

By Michael Dolan

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In this column we provide interesting historical briefs from *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 October 1978 *Journal* reported in "PAL Color Picture Improvement Using Simple Analog Comb Filters," by S. J. Auty, D. C. Read, and G. D. Roe: "The total bandwidth of a PAL signal is that of the luminance component. The color information is contained within this bandwidth as a modulation of a color sub-carrier...The conventional decoder separates the two parts of the combined signal by means of a notch filter in the luminance path and a bandpass filter in the chrominance path. The decoder notch is optimized to retain as much high-frequency luminance as possible while removing most of the chrominance energy. Separation is not complete and the luminance signal remains contaminated by chrominance, resulting typically, in bands of crawling dots at sharp color transitions. This effect has been termed *cross-luminance*. Similarly, the bandpass filter used in the chrominance channel passes high-frequency luminance energy which is decoded as spurious chrominance. This gives rise to *cross-color*, the characteristic "rainbow" interference seen in clothes made of material patterned by fine checks or stripes....effective separation of luminance and chrominance could therefore be obtained by a filter able to discriminate between these components. Such discrimination may be obtained by a comb filter which operates by cancellation rather than passive loss."

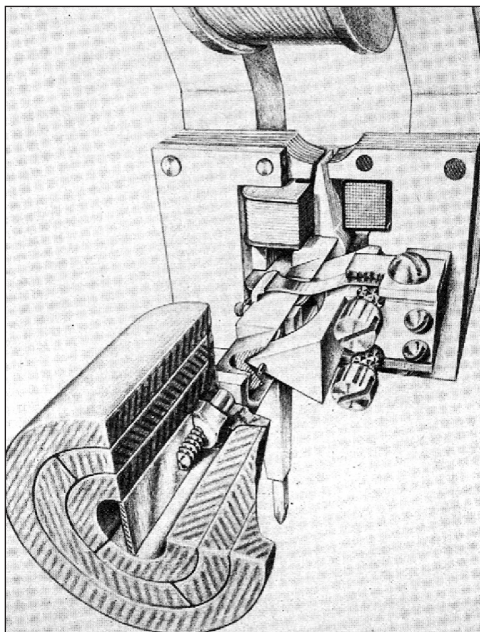
50 Years Ago in the Journal

The October 1953 *Journal* reported in "Performance of High-Intensity Carbons in the Blown Arc," by C. E. Greider: "The performance of carbons operated in the Gretener type of "blown arc" shows the following

advantages as compared with the more usual method of burning: (a) from 5 to 25% less current is required to produce the same light; (b) at the higher brightness levels, less carbon consumption is required for the same light; (c) the maximum light that the carbon will deliver is increased by 10 to 20%; and (d) uniformity of brightness across the face of the arc crater is considered improved. The performance advantages of the "blown arc" seem to be considerably greater for 12mm than for 10mm carbons, and are greatest when the carbon is operated at or near its maximum current and light output. The addition of blowing to the arc introduces special problems regarding the design and operation of the negative electrode."

75 Years Ago in the Journal

The September 1928 *Journal* reported in "Recent Advances in Wax Recording," by Halsey A. Frederick: "In the recording and reproducing of sound by the so-called "electric" method with the "wax" disc, the process may be considered as consisting of eleven steps. In order, these are: studio, with its acoustic conditions; microphone; amplifier;



Diagrammatic view of the electro-mechanical recorder.

electromechanical recorder; "wax" record; copying or reproducing apparatus; hard record or "pressing" electric pickup; amplifier; loud speaker; auditorium. With this chain of apparatus the chief problem is that of making the reproduced sound in the auditorium a perfect copy of that in the studio. This is a matter of quality of fidelity of reproduction....While it may be necessary or convenient to introduce distortion in one of these links to compensate for such unavoidable distortion as may occur in other links, experience shows that it is desirable for the sake of simplicity, reliability, and flexibility to reduce such correc-

tive warping to a minimum and to make each step in the process as perfect as possible...Good reproduction requires that frequencies from 50 to 5,000 cycles be included without discrimination."