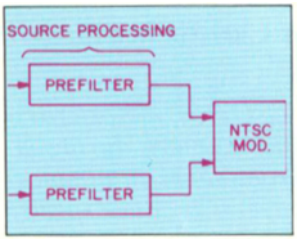
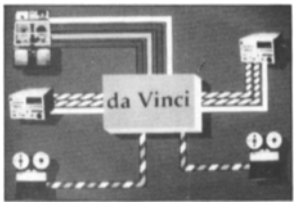
Highlights

782 **Cooperative Processing for Improved NTSC Chrominance/Luminance Separation** • *C. H. Strolle* • NTSC cross-color/cross-luminance artifacts are introduced in the television camera during NTSC encoding and also result from imperfect chrominance/luminance separation at the receiver. Camera-induced artifacts produce spectrally contaminated regions that cannot be properly separated into their original component form. The cooperative processing system described uses source processing to prevent camera-induced artifacts, and receiver processing to optimally separate the uncontaminated NTSC signal.

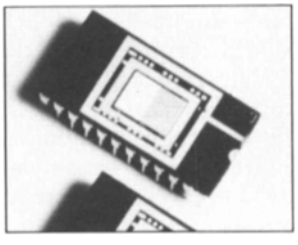


790 **Scene-by-Scene Color Correction: The Next Generation** • *M. L. Orsburn* • Scene-by-scene color correctors have been used by post-production and film transfer facilities for over a decade. This article reviews the history and evolution of scene-by-scene color correctors, in addition to recent developments in the field. The newly introduced da Vinci color-correcting system is described. This system combines many new signal-processing techniques aimed at solving frequent problems encountered in film-to-tape or tape-to-tape color correcting.

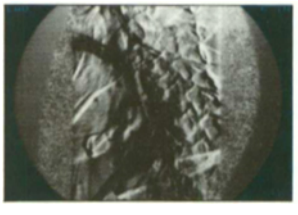


796 **A System Generating High-Resolution Animation to HDTV Film** • *A. Schneider* • This article describes a new system which produces high-quality real-time computer-generated animation suitable for release on theater-quality 35mm film. To accomplish this, a Teledyne GFC-1 high-definition video-to-film recorder was linked to a Chromatic CX-1536 ultra-high-resolution graphics computer. In the author's opinion, the resulting system is a cost-effective means for producing state-of-the-art theatrical quality animation.

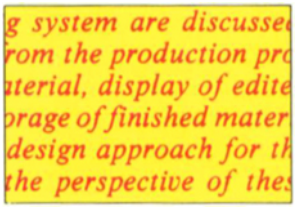
799 **Television Camera Tubes and Solid-State Sensors for Broadcast Applications** • *A. Franken and N. V. Rao* • For use in broadcast cameras, the small size, low lag, acceptable signal-to-noise ratio, and long life of the solid-state sensor offer distinct advantages over the relatively large size and limited life of the camera tube. The availability of small Plumbicon® tubes with blemish-free, low-noise pictures, however, will prolong the use of color cameras with tubes for at least a few more years. For high-performance cameras and HDTV, tubes are currently superior because of their higher resolution.



805 **Digital Medical Image Storage on VHS Cassette** • *H. R. Leiner* • There is increased application of digital processing in medical imaging, as in CAT scans, nuclear magnetic resonance, ultrasound, and digital fluorography. Since most sensors deliver a digital data stream, and most devices generate a processed digital image, a digital mass storage device is highly desirable. This article describes a commercial VHS recorder which has been modified to have a digital dual-channel system.



811 **The Montage: A New Approach to Editing Feature Films** • *C. L. Schuler* • Five characteristics of a well-designed editing system are discussed. These include removal of the creative person from the production process, freedom to rearrange edited blocks of material, display of edited material, ability to generate trial drafts, and storage of finished material in a computer for transfer or archive. The design approach for the Montage editing system is described within the perspective of these objectives.



814 **Transmission of Additional Information in the Active Television Lines** • *A. Stankov, E. Popova, E. Nedyalkov, T. Dragostinov, N. Mantchev, I. Aroyo, and P. Zhivkov* • The advantage of utilizing the existing television networks for transmitting additional information are considered in this article. To make full use of channel capacity, and thus increase the data rate, the additional information can be transmitted during the active parts of the lines.