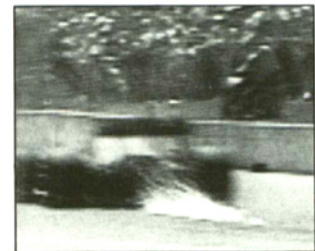


Highlights

- 348 **Experience with an Experimental Digital Component Video Production Facility** • *C. J. Dalton and N. W. Green* • An experimental digital component video production facility has been installed at the studios of Thames Television, London. This project managed by the Independent Television Association (ITVA), is the culmination of several years' cooperation between the ITVA technical development laboratories and specialist U.K. manufacturers of broadcast equipment.



- 353 **DPCM Bit-Rate Reduction for Component TV Signals at ENG Levels** • *J. Aubry and Y. Buhler* • Electronic news gathering (ENG) is used extensively by broadcasters to obtain the material for their news programs. Because of the time constraints, ENG increasingly relies on satellite and common carrier facilities to carry video and audio signals from remote locations to the main TV studio. Due to the ongoing digitization of the telecommunication links and eventually of the main station as well as of the ENG recorder itself, it is of prime interest to the broadcaster to study the mechanics of bit-rate reduction for the digital video signal at ENG quality levels.



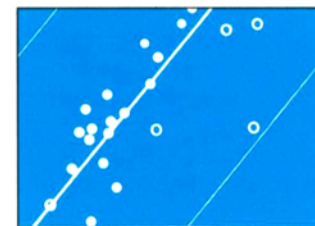
- 360 **The Fully-Computerized Studio** • *R. S. R. Saltarelli* • The use of remote camera-control systems for news studios, enabling an operator to reposition the camera and recall preprogrammed positions remotely, is well established. By expanding camera-control systems to include the capability to control other broadcast machines, substantial production cost savings can be made. This article examines the principal features of an integrated machine and camera-control system, starting with some design aspects of servo-controlled pan-and-tilt heads and communication techniques and concluding with examples of systems for use in news studios and legislatures.



- 366 **Television Signal Transmission: Another Technology in Transition** • *C. R. Paulson* • The National Television Standards Committee (NTSC), working in the early 1950s, could not anticipate the technological innovations in analog and digital signal generation, transmission, processing, and recording that are now required to produce television programs that will attract viewers. These practices unfortunately produce undesirable artifacts (NTSC footprints) in the NTSC signal as it proceeds through generations of rerecording and transmission.

(Analog Component)
RGB
CAV (color difference)
S-MAC
Y/C 688 (kHz)
Y/C 3.58 (MHz)
HDTV/EDTV/ACTV

- 371 **Evaluation of TV System Colorimetric Performance** • *B. Hisdal* • The average performance for groups of color samples is often used in the evaluation of colorimetric color-reproduction quality in TV. An experimental investigation regarding this use of group averages is described here, referring to data for a broadcast-quality TV system with perfect cameras and real monitors. For two groups of eight samples each, it is shown that the average does not give more information about whether the performance is satisfactory than a single sample of skin-tone chromaticity gives.



- 376 **Real-Time Multilevel Digital Compositing: Quality Issues** • *P. D. Symes* • This article examines issues affecting the quality of composited images in the digital domain and solutions implemented in the Grass Valley Group (GVG) digital compositing systems.

A previous paper discussed the advantages when compared with "one layer at a time" architecture of a system designed to provide the digital domain. This article examines its composited images in the digital domain at the Grass Valley Group (GVG) digital.com

- 378 **Computer-Aided Design in Facilities and System Integration** • *E. Webster and R. Jones* • This article examines how computer-assisted drafting (CAD) and computer-assisted engineering (CAE) programs can be used to streamline television system and facility design. Hardware considerations, basic system components, typical CAD workstation software, and system design applications are discussed. Facility architectural and television system design, with and without the use of CAD/CAE software, is outlined.

