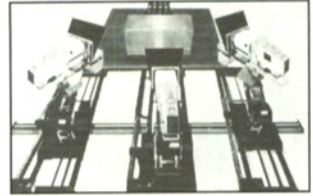
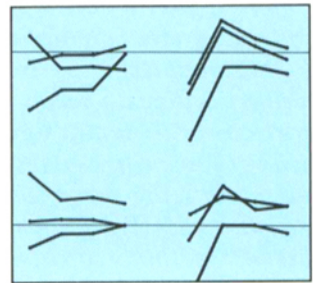


# Highlights

- 180 Objective Measurement Methods of Motion Artifacts for 45-Mbit, NTSC, DPCM, Bit-Reduction Video Codecs** • *H. Meiseles* • Measurement methods are presented for objectively testing the effects of the motion prediction algorithms used in bit-reduction video coder/decoders (codecs) employing differential pulse-code modulation (DPCM) quantizing of NTSC signals. The objective testing method described utilizes a series of new test signals for measuring the video distortions of dynamic signals as a result of the bit-reduction process.



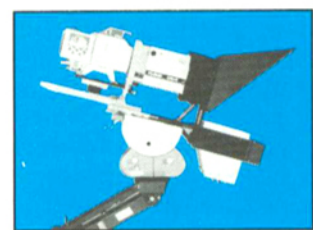
- 191 Control and Prediction of Film Density and Color Balance in the Developing Process** • *L.-E. Kjellström* • When the Swedish Television Film Laboratory moved into new premises in 1983, a new technique was initiated to prevent pollution from developing agents. After some time there were increasing difficulties in keeping the control strips within limits. A survey of the working developing solutions was carried out in order to overcome this problem. The survey is a systematic procedure for determining the effects of mechanical and chemical variations on film densities. It was applied to the ECN-II process. The experimental part yielded the basis for an equation system, the solution of which is the key to a single corrective step.



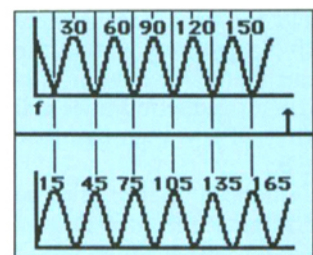
- 200 A Portable Prompter System Equipped with a Liquid Crystal Display** • *T. Seo and T. Kuwata* • Prompter systems have become indispensable for various kinds of news productions. In general, ordinary prompter systems are equipped with cathode ray tube (CRT) monitors. These often cannot be used easily out-of-doors because of their weight and size. A new 12-in. liquid crystal display has been developed that has made possible a remarkably compact prompter system, which has both high operational performance and mobility. This portable prompter has played an important role in many field applications since the summit meeting between the U.S. and the USSR in 1985.



- 203 NBC Camera Robotics System** • *R. Lowe* • The robotic camera-control system described is based on *XY* tracking, which solves the problems of cable management and positional feedback. A compact, lightweight scissor mechanism controls camera height, permitting the full range of height movement of a standard pedestal. The system is designed for single-operator control of four cameras. Safety problems were solved by use of a multilevel system that includes a surveillance camera, infrared proximity sensing, and current limiting of motor drives. Future expansion will allow interface with other automation systems.



- 209 Time for Two: A Video TDM System that Maintains Spatial and Temporal Resolution for Two Pictures from Different Uplinks** • *R. J. Butler* • As satellite systems grow, the space segment must be increased. Many have tried to overcome their need for additional transponders by utilizing frequency division multiplexing (FDM) of two video signals on the same transponder. This solution, although technically straightforward, reduces the downlink RF power and significantly modifies the operating parameters of the earth stations involved. This article describes a system that also provides synchronous switching between two separated uplinks, while still maintaining spatial and temporal resolution of the picture.



- 214 The Motion-Picture Industry and Technology in the USSR** • *A. A. Chernoyarsky and V. G. Komar* • The development of cine technology in the USSR is governed at present by the wide interests of the motion-picture industry, by the high level of cinema attendance which requires a significant volume of film titles, by the need for films made for television, by the building of new theaters, and by the reconstruction of older studios. The industry is developing and manufacturing improved cameras, camera lenses, lighting equipment, sound recorders and reproducers, release printers, and cine projectors. New technology is being pursued to provide higher image and sound quality, to automate all motion-picture processes, to produce 3-D motion pictures, and to record and play back stereophonic sound.

