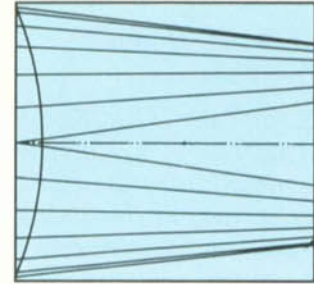
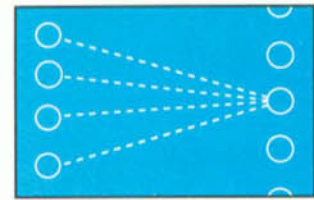


# Highlights

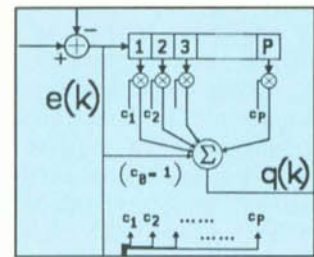
- 428 Designing a 65mm Motion-Picture Camera: The ARRIFLEX 765 • K. H. Ropin**  
• Design of the ARRIFLEX 765 65mm camera was a challenging engineering task. This article outlines how a single pulldown claw can accommodate rates of 2 to 100 frames/sec at standard loop adjustment. Development of this pulldown claw involved determining the force rate required and designing a film-transport system having a double-sided, one-toothed registration pin and a double-sided, three-toothed pulldown claw. Picture steadiness of  $<0.1\%$  of frame height and noise level  $<25$  dBA at 24/25 frames/sec were achieved. Use of ball bearings rather than slide bearings makes the camera maintenance-free for an extended period.



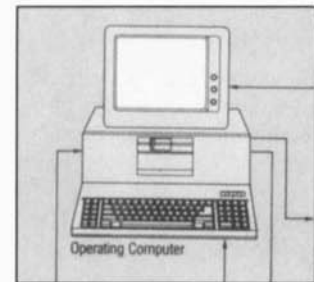
- 438 Common Image Format for International Television Program Exchange • S. N. Baron and K. H. Powers**  
• A proposal is made for a set of high-definition production and international television program exchange standards that incorporate the concept of common image format (CIF), but also employ a common data rate (CDR) for recording and distribution. The issues of processing headroom, blanking transitions, and line-rate conversion to other formats and standards are examined.



- 442 Reduction of Multipath Effects and Channel Distortion in Broadcast Television • M. Pazarci**  
• A new technique for the adaptive recursive removal of ghosts, using look-up and decision-based adaptive assignment of the parameters of the recursive algorithm, is described. A coarse channel estimation is used to select the initial parameter set. The algorithm requires a training signal in the vertical blanking interval. A master control algorithm keeps track of the echo-channel and system parameters and makes the necessary control decisions and echo assignments. Two-axis synchronous detection is used, and the echo-reduction operation is performed in the baseband.



- 448 The M.A.R.C. II System: A Modular Multiple Robotic Record/Play Videocassette System • P. Livingston, M. Notani, M. Min, and M. Mifflin**  
• Given that broadcast television operations are looking increasingly toward automation as an alternative mandated by economics, the previous generation of automatic cartridge or cassette playback systems have become outdated. By building on existing robotic technology, a reliable, deliverable system has been brought to fruition. By utilizing a modular library, the system can be configured to meet individual requirements, and combining off-the-shelf operating system software with a readily available desktop computer has contributed to the rapid development and reliability of the overall system.



- 453 The Care and Handling of Hazardous Nitrate Film at UCLA's Unique Projection Facilities • J. Daily**  
• The UCLA Film Archive houses many nitrate films that are screened regularly in the university's Melnitz Theater. Since nitrate prints are extremely flammable, precautions must be taken each time they are projected. When nitrate burns, it produces its own oxygen and therefore cannot be extinguished. The Melnitz projection booth required extensive modifications in order to meet safety codes required for screening nitrate films. The modifications included the installation of a steel fire door with ports, which is lowered into position when nitrate film is present in the booth. A special interlock system was designed to prevent projection of nitrate if the fire door is not in position.



- 457 Todd-AO: A History • J. Belton**  
• Using 65mm camera film, specially designed wide-angle lenses, and six-track stereo magnetic sound, the Todd-AO system was first used to film *Oklahoma*, which was released in 1955. The success of this and a handful of subsequent Todd-AO films led to the introduction and establishment of a new wide-film standard of 70mm, which survives today as a major format for motion-picture presentation in the theater.

