



Michael Dolan

In this column, we provide interesting historical briefs from the journal articles of days past. The purpose of this column is primarily entertainment, but we hope it will also stimulate your thinking and reflection on the Society's history, how far we have come in the industry, and (sometimes) how some things never change. This column is sponsored by Television Broadcast Technology, Inc., since March, 2001: <http://ieeexplore.ieee.org/document/7257346>

25 Years Ago in the Journal

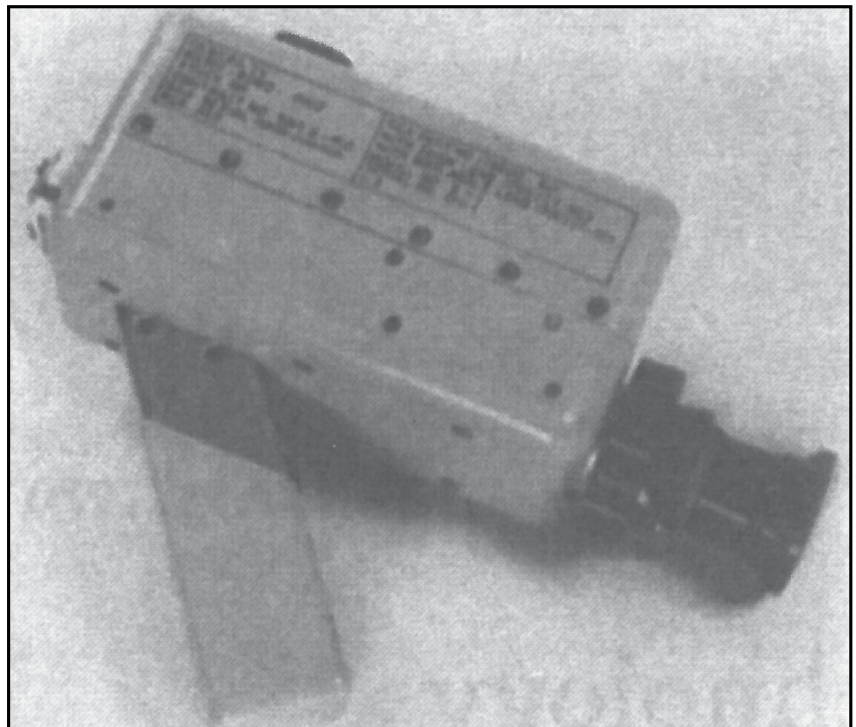
The February 1995 *Journal* published in: “PBS, Satellites, and Digital Video Compression” by Carlos V. Girod, Jr.: “The Public Broadcasting Service (PBS) established American television’s first satellite program distribution system... PBS initially distributed television programming across the U.S. through a national terrestrial network with the Bell System and other common carriers. Beginning its first study of satellites in 1974,¹ PBS installed an operational system that used a Westar I satellite with 165 C-band earth stations located at public television stations across the nation in September 1978; the main uplink was located in Alexandria, VA. Westar I was replaced by Westar IV at 99° west longitude (WL) in 1982.² PBS transferred to Spacenet I on January 3, 1991, and to Spacenet IV on July 18, 1992. AT&T’s Telstar 401, located at 97° WL, was implemented on February 5, 1994. PBS has one C-band transponder and six Ku-band transponders, with some 193 C-band and Ku-band earth stations across the system... PBS has introduced digital video and audio compression to increase service capabilities by increasing the number of video signals on each satellite transponder

from one to as many as eight signals per transponder, depending on service applications. Extensive evaluation and testing resulted in the selection of the General Instrument DigiCipher™ II system for digital video compression equipment.” For the full article, see: <https://ieeexplore.ieee.org/document/7240351>

50 Years Ago in the Journal

The January 1970 *Journal* published in: “The Television Camera System Used in Apollo 7 and 8 Command

Modules” by Max H. Mesner: “The objective of the TV cameras for Apollo differ from those of many of the other TV systems designed for space. More emphasis is placed on delivering on Earth a general sampling of information rather than specific measurements of purely scientific interest. The timely transmission of public information—details of events in the flight schedule, data on the health and morale of the astronauts, and pictures of both the Earth and lunar surface—proved to be a challenging task. The scientific value of the pictures was overshadowed by their ability to transform each fireside armchair into a cockpit and to permit each viewer to identify with the lunar mission. The command module camera (CMC) shown in **Fig. 1**, was designed to be mounted within the



Command module camera (**Fig. 1**, from *JSMPT*, Jan. 1970, p. 1).

spacecraft or held by one of the astronauts... The weight of the TV camera system as evolved is only 4 1/2 lb; this includes the sensor, lens, synchronizing generator, deflection amplifiers, video amplifiers, and dc-to-dc converters. The power for all of these items was reduced to 6 W." For the full article, see: <https://ieeexplore.ieee.org/document/7227363>

75 Years Ago in the Journal

The February 1945 *Journal* published in: "Three-Color Subtractive Photography" by W. T. Hanson, Jr. and F. A. Richey: "Color photography is now an accepted reality and from all appearances is here to stay. During the past twenty years the motion picture industry has witnessed the slow but steady growth of color, both in the professional and amateur fields. Many problems have been encountered and many, but not all of them, have been overcome. However, the average motion picture goer will lay his money down for a color picture in preference to one in black and white. How did color photography get here?

Contrary to popular conception, color photography is not an invention and even the individual color systems and color processes are something more than inventions. The basic concepts of modern color photography are almost one hundred years old, and it is now a very complex and abundant field. A good many physicists, chemists, psychologists, physiologists, and artists have contributed." For the full article, see: <https://ieeexplore.ieee.org/document/7247833>

100 Years Ago in the Journal

The May 1920 *Journal* published in: "The Tinting of Motion-Picture Film" by G. A. Blair: "The problem of suitably coloring the motion picture is now occupying the attention of many serious workers in the industry. Some few years ago the plain black and white picture was in itself a sufficient novelty to interest the public and color was of no particular consequence, providing the story was sufficiently interesting. Times are changing, the public is growing more exacting in its requirements and

the demand for color is evident from the fact that from 80% to 90% of the film now being produced is tinted. In spite of the success attained by many workers in producing multi-color pictures by purely photographic means the expense involved reduces the prospect of the natural color picture coming into universal use for some time to come, so in the interval the majority of film will be colored by improved methods of tinting and toning. Tinting, as usually understood, consists in immersing the film in a solution of dye which colors the gelatine, causing the whole picture to have a uniform veil of color on the screen." For the full article, see: <https://ieeexplore.ieee.org/document/7230018>

References

1. J. E. D. Ball, "The Planning and Implementation of the Public Television Interconnection System," *SMPTE J.*, 87:825-831, Dec. 1978.
2. C. V. Girod, "PBS and the Next Generation of Satellites," *Proc. 1990 NAB 44th Annu. Broadcast Eng. Conf.*, Apr. 1990, pp. 514-518.



The award-winning *SMPTE Motion Imaging Journal* is seeking members that are interested in actively participating in its online peer-review process.

Volunteer to help shape and maintain the *Journal's* high editorial quality!

Contact John Belton, Chair of the Board of Editors for more information at editor@smpte.org

Join the SMPTE Board of Editors!