

SMPTE ALMANAC



By 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 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 June 1981 *Journal* published in "The Forces at Work Behind the NTSC Standards" by Donald G. Fink: "The first NTSC laid the foundations that made monochrome television a practical reality in the United States...Casual observers of technical programs often assume that the basic forces at work are merely those of new science and improved technology. But seasoned veterans of the technical wars know that many other forces are also at work. Prominent among them are the pride and prejudice of technical, industrial, and political leaders; the pursuit of power and profit; the rivalry for command of patents and markets; as well as the forces of government: inertia, misunderstanding, and, occasionally, foresight. The development of television in the United States is a prime example of the conflicting interplay of these forces and their ultimate resolution for the public good. The body in which these forces were principally brought to bear was the National Television System Committee. Its initials 'NTSC' are the hallmark of American television practice and, for that matter, the hallmark of much worldwide practice. The first NTSC reviewed in 1940 in 1941 the existing arts of television and brought forth standards, which were thereupon promptly adopted by the FCC (Federal Communications Commission) as the basis of the black-and-white service. Most of the new science and technology involved had been worked out previously by two committees of the RMA (Radio Manufacturers Association—now the Electronics Industries Association)."

50 Years Ago in the Journal

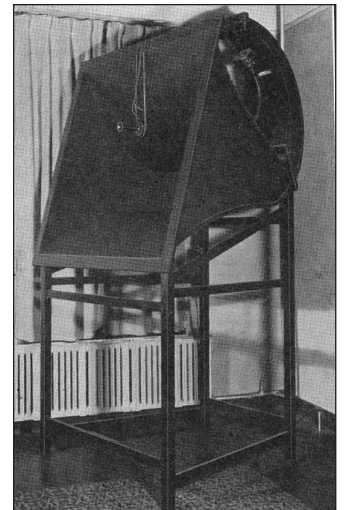
The May 1956 *Journal* reported in "Effects of Visual Angle on Visual Perception" by Sidney M. Newhall: "Perhaps the most obvious correlate of varying visual angle is the variation in the size of the retinal image. Unlike the usual flat picture screen, the diameter of the retinal image is an almost linear function of the visual angle throughout the entire range of interest... Moviegoers obviously see the picture from many angles of view, depending on where they sit. When a viewer moves from a seat on the central aisle to one on an outside aisle, the picture on his retina changes from an approximate rectangle to trapezoid...The perceptibility of picture details tends to vary with the visual angle

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subtended by the picture at the customer's eye. In other words, capacity to see details improves as a visual angle is increased, as by decreasing the viewing distance... Psychological observers, particularly, are bothered by a lack of focus in backgrounds of color motion pictures. Many scenes which are not supposed to be hazy from twilight or aerial perspective have blurred backgrounds...There are two reasons why perceived flicker may be expected to vary with visual angle; first, the smaller the angle the smaller the actual flicker excursion on the retina; and second, the smaller the angle the less peripheral stimulation of the eye where it is known to be most sensitive to flicker...Experiments have shown that all three of the principle characteristics of perceived color can be changed significantly by changing the size of the retinal image, or, in other words, changing the size of the visual angle."

75 Years Ago in the Journal

The May 1931 *Journal* reported in "A Loud Speaker Good to Twelve Thousand Cycles" by L. G. Bostwick: "Twelve thousand cycles—over five octaves above middle C in the musical scale—of what advantage is a loudspeaker that is capable of so greatly exceeding the pitch limit of any voice or musical instrument? Twelve thousand cycles is within the highest octave that can normally be perceived by the ear, but yet it has been found that certain musical instruments and voices, and many common sounds such as hand-clapping or the jingling of keys or coins, have overtones or harmonics that make such a loudspeaker necessary for perfect reproduction. In some cases the change in the character of the sounds resulting from suppression of the high frequencies is not objectionable but in others it may be such as to cause the reproduced sound to bear but little resemblance to the original. Extension of the frequency range of the reproducing system to include the very high frequencies results in marked improvements in the reproduction of impulsive sounds and in the naturalness, color, and brilliance of reproduced speech and music. Although it is possible for the high frequencies to be suppressed at many points in a reproducing system, the loudspeaker is almost certain to be blamed, and often justly."



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