



Video Equalizing and Correction Amplifier Type BD929



A twin-unit assembly.

As the standards of performance of equipment in a television system are increased, the situation is approached when the quality of reproduction of the final picture may be determined largely by the limitations of the system in use rather than the equipment. As this point is reached, it becomes desirable to pre-correct the video waveform to counteract certain inherent distortions. One of the most important of these is due to the undesirable phase-delay complications introduced by the amplitude-frequency characteristic of the transmission system.

In addition, the excessive attenuation introduced at high video frequencies by considerable lengths of co-axial line requires correction, and it is also essential to avoid the radiation by a transmitter of any frequencies outside the allotted channel. Due to the excellent quality of modern television equipment these can easily exceed the permitted level due to high video frequencies modulating the transmitter.

Correction for each of the above conditions is provided in the Type BD 929 Video Equalizing and Correction Amplifier.

FACILITIES

Fixed phase correction network with slight residual adjustment.

Out-of-band radiation filter.

Adjustable amplitude equalization available at pre-set points in the video band.

Fixed receiver correction network can be switched into circuit.

CONSTRUCTION

The basic unit is contained in a frame for 19-inch rack mounting. Two units may be mounted in each frame to provide correction on a station with two vision transmitters in parallel, or as main and standby. Where only one unit is required the remainder of the frame may be obscured with blank panels.

The unit is inserted into the frame from the front, contact being made by an 18-way connector mounted at the rear.

Each unit carries a built-in power supply.

CIRCUIT

The video signal from the programme input equipment is fed into a 75-ohm input to the unit. The first network is the out-of-band radiation filter, supplied for the system in use. Fixed phase correction is included to correct for distortion due to the sharp cut-off of this network.

A second filter is supplied to compensate for the phase distortion introduced by a typical domestic receiver.

The third filter compensates for phase distortion inherent in the transmission system.

High-impedance variable equalization follows, together with a limited amount of adjustable phase correction. The signal is

then passed through a video distribution amplifier providing two outputs.

Data Summary

Input: Signal from programme input equipment, nominally 1 V p-p in 75 Ω .

Output: Corrected and equalized video signal at 1 V p-p in 75 Ω . Two outputs.

Gain: -3 dB to +6 dB. Normally operated at 0 dB.

Fixed correction circuits:

1. Out-of-band radiation filter (supplied to suit system in use).
2. Receiver correction network.
3. Transmitter phase correction filter.

Typical equalization:

(a) Pre-set 0 to +3.5 dB at 5 Mc/s, with additional +3 dB available for cable equalization.

(b) Variable 0 to +2 dB at 2 Mc/s.
-3 to +2 dB at 5 Mc/s.

Variable group delay: ± 75 millimicroseconds at 5 Mc/s.

Dimensions (in mounting frame):

Height 7 $\frac{1}{8}$ in. (18 cm)

Width 19 in. (48.3 cm)

Depth 15 $\frac{1}{4}$ in. (38.7 cm)

Weight (approx.): 9 kg with one amplifier
16 kg with two amplifiers.

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