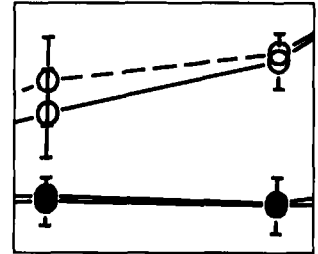
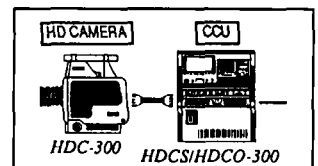


Highlights

5 Requirements for Static and Dynamic Spatial Resolution in Advanced Television Systems: A Psychophysical Evaluation • *L. B. Stelmach and P. J. Hearty* • One approach commonly used in the design of advanced television (ATV) systems, that of spatiotemporal subsampling, provides high static spatial resolution at the cost of reduced dynamic spatial resolution. This article describes the results of two psychophysical experiments which demonstrate that the viewer's visual spatial acuity for the stationary and moving portions of a television program depend critically upon the patterns of eye movements the viewer employs while watching the program.



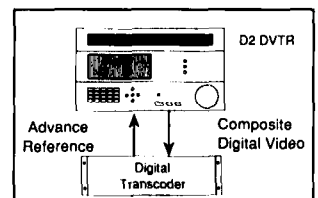
10 HDTV Digital Frame Recorder • *M. Klingelhofer and V. R. Perry* • This article describes the newly developed high-definition digital frame recorder, the Sony HDDF-500. It was developed as a versatile new tool, based on the SMPTE 240M 1125-line, 60-Hz standard for HDTV. The three-channel (G, B, R), equal-bandwidth recording system uses dynamic RAM memory to capture images from a real-time analog or digital source.



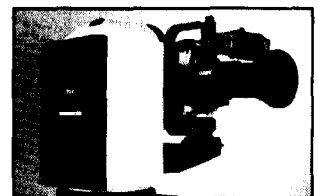
14 Stereoscopic HDTV: Experimental System and Psychological Effects • *S. Yano and I. Yuyama* • An experimental stereoscopic television system equipped with high-definition television (HDTV) facilities has been developed for basic study of future broadcasting services. A short program was produced experimentally to investigate production methods. Study of the psychological effects of stereoscopic vision indicates that a higher-definition television system with a larger screen is necessary for the system. Compared with conventional two-dimensional television, stereoscopic television yields superior picture quality.



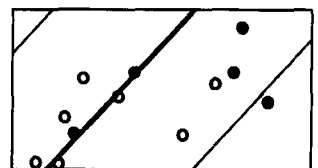
19 A Complete Post-Production System for All Video Formats • *M. M. Guess* • There are many video formats in use throughout the world today. These include analog and digital representations of composite video, several versions of component analog video, and component digital video. Grass Valley Group has developed a family of products that can take advantage of this extensive collection of video formats. The Kaleidoscope and Kadenza systems were designed with multiple video-format inputs and outputs in mind.



23 Robotic Camera Control — A News Director's Tool • *R. Saltarelli* • Robotic camera control systems are being installed in news studios to increase efficiency and make better use of available manpower. Robotics can also help the news director produce more interesting programs. Coordination of elevation and dolly movement with pan and tilt allows creative shots of anchor desks. Newsrooms can be programmed and replayed with the knowledge that the intended effect will be faithfully reproduced.



27 Colorimetric Evaluation of TV Light Sources • *B. Hisdal* • An International Commission on Illumination (CIE) method for assessing the colorimetric properties of TV light sources has been used to classify the color reproduction performance for 30 common TV sources. In the method, performance evaluation is based on the average result for two skin tones and the average for a group of 18 color samples.



33 SMPTE Commemorative Paper • The First Recipient of the Society's Journal Award — 1934 • An Introduction to the Experimental Study of Visual Fatigue • *P. A. Snell* • Previous work has shown that fatigue of the visual process as a whole is not directly measurable; it is therefore necessary to adopt the alternative method of studying the individual processes involved in vision. An analysis of the studies so far made on these unit functions shows that the motor processes involved are not readily fatigued; ineffective activity of these processes, however, rapidly leads to sensations of fatigue.

