

Table 1-1. 8552B Specifications

<b>GENERAL SPECIFICATIONS</b>																
<p><b>Scan Time:</b> 16 internal scan rates from 0.1 ms/div to 10 sec/div in a 1,2,5 sequence, or Manual Scan.</p> <p><b>Scan Time Accuracy:</b>                      0.1 ms/div to 20 ms/div: <math>\pm 10\%</math>                      50 ms/div to 10 sec/div: <math>\pm 20\%</math></p> <p><b>Scan Characteristics</b></p> <p><b>Scan Mode:</b>  <b>Int:</b> Analyzer repetitively scanned by internally generated ramp; synchronization selected by Scan Trigger.  <b>Single:</b> Single scan actuated by front panel pushbutton.  <b>Ext:</b> Scan determined by 0 to +8 volt external signal; scan input impedance <math>&gt; 10\text{ k}\Omega</math>.                      Blanking: -1.5V external blanking signal required.  <b>Man:</b> Scan controlled by position of Manual Scan knob.</p> <p><b>Scan Trigger:</b> For Int scan mode, select between:  <b>Auto:</b> Scan free runs.  <b>Line:</b> Scan synchronized with power line frequency.</p>	<p><b>Ext:</b> Scan synchronized with <math>&gt; 2</math> volt (20 volt max.) trigger signal polarity selected by internally located switch in Model 8552B IF Section.</p> <p><b>Video:</b> Scan internally synchronized to envelope of RF input signal (signal amplitude of 1.5 major divisions peak-to-peak required on display section CRT).</p> <p><b>Penlift Characteristics:</b>                      Penlift output 0 — 14 volts (0V pen down).                      Output available in Int and Single Scan modes and Auto, Line and Video Scan Trigger.</p> <p><b>Power Requirements:</b> 115 or 230 volts <math>\pm 10\%</math>, 50 to 60 Hz, normally less than 225 watts (varies with plug-in units used).</p> <p><b>Weight:</b>                      Model 8552B IF Section: Net 9 lb., 11 oz., (4,4 kg.)</p>															
<b>AMPLITUDE SPECIFICATIONS</b>																
<p><b>Absolute Amplitude Calibration Range:</b></p> <p><b>Log:</b> From -130 to +10 dBm, 10 dB/div on a 70 dB display or 2 dB/div expand below LOG reference.</p> <p><b>H04:</b> From -23 to +117 dBV, 10 dB/div on a 70 dB display or 2 dB/div expand below LOG reference.</p> <p><b>Calibrator Output:</b>  <b>Amplitude:</b> -30 dBm <math>\pm 0.3</math> dB; +77 dB<math>\mu</math>V (H04)                      Standard/H04-8552B: 7.07 mV into 50 ohms                      H01/H02-8552B: 8.66 mV into 75 ohms</p>	<p><b>Amplitude Accuracy:</b></p> <table border="0"> <tr> <td style="padding-right: 20px;">Switching between bandwidths (at 20°C):</td> <td style="padding-right: 20px;">Log</td> <td>Linear</td> </tr> <tr> <td>0.1 — 300 kHz</td> <td><math>\pm 0.5</math> dB</td> <td><math>\pm 5.8\%</math></td> </tr> <tr> <td>0.03 — 300 kHz</td> <td><math>\pm 1.0</math> dB</td> <td><math>\pm 12.0\%</math></td> </tr> <tr> <td>0.01 — 300 kHz</td> <td><math>\pm 1.5</math> dB</td> <td><math>\pm 19.0\%</math></td> </tr> <tr> <td>Amplitude Display:</td> <td><math>\pm 0.25</math> dB/dB but not more than <math>\pm 1.5</math> dB over full 70 dB display range</td> <td><math>\pm 2.8\%</math> of full 8 div. deflection</td> </tr> </table>	Switching between bandwidths (at 20°C):	Log	Linear	0.1 — 300 kHz	$\pm 0.5$ dB	$\pm 5.8\%$	0.03 — 300 kHz	$\pm 1.0$ dB	$\pm 12.0\%$	0.01 — 300 kHz	$\pm 1.5$ dB	$\pm 19.0\%$	Amplitude Display:	$\pm 0.25$ dB/dB but not more than $\pm 1.5$ dB over full 70 dB display range	$\pm 2.8\%$ of full 8 div. deflection
Switching between bandwidths (at 20°C):	Log	Linear														
0.1 — 300 kHz	$\pm 0.5$ dB	$\pm 5.8\%$														
0.03 — 300 kHz	$\pm 1.0$ dB	$\pm 12.0\%$														
0.01 — 300 kHz	$\pm 1.5$ dB	$\pm 19.0\%$														
Amplitude Display:	$\pm 0.25$ dB/dB but not more than $\pm 1.5$ dB over full 70 dB display range	$\pm 2.8\%$ of full 8 div. deflection														
<b>FREQUENCY SPECIFICATIONS</b>																
<p><b>Resolution:</b></p> <p><b>Bandwidth:</b> IF bandwidths of 10 Hz to 300 kHz provided in a 1,3 sequence.</p> <p><b>Bandwidth Accuracy:</b> Individual IF bandwidths' 3 dB points calibrated to <math>\pm 20\%</math> (10 kHz bandwidth <math>\pm 5\%</math>).</p>	<p><b>Bandwidth Selectivity:</b> 60 dB/3 dB IF bandwidth ratio <math>&lt; 11:1</math> for IF bandwidths from 10 Hz to 3 kHz and <math>&lt; 20:1</math> for IF bandwidths from 10 kHz to 300 kHz, 60 dB points separated by <math>&lt; 100</math> Hz for 10 Hz bandwidth.</p>															

**1-27. EQUIPMENT AVAILABLE**

1-28. The following equipment is recommended for maintenance purposes:

- a. HP 11592A Service Kit (shown in Figure 1-2).
- b. Six-pin extender board (not included in HP 11592A Service Kit) HP Part Number 5060-5914.

**1-29. RECOMMENDED TEST EQUIPMENT**

1-30. Table 1-2 lists the test equipment and accessories required to check, adjust and repair the 8552B Spectrum Analyzer IF Section. If substitute equipment is used it must meet the Minimum Specifications listed in Table 1-2.

*Table 1-2. Test Equipment and Accessories*

Item	Minimum Specifications or Required Features	Suggested Model	Note*
Amplifier	Frequency Range: 3 to 30 MHz Gain: 20 dB Input and Output Impedance: 50 ohms Flatness: $\pm 1$ dB	HP 8447A	P, A
Attenuator	Frequency Range: 0 – 30 MHz Flatness: $\pm 0.5$ dB Steps: 1 dB – 0 to 12 dB	HP 355C	A
Attenuator	Frequency Range: 0 – 30 MHz Flatness: $\pm 0.5$ dB Steps: 10 dB – 0 to 110 dB	HP 355D	A
Audio Oscillator	Frequency Range: 10 kHz Output Amplitude: 2V rms Frequency Accuracy: $\pm 2\%$ Output Impedance: 600 ohms	HP 200CD	P, A
Digital Voltmeter	Voltage Accuracy: $\pm 0.2\%$ Range Selection: Manual or Automatic Voltage Range: 1 – 1000 Vdc full scale Input Impedance: 10 megohms Polarity: Automatic Indication	HP 3440A Digital Voltmeter with HP 3443A Plug-in	P, A, T
Crystal Detector	Frequency: 1 – 50 MHz Sensitivity: $>0.04$ mV/ $\mu$ W Frequency Response: $\pm 0.2$ dB Polarity: Negative	HP 423A Crystal Detector	A
Frequency Counter	Frequency Range: 100 kHz – 50 MHz Accuracy: $\pm 0.001\%$ Sensitivity: 30 mV rms Readout Digits: 7	HP 5245L Frequency Counter with HP 5261A Plug-in	P, A
Oscilloscope	Frequency Range: dc to 50 MHz Time Base: 1 $\mu$ s/div to 10 ms/div Time Base Accuracy: $\pm 3\%$ Dual Channel, Alternate Operation AC or DC Coupling External Sweep Mode Voltage Accuracy: $\pm 3\%$ Sensitivity: 0.005 V/div	HP 180A with HP 1801A Vertical Amplifier and HP 1821A Horizontal Amplifier HP 10004A 10:1 Divider Probes (2)	A, T
Note* Performance = P; Adjustment = A; Troubleshooting = T			

Table 1-2. Test Equipment and Accessories (cont'd)

Item	Minimum Specifications or Required Features	Suggested Model	Note*
Ohmmeter	Resistance Range: 1 ohm to 100 megohm Accuracy: $\pm 10\%$ of Reading	HP 412A	T
Power Supply	Output Voltage: Variable, 0 – 30 Vdc Output Current: 0 – 400 mA Meter Resolution: <5 mV	HP 6217A Power Supply	A
Signal Generator	Frequency Range: 1 – 30 MHz Output Amplitude: >0 dBm Amplitude Accuracy: $\pm 1\%$ Frequency Accuracy: $\pm 1\%$ Output Impedance: 50 ohms Modulation: Ext to 100%	HP 606B HF Signal Generator	A
Signal Generator	Frequency Range: 30 to 50 MHz Output Amplitude: >20 dBm Amplitude Accuracy: $\pm 1\%$ Output Impedance: 50 ohms Modulation: Ext. Pulse or CW to 100%	HP 608F VHF Signal Generator	P, A, T
Oscillator Synchronizer	Frequency Range: 50 kHz – 310 MHz Input Signal Level: 50 kHz – 20 MHz; 0.1 – 2V rms into 50 ohms, 10 – 310 MHz; 180 – 500 mV rms into 50 ohms. Frequency Reference Stability: Short term, $5 \times 10^{-8}$ /minute Frequency Control Output: Frequency control voltage directly compatible with HP 606B and HP 608F signal generators; output voltage range, -2 to -32 Vdc (maximum)	HP 8708A Synchronizer	A
Sweep Oscillator	Frequency Range: 1 – 60 MHz Output Flatness: $\pm 0.25$ dB over full band Output Impedance: 50 ohms Sweep Width: 3 and 10 MHz Output Amplitude: at least 0 dBm	HP 8601A Generator/Sweeper	A
Pulse Generator	Rep Rate: 10 kHz to 100 kHz Pulse Width: 0.5 to 5 msec Pulse Amplitude: 2V	HP 222A	A
RF Voltmeter	Frequency Range: 3 MHz to 50 MHz Amplitude Range: 0 to -40 dBm Accuracy: $\pm 5\%$	HP 3406A	T
Tunable RF Voltmeter	Bandwidth: 1 kHz Frequency Range: 1 – 50 MHz Sensitivity: 10 mV – 1V rms Input Impedance: $\geq 0.1$ megohms	HP 8405A Vector Voltmeter	P, A, T
Extender Board	6-Pin	HP 5060-5914	A, T
50-ohm Tee	Type N female connectors on two ports, with the third port able to accept HP 8405A probe tips.	HP 11536A 50-ohm Tee	P, A
Note* Performance = P; Adjustment = A; Troubleshooting = T			

Table 1-2. Test Equipment and Accessories (cont'd)

Item	Minimum Specifications or Required Features	Suggested Model	Note*
50-ohm Termination	Frequency Range: DC -- 310 MHz VSWR: 1.1 Power Rating: 0.5 Watt Connector: Type N Male	HP 908A Coaxial Termination	P, A
Variable Voltage Transformer	Range: 102 -- 127 Vac Voltmeter Range: 103 -- 127 Vac $\pm 1$ volt	General Radio W5MT3A or Superior Electric UC1M	A
BNC Tee (2)	Two BNC Female Connectors; one Male BNC Connector	UG-274B/U HP 1250-0781	P, A, T
Adapter	BNC Male to Type N Female	UG-349A/U HP 1250-0077	A
Adapter	BNC Male to Binding Post	HP 10110A	A
Adapter (3)	BNC Female to Type N Male	UG-201A/U HP 1250-0780	P, A
Voltage Probe	Dual Banana Plug-to-Probe Tip and Clip (Ground) Lead	HP 10025A Straight-thru Voltage Probe	A, T
Cable Assy (6)	Male BNC Connectors, 48 inches long	HP 10503A	P, A, T
Cable Assy	BNC Male to Dual Banana Plug, 45 inches long	HP 11001A	P, A, T
Cable Assy	Dual Banana Plug to Clip Leads, 45 inches long	HP 11002A	A, T
Cable Assy	Dual Banana Plug to Dual Banana Plug, 44 inches long	HP 11000A	A, T
Cable Assy	BNC Male to one end only; 44 inches. (Attach Test Clips to Shield and Center Conductor.)	HP 10501A	A, T
Tuning Tool, Slot	Nonmetallic, 6-inch shaft	Gowanda PC9668	A, T
Screwdrivers	Pozidrive No. 1 (small) Stanley No. 5531	HP 8710-0899	A, T
Tuning Tool, Slot	Nonmetallic, 2.5-inch shaft	HP 8710-0095	A, T
Capacitor	8200 pF (approx.), See paragraph 5-38	HP 0140-0184	A, T
Adapter	Type N Female Connector to Type N Female Connector	UG-29B/U HP 1250-0777	A, T
Adapter	Type N Female to BNC Female Adapter	FXR 21850	A, T
Adapter	Type NBC Plug-to-Plug Adapter	UG-491B/U HP 1250-0216	A, T
Tuning Tool	Fluted Tip, Siemens Halske B63399-B004-X000	HP 8710-0957	A
Note Performance = P; Adjustment = A; Troubleshooting = T			