

VHF/UHF Sweep/Signal Generator

- 1 to 500 MHz and 450 to 950 MHz
- Calibrated Output (+ 57 to - 33 dBmV)
- Excellent Flatness and Linearity
- Complete Crystal Marker System
- Features for CATV Applications

1 to 950 MHz Frequency Range

The solid state Model 1801B Sweep/Signal Generator provides features and options ideally suited for the manufacturer of TV and CATV equipment and for the installers and operators of CATV systems.

The optional 450 to 950 MHz range adequately covers the bands of the future.

Calibrated Output

The ultra flat (± 0.25 dB, 1 to 500 MHz) 75 Ω output system is calibrated from + 57 to - 33 dBmV. A three position front panel level switch permits the output level to be increased or decreased by an identical fixed amount (internally adjustable to provide changes ranging from ± 0.05 to ± 0.5 dB). This fea-

ture aids in flatness measurements by providing an accurate, rapid calibration reference which is unaffected by the return loss of the test device or system. A dc block on the RF output prevents accidental equipment damage.

Marker System

The crystal controlled birdy marker system may be used to modulate (blank) the RF output so both sweep and markers are on a single cable. This is very useful for an accurate frequency indication when sweeping long lines or cable systems.

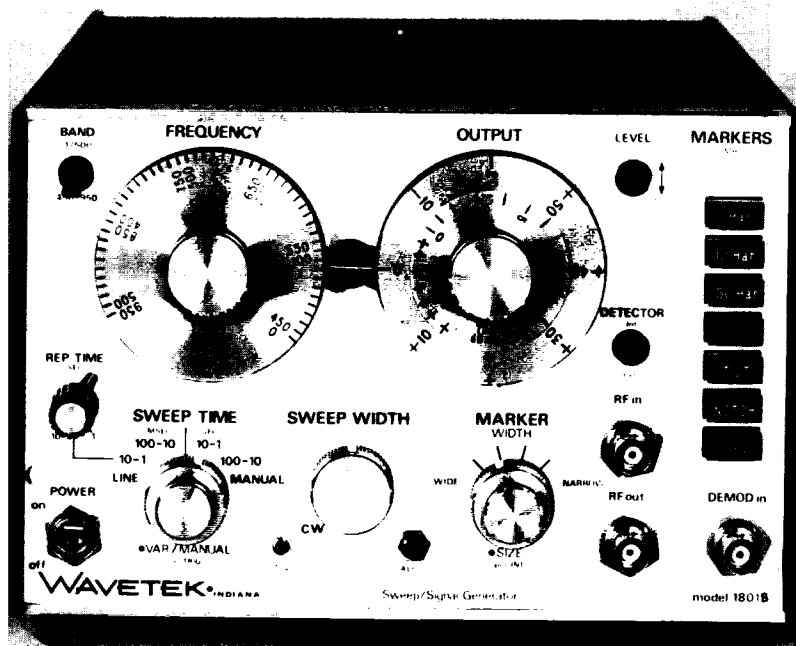
Sweep Rate Versatility

The Model 1801B will sweep at line frequency or as slow as 1 sweep in 100 seconds. In addition, a special sweep rate position provides a vari-

able 1 to 10 ms sweep that repeats every 1 to 10 seconds. This is ideal for simultaneous sweep testing of operating cable systems with minimum subscriber interference. The Model 1801B may be used with any available sweep receiver.

Special CATV Feature

The Model 1801B can operate in conjunction with the Model 1075 or 1076 Comparator-Attenuator. When the Model 1075 is plugged into the Model 1801B, the PIN diode attenuator is time shared with the equalization, tilt and 0.1 dB attenuator by the comparator. The Model 1801B will accept the tilt, notch filter and pulse marker options that are very desirable in most CATV test applications. For further information, see page 203.



MODEL 1801B

SWEEP GENERATORS

RF FREQUENCY

Frequency Range

1 to 500 MHz.
450 to 950 MHz (optional).

Dial Calibration

10 MHz/div with 5 MHz vernier.

Accuracy

10 MHz or 2% of selected frequency (whichever is greater).

Sweep Width

200 kHz to 500 MHz.

Display Linearity

2%.

Spurious Signals

-30 dB above 10 MHz.

Residual FM

Less than 7.5 kHz peak.

Drift

Less than:
100 kHz for 5 minutes;
2 MHz for 8 hours.

NOTE: At a constant temperature after 1/2 hour warm-up.

Blanking

Blanking of RF output during retrace; removed for CW operation.

RF OUTPUT

Maximum Output Amplitude

+57 dBmV, 0.7 Vrms.

Output Flatness

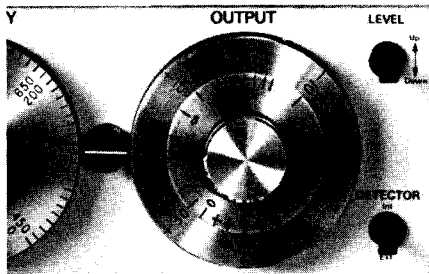
1 to 950 MHz: ± 0.35 dB.

Attenuation

Continuously adjustable from +57 to -33 dBmV. 70 dB in 10 dB steps plus a 20 dB PIN diode attenuator calibrated in 1 dB increments.

Accuracy

± 0.5 dB to 500 MHz.
 ± 1.0 dB to 950 MHz.



Calibrated RF Output

Reference Attenuator

Internally adjustable from 0 to 0.5 dB above and below output level.

Impedance

75 Ω (50 Ω available).

SWEEP CHARACTERISTICS

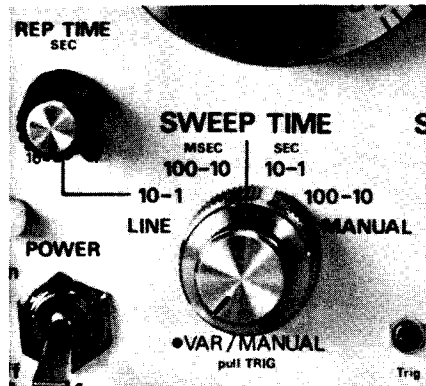
Sweep Modes

Recurring, single sweep, external trigger, manual and line lock.

Sweep Time

Continuously variable from 10 to 100 ms and from 1 to 100s, plus a special

variable 1 to 10 ms sweep time range with an associated variable 1 to 10s repetition rate for testing of operating CATV systems.



Cable System Sweeping

MARKER SYSTEM

RF Markers

Provision for up to 6 crystal controlled, plug-in birdy bypass markers, plus rear panel external marker input. Markers may be either discrete frequency (Option A-1) or harmonic type (Option A-2).

Accuracy

$\pm 0.005\%$.

Width

Adjustable from approximately 15 to 400 kHz in 4 steps.

Amplitude

Adjustable from approximately 1 mV to 1V p-p.

REMOTE PROGRAMMING

Rear mounted jack provides necessary connections for remote control of center frequency, sweep width and 20 dB vernier output control.

External FM

± 16 V results in full deviation at rates up to 4 kHz. With reduced deviation and linearity, modulation rates to 100 kHz are possible.

External AM

0 to -5V signals are applied to 20 dB vernier output attenuator. With average voltage set to midrange, modulation possible to 50 kHz.

External Leveling

External negative signal (ALC) between 0.2 and 2V may be used to level RF output.

External Triggering

10V pulse will trigger a single sweep.

GENERAL

Connectors

Type BNC (Type F available).

Dimensions

20.9 cm (8 1/4 in.) wide; 14.3 cm (5 3/4

in.) high; 34.9 cm (13 3/4 in.) deep.

Weight

9.1 kg (20 lb) net; 11.4 kg (25 lb) shipping.

Power

115 or 230V $\pm 10\%$ (available for 100 to 200V at no extra cost); 50 to 400 Hz; approximately 20 watts.

OPTIONS

A-1

\$90

Single Frequency Marker.
1 to 950 MHz. Specify frequency.

A-2

\$110

Harmonic Type Marker.
Comb type frequency markers at 1, 5, 10, 50 or 100 MHz. Specify frequency.

NOTE: Harmonic type 0.1 MHz markers with associated 1.0 MHz markers are available. \$220

A-4

\$90

1 kHz Square Wave Generator.
Plug-in module provides square wave modulation of RF output.

A-5

\$50

Pen Lift.
Provides contact closure during forward sweep trace. Binding post terminals are provided on rear panel.

A-6

\$245

Plus \$25 each crystal.

Single Frequency Marker.

35 to 52 MHz. Up to five pulses selected by plug-in crystals.

A-7

\$130

Pilot Carrier Notches.
RF output is blanked (shut-off) at two internally adjustable frequencies. An on/off switch is on the front panel. Internal controls determine the frequency and width of each notch.

A-8

\$300

UHF Option.
450 to 950 MHz.

ACCESSORIES

Model K103

\$50

Rack Mount (for mounting one unit).

Model K104

\$55

Rack Mount (for mounting two units).

FACTORY/FOB Beech Grove, IN

PRICE

Model 1801B

\$2495

1 to 500 MHz

Model 1801B-A-8

\$2795

1 to 950 MHz
(with both bands)