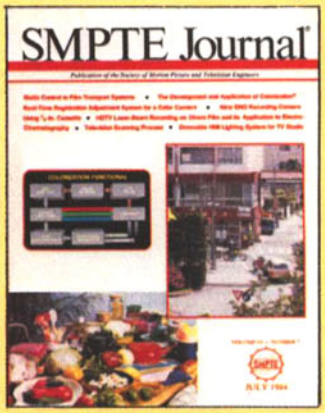
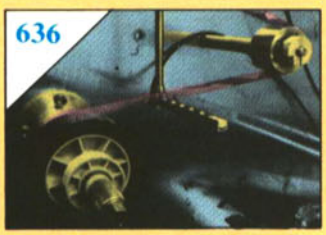


HIGHLIGHTS

The Development and Application of Colorization®

W. Markle

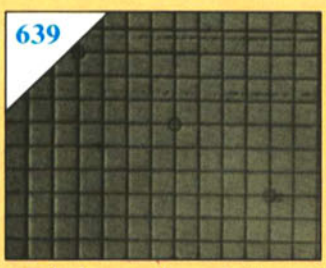
This article describes the newly developed process of Colorization®, which utilizes modern computer technology to transform black-and-white motion pictures into color videotapes. A brief overview includes the role of the art director in determining the color needs of a scene, and the function of the computer in electronically adding the necessary colors. Many of the classic B&W films will thus be available to modern television audiences in color.



Static Control in Film Transport Systems

K. L. Clum, H. R. McNair, and J. P. Pytlak

The control of static charging of motion-picture films has become more important with the trend toward high-transport-speed systems. This article describes the mechanisms of static buildup and methods of static control. Problem areas in the lab operation — including processed film, high web speeds, low humidity, and unclean environment — and some possible solutions are discussed.



Real-Time Registration Adjustment System for a Color Camera

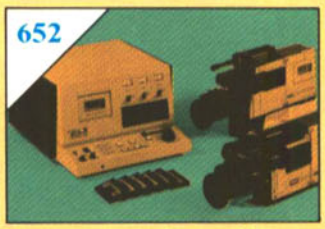
K. Iwabe, K. Yamauchi, and F. Ukigaya

This article describes the real-time registration adjustment system developed for a three-tube color camera. Until now, the amount of the "dynamic" registration error exceeded 0.1% in Zone 1 and sometimes 0.5% in Zone 3, degrading the picture quality. With this system, the errors are decreased to within 0.05% in Zone 1, and to 0.1% in Zone 3. For real-time operation, correction signals are calculated in 10 msec by the "curved surface approximation" method, and are sent to camera deflection circuits every 0.05 sec from a built-in microprocessor.

HDTV Laser-Beam Recording on 35mm Color Film and its Application to Electro-Cinematography

Y. Sugiura, Y. Nojiri, and K. Okada

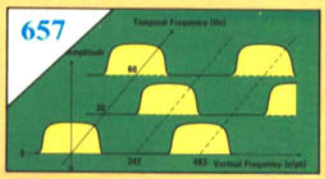
A laser-beam recorder has been developed by NHK which transfers high-definition television signals to 35mm motion-picture film. This device can expose slow and fine-grain 35mm color film, such as color print film or color internegative film, so that the picture quality of recorded film is superior to that of the conventional recorder.



New ENG Recording Camera Using a 1/4-in. Cassette

M. Inatsu, T. Kawamura, S. Kasai, T. Tominaga, H. Noguchi, and N. Sakuraba

In developing a single-piece camera/recorder combination, the most important goals are small size, light, weight, and low power consumption, combined in a system which maintains high broadcast-picture quality. For the camera section, a 3-MOS model, featuring small size and light weight, and a 2/3-in. 3-tube model with high sensitivity and high signal-to-noise ratio have been developed. For the videocassette recorder (VCR) section, a 1/4-in. CVC cassette with a metal tape of high coercive force is utilized to provide small size, light weight, and 10 min of recording time.



The Television Scanning Process

G. J. Tonge

In the sampling of television signals for digital processing, a trade-off exists between maximum signal bandwidth and low aliasing distortion and filter ringing levels. This is discussed in relation to television scanning, which in itself is a sampling procedure. The Kell factor is reviewed, and techniques are outlined that will improve picture quality by increasing the Kell factor.

Dimmable HMI Lighting System for a TV Studio

K. Ryu

This article gives a brief overview of the HMI lighting system used at the new broadcasting studio of the Television Iwate Corp. in Japan. The studio has special requirements in that it is full of natural daylight, and it is necessary for the color temperature and illuminance of the lighting equipment chosen to completely match this light. Various kinds of lighting systems are evaluated, and the advantages of the dimmable HMI lighting system now in use are described.