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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 column is sponsored by Television Broadcast Technology, Inc., since March 2001: http://ieeexplore.ieee.org/document/7257346.

25 Years Ago in the Journal

The June 1995 *Journal* published in "Development of a Progressive-Scanning Camera and Program Production System" by Naoki Hirano, Tadao Kurosaki, and Akihiro Hori: "Test broadcasting of Japan's satellite-based MUSE-HDTV began in 1991 and utility test broadcasting was initiated in the fall of 1994. Studies of digital broadcasting have also begun. At the same time, the following problems have appeared in Japan's terrestrial broadcasting format (NTSC, as in the U.S. and Canada), as video receivers have become larger: interline flicker due to the interlace format and cross-effect interference between luminance and color due to Y/C separation error… This article reports on a newly developed 16:9 wide-aspect ratio 525-line progressive-scanning camera that incorporates 4:2:2:4 in its signal transmission… A progressive-to-interlace (PI) conversion cancels the aliasing component and converts [4:2:2] × 2 signals into the currently used interlaced signals." For the full article, see: https://ieeexplore.ieee.org/document/7240554

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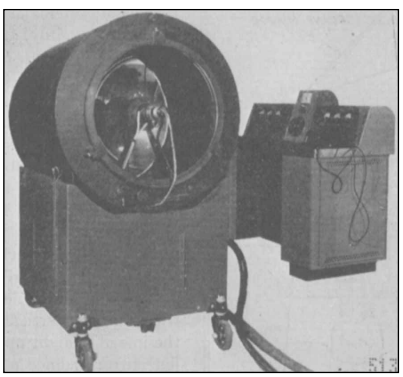
50 Years Ago in the Journal

The June 1970 *Journal* published in "The Standardization of the Super-8 System" by Roland J. Zavada: "In 1965, Eastman Kodak Co. introduced a new motion-picture film system, generically called *super 8*. Before the 1960s, the use of an 8-mm motion-picture film for professional applications was almost nonexistent. Today, super 8 has the potential of being the most extensively used *professional* motion-picture film. Various widths of the film starting with 35 mm through 9.5 mm were all tried commercially before 16 mm, together with 9.5 mm in Europe, evolved as fundamental amateur film formats in the early 1920s. The steady progress in emulsion manufacturing toward fine grain and more speed, between 1923 and 1928, made it possible to give serious attention to the idea of a film one-half the width of 16 mm… By the 1950s, efforts naturally progressed toward improving film loading. Quick-change roll-film cassettes were introduced and Kodak was considering a disposable plastic magazine. Concurrently, the camera design requirements of some manufacturers indicated the desirability to consider cine 8 in the single-strand or single-8 form. However, the single-strand of 8 mm had limited potential because the image was positioned so close to the unperforated edge (0.017 in. or less) that it was difficult to hold the film in precise alignment… A need was developing, but cine 8 appeared to be an inadequate tool… The dimensions and specifications considered for the new format were presented in 1964 by Edwards and Chandler. These efforts resulted in the successful introduction in 1965 of a single-strand 8-mm disposable plastic cartridge—larger format film system, with commercial and educational potential—super 8." For the full article, see: https://ieeexplore.ieee.org/document/7227171

75 Years Ago in the Journal

The June 1945 *Journal* published in "Projection Television" by D. W. Epstein and I. G. Maloff: "Projection television, which is simply the projection onto a viewing screen of the picture originating from a cathode-ray tube seems,



RCA theater television projector, with control console in the background (**Fig. 7**, *JSMPE*, Jun. 1945, p. 451).

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at present, to be the most practical means of producing large television pictures. The two basic problems of projection television are: (1) providing a cathode-ray tube capable of producing very bright pictures with the necessary resolution and (2) providing the most efficient optical system so as to utilize the largest possible percentage of the light generated… A handicap of this optical system, for use in a home projection receiver, was the high cost of the aspherical lens. This has been overcome by the development of machines for making aspherical molds and a process for molding aspherical lenses from plastics. RCA reflective optical systems are designed for projection at a fixed throw and require cathode-ray tubes with face curvatures fixed in relation to the curvature of the mirrors in the system. The optical system consists of a 30-in. diameter mirror and 22.5-in. diameter correcting lens. Figure 7 shows the optical system with the cathode-ray tube in place." For the full article, see: https://ieeexplore.ieee.org/document/7251598

100 Years Ago in the Journal

The May 1920 *Journal* published in "Continuous Motion-Picture Machines" by C. Francis Jenkins: "Everyone readily admits the advantages to be gained by the employment of continuous instead of intermittently moving film. Striking advantages are immediately suggested: (1) longer life for the film, consequently, larger revenue from each print, (2) 100% increase in lighting efficiency, that is, the same screen lighting with 50% of the present light source intensity, (3) a noiseless and much less complicated projecting machine, and (4) almost unlimited speed (not for the projectionist, many of them need a speed-limiting brake), but the continuous motion in a camera permits such speeds as open-up possibilities for scientific research, not available in any other way… Many attempts to attain this ideal machine have appeared from time to time and hundreds of patents have been granted thereon, but most of them propose a continuous motion of the film while employing intermittent or reciprocating mechanisms. This is not, and cannot be the solution to the problem… Therefore, the contribution to the art which I shall describe herein is the result of experimentation with the object of producing a less expensive machine…" For all the advertisements, see: https://ieeexplore.ieee.org/document/7230024