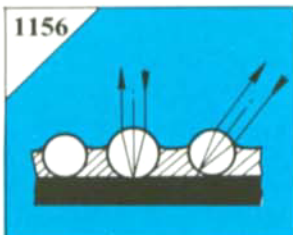


Highlights

1156



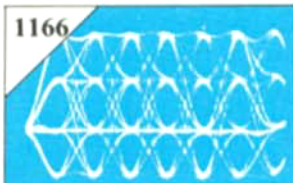
Blue-Max High-Power Blue Flux Projector for Large Scale Bluescreen Composite Photography

J. Erland

In the eight years that have elapsed since the release of the motion picture

Star Wars, the compositing technique known as "bluescreen" has enjoyed a phenomenal growth. Greater sophistication in the application of this technique has, in turn, led to greater demand for it. One of those demands, heretofore difficult to meet, has now been satisfied: bluescreen on a large scale — 50 × 150 ft or larger.

1166

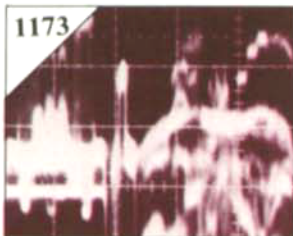


B-MAC: A Transmission Standard for Pay DBS

K. Lucas

The introduction of direct TV broadcast by satellite (DBS) offers a unique opportunity to provide vast improvement in the quality and range of services provided and to pave the way to higher definition transmissions in the future. This may be achieved by employing a transmission standard which is optimized for the DBS medium, thereby providing high-quality services appropriate to the video, audio, and data equipment available to the consumer now and in the foreseeable future. Compatibility with conventional TV receivers can be provided in the decoder by transcoding to the current transmission standards using large-scale integration (LSI) techniques. This article describes a DBS transmission format which has been designed to satisfy these criteria.

1173

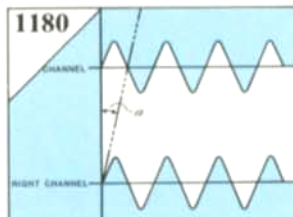


The D2-MAC-Packet System for All Transmission Channels

J. Sabatier, D. Pommier, and M. Mathieu

After almost five years of research carried out within the European Broadcasting Union (EBU), the CCETT in France has developed a new DBS transmittal system for all channels. The D2-MAC-packet system, as it is called, joins other segments of the MAC family developed by the EBU. Its features include four simultaneously broadcast channels, improved picture quality, capability of transmittal over various cable networks, the same standard for VHF-UHF broadcasting, and no absolute limitation on bandwidth reduction. A brief summary of the various stages of the system and its characteristics is given, together with some practical results and measurements obtained in DBS, in VHF, and in MATV or CATV.

1180

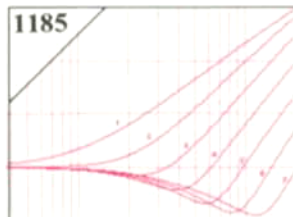


A Digital Audio Time-Base Corrector for Linear Magnetic Recording

T. J. Rosback

Audio time-base correction is an encode/decode process designed to electronically eliminate tape-path azimuth error and the resultant mono sum losses. Flutter is reduced to inaudible levels. A 19-kHz carrier signal is 60% amplitude-modulated by a 300-Hz sinusoidal waveform. This AM pilot signal is encoded onto the left and right audio tracks at -27 dB related to 160-nW/m fluxivity. When an encoded tape is replayed through the complementary decoder, the phase difference between left and right pilot signals is detected and used to servo one of two voltage-controlled digital audio delay lines. The relative left-right delay is adjusted to eliminate phase error. FM components of the pilot signal are demodulated with a phase-locked-loop decoder.

1185

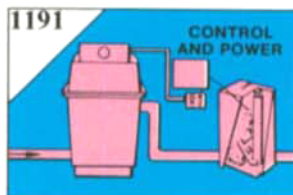


An Audio Broadcast System Using Delta Modulation

K. Gundry

Digital systems are attractive for the delivery of high-quality audio to the home because they can be substantially transparent even under conditions of impaired reception and because they permit scrambling without degradation of quality. Conventional multi-level pulse-code modulation (PCM), with its precise digital/analog converters (at least 13 bit), elaborate output filters, and complex error correction, can perform well, but its cost is much higher than that of consumer audio circuitry. This article describes a digital transmission technique based on delta modulation, whose decoder cost is a small fraction of that of a PCM system.

1191



Automatic Control of Silver Recovery

D. J. Degenkolb

This article describes a device for automatic silver recovery designed by the author. The Silver Controller continuously measures the silver concentration in the fixed bath and automatically provides three levels of control. In addition to adjusting the current density or the number of cells in operation automatically, the controller provides a digital display of the silver concentration in grams/liter. Also discussed are the use of a differential silver sensor system, a reference solution, and the operation and internal functions of the controller.