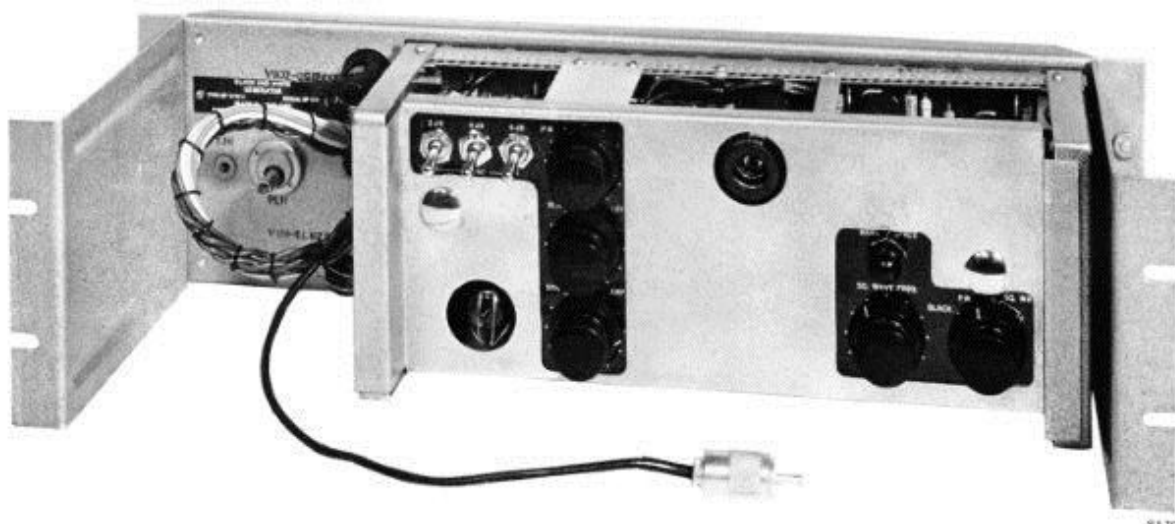




## Black/white Generator Type 3391



8139

THIS UNIT produces a waveform for testing the transient response of television equipment at low frequencies. The output signal corresponds to the C.M.T.T. Test Signal No. 1. Type 3391 is built on a 19-inch (48 cm) recessed chassis suitable for rack-cabinet mounting.

### Features

Major circuit elements contained on a printed-wiring board, enhancing reliability and conserving space.

Output is a composite signal with either peak white or black level or picture signal alternating between preset white and preset black at a controlled rate, variable between 0.125 c/s and 250 c/s.

Blanking level datum and sync. pulse amplitude are maintained constant, independent of picture content.

Suitable for 405, 525 or 625-line systems.

Circuit consists of two generators, for sync. and blanking pulses respectively, whose output is combined.

### CIRCUIT

A single printed-wiring board carries all the main circuit elements. The two generators are combined across a terminal impedance. By this means intermodulation between the generators has been virtually eliminated.

One generator deals with synchronizing pulses, while the other generates the blanking pulses, the amplitude is controlled to give either black or white signals.

A multivibrator is provided to produce switching between black and white at a controlled rate, via a pair of cathode followers operating as a switching circuit.

### Data Summary

#### Inputs:

- 100-125 or 200-250 V, 50-60 c/s, single-phase a.c (5 V steps).
- Mixed sync. pulses, 2 V or 4 V.
- Mixed blanking pulses, 2 V or 4 V (bridging inputs).

**Outputs:** Composite output, peak white 0.5-0.85 V, black 0-0.5 V, sync. 0.1-0.5 V.

**Rise and fall time:** Not greater than 0.2  $\mu$ s.

**Overshoot:** Less than 3%.

**Sync. pulse compression:** Negligible.

**Slow square-wave frequency:** 0.125-6 c/s.

**Fast square-wave frequency:** 6-250 c/s.

**Calibrated sync. pulse attenuator:** 0-12 dB in 2 dB steps,  $\pm 2\%$

#### Output stability:

*Reduced blanking.* From 4 V to 0.7 V without effect.

*Reduced sync.* From 4 V to 1.1 V without effect.

*D.C. datum.* Blanking level datum and sync. pulse amplitude unchanged by black/white changes. No field variations on syncs. Negligible tilt during field blanking.

#### Dimensions:

Height 5 $\frac{1}{4}$  in. (13.4 cm)

Width 19 in. (48 cm)

Depth 10 in. (25.4 cm)

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