SMPTE Journal

VOL. 85, NO. 5 MAY 1976

Progress Committee Report for 1975

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Introduction

Merely to make oneself aware of the rapid changes and improvements taking place almost daily in our areas of technology calls for considerable mental agility as well as a special kind of dedication. With new materials, new products and new techniques proliferating at a dizzying rate, it is difficult enough simply to learn of each innovative event or development. To evaluate these data and decide upon their relevance to the overall technical advancement of motion pictures and television, it is necessary to rely upon the special skills and special access to information of many dedicated individuals.

Through the Annual Progress Report appearing each year in the May *Journal*, our Society attempts to identify the significant developments and innovations taking place during the preceding year in motion pictures and television and to make this information available to all its members and to all readers of the *Journal*.

Submitted by William D. Hedden, Progress Committee Chairman, c/o Calvin Communications Inc., 215 W. Pershing Rd., Kansas City, MO 64108. The Committee makes an annual report. This report covers the calendar year 1975.

During 1975 the main emphasis was on improving, updating and adapting existing equipment. Electronic newsgathering and digital television represented considerable advances in technology. Videodiscs were adapted and improved and the technology was recognized as having considerable potential in education and training as well as in entertainment.

The Annual Progress Report is a result of the combined efforts of the more than 50 members of the Progress Committee — a committee of international scope. These 50 or more committee members throughout the world cover their geographic and technical areas, reporting any and all items in the motion-picture and television fields that they feel are representative of progress in those fields.

Another area of data collection should be mentioned here. Each of the five Affairs Vice-Presidents of the Society conducts, each year, a progress search in his own area of expertise. This involves an intensive search through personal contacts and an evaluation of his own experiences in his special field. Each Affairs Vice-President begins his section of the report with a brief summary of the progress in his area during 1975, pointing out the significance of the developments and events that have taken place during the year.

The Society's Sustaining Members and the Conference Equipment Exhibitors also contribute much valuable information concerning new motion-picture and television equipment that has been introduced during the year.

All information is directed to our Society Headquarters. There, the Editorial Staff of the *Journal* collects the information and organizes it into the published report. The

May issue of the *Journal* containing the Progress Report then goes to the worldwide membership of the Society for their information. Also, there is a considerable demand for copies of this particular *Journal* issue by many individuals and organizations outside of the Society membership.

This information on how the Progress Report is prepared and comes to you has been presented to show that it really is a collection of data from many people throughout the world. With so many exceptionally qualified people seeking out industry progress each year, it is reasonable to expect that the coverage — and the content of the report — be significant.

Appreciation must be given to the many who have worked so hard that this report might be complete: to Members of the Progress Report Committee whose names are listed in the Report; the Affairs Vice-Presidents; the Society's Sustaining Members; the Conference Equipment Exhibitors; and to many individuals too numerous to list individually who made personal contributions to the report. And last, but not least, I would like to recognize with personal appreciation the help of the editorial staff of the *Journal,* and in particular, Ms. Rae Hargrave, whose untiring efforts have contributed so much to the excellence of this report. — *W. D. Hedden,* Chairman, Progress Report Committee

MOTION PICTURES

The year 1975 showed a continuing upward but slowing trend in technological accomplishments; there was not the same enthusiasm for engineering and research programs that was evident in the previous three years. Perhaps present-day economics have an important influence on the attention given to new equipment designs, purchases and usage.

The 1975 Academy of Motion Picture Arts and Sciences technical awards this year, with one exception, were given for achievements developed earlier. Two Class II Plaques were awarded: one for a solid-state static dc power supply, first developed in 1963 and improved to its present status; and the second for a fluid head developed in the 1950s which provides smoothness in camera panning and tilting and which is now in general use. Seven Class III Academy Citations were given. One was for the concept and application of low inertia and stepping electric motors to film transport systems in projectors and optical printers, thus allowing film to be handled faster, more effectively and more economically. Three manufacturers and the man with the original concept received belated citations for computerized tape punching systems for printer control. A development dating back to 1961 but now in daily use was honored for the ease of obtaining shadows in the photographing of film titles. A new and novel development that received a Class III citation was a chemical system that economically recovers silver carried over from the fixing baths to the photographic wash waters in film processing machines. Previously, this amount of silver was lost to the sewer with the water waste.

Let us take a look at the motion-picture laboratory during 1975. Changes were taking place rapidly and many of the leading film processing labs expanded their facilities and equipment to meet the ever-changing demand in the overall audiovisual communications field such as: introduction of new negative and print films; ecological considerations and strict community environmental regulations; keeping up with the changing marketplace for educational, industrial and religious films; and introduction to the laboratory of complete in-house video equipment and services for video editing, tape-to-film and film-to-tape transfers. Rising costs brought added responsibilities in such areas as the control of losses in reprint waste, raw stock accountability, process control waste, operator efficiency and finished print accountability. The larger laboratories, at least in Hollywood, were computerizing in areas vital to efficient plant operations such items as printer and process control; printer tape conversions; light-valve monitoring; complete printer surveillance to the point of emulsion set-up control; lamp voltage and current monitoring; raw stock footage control; operator efficiency; negative numbers; order numbers; time and date of printing; and other data and information for internal reports.

The laboratories are gearing in the direction of increased production output by speeding up existing printing equipment and using the higher temperature and shorter processing time films for camera negative and positive release. The higher speed in printing and processing equipment requires greater surveillance to maintain high-quality control of the film output. The Photoscience Section (beginning on p. 283 of this issue) reports on the progress and usage of these relatively new films.

Technicolor's new plant for high-speed release production was in full swing during 1975.

Several excellent papers on subjects relating to motion pictures and laboratory practice were presented, some of which are referred to in this report.

Few additional laboratories in 1975 have expanded their services to include videotape facilities, although those that have been offering such services are intently engaged in research and development to improve their techniques in the areas of tape and film electronic editing and in the interface between motion-picture film and television electronic recording. The SMPTE has added the Agfa-Gevaert Gold Medal Award in 1975 for the encouragement of technical achievements in this interface field.

Energy conservation, ecology and pollution abatement still have priority positions and systems for conservation of chemicals in processing solutions in laboratories, through reclamation and recycling, play an ever-increasing role in the combating of rapidly climbing raw material costs.

Wet gate, liquid gate and complete immersion printers are, today, part of the standard technology for laboratory duping procedures. New state-of-the-art aerial image optical printers with stepping motor drives in place of old-fashioned gear chain and transmission drives are now being supplied to the industry.

Achievements in the discipline of film production, described in this section, include a lightweight and compact video camera that may be easily attached to a motion-picture camera for video-assisted filming. Other products include a lightweight plastic camera; various conversion kits for reflex cameras to studio-type units; automatic and semiautomatic exposure control systems; vari-speed/crystal-controlled conversions; Crystalink wireless receivers; fluid-head tripods and dolly kits; cordless microphone systems; portable power packs; improved motor drives; depth-of-field calculators; and improved 16mm and super-8 cameras in single- or double-system formats.

In the section on Sound references are made to the Dolby stereo variable-area soundtrack system as well as to the Dolby cinema processor which features noise reduction, equalization and control circuitry. Other sound recording and reproduction equipment developments and techniques during 1975 are mentioned, including a small-package recording system; Quintaphonic Sound; wireless sound systems; mixing consoles and dynamic microphones. This report includes references to selected *SMPTE Journal* papers on subjects relating to sound. The development of super 8 as a professional format owes much to the introduction of high-quality sound systems.

The introduction of quartz lamps in the motion-picture industry brought to lighting manufacturers the opportunity of designing a whole new line of lighting fixtures, smaller in size and lighter in weight. Today these fixtures are widely