Grey Scale Generator
Type BD867

7621

THIS GENERATOR produces an electronic grey scale the steps of which may be varied from a minimum of five to a maximum of sixteen between black level and peak white. The equipment has a number of uses for television testing.

The outputs available from the generator are as follows:

(1) Stepped grey scale signal for setting up a film-recording channel and checking its overall contrast characteristic.

(2) Stepped grey scale signal with a sine wave superimposed, for differential gain and phase measurements.

(3) Sawtooth signal for linearity measurements.

(4) Sawtooth signal with a sine wave superimposed for differential gain and phase measurements.

(5) Blanked sine wave signal, at one of eight switch-selected frequencies, for measuring the frequency response of a television channel including clamp circuits.

GENERAL

The unit is assembled on a vertical chassis. It is suitable for mounting as a recessed panel (using return assemblies) in a standard rack or cabinet, or it may be accommodated with other panels in a mobile case. Printed wiring technique has been employed. The components are protected by a detachable metal cover. All operating controls are mounted at the front.

CIRCUITS

The generator operates from blanking, line drive or external drive pulses. The incoming pulse, after amplification and reshaping, is used to trigger a multivibrator which produces a variable number of pulses corresponding to the number of steps required in the final signal. Blanking or line drive is then mixed into the signal, which is clipped and used to drive a sawtooth generator to

produce a series of small sawtooth signals. These signals are fed to one side of a differential amplifier. A large sawtooth signal, each sawtooth occupying a complete line period, is produced by a second sawtooth generator. Both sets of sawtooth signal are subtracted in a differential amplifier. The effect is to produce a signal having a series of steps, of controllable slope.

Sync. pulses may be added at the required amplitude to provide a composite output signal.

A phase-splitter fed by the drive amplifier provides pulses which can be mixed on to the signal in the output amplifier to provide adjustable set-up.

The drive amplifier also triggers a quenched RF oscillator, the output of which may be superimposed on the output step or sawtooth signal or may be used itself, with blanking added, as an output signal.

DATA SUMMARY

Inputs:

(*a*) 101–121 V or 206–254 V, 50 or 60 c/s AC supply (Consumption 30 VA)
(*b*) 250 V Regulated HT DC (225 mA)
(*c*) Line drive
(*d*) Blanking pulses } Bridging inputs
(*e*) Sync.
(*f*) Two external drive sources.

Outputs:

(*a*) Stepped grey scale signal (5 to 16 steps), adjustable from 0 to +6 dB rel. to standard level, into 75 Ω.
(*b*) Sawtooth waveform, adjustable from 0 to +6 dB rel. to standard level, into 75 Ω.
(*c*) Blanked sine wave signal. Amplitude adjustable up to 1 V.

These outputs can be composite or non-composite, with or without set-up. Set-up may be positive or negative. Outputs (*a*) and (*b*) can also have superimposed sine waves at one of the following frequencies: 100 or 500 kc/s, 1, 2·5, 3·5, 5, 7 or 10 Mc/s. Amplitude of sine wave adjustable up to 1 V.

Dimensions:

Height	Width	Depth
7 in.	19 in.	9½ in.*
(18 cm)	(48 cm)	(24 cm)

* *Rack-mounted version, using return assemblies.*

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