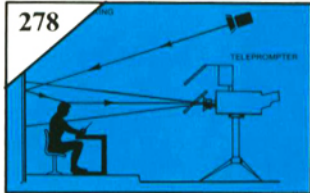


Highlights



278

Front Projection: Tessellating the Screen

J. Erland

In the fabrication of a retroreflective front projection screen for motion-picture composite photography, the variations inherent in the manufactured screen material are diminished by homogenizing. This is accomplished by dividing the stock material into small, symmetrical pieces or tiles, and then tessellating (or tiling) a substrate plane. The shape of the tile is designed to reduce to a minimum the number of conjoined segments and to entirely eliminate straight lines, thus diminishing the evidence of the mosaic pattern.

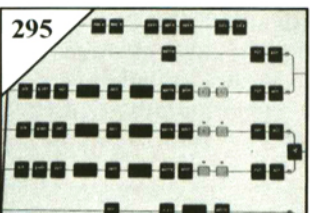


287

Color-Correction Techniques — Analog and Digital

D. E. Acker

Color-correction systems allow the operator to change the hue quality of the picture to compensate for several conditions that may have existed when a program originated. These include rebalancing of black and white levels, changing the gamma characteristic, compensating for lighting conditions, and modifying the overall scene colorimetry to create a particular mood. This article presents the theory of operation for a color-corrector system and compares analog and digital implementations.

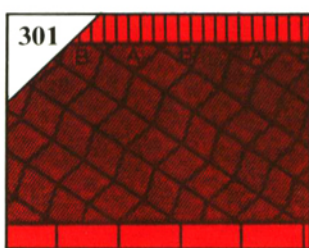


295

Digital Production Switchers

J. Vallee, M. Artigas, and M. Faureau

This article describes the equipment developed for the experimental all-digital studio at Rennes, France. It concentrates on the digital switcher, which constitutes the heart of the studio. Some of the topics covered include the distribution system and its associated switching matrix, four effects buses and two preset program buses allowing four-plane pictures to be made (two backgrounds and two foregrounds); and accessories such as the electronic pattern generator, colored backgrounds generator, and the subtitled unit. Some new features which are only feasible when using digital processing and recording include downstream chroma key, accurate color correction, and automatic phasing between differing input signals by use of digital signal words.

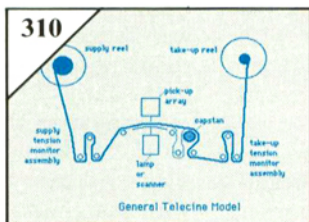


301

The Videotape Recorder: Its Evolution and the Present State of the Art of VTR Technology

H. Sugaya

The videotape recorder (VTR) is one of the most important devices available for the storage and retrieval of visual information. Since the introduction of the first commercially successful broadcast VTRs in 1956, improvements in VTR technology have been directly and exclusively related to increases in the recording density on magnetic tape. Modern high-density recording technology has resulted in many remarkable products and techniques, including high-quality broadcast VTR equipment, inexpensive and convenient home-use VTRs, and extremely compact camera-video equipment. The overall performance of VTRs is rapidly improving as the latest techniques of digital technology and LSI devices are incorporated in such innovative approaches as frequency modulation and the pulse-code modulation recording method.

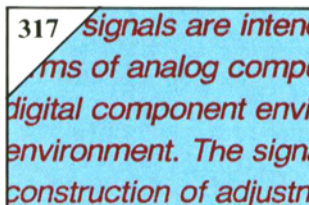


310

Understanding Film Dynamics on Continuous-Motion Telecines

G. Soluk

With the use of continuous-motion telecines, special care of transport mechanics and associated electronics must be taken to ensure film transfers with the greatest stability and lowest distortion. This article reviews the various factors affecting film flow, horizontal and vertical registration, and any resultant distortions in the output picture. Isolating and minimizing these problems are also discussed.



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Engineering Technology Committees Meeting During the 127th SMPTE Conference

“New Directions in Technology — Difficult Decisions,” the theme for the 127th SMPTE Technical Conference, was apparent throughout the week, and attested to by the meetings of the committees on engineering technologies, their working groups, subcommittees, and study groups, held at the Los Angeles Convention Center October 27–November 1, 1985. Synopses of the meetings, showing the progress being made by the committees, are presented herein, with additional information available from Alex E. Alden, Manager of Engineering, or Barry C. Detwiler, Staff Television Engineer.