

these systems can give no identification of color field to subcarrier phase lying beyond the  $\pm 40^\circ$  tolerance specified. Thus, no definition is possible for 56% of the total signal possibilities. The author concluded that an independent identification of the proper color field, irrespective of SCH, is the ultimate solution to the problem.

**72. The Advanced Automatic Videotape Editing/Dubbing System in NHK** (*Ken-sho Sata, Takeshi Ogawa, and Iwao Obata, NHK - Japan Broadcasting Corp., Tokyo, Japan*) Since 1970, editing of videotaped programs has become ever more complicated. It has become necessary to improve the off-line editing and automatic dubbing systems. NHK developed a new automatic dubbing system in 1978. It is easily controlled by computer with a memory capacity of up to 1000 events. Now, NHK is also developing an off-line editing system with new functions, and the combination of both systems is expected to meet producers' editing requirements for some time to come. Videotape editing according to a production plan has been increasing sharply in volume. Until now, the preferred method was that of film editing as used in the production of documentary programs. In this method, the collected materials are gradually boiled down through a process of trial and error until the final edited version is achieved. The modern videotape editing system should be able to realize a psychological process similar to that of film editing. In NHK's Tokyo plant, nine automatic editing and dubbing systems have been installed. Five of these were developed in 1978, and the presenter of the paper enumerated their very interesting features. He pointed out, among other things, that even an unskilled operator can handle the manual editing sector of the system very easily. NHK has ten off-line editing rooms in their Tokyo plant, and four of these are equipped with magnetic drum memories for the storage of editing data. In the other six rooms, after completing the editing, the editor plays back the edited tape. He compiles an editing data list by viewing the monitor. Tape number code and frame address code of the edit are recorded and also displayed within the lower part of the image. Since 1975, approximately 500 dramatic and about 100 documentary programs have been edited per year on NHK's preexisting off-line editing and dubbing facilities. It is expected that the new off-line editing system — available to NHK by the end of 1980 — will make the editing chores more manageable and easier to control. The speaker then detailed the main technical specifications of the new videotape editing system.

**73. The SqueezeZoom Digital Video Effects Unit** (*Sidney J. Dodd, VTR Productions Ltd., Toronto, Ontario, Canada*) This paper dealt with a digital video effects unit called the SqueezeZoom. The unit has a

capability for either compressing (squeezing) or enlarging (zooming in on) a picture within a frame. It is unique in that it is the first such device to have multichannel capabilities, that is, it can manipulate several inputs simultaneously. At present, the unit can manipulate three inputs, and provision has been made for future expansion to four. The purpose of the SqueezeZoom is to create effects that previously could be obtained only through the use of film optical techniques. It has the advantage of immediacy, because the effects can be created "live" and may be used directly as part of the production process. The device has several other features in addition to its use as an effects unit: It can freeze a frame; it can accept any nonsynchronous source and therefore be used as a frame synchronizer; it can accept small-format signals with indirect color; it can be used as a rather expensive time base corrector; and, finally, because of its electronic zoom capability, it can be used to correct video signals that have nonstandard blanking.

**74. Progress Report on Standardization of Digital Control Code** (*Graeme Little, Ampex Corp., Redwood City, Calif.*) The Working Group on Standardization of Digital Control Code was established in June 1978 and held its first meeting in September 1978, under the chairmanship of Robert McCall. The members feel that the Working Group has progressed very well toward its objective of defining industry standards. The work has been broken down into three distinct areas, each of which will be covered in a separate document: (1) electrical and mechanical aspects of bus connect systems, (2) description of the protocol used on the bus in order to transfer data, and (3) the specific control codes to perform universal functions. The documents are to be introduced in numerical order, that is, first document 1, then 2, and finally 3. As of this date the Working Group has virtually completed document 1. Document 2 is also nearly complete, although it has been undergoing minor revisions during the past few months. The final document, no. 3, is still in the discussion stage.

**75. User Bits for SMPTE Time Code** (*DeWitt Smith, Amtel Systems, Inc., Doylestown, Penn.*) Many years ago, SMPTE set the standard for longitudinal time code. The structure of the code is one 80-bit digital word, which is used to identify each TV picture frame. The SMPTE Time Code Standard also provided 8 bits not assigned initially during the generating process; these are called user bits. During the presentation the speaker offered two new applications for SMPTE user bits, made possible through the development of a new microprocessor, software-based product. This product is the Amtel model 3700 Edit-Code Master Time-Code Reader/Generator.

## Equipment Exhibit

The Equipment Exhibit at the 122nd SMPTE Conference was another record-shattering event. It was the largest Equipment Exhibit ever shown at an SMPTE Conference in New York. All available booths — 311 of them — were taken well in advance — in fact, several months before the final roundup. At the New York Conference in 1978, also a record-breaker, 211 booths were on display.

At the 122nd Conference, 149 companies representing most of the major manufacturers and suppliers of professional film and television equipment occupied 25,000 square feet of floor space.

More than 8,000 persons attended the Exhibit. Users of film and video equipment as well as interested viewers were impressed by the great variety of advanced technical equipment.

The booths were manned by officials of the exhibiting companies, all experts in their fields and eager to demonstrate and explain the advanced techniques incorporated in the equipment. Many items were newly developed, many of them never having been shown before.

It was a very upbeat experience for the viewers to be involved in the exciting demonstrations and to discuss the various features of the equipment with the experts.

The fact that each SMPTE Exhibit brings new equipment and new technologies to the attention of the viewers augurs well for the future of the industry.

A list of the exhibiting companies which made possible this exciting event is given below.

### Exhibitors

AATON Cameras, Inc.  
Acmade International  
Adcom  
Adda Corp.  
The Allen Products Co.  
American Data  
Amperex Electronic Corp.  
Ampex Corp.  
Anton/Bauer, Inc.  
Arriflex Corp.  
ASACA/Shibasoku Co.  
Audio Kinetics (UK) Ltd.  
Belden Communications, Inc.  
Bell & Howell/Prof. Equip. Div.  
Berkey Colortran, Inc.  
Bogen Photo Corp.  
Bolex (U.S.A.), Inc.  
Brumac Industries, Inc.  
The Camera Mart, Inc.  
Can-Am  
Canon, U.S.A., Inc.  
CECO Communications Co., Inc.  
Central Dynamics Corp.  
Century Precision Cine/Optics  
Cetec Vega  
Chyron Telesystems  
Cinema Products  
Cinemills Corp.  
Cine 60, Inc.

Clear-Com Intercom Systems  
 CMX Systems/Orox Corp.  
 Coherent Communications, Inc.  
 C.E.I.  
 Compact Video Sales  
 Comprehensive Service Audio Visual, Inc.  
 Comprehensive Video Supply Corp.  
 Control Video Corp.  
 Convergence Corp.  
 Cremer, S.A./PEP, Inc.  
 Datametrics, Inc.  
 Datatron, Inc./Video Sys. Div.  
 Digital Video Systems  
 Dolby Laboratories, Inc.  
 Dynasciences  
 Eastman Kodak Co.  
 Edutron, Inc.  
 EEG Enterprises, Inc.  
 EEV, Inc.  
 Eigen  
 ELMO Mfg. Corp.  
 Faroudja Labs  
 Fernseh, Inc.  
 Frezzolini Electronics, Inc.  
 Fujinon Optical, Inc.  
 Fuji Photo Film U.S.A., Inc.  
 General Electric Co.  
 Goldberg Bros. (J&R Film/Ciro)  
 Alan Gordon Enterprises, Inc.  
 Grass Valley Group  
 Hazeltine  
 Karl Heitz, Inc.  
 Hitachi Denshi America, Ltd.  
 Hollywood Film Co.  
 Houston Fearless 76, Inc.  
 Ikegami Electronics (U.S.A.), Inc.  
 Image Devices, Inc.  
 Image Transform, Inc.  
 Industrial Sciences, Inc. (ISI)  
 U.S. JVC Corp.

K B Systems  
 Kliegl Brothers  
 KLM Associates, Inc.  
 Lab Methods Corp.  
 LeVezzi Machine Works, Inc.  
 Lenco, Inc./Electronics Div.  
 Lipsner-Smith Corp.  
 Listec TV Equipment Corp.  
 Lowel-Light Mfg., Inc.  
 LTM Corp. of America  
 L-W International  
 MM Editing Systems, Inc.  
 Magnasync/Moviola Corp.  
 Magna-Tech Electronic Co., Inc.  
 Marconi Electronics, Inc.  
 Matthews Studio Equipment, Inc.  
 Merlin Engineering Works  
 Micro Consultants/Quantel  
 Microtime, Inc.  
 Microwave Associates Communications  
 Miller Professional Equip.  
 Millimeter Magazine  
 3M-Mincom Division  
 Minolta Corp.  
 Mole-Richardson Co.  
 Motion Picture Enterprises  
 Motorola Comm. & Electronics, Inc.  
 Moviecam Corp. of America  
 Multi-Track Magnetics  
 Nagra Magnetic Recorders, Inc.  
 NEC America, Inc.  
 Neumade Products Corp.  
 NL Film Products  
 Norton Associates, Inc.  
 Nurad, Inc.  
 O'Connor Engineering  
 OSRAM Corp.  
 Oxberry/Div. of Richmark  
 Pace International Corp.  
 Panasonic Co./Video Sys. Div.

The Perf-Fix Company  
 Peterson Enterprises, Inc.  
 Philips Broadcast Equip. Corp.  
 Plastic Reel Corp. of America  
 Rank Cintel  
 Rank Precision Industries  
 R-Columbia Products  
 RCA Broadcast Systems  
 Recortec, Inc.  
 Research Technology, Inc.  
 Rohde & Schwarz Sales Co.  
 Rosco Labs., Inc.  
 RTS  
 Sigma Film Equipment Ltd.  
 Skotel Corp.  
 Smith-Victor Corp.  
 Snook Corp. (ROTEX)  
 Sony  
 Soremec-Eclair, U.S.A.  
 Spin Physics, Inc.  
 Steenbeck, Inc.  
 Strand Century, Inc.  
 Sylvania Lightning/GTE  
 Symco, Inc.  
 Systems Concepts, Inc.  
 Tektronix, Inc.  
 Tele-Cine, Inc.  
 Telescript, Inc.  
 Television Equipment Assoc.  
 Tiffen Manufacturing Corp.  
 Toshiba International Corp.  
 Unidek  
 Union Connector Co., Inc.  
 Uni-Set Corp.  
 United Business Publications  
 Utah Scientific, Inc.  
 Videotek, Inc.  
 Weathermation, Inc.  
 The Winsted Corporation  
 Zellan Enterprises Optical Research

## Social Activities

The social activities of the 122nd Conference began Sunday evening with a cocktail party sponsored by Eastman Kodak. This was a spectacular event, held at the Copacabana, one of New York City's best known night clubs, which was Eastman Kodak's for the evening. What a bash! Two floors! The lower floor was a disco, and a pleasant sight it was to see SMPTE members and their wives enjoying the music and the dancing — everything from waltzes to hard rock, and something for everyone. A wide variety of edibles and unlimited bar service added to the evening's delights. Perhaps, best of all, was the opportunity of meeting old friends and making new friends.

### Board of Governors Reception

The Board of Governors Reception, a traditional event at every SMPTE Conference, had a special importance at the 122nd Conference, because of the tangible recognition given to SMPTE Past Presidents. An innovation — the start of a new tradition — had been approved by the Board of Governors, whereby each Past

President will be presented with a gold medallion at the close of his term of office as a symbol of the high regard of his colleagues and the SMPTE membership.

The beautifully designed medallion, one inch in diameter, consists of a wreath of laurel leaves surrounding a half-inch SMPTE logo in gold and blue enamel on gold with two diamonds on either side. The words "Past" and "President" are in gold on white enamel at the top and the bottom of the SMPTE logo.

The medallion will be presented to all the living Past Presidents. The reception was memorable because of the presence of five Past Presidents — William D. Hadden, Kenneth M. Mason, Loren L. Ryder, John W. Servics, and Norwood L. Simmons.

### Awards Luncheon

The Awards Luncheon was held Monday in the Grand Ballroom of the New York Hilton, followed by presentation of the Awards. (A complete story on the Awards Presentations begins on p. 33.)

The guest speaker was His Honor, Edward Koch, Mayor of New York, who lived up to his reputation of being a witty and amusing speaker of great charm and

charisma. Known as one of New York's most controversial figures, in discussing his office and his plans for New York, he said, "I will never give in to special interests." He added, "When I ran for election, no one thought I could win, so no one asked me about my views on anything, so now I am known throughout the five boroughs of New York as a controversial and stubborn mayor." His remarks were greeted with frequent bursts of applause, and his remarks on the motion picture industry in New York were listened to with special attention. During his tenure, there has been a significant upswing in filmmaking in New York. "During 1977," he said, 300 million dollars were spent on movies, and in 1980, 500 million dollars were spent." While making no invidious comparisons with Hollywood, he noted that New York has one thing that Los Angeles does not have, and that is New York City, a fabulous backdrop for an action movie.

### Newly Elected Officers

After thanking the Mayor, who had to leave for another appointment, Robert Smith, SMPTE President, announced that his term of office ends 1 January 1981, and that Charles E. Anderson has been elected