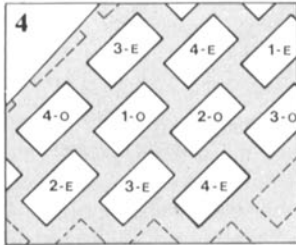


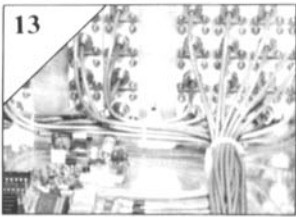
Highlights



The Digital Television Tape Recorder — Audio and Data Recording Aspects

K. P. Davies

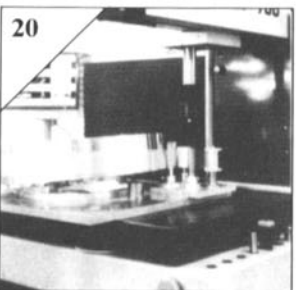
The digital television tape recorder (DTTR) is expected to achieve very high video performance. Audio performance must be comparable while offering far greater operational facilities and flexibility. The designer of the audio systems for the DTTR is constrained in many directions — user needs, specified performance, relationships to the video channel, and interconnection to a completely digital production facility — while having to be conservative in terms of circuit complexity and reliability. There are few precedents to rely on, and the specification of the audio and data formats has produced novel ideas and concepts heretofore unknown in television technology.



An Experimental All-Digital Television Center

D. Nasse, J. L. Grimaldi, and A. Cayet

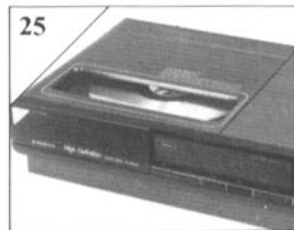
After several years of preparation, an experimental digital studio is about to begin operation in Rennes, France. Jointly sponsored by the French societies of the public broadcasting service and Thomson Video Equipement, the all-digital system includes cameras, VTRs, an all-digital slide scanner, and a digital mixer specially developed for this project. Among the topics discussed are the need for a full-size digital system, its structure and equipment, A/D and D/A conversion, VTRs, the editing system, and the implementation and operation of the equipment.



Progress Report on Recent Developments on One Manufacturer's 1/4-in. ENG Recorder

S. Kasai, H. Ogihara, T. Kawamura, and M. Inatsu

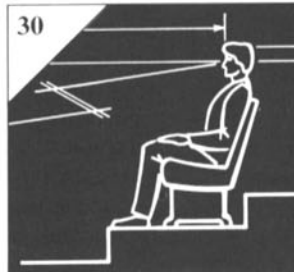
A combined camera and 1/4-in. VTR unit was modified to allow its 10 minutes of recording time to be increased to 21 minutes. This was accomplished by using thinner tape and a smaller hub in the 1/4-in. cassette while increasing the amount of tape by about 50%, and increasing the recording density by about 40%. A signal-to-noise ratio of over 47 dB was achieved, with a bandwidth of 3.6 MHz (-3 dB), by the development of a metal head and improved metal particle tape. Design criteria for maintaining tape motion stability are described.



Optical Videodisc for High-Definition Television by the MUSE

T. Toyama, Y. Morita, T. Hioki, O. Ohta, Y. Ishii, Y. Ninomiya, Y. Ohtsuka, Y. Izumi, and S. Goushi

The 1125-line HDTV system in Japan requires a bandwidth of over 20 MHz. For direct-disc recording, this means the signal can only be recorded for a short time. NHK and Sanyo Electric Co. have cooperatively developed a high-definition videodisc by the MUSE (multiple sub-Nyquist sampling encoding) which converts the HDTV signal into an 8.1-MHz analog signal with a compressed bandwidth, enabling the signal to be recorded on a disc. This article describes the recording system and playback system, and the sound-multiplexing system.



Guidelines for the Design of Effective Cine Theaters (Part I of a Proposed SMPTE Engineering Guideline)

W. Szabo

Present-day cinema technology provides the motion-picture theater exhibitor with projection and sound equipment capable of displaying high-quality images with clean, full-frequency sound. Yet, many patrons are denied this full realization of the film producer's art because the theater designer has failed to provide the proper environment for experiencing the wonderful world of illusion that is the art of cinematography.



The 127th SMPTE Technical Conference and Equipment Exhibit Oct. 27–Nov. 1, 1985, Los Angeles

The 127th SMPTE Technical Conference and Equipment Exhibit, held October 27–November 1, 1985, in Los Angeles, Calif., was an event of extraordinary magnitude. Registration for the conference totalled a record-breaking 15,618.

During the five days of technical sessions, 130 papers were presented on the theme "New Directions in Technology — Difficult Decisions." In addition, a comparative demonstration of HDTV systems and improved NTSC was held. Also featured was a demonstration of analog and digital components. The exhibit was one of the largest in the Society's history, filling 717 booths, with 255 companies displaying the newest equipment for motion pictures and television.