

user can find the manufacturers and suppliers of the particular products or services he requires and whether the manufacturers or suppliers provide stock or custom manufacture, design/prototype, supply or import.

Especially useful is the Product Tables section where lasers, laser accessories, and stock off-the-shelf lenses are listed in tabular form with complete specifications. The 23rd edition contains a new table — Stock Laser Accessories, Optical Components.

In the Address section more than 1500 domestic manufacturers and suppliers are listed alphabetically with their addresses, telephone numbers, key managerial and technical personnel and brief description of their business activities.

Other sections contained in Volume I are the Geographical Section; Foreign and Sales Offices; and Sales Offices and Representatives.

Volume II (the Encyclopedia and Dictionary) is enormously informative providing in easy to read and easy to find fashion information on more than 100 fields in optical science, including new material in such fields as spectroscopy, lasers, optical components, infrared instrumentation and photography. The Dictionary contains 120 pages of up-to-date terminology and detailed definitions of terms in current use in optical science.

The two-volume set is certainly of immense value to those whose work is deeply involved in the optical industry but the set should also be in the reference library of every scientist and technician whose work may be only peripherally involved with optical science and industry.

The *MPL Recorder*, Vol. 19, No. 2, contains a survey of 16mm professional films in an article entitled "What Type Film Shall I Use?" Based

on interviews with a number of filmmakers, the *Recorder* story lists the advantages and disadvantages of the following 16mm films: Eastman Ektachrome #7252; Ektachrome EF #7241 and #7242; Ektachrome VNF and VND and Eastman Color Negative #7247. The story also includes a brief mention of the new Ektachrome VNX which has an EI of 400 tungsten and 250 daylight with an 85B filter or equivalent.

SCAN, a four-page newsletter for videotape users, is available upon request from Memorex Corp., P.O. Box 420, Santa Clara, CA 95052. Topics covered in the newsletter are discussed in simple terms with photographs and diagrams illustrating key points. The newsletter is planned especially for people new to videorecording and as reference material for training sessions on videotape and video hardware.

Book Reviews

Scientific Engineering and Medical Societies Publications in Print 1976-1977

James M. Kyed and James M. Matarazzo. Published (1976) by R. R. Bowker Co., 1180 Avenue of the Americas, New York, NY 10036. 509 + xii pp. 8½ × 11 in. Hardbound. Price \$19.95

First published in 1974, *Scientific, Technical and Engineering Societies Publications in Print* listed and provided price and order information for all the publications of 151 national scientific and engineering societies in the United States. The new volume (published in 1976) updates information contained in the first volume and

expands its coverage to include publications of medical and health-related societies and lists publications of 369 societies. The first volume listed only publications of societies in the United States; the new volume includes national societies in Canada and Great Britain and international societies regardless of their geographic location.

The societies are listed alphabetically. In addition to the Table of Contents, the book contains an Author Index, a Subject Index and a Periodical Index. The societies listed were selected on the basis of their orientation toward research activities and the extent and scope of their publishing activities.

The societies listed cover a wide range of interests — American Society of Brewing

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- Switchable 24 fps or 25 fps cine speeds for correct running time

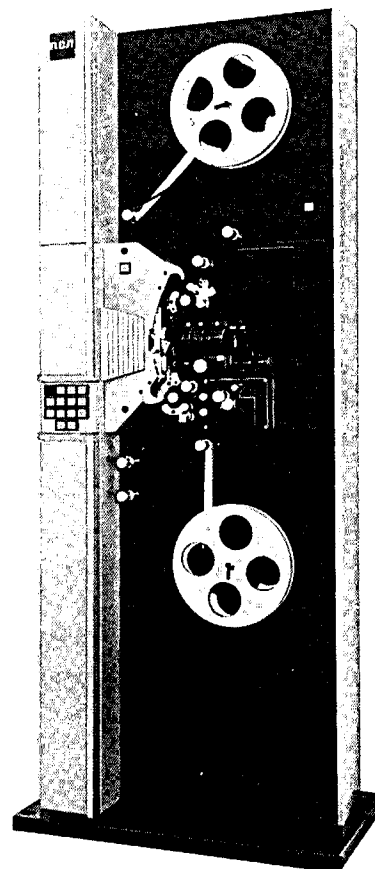
With the Projector and selected accessories, you can deliver to your client a television tape product, program or commercial, with innovative action, effects, and enhancement never before available.

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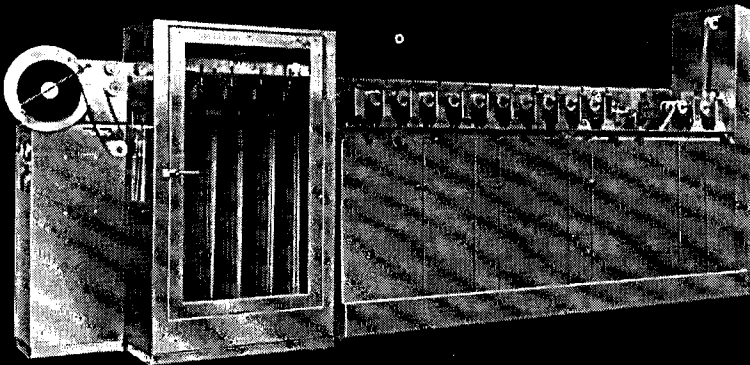
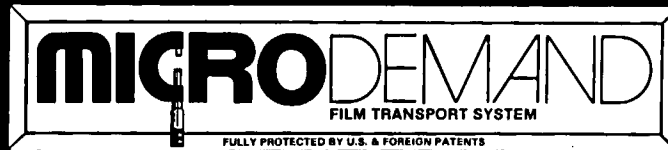
After all, we grew up with the industry.

For information on the FR-35B or the total RCA Photophone Systems product line, write RCA, 2700 W. Olive Avenue, Burbank, CA. 91505 U.S.A.

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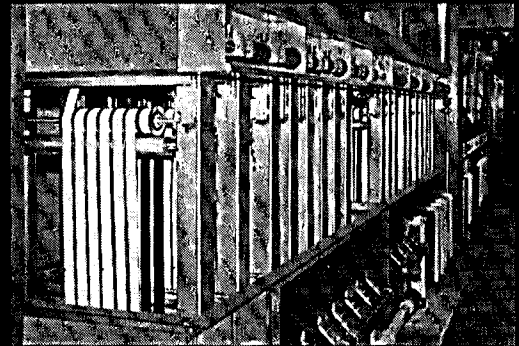


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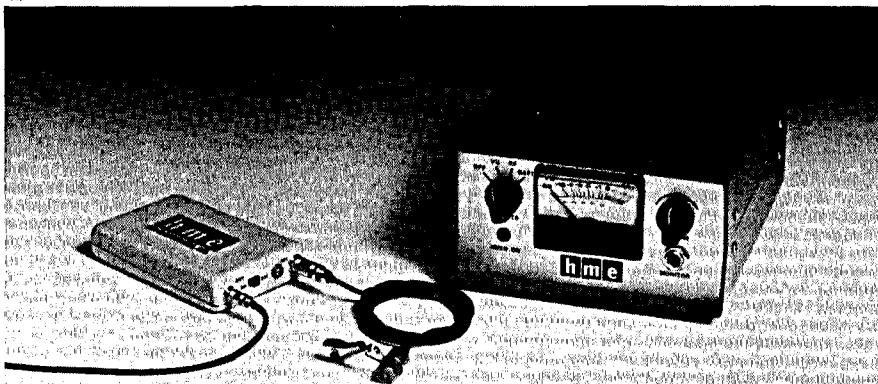
- | | | |
|----------------------|--|--|
| Versatility | Any speed, any process. | <input type="checkbox"/> Push-Button operation, and reliability allows operator to perform other functions while the machine is running! |
| Reliability | Rugged construction, quality materials and sound engineering. Always ready when you are! | <input type="checkbox"/> Automatic compensation for elongation and contraction of film during processing cycle. |
| Flexibility | Any format 35mm, 35/32mm (1-3), 35/32mm (1-4), 35mm 5R S8, 16mm — 70MM-105MM etc. | <input type="checkbox"/> Virtually eliminates all film breakage, scratches and static marks. |
| Dependability | Can stand the gaff of long, continuous, top speed runs with "Zero-down-time." | <input type="checkbox"/> All film spools use standard bearings or bushings. |
| Credibility | Ask the labs who own them. Most of them own not one but several. | <input type="checkbox"/> Entire upper film shaft/roller assemblies easily removed. No tools needed. |
| Maintenance | Exclusive Maintenance Monitor tells when and where the machine needs attention. Significant savings assured. | <input type="checkbox"/> Stainless steel construction used throughout. |
| Performance | Every Filmline machine is backed by a superb performance record compiled in over 25 years of continuous service to the industry. Twenty five years in the forefront of processing machine design and innovation. | <input type="checkbox"/> Proper operation can be determined at a glance, while machine is running. |
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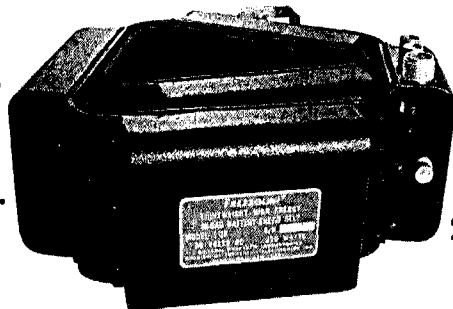
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Chemists; British Numerical Control Society; Bee Research Association; American Association of Equine Practitioners; American Association of Variable Star Observers; and many other better known societies including the Audio Engineering Society; The Institute of Electrical and Electronic Engineers; and the Society of Motion Picture and Television Engineers (whose list of publications covers two full pages). — Edit.

Motion Picture Camera and Lighting Equipment — Choice and Technique

By David W. Samuelson. Published (1976) by Hastings House, 10 E. 40 St., New York, NY 10016. 232 pp. Diagrams. 5½ × 8½ in. Price \$8.95.

It is rare that one book on motion-picture camera and lighting equipment combines accurate technical theory with broad production experience. *Motion Picture Camera and Lighting — Choice and Technique* by David W. Samuelson does just that, and in a concise readable manner.

David Samuelson's credentials as a motion-picture cameraman are impressive. Starting as a cameraman in 1947, he has worked on newsreels, television documentaries, and all other types of production experience. This is the background for the practical knowledge imparted in this book. Also, his experience as the Technical Director of one of the largest suppliers of motion-picture production equipment in the world uniquely qualifies him to offer advice.

The subjects covered range from choosing a camera and how it works to lighting, lights, and stage practice, with very little left out in between. Woven in each chapter are excellent technical descriptions, along with practical advice, obviously obtained from many location experiences.

This book will be of use to both the beginning worker and the experienced professional. The novice will be exposed quickly to a concise description of what is involved and how it works. More than one hint will also be there for the professional.

If there should be a criticism of this book it might be that there is too much, too concise, too fast; however, that also could be the strong point of the book. While a detailed dissertation it is not, it is a well written, well organized collection of data that should be valuable to anyone who is interested in motion-picture camera and lighting equipment. — *William D. Hedden*, Calvin Communications, 1105 Truman Rd., Kansas City, MO 64106.

Movements in Animation

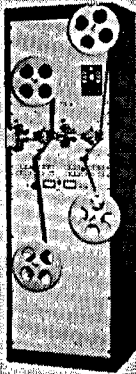
By Brian G. D. Salt. Published (1976) by Pergamon Press, Maxwell House, Fairview Park, Elmsford, NY 10523. 748 pp. (in 2 vol.) 8½ × 11 in. Price \$100.

Movements in Animation is an exhaustive technical manual and reference intended to help the stand animator generate smooth and precise motions. Several types of motion are covered including linear, constant acceleration, rotations, movements along a curve, aerial projection, etc. Considerable theory and detailed mathematical derivations are interspersed with procedure; this organization may not be ideal for many users.

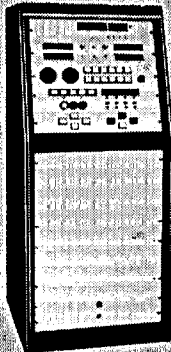
Volume 1 also contains methods of making rotations even when the turntable is off-center as well as methods of producing circular pans. Other chapters cover simple harmonic motion,



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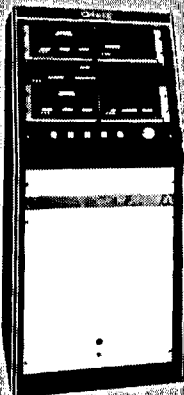
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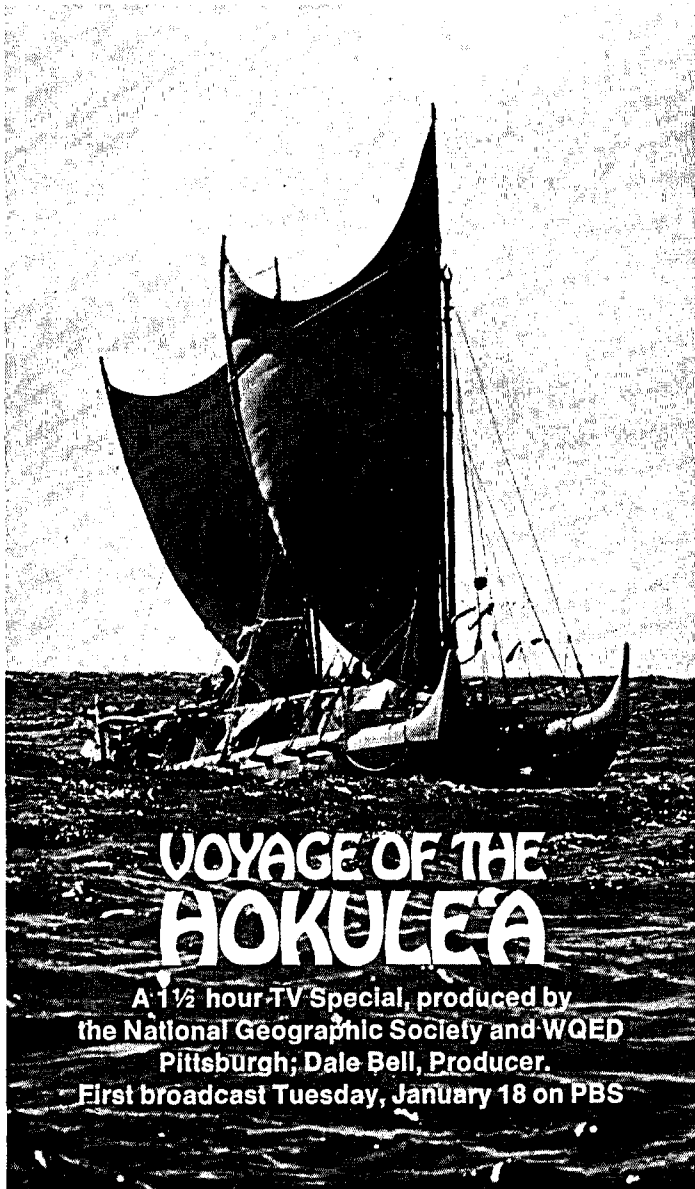
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PHOTOGRAPHS BY NICHOLAS DE VORE III, ED GEORGE AND ALASTAIR RIACH.

Cinematographer Norris Brock wore a vest and harness that let him operate the camera, recorder, mike, battery, wireless receiver and mixer, and *still* have both hands free to reload or to prevent himself from falling overboard. The camera wore a wet suit.

Without charts or navigation instruments, could the early Polynesians have sailed deliberately between Tahiti and Hawaii?

Ancestors

That was the question this voyage set out to answer. If successful, it would help to prove that 15,000,000 square miles of the South Pacific were methodically settled by the islanders, centuries before Columbus crossed the Atlantic.

No staging

Hokule'a was a reproduction of an early Polynesian voyage canoe. For 34 days, Norris Brock's job was to shoot on board. Filming was *not* the pur-

pose of the voyage, so he had to keep out of the way. Nothing could be staged.

Cramped

Space was in short supply. Mr. Brock had to sleep and store his equipment in a space 5ft x 3ft x 4½ft. The upper (sleeping) level was soaking wet. The lower (storage) level leaked badly. Both were hot and humid.

Wet

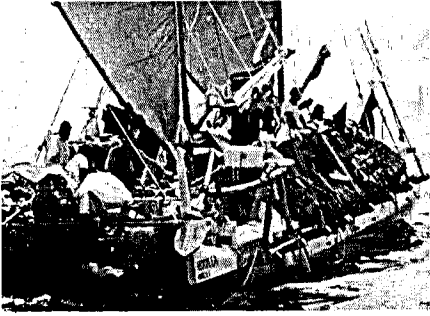
Except for some sunny periods in the doldrums, everyone on board was permanently soaked by spray, waves, and rain. From the first day out, Mr. Brock reloaded the Arriflex's magazines with wet hands, inside a wet changing bag.



Shooting one-handed and keeping out of crew's way. Note custom-made harness.

Negative

"Having used 7247 negative for the pre-voyage sequences, we wanted to use it at sea, too," says Mr. Brock. "Negative meant double-system; and we originally planned on a three-man film crew."



Crowded and laden canoe meant sync-sound filming had to be done by one man.

One man

"But after a trial sail, during which we nearly sank, we were told we must lighten the load. *One* man would have to shoot and record the sound, with only one sync camera on board."

Stars only

"There would be a radio-equipped escort boat following us at some distance, to plot with instruments the course our navigator set by the stars. But we had no guarantee of access to it."

No radio

"As it turned out," says Mr. Brock, "*Hokule'a's* walkie-talkies were done in by the physical battering and the salt water, so we sometimes lost contact for several days. I had a 50ft load gun camera in an underwater housing. And I had four Nagra SNs. And *one* Arriflex 16SR."



Norris Brock, wet. Note mike mounted above lens.

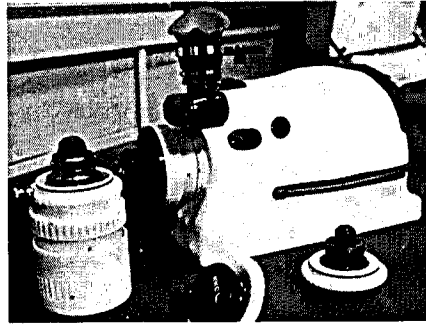
Gamble

"For this job, WQED had looked at every camera on the market. The 16SR was a new and, for us, untried camera. But we figured that the cameras we

did know would not hold up. We decided to bet on Arriflex's reputation for reliability."

Wet suit

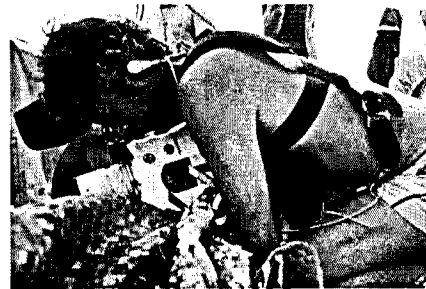
"The National Geographic Society made an amazing PVC wet suit for the camera, with a watertight zipper so I could change magazines. The finder and handgrip with its on-off switch we left uncovered."



Arriflex 16SR in custom made PVC wet-suit, lenses in solid nylon housings.

Nylon blocks

"I chose two lenses," says Mr. Brock, "The Zeiss 10-100mm zoom and the Angenieux 5.9mm. National Geographic machined housings for them from solid blocks of nylon, with waterproof O ring seals."



Symmetrical finder let Mr. Brock shoot at any angle on either side of camera.

Harness

"National Geographic also made me a vest with pouches for recorder, camera battery, wireless receiver, audio control unit — and a lifetime supply of lens tissue! And I had a harness made for the camera at a hang-glider shop in California."

Knocks

"Once at sea, I didn't dare put the camera down on deck, so I had to wear it (with the harness) for hours and days on



Wiping off salt spray every few minutes. Throw-away battery in pouch.

end. I fell down countless times. Having both hands free let me save myself and the camera from the worst knocks."

Quick

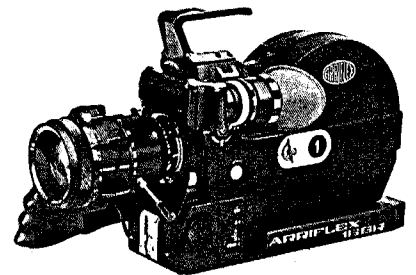
"The Arri's built-in meter really saved the day, too," says Mr. Brock. "The action was unpredictable. I couldn't walk around taking readings. I'd just start shooting and set the f/stop simultaneously."

Corrosion

"After two weeks at sea, the rotating finder froze up from salt-water corrosion. I oiled it and coated it with silicon... worked perfectly. Other than that, *no camera problems.*"

Delivered

"I shot about 12,000 feet on the voyage," says Mr. Brock. "We had all our eggs in one basket with that camera — and it delivered."



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exposures at small fields, and the use of electronic calculators.

Volume 2 consists entirely of numerical tables which provide the animation stand settings for the various categories of motions. In this age of mini- and micro-computers, some animators might prefer to generate their own move increments from the provided equations — *Jack Heyl*, MAGI, 3 Westchester Plaza, Elmsford, NY 10523.

Photography in Scientific Research Selected Bibliography and Reference Materials

By Louis H. Cohen. Published (1976) U.S. Government Publication AD-A 034 497/8GA, U.S. Department of Commerce, National Technical Information Service, 5285 Port Royal Rd., Springfield, VA 22161. 346 pp. Illus. Diagrams. 8½ X 11 in. Price \$10.50.

The book originated as a reference tool for the scientific and technical photographers and optical instrumentation specialists assigned to the Photographic Branch, Photoinstrumentation Section, Edwards Air Force Base, Calif. It contains an annotated bibliography of books, articles and technical reports, relating to scientific, technical and engineering aspects of photography, arranged according to selected subjects and with an author index.

Topics covered are: Aerial and Underwater Photography; High-Speed Photography; Holography and Lasers; Optics; Photographic Dictionaries, Handbooks, Guidebooks, Encyclopedias, and Glossaries; Photographic Astronomy; Close-Up Photography; Infrared; Photomicrography; Photomacrography; Photo Techniques in Biology and Medicine; High-Voltage (Kirlian) Photography; Dissertations; and Kinesiology.

The Russian literature, particularly, is well selected.

Design features are shown for Fastax,

Photo-Sonic, Hycam and Locam cameras, and instructional data are given for guidance of the users. Included are film running times, speed ranges of the basic camera types and optical formulas.

The book is an important source of information for photographic scientists and engineers, particularly for those whose work involves high-speed photography and instrumentation. — *Mary Connolly*, Kodak Research Library, Kodak Park, Rochester, NY 14650.

Guidance for Using the Metric System: SI Version

By Valerie Antoine. Published (1976) by the Society for Technical Communication, 1010 Vermont Ave., N.W., Washington, DC 20005. 40 + vi pp. 8½ X 11 in. Softbound. Price \$6.00 (plus \$1.00 if an invoice is required).

This is an extremely useful (although somewhat elementary) book to all those involved in the changeover from the English system of measurement to the metric system. Although not intended as a textbook or as an exhaustive study of SI (Système International d'Unités) it is a practical and easily understood guide. Tables of names, symbols, values and even tables of some of the non-SI units approved and not approved for use with SI are provided.

In the Preface that author notes that she uses the term "SI metric" to emphasize that the data presented in the book pertain to the SI version of the metric system. Other metric system versions are still being used (and taught) by those who learned metrics before SI was introduced and accepted as the international version, she explains. A number of sets of right and wrong usages are given, e.g. "right, 30°C — wrong 30 C; right, 303.5 K — wrong, 303.5°K."

Eleven tables are provided in the Appendix. For example, Table X lists a number of U.S. customary or obsolete units and the SI units that replace them. — *Edit.*



Section Meetings

Australia, 18 Mar. — The meeting was held at the National Press Club, Canberra, Australian Commonwealth Territory (ACT), with an attendance of 38 members and guests. It was held as part of a three-day seminar on The Moving Image organized by the ACT Branch of the Australian Cinematographers Society and the Australian Section of the SMPTE. The seminar included a trade exhibition and the presentation of 17 technical papers covering such subjects as 8mm film for television news; ENG; Steadicam; archival storage for tape and film; tape-film interfacing; and others.

The Section meeting held on the 18th was opened by Chairman Douglas V. Dove, who told the audience of the aims and accomplishments of the SMPTE. Donald D. Kennedy then gave a talk on the 118th SMPTE Technical Conference held in New York in October 1976. — Douglas V. Dove (Chairman), Colorfilm Pty. Ltd., 35 Missenden Rd., Camperdown, NSW, Australia 2050.

Florida/Caribbean, 25 May — The meeting was held at the L. D. Pankey Institute for Advanced Dental Education in Miami. The program included two videotape recordings of presentations on ENG by Joseph A. Flaherty, CBS, and Isaac Hersly, ABC, which had been given at the SMPTE Winter Television Conference in San Francisco. The recordings, provided through the courtesy of Joseph Flaherty and Paul Wittlig, CBS, were excellently reproduced on the Institute's U-Matic equipment, via two 25-in monitors, in one of the well-appointed lecture rooms. The 18 members present, who had braved a tremendous thunderstorm raging in the Miami area prior to and during the meeting, certainly found both tapes interesting and instructive.

Between the presentations of the tapes, Gustavo Menendez, the Institute's Director of Bio-Dental Communications, explained the purposes of the Institute and the need for its highly sophisticated audio and television recording and reproducing equipment. He then took the