

## 1996 PROGRESS REPORT — TELEVISION

post-production, and broadcast facilities is the inability of the telcos and cable companies to tariff this service so it is affordable in today's market. While ATM is proving to be a viable wide-area solution, vendors including Avid, Tektronix, Hewlett-Packard, and Silicon Graphics have agreed to work with the Fiber Channel Association to develop a protocol that will allow data

networking at 1 Gbit/sec and higher.

One method of video transfer that has proven successful and cost-effective is the Internet. While the Internet is limited to sending only a few high-resolution frames at a time, its potential is enormous. Can we expect low-resolution video streams to be pushed around the Net for editorial approvals in the near future?

1996 was a transition year; 1997 should be a year of moving forward with new technologies. Continued digital migration, development of tapeless news and station systems, and hopefully an advanced television standard will be the milestones to look for in 1997.

*Robert B. Kisor*  
1996 Editorial Director  
Television

## Education

**C**ongratulations to all the SMPTE Sections. Our membership has increased from 8,234 in January to nearly 9,300 by the end of the year. This was not a miracle; it is the result of many members and their friends' dedication, enthusiasm, unreserved efforts, and generosity making it happen.

### Section Chairs' Meeting and Training

This year, we held three meetings for Section Chairs: in Seattle in February, in Las Vegas in April, and in Los Angeles in October. All attendees benefited tremendously by the direction provided by the Executive Committee and enjoyed exchanging experiences with them. Section Chair training was held in Los Angeles on October 12, an event that explained in detail the role of the Section officer, including program budgets and meeting arrangements. SMPTE President Stanley Baron, Executive Vice-President David George, Conference Vice-President Ed Hobson, and Financial Vice-President Neil Feldman all addressed the participants.

### 30th Advanced Motion Imaging Conference

The 30th Motion Imaging Conference marked a strong attendance of more than 450 people at the Sheraton Seattle Hotel & Towers, February 1 to 3, 1996. The theme was "The Convergence Continues: Computer Technology and Television." The Pacific Northwest Section and the Local Arrangements Committee, led by Mike Scott and Cliff Anderson, are to be commended for providing an enjoyable



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and informative conference for all who attended. Program Chair Brian Lay was very pleased to see the large turnout from computer, film, and television industries.

### Preconference Course and Workshop

Charles Poynton, Poynton Vector Corp., offered "A Technical Introduction to Digital Video," a full-day seminar that focused on the emerging area of multimedia. Poynton provided the more than 300 computer and television professionals in attendance with information to help them see how their respective fields were related. Each participant was given a copy of Poynton's book, *A Technical Introduction to Digital Video*.

### Technical Sessions

Program Chair Brian Lay and his committee arranged more than 25 technical papers into four sessions —

Storage; Generation and Authoring; Delivery and Distribution; and Presentation and Display — that took place Friday and Saturday, February 2 and 3.

Among the papers presented were: "Practical Implementation of Advanced Television: Update 1996," by William Y. Zou, PBS, James A. Kutzner, Twin Cities Public Television, and A. Bruce Jacobs, Prairie Public Television; "New DSP-Based Studio Platform," by John Nietzsche and Larry Baxter, Mercury Computer Systems; "Distributed Facility Control Via Ancillary Data," by William C. Miller and Alfred Molinari, Capital Cities/ABC, Inc.; "Aspects of Testing in the Convergence of Television and Communications," by David K. Fibush, Tektronix, Inc.; "Delivery of Distance Learning Center Content Across High-Speed and Low-Speed LANS in a Campus Environment," by David H. Dirks and Doug Coffland, Lawrence Livermore National Lab (University of California); "Motion Picture Delivery Using the Internet," by Bob Davis, Iterated Systems; "Picture-Quality Assessment in Video Compression," by G. M. Drury, NTL; and "Investigation of DMD-Based Display for Integrated Computer and Television Application," by Vishal Markandey, Greg Hewlett, and Greg Pettitt, Texas Instruments.

### The 138th SMPTE Technical Conference and World Media Expo

The conference technical program was entitled "Film and Video Synergies: Creation to Delivery" and

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was broken down into 13 separate categories: "Content and the Consumer: Future Pathways," a panel discussion chaired by Stanley Baron, NBC; "Widescreen Issues for Film and Video," chaired by John Galt, Sony Pictures; "Video Servers: Nonlinear Access to Content," chaired by Peter Smith, NBC; "Compressed HDTV for Production," chaired by Glenn Reitmeier, David Sarnoff Research Center; "Special Venues and Techniques," chaired by Greg Thagard, Warner Bros.; "Winning in a Global Economy: The Power of Standards," chaired by John Forrest, NTL; "Computer-Based Assist for Broadcast," chaired by Ira Goldstone, Tribune Broadcasting; "The Digital Virtual Studio," chaired by David Elliot and Kenneth Michael, ABC; "Audio: The Widescreen Experience (Film and Video)," chaired by Ioan Allen, Dolby Laboratories; "DVD Authoring: A New Technology," chaired by Mikhail Tsinberg, Toshiba; "Delivery Systems," chaired by Bob Seidel, CBS; "Applications in Production Technology," chaired by Richard Stumpf, Universal Studios; "Joint SMPTE/ACVL Session: Creating and Delivering on Film," chaired by Frank Ricotta and Paul Bourque, Technicolor.

### *Professional Seminars*

All three seminars ran concurrently on Saturday. "Compression," was chaired by Ken Davies, CBC. This seminar was very well prepared and presented, and it was attended by nearly 200 participants. The papers topics included MPEG-2, video compression, applications in production and broadcasting, basics of audio compression, testing and measurements in compressed video and audio, and non-MPEG compression systems.

"Nonlinear Editing Systems" was chaired by John Carlson, Monaco Labs. The seminar extended beyond a literal interpretation of editing systems and was divided into three parts.

"The Theatrical Experience Update," chaired by Edmund DiGuilio, Cinema Products Corp., was an off-site seminar at the acclaimed Samuel Goldwyn Theater in Beverly Hills. The seminar featured discussions and demonstrations of the dramatic improvements in film projection technology, including new lenses, theater screens, digital

sound systems, and theater configurations. Comparison in projection quality of 24 versus 30 frames/sec film was examined, as were new developments in electronic theatrical projection.

### **Section Activities**

Section meetings and seminars are vital resources, providing continual learning in order to keep up with the rapid changes and advancements in our industry. In 1996 our members were extremely fortunate to have support from over 300 Section officers and their colleagues, who arranged more than 250 meetings and seminars.

The Dallas/Fort Worth Section held a meeting in which Mark Beesley highlighted special features and the general design and operation of the new Arriflex 535 film camera.

In February, Toronto Section members attended a presentation and demonstration on Sony SDDS, arranged by Jim Morrison, Imagineering, and Fung Lam and Jeff Ibbotson, Sony Canada. Ray Callahan, Sony Cinematography, spoke to over 160 people at Toronto's York Theatre.

The New England Section had a very successful meeting in February, where 125 attendees participated in a session on nonlinear editing, and another, on digital mix-to-pix, in April. The New York Section had a large turnout of more than 200 people for their February meeting. In the same month Hollywood held the second part of "Telecine Technical Process," attended by over 200 people from all aspects of the television and film business.

In September a joint meeting on Dolby surround sound processing and techniques was held by the Detroit sections of the SMPTE and the Audio Engineering Society. The Hollywood Section meeting was held at the Gene Autry Museum; approximately 200 people attended the program on multi-standard digital videotape recorders by Luke Freeman, Sony, and Doug Korte, Ampex. The audience was very impressed with the technology and the image quality of both products. The Nashville Section held its September meeting at Trinity Music City, with the opportunity to tour the High-Definition Theater and its state-of-the-art equipment, and to view a program called "The Revolution," which was shot using film-style techniques with video

equipment. This meeting provided an excellent example of the merging of the video and film worlds for both production and presentation.

The members of the Washington Section met at the Montgomery County Transportation Management Center in Rockville, Md., for a tour and demonstration of the county's new advanced transportation management system, which employs a multicamera video-traffic surveillance system, an airborne stabilized camera with visual and infrared capability, and a tracking microwave link.

The San Francisco Section's March meeting at Silicon Graphics in Mountain View featured speakers Jim Lindner, Vidipax, and Jim Wheeler, Tape Archival & Restoration Services. Seventy members and guests discussed the state of the art of magnetic tape preservation and restoration.

The 10th Toronto Section Satellite meeting was held at the Global TV Studio and was arranged by David George, Immad Broadcast Services, and Ed Holmes, Global TV. It was a spectacular evening; Dome Production donated the uplinking and space time, and Stentor Video Route (Bell) donated the fiber connection from Television Quatre Seasons in Montreal to Global in Toronto. David George hosted the meeting via teleconference with panel speakers Stephen Pumble (on tape), Paul Briscoe, Don Craig, Bill Roberts in Toronto; Christian Tremblay in Montreal, and Hugo Gaggioni in New York. Questions were answered live from Toronto, Montreal, and Ottawa. It was a resoundingly successful event.

### *Highlights of International Sections Activities*

Approximately 80 people participated in the first Russian Section Conference, held March 14 in Moscow. All the papers were presented in a very professional way and were appreciated. The interest of the attendees was mostly for those presentations on motion pictures.

The Nordic Section held a very successful mini-seminar on February 21 at the newly opened cinema complex at the Filmstaden Sergel in Stockholm; 200 people attended. The three major digital sound systems were presented: Dolby S.R., DTS, and SDDS. All appreciated the high-quality presentations.

In summary, among the program

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topics presented at the Section meetings in 1996, digital technology, networking, and film were the highlights of the year. The other topics were nonlinear editing, display devices, archiving and storage, video/film production, lighting, and HDTV.

### *Student Chapter Activities*

The first SMPTE junior/senior high school student chapter, in Mashpee, Mass., had its inaugural meeting on April 25, and was attended by SMPTE President Stanley Baron and Executive Director Fred Motts.

Under the direction of faculty adviser Gerald Finn and with the support of the Hollywood Section Officers, Executive Officers, and Headquarters staff in White Plains, the Pasadena Student Chapter had a series of successful on-campus noontime meetings. In addition to the usual two meetings each month, the students also attended NAB '96, Show Biz Expo, several Hollywood Section meetings, and the 138th SMPTE Technical Conference and World Media Expo; they were also treated to various tours of post-production houses and television stations.

The Pasadena City College Student Chapter was also the recipient of several contributions. Donocom donated a Sony BVH-2500 1-in. C-format animation VTR with a BVT-2000 time-base corrector monitor, Tektronix waveform monitor, and vectorscope. All of this equipment is in exceptionally good condition.

Charles Hintz, Chair of the San Francisco Section, was invited to speak at the Napa Valley College Student Chapter, where he praised the telecommunications program offered at Napa Valley College. This program boasts of a nearly 100% placement rate for graduates since its beginning in 1971.

The Australia North Section established the "SMPTE Creative Technology Award," which was presented to Elizabeth Carlon at the Australian Film, Television and Radio School graduation ceremony on May 3. Due to the high quality of the submissions, an additional "Encouragement Award" was given to Marcella Paolacci. The Australian Film, Television and Radio School, located in Sydney, was founded in 1973 and is the country's leading training center for the industry. The Section is also funding two \$5,000

scholarships for final-year students in the colleges of Technical and Further Education, Advanced Diploma in Electronic Engineering, for students planning to enter the film and television industries. The winners will become student members of SMPTE for one year.

### **Tutorials**

The Sacramento Section held a seminar on "Introduction to Broadcast Video" in February, which was very well supported.

On March 8 and 9, the Toronto Section offered its third "experience," entitled "The Movie Experience." It was a tremendous success on all accounts. One hundred and five participants came from the U.S. and throughout Ontario and were guided through the different phases in making feature films. It was financially supported by gold sponsors Kodak Canada, Fuji Photo, and IBM Canada; many other sponsors also supplied financial supports or goods and services to the event. Michael Quast, who once again served as host, interviewed a number of guest speakers, including screen writers, executive producers, producers, talent agents, directors, directors of photography, post-production supervisors, sound mixers, processing lab representatives, program managers, and specialty channel programmers.

To continue our participation at the NAB annual conference in Las Vegas, this year the San Francisco Section presented a half-day, two-part tutorial on "Tying Together Pieces in the Digital Plant." The programs focused on "Audio in the Bitstream(s)" and "Where Fibreland Fits," presented by Birney Dayton and Chuck Meyer of NVision.

The Toronto Section provided a two-day technical seminar on "Compression Theory and Applications" at the Sony Toronto training facility on April 26 and 27. The topics included fundamentals of compression, asynchronous transfer mode (ATM), nonlinear editing, and video servers. Forty-five SMPTE members benefited from this well-planned tutorial by Fred Benedikt and Howard Wilkinson, CBC, and Fung Lam, Sony Canada.

### *Surveys on Meeting Topics*

In order to meet the needs of its

members, the New York Section conducted a survey to determine preferred topics for meetings. Compression, new video formats, advanced television/HDTV, and nonlinear editing were the technical subjects most respondents wanted. They also expressed an interest in CCD sensors, optics, SGI, virtual studio, repair and maintenance, and animation. In addition to the regular meetings, they requested more seminars and tutorials. A survey of the Toronto Section yielded similar results.

### *Future Seminars*

Continuing the successful "experience" series, the Toronto Section is planning to have a two-day seminar on multimedia in May 1997. As with the other experiences, the seminar will trace a process from start to finish, and will do so in a total of four sections: (1) overview of multimedia and its capabilities, (2) an inside look at the new technologies and their future; (3) the making and distribution of a music artist CD-ROM, examined by selecting a singer and tracing his career in music, film, and print in an interactive way; and (4) a recap of multimedia and a wrap up. Current sponsors are Sony Music, Sony Canada, IBM, Miranda Technologies, and Acura Technologies. Coordinator Harvey Rogers expects approximately 200 attendees.

The Toronto Section's fifth technical seminar on digital compression will be held in February 1997 at Panasonic's Mississauga training facility.

The Mashpee Student Chapter, the New England Section, and the Massachusetts Corp. for Educational Telecommunications are collaborating on a conference on "Applying Distance Education (DE) Technology and Applications Expertise to K-12: Distance Education Outreach Systems and Curriculum Designs." The program, to be held May 14 and 15, 1997, will include a DE teleconference with the Hollywood and San Francisco Sections; hands-on demonstrations; distance education in K-12 school systems; academic needs and products/services solutions; learning to be a 21st-Century educator; and curriculum and facilities designs.

*Fung Fai Lam*  
SMPTE Sections Vice-President