



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

**T**he August 1994 *Journal* published in “Receiver Characteristics” by M. Artigas and D. Westerkamp: “Future digital TV services place some requirements on the design of the next generation of TV receivers, which must be able to receive both analog and digital signals during a transition period of some length. The digital era probably will start with the launch of digital transmission systems over direct broadcast satellites such as DirecTV. The next steps will be digital on cable and digital HDTV on terrestrial. For HDTV, different approaches are likely in the U.S. and in Europe. The U.S. is focusing on HDTV with a system under development in the Grand Alliance, whereas in Europe, more emphasis is placed on multi-program transmission and portability... The variety of display sizes will lead to different technologies (Fig. 3). Direct-view cathode ray tubes (CRTs) cover the range from 0.25 m (10 in.) to 1.00 m (40 in.); rear projectors or projectors are used in the upper range. Flat panels will be used in the lower range for portability; in that case, very low power

consumption is required. In the upper range, liquid crystal display (LCD) projectors that necessitate progressive pictures are coming onto the market.” For the full article, see: <http://ieeexplore.ieee.org/document/7240330>

### 50 Years Ago in the Journal

The August 1969 *Journal* published in “Automatic Color-Locking Systems:” “As advancing technology expands our ability to transmit color television programs over long distances, it is natural that those responsible for producing news, sports, and public service programs

should make increasing use of live material from far-flung locations to assemble these programs. This tendency creates special problems for television engineers. In order to allow production personnel to use the usual special effects such as fades, superimpositions, wipes, and mattes, which are necessary if the resulting program is to be artistically pleasing, each source must appear at the Central Control location locked in color phase and raster phase. Conventional locking systems are of no practical use over long distances” [introduction to papers on several potential solutions]. For the full article, see: <http://ieeexplore.ieee.org/document/7227415>

### 75 Years Ago in the Journal

The August 1944 *Journal* published in “Present and Proposed Uses of Plastics in the Motion Picture Industry” by Barton H. Thompson: “Although the plastic field is in its

DISPLAYS						
ACTIVE LINES	POINTS/LINE	SCAN	CLOCK FREQUENCY	CRT	PROJECTION	FLAT PANNEL
59.94/60 HZ	50 HZ		MHZ			
480	576	720	INTERLACE 1H	13.5	X	X
480	576	720	PROGRESSIVE 2H	27	X	X
	576	720	INTERLACE 100HZ 2H	27	X	
	576	720	PROGRESSIVE 100HZ 4H	54	X	
960/1080	1152	1440	INTERLACE 2H	54	X	X
720		1280	PROGRESSIVE 3H	72	X	X
960/1080	1152	1440	PROGRESSIVE 4H	108		X
960	1152	1920	PROGRESSIVE 4H	144		
1080		1920	PROGRESSIVE 4H	162		

Various display sizes and technologies (Fig. 3, from *SMPTE J.*, Aug. 1994, p. 529).

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infancy, with the development of new resins and processes due solely to the war effort; in the future, we may expect to accomplish with plastics what has heretofore been considered impossible. It is understood by many to be an animal or plant resin, or a synthetic organic material composed mainly of a resinous or cellulose derivative binder. Actually, the majority of plastics are made from one or more of the following basic materials: air, water, coal, petroleum, natural gas, limestone, salt, cellulose from wood or cotton, or sulfur... Cellulose nitrate, the oldest of the cellulose derivatives, is made from carefully purified cotton having a high alpha cellulose content and is treated with a mixture of nitric and sulfuric acids. This resin was developed to commercial status in the middle of the 19th century by the incorporation

of solid camphor... The majority of work on motion picture film has been based on cellulose nitrate. As a matter of fact, approximately 95% of all films used in Hollywood today are cellulose nitrate. Its outstanding properties are toughness, ease of fabrication, water resistance, and moldability." For the full article, see: <http://ieeexplore.ieee.org/document/7252283>

### 100 Years Ago in the Journal

The October 1919 *Journal* published in "Stereoscopic Motion Pictures" by C. Francis Jenkins: "Stereoscopic motion pictures, that is, motion pictures projected in such manner that the optician sees them in true simulation of all the wonderful depth, perspective and solidity of the real scene itself, has been the problem of photographers since Daguerre made

his first twin "tintypes." Its practical solution has engaged the attention of the most brilliant minds but remains unattained. By practical method I mean commercially useful, or profitable perhaps I should say. This probably means stereoscopic vision without eye aids. It seems to be a much more difficult task than motion pictures in natural color... Doubtless, it will be conceded that stereoscopic picture projection will never be publicly acceptable, and therefore, profitable until they are attained without requiring each individual of the audience to hold some sort of a device before his eyes. Better yet, the pictures should appear stereoscopically whether viewed with one or with two eyes." For the full article, see: <http://ieeexplore.ieee.org/document/7230004>



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