

SMPTE 133rd Technical Conference Program

During the three-day, 15-session SMPTE Technical Conference, held October 26–29, 1991, nearly 130 papers were presented, providing attendees with an astounding wealth of information on new products, technologies, and applications in both the motion-picture and television arenas.

According to Conference Program Chairman Rick Thomas, Eastman Kodak Co., each and every paper presented at the conference was an informative, carefully researched commodity. "During our program we were successful in presenting a wide variety of important industry topics and concerns," Thomas said. "The overall quality of the papers presented was outstanding and directly reflects the effort put in by each of our authors."

Some of the papers that highlighted each conference session are described below.

Saturday, October 26

Rami Mina, Eastman Kodak Co., opened up the Restoration and Preservation session with "Film Asset Preservation," which provided an overview of the current preservation efforts under way in the industry and described the important parameters to be considered in prolonging the life expectancy of motion pictures. He devoted some discussion to the premise that the current interest in film preservation for both cultural and financial reasons has prompted increased research activity in the field.

During the session, E. Kelley, Eastman Kodak Co., presented a paper entitled "A New Eastman Panchromatic Separation Film," which described the advances made to the company's Panchromatic Separation Film 5235. The film, which was introduced in 1956, had remained essentially unchanged since its introduction. However, customer input made it clear that because of the current state of color film technology, improvements were necessary. Customers noted that major image structure improvements, especially in grain, were needed to take full advantage of

improvements in color motion-picture films.

After investigating the advantages and choices in current technologies, a combination of very fine grain conventional emulsions was selected. They are manufactured using state-of-the-art equipment and coated in a structure that maximizes manufacturing control and product uniformity. Testing indicates that the grain improvement offered by these emulsions meet customer demands. It also indicates that the film will fix, wash, and dry much faster than the current film, with less hyporetention at a given condition and less propensity to curl.

Michael Friend, Academy of Motion Picture Arts and Sciences (AMPAS), discussed the organization's archival program in three parts, in a presentation entitled "Archival Program of the Academy of Motion Picture Arts and Sciences." He described the AMPAS film archive and its new facility in the Center for Motion Picture Study, showing slides of the new building and vault area; the history of film preservation in the U.S. and recent developments in the field, with particular emphasis on AMPAS's place in that evolution; and future perspectives in the archival field.

During the Digital Recording session, held Saturday afternoon, James B. Van Anda, Digital Imaging, Inc., introduced a technology that uses clever techniques to achieve digital performance in hardware, in "Digital Video Recording Using VHS Transports and Tape." He said that the technique is no more complicated or unreliable than what is in use today. He discussed recording techniques to acquire higher information density and data reduction schemes that can create compression that is unaffected by multiple generations or noise.

To set the stage, he reviewed the current implemented schemes of digital recording. He then discussed the use of digital filtering to achieve lower data rate and noise reduction. The process combines elements from common devices, such as a digital noise reducer, with psychophysics of human vision to achieve moderate data reduction without visual artifacts. The output of this filter has a data format designed to be compatible with additional data compression techniques. He described two classes of data compression techniques, which he referred to as lossless and lossy, and discussed I/O procedures for digital recording, noting that the D-1, D-2,



The technical sessions attracted a large audience.

and analog composite and component forms of I/O are all possible with a single digital recorder.

Sunday, October 27

Morning Sessions

The New Camera Film and Advanced Sound Systems session was held at the Samuel Goldwyn Theater at AMPAS. During that session, Tom Allen and Charles Seagrave, Dolby Laboratories, presented "A New 35mm Release Print Format with Analog and Digital Sound Tracks." They described Dolby Stereo SR•D, a new 35mm format that provides both analog and digital stereo optical sound tracks on the same print. A matrixed four-channel Dolby Stereo SR analog track is available in the usual location adjacent to the picture, while a new digitally coded track with six discrete channels is located near the sprocket holes. Theaters equipped with new digital readers and decoders are able to play the digital sound track's left, right, center, left surround, right surround, and subwoofer channels, while the analog sound track is playable in any analog theater.

An alternate view was presented in "True Digital Sound for Film: A Dual Medium Fully Compatible System." Elisabeth Lochen, L.C. Concepts, explained how she and her colleagues developed a system that is able to supply perfect digital sound in four or six discrete channels with CD quality. It is compatible with all theater projection systems, has completely automatic functions, and handles all cuts without any limitation of time and without any noise while operating in perfect synch with the picture. The system also offers no wear and tear on the medium, supplies a quick signal for the theater's operation, eliminates wow and flutter of the projector, quickly integrates with any existing playback system, and requires minimal alterations of the optical sound camera and the optical printers.

The system uses an SMPTE time code at 24 frames/sec printed on an external edge of the print and a magnetic optical disc containing four to six tracks of digital sound with dedicated computer software. The unit boasts several special advantages, including that a single film print is usable with several different languages, which are on the disc, and an ability to add a



Conference Program Chairman Rick Thomas (L) with Editorial Vice-President Frank Haney.

subtitle system independent of the film.

Roger Huybrechts, Agfa-Gevaert N.V., discussed the technology behind the Agfa XT color film in his paper, "Agfa XT 100: A New Color Negative Film Based on Advanced XT Crystal Technology." The technology is based on tabular-structured twin crystals — referred to as XT crystals. They capture light more effectively than globular crystals and are developed into compact silver and dye image-building centers. Recently, the company's R&D laboratories improved the latent image performance of the XT crystal, making it possible to optimize the distribution of grain sizes in the emulsion. He described the properties of the new Agfa color negative film, Agfa XT 100, which is the company's first negative film incorporating the advanced XT crystal technology.

"Progress on Fujicolor Negative Film F-Series" was presented by Ken Hisao Kishimoto, Fuji Photo Film Co., Ltd. The series was expanded by adding high-speed daylight color negative film and large-format color films. The products have met with great favor in all fields of motion-picture production, including feature films,

television movies, music videos, commercials, and documentary films. He shared the input that Fuji received from its customers regarding what they desired from the F-Series and described how the company responded to these requests.

Ronald Uhlig, Eastman Kodak Co., presented a paper entitled "Cinema Digital Sound — Laboratory Implications." The Cinema Digital Sound (CDS) system was designed with the laboratory in mind. Several key features were developed to make the introduction of CDS in the laboratory as painless as possible. The sound track is printed from a negative film, using the same area of film as a conventional analog optical sound track. Thus existing high-speed, high-productivity printers can be used with no modification required. The negative film is process-compatible with sound negative film used for variable area sound negatives. Sound-track application is not required, which has significant economic benefits for the laboratory.

Although the production techniques are the same as the laboratory is accustomed to, the sound track itself is quite different. Laboratory personnel must understand the basis of

the CDS sound track and apply this knowledge to developing modified control techniques. Quality control of the CDS tracks is not more difficult, but it is different. He discussed the implications for the laboratory, concentrating on those aspects of laboratory operation that must be modified to successfully produce prints with CDS sound tracks. He then demonstrated the durability of the CDS tracks by projecting a sample from *Terminator 2*, which he had purposely damaged. In spite of the print's impairments, the track retained its high-quality sound.

During the Digital Processing and Compression session, William E. Glenn, Florida Atlantic University, gave a description of basic principles that are being used in compression, and which unexploited principles could be used, in "Digital Image Compression Based on Visual Perception and Scene Properties." He said that compression can only be done by leaving out information. Only information that the visual system cannot see, information that a scene will never contain, or information the reconstruction algorithm can accurately predict can be eliminated without degradation. He noted that the DPCM and DCT compression systems depend on pixel-to-pixel redundancy, while many other systems rely on frame-to-frame redundancy.

During his presentation, he noted that much of the color information contained in an *RGB* signal can be eliminated by taking advantage of the spatio-temporal properties of the visual system to color. To do this with-

out artifacts requires using isoluminant color signals. Systems frequently use color-difference signals (*I* and *Q*) rather than isoluminant color signals (*R/y* and *B/y*). The residual luminance in color difference signals does not allow them to be compressed effectively. With isoluminant signals, the temporal response can be half that of low-resolution luminance. The spatial response of *R/y* can be one-half and *B/y* one-quarter the resolution of detail luminance. By exploiting both the spatial and temporal response of vision with isoluminant color, the information content in color can be only 15% of that contained in an *RGB* signal. Further information can be removed based upon the axial asymmetry of visual perception.

Steve Wilson, Clearpoint Corp., presented "A Scalable, Spectrum-Compatible Digital Architecture." He described a digital architecture that is scalable in such a way that it encompasses quality levels ranging from ENG to HDTV and beyond within a single digital scheme that provides for operation with different bandwidths.

He also discussed a scalable compression algorithm along with a spectrum-compatible 24-Mbit/sec modem, which requires only 6 MHz of bandwidth and consists of a modulator/demodulator, a forward error correction coder/decoder, and an equalizer. The modem has been designed for robust transmission and the modulator operates at an SNR of 35 dB with a bit error rate of 10^{-5} . The modulation technique uses special Nyquist filters to shape the data pulses in such a way that over 99% of the transmitted ener-

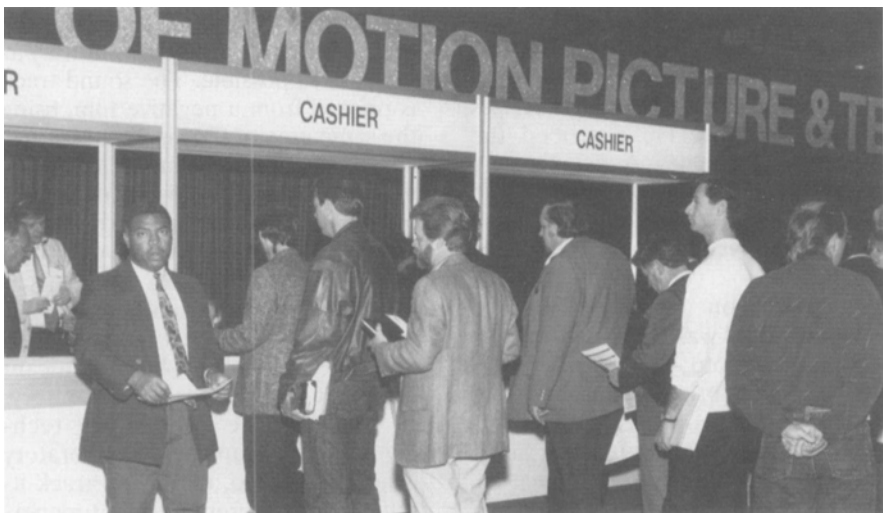
gy is within the 6-MHz channel.

The initial implementation of the modem was used to operate over cable, with the equalizer optimized to correct for distortion caused by reflections that occur within the cable because of impedance mismatches. The reflections cause nulls within a single 6-MHz CATV channel. Multiple nulls of up to 3 dB each have been observed. The equalizer will correct nulls up to 9 dB.

Afternoon Sessions

The From Production to Exhibition session began with a presentation by Rob Hummel, Walt Disney Imagineering, on "Pros and Cons of 1.85, 2.35, and Super 35 Film Formats." Hummel noted that his purpose was to advise on the pros and cons of both aspect ratios and the photographic alternatives available to achieve them, and said that this should help a filmmaker make an informed decision as to which format is best for a given project. In his presentation, which included illustrations, Hummel described both aspect ratios and cited some advantages and disadvantages of using them. He also discussed the pros and cons of using Super 35 formats composed for the 2:35 aspect ratio.

Marc S. Walker, BTS Broadcast Television Systems, Inc., presented a paper entitled "The Analog Nature of Serial Digital Video Transmission," during the Digital TV Systems session. He described how digital storage, manipulation, and transmission have become an integral part of video systems. However, while the parallel interface standard permits interconnection of digital video devices, it has suffered from large connectors and multiple conductor cables that are larger and more expensive than coax cables. This makes serial digital transmission over coax cables a very attractive alternative because it allows the use of existing video cables, which are smaller in size and lower in cost. In his presentation, he explained the characteristics of coax cable and how it relates to digital video transmission, as well as some of its potential limitations. He detailed coaxial cable losses and the effect that higher frequencies have on them, and explained video equalizers and their structures. He also suggested some cable equalization alternatives for digital systems and discussed tolerances for equalization.



The registration area at the conference was bustling.

In a paper entitled "Test Measurement of Serial Digital Television Signals," David K. Fibush, Tektronix, Inc., defined the digitizing of the analog signal and described the serial digital signals for both 143 Mbit/sec NTSC composite and 270 Mbit/sec component systems.

He noted that although analysis of the specifications of the program video and audio signals is well known, measurements for the serial form of the digitized signal differ greatly from those used to analyze the familiar baseband video signal. Wideband analog methods must be used to directly examine the parameters of the high-frequency bilevel signal that appears on the coaxial interconnection.

He discussed test methods using wideband oscilloscopes and recently available television waveform monitors. Coax losses, resulting received signals, maximum practical cable lengths, and the methods used to recover the data were described. He also gave a background of the proposed error detection and handling (EDH) method, and gave suggestions for use of the EDH method in operational equipment.

Monday, October 28

Morning Sessions

During the Film Systems and Special Applications session, three improved color intermediate films were described by Charles Hagmaier, Eastman Kodak Co., in a paper entitled "A New Eastman Color Intermediate Film." The new films are Eastman EXR Color Intermediate Film 5244 (35mm), 7244 (16mm), and 2244 (Estar based), and they provide direct replacements for the company's color intermediate films 5243, 7243, and SO-420. The 5244 film is a finer-grained, sharper film than its predecessor. Its improved image structure more effectively transfers the quality of images captured on EXR color negative films onto the release print. The product's improved granularity and sharpness were achieved by the use of silver bromiodide grains that are significantly more efficient and smaller than the grains used in previous products. The smaller emulsions have better granularity and less light scatter with consequently improved sharpness.

The new film also delivers a quick release print that essentially matches

the color and tone of a direct print. Improved color and tone are made possible by the careful balance of novel masking coupler technology. Features of the 5244 include more blue speed during release printing, a lower wet load, improved image-dye stability, and enhanced reciprocity characteristics.

Afternoon Sessions

Bar codes were a hot topic during the Laboratory Equipment and Applications session. In "Bar Coding — The Wave of the Future," Robert W. Rylander, Symbol Technologies, Inc., provided a history of bar coding, discussed the bar codes that are most commonly used today, and described the technology's progress. Its first application was on the side of railroad freight cars. Laser scanners located on the side of the railroad tracks were used to scan the code, which contained the railroad car's identification. The information was then sent to a central computer so that all of the freight cars throughout the country could be tracked. This practice was later halted because the dirt on the railroad tracks made the symbols difficult to scan.

The bar-code industry has now developed two-dimensional bar codes known as portable data bases. These bar codes can store large amounts of data. PDF 417, a new symbology, can store Lincoln's Gettysburg Address, in its entirety, on a 1 × 1-in. label. Rylander said that this type of bar code will change the future of the technology. In the film industry, two-dimensional bar codes on the outside of a film magazine could contain all of the contents of the barrel, including safety and disposal instructions. In medical applications, a patient's medical history can be contained within a two-dimensional bar code. He added that bar-code hardware has also undergone improvements. For example, laser scanners that once read a bar code at 2 ft can now read it at 22 ft.

Ronald Uhlig gave an update of Kodak's Keycode™ technology in a paper entitled "Keycode Application Software — The Next Step." He described the Keycode system, noting that shortly after the introduction of the system other companies began to develop equipment to read, display, and transmit the Keycode numbers to computers. About the same time, several companies created software sys-

tems that accept the Keycode number and use it in a productivity-enhancing system. He reviewed both of these sources of Keycode software and discussed the applications and functions that the software implements, as well as user views on its effectiveness. He noted that software is the final link in the chain of developments that are needed to fully implement Keycode numbers.

Film bar codes were also the subject of a paper entitled "Agfa Bar Code." It was presented by H. Stappaerts, Agfa-Gevaert N.V., who explained the concept of machine and human-readable edge codes that was proposed by the SMPTE Committee on Film Technology as an American National Standard, and described the new edge code as it applies to Agfa color negative films.

Mark D. Levine, Hollywood Film Co., and Dale Brubacher-Cressman, Research in Motion Ltd., presented a paper entitled "Advances in the Application of Bar-Coded Edge Numbers." They described the potential of assisting all phases of film-originated production by the application of film bar codes and noted that this is enhanced by the use of newly available hardware. They explored the application of film-bar-code-reader hardware, including use on the color analyzer, telecine unit, and the film synchronizer, as well as the method of providing common data base files. They noted that specifications and results of testing film-bar-code-reader hardware illustrate and confirm three points: film speed in excess of 10× sound speed can be used without deteriorating the film-bar-code-reader performance; inferior image quality on the film edge will not impede reader performance, except in extreme conditions; and film-bar-code processing delay is negligible, thereby ensuring consistent, reliable results.

They added that the classic data base files are used by each group as needed to fit their own requirements, allowing data-base programmers to assemble their own systems using existing data. They further explored the additional adaptability of the current state-of-the-art film-bar-code-reader concepts, as well as possible future uses, including all phases of film handling, archiving, data manipulation methods, cost accountability, and production-control functions. They also offered evaluations of the advantages



Registrants waited patiently to get into the conference.

and disadvantages of the implementation of a film-bar-code system and discussed strategies for new users to begin operation.

During the HDTV Production and Graphics session, Bob Pank, Quantel Ltd., presented "Picture Conversion for HD Graphics." He pointed out that although high-definition (HD) products continue to grow in number, they still represent only a small portion of installed television production equipment. Those contemplating the operation of an HD facility will find limited source material and output demand — especially when measured against the established TV broadcast industry.

TV graphics equipment, such as Paintbox, depends on input material for much of its operation. With a wealth of picture-originating and store systems already operating in the broadcast and computer graphics areas, it would be beneficial for any HD graphics systems to have access to these. On the output side, the applications for HD graphics would be greatly extended if they could be accepted by existing broadcast equipment. Traditionally, the task of going between TV standards has been assigned to a converter — a major item of equipment. But, with attention to filing formats and provision of filtering for picture resizing, it can be tackled efficiently and with the best quality within the graphics system itself.

For the HD graphics system, picture files can be entered by computer interface or removable media in the

625 or 525 TV standards or as 1125 or 1250-HD computer image prints — any size. They are stored on a disk at their original size, maintaining all details. The disk may hold any mix of picture formats. When recalled for use, they are automatically resized to the format set for the system output. To maintain normal operating speed, this process will be assigned to a dedicated hardware.

He said that existing broadcast equipment that is able to receive the file format can use finished HD images directly, giving a wider distribution for HD graphics. The scheme provides an easy path through the current standards "mine field," which is further eased by the provision of switchable HD output standards. Another benefit is the ability to apply the graphics system to any TV standard without the quality and cost concerns associated with traditional conversion techniques. He added that while HD demands may now be marginal, this gives a "soft start" into the new formats. For the future, this scheme opens the possibility of nonstandards-conscious stills and graphics equipment to be freely applied across the range of television production.

During the Television Audio session, Charles Meyer, NVision, Inc., defined the sample rate conversion process in both analog and digital terms in a paper entitled "Death, Taxes, Audio Sample Rate Conversion, and Other Things That Go Bump in the Night." He explained synchronous and asynchronous techniques, de-

scribed specific algorithms in moderate detail, and discussed attendant artifacts. He also offered information on equipment features that are necessary for different applications, including applications at plant level.

Tuesday, October 29

The Film-Electronic Interface sessions attracted much interest. Corey Carbonara, Telecommunications Division, Baylor University, examined the role of HDTV and film in the creation of advanced television programs in a paper entitled "Interfacing HDTV and Motion-Picture Production." He spoke on how the coexistence of a variety of film formats — 35mm and Super 16mm — with HDTV in the production chain can enhance the universal appeal of electronic and film media technologies as an aesthetic, artistic, and cultural language. He also explored the recent research activities of the New Video Technologies Project of Baylor University on the interface of HDTV and motion-picture film.

Through the cooperation of various international organizations and other industry participants, the university was able to test a variety of film and HDTV imaging formats, investigating a number of different parameters regarding imaging characteristics. Some of these characteristics included image portrayal at different film speeds (24 and 30 frames/sec), performances of different film stocks (35mm and Super 16mm), aspect ratio, spatial versus temporal dynamic resolution rendition, color saturation and fidelity, and luminance transfer characteristics over full-spectrum dynamic range conditions. These tests also allowed comparisons to be made in the post-production environment, including both interpositive and negative telecine transfers of 35mm and Super 16mm film formats to HDTV using multiple techniques of transcoding.

Comparisons in the post-production environment led to comprehensive examinations of studying analog and digital processing effects on these transfers, dynamic temporal and spatial resolution comparisons between varying frame rates and stocks within the transfer process, and experience in editing within an all-digital HD environment. The tests also examined the transferability of multiple film formats to HDTV. The significance of these tests, Carbonara said, is that

they begin to show the feasibility of intercutting a variety of film formats among certain types of similar subject matter when transferred to HDTV.

Laurence J. Thorpe, Sony Advanced Systems, gave a tutorial on the issues of HDTV and film dynamic range and digitization, in a paper entitled "HDTV and Film — Digitization and Extended Dynamic Range." He discussed the increasing number of experimental projects regarding the integration of HDTV, high-resolution digital computer graphic systems, and film imaging systems. He noted that Eastman Kodak Co. is developing a nonreal-time system, founded on a superset of real-time HDTV, which is heavily digitally based and is intended for implementing a very high resolution electronic intermediate system for supporting complex special effects and optical work within the motion-picture-film industry.

He pointed out that HD telecines and tape-to-film transfer systems must implement appropriate nonlinear precorrection to effect a proper transformation. Increasingly, digital implementation of the requisite video processing is being incorporated in the latest transfer machines. As HDTV real-time imaging capabilities steadily advance, the once very wide gap between 35mm film and video-imaging quality narrows inexorably. Within a few years, the HDTV CCD imager will dramatically enhance the HDTV camera's abilities. However, he said, advances in film will continue to occur.

He noted that film and HDTV camera imaging produce video dynamic ranges that challenge VTR recording capability. The efforts of the SMPTE Working Group on High Definition Electronic Production are currently directed toward optimizing the interface between HDTV camera outputs and the present 8-bit VTRs. This, he said, calls for new camera practices.

The design of the Kodak High Resolution Electronic Intermediate System was described by Lindsay Arnold, Kodak Australasia Pty. Ltd., in a paper entitled, "The Design of the Digital Imaging Workstation for the High-Resolution Electronic Intermediate System." The key component of the system is a workstation that provides the means to interactively manipulate digitized motion-picture images.

A major goal was to produce a system that could easily be used by film-effects specialists, yet provide a rich and full-featured environment for the creation of high-resolution digital effects. He explained how the workstation was designed to meet this goal, providing such features as preservation of negative-image quality, a rapid interactive processing of jobs, easy integration into current processes, and creative flexibility.

John W. Richards, Sony Broadcast and Communications Ltd., gave a presentation entitled "Improvements in the Transfer of SMPTE-240M High-Definition Video to 35mm Film Through Motion-Compensated Interpolation." He described improvements in the overall transfer process of the 1125/60/2:1 SMPTE-240M format to 24-Hz film by use of a prototype motion-compensated video-to-video preprocessor. This experimental equipment uses a new and unique algorithm for motion-compensated interpolation, which was created by Sony.

Transfers from 60-Hz 2:1 interlace to 24-Hz film had been accomplished by dropping every fifth video field and compositing pairs of the remaining fields into film frames. The new preprocessing equipment obviates this step by directly changing the video format from 60-Hz 2:1 interlace to a 24-Hz 1:1 progressive system. Because this is a high-definition to high-definition conversion, the equipment runs at an eighth of real-time speed in order to yield manageable processing rates. Richards discussed the algorithm for motion-compensated frame rate conversion, which is based on an adaptive block-matching technique. Hardware is used to produce and apply the 2700 vectors derived per frame. He demonstrated the final results of film transfers conducted by this new technique, which showed dramatic improvement in dynamic resolution and motion portrayal.

Michael Boudry, The Computer Film Co. Ltd. (CFC), discussed electronic image manipulation techniques in a paper entitled "Practical Application of Electronic Processing to Film SFX." CFC's process is capable of providing all the effects available from the most sophisticated optical systems as well as all the advanced facilities normally associated with video effects systems, and it can

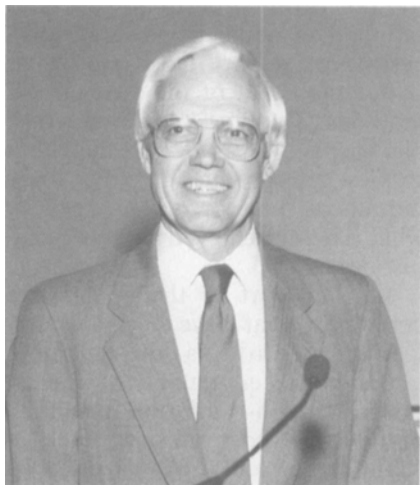
further be applied to achieve effects not previously possible by any other method. He added that these techniques offer speed, power, and interactivity of electronic image processing at a quality that is equal to or better than that of the best optical methods. The process is interactive, allowing the operator and the client to view the production on a high-definition monitor to see exactly what is being achieved and make adjustments.

At the heart of the system are computers that have been customized for their role as image manipulators, special equipment for reading images at high-resolution from film, and designers/operators who are visually skilled and experienced in effects work and trained to use all the existing facilities of the systems, as well as to create new programs and tools as they are needed.

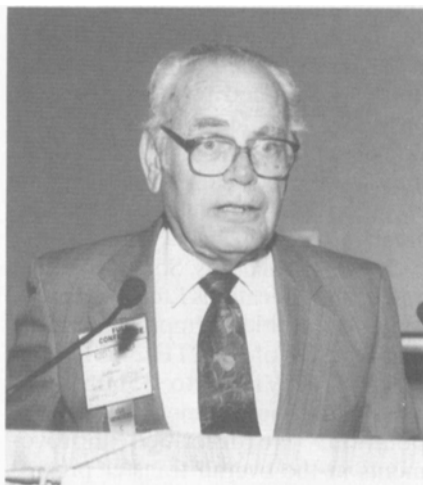
During the TV Plant and Transmission session, Charles E. Spicer, NBC, presented "Summer Olympics, Barcelona 1992: Decisions-Decisions," which gave insight into the station's plans in carrying this event. He said that since NBC is planning an extensive upgrade of the network facilities at 30 Rockefeller Plaza in New York City, there is a strong incentive to use technology that is not yet proven in the field.

The decisions that have to be made before such a broadcast airs include whether to use analog or digital for the complete system or just the routing switcher; if PAL or NTSC should be incorporated, and for how much of the system; whether to implement D-1, D-2, or D-3, and for how many of the VCRs; and if serial or parallel digital should be used, and in what areas. Questions regarding digital edit suites include whether the video switcher and the audio board should be digital or analog, where in the system should the standards converters be located, and how should they be monitored. Additional factors include whether primary and secondary broadcast programs can be coordinated in respect to three pay-per-view programs, and if the distribution within the graphics area should be serial digital component or composite. He explained the reasoning behind these decisions and challenged the audience to judge the broadcast for themselves when it airs next summer.

All-Day Tutorial Seminar



SMPTE President Blaine Baker opened the tutorial program.



Chairman Bob Ringer was responsible for organizing the seminar.



James Cameron made the first presentation.

Nearly 400 people attended an all-day tutorial seminar on Friday, October 25, at the Los Angeles Convention Center. The program theme, "Issues in Advanced Motion Imaging," addressed the integration of the computer, film, video, and publishing industries.

"We were very pleased with the attendance and the quality of the speakers," said Bob Ringer, Ringer Video Services, who organized the event. "This was the first time that we've held a tutorial seminar as a kickoff for

the technical conference and we are extremely satisfied with the results. The tutorial's tie-in with the 75th anniversary of the SMPTE helped give it special meaning."

The seminar opened with remarks by SMPTE President Blaine Baker. A keynote address was then presented by James Cameron, co-writer, producer, and director of *Terminator 2: Judgement Day*.

Topics covered during the morning session were Digital Compositing, by Carl Rosendahl, Pacific Data Images;

What Can You Do Now with This Technology? by Chris Woods, a freelance visual effects supervisor; High-Resolution Electronic Intermediate System, by Glenn Kennel, Eastman Kodak Co.; 3-D Digital Animation, by Tim McGovern, Metrolight; The Next Generation of Paint and Compositing Systems, by David Scammel, Quantel Ltd.; and Computer Graphic Images for *Terminator 2*, by Academy Award-winner Dennis Muren, Industrial Light and Magic.

After lunch, the issues discussed



Opening session of the seminar.

were Computer Animation, by Academy Award-winner John Lasseter, Pixar; Combining CGI with Live Action, by Richard Edlund, Boss Films; Digital Technology for Television Commercials, by Bill Feightner, Composite Image Systems; Component Design Elements of a Film Intermediate System, by Paul Carey, Compo-

nent Video; Digital Processing of Theatrical Film, by Bob Kisor, Paramount Pictures Corp.; Composing Images: Film, Video, and Computers, by Bob Greenberg, R/Greenberg Associates; High-Resolution Input and Output Devices, by Ray Feeney, RFX Inc., and The Imaging and Standards Quagmire, by Laurence Thorpe, Sony

Advanced Systems.

The organizing committee for the seminar program consisted of Gail Ringer, Ringer Video Services; Russ McMurtray, Eastman Kodak Co.; Paul Van Camp, Forward Momentum; Don McCroskey, Consultant; and seminar speakers Paul Carey and Chris Woods.

Workshop Program

Three concurrent hands-on workshops — Film Bar Code in the Workplace, Television Test Signals and Equipment, and Computer Graphics — were offered on Saturday, October 26, and repeated on Sunday, October 27, at the Los Angeles Convention Center.

The three-hour seminars were intended for working professionals who needed to update their skills in a specific area. The focus of the workshops was on equipment that is already in use rather than the prototypes often discussed in the conference technical presentations. Each session had ample time devoted to hands-on practice with state-of-the-art equipment.

Registration was limited and was on a first-come first-served basis. Admission to the Workshop Program included entry to the equipment exhibit. Program Vice-Chairman John Baptista, Consolidated Film Industries, was the organizer of the event.

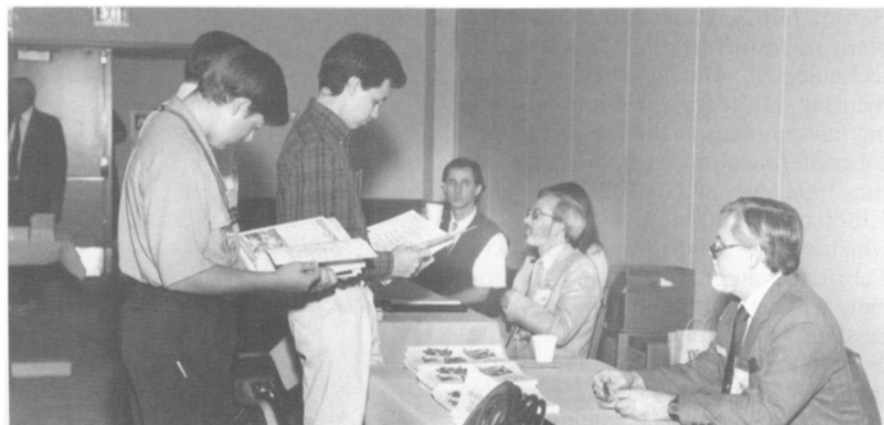


Participants in the Workshop Program.

Student Education Fair

A Student Education Fair was held on October 26 in Room 212B of the Los Angeles Convention Center from 10 a.m. to 1 p.m. The event, which was organized by Bob Ringer of Ringer Video Services, was geared toward high-school and junior-college students, offering them an opportunity to meet with representatives from colleges, universities, and trade schools that offer programs on the technical aspects of motion pictures and television.

Admission was free with a student I.D. card and included entry to the equipment exhibit.



Young people visiting the Student Education Fair.

SMPTE Board of Governors Meeting

The SMPTE Board of Governors met on Friday, October 25, at the Bonaventure Hotel. As the governing body of the Society, the Board has the

responsibility of deciding the policy that determines all Society activities within the framework of the SMPTE Constitution and Bylaws. The Board

of Governors holds three meetings each year, one of which coincides with the annual SMPTE Technical Conference and Equipment Exhibit.



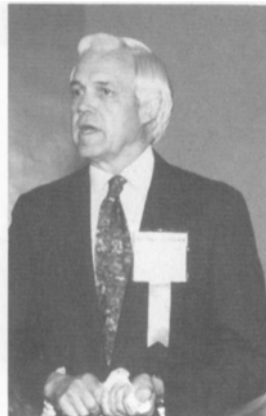
The Board of Governors in session.

Press Briefing

Forty people attended a press briefing luncheon on Monday, October 28, at the Los Angeles Convention Center.

SMPTE President Blaine Baker opened the meeting by welcoming attendees. He was followed by reports from Conference Vice-President L. John Spring, Jr., Eastman Kodak Co., who gave a wrap-up of conference events; Editorial Vice-President Frank Haney, Fox Television Stations, who spoke about the all-day tutorial seminar and the workshop program; and Program Chairman Rick Thomas, Eastman Kodak Co., who discussed the highlights of the papers presentations.

Engineering Vice-President Stan Baron, NBC, detailed the Society's plans to address the new multimedia technologies. The strategy includes focusing on the high-resolution imaging environment at this year's technical conference in Los Angeles and at the 1992 Advanced Television and Electronic Imaging Conference, which will be held in San Francisco, February 7 and 8. In addition, the Society will develop and promote paper sessions, workshops, and a specific exhibition area, to be called "Multimedia World," within next year's technical conference, which will take place in Toronto, November 10 to 13, 1992.



President Baker welcoming guests at press briefing luncheon.



Conference Vice-President L. John Spring, Jr., giving wrap-up speech to press.



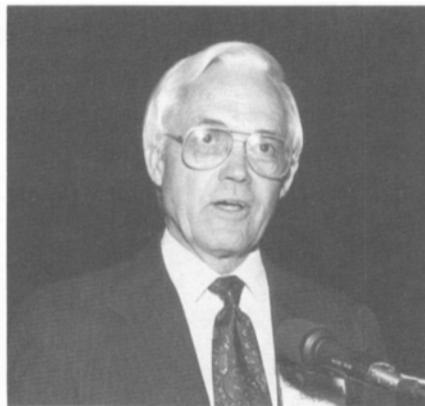
Engineering Vice-President Stan Baron addressing members of the press.



Editorial Vice-President Frank J. Haney speaking at press luncheon.



Secretary/Treasurer Bernard L. Dickens at the Honors and Awards Luncheon.



President Blaine Baker addressing guests at the Honors and Awards Luncheon.



Executive Vice-President Irwin Young announcing SMPTE award winners.

Honors and Awards Luncheon

A record-breaking crowd of 850 people attended the Honors and Awards Luncheon, held at Petree Hall in the Los Angeles Convention Center on October 26. SMPTE President Blaine Baker, MPL Film & Video, Inc., presided at the luncheon, during which the Society's prestigious awards for outstanding technical achievement, technical articles, and service were presented to the various recipients.

Actor Gregory Peck was the featured speaker at the luncheon. Peck, who received an Academy Award for his work in *To Kill A Mockingbird*, expressed his appreciation to the Society for its trailblazing work in developing worldwide standards and shared some of the experiences he encountered while working on such films as *Spellbound*, *The Yearling*, *Duel in the Sun*, and *How the West was Won*. The text

of his speech appears in the following pages.

At the start of the luncheon, SMPTE Secretary/Treasurer Bernard L. Dickens, Consultant, introduced President Baker, who welcomed guests with a brief address. He then introduced those seated on the dais (excluding the award winners) and the featured speaker. Following Peck's address, the Society's awards were presented to the various recipients by Executive Vice-President Irwin Young, Du Art Film Labs, Inc. At the conclusion of the awards presentations, Young introduced the newly named Fellows of the Society.

Next, the elections of key Society officers were announced by Dickens. Serving two-year terms beginning in January 1992 are Engineering Vice-President Kenneth P. Davies, Canadian Broadcasting Corp.; Financial

Vice-President Richard K. Schafer, Eastman Kodak Co.; Conference Vice-President L. John Spring, Jr., Eastman Kodak Co.; and Sections Vice-President John A. Carlson, Monaco Labs and Video.

Newly elected Regional Governors are Canadian Region: Rene Villeneuve, National Film Board of Canada; Central Region: Donald W. Henderson, Eastman Kodak Co.; Eastern Region: Ronald E. Uhlig, Eastman Kodak Co., and M. Lynwood Heiges, Jr. (relected), WETA-TV; Hollywood Region: Donald C. McCroskey, Consultant, and Robert J. Ringer, Ringer Video Services; New York Region: Peter A. Dare, Sony Broadcast Products Co.; Southern Region: Earl V. Higgins, Abekas Video Systems; and Western Region: John H. Streets, Merlin Engineering Works.



A record-breaking crowd enjoyed the luncheon.

Honors and Awards Luncheon Speech

By Gregory Peck

Good afternoon. It's a pleasure for me to be here today and to have this opportunity to speak with you.

I'm especially happy to have been asked to attend this year's national SMPTE conference because I know it's a special occasion. This year marks an important birthday for the Society.

And the fact is, we share this birthday; the SMPTE and I were born in the same year. As my old friend, the great Jack Benny would have said, "We're both 39."

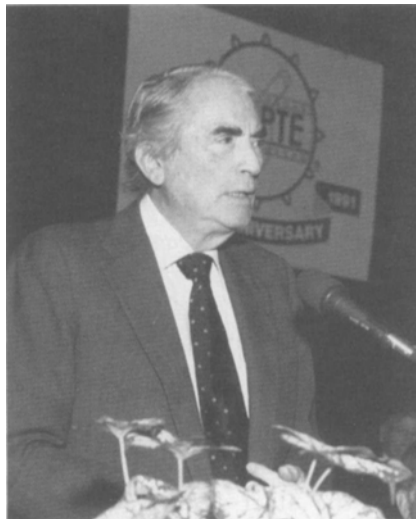
But there's a more serious reason for my pleasure in being here. It isn't often that someone in my profession has the chance to publicly express his appreciation for the work this group does. But without that work, the motion-picture and television industry could not function as effectively as it does. It probably couldn't function at all.

Of course, the general public is hardly aware of this. They've always given their applause to the performers they see on the screen, as if those performers simply stood in front of a camera and did whatever came to mind.

These days more people do understand the function of directors, writers, and cinematographers. They can even name a few directors and possibly a writer or cinematographer. But I doubt if they've even heard of SMPTE or recognize the importance of its efforts to the films and television programs they enjoy.

But the technology you've helped develop, and the technical standardization you've brought to the industry worldwide, has helped make motion pictures a truly international language. Because of your work, a film made anywhere in the world can be shown anywhere in the world. Audiences around the globe can become just a little bit closer by sharing the same motion-picture experience.

Before SMPTE was founded there were no international — or even national — technical standards for motion-picture production. In fact, you could say the movies were still being invented. The SMPTE was created only one year after D.W. Griffith first showed the world the full power of the



Prominent actor Gregory Peck was guest speaker at the luncheon.

film medium with his great breakthrough work, *The Birth of a Nation*. At that time, even the most basic standard of all — the normal motion-picture speed of 24 frames per second — had not been established.

Griffith's cameraman hand cranked his camera at different speeds for different scenes. He'd speed up or slow down depending on the dramatic effect Griffith wanted to create in each scene. It was up to the individual projectionist to try to match the speed of each scene when the film was shown. And that was only one of the technical confusions that plagued the early days of the movies.

The SMPTE helped change all that. It has become the world leader in establishing international standards for motion-picture and television technology. Without this standardized technology, there would be no industry as we know it.

As I look back on my own career, I think about how often I have confronted this fundamental truth about moviemaking: it's both an art and a craft; it takes talent and technology.

I still remember my first experience with the technology of picture making. I was a little kid in La Jolla, Calif. A silent-movie company had come to town and was filming on the beach.

There was Lew Cody, one of the leading men of the day. He played

playboys and suave seducers, and there were perhaps half a dozen bathing beauties frolicking in the sand. But what I remember best of all was the impression that they all came from another planet. There was this strange looking camera equipment pointing at these people wearing orange makeup and black eye-shadow.

If someone told me at that moment that I'd grow up and be like them, have orange stuff on my face and play make-believe in front of a camera, I'd have thought they were totally out of their minds. But by the time I got to college at Berkeley, there I was in school productions, making my first attempts at acting and wearing make-up on my face.

And some of my first professional acting experiences, though they were not before a camera, did begin my life-long education in the technical side of things. I remember being on the road with one theater company and being expected to set up the scenery and wire the footlights and spotlights.

But it wasn't until I started actually making movies that I began learning how important technology is to them, and how it affects everything a performer does. Like every other stage-trained actor, I had to retrain myself for the camera — and the microphone.

Naturally, it was really the director of my first film who did most of the training. The film was *Days of Glory* for RKO, the director was Jacques Tourneur, and I played a Russian guerrilla fighting the Nazis during the second world war.

I had been taught to project for the theater, to make sure the folks in the balcony could hear me whisper. Tourneur told me to think of the microphone above me as a friend standing next to me, the friend I was talking to. "Project your voice 3 feet, not 300," he would say. "You sound like a stage actor." I thought that was a great compliment, but I still had a lot to learn.

With each film I made I did learn more about the role of technology in moviemaking. The director of my fourth film was one of the greatest craftsmen in motion-picture history, Alfred Hitchcock.

It may shock some to hear me call him a craftsman when he's generally regarded today as a genius of the cinema. But I do mean the term as a compliment. Hitch loved the craft of filmmaking, the fun of experimenting with new techniques, and solving technical challenges.

That fourth film of mine was *Spellbound*, for producer David Selznick. Today it's remembered for, among other things, having a dream sequence that was designed by Salvador Dali. Hitch was tired of the traditional techniques for visualizing dreams: soft-focus shots with lots of swirling smoke. He wanted this dream to be extremely clear and sharp, and he thought Dali's style — with its long shadows and converging lines of perspective — was exactly what he needed.

So Dali created five original paintings showing his conception of how the dreams should look. But Selznick's production department nearly scared him to death when they told him how much it would cost to actually shoot what Dali had designed. Then Hitchcock explained that it could be done mostly with miniatures, background projections, and other tricks made possible by the technical advances of the time. Those advances, and Hitch's ingenuity in using them, brought the cost down to a fraction of the original estimate.

And they did more than save money; they also saved me and my co-star Ingrid Bergman from the terrors of the ski slopes. I had never been on skis in my life, and though Ingrid was born in Sweden, she was not exactly a skiing fanatic.

But one of the film's major scenes involved the two of us on a long ski run. Again, Hitch resorted to back projections, this time of real mountains and real snow, combined with medium and close shots of the two of us in the studio, sliding down a 25-foot slope made of gypsum and cornflakes. I know cornflakes are not exactly the kind of technology that the SMPTE deals with, but in Hitchcock's hands they were just one more ingredient for successful filmmaking.

On the other hand, progress in color cinematography has been one of SMPTE's concerns through the years. The year after *Spellbound*, I worked on my first two color films, *The Yearling* and *Duel in the Sun*. I only wish some of today's technology had been available back then.

"But when I consider things on the whole, I'm content to repeat what I said before: motion-picture making demands talent and technology. And for three-quarters of a century the SMPTE has been a world leader in disseminating information about new technology and in standardizing that technology so it can be used by filmmakers everywhere."

Today, nearly every feature film is made in color. The same camera is used for color or black and white, and color films have become so fast that the lighting requirements are far less demanding than decades ago. Back then, you needed a special Technicolor camera, which was enormous, and a massive amount of lighting. You've probably heard at least a few stories about actors suffering and sweating under those huge lights. Let me assure you, they're all true.

But what I remember most about making both those films concerns the animal actors rather than the human ones. They didn't like working under those hot lights either.

In *The Yearling* I played a farmer with a young son whose pet fawn causes several family crises. And it also caused us a few headaches making the film. During one scene involving the animal, we'd get through almost all of our lines and just at the last moment, that fawn would decide it couldn't take the heat any more and go clump-clump-clump off the set, and into the shade. It took 72 takes over two days to shoot that one little scene.

The animal problem in *Duel in the Sun* was a bit more dramatic. It was a western picture, another David Selznick production, and David had decided I would ride this magnificent stallion he'd found. He insisted the horse and I would look great silhouetted against the red-orange Technicolor sky.

The problem was, the horse was an amateur. He was a show animal: magnificent to look at, but totally unfamiliar with cameras, camera cars, cables, and lights — all the heavy equipment of moviemaking. So, when we started shooting, he panicked, with me on his back.

I've loved horses for a great many years and even then I thought I was a

pretty good rider. But I could not control that animal. We went charging off across the Arizona mountains, towards a large, mean-looking cactus bush. I was able to steer him away from that, but we kept on going, heading straight for an even meaner looking barbed-wire fence. I ended up flying about 20 feet through the air and landed on the desert, somehow unhurt. But the poor horse got himself badly tangled up in the barbed wire. The more he tried to get free, the worse it was.

Eventually, the camera crew caught up with us, freed the horse, and got medical help for it. I'm glad to say he was saved, though the scars he got put an abrupt end to his movie career.

By a few years later, in the early 1950s, color pictures were more commonplace, but the hot lights were just as hot. I made a film called *The World in His Arms*, and though much of it was set in Alaska, it was actually shot on a studio set that often hit 120°.

But the element of motion-picture technology that really affected what we performers did in those days was aspect ratio and screen size. That was when the major studios saw themselves as being locked in a deadly struggle with television for audience popularity. They decided that to lure people away from those little black-and-white boxes they watched in their living rooms, they had to make the movies bigger, wider, longer, and louder.

I did a little research before coming here and learned that it was in 1950 that the "T" for television was added to this organization's name: in 1950 the SMPE became the SMPTE. So once again, the technical community proved itself to be more forward thinking than the business people who were supposedly running the industry. While they saw television as a threat, you embraced the new technology and



Irwin Young shared a humorous moment with Gregory Peck.

saw it as part of the whole world of moving pictures.

Anyway, in the early 1950s, the studios' answer to television was to begin extensive production in a variety of new widescreen formats, including VistaVision, Cinerama, and CinemaScope.

CinemaScope was an especially difficult system to work with, at least during its first few years on the screen. Directors and cameramen still weren't quite used to composing scenes for it. Among other things, they weren't sure how close-ups would come off. So they would spread the actors across the set and film everything in master shots. That meant that the actors would have to be ready to recite long speeches in a single take. For stage-trained performers this wasn't a great strain, but it wasn't the way movies were traditionally made.

My own first adventure with CinemaScope was a picture called *Night People*, in 1954, and to be honest, I have to admit that it probably had as much to do with psychology as technology. It was a Cold War story set in Berlin, and we shot it on location. The studio had hired two Germans to act as producer and production manager. But it seemed to me they were trying out for the role of Nazi Commandant, even though there wasn't one in the picture. They believed in discipline. That is, in having things their own

way, in not taking "no" for an answer, and in trying to punish you for disagreeing with them and defending what you believed in. Let's just say we had our disagreements. They came to a head the night before production was set to begin.

The first scene to be shot was an argument between me and my co-star, Broderick Crawford. There were something like ten pages of dialogue to get through, most of it consisting of me covering Crawford with abuse. When the camera started to roll, I took all the anger I felt towards those two Germans and hurled it at Crawford. It was wonderful.

And CinemaScope made it even more satisfying. The scene was being filmed in a long take so I was able to keep going. In fact, we finished the scene in about two hours. And that was my real revenge on those two. They had scheduled two days of shooting for the ten pages of dialogue. When we finished them in two hours they were unprepared because they had no set ready for the next scene. Everyone took the rest of the day off, and I never felt better in my life.

Unfortunately, that wasn't my last adventure with widescreen formats. About eight or nine years later I worked in a film shot in the widest of the wides, Cinerama, and hated it. It was another western, *How the West Was Won*; I've never liked it and

wouldn't even mention it today if it didn't seem relevant.

I'm sure many of you remember that the original Cinerama process involved shooting a scene with three separate cameras side by side. The results would be projected by three machines aimed at one huge screen. The goal was to create a wraparound, panorama effect. But you could always see the seams where the three images were joined.

Anyway, the process did affect the way we had to work and did make the picture a lot less fun to be part of. For example, in one scene I was supposed to be talking to Karl Malden, but we weren't allowed to look at each other because on screen it would look like we were talking to the woman who stood between us. Instead, I had to stare at a tree and pretend I was looking at Karl. I remember telling the tree something like, "So, you've noticed the Apaches."

By then they'd figured out how to do close-ups for the very wide screen. But with Cinerama, everytime they did a close-up, I felt like a three-eyed locomotive was about to run me down. You can see why I'm glad that some forms of technological progress have disappeared.

But, when I consider things on the whole, I'm content to repeat what I said before: motion-picture making demands talent and technology. And for three-quarters of a century the SMPTE has been a world leader in disseminating information about new technology and in standardizing that technology so it can be used by filmmakers everywhere.

Today there are new technological issues at hand. One that I'm especially interested in is film preservation. For too long Hollywood didn't recognize the importance of preserving its own history for future generations of filmmakers, scholars, technicians, and the general public. Today that seems to be changing, and I'm glad to know that the SMPTE has also given it much attention.

When I was a young actor, I asked Walter Huston what advice he could give me. I've never forgotten what he said: "Give 'em a good show and always travel first class." It was great advice, but it also sums up my attitude toward the SMPTE. You're a first-class organization, and without your help there wouldn't be any good shows. Thank you.



The 1991 Honors and Awards winners: (L-R, seated) Charles E. Anderson, Peter Comandini, Eleonora Vinogradova, Brian Baldry, Tak Miyagishima, Rolf Hengstler, Laurence J. Thorpe, William E. Glenn, Takaomi Hanabusa; (standing) J. R. Monaco, Julius Barnathan, Frederick Gasoi, Ed Zwaneveld, Frederick M. Remley, Vladimir V. Yegorov, Vladimir G. Makoveev, John P. Rusche, Raymond Fielding, Takeo Eguchi, Stanley N. Baron, Burton Stone, and Bernard Angenieux.

The Honors and Awards Presentations of 1991

The Society presents a number of awards in recognition of outstanding achievements and confers certain grades of achievement annually. These awards have been created over a period of years.

Certain practices and rules are common to all these awards. Award Committees consist of Honorary, Fellow, or Active Members of the Society appointed annually by the President and confirmed by the Board of Governors. The Journal Award Committee is appointed by the Editorial Vice-President. Membership in the Society is not a prerequisite for an award.

Any member of the Society is entitled to make a nomination for an award. Such nominations should be made in writing to the chairman of the appropriate committee, giving the reason why the writer believes the award is justified. The committees forward their reports to the Secretary/Treasurer of the Society in time for presentation to the Board of Governors at their midyear meeting. Normally, awards are presented at the National Conference of the Society following approval of the award by the Board of Governors.

The highest award and greatest distinction that can be conferred by the Society is Honorary Membership, which includes eventual inscription on the Honor Roll of the Society. The SMPTE Progress Medal is the premier medal award of the Society. The Agfa-Gevaert Gold Medal, the Eastman Kodak Gold Medal, the Fuji Gold Medal, the Journal Award, the Herbert T. Kalmus Gold Medal, the Presidential Proclamation, the Outstanding Service to the Society Award, the Alexander M. Poniatoff Gold Medal Award for Technical Excellence, the David Sarnoff Gold Medal, and the Samuel L. Warner Memorial Medal Award recognize achievement in the special fields of accomplishment described under each award on the following pages.

The Citation for Outstanding Service to the Society

The purpose of this citation is to recognize individuals for dedicated service to the Society over a sustained period of time.

The 1991 Citation for Outstanding Service to the Society is presented to **Vladimir G. Makoveev, Eleonora L.**

Vinogradova, and Vladimir V. Yegorov in recognition of their long-term efforts resulting in the formation of the SMPTE Soviet Union Section; **Rolf Hengstler** in recognition of his efforts in bringing together members in East and West Germany to form an SMPTE German Section and in planning and holding meetings of interest to the membership; **John P. Rusche** in recognition of his long-term service to the Detroit Section and his continuing leadership on a national, local, and regional level; and **Derek J. Wilson** in recognition of his long-term service to the Society and for his encouragement to members throughout Australia to form regional SMPTE sections.

The Presidential Proclamation

The Presidential Proclamation recognizes individuals of established and outstanding status and reputation in the motion-picture and television industries worldwide.

The Presidential Proclamation for 1991 is awarded to **Brian D. Baldry** in recognition of his many years of dedicated engineering leadership in the television industry and his continuing

support of SMPTE activities; **Julius Barnathan** in recognition of his innovative leadership in the advancement of television technology, including guidance of the technical production of nine broadcasts of the Olympics and contributions to the technology for closed-captioning for the hearing-impaired; **J. R. (Dick) Monaco** in recognition of his continuing lifelong commitment to innovative technical improvement within the motion-picture and video industries and his many years of support for SMPTE activities; and **Burton (Bud) Stone** for his dedicated involvement in the motion-picture industry. Mr. Stone is responsible for much of the progress of the film laboratory technology.

The Journal Award

It is the purpose of this award to recognize the outstanding paper originally published in the Journal of the Society during the previous calendar year.

The 1990 Journal Award is presented to **Laurence J. Thorpe** and **Takaomi Hanabusa** for their article "If Progressive Scanning Is So Good, How Bad Is Interlace?" published in the December 1990 *SMPTE Journal*.

The Journal Certificate Award

The 1990 Journal Certificate Awards are presented to **Syd Wiles**, **Frederick Gasoi**, and **Ed Zwaneveld** for their article "Digital Optical Sound on 35mm Motion-Picture Film," published in the November 1990 *SMPTE Journal*; and **N. Egami**, **T. Yamagishi**, **S. Okazaki**, **K. Tanioka**, **M. Kurashige**, **K. Oku**, and **S. Ehata** for their article "High-Sensitivity HDTV Camera Tube with a HARP Target," published in the September 1990 *SMPTE Journal*.

The Student Paper Award

It is the purpose of this award to recognize the outstanding paper prepared and submitted by a Student Member during the previous school year.

The 1991 Student Paper Award is presented to **Scott D. Elliott** for his paper "High-Definition TV: The Television Standard(s) of the Future," presented at the 1990 SMPTE Television Conference in Lake Buena Vista, Fla., and published in *Television - Merging Multiple Technologies*.

The Agfa-Gevaert Gold Medal Award

It is the purpose of this award to honor the recipient by recognizing the individual's outstanding leadership, inventiveness, and/or achievements in the research, development, or engineering of new techniques and/or equipment which result in a significant improvement to the interface between motion-picture film and television imaging systems, whereby the combined advantages of both contribute to the further development of visual communication systems.

The 1991 Agfa-Gevaert Gold Medal Award is presented to **William E. Glenn** in recognition of his distinguished contributions in the research and development of imaging systems, specifically for those that pioneered the way for the development of the electronic beam recorder.

The Eastman Kodak Gold Medal Award

It is the purpose of this award to honor the recipient by recognizing outstanding contributions which lead to new or unique educational programs utilizing motion pictures, television, high-speed and instrumentation photography, or

other photographic sciences. The award shall recognize developments in equipment systems, or instructional applications which result in advancing the educational process at any or all levels.

The Eastman Kodak Gold Medal Award for 1991 is awarded to **Raymond Fielding** in recognition of his significant achievements as an author, international lecturer, and educator leading to the advancement of the educational process in the visual fields of both television and motion pictures.

The Fuji Gold Medal Award

It is the purpose of this award to honor the recipient by recognizing outstanding engineering achievements in the design and development of new or enhanced techniques and/or equipment that have contributed significantly to the advancement of photographic or electronic image origination.

The Fuji Gold Medal Award for 1991 is presented to **Tak Miyagishima** in recognition of his design of the single autofocusing anamorphic camera lens. This lens has significantly enhanced the cinematography of wide-screen formats.

The John Grierson International Gold Medal Award

It is the purpose of this award to honor the recipient by recognizing significant technical achievements related to the production of documentary motion-picture films.

The 1991 John Grierson International Gold Medal Award is presented to **Pierre Angenieux** for his introduction of the lightweight 12-120mm zoom lens. This lens was used in part in virtually every classic documentary. Introduced in 1962 and still manufactured today, this lens was the workhorse of documentary and news film production.

The Herbert T. Kalmus Gold Medal Award

It is the purpose of this award to honor the recipient by recognizing outstanding contributions in the development of color films, processing, techniques, or equipment useful in making color motion pictures for theater and television use.

The 1991 Herbert T. Kalmus Gold Medal Award is presented to **Peter Comandini** in recognition of his out-

Gold Medal Sponsors

The Agfa-Gevaert Gold Medal Award: Agfa-Gevaert N.V.
The Eastman Kodak Gold Medal Award: Eastman Kodak Co.
The Fuji Gold Medal Award: Fuji Photo Film U.S.A., Inc.
The John Grierson International Gold Medal Award: National Film Board of Canada
The Herbert T. Kalmus Award: Technicolor, Inc.

The Alexander M. Poniatoff Gold Medal Award for Technical Excellence: Ampex Corp.
The David Sarnoff Gold Medal Award: RCA/Thomson Consumer Electronics
The Samuel L. Warner Memorial Medal Award: The Estate of Samuel L. Warner
The SMPTE Progress Medal Award: The Society of Motion Picture and Television Engineers

standing contribution to the preservation of our motion-picture heritage by his restoration of significant early motion pictures.

The Alexander M. Poniatoff Gold Medal Award for Technical Excellence

It is the purpose of this award to honor the recipient by recognizing outstanding technical excellence or contributions in the research or development of new techniques and/or equipment that have contributed significantly to the advancement of audio or television magnetic recording and reproduction.

The 1991 Alexander M. Poniatoff Gold Medal Award for Technical Excellence is presented to **Takeo Eguchi** in recognition of his research and work in the development of SMPTE RP-125M and the developments leading to the D-1 and D-2 recording standards. In addition, he has managed the design team that led to the introduction of the world's first commercial digital videotape recorder. He has continued his dedication and support of D-1 through the introduction of a second-generation machine.

The David Sarnoff Gold Medal Award

It is the purpose of this award to honor the recipient by recognizing outstanding contributions in the development of new techniques or equipment which have contributed to the improvement of the engineering phases of television, including theater television.

The 1991 David Sarnoff Gold Medal Award is presented to **Stanley N. Baron** for his contributions to the devel-

opment of digital television technology, recognizing both his technical and his standardization contributions in the areas of digital television imaging processing, graphics, and the automation of tape library record and playback systems.

The Samuel L. Warner Memorial Award

It is the purpose of this award to honor the individual by recognizing outstanding contributions to the design and development of new and improved methods and/or apparatus for sound-on-film motion pictures, including any step in the process.

The Samuel L. Warner Memorial Award for 1991 is presented to **Frank E. Pontius** in recognition of his contributions to the consistent improvement in the manufacture of light valves and optical sound recording cameras, used today for most optical stereophonic sound tracks for theatrical release around the world.

The SMPTE Progress Medal Award

It is the purpose of this award to honor the individual by recognizing outstanding contributions to the progress of engineering phases of the motion-picture and/or television industries.

The 1991 SMPTE Progress Medal is awarded to **Charles Edward Anderson**, who has made significant contributions to the technology of videotape recording, beginning as a member of the original design team at Ampex that developed the first practical magnetic videotape recorder. His many

contributions have resulted in a significant advance in the development of television technology.

Honorary Membership

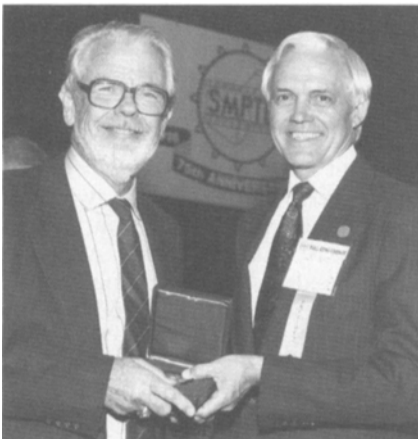
The distinction of Honorary Membership in the Society is presented to living pioneers whose basic contributions when examined through the perspective of time represent a substantial forward step in the recorded history of the arts and sciences with which the Society is most concerned. This is the highest grade of membership and greatest distinction that can be conferred by the Society.

The 1991 Honorary Membership Award is presented to **Frederick M. Remley** in recognition of his eminent service to the Society's engineering and standards activities. It was through his efforts and commitment that SMPTE is now looked upon as the international leader in standardization in the motion-picture, television, and video technologies.

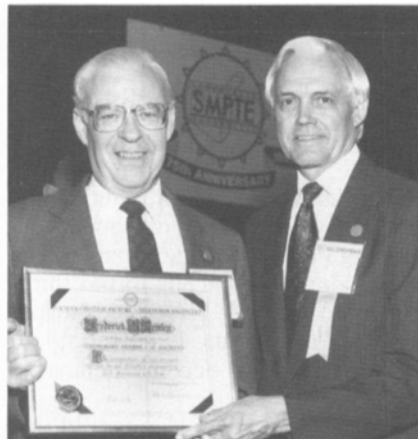
The Honor Roll

Elevation to the Honor Roll of the Society is granted to each distinguished pioneer who during his lifetime was awarded Honorary Membership or whose work was recognized subsequently as fully meriting the award.

The name of the late **K. Blair Benson** is placed on the Honor Roll in recognition of his notable work in the development of videotape recording, broadcast television systems, and standardization and as an educator, writer, and editor in the television field.



Blaine Baker presenting the Progress Medal Award to Charles E. Anderson.



Fred Remley displays his Honorary Membership Award, received from President Baker.



William Connolly accepted the Honor Roll plaque on behalf of the late Blair Benson.

Fellows Luncheon

The annual SMPTE Fellows Luncheon was held Sunday, October 27, in Petree Hall of the Los Angeles Convention Center. The luncheon was held to honor newly elected Fellows, to introduce them to their peers, and to present them with plaques. Attendance was limited to Fellows and Life Fellows. A reception, sponsored by Grass Valley Group, preceded the luncheon.

SMPTE President Blaine Baker gave a welcoming address and introduced the guest speaker, Burton (Bud) Stone, Deluxe Laboratories, Inc. The text of Stone's speech appears in the following pages.



Seated on the dais at the Fellows Luncheon: SMPTE Executive Director Lynette Robinson, guest speaker Burton (Bud) Stone, and President Blaine Baker.

Fellows Luncheon Speech

By Burton (Bud) Stone

It's my pleasure to welcome you to the 16th Annual Fellows Luncheon. I look forward to this event as an opportunity to visit with good friends and valued colleagues. You're the best. I mean that sincerely.

Ken Mason brought the idea for holding an annual Fellows Luncheon home from England in 1975. The BKSTS had the idea first, and we are always happy to give them credit.

We have some new Fellows joining us today. Would all of the new Fellows please stand for just a moment? I promise you this day will become a fond memory that you will always cherish. Let's give them a good Fellows' hand and make them feel welcome.

What is a Fellow? I think that's a question we should ask ourselves.

According to our bylaws, a Fellow is someone with outstanding rank among engineers or executives in the motion-picture and television industries. That ranking is based on the



Bud Stone delivering the luncheon address.

proficiency of their contributions. A Fellow is also someone who is 30 or older.

You know, I've been trying to find out who made that rule about not wanting Fellows younger than 30. The bylaws don't specifically forbid third-world dictators or discredited savings and loan presidents. Even serial killers are eligible to become Fellows, if they are over 30.

Think about that. Thomas Edison, George Eastman, and our founder, C. Francis Jenkins, were all younger than

30 when they did some of their best work. In fact, if not for the work they did before they were 30, we might not be here today. Maybe there wouldn't be a movie industry or a broadcasting industry. Maybe there wouldn't be a *Rocky VI*, or is it *Rocky VII*? Or, is it *Rocky XXIV* or *XXV*? Who knows?

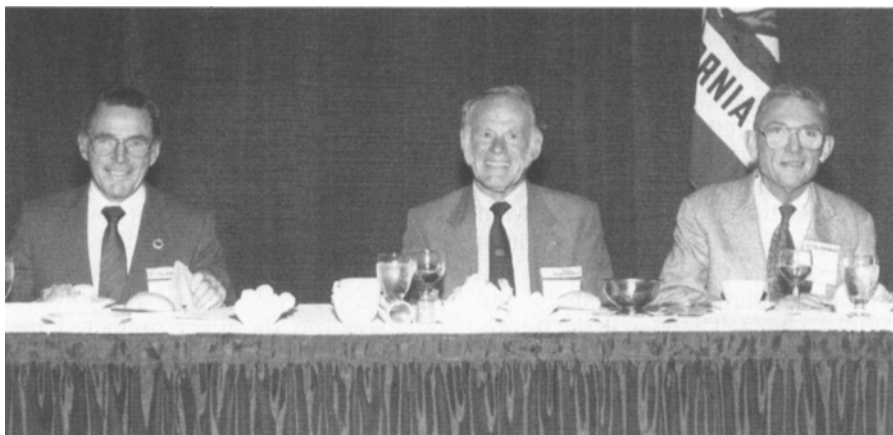
But, we also wouldn't have seen the Berlin Wall come down or the crowds in Tianamen Square. We wouldn't have seen Scud missiles being knocked down over the skies of Israel. And we wouldn't have seen the incredible events that occurred just a few months ago outside of the parliament building in Moscow. There wouldn't be a CNN to carry the images and sounds of those historic events into our homes.

Hundreds of millions of people wouldn't have seen *Terminator 2* and *Home Alone* during the past two summers. I know it wasn't great art, but it was great entertainment. And the world needs to be entertained.

C. Francis Jenkins gave the future a rare gift when he founded the SMPE 75 years ago. Jenkins was an itinerant inventor. In 1890 he invented a machine for recording and reproducing motion.

He was 23 when he built a motion-

Text of address delivered at the Fellows Luncheon, Sunday, October 27, 1991, at the 133rd SMPTE Technical Conference in Los Angeles. Bud Stone is president of Deluxe Laboratories, Inc., Beverly Hills, CA 90210.



Also seated on the dais were Past-President Maurice L. French, BKSTS President Brian Rhodes, and Executive Vice-President Irwin Young.

picture camera and a projector with an intermittent mechanism. When he was 27, Jenkins invented the Phantoscope peepshow projector. In 1895 Jenkins and Thomas Armat invented the world's first practical motion-picture projector. Edison bought the machine and renamed it the Vitascope. It was used in 1896 when the first movie theater opened at Koster and Bial's in New York City. Jenkins was 28 at the time; he would have been too young to be a Fellow of the SMPE.

Jenkins had an enormous impact on our industry. In 1916 he recognized that there was a need for standardization. He met in Washington, D.C., with nine other engineers for the purpose of organizing the Society of Motion Picture Engineers. The Society was incorporated in July. The first meeting was held in October 1916 in New York City. There were 26 participants at the two-day conference. We've come a long way in 75 years.

But I keep wondering about the rule that says you can't be a Fellow until you are 30. Some smart people made that rule; they must have had a reason.

Francis Bacon had his own ideas about youth. He said that young men are fitter to invent than to judge, fitter for execution than for counsel, and fitter for new projects than for settled business. Is that what our predecessors were thinking when they banned people under 30 from being Fellows? I don't think so.

There's another possibility. Did they foresee what it would be like in the 1980s? Did they know then we would someday be dealing with directors who are barely out of their teens? Did they know we'd be dealing with studio and network executives in their

twenties? I don't know. It's just a thought.

The SMPTE has come a long way since Jenkins convened that first meeting 75 years ago. This organization has played a prominent role in setting standards for the film and television industries. The world speaks a common language on film and TV because of the standards our predecessors helped to establish. Arnold is the Terminator everywhere, and I don't have to tell you which Arnold I am speaking about. That's how pervasive the language of film has become.

Just about everything has changed since Jenkins convened the first meeting. Today, the SMPTE consists of some 9500 members sharing ideas at a global forum, working together, and coming to conclusions together.

Only four percent of the membership are Fellows. The Fellows are the cream of the crop, the best of the best. I'm extremely proud to be called a Fellow, as I'm sure all of you are.

It's not one great invention or three brilliant papers that earns you the right to be called a Fellow. It's your commitment. Your dedication to a life's work that is meaningful and important. It's the sum of all of those things that makes you a Fellow. Maybe that's why you can't become a Fellow until you are 30. It takes a life's work.

Many Fellows have inspired me with their willingness to give something back to this industry. Many Fellows have been my friends and mentors. Just glancing around this room, I see many friends and colleagues who I could single out. If I mentioned every one of them, I'd be talking for a few more hours.

That is making a couple of people

nervous. Gary Borton is thinking, "Is he going to mention my name or not mention my name?" Dick Stumpf's lips are moving. He's saying real quietly, "Am I going to have to sit in this chair for a couple of hours while he mentions other peoples' names?" Relax. You are only going to be here for a few more moments.

I just want to thank a few people who made an extraordinary impact on my career and my life. It's my way of paying a debt. I'd like them to know they made a difference in my life. I'd like them to know how I feel whether they are here today in body or spirit. Bear with me. I hope the others will understand this is for all of the Fellows who have made a difference in my life.

There was Saul Jeffe, president of MovieLab. It was his company and it was his money. You learned how to take care of it as if it were your own — a great business lesson. And, John Kowalak was executive vice-president of MovieLab. There were many days when John would sit you down and become a professor. He gave his knowledge freely. Everyone needs someone like John to give him a helping hand.

Arthur J. Miller gave me my first job at Consolidated Film Industries. You never forget your first job or your first boss.

Sidney Solow was my dad's oldest friend. I guess that made me an automatic friend since I knew him from the age of five. All careers have highs and lows and mine was no exception. Sid was always available with good counsel and always aided my career. Al Duryea was one of my father's closest friends. He's also been my dear friend and mentor. And to this very day we speak often. And yes, I still listen. Truly a generous man and a very fine engineer. All of these people were with CFI.

Where would I be without Carl Hunt, who left us this year? Where would I be without Carl's guidance when I moved to California? Carl was invaluable in my making the transition. That also goes for Harry Teitelbaum, who would always pick you up when a pat on the back was needed. When I started my own lab years ago, I never had to ask for anything, he offered willingly. I will truly miss Harry.

Rod Ryan. I will be ever grateful to Rod for his total support both techni-

cally and personally to the new guy on the block, when I first came West.

I hate to think of what would have happened to a young frightened salesman if there wasn't a Joe Dougherty there to help him. Joe gave me a crash course on negative film. He also introduced me to every director of photography in New York City that I had to know. I'll never forget how he shared his experience, his knowledge, and his goodwill.

Various SMPTE presidents were very kind to me. That includes Ken Mason, Carl Hunt, Byron Roudabush, Bob Smith, Len Coleman, and Blaine Baker.

Irwin Young has been my very best friend and colleague for over 40 years. We grew up together in the industry. Our dads knew each other. We discussed labs and wives, labor and children, and the past, present, and future. We never had a disagreement. We thrived and cried at each other's highs and lows. I have learned a lot from our relationship. "Butch," you are terrific.

I could tell you stories about every one of them, and others. But time doesn't permit that.

The list isn't complete without James Stone, my father. He was a pioneer in this industry. My dad worked at CFI, in Fort Lee, New Jersey. It was one of the original film labs. He was there in the waning days of silent movies and rack-and-tank film processors. Later he was part of the team that designed and built one of the first truly modern film labs. Eventually he became chief engineer and general manager.

My first job was at CFI when I was ten years old. I was the batboy on the CFI baseball team. My first real job was in the lab as a can boy. I was an assistant film editor for a while. I guess a lot of you didn't know that about me. You can know someone for 40 years and not know everything about them. But I spent most of my career in the lab business. I have been very proud to follow in my father's footsteps in my own way.

I became a Fellow in 1977. It was an exciting day. I will always remember it. But the memory I really cherish occurred ten years ago, and that was the day my father became a Fellow. It meant a lot to him and it meant a lot to me. I will always treasure the memory of a son seeing his father become a Fellow of the SMPTE.

I've seen a lot and I've done a lot, but nothing tops being here today in the company of my distinguished colleagues. You are helping to define the future of this industry, which is so important to the rest of the world. I'm proud to be in your company.

I did a little research to see what other people standing at this podium have said in past years. There's a strong temptation to prophesy and predict what will happen in the future. It's fun. It's human nature. It's also usually very wrong.

I'm going to read a brief item, verbatim, from the trade press: The technical arrangements are virtually complete for projecting television on normal-sized motion-picture screens. Television will be a regular feature in large theaters before the end of the year.

That was published on July 30, 1930, after RKO demonstrated its ability to project live vaudeville acts on theatrical screens. Incidentally, large screens were 5 feet high in 1930. By the way, the magazine that printed that prediction didn't foresee its own demise.

Television was a hot topic in those days. In August of 1930, David Sarnoff wrote an article for *The New York Times*. We all know that General Sarnoff was a visionary who made his dreams come true. He really did. He founded RCA and NBC, two giants of American industry.

In *The New York Times* article, Sarnoff predicted that television would soon become a theater in every home. Not bad for openers. He only missed by 15 to 20 years.

But, he also predicted that television would bring great cultural benefits into our homes. He predicted programming would consist primarily of educational shows for children and an electronic art gallery for the entire family. Naturally, he was in no position to foresee the impact of advertising revenues, ratings and demographics, and TV programmers.

Late in 1930, General Sarnoff was speaking at Franklin Institute in Philadelphia. He compared television to movies. He said a great movie could run for a year, but a TV program would be consigned to the scrap heap after one showing.

General Sarnoff obviously didn't foresee kinescope, film, or videotape. He also didn't foresee VCRs or laser-disk players. So, he didn't foresee syn-

dication or residual values in film libraries. Syndication is the fuel that is driving both the film and broadcasting industries.

That's what's wrong with prophesies. We tend to think of the future in terms of today's technology and today's needs and values. But we need to move with the ebb and flow of history. We need to be ready to serve the future.

Leonardo da Vinci predicted the automobile. But he couldn't foresee smog, traffic jams, or our appetite for oil. He didn't predict the social and economic ramifications of the automobile. I'm not going to use this occasion to predict anything.

The truth is that there are many different paths leading to many different possible futures. Some paths will prove to be dead-ends. Some of the paths we explore will be frustratingly long, and our journeys will be made more complex by unanticipated barriers. Other paths will lead to exciting places beyond today's perceptions of reality. One of those paths will lead us to our destiny. We need to keep searching until we find it. We need courage and tenacity, and an unrelenting sense of adventure.

I'd like to leave you with one additional thought. It's something that occurred to me while I was preparing this talk. I won't even call it a suggestion. It's more of a "Do-It."

There is so much talent in this room. We can make such a big impact on the future if each of us lends a helping hand to a younger colleague who needs a lift from time to time. Give him encouragement. Invite him to a section meeting. Make him feel welcome. Take him to lunch or dinner. Introduce him to other engineers and executives working in your industry. Introduce him to other members and colleagues, and especially to other Fellows. Put him on the inside, instead of being outside looking in.

If we all do our part, we can help the next generation feel a lot closer to this industry, to its people, and to this organization.

If you do that, I can make one promise. They'll always remember you, just like I remember all of the people who befriended me.

It's truly been a privilege and an honor for me to speak to you today. I hope that each and every one of you has a great convention and a wonderful year.

New Fellows of the Society

A Fellow of the Society is one who is no less than 30 years of age and who has, by proficiency and contributions, attained an outstanding rank among engineers or executives in the motion-picture, television, or related industries. A listing of new Fellows and their company affiliations follows.

John Vincent Barry, Consultant
David John Bradshaw, British Broadcasting Corp.

Thierry Farjaudon, TéléDiffusion de France

David Leslie Gibbs, Filmatic Laboratories

Glenn L. Kennel, Eastman Kodak Co.

Stephen S. Kreinik, Nova Systems, Inc.

Marc I. Krivocheev, State Radio Research Institute

Vladimir G. Makoveev, All-Union State TV & Radio Broadcasting Co.

Joseph A. Maltz, J. A. Maltz Associates

Maryann Madeleine Mendel, Eastman Kodak Co.

Rami Mina, Eastman Kodak Co.

Ulrich Reimers, Norddeutscher Rundfunk-NDR

William F. Schreiber, Massachusetts Institute of Technology

Richard John Taylor, Quantel Ltd.
Johannes Webers, Bavaria-Film GmbH (retired)

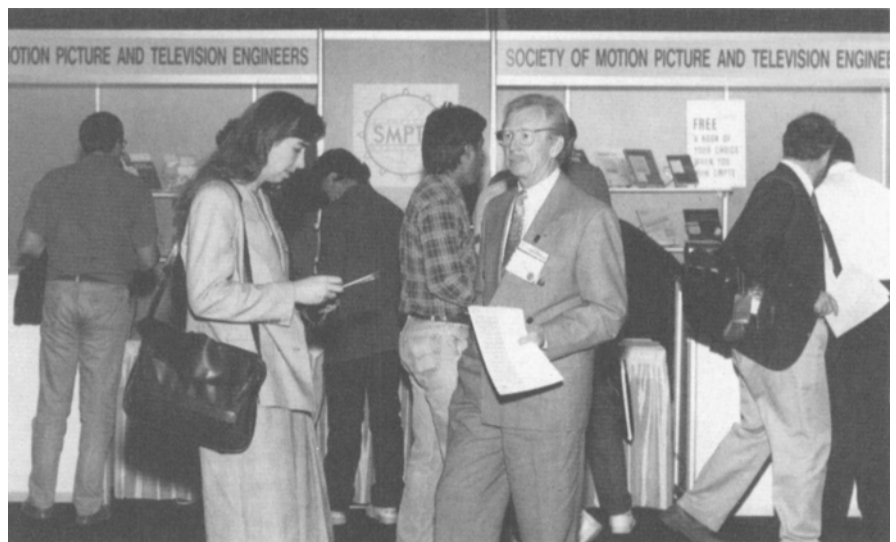


President Blaine Baker (center) with the new Fellows of the Society: (front, L-R) William F. Schreiber, Stephen S. Kreinik, David J. Bradshaw, John V. Barry, David L. Gibbs; (rear) Joseph A. Maltz, Richard J. Taylor, Glenn L. Kennel, Rami Mina, Maryann M. Mendel, Vladimir G. Makoveev, Ulrich Reimers, and Thierry Farjaudon.

SMPTE Booth

The SMPTE booth, located on the exhibit floor, attracted a lot of traffic. Conference Membership Chairman Chuck Phelan and SMPTE Membership Coordinator Daureen Matera welcomed 129 new members to the Society. They were assisted by John Celowanchik, Pat Devlin, and Maria Olague, who were available to answer questions about membership services, conferences, section meetings, publications, and test films.

Meanwhile, Mary Connolly was kept busy taking reservations for the banquet, while Marilyn Waldman oversaw the operation of the author's lounge.



The SMPTE booth was the center of information about the Society.

SMPTE Banquet

The conference closed with the annual banquet on Tuesday evening, October 29. The function, which began at 8 p.m., was preceded by a one-hour reception, sponsored by Panasonic.

During the reception, guests were entertained by a small, simulated movie theater that screened a 1916 Charlie Chaplin silent film. The film was accompanied by appropriate background piano music.

At the banquet, guests enjoyed fine food and the music of the Joey Herick Orchestra. The back wall of the bandstand was draped with a silver lamé curtain, decorated with a 3-foot-high "75," recognizing the Society's 75th anniversary. Attendees honored

the SMPTE's diamond anniversary by singing a round of "Happy Anniversary to You."

As part of the celebration, former SMPTE Presidents in attendance were honored for their service to the Society. They were Kenneth M. Ma-

son, Robert M. Smith, Charles E. Anderson, and Leonard F. Coleman. In addition, the Local Arrangements Committee presented roses to Partners Program Coordinator Judy Chewey and SMPTE Executive Director Lynette Robinson.



At the banquet, the Society was presented with a lovely crystal memento of the conference by the Los Angeles Conference Arrangements and Program staff.



Enjoying the festivities at the banquet were Program Chairman Richard L. Thomas, President Blaine Baker, Executive Director Lynette Robinson, Conference Vice-President L. John Spring, Jr., and General Arrangements Chairman Louis F. Wolf, Jr.



Guests enjoyed a delightful evening of dining and dancing at the banquet, which marked the Society's diamond anniversary.



Executive Director Lynette Robinson was presented with a bouquet of roses by General Arrangements Chairman Louis F. Wolf, Jr., on behalf of the Local Arrangements Committee.



Partners Program Coordinator Judy Chewey also received a bouquet of roses from the committee, presented by Conference Vice-President L. John Spring, Jr.

Welcoming Reception

A Welcoming Reception, sponsored by exhibitors, was held Friday, October 25, at the Los Angeles Convention Center. The event allowed conference registrants to meet with exhibitors and preview the items on display at the equipment exhibit, as well as rekindle old friendships and make new acquaintances.

The reception, which was extremely well attended, was proposed by the Exhibitor Advisory Committee and organized in celebration of the Society's 75th anniversary. It was the first time that exhibitors served as hosts of the opening conference festivities. Guests enjoyed wine and cheese, music, and a chance to meet celebrity lookalikes.



Guests at the Welcoming Reception on Friday enjoyed music by the San Fernando Valley Banjo Band.

Partners Program

Partners Program Coordinator Judy Chewey treated spouses attending the conference to a full itinerary of visits to locales that illustrated the glamour, fun, and excitement of Los Angeles. Sony sponsored the spouses breakfasts throughout the four-day event.

The program began with the traditional Welcome Tea on Friday. Saturday's schedule featured a visit to Little Tokyo, where the group took a walking tour of some of the mysterious

streets and alleys that make up one of the oldest areas of the city. A Japanese luncheon and visits to Oriental shops rounded out the excursion.

"Hooray for Hollywood" was the theme of Sunday's program. Mole-Richardson Co. served as host of a day that included tours of fantasy sets and the Moletown Museum, which is filled with motion-picture history. Spouses were also treated to a luncheon, a fashion show that featured customized clothing, and a

special live presentation on the company's Hollywood stage.

The Max Factor Museum of Beauty was the first stop on Monday's lineup, followed by a poolside luncheon at the Beverly Hilton Hotel. After lunch the group shopped on Rodeo Drive and its new European addition, Via Rodeo. After the shopping trip, spouses enjoyed refreshments at an outdoor cafe.

The Partners Program concluded on Tuesday with a trip to Cal Tech in Pasadena — home of the Tournament of Roses. Spouses gathered in the garden to hear Dr. Robert Winter give a noontime lecture on Pasadena's history, architecture, and attractions. The afternoon was spent at Huntington Gardens, where some of the most beautiful flowers in the area bloom the year round.



A visit to the Moletown Museum was one of the highlights of the Partners Program. (Photo courtesy of Mole-Richardson Co.)

Coffee Club

Eastman Kodak Co. sponsored a coffee club at the Los Angeles Convention Center from 7:30 to 10 a.m., Friday through Tuesday. Registrants were able to enjoy fresh coffee and Danish each morning of the conference, as well as the morning of the all-day tutorial seminar.

Acknowledgments

The annual conference would not have been the same without the support of its many sponsors. The Society wishes to thank the following individuals, companies, and organizations for providing necessary services to the 133rd SMPTE Technical Conference: *Banquet Reception*: Panasonic; *Board of Governors Reception*: Dolby Laboratories Inc.; *Coffee Club*: Eastman Kodak Co.; and *Fellows Reception*: Grass Valley Group, Inc.

The sponsors for the Partners Program were the Academy of Motion Picture Arts and Sciences, The Agfa Group, All Post, Allied Film and Video, AME, American Society of Cine-

matographers, Ampex Corp., Birns & Sawyer, Bremson Data Systems, BTS Broadcast Television Systems, Chatsworth One Hour Photo/Video, Chyron Corp., Cinema Products Corp., Compact Video, Consolidated Film Industries, Deluxe Laboratories, Du Art Laboratories, FPC Inc., Hollywood Film Co., I.B.E.W. Local #40, Eastman Kodak Co. (East and West), Lucile M. Dunn, Maxell Corp., Mole-Richardson Co., Monaco Laboratories, Motion Picture Enterprises, MPL Film & Video Inc., Multimedia, NBC, Odetics Broadcast Div., Osram Corp., Otto Nemenz International, Pace, Pacific Title & Art Studio, Pan-

avision, Paramount Pictures Corp., Rank Film Laboratories Ltd., Ringer Video Services, Sony Corp., Technicolor, Turner Entertainment, 3M Corp., Twentieth Century-Fox Film Corp., WRS Labs, and YCM Laboratories.

Banquet centerpieces were donated by Foto-Kem/Fototronics, and celebrity lookalikes, who attended the Exhibitors Reception, were made possible by Universal Studio Tours. Toyota Motor Corp. provided videotape dubbing services and Capp's Electronics supplied CATV technical support at the Los Angeles Convention Center.

Association of Cinema and Video Laboratories

Members and guests of the Association of Cinema and Video Laboratories (ACVL) held their annual technical sessions immediately before the opening of the 133rd SMPTE Technical Conference. While covering various aspects of the industry, the ACVL technical sessions this year continued the longstanding tradition of bringing together industry leaders and outside experts to address the current issues, problems, and opportunities for motion-picture and video laboratories. Presentations covered subjects as diverse as the economic forecast vis-a-vis video services; dealing with client credit and collections; and environmental issues, including color developer recycling and film cleaning fluids. An update on preservation technology was also provided.

The speakers participating were John Nowicki, 3M Consumer Video Audio Products Div., who presented "Duplicator Industry Overview —

Premiums and Promotions"; Michael O'Keefe, Eastman Kodak Co., who gave a presentation entitled "Credit Collection and Other Good Stuff"; Milton R. Shefter, Paramount Pictures Corp., who gave "A Preservation Update"; John Baptista, Consolidated Film Industries, who presented a paper entitled "An Aqueous-Based Motion-Picture Film Cleaning Fluid," which was co-authored by Frank Ricotta, Technicolor Corp.; and Edward A. Kurz, Eastman Kodak Motion Pictures and Television Div., who presented "Process ECP-2B — Practical Effluent Reduction for Processing Solutions: Prebath, Prebath Wash, Developer, and Acid Stop." The ACVL holds two full-membership meetings annually; the technically oriented autumn sessions are traditionally held immediately before and in the same venue as the SMPTE conference. These sessions are always open to anyone interested. Spring meetings,

covering the business aspects of the industry, are also held annually. The sites for these meetings are in various locations within North America.

During the meeting, election results were announced for the 1992 through 1993 term. The newly elected board of directors is Lampert Levy, Newfilm Laboratories; Stan Nalski, Filmcraft Laboratories; and Paul Hedburn, Astro Labs. Gail Ringer, Ringer Video Services, was named second vice-president; Frank Ricotta, Technicolor, was appointed secretary; and Richard Vedvick, Forde Motion Picture Laboratories, was named treasurer. Edward Janow, WRS Motion Picture Laboratory, will continue as president, and James A. Merkle, Allied Film and Video, remains first vice-president. Edward Watton, who is retired from Forde Motion Picture Laboratories, is immediate past-president.

Equipment Exhibit

The exhibit, which included 225 manufacturers of motion-picture and television equipment, occupied over 75,000 net sq. ft. of floor space at the Los Angeles Convention Center. Visitors were able to view the products on display from 10:00 a.m. to 6:00 p.m., on Saturday, Sunday, and Monday, and from 10:00 a.m. to 4:00 p.m., on Tuesday.

List of Exhibitors

21st Century Ltd.
A.F. Associates Inc.
ADC Telecommunications Inc.
AMS
ASC Audio Video Corp.
AT&T Network Systems
Aaton Des Autres Inc.
Abekas Video Systems Inc.
Adams-Smith
Advanced Systems – PBA
Afterglow Inc.
Agfa-BIS
Akai Digital
Alamar
Alesis Corp.
Alfred Chrosziel Filmtechnik GmbH
Allen Avionics Inc.
Allen Products Co.
Amek/TAC U.S. Operations
Amek/Tac
American Society of Cinematographers
Ametron/American Electronic Supply Inc.
Amtel Systems Inc.
Angenieux Corp. of America
Anton/Bauer Inc.
Aphex Systems Ltd.
Arcor Broadcast Products
Asaca/ShibaSoku Corp. of America
Atomic Film Co.
Audio Accessories Inc.
Audio Precision
Audio Processing Technology
Audio Services Corp.
Avid Technology
Avitel
BCS – The Broadcast Store Inc.
BHP Inc.
BTS
Barco, Inc.
BladeRunner Technology
Bremson Data Systems Inc.
CEL Broadcast, U.S.A.
CTM
Calculated Industries Inc.



The equipment exhibit was formally opened with a ribbon-cutting ceremony by President Baker and Conference Vice-President Spring, watched over by a Charlie Chaplin impersonator.

Calzone Case Co., Western Div. of Calzone Ltd.
Canon USA Inc.
Case Edit Controllers
Central Dynamics Ltd.
Century Precision Optics
Chapman/Leonard Studio Equipment, Inc.
Christy's Editorial Film Supply, Inc.
Chyron Corp.
CineMills Corp.
Cinema Products Corp.
Cinematography Electronics Inc.
Clark Wire & Cable
ColorGraphics Systems
ComLogic, Inc.
Comprehensive Video Supply Corp.

Computer Assisted Technologies
Computer Prompting Corp.
Cooper Sound Systems
Countryman Associates Inc.
Crouse-Hinds, CAM-Lok Products
D & S Corley Ltd. trading as Cor-Lab
Dan Dugan Sound Design
Delsynchro, Inc.
Denecke Inc.
Digital Integration, Inc.
Digital Processing Systems, Inc.
Dolby Laboratories
Doremi Laboratories, Inc.
Dorrough Electronics
Dubner Computer Systems Inc.
Dwight Cavendish Co.



A partial view of the exhibit floor.

Dynatech Corp.
 Eastman Kodak Co.
 Echolab, Inc.
 Ediflex Systems
 Edit Point, Inc.
 Editing Machines Corp.
 Ensemble Designs
 Euphonix
 Evertz Microsystems Ltd.
 F M Systems Inc.
 FOR-A Corp. of America
 Fairlight ESP Pty. Ltd.
 Filmlab Systems International
 Fostex Corp. of America
 Frezzolini Electronics Inc.
 Fries Engineering Inc.
 Fujinon Inc.
 Full Sail Recorders, Inc.
 G&M Power Products Inc.
 Gepeco International, Inc.
 Getris Images
 Graham-Patten Systems
 Grass Valley Group
 Harrison by GLW Inc.
 Hitachi Denshi America Ltd.
 Hollywood Film Co.
 Horita
 Hotronic, Inc.
 Hybird Arts
 Ikegami Electronics (USA), Inc.
 Ikonographics/Pocket Pal
 Image Logic Corp.
 Image Video Ltd.
 Imagine Products Inc.
 Innovision Optics
 Inovonics Inc.
 J & R Film/Goldberg/Moviola/
 Acmade
 JBI Professional
 Jensen Transformers Inc.
 KFM New York Inc.
 Karl Heitz Inc.
 Koto Luminous Corp.
 Leader Instruments Corp.
 Leitch Video of America Inc.
 Light Wave Systems
 Lipsner-Smith Co.
 M.D.G. Fog/Smoke Generators
 MAG-ZON Inc.
 Magna-Tech Electronics Co., Inc.
 Management Graphics, Inc.
 Manhattan Video Tape Inc.
 Matthews Studio Equipment
 Meret Optical Communications
 Inc.
 Merlin Engineering Works
 Microtime Inc.
 Microwave Networks, Inc.
 Microwave Radio Corp.
 Minolta Corp.
 Miranda Technologies, Inc.
 Mole-Richardson Co.
 Montage Group, Ltd.
 Motioncam



Visitors to the exhibit viewed the latest equipment from a wide variety of manufacturers.

NFC America Inc./Broadcast Equip-
 ment Dept.
 NEVE
 NVision Inc.
 Nema Electronics International Inc.
 Neutrik USA Inc.
 Nikon Electronic Imaging
 Nova Systems Inc.
 Nucomm, Inc.
 O'Connor Engineering Labs
 Odetics Inc., Broadcast Div.
 Omicron Video
 Optech Inc./Lightning Strikes!
 Optical Disc Corp.
 Otari Corp.
 PESA America Inc.
 Paltex International
 Panasonic Communications &
 Systems Co.
 Perrott Engineering Labs Inc.
 Pinnacle Systems
 Pioneer Communications of America
 Plateau Digital Technology
 Preston Cinema Systems
 Q-TV
 Quantel Inc.
 R-Columbia Products Co., Inc.
 Rank Cintel – Unimedia
 Rank Taylor Hobson Ltd.
 Research Technology International
 Rohde & Schwarz Inc.
 Roland Pro Audio/Video Group
 Royal Television Society
 Sachtler Corp. of America
 Sanken
 Scantex Laboratories, Inc.
 ScheduALL by VisuALL Inc.
 Sigma Electronics Inc.
 Skotel Corp.
 Snell & Wilcox
 Solid State Logic
 Solutec
 Sondor c/o Solid State Logic
 Sony Business & Professional
 Products Group
 Soundmaster U.S.A. Inc.
 Sprocket Digital
 Steenbeck Inc.
 Studer ReVox America Inc.
 Studio Film & Tape, Inc.
 Superedit Ltd.
 Symbolics Inc.
 Sync, Inc.
 TSM – Total Spectrum Mfg.
 Tecon Enterprises
 Techno Quest Research
 Tektronix Inc.
 Telecast Fiber Systems, Inc.
 Telescript Inc.
 Telettra USA Inc.
 Telex Communications, Inc.
 The Adelaide Works Inc.
 The Paladin Group, Inc.
 Thomson Broadcast Inc.
 Tiffen Manufacturing
 Toshiba America, Professional Video Div.
 Trompeter Electronics
 Ultimatte Corp.
 Ultra Light Manufacturing Co.
 Unique Business Systems
 Ushio America Inc.
 Utah Scientific Inc.
 VEAM Div. of Litton Systems Inc.
 VGV Inc.
 Vega Wireless Microphones
 Video Central Inc.
 Video Design Pro
 Videomagnetics, Inc.
 Videomedia SED Inc.
 Videotek Inc.
 Vinten Broadcast Inc.
 Vistek Electronics Ltd.
 Vyvx
 Weaver/Steadman
 Weynand Training International
 Wheatstone Corp.
 Winsted Corp.
 Wohler Technologies Inc.
 Yamaha Corp. of America
 Yamashita Engineering
 Manufacturing, Inc.
 Zaxcom Video