

IMPEDANCE MEASURING INSTRUMENTS

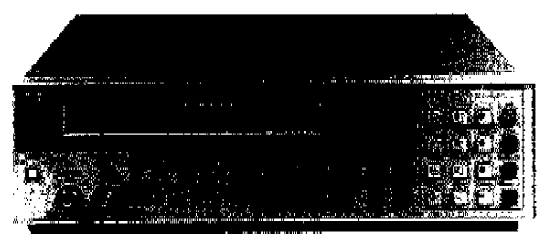
Crystal Impedance Meter, 1 MHz to 180 MHz

HP E4915A/E4916A

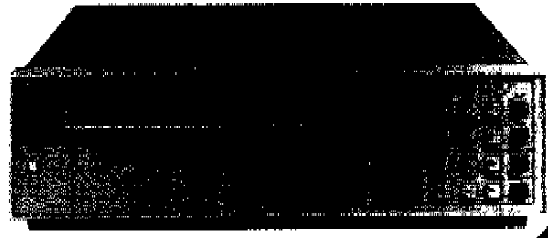
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- Adopting transmission method
- 1 MHz to 180 MHz with 1 mHz resolution
- ± 2 ppm/ $\pm 5\%$ Fr/Ci accuracy
- High-speed measurement: 125 ms
- Remove parasitics using PI-Network calibration function

- Display equivalent circuit parameters of crystal unit
- Easy operation and fast measurement of Drive Level Dependency Test (HP E4916A)
- Small size, lightweight, one-box instrument



E4915A



E4916A



HP E4915A/E4916A Crystal Impedance Meter

The HP E4915A Crystal Impedance Meter and the HP E4916A Crystal Impedance/LCR Meter provide excellent crystal impedance (CI) and resonant frequency (Fr) measurement performance from 1 MHz to 180 MHz. CI and Fr are measured using the transmission method with a PI-Network test fixture.

HP E4915A for Simple Testing of Crystal-Resonators

The HP 4915A is a low-cost product having only basic measurement capabilities. The transmission PI-Network method is used, but not the oscillator method. So, the E4915A can cover a wide frequency range using only this single product.

HP E4916A for Complex Testing of Crystal-Resonators

The HP 4916A is an enhanced version of the HP E4915A adds variable output power.

The E4916A also has additional functions, such as drive level dependency testing, evaporation monitoring, bandpass filter testing, and LCR measurement (optional).

Major Specifications

(See the data sheet for complete specifications.)

	HP E4915A	HP E4916A
Frequency Range:	1 MHz–180 MHz	1 MHz–180 MHz
Frequency Resolution:	1 mHz	1 mHz
Frequency Accuracy:	± 2 ppm	± 2 ppm
Power Level:	-5 dBm (5 μ W @25 ohm)	-60 - +18 dBm (1–100 MHz) (0.1 nW–1 mW @25 ohm)
Meas. Mode:	Crystal, Spurious	Crystal, Spurious; Drive level dependency (DLD); Evaporation Monitoring (EM), Filter; LCR (Option 010)
Meas. Parameter:	Fr, Fs, FL, Fg, Ci, Co, C1, R1, L1, Q, TS, Spurious	Fr, Fs, FL, Fg, Ci, Co, C1, R1, L1, Q, TS, Spurious DLD: delta-Fr, delta Ci Filter: insertion loss, x dB BW; LCR: Z , Y , θ , R, X, G, B, Ls, Lp, Cs, Cp, D, Q
Meas. Accuracy (SPC):	Fr: ± 2 ppm Ci: $\pm 5\%$	Fr: ± 2 ppm Ci: $\pm 5\%$
Meas. Speed (SPC):	125 ms/device (Fr, Ci meas.)	125 ms/device (Fr, Ci meas.)

SPC: Supplemental Performance Characteristics

General Specifications

- Power Requirements:** 90 to 132 V or 198 to 264 V, 47 to 63 Hz, 1A max.
- Operating Temperature:** 0° to 55°C
- Size:** 320 mm W x 100 mm H x 450 mm D (12.6 in x 3.94 in x 17.72 in)
- Weight:** E4915A: 4.8 kg (10.6 lb) E4916A: 5.3 kg (11.7 lb)

Furnished Accessories

Operation manual, BNC cable (2 ea.), power cable
(The test fixture must be ordered separately.)

Key Literature

HP E4915A/E4916A Crystal Impedance/LCR Meter Product Overview, p/n 5965-1172E

Ordering Information

HP E4915A Crystal Impedance Meter
Opt 020 Add Crystal Measurement S/W for HP VEE

- Manual Options:**
- 0B0** Delete Manual Set
 - 0B1** Add Manual Set
 - ABA** U.S. - English localization
 - ABJ** Japan-Japanese localization
 - AB2** China-Chinese localization

Service Options:
UK6 Commercial cal. certificate w/ test data

- Cabinet Options:**
- 1CM** Rack-mount Kit
 - 1CN** Handle Kit

Note: To use Option 020, HP E2120C or HP E2120D HP VEE for Windows is required. For more information about HP VEE, see the product overview of the HP E2120C or the HP E2120D.

HP E4916A Crystal Impedance/LCR Meter
Opt 001 Add Impedance Probe Kit
Opt 010 Add LCR Measurement Function
Opt 020 Add Crystal Measurement S/W for HP VEE

Manual Options: (Same as HP E4915A)

Service Options:
UK6 Commercial cal. certificate w/ test data

Cabinet Options: (Same as HP E4915A)
Note: To use Option 020, the HP E2120C or the HP E2120D HP VEE for Windows is required. For more information about HP VEE, see the product overview of the HP E2120C or the HP E2120D.

HP 41902A Economy PI-Network Test Fixture
HP 41900A PI-Network Test Fixture

- Option:**
- Opt 001** CL Adapter Kit
- HP 41901A** SMD PI-Network Test Fixture
Options:
- Opt 001 to 006** Attachment kit