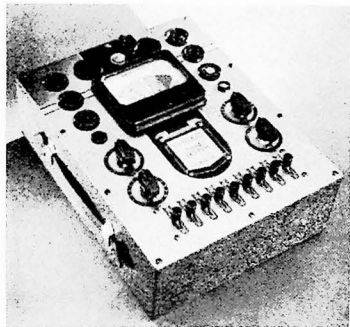


PHILCO TEST INSTRUMENTS

TUBE TESTER

Model 050

Is Up-to-Date . . . and Will Stay Up-to-Date!



TESTS ALL LATEST TUBES—

Including XXL, XXD—just announced by PHILCO, and all bantam types.

ADAPTED FOR FUTURE TUBE TYPES!

Exclusive selector system will take care of every possible rearrangement of tube base connections. Should the future bring new types of bases, additional sockets to accommodate them can be quickly inserted in panel by removing spring caps in extra socket holes.

OTHER EXCLUSIVE FEATURES

QUICK, ACCURATE TEST—Under proper load conditions.

CONVENIENT, SENSITIVE SHORT TEST—Indicates leakage to each element separately. **COMPLETE, EASY-TO-READ CHART**—Includes testing information on all existing tubes.

COMPACT DESIGN—Equally suitable for portable or counter use.

DURABLY FINISHED, RUGGEDLY BUILT FOR THE LONG SERVICE IT WILL GIVE BECAUSE OF FREEDOM FROM OBSOLESCENCE.

AC OPERATED—110 volts, 50-60 cycles.

Dealer Net Price **\$34.50**

VACUUM TUBE VOLTMETER AND CIRCUIT TESTER

Model 027



Here is an accurate tester that can keep up with you in your troubleshooting work. Any one of its twenty scales is instantly connected to the test leads at the touch of a button! The vacuum tube voltmeter is stable and easy to use for checking AVC and AFC voltages, measuring oscillator output, amplifier gain, etc.

AC operated, 110 volts, 50-60 cycles.

Ranges are as follows:

Vacuum Tube Voltmeter (Infinite ohms per volt) 0-10 volts

Ohms 0-150, 15,000, 1.5 Megohms, 150 Megohms

Volts DC 0-30, 100, 300, 1000

Volts AC 0-30, 100, 300, 1000

Current DC 0-10, 100 M.A. 0-10 amps.

Output Volts AC 0-30, 100, 300, 1000

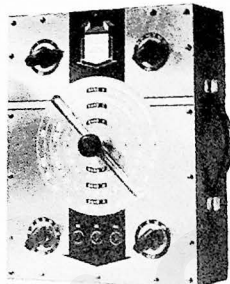
Dealer Net Price, including 2 test leads and plug-in AC cord, **\$45.00.**

ALL-WAVE

SIGNAL GENERATOR

Model 070

A Laboratory Instrument at a Service Instrument Price!



This is the newest addition to the Philco line of test instruments. It supersedes the Model 077 Signal Generator—now used by more service men than any other type! The new signal generator contains all the features of the former model and has many new additional improvements.

Frequency range in six well-spaced scales of large diameter is 120 K.C. to 70 M.C.—sufficient to cover the television and F.M. bands!

Ladder type, constant impedance attenuator controls signal in multiples of 1, 10, 100 and 1000. A second calibrated attenuator provides continuously variable control between multiples.

With the new magnifying lucite pointer, hair-line settings can be made instantly without the awkward use of anti-parallax attachments.

R.F. leakage has been eliminated through complete shielding of the attenuator system and the non-radiating qualities of the lucite pointer.

Panel is satin finished, chromium with colored baked-on enamel lettering.

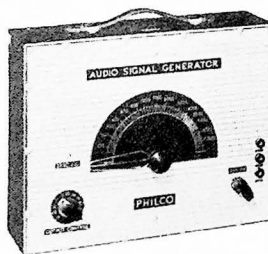
You will find the use of this instrument will add immeasurable pleasure to your service work. It is truly a masterpiece of engineering.

AC operated, 110 volts, 50-60 cycles.

Dealer Net Price, including shielded antenna lead and plug-in AC cord, **\$29.75.**

AUDIO SIGNAL GENERATOR

Model 044



An indispensable instrument—because it takes the guesswork out of service. This signal generator pays for itself if used for only ONE of its many functions — testing speaker cones at their natural period of vibration. This test enables you to check a speaker cone at the frequency that quickly reveals imperfect centering, rattles or buzzes.

Also useful in testing audio response of any part of set, locating rattles in parts of chassis, adjusting 10 K.C. filters in high fidelity sets, checking bass compensation. Output can be obtained in the form of an audio frequency signal for application to any part of an audio system or as a modulated R.F. signal of 580 K.C.

AC operated, 110 volts, 50-60 cycles.

Dealer Net Price, including shielded antenna lead and plug-in AC cord, **\$22.65.**

DIMENSIONS OF ALL INSTRUMENTS SHOWN ON THIS PAGE 13" x 10" x 4"

PHILCO TEST INSTRUMENTS

VOLT-WATTMETER WITH CARRYING CASE

MODEL 029 AC-DC



Checks power consumption, in watts, of radios, refrigerators, air conditioners, and all other appliances, and indicates line voltage at the same time. This type of test is important in checking a radio because it shows up excess current drain through electrolytic condensers—in a refrigerating system it indicates the load on the compressor. This is the only method of testing a compressor in a sealed refrigerating unit because no pressure gauges can be used. The test of voltage drop in house wiring, by this instrument is especially useful when installing large air conditioners.

Heavy conductor cord, with plug, connects Volt-Wattmeter to electrical outlet. Appliance to be tested plugs into receptacle on side of meter case. Exciting pointer swing from motor starting current is prevented by release button on panel which must be pressed for watt reading. Pin jacks are provided for the use of test leads in checking voltage or current continuity. When the jacks are used an isolating switch must be turned, which prevents short circuits

between the test prods and the circuit to which the wattmeter might be plugged-in.

METER SCALES

Watts—0-375, 0-1500.

Volts—0-250 with red lines at 110 V. and 220 V.

Accuracy—AC—Wattmeter and Voltmeter within 1½%, DC—Wattmeter, 1½%; Voltmeter, 2½%.

Dimensions—7" x 7" x 4¼".

Dealer Net Price **\$34.50**

CIRCUIT TESTER

MODEL 026



A compact low-priced complete set tester with 23 useful measuring ranges.

Equipped with a sensitive, high-quality meter, the 026 provides accurate tests of voltage, current, resistance and capacity, and makes an ideal output meter for use in alignment work.

Furnished complete with test prods, leads, output meter connectors and full instructions. A remarkable value.

ACCURATE METER RANGES

Voltmeter A.C.—
0-20 volts
0-100 volts
0-300 volts
0-1000 volts

Ohmmeter— Voltmeter D.C.—
0-150 ohms 0-30 volts
0-15000 ohms 0-100 volts
0-1.5 megohms 0-300 volts
0-1000 volts

Voltmeter— Output— Current D.C.—
0-30 volts 0-10 ma.
0-100 volts 0-100 ma.
0-300 volts 0-100 ma.
0-1000 volts 0-10 amps.

Dealer Net Price **\$22.50**

CONDENSER TESTER

MODEL 010



Accurate—Fast Direct Reading

Measures condenser values from 20 mmfd. to 32 mfd. Capacity directly indicated on calibrated scale—Plugs into 60 cycle A.C. power supply—No batteries or tubes—Bridge type

circuit—Balance point is obtained through any A.C. Voltmeter or headphones.

Dealer Net Price **\$6.30**

VIBRATOR TESTER

MODEL 013



Tests Vibrators for all makes and models of Auto Radios—Simple to operate—No controls to adjust—No meters to read—Indicates the condition of a Vibrator quickly and accurately—Operates from a 115 volt A.C. power supply.

Dealer Net Price **\$7.95**

TELEVISION OSCILLOSCOPE

MODEL 022T



The Model 022T Oscilloscope can be used for viewing wave forms in various parts of the television receiver circuit. The vertical amplifier has a frequency range of approximately 20 to 600,000 cycles, which is necessary to observe accurately the wave shapes occurring in television circuits. The vertical amplifier also has unusually high gain, which supplies the sensitivity needed for deflection of the electron beam when it is desired to study very low voltages.

By means of a special resistance-capacity type, tapped attenuator, waveform distortion is avoided and attenuation is obtained in steps from 6 to 66 db. The instrument also contains a saw-tooth oscillator with a selection of seven sweep frequencies and a horizontal amplifier. A two inch cathode-ray tube is used.

Dimensions 13" x 10" x 4"

Dealer Net Price complete with plug-in AC cord. . . . **\$75.00**

STANDARD OSCILLOSCOPE

MODEL 022

Model 022 is a self-synchronizing standard Oscilloscope designed with a minimum of controls for simplified operation—A high-quality Precision Test Instrument for checking the entire Radio Receiver for troubles such as hum, distortion, overloading and power-handling ability. Compact in construction and light in weight. Same as Model 022T in appearance and size.

AC operated 110 volts 50-60 cycles

Dealer Net Price complete with plug-in AC cord. . . . **\$42.00**

TELEVISION SIGNAL GENERATOR

MODEL 077T



The Model 077T Television Signal Generator supplies a video signal consisting of horizontal blanking and synchronizing wave forms with vertical blanking and serrated wave forms locked with the 60-cycle line frequency. Video signals of both polarities are provided.

A Light Level or background control regulates the average height of the blanking pulse.

To the input terminals, any form of picture signal may be inserted and added to the composite signal.

The Television Signal Generator also contains a miniature television transmitter, which provides radio-frequency carrier signals modulated by the above composite signals, which may be tuned by push buttons to any of the seven television channels.

With this instrument RF and IF stages can be aligned on all television bands, and the video circuits can be checked and adjusted. The instrument supplies either a video signal or a modulated RF signal as needed. This signal is the same as would be received from a television transmitter so that a receiver may be serviced whether a station is on the air or not.

With the use of the Signal Generator, a frame actually appears on the screen of the television receiver's cathode-ray tube.

There are attenuators to control both the video and the RF output of the generator, in addition to the "light level" control.

Dealer Net Price **\$60.00**

PHILCO TEST INSTRUMENTS

A New Kind of Test Instrument!

PUSH-BUTTON SIGNAL GENERATOR

MODEL 016

Here is the instrument you have been waiting for! . . . designed in response to suggestions from many RMS Members. It is a push-button-operated, AC-DC signal generator with all the I.F. and R.F. aligning frequencies you need, available instantly at your finger tips . . . No more poring over confusing dial scales to get the signal you need in a hurry!

Accurate, permanent calibration is assured through the use of no drift ceramic compensating condensers in each of the twelve tuned circuits. The six push buttons operate in two frequency bands controlled by the I.F.-R.F. band selector switch to produce the following fundamental frequencies:—

I.F.—175, 260, 350, 455, 460, 470 K.C.
R.F.—580, 1000, 1400, 1600, 2500 and 3000 K.C.

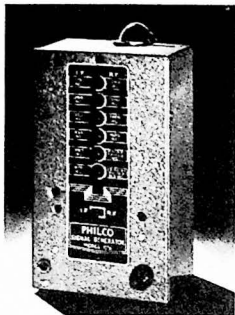
(The 3000 K.C. signal produces harmonics at 6MC, 9MC, 12MC and 15MC.)

Any of the frequency settings can be changed by removing the escutcheon plate which covers the twelve compensators, and resetting the compensator (I.F. or R.F.) opposite the button to be changed.

Signal output is controlled by accurately tapered attenuator. Complete shielding and a three section line filter minimize radiation.

Case which measures 8½" x 5" x 3" is attractively finished in crystal gray.

Dealer Net Price **\$15.98**



POCKET SIZE CIRCUIT TESTER

MODEL 023



This is the new Model 023 circuit tester which is small enough to carry around in the pocket. The new tester does all the tricks of a larger unit and yet its size is only 5¼" long, 3" wide and 2¼" high.

The Model 023 has five DC voltage ranges as follows: 0-10 volts, 0-50 volts, 0-250 volts, 0-500 volts, 0-1000 volts. It also has a new feature which is not found on other testers, a 0-250 millivolt scale, extremely useful in making adjustments of the light cell phonograph pickup by actual measurement of the light cell voltage output. Three milli-ampere ranges are provided as follows: 0-10 M.A., 0-100 M.A., 0-500 M.A. Three resistance ranges are as follows: R x 1, R x 100, R x 1000. On the R x 1 scale, the calibration in the low resistance end of the scale is directly in ohms with 5 ohms being the first numbered division. All switching for the various meter ranges is accomplished by means of a rotary switch on the top of the instrument. Complete test leads with insulation.

Model 023 Dealer Net Price **\$13.95**

STEEL BENCH RACK

For Test Instruments

Sturdily built of heavy gauge sheet metal and beautifully finished with baked-on blue enamel, this rack is so designed that any number of them can be bolted together to accommodate additional test instruments. Inserted in these stands all test bench instruments are kept in a convenient and orderly position, yet can be removed instantly at any time, for use in other parts of the shop or on outside service calls.

Instruments illustrated in the rack are the Philco Model 070 Signal Generator

and Model 027 Vacuum Tube Voltmeter and Circuit Tester.

Part No. 45-2845—Metal Rack, less instruments—Dealer Net Price **\$3.00**

DRY BATTERY TESTER

MODEL 015

A plug-in dry battery tester for quick, accurate tests under full load conditions. Direct reading scale indicates whether battery is Good, Questionable or Bad.

To operate this tester, simply insert plug that fits the battery to be tested, turn the switch to the type number of the battery on the scale. Pin jacks are provided on panel for testing batteries which do not have plug-in sockets.

Headphone tips can also be inserted into these jacks to test all batteries for noise which may be too slight to affect meter reading.

Dimensions 8½" x 5" x 3".

Dealer Net Price **\$8.25**

