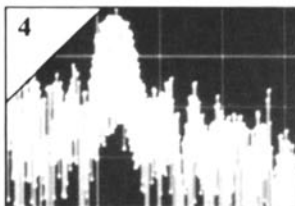




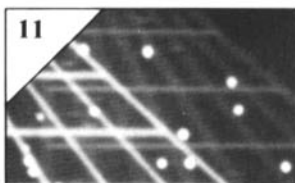
HIGHLIGHTS



Fiber-Optic HDTV Transmission Technology

T. Tsuboi, K. Asatani, and T. Miki

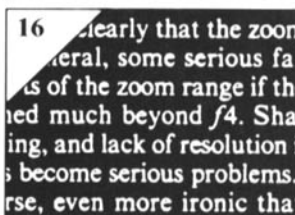
HDTV is expected to be the next-generation television system. This article presents major fiber-optic technologies for HDTV transmission and concepts for an HDTV distribution system, as well as the main HDTV experiments in Japan. A system, employing a time-compression multiplexing format, has been developed in Japan and is being field-tested. Design concepts for HDTV distribution networks and future applications are also discussed.



Broadening Video/Graphics Applications

E. Leonard

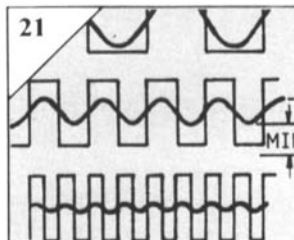
Expansion of the role of video, while opening new markets, has also suggested new system and technical considerations. New tools for the creation, transmission, reception, and interaction of people with video are being developed, and the number of potential providers of video is increasing. This article explores the expanding marketplace and the changing characteristics of video production in the new environment. A system designed to explore the new requirements is described.



Some Factors in the Evaluation of Image Quality: A British View

C. P. Daubney

This article presents a British point of view on broadcast engineering standards in use in the U.K. and particularly within its Independent Broadcasting System. The article concentrates on some of the factors which need to be taken into account in evaluating image quality, the main areas of interest being signal origination, transmissions, and display. The differences between electronic and film pictures are considered, as are some of the problems being encountered in the move from analog composite picture transmission to digital component transmissions.



Minimum Resolvable and Minimum Detectable Contrast Prediction for Vidicon Cameras

W. W. Frame

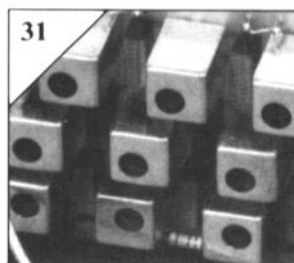
This article develops an analytical method for accurately modeling a vidicon system, and enlarges upon the results found experimentally in an earlier article on the low-contrast video image sensor's performance and considerations. A method for analytically handling aperiodic targets small enough to be degraded by camera resolution is developed. This method can be easily understood from both a mathematical and physics standpoint, which helps maintain insight into the system's analysis and design.



Application of Personal Computers in Engineering

M. W. S. Barlow

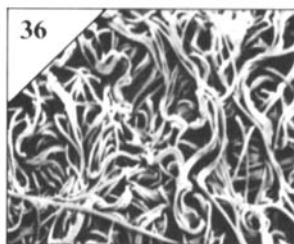
A number of self-contained personal computers have been in use at the Engineering Headquarters of the Canadian Broadcasting Corp. for three years. The uses to which they are put and the reasons for using them are discussed, with emphasis on why similar results would not be achieved so conveniently with large mainframe computers.



Digital Video Supertrunking on Single-Mode Optical Fibers

S. D. Personick, A. Jalali, T. V. Muoi, D. Arstein, and A. Jackson

This article describes the transmission of six video signals in digitized format over a single-mode wavelength multiplexed fiber system using advanced electronics and optoelectronic technology. Also described is the equipment developed for the system, including converters, electronic multiplexing equipment, optical transmitters and receivers, and wavelength multiplexer and demultiplexer.



New Developments in the Filtration of Photochemicals

J. I. Edens

This article describes two basic improvements in the filtering of photographic chemicals in large-scale applications. The first is a new filter vessel construction using a recently developed high-strength composite material called tensioned fiber reinforced plastic (TFRP). This eliminates the corrosive effects of photographic chemicals and reduces the pressure drop normally associated with metallic filter vessels used in high-pressure, high-temperature applications.