



141T, 8552B

Mainframe/Storage Display

The 141T Mainframe provides variable persistence and storage. When narrow bandwidths are selected, sweep time must be reduced to maintain amplitude calibration. Variable persistence permits displayed traces of constant intensity even for long sweep times. The storage feature allows traces to be held for comparison or photographing. For measurements that do not require trace storage, the 140T Standard Persistence mainframe is available.

IF Section Features

In addition to providing calibrated bandpass filtering the IF Section offers several user convenience features. Selectable video filters improve signal discernibility when S/N is low and permit display of average noise level. Recorder outputs, compatible with analog XY recorders, are provided. Amplitude and frequency calibration from the front panel are possible using the internal calibration source.

Tracking Generators for Component Test

Tracking generators—leveled sources which track the tuned frequency of the analyzer—allow precise frequency measurements on two port devices with high dynamic range. Three tracking generators permit characterization of device performance up to 1500 MHz with a nominal dynamic range of 100 dB. The 8556B includes a tracking generator and the 8443A and 8444A may be used with the 8553B and 8554B Tuning Sections respectively.

8750A Storage-Normalizer

Digital trace storage and display with the 141T System is possible with the 8750A (Opt. 001) and an external oscilloscope. Digital storage provides a flicker-free display for any sweep speed and allows comparison of two traces. When a tracking generator is used, the normalization feature of the 8750A reduces the effect of system frequency response on the measurement.

General Specifications

Input impedance: 50 Ω nominal. Reflection coefficient < 0.30 (1.85 SWR), input attenuator ≥ 10 dB.

Maximum input level: peak or average power +13 dBm (1.4 V ac peak), ± 50 V dc.

Attenuator: 0 to 50 dB in 10 dB steps.

Scan time: 16 internal scan rates from 0.1 ms/div to 10 sec/div in a 1, 2, 5 sequence, and manual scan (8552B only).

Scan Time Accuracy

0.1 ms/div to 20 ms/div: $\pm 10\%$.

50 ms/div to 10 s/div: $\pm 20\%$.

Scan Mode

Int: analyzer repetitively scanned by internally generated ramp; synchronization selected by scan trigger

Single: single scan with front panel reset.

Ext: scan determined by 0 to +8 volt external signal.

Manual: scan determined by front panel control.

Scan trigger: for internal scan mode, select between

Auto: scan free-runs.

Line: scan synchronized with power line frequency.

Ext: scan synchronized with > 2 volt (20 volt max.) signal.

Video: scan internally synchronized to envelope of RF input.

Auxiliary outputs:

Vertical output: 0 to -0.8 V for full deflection.

Scan output: -5 V to $+5$ V for 10 div CRT deflection.

Pen lift output: 0 to 14 V (0 V, pen down).

Display Characteristics

141T, 140T

Plug-ins: accepts Models 8552A/B, 8553B, 8554B, 8555A and 8556A and Model 140 series Oscilloscope plug-ins.

Cathode-Ray Tube Type

Model 141T: post-accelerator storage tube, 9000 volt accelerating potential; aluminized P31 phosphor.

Model 140T: post-accelerator, 7300 volt potential medium-short persistence (P39) phosphor.

Cathode-Ray Tube Graticule

Model 141T: 8 \times 10 division (approx, 7.1 cm \times 8.9 cm parallax-free internal graticule).

Persistence, Model 141T Only

Normal: natural persistence of P31 phosphor (0.1 second).

Variable

Normal writing rate mode: continuously variable from less than 0.2 second to more than one minute.

Maximum writing rate mode: from 0.2 second to 15 seconds.

Erase: manual; erasure takes approximately 350 ms.

Storage time model 141T only: normal writing rate; more than 2 hours at reduced brightness (typically 4 hours).

Fast writing speed, model 141T only: more than 15 minutes.

Functions used with oscilloscope plug-ins only. Intensity modulation, calibrator; beam finder.

EMI: conducted and radiated interference is within requirements of MIL-1-16910C and MIL-1-6181D and methods CEO3, and REO2 of MIL-STD-461 (except 35 to 40 kHz) when appropriate RF tuning section and 8552A or 8552B are combined in a 140T or 141T Display Section.

Temperature range: operating, 0°C to +55°C; storage, -40 °C to +75°C.

Power requirements: 100, 120, 220, or 240 V $\pm 5\%$. -10% . 50 to 60 Hz, normally less than 225 watts (includes plug-ins used).

Weight

Model 8552A or 8552B IF section: net, 4.1 kg (9 lb). Shipping 6.4 kg (14 lb).

Model 140T display section: net, 18 kg (40 lb). Shipping, 25 kg (54 lb).

Model 141T display section: net, 19.2 kg (43 lb). Shipping, 26 kg (57 lb).

Tuning section: see following pages.

Size: model 140T or 141T with plug-ins: 221 H \times 425 W \times 416 mm D (8.8" \times 16.8" \times 16.4").

Special order: chassis slides and adapter kit.

Ordering Information

140T Normal Persistence Display

Opt 908: Rack Flange Kit

141T Variable Persistence Display

Opt 908: Rack Flange Kit

8552A Economy IF Section

8552B High Resolution IF Section

Price

\$3100

add \$27

\$4050

add \$27

\$4350

\$5300