COMPLETE COVERAGE

Amplifiers
Attenuators
Bolometer Mounts
Carrier Oscillators
Coaxial Instruments
Detectors
Directional Couplers
Distortion Analyzers
Electronic Counters
Electronic Tachometers
FM Monitors
Frequency Counters
Frequency Converters
Frequency Meters
Frequency Standards
Function Generators
Interpolation Oscillators
Low Pass Filters
Microwave Test Equipment
Nuclear Scalers
Oscillators
Power Meters
Power Supplies
Pulse Generators
Signal Generators
Slotted Sections
Square Wave Generators
Standing Wave Indicators
Time Interval Meters
TV Monitors
Vacuum Tube Voltmeters
VHF Bridge
Video Test Oscillators
Waveform Analyzers
Waveguide Equipment

HEWLETT-PACKARD COMPANY
275A Page Mill Road • Palo Alto, California, U.S.A.

Copyright 1955 Hewlett-Packard Company
www.HPARCHIVE.com
-hp- Oscillators — .01 to 10,000,000 cps

- 200 SERIES AUDIO OSCILLATORS

Four widely used -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 low distortion; require no zero set. -hp- also offers Model 202A for sub-audio and audio 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 mv to 3 v. Frequency response flat ± 1 db. Output impedance 600 ohms, or 6 ohms with voltage divider. $490.00.

-hp- Distortion, Wave Form Analyzers — 20 cps to 20 KC

- hp- 330B DISTORTION ANALYZER

Measures distortion as low as 0.1%, 20 cps to 20 KC. Measures noise voltages as low as 100 µv. High sensitivity, high stability, broad applicability for broadcast, laboratory or production. Wide band 20 db gain input amplifier. Built-in VTVM usable separately. $410.00.

-hp- Vacuum Tube Voltmeters — 10 to 700,000,000 cps

- hp- 400D VACUUM TUBE VOLTMETER

Best -hp- voltmeter ever built! Covers all frequencies 10 cps to 4 MC. Extremely sensitive, wide range, accurate within 2% to 1 MC, measures 0.1 mv to 300 v. Direct reading in dbm. 10 meg-ohm input impedance insures negligible loading on circuits under test. New amplifier circuit with 56 db mid-range feedback assures utmost stability, freedom from change due to external conditions. $225.00.

-hp- Distortion, Wave Form Analyzers — 20 cps to 20 KC

<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- 300A</td>
<td>Wave form analyzer</td>
<td>30 cps to 16 KC</td>
<td>Variable selectivity; measuring range 1 mv to 500 v</td>
<td>$775.00</td>
</tr>
<tr>
<td>-hp- 330B</td>
<td>Measures total audio distortion</td>
<td>20 cps to 20 KC</td>
<td>Includes input amplifier, VTVM</td>
<td>$410.00</td>
</tr>
<tr>
<td>-hp- 330C</td>
<td>For FM broadcast measurements</td>
<td>20 cps to 20 KC</td>
<td>Special VU meter to meet F.C.C. requirements</td>
<td>$440.00</td>
</tr>
<tr>
<td>-hp- 330D</td>
<td>For AM-FM broadcast measurements</td>
<td>20 cps to 20 KC</td>
<td>AM detector and VU meter to meet F.C.C. requirements</td>
<td>$455.00</td>
</tr>
</tbody>
</table>

-hp- Voltmeter Accessories (not listed) include voltage dividers, connectors, shunts and multipliers to extend the useful range of your equipment.

-hp- Oscillators — .01 to 10,000,000 cps

-hp- 200 SERIES AUDIO OSCILLATORS

Four widely used -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 low distortion; require no zero set. -hp- also offers Model 202A for sub-audio and audio tests; and Model 2001, a spread-scale oscillator for interpolation or where frequency must be known precisely.

<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/100 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- 200E</td>
<td>Interpolation and frequency measurements</td>
<td>1 cps to 6 KC</td>
<td>100 mw/10 v</td>
<td>$275.00</td>
</tr>
<tr>
<td>-hp- 200T</td>
<td>Telemetry, carrier current tests</td>
<td>100 cps to 100 KC</td>
<td>180 mw/20 v</td>
<td>$350.00</td>
</tr>
<tr>
<td>-hp- 201B</td>
<td>High quality audio tests</td>
<td>20 cps to 20 KC</td>
<td>3 w/120 v</td>
<td>$250.00</td>
</tr>
<tr>
<td>-hp- 202A</td>
<td>Low frequency measurements</td>
<td>.008 to 1,200 cps</td>
<td>20 mw/10 v</td>
<td>$465.00</td>
</tr>
<tr>
<td>-hp- 202B</td>
<td>Low frequency measurements</td>
<td>1/2 cps to 50 KC</td>
<td>100 mw/10 v</td>
<td>$365.00</td>
</tr>
<tr>
<td>-hp- 202A</td>
<td>High power tests, gain measurements</td>
<td>20 cps to 20 KC</td>
<td>5 watts</td>
<td>$400.00</td>
</tr>
<tr>
<td>-hp- 202A</td>
<td>High quality, high accuracy audio tests</td>
<td>20 cps to 20 KC</td>
<td>+15 dbm</td>
<td>$565.00</td>
</tr>
<tr>
<td>-hp- 203A</td>
<td>Carrier test oscillator</td>
<td>50 cps to 500 KC</td>
<td>3 w/600 ohms</td>
<td>$475.00</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>$490.00</td>
</tr>
</tbody>
</table>

*Open circuit. Internal impedance 600 ohms.

△ Includes new lightweight all-metal cabinet with carrying handles. Also available for rack mounting at slightly lower prices.

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

www.HPARCHIVE.com
**hp 524B ELECTRONIC COUNTER**

with plug-in units to fit your exact measuring need

---

**-hp- 524B COUNTER with -hp- 525A FREQUENCY CONVERTER**

Frequency 10 cps to 220 MC, interval 1 psec to 100 days and period 0 cps to 10 KC—all measured instantly, automatically, directly by the revolutionary new -hp- 524B and its plug-in units. You buy just the instrumentation you need; later add inexpensive plug-ins to double, triple the versatility of this complete coverage instrument. For extended coverage to 12,000 MC, see -hp- 540A Transfer Oscillator below. -hp- 524B without plug-ins. $2,150.00

---

**Other -hp- Frequency Measuring and Monitoring Equipment**

**-hp- 100D SECONDARY FREQUENCY STANDARD**

Swift, sure frequency comparison, new convenience in standardizing with minimum external equipment. 100 psec time markers, built-in oscilloscope, sine or rectangular waves. Low output impedance; short-time stability 1/1,000,000. Performs most functions of primary standards in audio, rf or supersonic ranges. $615.00

**-hp- 335E TV MONITOR**

Channels 2 through 83. Exceeds F.C.C. requirements. Compact, only 12¾" high, rack mounted. Low cost, all-purpose, for visual and aural frequency monitoring, carrier separation, percentage aural modulation. Long-term dependability, precise accuracy, highest stability, no adjustment during operation. Forced ventilation, remote indication features. $2,050.00

**-hp- 524B ELECTRONIC COUNTER**

Compact, low cost, versatile instrument for frequency, period or time measurements. Range 10 cps to 120 KC. Reads direct in cps, sec or milli-sec. Counts automatically reset, action repetitive. Count automatically reset, action repetitive. Stability of time base 1/1,000,000. Display length variable. Easily used by untrained personnel. $915.00

**-hp- 525A TRANSFER OSCILLATOR**

Extends frequency counter accuracy to microwave region. With -hp- 524B and -hp- 525B measures frequency of CW, pulse, or FM'd signals to 5,000 MC. With external detector extends range to 12,000 MC. $615.00

---

△ Includes new lightweight all-metal cabinet with carrying handles. Also available for rack mounting at slightly lower prices.

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

www.HPARCHIVE.com
Microwave Impedance Measuring Equipment

- **-hp- 4158 STANDING WAVE INDICATOR**

For all waveguide or coaxial slotted sections. Gives readings in SWR or db. Single frequency operation: 315 to 3,000 cps. Low noise level, 0.1 µv (full scale) sensitivity, 70 db, calib. attenuator. $200.00.

- **-hp- 416A RATIO METER**

Automatically combines forward and reverse signals and displays their ratio directly, irrespective of amplitude variations. Contains rf power monitor indicating proper power level. Rear terminal signal and displays their ratio directly, irrespective of amplitude variations. Contains rf power monitor indicating proper power level. $450.00Δ.

- **-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; 2.39-5.65</th>
<th>&quot;H&quot; 5.2-8.2</th>
<th>&quot;I&quot; 7.05-10.0</th>
<th>&quot;X&quot; 8.2-12.4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adapter, Waveguide to Coax</td>
<td>226A $75.00</td>
<td>G263A $55.00</td>
<td>G281A $50.00</td>
<td>H281A $50.00</td>
<td>X281A $50.00</td>
</tr>
<tr>
<td>Cover to choke flange</td>
<td>226A $75.00</td>
<td>G263A $55.00</td>
<td>G281A $50.00</td>
<td>H281A $50.00</td>
<td>X281A $50.00</td>
</tr>
<tr>
<td>Attenuators, Fixed, 3, 6, 10, 20 db</td>
<td>3375A $100.00</td>
<td>G3375A $100.00</td>
<td>G3373A $100.00</td>
<td>H3373A $100.00</td>
<td>X3373A $100.00</td>
</tr>
<tr>
<td>Flap, 25 db max.</td>
<td>3380A $125.00</td>
<td>G3380A $125.00</td>
<td>G3380A $125.00</td>
<td>H3380A $125.00</td>
<td>X3380A $125.00</td>
</tr>
<tr>
<td>Calibrated, precision</td>
<td>426A $45.00</td>
<td>G426A $45.00</td>
<td>G426A $45.00</td>
<td>H426A $45.00</td>
<td>X426A $45.00</td>
</tr>
<tr>
<td>Thermistor Mounts (Fixed tuned)</td>
<td>440A $45.00</td>
<td>G440A $45.00</td>
<td>G440A $45.00</td>
<td>H440A $45.00</td>
<td>X440A $45.00</td>
</tr>
<tr>
<td>Frequency Meter, Reaction</td>
<td>477A $75.00</td>
<td>G477A $75.00</td>
<td>G477A $75.00</td>
<td>H477A $75.00</td>
<td>X477A $75.00</td>
</tr>
<tr>
<td>Directional Couplers, Cross Guides 20, 30 db</td>
<td>5625A $100.00</td>
<td>G5625A $100.00</td>
<td>G5625A $100.00</td>
<td>H5625A $100.00</td>
<td>X5625A $100.00</td>
</tr>
<tr>
<td>Directional Couplers, Multi Hole 3, 10, 20 db</td>
<td>5625A $125.00</td>
<td>G5625A $125.00</td>
<td>G5625A $125.00</td>
<td>H5625A $125.00</td>
<td>X5625A $125.00</td>
</tr>
<tr>
<td>Universal Waveguide Carriage</td>
<td>809A $85.00</td>
<td>G809A $85.00</td>
<td>G809A $85.00</td>
<td>H809A $85.00</td>
<td>X809A $85.00</td>
</tr>
<tr>
<td>Slotted Sections, Waveguide</td>
<td>819A $95.00</td>
<td>G819A $95.00</td>
<td>G819A $95.00</td>
<td>H819A $95.00</td>
<td>X819A $95.00</td>
</tr>
<tr>
<td>Waveguide Tens, Series</td>
<td>840A $100.00</td>
<td>G840A $100.00</td>
<td>G840A $100.00</td>
<td>H840A $100.00</td>
<td>X840A $100.00</td>
</tr>
<tr>
<td>Shunt</td>
<td>841A $100.00</td>
<td>G841A $100.00</td>
<td>G841A $100.00</td>
<td>H841A $100.00</td>
<td>X841A $100.00</td>
</tr>
<tr>
<td>Transformer, Sliding Screw</td>
<td>845A $100.00</td>
<td>G845A $100.00</td>
<td>G845A $100.00</td>
<td>H845A $100.00</td>
<td>X845A $100.00</td>
</tr>
<tr>
<td>B-H</td>
<td>880A $25.00</td>
<td>G880A $25.00</td>
<td>G880A $25.00</td>
<td>H880A $25.00</td>
<td>X880A $25.00</td>
</tr>
<tr>
<td>Waveguide Phase Shifter</td>
<td>886A $25.00</td>
<td>G886A $25.00</td>
<td>G886A $25.00</td>
<td>H886A $25.00</td>
<td>X886A $25.00</td>
</tr>
<tr>
<td>Waveguide Horn</td>
<td>890A $25.00</td>
<td>G890A $25.00</td>
<td>G890A $25.00</td>
<td>H890A $25.00</td>
<td>X890A $25.00</td>
</tr>
<tr>
<td>Terminations, Low Power</td>
<td>910A $45.00</td>
<td>G910A $45.00</td>
<td>G910A $45.00</td>
<td>H910A $45.00</td>
<td>X910A $45.00</td>
</tr>
<tr>
<td>Terminations, High Power</td>
<td>912A $50.00</td>
<td>G912A $50.00</td>
<td>G912A $50.00</td>
<td>H912A $50.00</td>
<td>X912A $50.00</td>
</tr>
<tr>
<td>Moving Load</td>
<td>914A $50.00</td>
<td>G914A $50.00</td>
<td>G914A $50.00</td>
<td>H914A $50.00</td>
<td>X914A $50.00</td>
</tr>
<tr>
<td>Standard Reflections</td>
<td>925A $50.00</td>
<td>G925A $50.00</td>
<td>G925A $50.00</td>
<td>H925A $50.00</td>
<td>X925A $50.00</td>
</tr>
<tr>
<td>Adjustable Shorts</td>
<td>927A $50.00</td>
<td>G927A $50.00</td>
<td>G927A $50.00</td>
<td>H927A $50.00</td>
<td>X927A $50.00</td>
</tr>
<tr>
<td>Broad Band Probe</td>
<td>442A $35.00</td>
<td>G442A $35.00</td>
<td>G442A $35.00</td>
<td>H442A $35.00</td>
<td>X442A $35.00</td>
</tr>
<tr>
<td>Broad Band Probe, Untuned</td>
<td>444A $50.00</td>
<td>G444A $50.00</td>
<td>G444A $50.00</td>
<td>H444A $50.00</td>
<td>X444A $50.00</td>
</tr>
</tbody>
</table>

For use with barretter or crystal. Δ For use with barretter only. •• Complete assembly including carriage. Δ Δ Mounts in 809A Carriage — See next page. Includes Thermistor, installed. See page 5. ** Δ Δ Includes barretter; checked for square law characteristics. △ Includes new lightweight all-metal cabinet with carrying handles. Also available for rack mounting at slightly lower prices. Data subject to change without notice. Prices f.o.b. factory.
Microwave Power Measuring Equipment

<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- 430C Microwave Power Meter</td>
<td>Measurement of rf power</td>
<td>Depends on Bolometer mount</td>
<td>.01 to 10 mw ± 5% accuracy</td>
<td>$250.00</td>
</tr>
<tr>
<td>-hp- 475B Tunable Bolometer Mount</td>
<td>Measurement of rf power</td>
<td>1,000 to 4,000 MC</td>
<td>Matches 50-ohm line to 100 or 200 ohms</td>
<td>$200.00</td>
</tr>
<tr>
<td>-hp- 476A Universal Bolometer Mount</td>
<td>Measurement of rf power</td>
<td>10 to 1,000 MC</td>
<td>No tuning required SWR less than 1.25</td>
<td>$85.00</td>
</tr>
<tr>
<td>-hp- 477A Coaxial Thermistor Mount</td>
<td>Measurement of rf power</td>
<td>10 to 10,000 MC</td>
<td>Broad band, low SWR, no tuning</td>
<td>$75.00</td>
</tr>
<tr>
<td>-hp- 485 Waveguide Detector Mount</td>
<td>Measurement of rf power</td>
<td>2,400 to 18,000 MC</td>
<td>Full coverage of waveguide band</td>
<td>See Table page 4</td>
</tr>
<tr>
<td>-hp- 487A Waveguide Thermistor Mount</td>
<td>Measurement of rf power</td>
<td>4,000 to 12,000 MC</td>
<td>Full coverage, no tuning, 1.5 SWR</td>
<td>See Table page 4</td>
</tr>
<tr>
<td>-hp- 746D Coaxial Directional Coupler</td>
<td>Measurement of rf power</td>
<td>950 to 2,000 MC</td>
<td>Coupling attenuation 20 db, directivity 20 db</td>
<td>$100.00</td>
</tr>
<tr>
<td>-hp- 747D Coaxial Directional Coupler</td>
<td>Measurement of rf power</td>
<td>2,000 to 4,000 MC</td>
<td>Coupling attenuation 20 db, directivity 20 db</td>
<td>$100.00</td>
</tr>
</tbody>
</table>

Equipment below available for most waveguide frequencies

See table at left for data, prices.

- **-hp- 809B UNIVERSAL PROBE CARRIAGE**
  - **-hp- 810 WAVEGUIDE SLOTTED SECTIONS**
  - **-hp- 382A PRECISION ATTENUATOR**
  - **-hp- 281A WAVEGUIDE-COAX ADAPTERS**
  - **-hp- 444A UNTUNED PROBE**
  - **-hp- 487A THERMISTOR MOUNT**
  - **-hp- 485B DETECTOR MOUNTS**
  - **-hp- 870A SLIDE SCREW TUNERS**
  - **-hp- 885A PHASE SHIFTER**

Convenient, all-purpose -hp- 809B carriage operates with six different -hp- slotted sections, waveguide and coaxial. Sections covering frequencies 3,000 to 18,000 MC—sections interchangeable in 30 seconds. Precision-built carriage calibrated in mm to 0.1 mm; dial gauge may be mounted. Operates with -hp- 443B Broad Band Probe and -hp- 444A Coaxial Detector in combination; or with -hp- 444A Untuned Probe.

- **-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- 810A, complete slotted section assembly including probe carriage available for 2.6 to 3.95 KMC band only.

- **-hp- 420A CRYSTAL DETECTOR**

For flattening waveguide systems. The position and penetration of a probe is adjusted to set up an SWR which is used to cancel existing SWR in system. SWR values up to 2 can be corrected with accuracy of 1.02 SWR.

Equipment available for most waveguide frequencies

See table at left for data, prices.

- **-hp- 430C MICROWAVE POWER METER**
  - **-hp- 767D COAXIAL DIRECTIONAL COUPLER**
  - **-hp- 477A COAXIAL THERMISTOR MOUNT**
  - **-hp- 475B Tunable Bolometer Mount**
  - **-hp- 476A Universal Bolometer Mount**
  - **-hp- 477A Coaxial Thermistor Mount**
  - **-hp- 485 Waveguide Detector Mount**
  - **-hp- 487A Waveguide Thermistor Mount**
  - **-hp- 746D Coaxial Directional Coupler**
  - **-hp- 747D Coaxial Directional Coupler**

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

www.HPARCHIVE.com
-hp- Signal Generators – 10 to 21,000 MC

- hp- 608D vhf SIGNAL GENERATOR
10 to 420 MC. Highest stability. No incidental FM or frequency drift. Calibrated output 0.1 µv to 0.5 v throughout range. Built-in crystal calibrator provides frequency check accurate within 0.01% each 5 MC. Master-oscillator, intermediate and output amplifier circuit design. Premium quality performance, direct calibration, ideal for aircraft communications equipment testing. $1,050.00.

- hp- 608C vhf Signal Generator. High power (1 v max.) stable, accurate generator for lab or field use. 10 to 450 MC. Ideal for testing receivers, amplifiers, driving bridges, slotted lines, antennas, etc. $950.00.

- hp- 612A X-BAND TEST SET
High level, direct reading, portable test set simplifies lab or field work at frequencies from 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. Waveguide switch permits measurement of external power or external frequency. Ideal one-piece unit for measuring sensitivity and selectivity, tuning and power level of radar, gunfire and beacon systems. $2,265.00Δ.

- hp- 212A PULSE GENERATOR
Provides continuously variable, high power “fast pulses” of superior wave form. Combines broad general usefulness with 0.02 µsec rise and decay time to meet requirements of radar, TV and nuclear work. Pulse length variable 0.07 to 10 µsec; minimum overshoot; 50 watt peak power (50 to 50 ohms load). Low impedance means accurate pulses can be delivered at a distance from the instrument. Repetition rate variable 50 to 5,000 pps; controlled internally or externally. Synchronizing pulses available in advance of, or following output pulse. $565.00Δ.

- hp- 715A POWER SUPPLY
- hp- 715A is a versatile source of regulated beam and reflector voltage for operating most test bench klystron tubes. Beam voltage 250 to 400 v; reflector voltage 0 to 900 v; 6.3 v filament. Internal, 1,000 cps square wave modulation, also 60 cps FM modulation, both on reflector voltage. $300.00.

- hp- 712B POWER SUPPLY
This new - hp- instrument features high regulation of 0.01%, 0.1 millisecond transient response, internal impedance 0.1 ohms in series with 23 µH; full-load maximum hum less than 500 µv, sealed transformers, chokes and condensers. 0 to 500 v, 200 ma supply and fixed – 500 v tap providing a 50 ma, 300 to 800 v variable supply for klystron operation. $365.00Δ.

- hp- 608D X-BAND SIGNAL GENERATOR
Includes new lightweight all-metal cabinet with carrying handles. Also available for rack mounting at slightly lower prices. Data subject to change without notice. Prices f.o.b. factory.

- hp- Regulated Power Supplies

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Frequency Range</th>
<th>Characteristics</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>- hp- 710B Power Supply</td>
<td>For low power bench and permanent setups</td>
<td>100 to 360 volts at 75 milliamperes</td>
<td>100.00</td>
</tr>
<tr>
<td>- hp- 711A Power Supply</td>
<td>For powering experimental bench setups requiring wide voltage range, low power</td>
<td>0 to 500 volts at 100 milliamperes</td>
<td>225.00</td>
</tr>
<tr>
<td>- hp- 712B Power Supply</td>
<td>Meets requirements for heavy duty field and lab work</td>
<td>0 to 500 volts at 200 milliamperes at 0.01% regulation</td>
<td>365.00Δ</td>
</tr>
<tr>
<td>- hp- 715A Klystron Power Supply</td>
<td>Regulated beam, reflector source for low power klystrons</td>
<td>Beam 250 to 400 volts at 50 milliamperes; Reflector 0-900 volts</td>
<td>300.00</td>
</tr>
<tr>
<td>- hp- 717A Klystron Power Supply</td>
<td>Regulated beam, reflector source for Type 5721 klystrons and for - hp- 670 series</td>
<td>Sweep Frequency Oscillators</td>
<td>265.00Δ</td>
</tr>
</tbody>
</table>

Δ Includes new lightweight all-metal cabinet with carrying handles. Also available for rack mounting at slightly lower prices.
Amplifiers for General Use and Fast-Circuit Work

**-hp- 460A/B AMPLIFIERS**

Complete instrumentation for distortion-free fast pulse measurement.

**Wide Band Amplifiers**, in cascade with -hp-460B

**Fast-Pulse Amplifiers** offer up to 90 db gain, 125 v open circuit output. This permits full deflection of SXP CRT, or 2-inch deflection of SCP tubes. Rise time 0.0026 I/sec; can amplify millimicrosecond pulses; gives over 100 MC bandwidth to your standard oscilloscope. 460A, $185.00; 460B, $225.00. Connecting cables, plugs, accessories—prices on request.

**-hp- 450A AMPLIFIER**

Time-tested, general purpose instrument, 20 db or 40 db gain, for use wherever wide frequency range and high stability are needed. 5 cps to 1 MC. Negligible phase shift, no spurious responses. $140.00.

**-hp- 490A/491A TRAVELING-WAVE TUBE AMPLIFIERS**

Two new broad band linear instruments providing a new, simple way to amplify, modulate, or increase power to 1 watt. Full S-Band Coverage—2 to 4 KMC; 50 and 35 db gain, millimicrosecond pulse modulation, radical new coupled-helix design. High gain, low noise, -hp- 490A, $1,100.00. -hp- 491A, $1,100.00 (Includes capsulated tube).

**-hp- AC-4A Decade Counter**

Unique design enables AC-4A Counters to establish new standards of reliability while providing continuous counting to 120 KC. Low in cost, they fit all standard decade counters as ideal replacement units. A staircase output voltage proportional to count is available to operate recorders or external equipment using coincidence detectors. The exclusive -hp- etched circuit means low temperature op-eration, longer life. Optically engineered illuminated numerals are clear, bright, easy to read under all conditions. Double pulse resolution, 5 nsec. Input, approx. 80 v neg.; 1 nsec rise time. Output, approx. 80 v neg. to drive succeeding counter. Reset 0 or 9. Staircase output, 155 v at 0, 55 v at 9. Internal resistance 700 K. $45.00. (Quantity discount prices on request.)

**New Streamlined All-Metal -hp- Cabinets**

3 mounting options, greater flexibility of use

Now you can buy -hp- instruments mounted any of three ways, and, later on, change to any other mounting you wish. This new versatility means greater utilization of your -hp- instruments, and can also increase the flexibility of your entire instrument setup.

**Cabinets.** -hp- instruments having the standard 105/2 x 19" panel are now available in standardized -hp- AC-44 aluminum-and-steel cabinets. Equipped with sturdy carrying handles, these cabinets give your -hp- instruments greater protection, better ventilation, and a clean, rugged, modern appearance. Either the separate back cover or the cabinet itself can be removed quickly and easily. Cabinets are finished in wrinkle grey matching the -hp- grey baked enamel panel faces. Cabinet, with instrument, $19.00; separately, $25.00.

End frames. To increase flexibility and convenience of -hp- instruments for bench use, -hp- Model 17 End Frames are offered. These frames are of heavy gauge aluminum, equipped with sturdy carrying handles and finished in -hp- grey baked enamel. They fit all late model -hp- instruments with panel size 105/2 x 19", and may be attached in moments. -hp- 17 End Frames, $7.50 set.

Rack mounting. Many -hp- instruments are basically rack mounting and can be installed directly into 19" relay racks. Many other -hp- instruments can be equipped for relay rack mounting at slight additional charge. A complete list of instruments available for rack mounting will be sent on request.

Smaller -hp- instruments, too, are now being delivered in new, streamlined cabinets. -hp- 512A/B Frequency Converter, illustrated, shows the rugged, lightweight metal cabinet now offered with such instruments as -hp- 200AB, 200CD, 410B and 715A.

△ Includes new lightweight all-metal cabinet with carrying handles. Also available for rack mounting at slightly lower prices.

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

www.HPARCHIVE.com
In electronic test instruments, Hewlett-Packard gives you complete coverage several different ways.

In development — *hp*— engineer teams are continually at work designing and producing accurate, helpful new instruments that meet and anticipate the demands of electronics.

In instrumentation—the *hp* line is the world’s largest and most complete. You choose from over 250 instruments the ones that provide exactly the measuring coverage you require.

In frequency coverage—*hp* makes nearly every kind of useful electronic test instrument. And, for almost all useful frequencies, too. For example, *hp* signal generators offer solid frequency coverage from 10 to 21,000 MC; *hp* voltmeters from 2 to 700,000,000 cps, oscillators from .008 to 10,000,000 cps.

In personal service — *hp* has selected the best independent organizations to give you personal help with measuring problems. Electronics specialists—men trained by Hewlett-Packard—save you time by helping select the exact *hp* instrumentation you need — and following through to be sure the equipment is properly utilized to serve you best. These men are located in major business centers—as near as your telephone. Call them when you need personal help—in your plant, today.