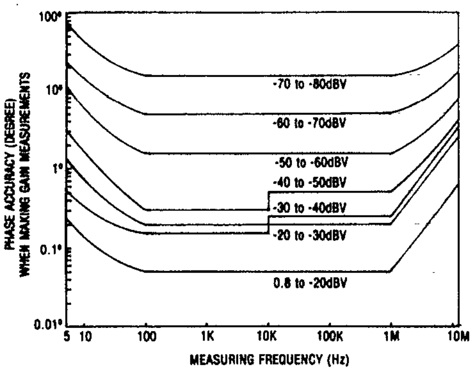

FIGURE 2 : PHASE ACCURACY WHEN MAKING GAIN MEASUREMENT

Impedance Measurement

Parameter measured: |Z| − θ, |Y| - θ, R − X, G − B, L − D · Q · R · G, C − D · Q · R · G and deviation (Δ, Δ%) of all parameters

Display: 4½ digits, max. display 12999 counts, 19999 for L & C.

Circuit mode: series equivalent circuit (—∿∿—▭—) and parallel equivalent circuit (—▭—). Automatic selection available.

Auto ZERO adjustment: Automatic normalization of the readout offset due to residuals of the test fixture by pushbutton operation (at spot frequency)

Measuring range and accuracy (23 ±5° C): Specified at BNC unknown terminals after 30 minute warmup when OSC level is more than 0.1 V and when auto ZERO adjust is performed (test speed: normal or average). Accuracy given below is only valid when the measured value is equal to full scale of each range.

|Z| − θ, R − X measurement: Range: |Z|, R, X: 0.1 m Ω to 1.2999 M Ω; θ: −180.00° to +180.00°. Accuracy: R accuracy (D ≥ 10); X accuracy (D < 1)

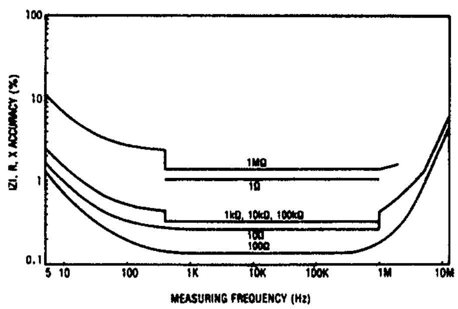

FIGURE 3 : |Z|, R, X ACCURACY

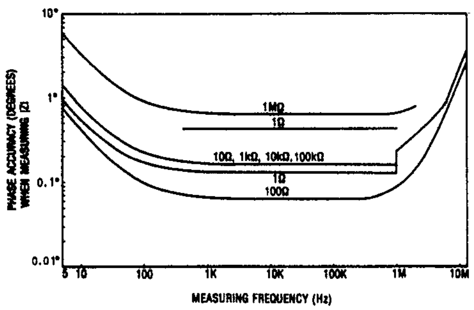

FIGURE 4 : PHASE ACCURACY WHEN MEASURING |Z|

|Y| − θ, G − B measurement: range: |Y|, G, B: 1 nS to 12.999 S; θ: −180.00° to +180.00°. Accuracy: G accuracy (D > 1); B accuracy (D ≤ 0.1).

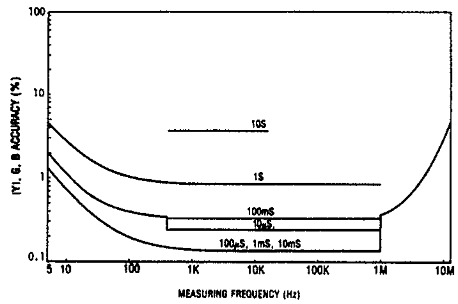

FIGURE 5 : |Y|, G, B ACCURACY

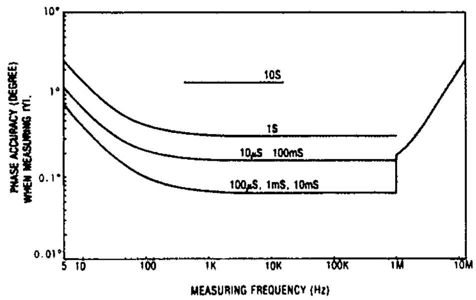

FIGURE 6 : PHASE ACCURACY WHEN MEASURING |Y|

L − D · Q, C − D · Q measurement: (automatically calculated from measured Z/Y values)

Parameter	Measuring Range*	Basic Accuracy
L	0.01 nH to 1000 H	0.27%
C	0.1fF to 199** mF	0.15%
D(1/Q)	0.0001 to 19.999	0.001 (C-measurement) 0.003 (L-measurement)

*Varies with measuring frequency except for D(1/Q)
**Accuracy of C ranges over 100 mF is not specified.

Internal dc bias: Standard (impedance measurement only)
- **Voltage range:** −35 V to +35 V, 10 mV step
- **Setting accuracy** (23 ±5° C): 0.5% of setting +5 mV
- **Bias control:** Spot and swept, using front panel controls or HP-IB

General

Measuring time (high speed mode)
- **B-A and θ, A or B:** 88 to 127 ms (≥ 400 Hz)
- **Impedance parameters:** 58 to 91 ms (≥ 1 kHz)

Test level monitor range (impedance measurement)
- **Voltage:** 5 mV to 1.1 V
- **Current:** 1 μA to 11 mA

Operating temperature: 0 to 55° C, ≤ 95% RH at 40° C

Power: 100, 120, 220 V ±10%, 240 V + 5% to −10%, 48 to 66 Hz, 150 VA max.

Size: 425.5 mm W × 235 mm H × 615 mm D (16.75 in × 9 in × 22.6 in).

Weight: Approx. 19 kg (41.9 lb)

Furnished accessories and parts: HP 16047A test fixture, HP 11048C 50 Ω feed thru terminations (2 ea), power splitter, HP 11170A BNC cables (2 ea), BNC adapter

Ordering Information

	Price
HP 4192A LF Impedance Analyzer	$16,400
Accessories	
HP 16095A Probe Fixture	$840 ☎
HP 16096A 2-port Component Test Fixture	$1,425 ☎
HP 16097A Accessory Kit	$2,280 ☎
HP 16047C Test Fixture	$315 ☎
HP 16048A Test Leads (BNC connector)	$330 ☎
HP 16048C Test Leads with alligator clip	$440 ☎

Refer to page 357 for accessories.

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