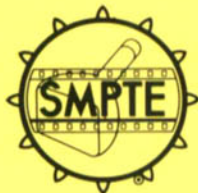




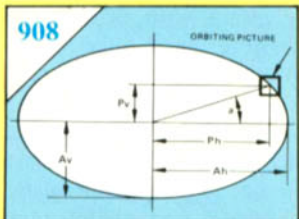
## HIGHLIGHTS



### The Type-C Format — A Moving Target

*W. F. Carpenter*

The 1-in. SMPTE Type-C videotape recording format adopted five years ago has resulted in a family of videotape recorders that have been widely accepted by both broadcasters and production studios. This article reviews the changes in features and performance of the various Type-C format VTRs from the first units available through the most recent developments in both studio and portable VTRs.

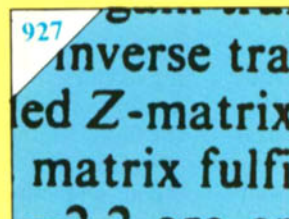


### Arithmetic Control Algorithms for Digital Video Effects

*J. E. Blecksmith*

This article gives a description of some of the control algorithms used

by the Mark II Digital Video Effects unit (DVE), together with a brief description of the overall system. The Mark II DVE normally is part of a larger system consisting of a Grass Valley 300 switcher and a Serial Interface Adapter that provides communication to a videotape editor and/or a disk storage unit.



### Psychophysical Image Quality Characteristics of M.P. Color Films

*W. Liekens*

The results of a psychometric evaluation of image-quality characteristics in a series of motion-picture color films are compared with the data obtained by physical measurements of corresponding image-quality parameters. Implications of psychometric scaling of image-quality characteristics by means of a paired-comparisons method are discussed.



### Electronic Graphics in Television — The Next Step

*J. A. Briggs*

This article describes a significant development in graphics systems for

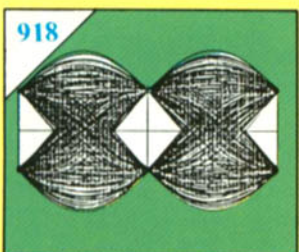
television. The system — a state-of-the-art manufacture — allows the creation of three-dimensional, real-time, anti-aliased, animated displays especially for use in television production. The high-performance, microprogrammed bit-slice processor of the system provides 2-D and 3-D transformations with hidden-surface elimination, shading, and viewing window clipping, and also operates in non-real-time to create images of unlimited complexity.



### Projection of M.P. Films Using Xenon Short-Arc Lamps

*P. Preo*

Excessive incident radiant energy can cause projection problems and film damage. This article reports the results of studies using the new xenon-arc lamps, which are capable of producing even higher levels of radiant energy than are carbon-arc lamps, when manufacturers' recommendations are not followed. Prolonged projection under these high-flux densities can lead to permanent color print scorching or emulsion layer separation. Black-and-white films will blister at even lower flux-density levels.



### 8-9 Block Code: DC-Free Code for Digital Magnetic Recording

*H. Yoshida, T. Shimada, and Y. Hashimoto*

This article describes the 8-9 block code, a dc-free channel code for use in

digital magnetic recording. The coding strategy is discussed, as well as results of investigation of the properties of the code by computer simulation and hardware experiment. This code can be applied to a digital VTR without major modification to the recording and playback circuits.



### A Cost-Effective Video Compressor

*K. K. Fok*

By limiting the endless variety of special effects to the most popular basic types and utilizing simple but efficient design approaches, a new cost-effective video compressor, called the "Squeezer," has been developed. The unit produces four discrete compressed image sizes. Image position and crop size, shape, and placement are variable by joystick controls. Border width, hue, and saturation are adjustable. Four memory locations are available for storing four different sets of insert configurations. Images can be frozen or inverted horizontally.