

Industry News & Educational Activities

Academy Awards

Ten awards for scientific or technical achievement including one Academy Award of Merit (Statuette), one Scientific and Engineering Award (Academy Plaque) and eight Technical Achievement Awards (Academy Certificates) were presented at the 52nd Annual Academy Awards ceremonies held in April.

The Academy Award of Merit went to *Mark Serrurier* for the progressive development of the Moviola from the 1924 invention of his father, Ivan Serrurier, to the present Series 20 sophisticated film editing equipment. The Moviola has evolved from the 1924 Midget to the complex machines necessary for the array of picture and sound formats currently employed in motion picture production. It has kept pace effectively to meet the demands of motion picture technology, the citation stated.

The Scientific and Engineering Award went to *Nieman-Tiller Associates* for the creative development and to *Mini-Micro Systems, Inc.*, for the design and engineering of an Automated Computer Controlled Editing Sound System (ACCESS) for motion picture production. According to the citation, ACCESS is used in the post production sound editorial process. Its memory banks store sound effects audio in digital form and instant access to these effects is provided. The system accommodates sound modification and track assembly in synchronism for rerecording.

Technical Achievement Awards

To *A. D. Flowers* and *Logan R. Frazee* for the development of a device to control flight patterns of miniature airplanes during motion picture photography. The apparatus (The Guillotine) provides the capability of creating realistic motion of a miniature airplane in acrobatics for later combination with other photographed material.

To the *Photo Research Division of Kollmorgen Corp.* for the development of the Spectra II Cine Special Exposure Meter for motion picture photography. The Spectra II Cine Exposure Meter is a durable instrument which may be programmed to read instantly the optimal *f*/stop for any scene. Stable solid-state circuitry achieves increased sensitivity and accuracy at low light levels.

To *Michael V. Chevey*, *Walter G. Eggers* and *Allen Hecht* of MGM Laboratories for the development of a Computer-Controlled Paper Tape Programming System and its application in the motion picture laboratory. The MGM Programmer System uses microcomputer techniques providing the capability to produce, edit or modify paper timing tapes to control color motion picture printing.

To *Irwin Young*, *Paul Kaufman* and *Fredrik Schlyter* of Du Art Laboratories, Inc., for the development of a Computer-Controlled Paper Tape Programmer System and its applications in the motion picture laboratory. The Du Art

Programmer System uses microcomputer techniques providing the capability to produce, edit or modify paper timing tapes to control color motion picture printing.

To *Paul Trester* and *James Stanfield* for the development and manufacture of a device for the repair or protection of sprocket holes in motion picture film. The Trester-Stanfield apparatus provides the capability of applying perforated bonding tape in registration over damaged sprocket holes in short or extended lengths to maintain the integrity of perforated motion picture film.

To *Zoran Perisic* of Courier Films, Ltd., for the Zoptic Special Optical Effects Device for motion picture photography. The Zoptic device provides a means of interlocking the zoom lenses of a camera and projector in a front or rear projection system. The synchronized zoom action creates the illusion of relative movement in depth between a foreground subject and the projected background.

To *Bruce Lyon* and *John Lamb* for the development of a Video Animation System for testing motion picture animation sequences. The Lyon-Lamb Video Animation System (VAS) allows the animator or special effects director to shoot his test directly on videotape one or two frames at a time and view it immediately at normal projection speed.

To *Ross Lowell* of the Lowel-Light Manufacturing Co. for the development of compact lighting equipment for motion picture photography. The Lowel-Light unified system consists of a wide range of lightweight compact lighting equipment of special utility for location motion picture photography.

John O. Aalberg, a founding member of the Academy of Motion Picture Arts and Sciences, **Charles G. Clarke** and **John G. Frayne**, an internationally recognized authority on sound recording, are recipients of the Medal of Commendation, one of the Academy's highest special awards, presented "in appreciation for outstanding service and dedication in upholding the high standards of the Academy of Motion Picture Arts and Sciences."

Aalberg, a Life Fellow of the SMPTE, was formerly a sound director at RKO Studios, retiring in 1962. He was a member of the Academy's Board of Governors for 12 years, a Vice-President for one year (1958) and Treasurer for 11 years. While with RKO, Aalberg's department won three Oscars, two for sound and one for technical achievement. He has been a member of the Society for 52 years, joining the (then) SMPE in 1928. During the early 30s he was Chairman of the Hollywood Section when sound film was just coming into its own, and during section meetings a number of spirited discussions took place on the proper laboratory techniques for the new sound on film. He served 28 years on the Academy's Scientific/Technical Awards Committee and was Chairman from 1956 through 1962.

Frayne, an Honorary Member of the SMPTE, joined the Society in 1930 and served as President for the 1955-56 term. In 1959 he received the Samuel L. Warner Memorial Award for engineering a 70-mm stereo soundtrack magnetic film system and test films. In 1941 he received an Academy Scientific Award for the Integrating Sphere Densitometer he developed in cooperation with G. R. Cranc, and in 1953, Frayne and R. R. Scoville jointly received an Academy Award for their basic work on the intermodulation technique of distortion measurements.

Some 100 broadcasting engineers from the European Broadcasting Union (EBU) representing some 25 countries met at the BBC in London in April to discuss future technical standards for digital television signals. The outcome was an initial recommendation to the CCIR that the standard for digital video be based on coding the luminance and color difference components of the video signal separately rather than the composite signal. They also recommended that the samples should have a picture-repetitive structure with co-siting of luminance and color difference samples. They noted that further work will be needed on sampling rates.

Discussion about the digital standard has been going on in the EBU's specialist group, VI-VID, for the past year. The meeting in London provided an opportunity to demonstrate the practical potential of one proposal to the main EBU Technical Committee. Demonstrations were given at the BBC Designs Department in central London with contributions from five laboratories, ITCA, IBA and BBC (Britain) CCETT (France) and IRT (Germany).

The demonstrations used a system known as 12:4:4 referring to the sampling rates for the different components, 12 MHz sampling for the luminance signal (756 samples per TV line) and 4 MHz sampling for the color difference components B-Y and R-Y. The demonstrations showed that with the exception of some very critical source material the 12:4:4 standard was capable of preserving the original RGB quality very well and with a composite coder at the output it was virtually impossible to detect whether the digital system was in use or not. The tests showed that operation with Color Separation Overlay (CSO or chroma key) were less successful. CSO is almost always applied to the original RGB signals at source because they can provide the full bandwidth to generate the keying signal. CSO is done sometimes with the decoded components of a composite analog signal but the results are not particularly satisfactory. Broadcasters would like to have a digital standard that will make it possible to do "downstream" CSO as effectively as it can be done at the RGB source.

Two CSO equipments that were demonstrated gave pictures somewhat inferior to those attainable at the source when using the best analog equipment. Instrumental deficiencies were partly to blame but there was a suspicion that some fundamental limitations associated with 4-MHz sampling was being exposed. Further work will be necessary before a final decision can be taken about CSO.

Other demonstrations showed digital mixing and recording from digital 12:4:4 inputs using equipment developed by the IBA, ITCA and CCETT, and showed that the 12:4:4 system with its gross bit rate of 160 Mb/s was

within the capabilities of present day signal processing and recording technology.

Even after the introduction of a digital standard, the digital equipment will have to live alongside existing analog equipment, and a very important aspect of the tests showed how a conventional composite PAL signal can be decoded at the input of a digital system, converted to PAL at the output and decoded once more for display. A new PAL decoder/coder combination developed at the BBC Research Department can do this very successfully. The new decoder samples the PAL signal at the line-locked rate of 12MHz and uses digital arithmetic to derive the component signals. The high quality of the decoded PAL signal is impressive when compared with normal methods of PAL decoding.

One significant aspect of the meeting was a visit by a party from the SMPTE. It does seem likely that advantages will be gained from having as much commonality as possible between the coding systems adopted in 625- and 525-line countries. A dialogue between the EBU and the SMPTE has been going on for some time now and further discussions will doubtless be needed before a final standard is put forward. There may also be a need for a compatible hierarchy of standards to suit differing quality requirements.

A research collection of television commercials to be housed in the Eugene McDermott Library of the University of Texas at Dallas is an on-going project of Film Historian Paul Monaco and Research Assistant Tim Jernigan. According to Dr. Monaco, "There are media archives in other parts of the country, the television and film archives at UCLA, the Museum of Broadcasting in New York, and Vanderbilt University which has been taping network television newscasts for years and saving them for posterity — but no one has devoted his attention to the art and cultural significance of the television commercial, certainly not in the way that we propose."

Jernigan added, "The way we see it, television commercials have an historical significance. They provide a unique reflection of popular American culture. From a psychological point of view they give us a certain insight into what makes us tick, or at least what Madison Avenue thinks makes us tick. Over the years as television has become more sophisticated, commercials have become more sophisticated and so has our image of ourselves."

"The biggest challenge," Dr. Monaco said, "is going to be the development of a cataloguing system versatile enough to provide access to the commercials for all the different kinds of researchers whom we expect to benefit from the collection."

The International Museum of Photography at George Eastman House in Rochester, N. Y. has announced plans for a major new building to exhibit and house one of the world's finest photographic and film collections. Approval was given to a long-range development plan that includes the new building at the annual meeting of the institution's board of trustees in April. The plan was submitted to the board by a special committee, headed by Chancellor W. Allen Wallis of the University of Rochester, which was formed last year.

The collections include approximately 500,000 significant still photographs, 5000 films and what is by far the world's largest and most complete collection of photographic

equipment. Special consideration was given by the board to the preservation of the George Eastman mansion and gardens which constitute a registered national landmark. The house, home of George Eastman (1854-1932), has been a museum since 1949. The consensus of the board was that the mansion is not well suited for the display and storage of collections and that continuing harm to the house is resulting from its use for museum purposes. It has been suggested that the major rooms in the George Eastman House be fully restored while others could be used selectively for photographic display; however the major display facilities would be in the proposed new building.

The University of Southern California's Division of Cinema/Television has announced the receipt of \$650,000 from the Harold Lloyd Foundation for the construction of a film soundstage, according to a recent USC announcement. The Harold Lloyd Foundation, established by the late comedian's will, has been a long-term supporter of USC's cinema/television school, having made numerous gifts for student scholarships and grants-in-aid.

Galileo Electro-Optics Corp., Galileo Park, Sturbridge, MA 01518, and the British Post Office have announced the signing of a license and technology exchange agreement giving Galileo and its wholly owned subsidiary, Galite, Inc., in Wallingford, Conn., rights and know-how to advanced British Post Office optical communication technology. Manufacturing rights to double-crucible production methods for low-loss, high bandwidth, optical communication fiber and cable are included in the agreement. These new processes were developed after extensive research by the Research and Development Laboratories of the British Post Office, which is responsible for handling telecommunications in Great Britain including telephone, telegraph, satellite, and microwave communications as well as undersea cable in addition to the postal service.

Galileo and Galite are the first companies in the U.S. to receive this license and know-how, the announcement stated. Plans are to produce the glass raw materials in Galileo's glass-manufacturing plant and to draw fibers using the double crucible method at Galite in Wallingford.

The double-crucible draw has been cited as a major breakthrough in optical fiber manufacturing. It produces low-loss fibers with both high bandwidth and high numerical aperture (NA). Losses of less than 4 dB/km, NAs greater than 0.5 and bandwidths of 1 GHz/km have been reported. A versatile process for manufacturing low-loss fiber, the double-crucible draw can produce fibers having widely varying characteristics. Small core, low NA, low-loss fibers suitable for long-haul telecommunications applications can be manufactured as readily as high NA fibers suitable for short-haul data links, and low-loss fibers of lengths exceeding 25 km can be made in a continuous process, the announcement stated.

The 1980 ISCC Macbeth Award was presented to William David Wright 22 April at the Annual Meeting Luncheon of the Inter-Society Color Council. The Macbeth Award was established by the late Norman Macbeth in memory of his father. The Award citation

recognized Wright's lifetime achievements but stressed his recent important and unusual contributions to color. This work has taken place in the last 10 years since Wright's retirement from the Imperial College of Science and Technology in London. He has been active in teaching and in the application of the principles of color technology to the preservation of paintings. He has lectured at the University of Calcutta, India, the University of British Columbia and Waterloo University, both in Canada, and at the City University of London. He is the author of *The Rays Are Not Coloured* (reviewed in the September 1968 issue of the *Journal*) and of four other books on color.

Ampex Corp. and the Signal Companies have mutually agreed to terminate negotiations for the merger of Ampex into Signal through an exchange of common stock it was announced on 18 April (see the May 1980 issue of the *Journal*, p. 414). The merger negotiations were terminated due to economic conditions and depressed stock market prices, the announcement stated.

A 50-in (diagonal) color television display that could be mounted, like a picture, on a home wall is in the early developmental stage at RCA Laboratories according to a recent announcement. The basic technical concept for the 4-in-thick flat panel display has been disclosed by RCA scientists now working on the project, who predicted that it would be at least 10 years before the "flat" television becomes commercially available to the home consumer.

Conceptually the display consists of 40 modules, each 1 in wide and 30 in high, fastened side by side to form a color television display 40 in wide and 30 in high. RCA-developed beam guides in each module control the three electron beams that excite the red, blue, and green phosphors on the module's faceplate to provide a color television picture. In the RCA concept, the three beams in each module are synchronized with the respective red, blue, and green beams in every other module, resulting in a much larger picture covering four times the area of a conventional 25-in tube but with comparable brightness.

The color technology planned for the flat panel screen will be similar to that for the shadow mask technology used in color television tubes throughout the world, therefore the work on color for the flat panel will come near the end of the development period after the more basic problems concerning control of the electron beams and the manufacturing processes are fully understood, the announcement explained.

Kjell Hagemark has been appointed Laboratory Manager for the Optical Recording Project of 3M's Magnetic Audio/Video Products Div. Prior to this appointment Hagemark was with 3M's Central Research Laboratories as a research manager. In his new post he will be responsible for the total laboratory effort on the Optical Recording Project. This includes further development of materials and processes applicable to videodisk technology. 3M has developed proprietary replication and mastering technologies in this field. Hagemark joined 3M in 1967 and worked in electrooptical research. He later became supervisor of materials research. In 1974 he be-

came research manager having the responsibility of investigating new information storage material.

Malcolm M. Burleson, a principal and founder of Burleson Associates, Inc., a communications consulting service located at 5151 Wisconsin Ave., N.W., Washington, DC 20016, has joined NEC America as Eastern Regional RF Sales Manager for the Broadcast Transmitter Division. Before forming Burleson Associates in 1971 he was Corporate Vice-President, Engineering, for Metromedia, Inc. In his new post he will be responsible for marketing research, contacts with governmental organizations, and direct customer contact.

Fred E. Scott, Jr., has been appointed Director of VTR Engineering for Hitachi Denshi America, Ltd. He was formerly Senior Engineer for 1-in VTR for Sony Broadcast. In his new post he will have the responsibility of establishing a National Engineering and Support Organization and Training Center.

Dr. Norman F. Ramsey, Higgins Professor of Physics at Harvard University, has been elected Chairman of the Governing Board of the American Institute of Physics. He succeeds Dr. Philip Morse, of the Massachusetts Institute of Technology, who has been Chairman for the last five years.

Books, Booklets, Brochures

Microphones, Professional and Semiprofessional by Gerhart Boré of Georg Neumann GmbH Berlin has been translated from the German into English by Stephen F. Temmer, President of Gotham Audio Corp., 741 Washington St., New York, NY 10014. It is a 74-page softbound booklet which contains descriptions of the various types of microphones and the characteristics of the most important types. The booklet contains 45 illustrations including photographs and diagrams. Also included is a glossary of terms used for designating microphone characteristics and a bibliography. The booklet is available from Gotham Audio Corp. at a price of \$1.00.

Large screen television projectors are described in an illustrated brochure available from General Electric Co., Video Display Equipment Operation, Electronics Park, Bldg. 6, Room 205, P.O. Box 4840, Syracuse, NY 13221. Complete technical specifications are listed. The brochure also contains a chart for comparing the basic specifications of 15 new high brightness models. The minimum modulated television light output has been increased to 500 lm for color projectors and to 2000 lm for black-and-white projectors.

Slow scan television systems for image communication over audio circuits are described in a 6-page folder available upon request from Colorado Video, Box 928, Boulder, CO 80306. The folder is illustrated with photographs, diagrams, and tables showing transmission requirements over ordinary or dedicated telephone lines, FM subcarrier channels, or satellite links. Engineering specifications for each system are listed. Also

available are four application brochures which provide information on slow scan television's contribution to telemedicine, teleconferencing, business communications, and UPI's *Newstime* service, the first slow scan programming, now broadcasting news 24 hours a day to cable television operators.

The DS 30 Digital Video Processor is described in an illustrated data sheet available from Quantex Corp., 252 N. Wolfe Rd., Sunnyvale, CA 94086. The data sheet illustrates features, such as four differencing modes (offset, absolute value, and positive and negative differences), an expanded microprocessor-based autosequencer with editing, countouring, and windowing to threshold, and one dimensional linear filtering for edge enhancement and shading compensation. The data sheet also provides illustrations of noise reduction by summing or averaging frames, transient image capture (events as short as 50 ps in duration), and gray scale "stretching" using the nonlinear output transform.

The Power Semiconductor User's Manual and Data Book, a 608-page reference guide, is available from Westinghouse Electric Corp., Semiconductor Div., Youngwood, PA 15697, at a price of \$13.50 (\$15 outside the U.S.). The book contains extensive product information, including application data, performance characteristics, sinusoidal and trapezoidal waveform current rating, and pulse loss curves and dimensional drawings. Also included are a quick-service directory and a product cross-reference index to aid the user in matching device and application.

Oscilloscopes, function generators, and video generators are among the products illustrated and described in a 40-page catalog available upon request from Leader Instruments Corp., 380 Oser Ave., Hauppauge, L.I., NY 11787. The new catalog details features, specifications, and applications of more than 50 test instruments in addition to a large selection of probes and other test accessories. Products described in the catalog include frequency counters, audio test instruments, video generators, RF test instruments, transistor checkers, and a CATV field strength meter.

CCTV access control and surveillance products are described and illustrated in a 20-page catalog available upon request from Visual Methods Inc., 35 Charles St., Westwood, NJ 07675. Included are the VMI Twinguard, pinhole and wide angle surveillance lenses, television housings, and special application items. The catalog includes specifications for each item, drawings, photographs, and a brief description.

The 1980 edition of the Cohu's short form catalog is available upon request from Cohu, Inc., Electronics Div., Box 623, San Diego, CA 92112. The 16-page catalog describes and illustrates Cohu's current line of closed circuit television products. Included are environmental, standard and low light cameras, color cameras, monochrome monitors, and processing and accessory equipment. With optional factory-installed connectors, the 2800C series of self-contained cameras can operate in water 60 ft deep.

The Use of Media-Based Materials by Professional Societies in Continuing Education,

the Proceedings of a conference held 28-29 September 1978, is now available from the Georgia Institute of Technology, Atlanta, GA 30332. The book contains 20 papers, among them, "Technology and Society: It's Time to Wake Up to the Problems"; "The Significance of the Optical Videodisk to Education"; "A Practical Approach to Media-Based Engineering Education"; "Determining Continuing Education Needs in an R & D Organization"; "Lifelong Learning Through Regional Telecommunications" and others of similar interest. The book is priced at \$15.

Imagine a World Without: Film and Video Training Programs is a brochure published by the Training Media Distributors Association (TDMA) dealing with film piracy. The brochure describes the destructive results of film piracy and explains current copyright and licensing procedures for training film users. Copies of the brochure are available from TDMA, 1258 N. Highland Ave., Suite 102, Los Angeles, CA 90038, at a price of 10 cents a copy. The minimum order is \$10. A sample copy is available for 50 cents.

Careers in the Electronic Industry, an informative new booklet, is available upon request (individual copy) with a stamped, self addressed envelope from the International Society of Certified Electronics Technicians, 2708 W. Berry St., Fort Worth, TX 76109. The booklet provides information about jobs for electronic technicians in both industry and radio and television repair. Training, employment outlook, earnings, and working conditions are discussed in detail.

The Kemps International Film and Television Year Book is available from the Kemps Publishing Group, 1-5 Bath St., London EC1V 9QA, England, at a price of \$65. The first half of the book is devoted to contacts in the UK. Details are listed alphabetically under various classifications such as lighting, production companies, production equipment, and services. The section is fully indexed. Next is a UK technicians section listing specialists for the art, camera, editing, and sound departments. Technicians are also coded to indicate their proficiency in various languages.

The second half of the book contains similar information relating to countries around the world. The sections covering France, Germany, Canada, and the U.S. are particularly well documented. In addition to European and Scandinavian countries, Israel, Japan, Australia, and South Africa are among the 40 nations covered.

Instruments for Testing and Design, a 36-page catalog illustrated in color, is available upon request from Global Specialties Corp. (formerly Continental Specialties Corp.), 70 Fulton Terrace, New Haven, CT 06509.

Innovative Television Equipment, P.O. Box 681, Woodland Hills, CA 91364, has announced the availability (if requested on company letterhead) of two new catalogs covering the firm's entire line of video camera support equipment. A 4-page brochure presents audiovisual and closed circuit television support equipment and an 8-page illustrated catalog lists and describes professional broadcast tripods, pedestals, dollies, heads, and accessories.