospective and Barbecue at Video Transfer in Southboro

Toronto

For further information contact Promotions Adviser Brad Fortner, Rogers Communications Center, Ryerson Polytechnic University, tel: (416) 237-0625, fax: (416) 979-5203, e-mail: bfortner@acs.ryerson.ca

Dates for future meetings

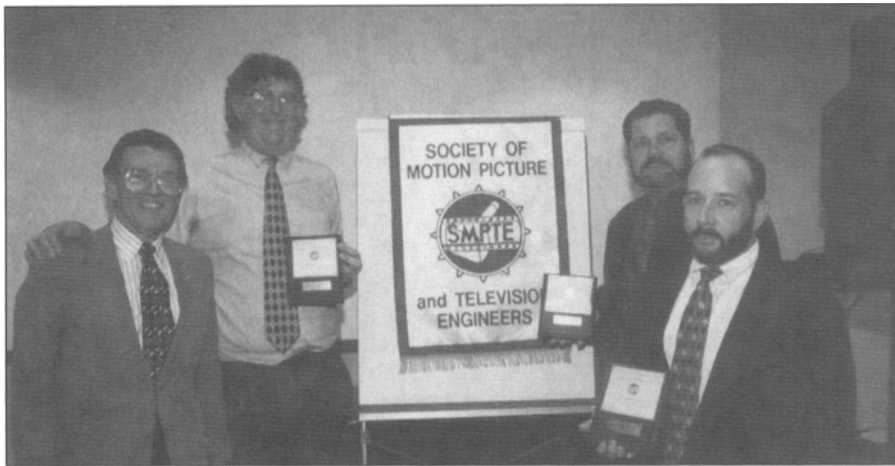
January 13, 1998

March 10, 1998

April (TBA), 1998

May 12, 1998

June 8, 1998



From left to right: Ed Schuller, and speakers, Jim Linder, Bob Strickland, and Steve Garfinkel.

Italy

October 16-18, 1997

A total of 215 people attended the SMPTE International Conference in Milan Italy. The conference highlighted the four communication worlds on which human technology is currently based, cinema, television, telecommunications, and computer science.

Several professionals were invited to present papers, tutorial reports, and attend roundtable discussions. The list of speakers included Vittorio Storaro, a three-time Oscar award winning director of photography, Leopoldo Frati, IBM, Guido Vannucchi and Robert Ceccato, both of RAI, Alan Brawn, JVC-USA, Alan Mosley, CRL-England, and H. Pichler, Vienna-University, Austria.

According to the attendees, the conference was beneficial as it improved individual understanding of the sciences.

The Section chapter had a SMPTE booth in the exhibition area which resulted in six new membership applications and several book order forms. Two companies inquired about becoming sustaining members.—Angelo D'Alessio (International Governor), Philips Italy

Nashville

October 28, 1997

Digital Audio for Advanced Television was the topic of discussion at the October meeting held at WDCN, Channel 8. Tom Crabb, NVision, gave an excellent presentation defining the current digital audio formats and the important considerations when working with these standards. His detailed description of each system kept the attention of the 22-member audience. Crabb used an overhead projector to show detailed specifications and block diagrams. He highlighted the problems to be faced with digital audio and proposed solutions in the areas of routing, distribution, and

processing of audio in a digital-production environment. Several interesting questions followed his presentation. Bill Spencer, WDCN, announced that PBS would be touring with DTV Express, mobile "classrooms of the future," and said Nashville was being considered as a possible site to display this new innovation in teaching.—Tom Hoffman (Secretary/Treasurer), The Filmworkers Club

New York

October 16, 1997

Sixty members gathered at Eastman Kodak for the October meeting focusing on preservation. Steve Garfinkel and Bob Strickland, both of Kodak Professional Imaging Division, explained the many factors affecting photographic film in their talk "The ABCs of Motion Picture Film Preservation." Factors discussed included temperature and humidity, radiation, water damage, airborne chemical contamination, improper developing and processing conditions, composition of storage containers, and rewinding tensions. They reviewed the properties of many motion picture film types beginning with the introduction of the first color negative stock, EK type 5247 in 1950, and also spoke about how color-film sensitivity has increased from ASA 16 to 500. Their illustrated talk stated that properly processed and washed black-and-white polyester base films stored under proper recommended conditions have a potential life expectancy rating of 500 years. Each attendee received a complimentary copy of the revised edition of *The Book of Film Care*.

The second part of the program was presented by Jim Linder, Vidipax. His talk, "Save Our Tapes! Archiving and Restoration," began by reminding us that magnetic tape is an organic material that will eventually deteriorate to a stage where it can no longer be played back. He pointed out that over 100 audio and videotape

formats have been in use since the introduction of magnetic tape recording and represent an important part of our cultural heritage. Among the many questions raised was, "Years from now, who will own and maintain the many different types of machines needed to play back all the old formats?"

In an effort to help preserve historic recordings on old formats, Linder's company has reconditioned many of the machines so these programs can be recorded into modern media. He has also established a museum of magnetic recordings with over 400 pieces of equipment. Linder displayed many rare and obsolete magnetic cassettes and cartridges during his talk, and questioned the extensive use of video compression because it compounds the difficulties in preserving magnetic recordings, whether on tape or disc. He described various practices which degrade recordings and offered solutions for maintaining magnetic retentivity. Since there is no immediate agreement that an archival medium had been developed to preserve magnetic recordings, whether analog or digital, Linder recommended all users transfer their programs to several modern recording systems.

The audience's keen interest in the subject of preservation was demonstrated by the fact that all three speakers answered questions for over an hour after the presentation.—Ed Schuller, Test Materials Adviser

Pacific Northwest

October 22, 1997

CSI Digital presented an exceptional tutorial titled "The Other Broadcast Network or Your Other Network" to the 110-member audience. The majority of the presentation focused on generic LAN (local area network) data communications topologies and terminologies with more detailed descriptions of scenarios most common to a broadcast environment.

LAN topologies was broken into low, medium, and high-speed networking solutions. There were discussions on common industry misconceptions such as when to talk Mbyte versus Mbit, and when a switcher is not a switch. Discussions continued on things users should be aware of such as NIC (Network Interface Card) availability, driver support, and standards compliance or completion.—Michael P. Scott, Bates Technical College

Pasadena City College

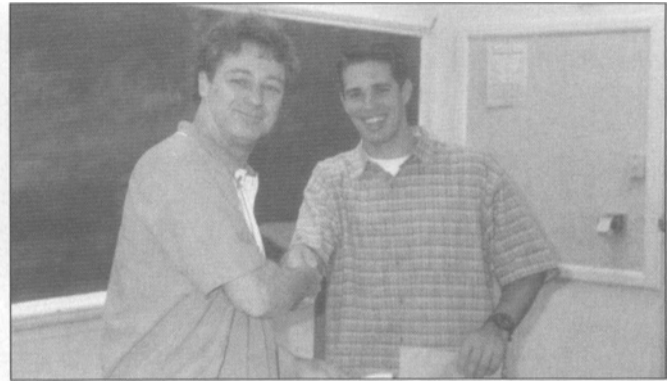
October 14, 1997

An audience of 41 gathered to listen to Ossie Di Paolo and Edward Lowrie, both of Fox Tape, at the October meeting.

They brought slides of the Fox Tape facilities, Century City, Calif., which is still under construction. The slide presenta-



From left to right, Ossie Di Paolo, Edward Lowrie, and Josh Ochs.



Joel Munsey (l) receives certificate of appreciation from Josh Ochs.

tion allowed students to relate to the size and technological advancements of the building and dominated most of the meeting. While Di Paolo pointed out the different pieces of equipment and explained their use in the industry, Lowrie filled in with various technical specifications. The new Fox facility has an up-to-the-minute digital video effects computer for television. The building also contains four advanced routing switchers which were explained by the Fox Tape representatives.

There was time set aside at the end of the meeting for group questions. Di Paolo and Lowrie, who began by taking classes at Pasadena, were presented with certificates of appreciation.—Josh Ochs, (Chair)

Pasadena City College

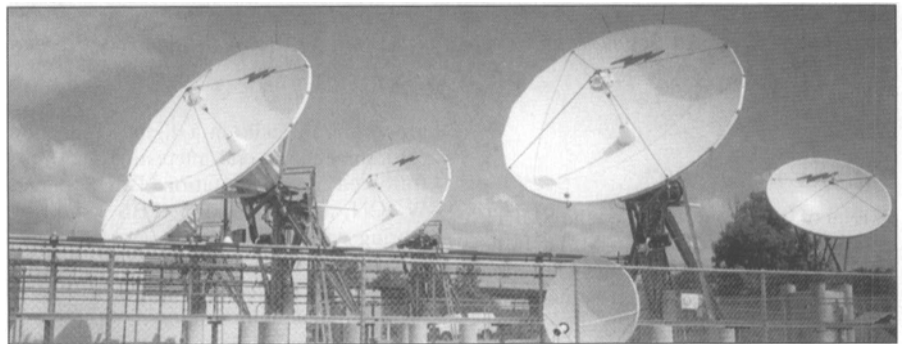
October 28, 1997

Guest speaker Joel P. Munsey, Ice House, began by telling the 37-member audience how he entered the audio engineering industry. He said he took several TV tech classes at Pasadena and recorded small records on the side. He talked about his personal experiences and shared some of the mistakes he made. Munsey tried to show the students that self esteem can get in the way of opportunity. He said that too much self esteem can cause you to think you are worth more money than is offered, and too little can make you feel intimidated by large jobs. Munsey has worked at Ice House for approximately seven years as an audio engineer.—Josh Ochs, (Chair)

Toronto

October 14, 1997

"Programming is all that matters, all the rest is housekeeping," concluded Terry Snazel, Express Vu, in his recent presentation to SMPTE's Toronto Section. Snazel hosted the October section meeting which included a tour of ExpressVu Inc., which had become fully operational just five weeks prior to the event. Express Vu is the first Canadian company to be awarded a license to provide a full range of direct-to-home (DTH) satellite entertainment and



Express Vu provides direct-to-home satellite entertainment.

information to Canadians in every region of the country. While Snazel's presentation centered on the extraordinary details of how he and the ExpressVu team had the massive plant operational in less than seven months, the story of ExpressVu's history proved to be equally compelling. Speaking before 220 SMPTE members, Snazel explained how ExpressVu had originally started testing DBS technology with the hope of launching a service in 1995. However, their original system had serious technical deficiencies and they decided to search for new technology. In early 1996, just as new technological plans came together for ExpressVu, the failure of Telesat's Anik E1 satellite meant the company had no transmission capacity. Once again, the company retrenched and went about making new plans.

In creating their current business plan, ExpressVu decided to start their service on the existing Anik E2 satellite. The Anik E2 is a Ku-band fixed satellite service (FSS) which will be in use until the company launches its own DBS bird in 1998. To make the Anik E2 work, ExpressVu had to make its transponders emulate a DBS satellite. Rather than create their own receivers and set-top boxes, the company contracted EchoStar to provide the Digital Video Compression system (DVC) and the set-top integration. EchoStar's technology is MPEG-2/DVB compliant. Finally, the company contracted Nagra Vision of Switzerland to provide the conditional access system that programs the set-top

box to decode the various channel packages for subscribers.

ExpressVu currently beams 100 channels to its subscribers on a combination of national and regional beams, 70 video channels in the east, 50 video channels in the west, and 30 CD-quality music channels that are announcer and commercial free. In delivery, ExpressVu makes use of 14 RF channels on the Anik E2 satellite. Next September, the company plans to launch its own DBS satellite. At that time ExpressVu will make use of 17 transponders that will give them channel capacity of 180 stations. While using Anik, subscribers require a 24 in. dish for receiving ExpressVu signals (30 in. in the Maritimes). However, dish size will drop to 18 in. nationally as the DBS satellite comes online in 1998. The company's system provides a digital-quality picture and CD-quality audio. It also sends electronic mail to subscribers allowing them to stay current on new programs, channels, and information. Software upgrades are also delivered via the receiver and may include new features for the menus, or additional functions for existing menus.

ExpressVu's Digital Broadcast Center is the only fully integrated direct-to-home (DTH) broadcast facility of its kind in the world, housing the company's administrative offices, business operations, customer service call center, technical infrastructure, and satellite uplink.— Brad Fortner (Promotions Advisor), Rogers Communications Center, Ryerson Polytechnic University