Oscillators—Signal Generators

- hp- 200 SERIES AUDIO OSCILLATORS

Now four basic -hp- oscillators have been redesigned into two compact, lightweight instruments offering wider frequency range, more operating simplicity, highest accuracy and stability. New Models 200AB and 200CD replace Models 200A through 200D, retain the time-tested RC circuits that insure constant output, low distortion; require no zero set. In addition to these general test instruments, -hp- continues to offer Model 202D for sub-audio, audio, supersonic and carrier tests; and Model 2001, a spread-scale oscillator for interpolation or where frequency must be known precisely.

- hp- 650A TEST OSCILLATOR

Highly stable, wide band (10 cps to 10 mc.) multi-purpose test oscillator for audio, supersonic, video, and rf measurements. Output variable 30 μv to 3 v. Frequency response flat ± 1 db. Output impedance 600 ohms, or 6 ohms with voltage divider. $475.00.

HEWLETT-PACKARD COMPANY
2750 Page Mill Road • Palo Alto, California, U.S.A.

Complete Coverage in Electronic Test Instrumentation

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Primary Uses</th>
<th>Frequency Range</th>
<th>Output</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>-hp- 200AB</td>
<td>Audio tests</td>
<td>20 cps to 40 kc</td>
<td>1 watt/24.5 v</td>
<td>$120.00</td>
</tr>
<tr>
<td>-hp- 200CD</td>
<td>Audio, ultrasonic tests</td>
<td>5 cps to 600 kc</td>
<td>160 mw/20 v</td>
<td>$150.00</td>
</tr>
<tr>
<td>-hp- 200H</td>
<td>Carrier current, telephone tests</td>
<td>60 cps to 600 kc</td>
<td>10 mw/1 v</td>
<td>$350.00</td>
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<tr>
<td>-hp- 200I</td>
<td>Interpolation and frequency measurements</td>
<td>6 cps to 6 kc</td>
<td>100 mw/10 v</td>
<td>$225.00</td>
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<tr>
<td>-hp- 201B</td>
<td>High quality audio tests</td>
<td>20 cps to 20 kc</td>
<td>3 w/42.5 v</td>
<td>$250.00</td>
</tr>
<tr>
<td>-hp- 202A</td>
<td>Low frequency measurements</td>
<td>.01 cps to 1 kc</td>
<td>20 mw/10 v</td>
<td>$450.00</td>
</tr>
<tr>
<td>-hp- 202B</td>
<td>Low frequency measurements</td>
<td>½ cps to 50 kc</td>
<td>100 mw/10 v</td>
<td>$350.00</td>
</tr>
<tr>
<td>-hp- 202D</td>
<td>Low frequency measurements</td>
<td>2 cps to 70 kc</td>
<td>100 mw/10 v</td>
<td>$275.00</td>
</tr>
<tr>
<td>-hp- 204A</td>
<td>Portable, battery operated</td>
<td>2 cps to 16 kc</td>
<td>2.5 mw/5 v</td>
<td>$175.00</td>
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<tr>
<td>-hp- 205A</td>
<td>High power audio tests</td>
<td>20 cps to 20 kc</td>
<td>5 watts</td>
<td>$390.00</td>
</tr>
<tr>
<td>-hp- 205AG</td>
<td>High power tests, gain measurements</td>
<td>20 cps to 20 kc</td>
<td>5 watts</td>
<td>$425.00</td>
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<tr>
<td>-hp- 205AH</td>
<td>High power supersonic tests</td>
<td>1 kc to 100 kc</td>
<td>5 watts</td>
<td>$550.00</td>
</tr>
<tr>
<td>-hp- 206A</td>
<td>High quality, high accuracy audio tests</td>
<td>20 cps to 20 kc</td>
<td>+15 dbm</td>
<td>$550.00</td>
</tr>
<tr>
<td>-hp- 230A</td>
<td>Carrier test oscillator</td>
<td>35 cps to 35 kc</td>
<td>+14 dbm/600 ohms</td>
<td>$275.00</td>
</tr>
<tr>
<td>-hp- 233A</td>
<td>Carrier test oscillator</td>
<td>50 cps to 500 kc</td>
<td>3 dbm/600 ohms</td>
<td>$475.00</td>
</tr>
<tr>
<td>-hp- 234A</td>
<td>Carrier test oscillator</td>
<td>160 cps to 140 kc</td>
<td>+14 dbm/600 ohms</td>
<td>$300.00</td>
</tr>
<tr>
<td>-hp- 650A</td>
<td>Wide range video tests</td>
<td>10 cps to 10 mc</td>
<td>15 mw/3 v</td>
<td>$475.00</td>
</tr>
</tbody>
</table>

Open circuit. Internal impedance 600 ohms.

Data subject to change without notice. Prices f.o.b. factory.

www.HPARCHIVE.com
-hp- Vacuum Tube Voltmeters - 2 to 700,000,000 cps

-HP 4108 VACUUM TUBE VOLT METER

Wide range, flat response ±1 db, 20 cps to 700 mc. Convenient, simple to use, occupies minimum bench space. Handy compartment for probe and leads. Diode probe places approximately 1.5 μfd capacity across circuit under test. This, plus high shunt impedance (10 megohms at low frequencies) means circuits under test are not disturbed, and true voltage readings are assured. Also measures dc voltage to 1,000 volts and resistances to 500 megohms. $245.00.

May be modulated internally or externally, ampli
de carrier, plus VU meter employed in pulse 0.2 psec or longer.) $1,200.00.

-HP 612A SIGNAL GENERATOR

450 to 1,200 mc. Master oscillator-power amplifier generator for UHF-TV measurements including gain, selectivity, sensitivity, image rejection. Directly set and read; no charts, no interpolation. Low incidental freq. high-quality broad band video modulation to 5 mc.

May be modulated internally or externally, amplitude modulated or pulse modulated. (Good rf pulses 0.2 usec or longer.) $1,200.00.

-HP 3308 DISTORTION ANALYZER

Measures distortion as low as 0.1% at any frequency, 20 cps to 20 kc. Measures noise voltages as low as 100 μv. High sensitivity, high stability, broad applicability for broadcast, laboratory or production problems. Wide band 20 db gain input amplifier. "Built-in" vacuum tube voltmeter usable separately. $395.00.

FM, AM-FM MODELS


-HP 410B VACUUM TUBE VOLTMETER

Also measures de voltage to 1,000 volts and resistances to 500 megohms. $245.00.

-HP Signal Generators - 10 to 10,800 mc

-HP 400A GENERAL PURPOSE AC MEASUREMENTS

10 cps to 1 mc .005 to 300 v 9 ranges 1 megohm 10 megohms 245.00

-HP 400B LOW FREQUENCY AC MEASUREMENTS

2 cps to 100 kc .005 to 300 v 9 ranges 1 megohm 245.00

-HP 400C WIDE RANGE AC MEASUREMENTS

20 cps to 2 mc .0001 to 300 v 12 ranges 10 megohms 245.00

-HP 404A PORTABLE, BATTERY OPERATED

2 cps to 50 kc .005 to 300 v 11 ranges 10 megohms 200.00

-HP 410B AUDIO, RF, VHF MEASUREMENTS; DC VOLTAGES; RESISTANCES

20 cps to 700 mc .1 to 300 v 7 ranges 10 megohms 1.5 μfd shunt 245.00

-HP- Distortion, Wave Form Analyzers - 20 cps to 20 kc

-HP 300A WAVE FORM ANALYZER

30 cps to 16 kc Variable selectivity; measuring range 1 mv to 500 v 300.00

-HP 320A MEASURES TOTAL DISTORTION

400 cps and 5 kc Requires external detector 75.00

-HP 320B MEASURES TOTAL DISTORTION

50, 100, 400 cps, 1, 2 and 7.5 kc Same as above 150.00

-HP 330A MEASURES TOTAL AUDIO DISTORTION

20 cps to 20 kc Includes input amplifier, VTVM 395.00

-HP 330C FOR FM BROADCAST MEASUREMENTS

20 cps to 20 kc Special VU meter to meet F.C.C. requirements 425.00

-HP 330D FOR AM-FM BROADCAST MEASUREMENTS

20 cps to 20 kc AM detector and VU meter to meet F.C.C. requirements 440.00

SQUARE WAVE GENERATOR

-HP 210A TRANSIENT AND FREQUENCY RESPONSE

20 cps to 10 kc Output 50 v peak-to-peak 1,000 ohm impedance 150.00

Instrument | Primary Uses | Frequency Range | Characteristics | Price
--- | --- | --- | --- | ---
-HP 410A | General purpose ac measurements | 10 cps to 1 mc | .005 to 300 v 9 ranges | $245.00
-HP 400B | Low frequency ac measurements | 2 cps to 100 kc | .005 to 300 v 9 ranges | $245.00
-HP 400C | Wide range ac measurements | 20 cps to 2 mc | .0001 to 300 v 12 ranges | $245.00
-HP 404A | Portable, battery operated | 2 cps to 50 kc | .005 to 300 v 11 ranges | $200.00
-HP 410B | Audio, rf, VHF measurements; dc voltages; resistances | 20 cps to 700 mc | .1 to 300 v 7 ranges | $245.00
-HP 400A | General purpose ac measurements | 10 cps to 1 mc | .005 to 300 v 9 ranges | $245.00
-HP 400B | Low frequency ac measurements | 2 cps to 100 kc | .005 to 300 v 9 ranges | $245.00
-HP 400C | Wide range ac measurements | 20 cps to 2 mc | .0001 to 300 v 12 ranges | $245.00
-HP 404A | Portable, battery operated | 2 cps to 50 kc | .005 to 300 v 11 ranges | $200.00
-HP 410B | Audio, rf, VHF measurements; dc voltages; resistances | 20 cps to 700 mc | .1 to 300 v 7 ranges | $245.00

-HP- Distortion, Wave Form Analyzers - 20 cps to 20 kc

-HP 330A WAVE FORM ANALYZER

30 cps to 16 kc Variable selectivity; measuring range 1 mv to 500 v $625.00

-HP 320A MEASURES TOTAL DISTORTION

400 cps and 5 kc Requires external detector 75.00

-HP 320B MEASURES TOTAL DISTORTION

50, 100, 400 cps, 1, 2 and 7.5 kc Same as above 150.00

-HP 330A MEASURES TOTAL AUDIO DISTORTION

20 cps to 20 kc Includes input amplifier, VTVM 395.00

-HP 330C FOR FM BROADCAST MEASUREMENTS

20 cps to 20 kc Special VU meter to meet F.C.C. requirements 425.00

-HP 330D FOR AM-FM BROADCAST MEASUREMENTS

20 cps to 20 kc AM detector and VU meter to meet F.C.C. requirements 440.00

-HP 210A TRANSIENT AND FREQUENCY RESPONSE

20 cps to 10 kc Output 50 v peak-to-peak 1,000 ohm impedance 150.00

Data subject to change without notice. Prices f.o.b. factory.

Instruments for Complete Coverage

www.HPARCHIVE.com
Microwave test instruments for coaxial & waveguide systems

- **Sperry 821 barretter.** Also measures CW or pulsed power with negative coefficient thermistor. Operates with 485B Detector Mounts. $250.00.

- **430B MICROWAVE POWER METER**
  - $200.00.
  - 1.04 to 8,000 mc. 50 ohm impedance, negligible slope. Type N connectors, 1.04 to 8,000 mc. For use with 805A/B Slotted Sections.
  - 2.6 to 3.95 kmc band only. (See table on preceding page for probe details.)
  - 10 to 500 mc; dial gauge may be mounted. Operates with 430B VHF Detector Bridge. Approx. 5 µV sensitivity over entire band. Direct reading frequency control, thoroughly shielded. $200.00.

- **-hp- 430B** MICROWAVE POWER METER
  - Low Pass Filters
  - Eliminates harmonic voltages from UHF systems
  - Cutoff frequencies A-700 mc, B-1,200 mc, C-2,200 mc, D-4,100 mc.
  - 50 db rejection at 1.2 cutoff freq.
  - $50.00.

- **-hp- 415A Standing Wave Indicator**
  - VSWR Indicator or null indicator
  - 10 to 500 mc
  - Approx. 5 µV sensitivity
  - $200.00.

- **-hp- 417A VHF Detector**
  - VHF bridge detector
  - 500 to 1,000 mc
  - $250.00.

- **-hp- 430B Microwave Power Meter**
  - Measurement of rf power
  - Depends on Bismuth mount
  - $200.00.

- **-hp- 475B Tunable Bolometer Mount**
  - Measurement of rf power (with 430B)
  - 1,000 to 4,000 mc
  - Matches 50-ohm line to 100 or 200 ohms
  - $175.00.

- **-hp- 476A Universal Bolometer Mount**
  - Measurement of VHF impedance, VSWR
  - 50 to 500 mc
  - 2 to 2,000 ohms
  - $495.00.

- **-hp- 476B Universal Bolometer Mount**
  - Supports 803B section, also G, J, H, X and P 810 Waveguide sections
  - $200.00.

- **-hp- 409B UNIVERSAL PROBE CARRIAGE**
  - -hp- 810 WAVEGUIDE SLOTTED SECTIONS
  - Convenient, all-purpose -hp- 809B carriage operates with six different -hp- slotted sections, waveguide and coaxial. Mounts sections covering frequencies 3,000 to 18,000 mc—sections interchange in 30 seconds! Precision-built carriage calibrated in mm to 0.1 mm; dial gauge may be mounted. Operates with -hp- 442B Broad Band Probe and -hp- 444A Coaxial Detector in combination; or with -hp- 444A Tuned Probe. (See preceding page for probe details.) -hp- 809B, $160.00.
  - -hp- 810A/B SLotted Sections. -hp- 810B, for mounting in 809B carriage, is a flanged waveguide section with accurately machined slot tapered at ends to minimize reflection. Available in 5 waveguide bands, 3.95 thru 18.0 kmc. -hp- S810A, complete slotted section assembly including probe carriage. Available for 2.6 to 3.95 kmc band only. (See table on preceding page for data, prices.)

- **-hp- 805A/B COAXIAL SLOTTED SECTION**
  - Range 500 to 4,000 mc. High accuracy, high stability, negligible slope, minimum leakage. Exclusive parallel plate design. VSWR of basic section and connectors, 1.04. -hp- 805A, 50 ohms, Type N coax connector. -hp- 805B, 46.3 ohms, for 7/8" rigid transmission lines. $475.00.
  - -hp- 806B coaxial slotted section, 3,000 to 12,000 mc. For use with -hp- 806B carriage, Section and connector VSWR 1.04 to 8,000 mc. 50 ohm impedance, negligible slope. Type N connectors, $200.00.

- **-hp- 417A VHF Detector**
  - for use with 805A Bridge; or general laboratory use. Super-regenerative receiver, 10 to 500 mc, 5 bands. Approx. 1 µV sensitivity over entire band. Direct reading frequency control, thoroughly shielded. $200.00.

- **-hp- 415A Standing Wave Indicator**
  - For all waveguide or coaxial slotted sections.
  - Gives direct readings in VSWR or dB. Single frequency operation; 300 to 2,000 cps. Low noise level, 0.3 µV sensitivity, 60 db calib. attenuator. $200.00.

- **-hp- 476A Universal Bolometer Mount**
  - Measures rf power 10 to 1,000 mc. No tuning or adjustment. VSWR less than 1.15, 20 to 500 mc; 1.25, 10 to 1,000 mc. $125.00.
  - -hp- 477B Tunable Mount, continuous 1,000 to 4,000 mc. $200.00.

Data subject to change without notice. Prices f.o.b. factory.

HEWLETT-PACKARD COMPANY

www.HPARCHIVE.com
**-hp- Frequency Measuring and Monitoring Equipment**

- **-hp- 100D SECONDARY FREQUENCY STANDARD**
  Swift, sure frequency comparison, new convenience in standardizing with minimum external equipment. 100 cps time markers, built-in oscilloscope, sine or rectangular waves. Low output impedance; short-time stability 1/1,000,000. Performs most functions of expensive primary standards in audio, rf or supersonic ranges. $600.00.

- **-hp- 335E TV MONITOR**
  Channels 2 through 83. Exceeds F.C.C. requirements. Compact, only 12¼” high, rack mounted. Low cost, all purpose, for visual and aural frequency monitoring, percentage aural modulation. Long-term dependability, precise accuracy, highest stability, no adjustment during operation. Forced ventilation, remote indication features. $1,950.00.

- **-hp- 522B ELECTRONIC COUNTER**
  Compact, low cost, versatile instrument for frequency, period or time measurements. Range 10 cps to 100 kc. Reads direct in cps, kc, seconds or milliseconds. Count automatically resets, action repetitive. Stability of time base 5/1,000,000. Display length variable. Automatic illuminated decimal. Performs all functions without extra-cost modification. Easily used by untrained personnel. $900.00.

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<table>
<thead>
<tr>
<th>Instrument</th>
<th>Primary Uses</th>
<th>Frequency Range</th>
<th>Characteristics</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>-hp- 100C</td>
<td>Audio, supercubic calibration</td>
<td>100 kc, 10 kc, 1 kc, 100 cps</td>
<td>Accurate within ± 0.001% sine waves only</td>
<td>$450.00</td>
</tr>
<tr>
<td>-hp- 100D</td>
<td>Frequency, time measurements</td>
<td>100 kc, 10 kc, 1 kc, 100 cps</td>
<td>Stability 1/1,000,000, sine or rectangular output. Marker pulses</td>
<td>$600.00</td>
</tr>
<tr>
<td>-hp- 335B</td>
<td>FM broadcast monitor</td>
<td>88 to 108 mc</td>
<td>Frequency deviation ± 3 kc; accuracy ± 0.01%; modulation to 100 kc</td>
<td>$935.00</td>
</tr>
<tr>
<td>-hp- 335E</td>
<td>TV visual, aural and mod. monitor</td>
<td>Channels 2 through 83</td>
<td>Indicates visual, aural carrier frequency deviation; modulation aural carrier</td>
<td>$1,950.00</td>
</tr>
<tr>
<td>-hp- 500A</td>
<td>Rapid frequency measurements</td>
<td>10 cps to 50 kc</td>
<td>10 ranges ± 1% accuracy, input 0.5 to 200 volts</td>
<td>$210.00</td>
</tr>
<tr>
<td>-hp- 505A</td>
<td>Measurements of high speed machinery</td>
<td>600 to 3,000,000 rpm</td>
<td>10 ranges ± 3% accuracy</td>
<td>$300.00</td>
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<tr>
<td>-hp- 505B</td>
<td>Same as 505A but calibrated in rps</td>
<td>10 to 50,000 cps</td>
<td>Same as 505A except calibrated in rps</td>
<td>$300.00</td>
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<tr>
<td>-hp- 510A</td>
<td>Measure frequency with -hp- 500A</td>
<td>20 cps to 200,000 cps</td>
<td>Mixes two frequencies, delivers difference to -hp- 500A</td>
<td>$200.00</td>
</tr>
<tr>
<td>-hp- 512A</td>
<td>Extends -hp- 524A range to 100 D/C</td>
<td>100 kc to 100 mc</td>
<td>Fast direct readings of signals to 100 mc with 524A. No charts. Interpolation. Min. input 0.01 v</td>
<td>$350.00</td>
</tr>
<tr>
<td>-hp- 520A</td>
<td>Decade Scaler</td>
<td></td>
<td>Fast frequency measurements</td>
<td>$600.00</td>
</tr>
<tr>
<td>-hp- 522A</td>
<td>Wide-range frequency, period</td>
<td>10 cps to 100 kc</td>
<td>Frequency measuring gate time is 1 sec. or multiples; standard frequency counted for period measurement 100 kc</td>
<td>$775.00</td>
</tr>
<tr>
<td>-hp- 522B</td>
<td>Electronic Counter</td>
<td></td>
<td>Measures rate of occurrences 0.0001 to 10000/sec.; time interval 10 μsec to 27.8 hrs.; periods of frequency count 1/1000, 1/100, 1/10, 1, 10 sec. and multiples. Direct readings in cps, kc, sec. and milliseconds.</td>
<td>$900.00</td>
</tr>
<tr>
<td>-hp- 524A</td>
<td>Frequency, interval, time</td>
<td>.01 cps to 10 mc</td>
<td>Direct reading, no interpolation, accuracy about 2,000,000/week</td>
<td>$2,000.00</td>
</tr>
</tbody>
</table>

**Frequency measurement 0.01 cps to 100 mc... no computations or complex setups; usable by anyone!**

- **-hp- 524A Frequency Counter.** Measures instantly, automatically; presents results directly—determines any frequency 0.01 cps to 10 mc. Time of count 1/1000, 1/100, 1/10, 1 or 10 seconds. Accuracy of measurement 2/1,000,000/week. For low frequency work, measures duration one cycle in μsec, based on 10 cycle sample. Accuracy 0.03%. External standards usable if desired. Min. voltage of unknown, 1 v peak. Simple operation, easily used by untrained personnel. $2,000.00.

- **-hp- 512A Frequency Converter.** Operates with 524A Frequency Counter to extend counter's range from 10 mc to 100 mc. Makes possible fast, direct readings to 100 mc without interpolation, charts. Eliminates time-consuming setups, costly extra equipment. Operates only on 0.01 v input. Fundamental accuracy of -hp- 524A is maintained. $350.00.

*Data subject to change without notice. Prices f.o.b. factory.*
-hp- Waveguide Test Equipment - 2.6 to 18 kmc

Basic, low-cost elements offer utmost flexibility for assembly of exact instrumentation required. Each unit covers entire range of its waveguide size. Simple, sturdy mechanical design; accurate, multi-purpose operation.

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Coaxial Type N. Conn.</th>
<th>&quot;G&quot;</th>
<th>&quot;G&quot;</th>
<th>&quot;G&quot;</th>
<th>&quot;G&quot;</th>
<th>&quot;G&quot;</th>
<th>&quot;G&quot;</th>
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<tbody>
<tr>
<td>Adapters, Waveguide to Coax</td>
<td>5/8&quot;</td>
<td>2.6-3.95 kmc.</td>
<td>3.95-5.95 kmc.</td>
<td>5.05-8.2 kmc.</td>
<td>7.05-10.0 kmc.</td>
<td>11.0-13.2 kmc.</td>
<td>13.2-18.0 kmc.</td>
</tr>
<tr>
<td>Cover to choke Range</td>
<td>5/16&quot;</td>
<td>75.00</td>
<td>50.00</td>
<td>25.00</td>
<td>12.50</td>
<td>6.250</td>
<td>3.125</td>
</tr>
<tr>
<td>Terminations, Fixed &amp; 6, 10, 20 db</td>
<td>5/32&quot;</td>
<td>375.00</td>
<td>250.00</td>
<td>100.00</td>
<td>62.500</td>
<td>37.500</td>
<td>23.750</td>
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<tr>
<td>Resistors, 25 db max.</td>
<td>1/6&quot;</td>
<td>250.00</td>
<td>100.00</td>
<td>31.250</td>
<td>12.500</td>
<td>6.250</td>
<td>3.125</td>
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<tr>
<td>Calibrated, precision</td>
<td>1/8&quot;</td>
<td>5.00</td>
<td>2.50</td>
<td>1.250</td>
<td>0.625</td>
<td>0.3125</td>
<td>0.1563</td>
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<tr>
<td>Detector Mounts</td>
<td>440A</td>
<td>85.00</td>
<td>65.00</td>
<td>45.00</td>
<td>30.00</td>
<td>20.00</td>
<td>15.00</td>
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<tr>
<td>Frequency Meters, Reaction</td>
<td>440A</td>
<td>125.00</td>
<td>95.00</td>
<td>65.00</td>
<td>45.00</td>
<td>30.00</td>
<td>20.00</td>
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<tr>
<td>Directional Couplers, Cross Guide; 20, 30 db</td>
<td>440A</td>
<td>125.00</td>
<td>95.00</td>
<td>65.00</td>
<td>45.00</td>
<td>30.00</td>
<td>20.00</td>
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<tr>
<td>Directional Couplers, Multi Hole; 10, 20 db</td>
<td>440A</td>
<td>125.00</td>
<td>95.00</td>
<td>65.00</td>
<td>45.00</td>
<td>30.00</td>
<td>20.00</td>
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<tr>
<td>Slotted Sections, Waveguide</td>
<td>702A</td>
<td>50.00</td>
<td>30.00</td>
<td>15.00</td>
<td>9.000</td>
<td>5.000</td>
<td>3.000</td>
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<tr>
<td>Waveguide Test, Series</td>
<td>870A</td>
<td>150.00</td>
<td>100.00</td>
<td>62.500</td>
<td>37.500</td>
<td>23.750</td>
<td>15.000</td>
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<td>Shunt</td>
<td>870A</td>
<td>150.00</td>
<td>100.00</td>
<td>62.500</td>
<td>37.500</td>
<td>23.750</td>
<td>15.000</td>
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<tr>
<td>Transformers, Slide Screw</td>
<td>870A</td>
<td>150.00</td>
<td>100.00</td>
<td>62.500</td>
<td>37.500</td>
<td>23.750</td>
<td>15.000</td>
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<tr>
<td>E-H</td>
<td>870A</td>
<td>150.00</td>
<td>100.00</td>
<td>62.500</td>
<td>37.500</td>
<td>23.750</td>
<td>15.000</td>
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<tr>
<td>Terminations, Low Power</td>
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<td>Broad Band Probe</td>
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<td>Broad Band Probe, Unfused</td>
<td>444A</td>
<td>50.00</td>
<td>30.00</td>
<td>15.00</td>
<td>9.000</td>
<td>5.000</td>
<td>3.000</td>
</tr>
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</table>

Equipment below available for most waveguide bands. Table above shows data, prices.

- hp- 281A WAVEGUIDE- COAX ADAPTERS

For convenient transition between waveguide and coax systems. Each unit covers a full waveguide range with VSWR less than 1.15. Equipped with Type N connectors.

- hp- 750 CROSS-GUIDE COUPLERS

Directional couplers offered in 2 models with coupling factors of 20 or 30 db ± 1.5 db over full range of a waveguide. VSWR less than 1.15; directivity approx. 20 db. Available as a 4-terminal network.

- hp- 485B DETECTOR MOUNTS

To measure power over complete waveguide range in conjunction with -hp- 430B Power Meter and barretter. Also measures relative level, or detects rf energy using 1N21 or 1N23 crystal. Sensitive to movable sheet to VSWR 1.25.

- hp- X382A PRECISION ATTENUATOR

Precision broad band attenuation to 50 db. Completely independent of frequency; phase shift constant at all attenuations. Calibrated range 0 to 50 db, maximum error ± 2% of db reading. Range 8,200 to 12,400 me. VSWR less than 1.15 full range. Radical new design with rotating attenuator films.

- hp- 870A SLIDE SCREW TUNERS

For flattening waveguide systems. The position and penetration of a probe is adjusted to set up a VSWR which is used to cancel existing VSWR in system. VSWR values up to 20 can be corrected with accuracy of 1.02 VSWR.

- hp- 444A UNTUNED PROBE

A 1N26 crystal plus small antenna in a convenient, easy-to-use housing. Variable penetration depth, no tuning required. Sensitivity equal to single- or double-tuned probes. Frequency range: 2.6 to 18.0 kmc. Mounted in 809B Carriage. (See next page for carriage details.)

- hp- 375A FLAP ATTENUATORS

Simplifies adjusting power level in waveguide. Attenuation is quickly adjustable 0 thru 20 db. Approximate calibration. VSWR less than 1.15 over attenuation range. No leakage.

- hp- 752 MULTI-HOLE COUPLER

Directional couplers available in 2 models with coupling factors of 10 and 20 db ± 0.7 db over full range of a waveguide. VSWR better than 1.05. Directivity 40 db or better over entire range. Available as a 3-terminal network.

- hp- 914A MOVING LOAD

Low-reflection load covering full frequency range of guide. Load position variable at least 1/2 wavelength to reverse phase of reflection so that small residual reflections can be evaluated. Coefficient of reflection less than 1/4%.

Data subject to change without notice Prices f.o.b. factory.

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cies determined by klystron installed. Three klystrons available and selectivity, tuning anJ power level of radar, gunfire and external frequency. Ideal one-piece unit for measuring sensitivity or external frequency. High level, direct reading, portable test set simplifies lab or field work at frequencies 8,500 to 10,000 mc. RF output .225 v max. High stability attenuator reduces level by 100 db. May be pulsed or fm modulated. Separate section measures external rf power or power (50 v to 50 ohms load). Low impedance means accurate measurements. 10 'cps to 1 me. Negligible phase shift, no spurious responses. $140.00.

-hp- 623B SHF Test Set, like 624A but operates over frequencies determined by klystron installed. Three klystrons available (each with 600 mc bandwidth) for frequencies between 5,925 and 7,725 mc. Fm modulated. Includes 600 cps square wave modulator. $1,650.00 (with one Klystron).

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offers COMPLETE COVERAGE in convenient "next door" service! -hp- has selected the best independent organizations in America to give you personal help with measuring problems. Electronics specialists—men trained by Hewlett-Packard—save you time by helping you select exact -hp- instrumentation you need. These men are located in major business centers—as near to your telephone. Call them when you need personal help—in your plant—today!