

HP 8901B RF Level (True RMS)**Frequency Range with HP 11722A:** 100 kHz to 2.6 GHz**Power Range:** -20 to +30 dBm**RF Range-to-Range Change Error:** ± 0.02 dB/RF range change from reference range**Input SWR:** <1.15, using HP 11722A sensor module**Zero Set** (digital settability of zero): $\pm 0.5\%$ ± 1 digit of full scale on lowest range (decrease by a factor of 10 for each high range)**RF Power Resolution:**

0.1% of full scale in watts or volts mode

0.001 in dBm or dB relative mode

HP 8901B Selective Power Measurements (Options 030 Through 037)**Frequency Range:** 10 MHz to 1.3 GHz**Carrier Power Range:** +30 to -20 dBm, 12.5, 25 and 30 kHz filters; +30 to -10 dBm, carrier noise filter**Dynamic Range:** 115 dB**Carrier Rejection** (temp. $\leq 35^\circ\text{C}$): >90 dB for offsets ≥ 1 channel spacing or 5 kHz, whichever is larger**Relative Accuracy:** ± 0.5 dB, levels ≥ -95 dBc or levels ≥ -129 dBc/Hz**Power Reference****Power Output:** 1.00 mW, factory set to $\pm 0.7\%$, traceable to the U.S. National Institute of Standards and Technology**Accuracy:** $\pm 1.2\%$ worst case ($\pm 0.9\%$ rss) for one year (0° to 55°C)**Audio Filters****High-Pass** (3 dB cutoff frequency): 50 Hz and 300 Hz**Low-Pass** (3 dB cutoff frequency except >20 kHz filter): 3 kHz, 15 kHz, >20 kHz**De-emphasis Filters:** 25 μs , 50 μs , 75 μs , and 750 μs **Calibrators (Standard HP 8901B, Option 010 HP 8901A)****AM Calibrator Depth and Accuracy:** 33.33% depth, nominal; internally calibrated to an accuracy of $\pm 0.1\%$ **FM Calibrator Deviation and Accuracy:** 34 kHz peak deviation, nominal; internally calibrated to an accuracy of $\pm 0.1\%$ **General Characteristics****Operating Temperature Range:** 0° to 55°C **Power Requirements:** 100, 120, 220, or 240 V (+5%, -10%); 48 to 66 Hz; 200 VA max**Weight:** HP 8901A: Net, 20 kg (44 lb); shipping, 25 kg (55 lb);

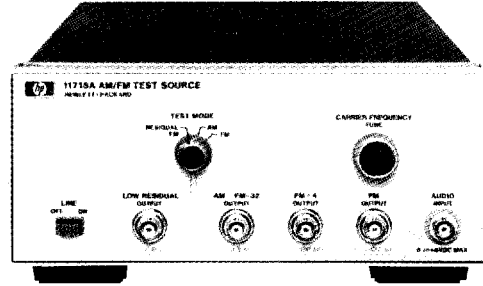
HP 8901B: Net, 23 kg (52 lb); shipping, 31 kg (69 lb)

Size: HP 8901A: 190 mm H \times 425 mm W \times 468 mm D (7.5 in \times 16.8 in \times 18.4 in); HP 8901B: 190 mm H \times 425 mm W \times 551 mm D (7.5 in \times 16.8 in \times 21.7 in)**Ordering Information****HP 8901A/HP 8901B****HP 8901A** Modulation Analyzer¹ \$11,500**Opt 001** RF Connectors on Rear Panel Only +\$270**Opt 002** 1 \times 10⁻⁷/Day Internal Reference +\$915**Opt 003** Connections for External Local Oscillator +\$510**Opt 004** Operation from 48 to 440 Hz Power (temp. <40 $^\circ\text{C}$) +\$340**Opt 010** AM and FM Calibrators +\$760**Opt 907** Front Handle Kit (5061-9690) \$68**Opt 908** Rack Flange Kit (5061-9678) \$37**Opt 909** Front Handle & Rack Flange Kit (5061-9684) \$95**Opt 910** 2 sets of Operating (08901-90135) and Service Manuals (08901-90136) +\$260**Opt 915** Service Manual (08901-90136) +\$105**Opt W30** Extended Repair Service (see page 663) +\$235**Opt W32** Calibration Service (see page 663) +\$570**HP 8901B** Modulation Analyzer¹ \$16,050**Opt 021** Add HP 11722A Sensor Module +\$2,570**Opt 030** High Selectivity (select only 2 filter options) +\$2,965

(Options 032 through 037 require Option 030; Option 030 includes Option 003 connections for external local oscillators.)

Opt 032 12.5 kHz Filter \$0**Opt 033** 20.0/25.0 kHz Filter \$0**Opt 035** Cellular Radio Filter \$0**Opt 037** Carrier Noise Filter \$0¹HP-IB cables not included. For description and prices, see page 99.

☎ For off-the-shelf shipment, call 800-452-4844.

Opt 910 2 Sets of Operation/Calibration (08901-90113) and Service Manuals (08901-90114) +\$370 ☎**Opt 915** Service Manual (08901-90114) +\$155 ☎**Opt W30** Extended Repair Service (see page 663) +\$335**Opt W32** Calibration Service (see page 663) +\$570

HP 11715A

HP 11715A AM/FM Test Source

The HP 11715A AM/FM test source provides very flat, wide-bandwidth, and low-distortion amplitude- or frequency-modulated RF signals. Designed primarily for performance tests and adjustments of the HP 8901A/B modulation analyzer and HP 8902A measuring receiver, it will also serve as a high-quality modulated test oscillator where its frequency ranges apply.

The major components of the HP 11715A are a low-noise voltage-controlled oscillator (VCO), 2 digital dividers, and a double-balanced mixer. The VCO is the primary signal source, with a typical frequency range of 330 to 470 MHz at the FM output. FM is produced by directly coupling the external modulation source to the VCO's tune input, providing very wide bandwidth modulation with low phase shift. This design also ensures very little incidental AM.

The HP 11715A can also be used in conjunction with an HP 8901A/B and an HP 8902A as a calibrated signal source for special applications. In particular, the U.S. commercial FM broadcast band of 88 to 108 MHz is covered by the FM $\div 4$ output of the HP 11715A.

HP 11715A Specifications**FM Outputs****Frequency Range:**11 to 13.5 MHz, AM FM $\div 32$ output88 to 108 MHz, FM $\div 4$ output

352 to 432 MHz, FM output

Peak Deviation:

>12.5 kHz, 11 to 13.15 MHz carrier

>100 kHz, 88 to 108 MHz carrier

>400 kHz, 352 to 432 MHz carrier

Distortion: <0.025% THD (<-72 dB) for

Carrier frequency	Peak deviation	Modulation rate
12.5 MHz	12.5 kHz	<10 kHz
100 MHz	100 kHz	<100 kHz
400 MHz	400 kHz	<100 kHz

Flatness: $\pm 0.1\%$, dc to 100 kHz rates $\pm 0.25\%$, dc to 200 kHz rates**Stereo Separation** (88 to 108 MHz carrier, 75 kHz peak deviation, 1 kHz rate): >60 dB typical**AM Output****Frequency Range** (AM/FM $\div 32$ output): 11 to 13.5 MHz**Depth:** To 99%**Distortion:**

<0.05% THD (<-66 dB), 50% AM, 20 Hz to 100 kHz rates

<0.1% THD (<-60 dB), 95% AM, 20 Hz to 100 kHz rates

Flatness: $\pm 0.1\%$, 50 Hz to 50 kHz rates; $\pm 0.25\%$, 20 Hz to 100 kHz rates**Linearity:** $\pm 0.1\%$, <95% AM; $\pm 0.2\%$, <99%**Ordering Information****HP 11715A** AM/FM Test Source \$3,015**Opt 910** A Total of 2 Sets of Operating and Service Manuals (11715-90004) +\$26

For the most current prices and product information, contact your local Hewlett-Packard sales office—see page 691.