

SMPTE ALMANAC



By Michael Dolan

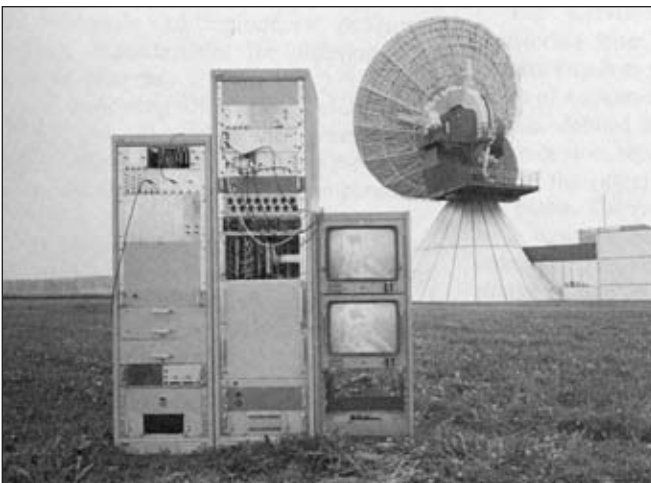
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In this column we provide interesting historical briefs from the Journal articles of days past. The purpose of this column is primarily entertainment, but we hope it will also stimulate your thinking and reflection on the Society's history, how

far we have come in the industry, and (sometimes) how some things never change. This is not meant to be an authoritative reference, and no attempt is made to correct any past errors or omissions of the Journal. We simply hope you enjoy the material.

25 Years Ago in the Journal

The April 1980 *Journal* reported in "Digital Television Transmission With 34 Mbit/s" by Roland Burkhardt and Josef Wasser: "Digital modulation methods for TV satellite transmission can offer advantages in satellite transmission power and bandwidth if the bit rate can be reduced to 34 Mbit/s (to 34.368 Mbit/s, the bit rate for 480-channel PCM systems). A very efficient coding technique, differential pulse code modulation (DPCM), is described, and its application for TV transmission is shown...In this [test] system the composite TV signal is split into its luminance and chrominance components. Tests via directional radio and satellite line have been carried out using a modem with a 4-PSK (phase-shift-keying) as interface. After DPCM encoding these picture signals and accompanying sound signals are multiplexed and transmitted together with a code word for synchronization. On the receive side the signals are demultiplexed and after decoding are provided as analog signals...Encoding of the components of the TV signal offers a way of achieving bit rates as low as 34.268 Mbit/s with good picture quality. This bit rate is highly attractive because it would fit into the third-order European PCM hierarchy...With this bandwidth, a reduction in transmission power by a factor of nearly five, compared with FM, is achieved."



The test system with the Symphonie ground terminal.

50 Years Ago in the Journal

The April 1955 *Journal* reported in a "Advantages, Scope and Limitations of the Perspecta Stereophonic System" by Norman H. Crowhurst: "The current spate of wide-screen and stereophonic sound techniques have all had as their objective the achievement of a greater sense of realism or presence for the audience in the theater...There are two principal factors that can contribute to the sense of direction by which a sound source is identified. These are the difference in intensity of the sound received by the two ears and the difference in time at which the sound arrives at each ear...A little careful thought and careful listening show that our sense of direction depends primarily on transients so that our brain tells the direction of source by the time or intensity difference of any initial wavefront striking the two ears rather than by a continuous phase or intensity comparison on steady tones. Much of the earlier literature on stereophonic sound was based on the hypothesis that reproduction of realistic value must be based upon the objective of recreating the original sound field. Further investigation shows this objective to be quite evidently impossible because the original sound field is conditioned not only by the source of the sound itself, as to position and magnitude, but also by the characteristics of the room or space in which it is produced. So the listener is conscious not only of the characteristics of the sound but also of the room in which he is listening to the sound."

75 Years Ago in the Journal

The April 1930 *Journal* reported in "The Academy of Motion Picture Arts and Sciences and its Service as a Forum for the Industry" by Frank Woods: "The Academy is an experiment in organization engineering. It represents the increasingly successful attempt to combine in one unified body the members of the several associated but diversified creative arts on the basis of friendly cooperation for the common good. Its present membership of 388 includes nearly all of the principal actors, directors, producers, technicians, and writers in Hollywood. One of the most profitable of the Academy activities bearing on the technical side of the industry has been a long continued series of joint meetings among the different branches. On one night, for instance, directors will tell how they suffer between the eccentricities of the producers on the one hand and those of the microphone crew on the other. A subsequent meeting gives the sound men their inning and arc lights have seldom been needed to warm up the debate between sound men and actors or directors."