



PHILCO TEST EQUIPMENT



COMPLETE LABORATORY TEST BENCH

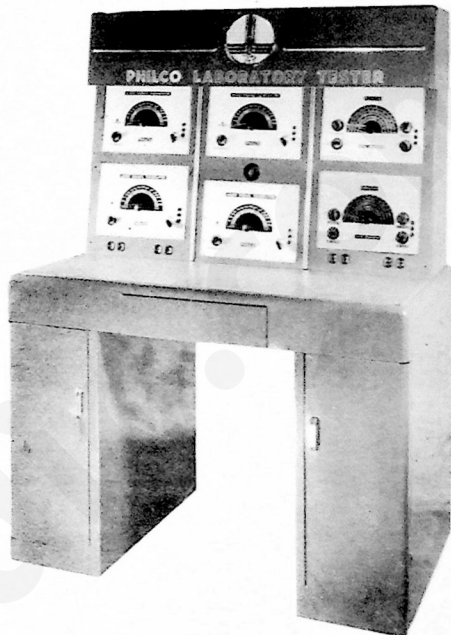
- A complete radio service department in itself.

For the dealer or service station desiring the finest possible set-up to render the highest type of service — with maximum speed, efficiency and economy of labor . . . this Complete Philco Laboratory Test Bench was developed. It is the official, approved Philco dealer service equipment, developed in the Philco Engineering Laboratories and specified by Philco Sales & Engineering Departments as correct for properly servicing any of the nearly eleven million Philcos now in service. And it is equally efficient for servicing all other makes of radio.

The attractive, sturdy pressed steel bench finished in blue with gold lettering, is indirectly lighted from above; the panel containing the instruments is sloped at the correct angle for easiest operation of all controls. The flat surface on which the repair work is done is covered with a special tough composition material. A handy steel drawer and two roomy metal compartments provide ample space for tools and accessories.

On the panel are mounted a Philco RF Signal Generator; a Philco Audio Signal Generator; Philco Vacuum Tube Voltmeter and Circuit Tester; Philco Cathode Ray Oscilloscope; and a Philco Automatic Tube Tester. A test speaker with simple switch panel, separate output meter and variable matching selection of field coils, is an inherent part of the layout. A new design auto radio vibrator tester is also included.

An investment in this splendid complete equipment is equivalent to an investment for the success and stability of the dealer's future business. It will end all his service equipment problems, help his service personnel do quicker, better and more efficient work, and add immensely to the prestige of his store. The dealer owning this instrument will be proud to advertise and display it to his customers . . . and in turn will help build up a reputation for reliability and "Service behind the product."



Sold on Time Payment Plan - - - Small Monthly Payments

BENCH-TYPE TESTER MODEL 0277

Contains One Each

PHILCO MODEL 077 SIGNAL GENERATOR

- 5 Tuning ranges — 115 KC to 37 megacycles.
- Attenuator — dual, constant impedance type — ideal for sensitivity comparisons.
- High RF output.
- Unmodulated RF or separate 400-cycle audio signal available.
- Knife-edge pointer for extreme accuracy.

PHILCO MODEL 027 CIRCUIT TESTER

- Push-button Controlled — for fast operation.
- Tests Automatic Volume Control Circuits.
- Checks Superheterodyne Oscillator output.
- Tests gain in transformers and tubes.
- 4 Ohmmeter ranges up to 150 megohms.
- 4 DC voltmeter ranges up to 1000 volts.
- 4 AC voltmeter ranges up to 1000 volts.
- 4 Output meter ranges up to 1000 volts.
- 2 Milliamperer ranges up to 100 ma.
- 1 Ammeter range, 10 amps.

- Indirect illumination.
- Efficient in operation.
- Business-like in appearance — with etched brass panel instruments mounted in blue enameled pressed steel case.



SEE YOUR PHILCO DISTRIBUTOR FOR SPECIAL LOW PRICE

PHILCO Model 027 Vacuum Tube Voltmeter and Circuit Tester

for quick, accurate adjustment and servicing of modern radios

FAST AND ACCURATE

Performs every conceivable test with unequalled speed, accuracy, and simplicity.

The Vacuum Tube Voltmeter (infinite ohms per volt) provides extreme accuracy in sensitive tests, such as:

Perfect station setting for all push-button radios saves one-half time in setting up.

Accurate adjustment of Mystery Control.

Tests all types automatic volume control circuits.

Measures radio performance against known sensitivity standards.

Tests magnetic tuning circuits.

Locates causes of distortion.

Oscillator performance in super-heterodyne quickly checked.

Condenser leakage tests quickly made.

Gain tests in transformers and tubes. Every needed voltage, current and resistance meter range for all radio tests.



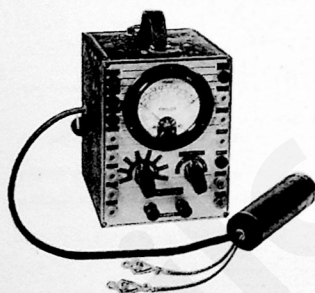
ACCURATE METER RANGES

In addition to the indispensable Vacuum Tube Voltmeter, the circuit tester contains the following:

Vacuum Tube Voltmeter . . .	0-10 volts — infinite ohms per volt
Ohmmeter	0-150 ohms 0-15000 ohms 0-15 megohms 0-150 megohms
Voltmeter D. C.	0-30 volts 0-100 volts 0-300 volts 0-1000 volts
Voltmeter A. C.	0-30 volts 0-100 volts 0-300 volts 0-1000 volts
Voltmeter — Output	0-30 volts 0-100 volts 0-300 volts 0-1000 volts
Milliammeter D. C.	0-10 ma. 0-100 ma. 0-10 amps.

NET DEALER PRICE \$45.00

PHILCO Model 028 Vacuum Tube Voltmeter & Circuit Tester



Here is a low priced combination circuit tester and vacuum tube voltmeter that costs you less money than you would expect to pay for a high quality circuit tester alone.

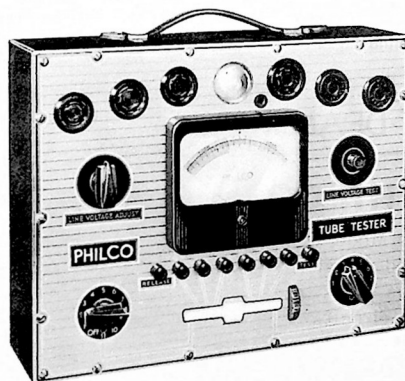
One of the outstanding features of the instrument is the cable arrangement which permits extremely short "hot" leads from the voltage source over to the tube of the V. T. V. M. Exceptionally good stability of operation results.

ACCURATE METER RANGES

Vacuum Tube Voltmeter — 0-10 volts — Infinite ohms per volt	Voltmeter A. C. — 0-30 volts 0-100 volts 0-300 volts 0-1000 volts
Ohmmeter — 0-150 ohms 0-15000 ohms 0-1.5 megohms	Voltmeter — Output — 0-30 volts 0-100 volts 0-300 volts 0-1000 volts
Voltmeter D. C. — 0-30 volts 0-100 volts 0-300 volts 0-1000 volts	Milliammeter D. C. — 0-10 ma. 0-100 ma. 0-10 amps.

NET DEALER PRICE . . . \$33.00

PHILCO Model 033 AUTOMATIC TUBE TESTER



Model 033. For 115 Volts 50-60 Cycles

Positive, fast, accurate push-button testing of all type tubes. Ultra-simplified controls plus automatic selection of voltage applied to tube being tested, are the outstanding features of this remarkable new instrument.

Only two controls to set — tests any tube in a few seconds time! Applied voltage selected by definite push-button controls.

Many other exclusive Philco features are built into this instrument. A novel revolving chart indicates setting of all controls to make a complete test of any tube.

Light weight, portable, rugged and attractive; panel matches other Philco test instruments. Large, easy-reading, illuminated indicating meter; neon tube flash test for showing up "shorts." Carrying handle makes it equally suitable for portable or counter use.

NET DEALER PRICE . . . \$51.00

PHILCO Model 077 SIGNAL GENERATOR

Model 077 for AC; Model 177 for Battery Operation



One of the most important units of equipment required for checking and tuning up a radio. Enables the serviceman to adjust the compensating condensers so as to get maximum output from each circuit—and thus maximum overall performance from the receiver.

Covers the entire standard and short wave ranges (115 KC to 37 MC); accurately calibrated, with knife-edge pointer on dial; more than ample output; unaffected by line voltage variations. All parts thoroughly moisture-proofed. Highly polished brass panel of unique Philco design.

An added feature of this fine instrument is the audio frequency signal provided for testing the audio amplifier circuit—making it a double purpose instrument.

NET DEALER PRICE . . . \$27.00

PHILCO Model 044 AUDIO SIGNAL GENERATOR

RANGE—
0-10,000 Cycles.

OUTPUT—
Audio signal to apply direct to speaker or audio system. RF signal to test entire receiver from antenna circuit.



Another one of the fundamental units required for making a complete test of any radio. Enables a complete check of the response of the set to any audio (sound) frequency from the highest pitched note down to the lowest note of the audible scale.

Special uses (besides checking overall audio response and performance) are: Locating rattles and vibrations in speaker, cabinet or chassis; locating trouble in audio amplifiers; and adjusting audio circuit in high fidelity sets. Many dealers employ this instrument successfully in demonstrating to customers such features as high fidelity and bass compensation.

Designed to match the 077 signal generator in size, shape and panel design, the 044 is also equipped with knife-edge pointer on scale. Operates direct from standard 115-volt AC line.

An additional feature of this instrument is the inclusion of facilities for applying a modulated radio frequency signal which enables a quick test of the continuity of circuits in the receiver.

NET DEALER PRICE . . . \$22.65

PHILCO Model 022T TELEVISION OSCILLOSCOPE

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, wave-form 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.

NET DEALER PRICE . . . \$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.

STANDARD OSCILLOSCOPE

NET DEALER PRICE \$42.00

PHILCO Model 077T TELEVISION SIGNAL GENERATOR



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 supplied.

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

A pair of input terminals are supplied to which 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 between 44 and 108 megacycles.

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.

NET DEALER PRICE \$60.00

PHILCO Model 014 WIRELESS STATION SETTER

For Adjusting Automatic Tuning in Less Time With Greater Accuracy

WHAT IT IS

The PHILCO Wireless Station Setter replaces your local broadcasting stations during the setting-up procedure. There is no question about having the right station—the program from the station setter is always the same—one constant note. This signal comes in clearly ONLY when the adjustments you make for each push-button are RIGHT.

The PHILCO Wireless Station Setter comes to you with its eight push-buttons already adjusted to YOUR STATIONS with their call letter tabs in place.



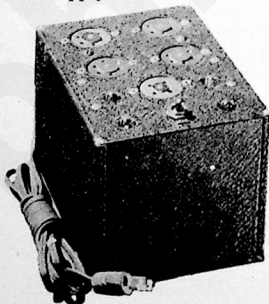
HOW IT WORKS

Have the PHILCO Wireless Station Setter near the radio to be adjusted and plugged into an electric outlet. Press the button on the station setter for the first station to be set up on the radio. Turn the adjusting screw for the corresponding push-button in the radio until the signal from the station setter comes in clearly. Repeat this procedure for each of the other push-buttons on the radio.

NET DEALER PRICE \$13.50

Model 013 VIBRATOR TESTER

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.



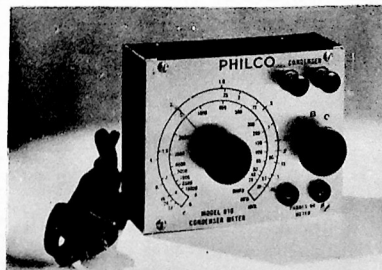
NET
DEALER
PRICE
\$7.95

Model 010 CONDENSER TESTER

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 headphone.

Model 010
Net
Dealer
Price
\$6.30



PHILCO RADIO & TELEVISION CORP.

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