

William G. Dilley, founder of Spectra Sonics, 770 Wall Ave., Ogden, UT 84404, is the recipient of the Distinguished Engineering Alumnus Award of University of Colorado College of Engineering and Applied Science—the highest honor the College can bestow upon an alumnus. Dilley, who played a creative role in the American space vehicle development, founded Spectra Sonics for the manufacture of advanced electronic equipment. The firm designs and manufactures sound reinforcement equipment, recording studio equipment and electronic apparatus for testing and research.

Frank Reinking has been appointed Vice-President and General Manager of PSI Film Laboratory, Inc., 3011 Diamond Park Dr., Dallas, TX 75247, it was announced by Robert Redd, President. Reinking was with Eastman Kodak for about 20 years, most recently as Kodak's Southwest Region technical liaison with professional motion-picture customers. In 1969 he received a NASA Apollo Achievement Award for his assistance with the motion-picture photography involved in the Apollo 11 Moon landing in July 1969. PSI is a subsidiary of Tracy-Locke Company, a diversified communications company.

Eddy H. A. E. Zwaneveld has been appointed to the post of Laboratory Manager, Photo-Tech Laboratories, Hollywood Div., Stockdale Corp., 2211 West 2300 South, Salt Lake City, UT 84119. He was formerly Manager of Cineservice/Cambridge Film Lab, Melbourne, Australia, and earlier had served as Manager of the Cinecentrum-Cineco Film Laboratories of Hilversum/Amsterdam. He has also acted as a consultant, leading the team which designed and supervised the installation of Stockdale's

Photo-Tech Motion Picture and Custom Still Laboratories in Salt Lake City.

Robert N. Blair has been appointed National Marketing Manager for Hitachi Denshi America, Ltd., 58-25 Brooklyn-Queens Expwy., Woodside, NY 11377, it was announced by Y. Fujiyoshi, President. Blair was formerly Product Line Manager for Robert Bosch Corp.'s Fernseh Group. Earlier he had been associated with General Electric and with Philips.

Edmond G. Dyett, Jr. has been elected Executive Vice-President and a member of the Board of Directors of Super8 Sound, Inc., 95 Harvey St., Cambridge, MA 02140, it was recently announced by Robert O. Doyle, Super8 President. Dyett, who joined Super8 Sound in 1976, was previously Manager of Scott Instrument Laboratories.

Books, Booklets and Brochures

The **TF 2370 Spectrum Analyzer** and other instruments are described and illustrated in color in a short form catalog available from Marconi Instruments, 100 Stonehurst Court, Northvale, NJ 07647. Features of the TF2370 include frequency cover from 30 Hz to 110 MHz; 100 dB displayed range; 0.1 dB and 5 Hz resolution; digital storage of spectral information; built-in sweep generator; and many other features.

Patching and switching equipment and components are listed and illustrated in a 48-page catalog available from Trompeter Electronics, Inc., 8936 Comanche Ave., Chatsworth, CA 91311. The items listed in the catalog are intended to provide standard system interface

patching and switching so that many end equipments available from other manufacturers could be interconnected with a minimum of engineering, space and costs.

The **Odeta Old Delft Transfer Analyzer** is described and illustrated in color in an 8-page brochure available from N.V. Optische Industrie, De Oude Delft, Delft, Holland. The device was designed to measure the performance of optical elements, complete systems, image transfer tubes, TV systems, fluorescent screens, etc. in terms of their Modulation Transfer Functions. Photographs of the Odeta and its components and a diagram showing how it operates are included.

Various types of electronic instruments are illustrated and described in a short form catalog available from Ballantine Laboratories, P.O. Box 97, Boonton, NJ 07005. Instruments shown in the catalog include portable oscilloscopes and recorders; RMS digital and analog voltmeters; wideband ac analog voltmeters and digital multimeters; ac/dc transfer standards calibration devices and sources; frequency counters and counter timers; digital panel meters and new instruments.

The **Vishay in-plant resistor** manufacturing facility, a system for manufacturing high-accuracy Bulk Metal® resistors is illustrated and described in a 4-page brochure available from Vishay Resistive Systems Group, 63 Lincoln Hwy., Malvern, PA 19355. The brochure notes that the equipment needed to set up a Vishay In-Plant Facility is minimal. Procedures and processes are designed for use by production line personnel with training time usually about four hours for a technician and less than two days for an inexperienced operator.



Dallas/Fort Worth, 2 Mar. — The meeting was held at Eastman Kodak's facilities in Dallas with an attendance of 29 members and guests. Frank Reinking of Eastman Kodak presented a very informative paper entitled "The New Eastman Kodak Ektachrome Video News Film Type 7250." The film can be used at very low light levels. It is a color reversal film primarily designed for news, nighttime sporting events and high-speed photography. It is a stock balanced for 3200 tungsten light with an ASA rating of 400 but it can be used with an ASA of 250 in daylight by using an 85B filter. Reinking explained that the stock could be pushed two or three stops to a 3200 ASA value when necessary but some loss in quality could be expected. The film was designed for direct projection; however, duplicates may be made using type 7399 print film processed in VNF-1 as used for the original. A screening presentation of the film stock was made showing many typical low light scenes including scenes at zero foot candles. The images in all cases were remarkable. During the question and answer period it was noted that this

stock should be considered not only for television newsgathering but also as a viable production stock. For this reason, Eastman offers it on spools for high-speed use and with or without magnetic stripe, in addition to the regular formats. This prompted many other questions on possible applications from the audience. — Paul F. Brown (Secretary-Treasurer), Southern Baptist Radio and TV Commission, 6350 W. Freeway, Fort Worth, TX 76116.

Detroit, 23 Mar. — The meeting was held at the University of Michigan's Dental School in Ann Arbor with an attendance of 35 members and guests. The host and principal speaker was Charles Wallace, Technical Manager of the Department of Educational Resources. Wallace gave an overview of the department, which consists of 40 technical and creative personnel dedicated to providing a learning opportunity to small groups of students enabling them to advance to their degree objectives at individual rates. The method is called the Pilot Program in Dentistry and is made possible by a highly spe-

cialized television production facility with special distribution and display systems. More than 800 titles have been produced in color and are available for playback over the school network.

Recording, editing and dubbing techniques and equipment were discussed by Walter Gembrowski, Chief Engineer. A large proportion of the program material consists of interoral videography. Problems involved with recording the procedures without interfering with the actual operations are solved by a boom/mirror/reflection lighting arrangement bracketed to a PC 70 camera with a 16:1 zoom lens; in some cases fiber optics are used. Close control of colorimetry is necessary because of the importance of tissue coloration to diagnosis. An LDH-1 fitted to a microscope, a film chain, a time base corrector and a 10-unit U-cassette dubbing system round out the equipment of this impressive facility.

Engineers Larry Manderville and Joe Raznik presented papers on the computer interface for switching, logging and scheduling. A Hazeltine computer terminal provides the information and display used to set up the 15 in-40 out routing switcher that makes the vast library of program material available to the students at their own time and pace. An auditorium fitted with color monitors, wireless headphones and an interpreter's booth provides a theater for the display of live or recorded operations with multilingual lecture capability.

Per Kjeldsen reviewed the methods used to produce the art and text visuals. Of particular interest was his technique of color burn-in on

color-fogged 35mm reversal film.

A conducted tour of the studios, laboratories, learning centers and recording facilities followed the meeting. — John D. Mayberry (Secretary-Treasurer), Ford Motor Co., Photomedia Dept., The American Rd., Dearborn, MI 48121.

Chicago, 23 Feb. — The meeting was held at the Fred A. Niles Communications Center with an attendance of 120 members and guests. The speaker, Bob Olsen, Chief Engineer of the Fred A. Niles Videotape Division demonstrated the technology involved in creating a videotape image from a combination of films, slides and taped images, computer editing and large screen projection of a video image using the General Electric video projector. After the presentation there was a question-and-answer period followed by a tour of the facility. — Paul R. Markun (Secretary-Treasurer), Douglas Film Industries, Inc., 10 West Kinzie St., Chicago, IL 60610.

Chicago, 15 Mar. — The meeting was held in the Ben Franklin Room of the First Federal Savings and Loan Association building with an attendance of 37 members and guests. The speakers were Don Henderson and Ken Knaus, both of Eastman Kodak Co. Henderson presented a paper on "Rapid Access Color Reversal Film and Process" dealing with the results of experiments conducted by Eastman Kodak Co. to determine the feasibility of rapid access color reversal film and process.

Knaus presented a paper on "Eastman Ektachrome Video Newsfilm High Speed 7250." The film, tungsten, EI 400, is a new high-speed color reversal film compatible with the VNF-1 process. — Paul R. Markun (Secretary-Treasurer), Douglas Film Industries, Inc., 10 West Kinzie St., Chicago, IL 60610.

Hollywood, 17 Jan. The meeting was held at the MGM Studio Theater with an attendance of 170 members and guests. Dr. Roderick T. Ryan of Eastman Kodak Co. presented a comprehensive illustrated paper on the new Eastman Color Intermediate II filmstock. The film offers significant improvement in graininess and improved contrast control capability over earlier films. It is compatible with the ECN II process. The presentation was enhanced by side-by-side comparison projection of release prints using the EC Intermediate II film and release prints employing none, or other intermediate films. Dr. Ryan answered numerous questions following the presentation.

L. P. "Pete" Reitz of Gray Engineering Laboratories gave a slide-illustrated discussion of a new family of low-cost instruments for the generation and display of the SMPTE Edit Code. The instruments include a reader character generator; a user bit modifier; and a time code generator. They are designed and manufactured by Gray Engineering Laboratories in Santa Ana, Calif. Numerous in-depth questions were answered by Reitz and John Gray, President of Gray Engineering Laboratories.

The meeting was preceded by a dinner at the Ponderosa Restaurant. — Frank "Pete" Clark (Secretary-Treasurer), 1011 Fourth St., #208, Santa Monica, CA 90403.

Hollywood, 15 Feb. — The meeting was held at CBS Television City's Rehearsal Hall A with an attendance of more than 180 members and guests. Richard W. Elliott, Senior Technical Service Engineer in 3M Company's Magnetic Audio/Video Products Division, conducted the entire program which was on the subject of videotape. He opened the program with a play-

back of a videotape recording made to celebrate the 20th anniversary of the inception of videotape recording. Some of the first equipment was shown followed by highlights of the many advancements in editing, recording and playback equipment that have taken place over the years.

Elliott then presented a paper on "Manufacturing Magnetic Tapes" illustrated by 2 x 2 slides. Details of materials, chemistry, clean rooms and quality controls were explained. This was followed by a presentation on "Improved Audio Characteristics in Quadruplex Videotape." Various audio parameters of magnetic recordings were defined and explained. A videotape playback on five monitors was part of the presentation.

The last segment of the program was presentation on "Care and Handling of Videotape." This was enhanced with the aid of an overhead projector.

The meeting was preceded by a dinner at Casa Cugat. It was a pleasant occasion with Xavier Cugat greeting our group and presenting us with a review of his new book. He also showed us some of his own paintings. — Warren Strang (Chairman), Hollywood Film Co., 956 Seward St. Hollywood, CA 90038.

Nashville, 24 Feb. — The meeting was held at the WSM-TV Studios in Nashville with an attendance of 48 members and guests. The speakers were Ken Knaus and Bob Baker, both of Eastman Kodak, and Jim Solomon of MPL Motion Picture Laboratories, Inc. The meeting opened with a very amusing film entitled *Live TV*. Knaus provided a demonstration of Kodak's new high-speed 7250 film with an ASA rating of 400 under different lighting conditions from very low light conditions up to 40 fc.

Baker demonstrated, on 35mm Eastman Kodak's new color intermediate II film, type 5243/7243 under various lighting conditions.

Solomon showed samples on 16mm of direct dupe and dupe negative prints processed at MPL. The demonstration showed the improved quality of the prints. Baker showed also several simulated commercials that had been prepared to demonstrate the high quality of the film.

Following the presentations, another interesting film entitled *The TV Newsmen* was shown. This was a documentary prepared by a West Coast TV station. — S. Lee Whitehurst (Secretary-Treasurer), WSM, Inc. P.O. Box 100, Nashville, TN 37202.

New England, 11 Feb. — The meeting was held at the Stuart Cody auditorium in Somerville, Mass., with an attendance of 40 members and guests. Stuart Cody's presentation was entitled "Present Developments in Motion Picture Photography." The program included excerpts from the recent motion pictures, *Bound for Glory*, *Rocky* and *Marathon Man*. A discussion and evaluation of the Cinema Products Steadicam occupied a good hour, followed by a discussion of the Expedition Battery recently introduced by Stuart Cody. — John P. Olsen (Secretary-Treasurer), Foxboro Corp., Neponset Ave., Foxboro, MA 02035.

New England, 9 Mar. — The meeting was held at Videocom in Dedham, Mass., with an attendance of 35 members and guests. The speaker was Lucien Lessard, Vice-President of Videocom whose subject was "The State-of-the-Art of Video Technology." The program included a hands-on session with multicamera chroma-key techniques using special motion-picture optics and electronically matted effects which allowed

a "3-D perception" when a person walked on the set being chroma-keyed. Also demonstrated were the facility's triple reentry production switcher, A+B roll techniques with disc Slo-Mo and freeze frame. Refreshments were provided by Videocom for a social hour following the meeting. — John P. Olsen (Secretary-Treasurer), Foxboro Corp., Neponset Ave., Foxboro, MA 02035.

New York, 8 Mar. — The meeting was held at the CBS Broadcast Center, Studio 41, with an attendance of more than 500 members and guests. The program, conducted by Joseph Flaherty of CBS and Isaac Hershey of ABC, was on the theme of "Beyond ENG — The Startling Future of Video." Flaherty showed on video monitors currently produced news and documentaries which were recorded with the new generation of small portable electronic camera and video recorders. The news items and documentaries had been shot by CBS and its affiliates throughout the country. The quality of the material demonstrated was considered by many to be equal to that of 16mm newsfilm. Flaherty indicated that in the near future productions by the CBS Network would be produced by electronic cameras and the new generation of 1-in helical scan recorders. Various demonstrations comparing 35mm film and electronic recordings were presented.

Hershey presented several tapes showing the current use of ENG equipment by the ABC Network. Spectacular shots of the Alps recorded from a helicopter at subzero temperatures impressed the audience. There was a lively discussion period after the presentations which was followed by a tour of the CBS Broadcast Theater. — Richard S. Marcus (Reporter), Rombox Productions Corp.; home address: 1380 Riverside Dr., New York, NY 10033.

Ohio, 22 Feb. — The meeting was held in the Coliseum in Richfield, Ohio, with an attendance of 25 members and guests. The program, consisting of a tour of the Coliseum, was conducted by Len Zaller and Carl Cooper. Highlighting the program was a demonstration of the Coliseum's large-screen television system including an explanation of the system's electronics. Arthur E. Florack (Secretary-Treasurer), Eastman Kodak Co., 101 Parmalee Dr., Hudson, OH 44236.

Ohio, 17 Mar. — The meeting was held at Cinecraft Products in Cleveland with an attendance of 55 members and guests. Frank Morasco and Ray Hautala, both of Victor Duncan in Detroit demonstrated the Cinema Products Steadicam showing how it can be used with film and video cameras in television. Samples of film shot on the unit were shown.

Robert Schneider and David Wolaver of Cinecraft conducted a tour of Cinecraft's new video facilities, called Videocraft. They explained that they planned some in-house production and also transfers to videotape from film.

Following the demonstrations, the film manufacturing procedures in use at Kodak Park, Rochester were shown. — Arthur E. Florack (Secretary-Treasurer), Eastman Kodak Co., 101 Parmalee Dr., Hudson, OH 44236.

Rocky Mountain, 25 Jan. — The meeting was held at Western Cine with an attendance of 31 members and guests. Speakers were William Goldy and Robert Gambold of the Denver Broncos. John Newell of Western Cine began the meeting by describing the extent of film usage in the National Football League and the

reasons for it. Goldy then itemized the use of film by the Denver Broncos in 1975 and the team's reliance on it. He described the various angles and shooting positions for a game and for practice. Gambold, defensive backfield coach of the Broncos, showed some films made by Goldy and Newell and explained the use made of the films by both coaches and players. The closing event of the meeting was the showing of the 1975 Bronco Highlight film. — Philip C. Vogel, Jr. (Secretary-Treasurer), Eastman Kodak Co., 5555 S. Trenton B-5, Denver, CO 80110.

Rocky Mountain, 15 Feb. — The meeting was held at Rockwell International's Rocky Flats plant with an attendance of more than 40 members and guests, in spite of security requirements including advance notification of names and addresses of everyone attending. The speaker was L. M. Steward of Rockwell International whose subject was "Technology and Energy." The presentation consisted of a multimedia talk. Ten slide projectors and two 16mm projectors were used. Steward discussed the development of technology and energy beginning with earliest mankind and up to and including nuclear technology. — Philip C. Vogel, Jr. (Secretary-Treasurer), Eastman Kodak Co., 5555 S. Trenton B-5, Denver, CO 80110.

Pacific Northwest, 11 Mar. — The meeting was held at the British Columbia Institute of Technology, Burnaby, B.C., Canada, with an attendance of 28 members and guests. The speaker was Frank Flemming of National Broadcasting Company who presented an explanation and demonstration of "Front Screen Projection for Television Special Effects." The system involves the use of front projection to project scenes behind actors on television. He also explained the "Double-Delta" system of using two projectors on the same optical axis with a single television camera to produce certain special effects. A lively question-and-answer period followed the demonstration. — C. Eugene Newcomer (Secretary-Treasurer), Pacific Northwest Bell, 1200 Third Ave., Seattle, WA 98101.

Washington, 29 Jan. — The meeting was held at the Goddard Space Flight Center with an attendance of 26 members and guests. Albert Whalen, who is with the applications section of NASA discussed the communication technology satellite which was launched in January 1976. Whalen explained that, as opposed to previously launched satellites, the new type of satellite can be used in conjunction with fairly inexpensive ground stations. To illustrate this, he reproduced a video picture using a 1-m portable receiving antenna. The 44,000-mi round trip from the auditorium and transmitter back to the portable receiving station produced a $\frac{1}{4}$ -s delay between the studio and the satellite monitor. Following the discussion and the demonstration, Whalen related anecdotes about the history of satellite instructional television. Everyone in the audience seemed to be impressed with NASA's new technology especially as it pertains to developing nations. — Charles F. Wilkinson, Jr. (Secretary-Treasurer), Eastman Kodak Co., 500 12th St., S.W., Washington, DC 20024.

Washington, 12 Feb. — The meeting was held at the Ramada Inn, Rosslyn, Va., with an attendance of 27 members and guests. Betsy Ashton of WMAL discussed the storage of videotape. She gave an account of experiences at WMAL resulting from improper storage of videotape. A lively question-and-answer period followed the presentation. The meeting was preceded by a dinner at the Ramada Inn. —

Charles F. Wilkinson, Jr. (Secretary-Treasurer), Eastman Kodak Co., 500 12th St., S.W., Washington, DC 20024.

Toronto, 15 Mar. — It was standing room only when some 100 members and guests jammed the studio of Madger Films to hear about and to see the facilities of Toronto's newest electronic laboratory — Motion Picture Video. The meeting was opened by Peter Elliott, Toronto Section Chairman. Jack Sinclair, Operations Manager of Motion Picture Video then introduced resident Bob Sher who outlined the aims and objectives of the new organization. Motion Picture Video specializes in 35mm and 16mm film-to-tape transfers and editing, tape-to-tape dubbing with editing and 16mm tape-to-film transfers.

The main presentations by David Pierdon and Jack Sinclair were performed by feeding videotape and camera outputs to an Advert large screen projector — a very effective method.

Pierdon described the Rank Cintel Mark III Flying Spot Color Telecine. This unit can handle 16mm or 35mm films with output of 625 or 525 standard video. It uses a capstan drive and servo system for film motion. Film can be shuttled from low speeds up to ten times normal in either direction for editing purposes. Pierdon also described the optics and electronics of the system.

Sinclair then outlined the capabilities of "Daisy," a custom built editing system designed by Ampex. The heart of the system is a Nova II computer, the peripherals for which include two floppy disc drives, paper tape reader/printer, keyboard, character display units, VTR controller, switches, and thermal printer. He then gave a demonstration of editing techniques using the computer.

The meeting ended with a conducted tour of the facilities. — R. J. Brule (Secretary-Treasurer), 3M Company, 790 Wellington St., London, Ont., Canada.

Book Reviews

Photographic Sensitometry

Hollis N. Todd. Published (1976) by John Wiley & Sons, Inc., 605 Third Ave., New York, NY 10016. 226 + x pp. Diagrams. 8½ by 11 in. Price \$14.95

For the serious student of photographic science, novice or advanced, this volume is of unquestionable value.

Divided into 13 main chapters, it covers a range from "Introduction of the Characteristic Curve" through a discussion of Logarithms, Contrast, Exposure Latitude, ASA Film Speed, Printing Paper Speeds and Tone Reproduction, to mention only a few.

The four appendixes include "Logarithms and Photography"; "Low Cost Sensitometry"; "Measurement of Light Sources"; and "Light Falling on a Surface." This makes the volume an excellent quick reference text for those involved to any extent in photographic work, as well as a valuable self-teaching manual for those desiring to brush up or to get involved right from the start.

The presentation is unique, in that having been designed primarily for self teaching, it states the objective at the beginning of each subject chapter, and proceeds to explain the data concisely.

Immediately after each presentation of a concept, a set of examples is given, with omissions in the sentence to be inserted by the student. The correct answers for the omitted words appear on the extreme right hand edge of the page, which the student is instructed to keep covered while attempting to provide the correct word. After each chapter, a self-test appears, followed by the correct answers.

Although this volume is primarily aimed at the serious beginner in black-and-white still photography, it should not be overlooked by anyone interested or involved in any technical place of photographic work, including those in

color and in cinematography. *Paul A. Kaufman*, Du Art Film Laboratories, Inc., 245 W. 55 St., New York, NY 10019.

Electronics Engineers' Handbook

Ed. Donald G. Fink. Published (1975) by McGraw-Hill Book Company, 1221 Ave. of the Americas, New York, NY 10020. 2146 pp. 2026 illustrations. 6¼ × 9¼ in. Price \$42.50.

A large-scale authoritative survey of modern electronics engineering knowledge, this *Handbook* brings together in one instant-reference volume the essential principles, data, and design information on the components, circuits, equipment, and systems of all the specialties that make up the field of electronics engineering.

In the Preface, the Editor notes that this is the first handbook to be devoted to the field of electronics engineering at large; all important earlier handbooks dealt primarily with important applications such as radio engineering. This *Handbook* is considered a companion volume to the *Standard Handbook for Electrical Engineers*, also edited by Fink.

Preparing this book must have been a monumental undertaking. It has well over 2000 pages, almost as many illustrations, 340 tables, a million words of text, and 2500 bibliographic entries.

The aim of the *Electronics Handbook*, according to Fink is to contain in a single volume all pertinent data within its scope, to be accurate and comprehensive in technical treatment, to be used in engineering practice (as well as in study in preparation for practice), and to be oriented toward application rather than theory. Sections on basic principles are included, but the predominant thrust is the practical use of these principles in engineering practice.

The material has been contributed by 128 experts in their individual fields. The *Handbook*