

PHILCO TEST EQUIPMENT

Localizes Trouble by Simple Procedure

Described in Preceding Pages

AND ALSO

Tests--Repairs--Aligns--All Radio Circuits

With Unequalled Speed and Accuracy

Model 027 Vacuum Tube Voltmeter--Circuit Tester

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 wireless remote control circuits.

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 superheterodyne 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.



PRECISION 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	0-1500 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

Model 077 SIGNAL GENERATOR

Model 077 for A. C.; Model 177 for Battery Operation

Here is a signal generator that is designed for servicing the most intricate and complicated radio circuits. Incorporates features found only in laboratory test instruments. Supplies R. F. and Audio Signals. A typical example of Philco Precision Test Equipment.

Meets every requirement of the Service Man — Accuracy — Dependability — Portability — Low Cost — Knife-Edge pointer on dial — Signals unaffected by line voltage variations over wide range. — All parts thoroughly moisture-proofed; High signal output under perfect control of two output attenuators.

R. F. Frequency Range (5 bands — fundamental frequency) 115 K. C. to 37000 K. C. (37 M. C.).

Audio Frequency Signal — 400 cycles. This signal also used to modulate the R. F. output. Case finished in black wrinkle lacquer with highly polished brass panel of unique design. Convenient leather carrying handle.

Model 177 battery operated signal generator with every feature of the A. C. operated model is also available.



Net Dealer Price \$27.00

TWO ESSENTIAL TEST INSTRUMENTS

Illustrated on page 5

*Combined in One Attractive,
Convenient and Sturdy*

TEST BENCH UNIT Model 0277

A handy bench test unit especially designed for dealer service departments or the serviceman's bench. Contains the two most essential test instruments, Model 027 vacuum tube voltmeter—circuit tester and the Model 077 signal generator.

Two spaces are also provided for storage space or for additional test equipment, such as Philco Model 022 oscilloscope and Model 044 audio signal generator.



Power sockets conveniently located in front panel, sturdy steel construction finished in blue lacquer with chromium trimmings.

For a limited time the price of the Model 0277 bench tester includes the Model 044 audio signal generator described below. This additional instrument can be mounted in one of the lower compartments of the bench tester or used as separate unit.

Net Dealer Price \$98.55

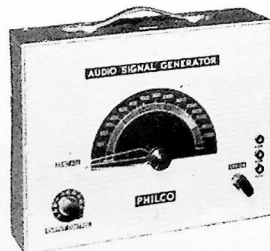
Model 044 AUDIO SIGNAL GENERATOR

RANGE —

0-10,000 Cycles.

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.

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.



OUTPUT —

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

Special uses (besides checking over-all 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.

Net Dealer Price \$22.65

Model 050 TUBE TESTER

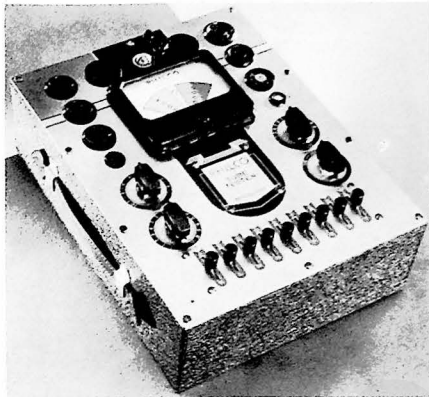
For All Tubes of Today and Tomorrow

NO OBSOLESCENCE!

At last! . . . a tube tester that will not become obsolete with the introduction of new types of tubes.

Individual selector switch for each tube element provides for every possible rearrangement of tube base connections.

Two blank socket positions with removable spring caps can be used to attach new sockets of the future.



NEW, EXCLUSIVE FEATURES!

Lightning-speed testing with simplified controls.

All type tubes tested under proper load conditions for greatest accuracy.

Light weight, rugged housing — is equally suitable for portable or counter use.

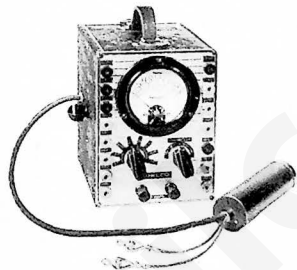
Highly polished, modernistic panel, finished in three harmonizing colors presents business-like appearance.

Net Dealer Price Only \$34.50

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 the extremely short "hot" leads from the voltage source over to the tube of the V. T. V. M. Exceptionally good stability of operation results.



**Net Dealer Price
\$33.00**

PRECISION METER RANGES

Vacuum Tube Voltmeter
0-10 volts —
infinite ohms per volt
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.
Ohmmeter —
0-150 ohms
0-15000 ohms
0-1.5 megohms

Model 026 CIRCUIT TESTER

This instrument is identical to and contains all the meter ranges of the Model 028 shown above, with the exception of the Vacuum Tube Voltmeter.

Net Dealer Price . . . \$22.50

Model 014 WIRELESS STATION SETTER

*For Adjusting Automatic Tuning
in Less Time With Greater Accuracy*

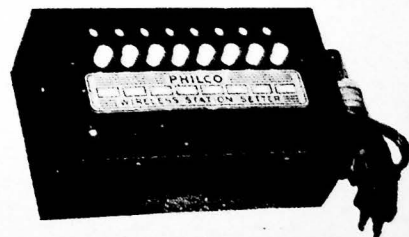
WHAT IT IS

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 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 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 R. F. and I. F. 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 R. F. 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 R. F. output of the generator, in addition to the "light level" control.

Net Dealer Price \$60.00

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

Model 022 STANDARD OSCILLOSCOPE

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.

Net Dealer Price \$42.00

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.

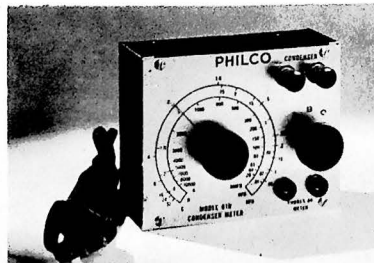


Net Dealer Price \$7.95

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.



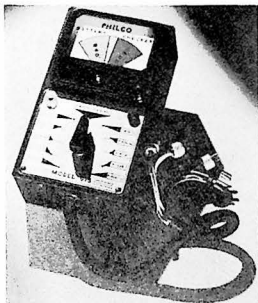
Net Dealer Price \$6.30

Model 015 BATTERY CHECKER

A Dry Battery Sales Booster

Large Full Vision Meter scale definitely indicates whether the battery is "Good" or "Bad".

Tests Battery
for Noise



This instrument tests all types of Philco Dry Batteries instantly without reference to charts or socket diagrams.

Equipped with a cable containing plugs for all types of batteries, it reduces the testing procedure to a matter of —

1. Inserting the plug that fits the battery to be tested.

2. Setting the selector switch to the type of number of the battery.

Pinjacks are provided for making voltage tests of other make batteries.

Net Dealer Price . . . \$11.85

AERIAL COUPLER

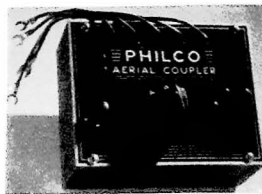
TESTS and ALIGNS Chassis in Shop
Without Removing Loop from Cabinet

Duplicates the characteristics of standard broadcast and shortwave loops in all 1940 Philco Radios.

Can be used on other make radios using loop aeri-als.

Accurately couples chassis to Philco Safety Aerial or Signal Generator.

Chart supplied with Coupler shows connections and selector switch positions for all models.



Part No. 45-2799

Net Dealer
Price \$3.90

TUBE TESTER ADAPTOR



Modernizes tube testers for checking high filament voltage tubes (50, 70, 115 volts).

Fits all tube testers — simply insert plug of adaptor into socket of tube tester. Full instructions supplied with each unit.

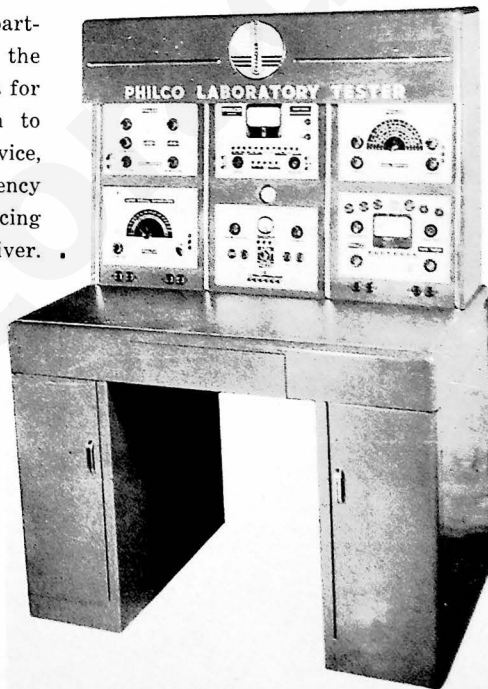
Net Dealer Price . \$3.75

COMPLETE LABORATORY TEST BENCH

A complete radio service department in one unit designed by the Philco Engineering laboratories for the dealer or service station to render the highest type of service, with maximum speed, efficiency and economy of labor in servicing any make of radio receiver. Equipped with Basic Philco Precision Test Equipment that locates trouble quickly so that the radio can be repaired easily. Many features such as found only in Engineering laboratories are incorporated in the test bench.

EQUIPPED WITH: —

R. F. Signal Generator;
Audio Signal Generator; Vacuum Tube Voltmeter; Circuit



Tester; Cathode Ray Oscilloscope; Automatic Tube Tester; Audio Output Meter; Test Speaker; Auto Radio Vibrator Tester; Variable Matching Impedance for Field Coils.

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.

See Your Distributor for Special Low Price
SOLD ON EASY PAYMENT PLAN — SMALL MONTHLY PAYMENTS