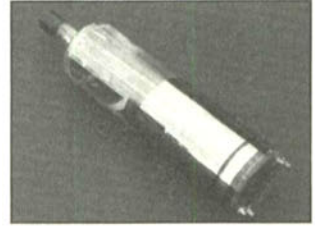
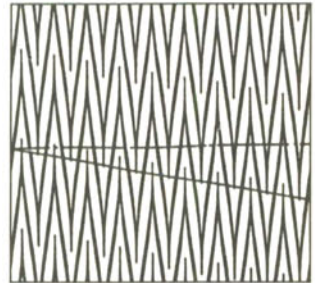


Highlights

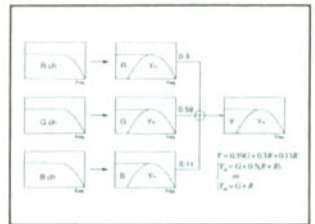
708 Television Camera Tubes — A History But Not Yet an Obituary • R. G. Neuhauser • The development of a practical and useful camera tube was the event that made the introduction of television possible. Although systems not involving a camera tube could be and were developed to produce a television image from films, they did not meet the need for a device that translates a live image into a television picture. The television cameras developed involved a series of significant discoveries and inventions resulting in the cameras that are widely used today.



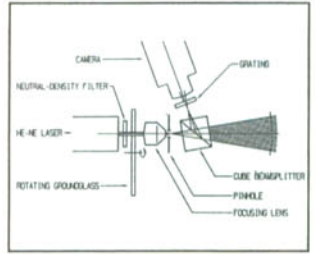
723 High-Sensitivity HDTV Camera Tube with a HARP Target • N. Egami, T. Yamagishi, S. Okazaki, K. Tanioka, M. Kurashige, K. Oku, and S. Ehata • High-definition television (HDTV) cameras must have a high signal-to-noise ratio (SNR) and considerable depth of focus. Conventional cameras with Saticon® tubes cannot satisfy these two contradictory requirements, because the sensitivity of the tubes is insufficient. In order to make a better HDTV handheld camera, a new combination of electron optics and the high-gain avalanche rushing amorphous photoconductor (HARP) target is proposed. A 2/3-in. (18mm) magnetic-focus electrostatic-deflection (MS) system provided with a unique axial-twist pattern-yoke was devised to conform with a HARP target.



727 Broadcast-Quality TV Camera with Digital Signal Processor • S. Nishikawa, H. Toyoda, Y. Miyakawa, R. Asada, Y. Kitamura, M. Watanabe, T. Kiguchi, and M. Taniguchi • A broadcast-quality TV camera (AQ-20) with digital signal processing has been developed by Panasonic. This article describes the camera and its digital signal-processing technology, which gives it advantages over the conventional analog TV camera and provides high stable picture quality and reliability while allowing centralized control user setting memorization and easy, maintenance-free operation.



734 From 525/625 TV Lines to HDTV: The Evolution of Optical Requirements for TV Cameras • B. Angenieux and G. Corbasson • Two important requirements make HDTV lenses different from present television lenses. First, the picture is wider, and although the image may be scanned over the same sensor diagonal, the 16.9 aspect ratio makes it necessary to correct distortion better. Second, the quality of HDTV has to be twice as good; the same modulation transfer function (MTF) must be maintained, although the spatial frequency is twice as high. This article explores in some detail what is needed and what can be done so that the lens does not limit the performance of the HDTV system.



739 New News Studios at NHK • R. Yoshida • Japan Broadcasting Corp. (NHK) began planning the renovation of its news studios in 1982, and the modern News Center, including news studios and related facilities, was put into operation in February 1989. The work of the new center is totally computer-supported, with centralized information management and parallel processing of program production. This article describes the system design, system functions, and configuration of the new facility, which features the latest technologies and procedures for news program production.



744 Instrumentation for Monitor Calibration • J. J. Kane, Jr. • The SMPTE Working Group on Professional/Studio Monitors has evolved a Recommended Practice (RP) document for calibrating Type-A picture monitors used in critical viewing applications. This RP advocates the use of instrumentation in the monitor calibration procedure as the most expedient way of obtaining consistency of picture quality throughout the industry. Actual use of this instrumentation, without a knowledge of its limitations and how to get around those limitations, will not fulfill the promise of the document. There is still no substitute for knowledge of the NTSC color system and what it takes to make the system function properly.

