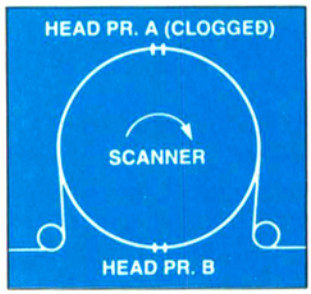
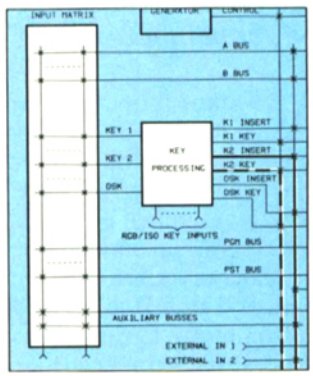
Highlights

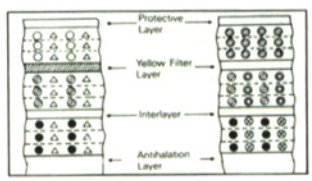
182 **Design Considerations for the D-2 NTSC Composite DVTR** • *R. Brush* • This article discusses the design for the proposed D-2 digital NTSC composite recording format. Both technical and economic criteria used in arriving at the format are enumerated. The relationship among the key parameters and the tradeoffs involved in choosing those parameters are described. Two-channel recording with azimuth heads, Miller^2 code and metal-particle tape are key elements of the format. The error-correction coding system, structure of data along the helical tracks, picture-in-shuttle, shuffling, and concealment are also discussed, as are audio timing and editing. Similarities with, and differences from, the D-1 format for recording 4:2:2 component video are also noted throughout.



194 **Digital Effects Integration in a Video Switcher** • *J. L. Flora* • Enhancements can be made to the control panel and the internal architecture of a video production switcher to simplify operation of a digital effects device from the switcher panel. Presently, inputs to digital effects devices are typically selected from auxiliary or external routing buses, and the output of the digital effects enters the switcher as an input. If a key channel is used and transformed with the digital effects, key-processing circuitry with additional key input routing is required. The output of the digital effects device still needs to be combined with other video sources into the final output. The ability to select and route sources, generate key signals, and mix output video are common to the video production switcher. With some additional hardware and control enhancements to the switcher, a digital effects device can easily be controlled with an efficiency of hardware.



201 **New Fujicolor Intermediate Film** • *S. Yamaryo and H. Sato* • The features of the new Fujicolor Intermediate Film FCI 8213 and 8223 are described. Advances in emulsion technology made it possible to produce the FCI with high definition, ultrafine grain, and high sensitivity. The FCI, developed as a duplicating film for use in making both color master positives and duplicate negatives, features a low-fading cyan coupler, which greatly extends color-image life.



207 **The Video Computer: Image Computing in the Studio** • *A. R. Smith* • Proposed is a general-purpose video computer that combines and extends many studio or post-production functions now available only in separate pieces of equipment. The ideal machine is described and the level of its development noted. The restrictions of real time and broadcast day are compared. The conclusion is that the video computers are a viable idea for broadcast-day turnaround and that the hardware already exists as so-called image computers — general-purpose digital computers for computations on images. Software houses, consequently, could immediately begin preparing applications on video computers for the broadcast video market.

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209 **HDTV: A Preview of the Future** • *A. Schneider* • For more than five years, the Education Committee of the Hollywood Section of SMPTE has been offering courses on all aspects of television and motion pictures. These range in length from one-day seminars to twelve-week sessions for students and professionals. Until recently, most of the programs offered were coordinated with the University of Southern California (USC) School of Continuing Education and the Dept. of Cinema-Television. In early 1987, it was decided to expand the scope of activities to include the University of California at Los Angeles (UCLA) in this endeavor.

The technical specifications used in HDTV indicate that the horizontal resolution is about double and the vertical resolution is more than double that of a standard NTSC studio camera. The luminance or general number of picture elements of HDTV is about four times that of standard television. The color bandwidth of a studio HDTV camera signal is about five times that of an NTSC studio camera.