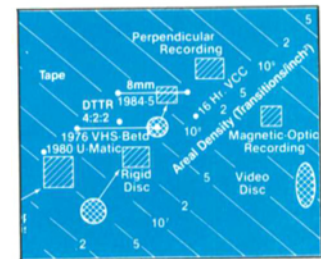


Highlights

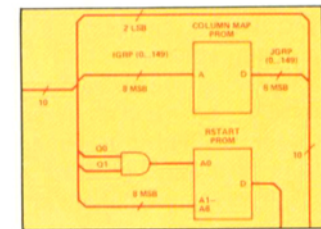
998 Painting in a Composite Frame Buffer • M. Ghazey • The use of a four-field composite frame buffer for computer graphic applications such as painting, texture mapping, image processing, and synthetic video generation is described. The technique avoids the encoding and decoding problems of component frame buffers with composite input and output, while at the same time reduces the complexity and cost of the hardware. The all-digital approach uses digital decoding and encoding implemented in software. The frame buffer can create all colors in the NTSC color space, grab images in real time, and create complex anti-aliased, smooth-shaded images.



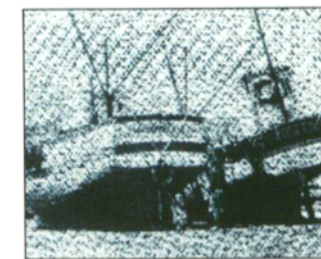
1004 Magnetic Media for the Digital Television Tape Recorder • A. R. Moore and M. P. Sharrock • A general discussion of industry trends for magnetic media, with comments on new materials, is given. The digital television tape recorder (DTTR) requires the use of advanced particulate tapes to satisfy system needs. The tape requirements imposed by these needs are discussed. The tape industry appears to be capable of supplying media having the signal-to-noise ratios and error rates required, and will be addressing the reliability factors as the DTTR enters the marketplace. The DTTR 4:2:2 is designed to use 16 or 13 μm thick, 19mm wide tape packaged in cassettes.



1009 Video Data Shuffling for the 4:2:2 DVTR • R. Brush • Shuffling as a means of concealing errors on videotape, is discussed in general terms, as it might apply to any DVTR. The requirements and nature of shuffling as they specifically apply to the 4:2:2 DVTR are covered, with emphasis on the relationship between shuffling and other system-level considerations, especially error-correction coding. The particular shuffling algorithm adopted by the SMPTE in the 4:2:2 DVTR standard, including its superior error-concealment properties, picture-in-shuttle quality, and ease and simplicity of implementation, are also described.



1017 Optimization of the D-1 DTTR Standard by Simulation Techniques • R. Mester • The D-1 digital television tape recorder (DTTR) standard was agreed upon without the hardware realization of a D-1 DTTR. This could only be done through sufficient practical experience with experimental digital recording systems. Measurements made with these systems were basics in the standardization process. Experimental experience led to realistic mathematical models, with which new approaches could be simulated and optimized. This article explains how the D-1 standard reflects the theoretical developments based on realized experimental systems.



1026 Edit Film/Conform Tape (EFLM/CTAP) — The Filmmaker's Video System • S. Becker • The Edit Film/Conform Tape (EFLM/CTAP) system is an integrated laboratory post-production system that uses original film footage to create a conformed and completed video master tape. The production team uses film production equipment and techniques for the filming, editing, and final soundtrack generation. In the lab, the EFLM/CTAP system builds a high-quality video master from the uncut original film footage and allows full use of electronic character generation, digital effects, etc.



1031 Signal Distribution in Tomorrow's Television Plant • D. Reynolds and L. Keys • Numerous new video formats are emerging, each posing different problems for the television plant engineer and equipment designer. Many of these formats involve time compression with its increased bandwidth requirement, while others involve higher-resolution signals (with or without time compression) that require bandwidths many times those of NTSC or PAL signals. This article examines the effects of return loss, line equalization, cable-length limitations, and high-bandwidth design techniques.

horizontal sync pulse width
presently proposed compon
video waveform is 1.78 μs
represents a 62% reduction
RS170A format. The telev
engineer may be confronte
need to distribute discrete c