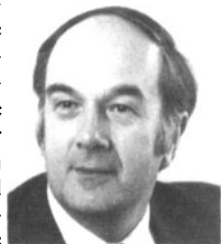


Peter Rainger retired from the BBC as deputy director of engineering in May 1984. He was succeeded by George Cook, assistant director of engineering. A Fellow of the SMPTE, Rainger was the recipient in 1972 of the David Sarnoff Gold Medal Award for his



pioneering development of all-electronic television standard conversion techniques, together with numerous other important contributions to television technology.

Following graduation from London University in 1951 with the B.S. degree, he joined the BBC, working on film equipment, magnetic recording, and signal-processing equipment in the Planning and Installation Dept. His entire professional career was with the BBC where he held such posts as head of the Engineering Designs Dept., head of the Research Dept., and deputy director of engineering with responsibility for all BBC engineering research and development.

In addition to the David Sarnoff Award, presented by the SMPTE, Rainger has received several other prestigious awards in recognition of his accomplishments, among them the Geoffrey Parr Award of the Royal Television Society, and an Emmy Award of the National Academy of Television Arts and Sciences. He was the first to propose the service now known as teletext. In 1982, he was elected a Fellow of the Royal Society for his ma-

ior contributions to the development of electronic techniques used in television.

He is the author of a number of scientific and technical papers, among them, "Low Bit-Rate System for Digital Coding of the Television Picture," published in the August 1979 issue of the *SMPTE Journal*.

Geoffrey M. Langdon has been appointed vice-president, engineering, for Sennheiser Electronic Corp. Before joining the company in 1982, Langdon was employed by Philips Audio Video Systems as technical manager, AKG acoustics, and earlier, he served as chief engineer, Audio Dept., U.S. Marine Band, Washington, D.C. Sennheiser also announced the relocation of its New York headquarters to 48 W. 38th St., New York, NY 10018.

Ronald H. Fried has been named president and chief operating officer for ADDA Corp., Los Gatos, Calif., it was announced by William B. Hender-shot, III, founder and chairman of the board. Before Fried's present appointment, he was vice-president, marketing and sales. Prior to joining ADDA in 1982, he was vice-president and general manager for Toshiba Broadcast Electronic Systems, Sunnyvale, Calif.



Stanley D. Becker has rejoined CMX Orrox as director of engineering. He was formerly manager of systems engineering at Harris Video, and he also directed engineering projects at Ampex and Echo Science. In 1973, he was director of engineering at CMX during the development of the CMX 340 and the System 50 editors.



Avtec Industries, Inc., Teterboro, N.J., recently announced completion of an extensive upgrading of the internal communications and editing systems for the Georgia Power Co. in Atlanta. The editing capability was expanded by adding an off-line/on-line 1-in. tape editing room. A minicomputer-based CMX-340X unit interfaces with a Grass Valley switcher and controls VTRs, an audio console, and several audio recorders. Also added was a complete off-line 3/4-in. tape editing facility, and a second channel to the Chyron character generator.

Mainframe, 430 First Ave. N., Minneapolis, MN 55401, is a new firm offering three-dimensional computer graphics animation and special effects graphics for use in motion pictures and television. The firm was formed as a joint venture of Control Data Corp., a computer manufacturer, and Badiyan Productions, Inc., a television production company.

BOOKS, BOOKLETS, BROCHURES

Strategies for Higher-Definition Television, by Tim Johnson, a 410-page report, is available from Knowledge Industry Publications, Inc., 701 Westchester Ave., White Plains, NY 10604, at a price of \$395. The report projects that the ordinary TV receiver will benefit from advances in satellite and microchip technology to furnish a picture bigger and sharper than is possible with current sets - enhanced TV. It will then be possible to deliver true high-definition television, providing a picture twice as wide as it is high, with 35mm picture quality and stereo sound - ultimate TV. The author predicts, "With high-definition television, we could be seeing one of the boom industries of the 1990's."

The author explains that to improve the TV picture without taking up so much bandwidth (as the NHK system), enhanced TV uses a large semiconductor chip to scan the picture twice, store it, and then show it, providing increased preci-

sion with no increase in the number of lines. Thus, enhanced TV systems preserve the scanning format and aspect ratio of existing TV systems, but have an improved signal format.

Contained in the 410 pages of the report are 36 illustrations and 40 tables, as well as a glossary, bibliography, and index of contact names and addresses.

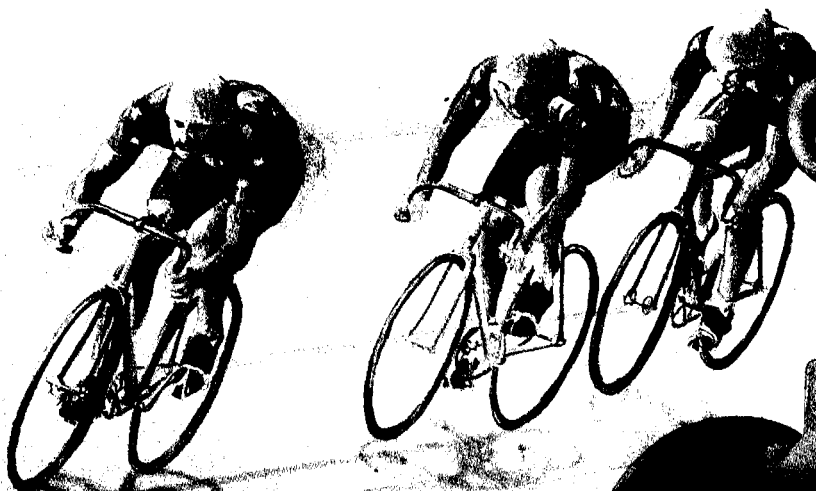
The 16-mm Motion Picture Film Maintenance Manual, by Craig A. Jones, provides practical information for persons responsible for maintaining an active circulating collection of 16-mm motion-picture films as well as for students. This manual originated from a research grant through the Consortium of University Film Centers (CUFC). It is the first in a monograph series presented by CUFC in an effort to promote the effective use of the motion picture.

The 120-page, illustrated manual provides basic, practical information, begin-

ning with film structure. A table showing running times and film length is provided. The manual discusses film storage and handling and inspection methods, and goes into considerable detail about film damage - its causes, prevention, and repair. It is well written, easy to read, and should be helpful to anyone working with 16-mm film.

Professional Lighting Handbook, by Verne and Sylvia Carlson, takes a how-to approach to motion-picture lighting. It provides practical guidelines for setting up and using professional lighting equipment. Fully illustrated, the handbook provides useful information on every facet of lighting equipment, from lenses and housings to controllers and filters. The book contains 224 pages, 27 black-and-white photos, and 92 line drawings. It is available from the publisher, Focal Press, 80 Montvale Ave., Stoneham, MA 02180, at a price of \$22.95.

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3M Hears You, a 36-page brochure illustrated in full color, is available upon request from 3M, Dept. 99/3M, P.O. Box 2202, Robbinsdale, MN 55422. The brochure classifies 3M's diversified products into ten major markets including voice, video, and data communications; electronics/electrical manufacturing; communication arts; and others.

The VII precision test chart system is described in an illustrated brochure available from Visual Information Institute, Inc., P.O. Box 33, Xenia, OH 45385-0033. The chart configurations are designed for thorough analysis of monochrome and color TV camera performance. The test charts, screen printed onto a 25x19-in. rigid card stock, are illustrated in the brochure.

The New Zealand Film and Television Directory is available from Marlyn Publishing, P.O. Box 7085, Wellesley St., Auckland, New Zealand, at a price of \$66. The 300-page directory lists production houses, laboratories, manufacturers, editing and post-production services, unions, guilds, associations, casting agencies, maps, and locations services. It is a complete listing of facilities, services, and professionals required to make films in New Zealand.

The U.S. Motion Picture Theatre Industry, an analysis of current performance and future prospects, is available from Business Trends Analysts, Publications Dept., 2171 Jericho Turnpike, Commack, NY 11715, at a price of \$475. The study begins with an overview of the historical perspective, current market dynamics, and prospects and projections. The nine chapters include a detailed analysis of motion-picture theater revenues, factors affecting industry growth, industry structure and cost analysis, the Canadian market, the industry's future, detailed financial statistics on selected production companies, company-related developments, and a company directory listing major motion-picture theater operators with addresses and telephone numbers.

The Video Register 1983-84, a completely revised sixth edition, includes 3000 professional television operations in industry, medicine, cable, religion, government, and education. It is available from Knowledge Industry Publications, Inc., 701 Westchester Ave., White Plains, NY 10604, at a price of \$47.50 (soft cover). A new section in this edition is a listing of cable access/origination centers. Also listed are producers and distributors of off-the-shelf video programming intended for organizational use, firms that rent or sell video equipment, and approximately 525 manufacturers of video and video post-production equipment.

ABSTRACTS OF PAPERS FROM OTHER JOURNALS

Testing Fiber Optic Systems, E. Y. Nakagawa, *Photonics Spectra*, 34-40, December, 1983.

The growth of optical communications and the need to test the associated hardware and optical fibers are fueling demands for a variety of measuring instruments. This paper examines the places in a fiber optic system where optical measurements must be made. Certain measuring techniques are discussed, and some of the instruments used to perform these measurements are described.

The Undersea World of Fiber Optics, Gordon R. Petrie, *Photonics Spectra*, 51-56, December, 1983.

To date, research in undersea applications of fiber optics has centered on the development of suitable underwater cables. This dominant direction stems from the major research efforts being carried out in the U.S. by the Naval Undersea Center, the Naval Ocean Systems Center, and Bell Telephone Laboratories. The naval centers have concentrated on fiber optics for sonobuoys, whereas Bell Laboratories has concentrated its research on an underwater optical cable for transatlantic communications.

Outside of these major programs, however, fiber optic technology holds promise in many other undersea applications involving both data transmission and sensor systems. Now that underwater fiber optic cables are readily available, new application areas are ripe for development.

A 20 dB Audio Noise Reduction System for Consumer Applications, Ray Dolby, *Audio Engineering Society Journal*, 98-113, March, 1983.

A 20 dB noise reduction system, designated C-type for use in cassette tape recording and similar applications, is described. An arrangement of two compressors and two expanders in cascade has been developed in which the signal-to-noise ratio improvement is compounded without significant accompanying increases of the overall maximum compression and expansion ratio. Overshoots, modulation distortion, and noise modulation are well controlled. The maximum demands made on transmission channel uniformity are generally unchanged from those associated with the B-type system, although the uniformity requirements extend over a greater range of signal frequencies and levels.

An improvement has been made in one condition of compressor/expander mistacking, namely, low-level mid-frequency signals in combination with dominant

signals in the region above 10 kHz and in correct channel response at such frequencies. A further development reduces the tendency of highly equalized channels to saturate, thereby increasing the useful signal levels that can be handled.

Mathematical Analysis of a Pulse-Width-Modulation Digital-to-Analog Converter, Yashuhiro Mitsuhashi, *Audio Engineering Society Journal*, 135-138, March, 1983.

Mathematical analysis of a pulse-width-modulation digital-to-analog converter is carried out by use of periodic input signals. As the number of samples in one period increases, the conversion precision approaches that of a conventional D/A converter.

Subjective Quality of a 70 Mbit/s Digital Codec for Colour Television, M. W. Red-stall and T. A. White, *IEE Proceedings-F*, 477-483, October, 1983.

Quality-rating tests have been conducted to determine the subjective quality of PAL- and SECAM-coded color television pictures after passage through a 70 Mbit/sec DPCM digital coder and decoder. The assessment methods employed comprised both the traditional single-stimulus quality-grading method and a double-stimulus continuous quality-rating method specifically intended for assessing small impairments, such as are introduced by digital codecs.

The double-stimulus method is shown to be highly suited to the evaluation of such impairments. After removal of the residual impairment (due, for example, to scan structure and flicker) and assuming an error-free environment, the digital codec was found to introduce a basic impairment of about $1/20$ imp for PAL-coded pictures and about $1/10$ for SECAM-coded pictures, irrespective of the assessment method employed. These levels of impairment are compared with the performance of analog links, of various types and lengths, presently in use for the distribution of television signals.

An Easy Way to Calculate Power Spectra for Digital FM, Tor Aulin and Carl-Erik Sundberg, *IEE Proceedings-F*, October, 1983.

A general method for numerical calculation of power spectra for digital FM signals is developed. Arbitrary baseband pulse shape, the modulation index, and the number of levels of the data can be used. The probability density function of the statistically independent data symbols can also be chosen arbitrarily. With this