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PHILCO

TEST EQUIPMENT



Accessory Division

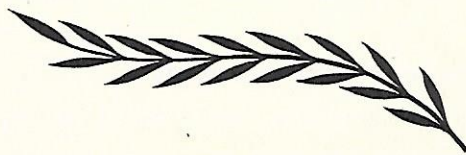
PHILCO

TEST EQUIPMENT

—It's Uses and Specifications

*"Conceived and Designed
by Specialists"*

THE Philco test equipment line is new! New circuits, new styling, new ruggedness, new versatility, new accuracy. Each piece of equipment has been built with care and skill and contains features conceived with the newest needs of the art in mind. As new requirements develop, you can count on Philco to supply you with the best in Service Test Equipment. Look over the line described on the following pages. Let your Philco Distributor tell you how easy it is to own a complete Philco Test Equipment Service Laboratory.



Applications for
PHILCO 3" Oscilloscope

Model S8200

The Philco Model S8200 Oscilloscope is a portable unit adaptable to either bench use or field servicing. It is a high sensitivity instrument with wide response, ideal for TV.

TV Sync Circuits

The excellent frequency response makes this unit ideal for sync circuit trouble-shooting.

TV Sweep Circuits

The preset frequencies at vertical and horizontal rates takes the guesswork out of trouble-shooting sweep circuit.

Video Circuit

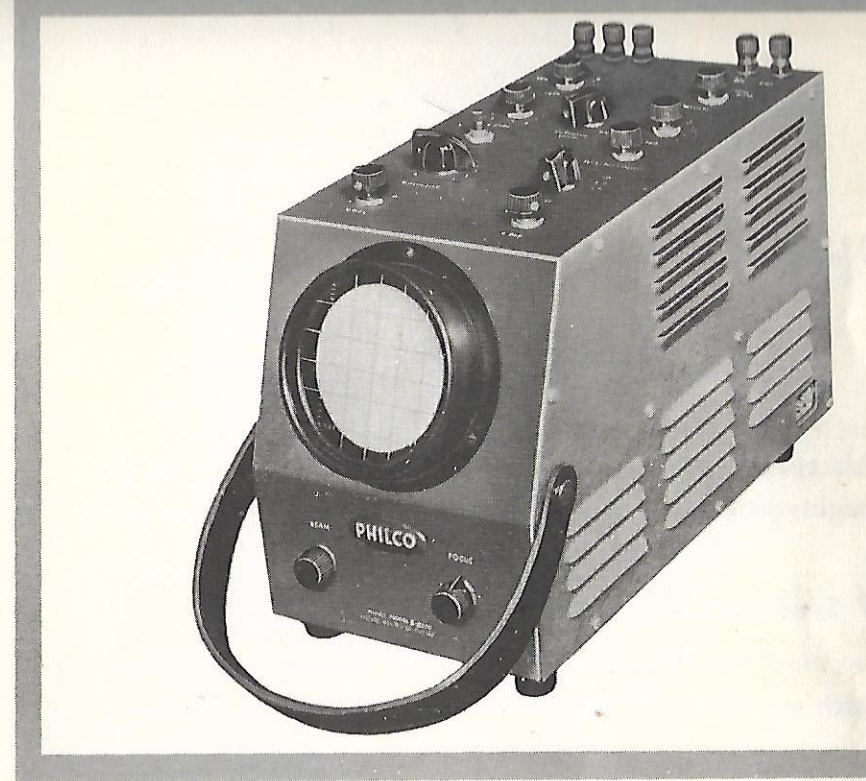
The DC coupled amplifier circuits make video circuit trouble-shooting realistic by using Auxiliary probes.

Alignment Work

The scope may be used for an external indicator for sweep generator work, due to the incorporated phasing control.

DC & AC Voltage Measurements

The use of a DC amplifier and built-in voltage calibrator permits the use of the unit as a high sensitivity vacuum tube voltmeter.



PHILCO 3" Oscilloscope

Model S8200
SPECIFICATIONS

Vertical Amplifier

Sensitivity—Direct Cable
 0.05V rms/inch

Low Capacity Probe
 0.5V rms/inch

Frequency Response
 0-750 KC within 2DB, 0-1
 mc/s within 6DB

Input Resistance and Capacity,
 without cables; 1 megohm
 shunted by 25 uuf low ca-
 pacity probe, 1 megohm
 shunted by 10 uuf.

Power Supply:

Voltage Rating . 105-125 V. a.c.
 Frequency Rating . . . 50-60 cps

Weight — 12½ lbs., Shipping Weight — 15 lbs.

Part No. 45-1919

Power Consumption 50
 Dimensions:
 6" W x 12" L x 7" H

Horizontal Amplifier

Sensitivity 0.5V rms
 Frequency Response
 20 cps to 80 KC/s
 2DB
 10 cps to 125 KC/s
 6DB

Input Resistance and C.
 0.5 megohm shunted by
 Sweep Circuit Frequency
 Variable . . . 15 to 30,000 cps

Preset:
 VTV 7.8
 HTV 7.8

Suggested Dealer Net \$

Applications for

PHILCO 5" High Gain Oscilloscope

Model S8202

This general purpose scope performs the job of providing a highly sensitive instrument with good frequency response.

TV Sync Circuits

The unit has excellent sensitivity and frequency response which will allow for trouble-shooting difficult sync troubles.

TV Sweep Circuits

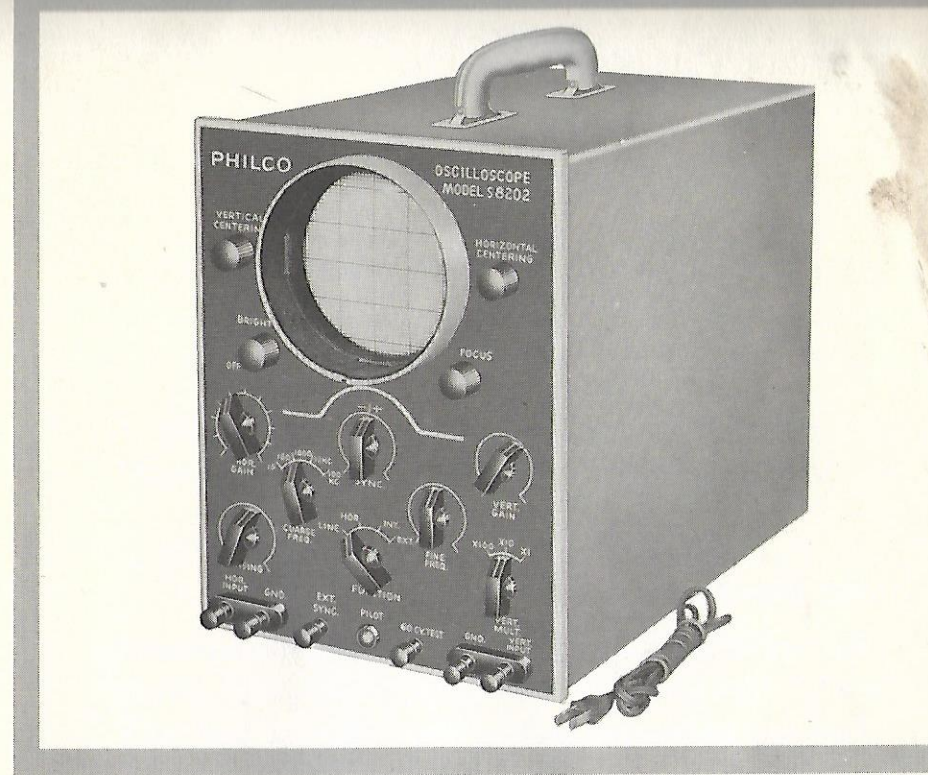
The unit has wide sweep ranges (up to 100KC) allowing for extreme flexibility in sweep circuit trouble-shooting.

RF Circuits

In conjunction with a high frequency probe, the high sensitivity of .01V (RMS) per inch deflection allows for trouble-shooting of RF and IF systems and low level amplifying devices.

Alignment Work

A built-in phasing control allows for 60CPS phasing of sweep generator presentations.



PHILCO 5" High Gain Oscilloscope

Model S8202

SPECIFICATIONS

Vertical Amplifier

Sensitivity .01V (RMS) per inch of deflection

Freq. Response—10 CPS to 1 MC within 6DB

Horizontal Amplifier

Sensitivity — .3V (RMS) per inch of deflection

Freq. Response — 10 CPS to 300KC.

Size

Cabinet—16" deep, louvered

Part No. 45-1905

Suggested Dealer Net \$159.95

195

Applications for

PHILCO Circuit Master

Model M8100

This rugged metal-cased vacuum tube voltmeter is one of the finest in its price class. It is designed to meet rigid engineering specifications.

AVC, Bias Measurements

This type of unit is unexcelled for making measurements in AVC, bias, oscillator, and other high impedance circuits where test instrument loading effect must be kept to a minimum.

Discriminator Alignment

The galvanometer center mark (zero center) is useful for discriminator alignment in FM and TV receivers where plus and minus indications are required.

RF & IF Measurements

May be used with high frequency probe Philco part No. 45-1752-1 to extend its frequency range for measuring RF and IF circuits.

High Voltage Measurements

May be used with high voltage probe Philco part No. 45-1753-1 to measure voltages up to 22.5 KV.



PHILCO Circuit Master

Model M8100

SPECIFICATIONS

Operating Voltage — 105-125 volts: 60 cycles.

Basic Circuit—Balanced difference amplifier. Miniature double triode.

Voltage Ranges (DC)—1.5, 15, 150, 450, 1500 volts.

Voltage Ranges (AC)—1.5, 15, 150, 450, 1500 volts. 1.5, 15, 150 volts AC RMS and peak—compensated to same frequency response.

Circuit Switch Positions — Off, + DC volts, — RMS volts, peak volts, ohms.

Weight — 4 lbs., Shipping Weight — 4½ lbs.

Part No. 45-1902

Ohms Ranges — Full Scale, 100 times center. RX1 — 10 ohm center. RX100 — 100 ohm center. RX1000 — 10,000 ohm center. RX10,000 — 100,000 ohm center. RX1 meg. — 10 meg ohm center.

Decibels — 20 to +65 on AC peak. Reference level 1 milliwatt, 600 ohms—Zero level.

Internal Resistance — AC volts (RMS and peak), 5 megohms. DC volts, 10 megohms.

External Adjustments — Zero adjust and ohms adjust.

Suggested Dealer Net \$64.95

Applications for

PHILCO Circuit Tester

Model M8102

This metal-cased unit fulfills the need of the average serviceman for a reliable, general purpose voltohmmeter.

Accuracy

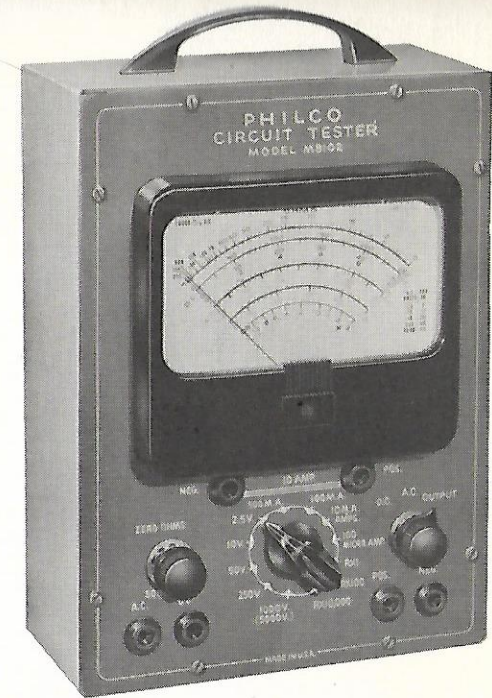
The use of precision 1% resistors throughout insures good accuracy.

AC and Audio Ranges

The highly versatile AC voltage ranges allow for accurate testing of audio and high impedance AC circuit where a vacuum type voltmeter might normally be required.

High Impedance Input

The high internal impedance allows for direct measurement of low voltage, high impedance circuits, even on the low voltage ranges.



PHILCO Circuit Tester

Model M8102

SPECIFICATIONS

Voltage Ranges DC — (20,000 ohms per volt) 2, 5, 10, 50, 250, 1000, 5000 volts.

Voltages Ranges AC — (1000 ohms per volt) 2, 5, 10, 50, 1000, 5000 volts.

A.F. Output — 2, 5, 10, 50, 250, 1000.

Volume Level — 12 to + 55 db (5 steps).

Resistance — RX1 — 12 ohms center — 2000 full scale
RX100-1200 ohms center — 200,000 full scale. RX10,000 120,000 ohms center—20 megs full scale.

Current — 100 microamperes; 100, 500 milliamperes; 10 amperes.

Weight — 3 lbs., Shipping Weight — 3½ lbs.

Part No. 45-1903

Suggested Dealer Net \$49.95

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Applications for
PHILCO Field Strength Meter

Model M8104

This unit provides direct readings of signal strength in microvolts. The novel calibration of the instrument permits the checking of either fringe or strong signal areas.

Probing for Signal

It can be used to check or probe an area for maximum signal.

Community Systems

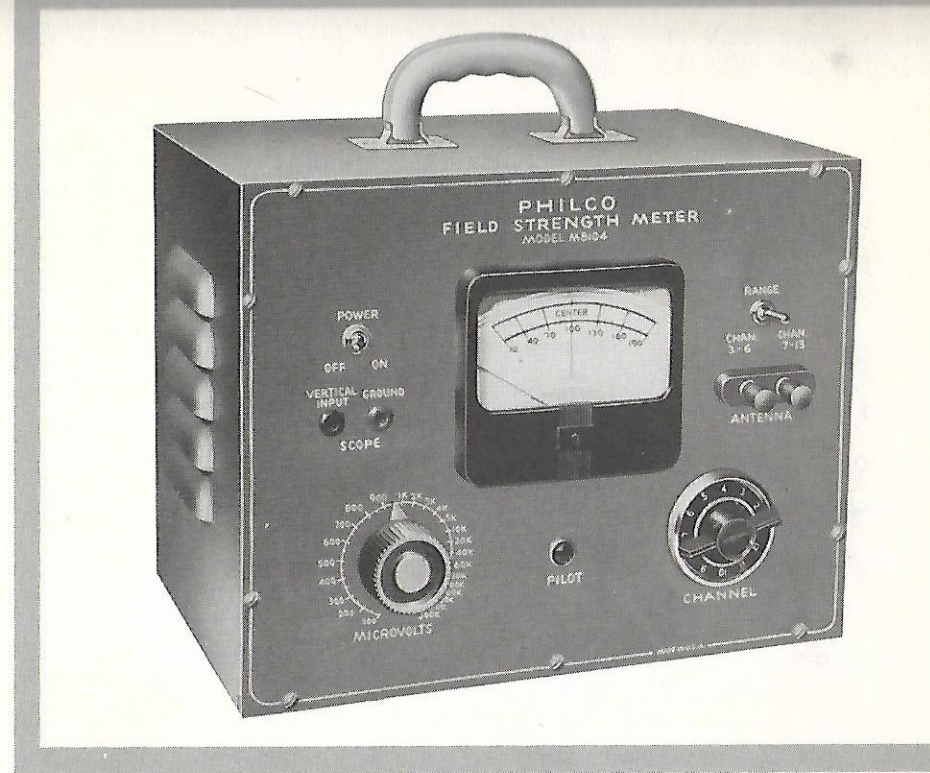
It may be used for checking of community antenna systems where signal level is important.

Sensitivity Checks

RF units, such as boosters, may be accurately checked for relative sensitivity.

Scope Provisions

The 'scope monitor provision makes possible location of r-f interference which can be seen on the picture signal as well as observation of any signal being measured.



PHILCO Field Strength Meter

Model M8104

SPECIFICATIONS

Tuner

Semi-incremental wafer-switch type

Tubes Used (Code 121)

1-6BQ7 RF
1-12AZ7 OSC, M'x'r.
1-6CB6 1 ST IF
1-6CB6 2 nd IF
IN34 Crystal Diode

Meter

50 microamp. 4 1/2" Type.

Power Supply

115 Volts, 60 Cycles, 65 W.

Dimensions

Depth 8 1/2"
Height 10"
Width 13"

Weight — 16 1/2 lbs., Shipping Weight — 19 lbs.

Part No. 45-1907

Suggested Dealer Net \$109.95

Applications for
PHILCO Alignment Generator

Model 7008

An outstandingly accurate visual generator that meets servicing alignment and calibration needs by "Combining in one economical instrument", functions that ordinarily must be approached with cumbersome costly conventional devices. No special scope connections are required with this unit for alignment use.

RF and IF Trouble-shooting

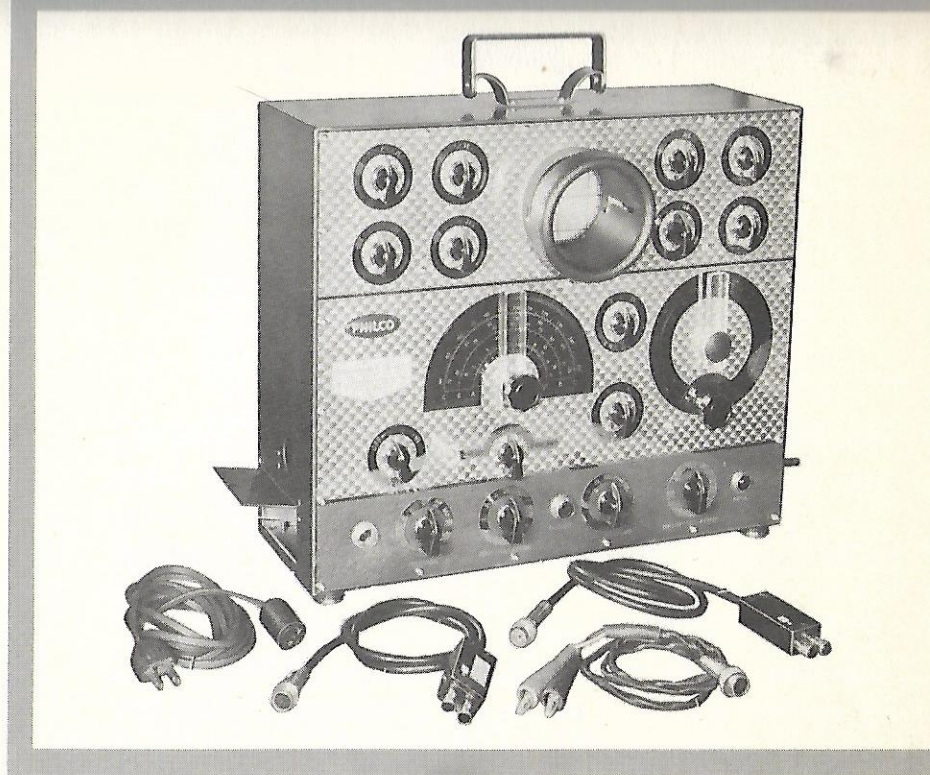
The scope sensitivity is high enough to allow for RF and IF circuit trouble-shooting.

Low Level Devices

The extremely high RF output allows for direct alignment of such low level amplifying devices as boosters, RF amplifiers, tuners, etc.

One Output Lead

The one output lead feature allows for simple connections for r-f and i-f alignment work where both marker and sweep signals are required.



PHILCO Alignment Generator

Model 7008

SPECIFICATIONS

AM-Marker Generator
3.2 to 250 MC

FM Generator
4 to 120MC, 145-260MC

Sweep Width
0 to 15MC

Output Voltage
App. .5 Volts

Flatness of Sweep
0.2 DB/MC

Vert. Scope Sens.
25 Millivolts/inch
XTAL Cal. for Marker

Power Supply
Volt—110-120V AC
Freq.—60 CPS
Power—70W

Weight — 35 lbs., Shipping Weight — 40 lbs.

Part No. 43-4922

Suggested Dealer Net \$466-00
590.

Applications for
**PHILCO VHF to UHF
Signal Generator Adapter**

Model G8000

The Model G8000 is an adapter unit for changing the output of any VHF TV servicing test equipment to UHF. The adapter unit can be used as a converter to change UHF signals to VHF signals to operate a VHF TV receiver.

UHF Transmission

The unit can be modulated by incoming VHF at 60 MC to produce a UHF signal on any UHF station, which contains the original modulation of the VHF signal.

High Output

The relatively high output permits alignment of low level equipment such as tuners and converters.

Community Systems

It may be used with community antenna systems as a head end converter to feed a UHF TV broadcast over these lines at conventional VHF frequencies.

Relative Sensitivity

Relative sensitivity checks can be made for UHF devices with this unit.

UHF Field Strength Tests

Any VHF field strength meter can be adapted for UHF with this unit.



**PHILCO VHF to UHF
Signal Generator Adapter**
Model G8000

SPECIFICATIONS

Freq. Range

470 to 890 MC/s
Chan. 14 to 83

Conversion Range

Converts VHF Signal Generator from 60 MC to any UHF Channel or any UHF Channel down to VHF

Dial Calibration

$\pm 3\%$, with 60MC at input

Tubes

1-6AF4 UHF osc.
1-6X4 Full wave rect.
1-CP-1 Special UHF Mixer
Crystal

Connectors

72 ohm (input)
300 ohm dual
Binding Post (output)

Bandwith

App. 15MC

Channel Dial

Combination Vernier
and Pointer Dial

Power Supply

Voltage—110 to 120 V AC
Freq.—60 CPS
Power—20W.

Part No. 45-1920

Suggested Dealer Net \$169.50

Applications for
PHILCO Cross-Dot Linearity Generator

Model G8004

This unit has very efficient circuits which allow extreme stability and high output at low cost.

Linearity & Width

Adjustment of all linearity, height and width controls is made easy.

Beam Bender

Adjustment of the beam bender or ion trap is made easy.

Deflection Yoke

Adjustment of the deflection yoke is accomplished by checking "levelness" of horizontal lines.

Centering

Picture centering is also simple to perform.

Focusing

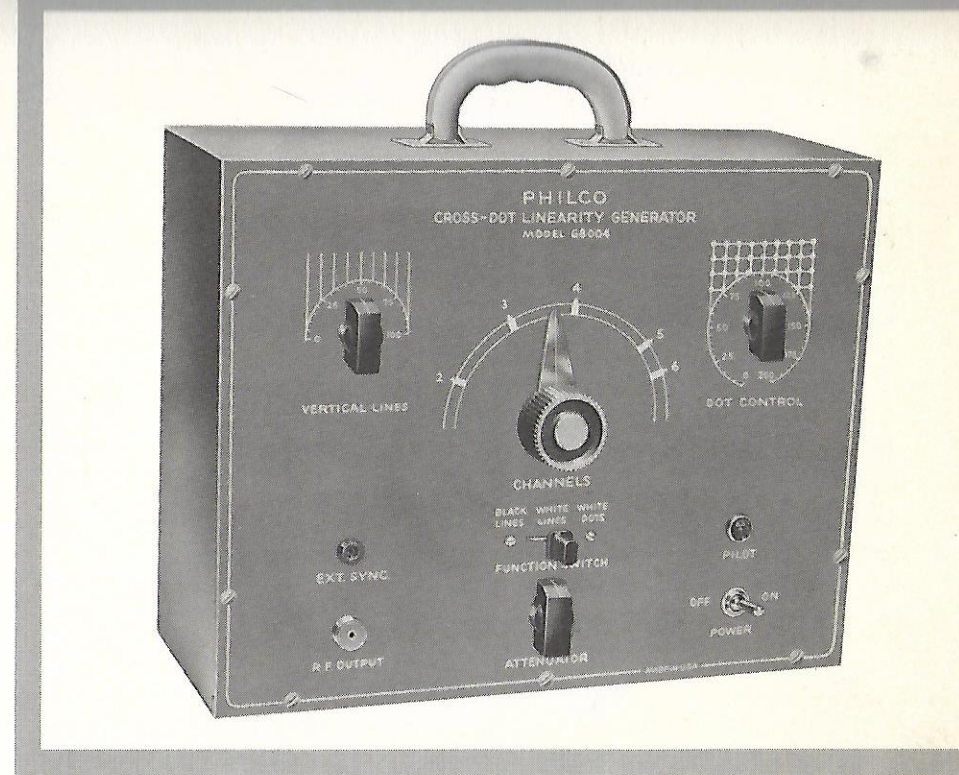
The cross-dot pattern allows for the simplest system for focusing the TV set.

Sync Circuits

The model G8004 provides pulses which can be used for sync circuit trouble-shooting.

High Output

The extremely high RF output allows for RF trouble-shooting.



PHILCO Cross-Dot Linearity Generator

Model G8004

SPECIFICATIONS

Power Supply

Volt—100 to 125VAC

Freq.—60CPS

Power—10 Watts

Freq. Range

Chan. 2 through 6.

Other channels by use of harmonics

RF Output

200,000 Microvolts Maximum

Hor. Lines

App. Range from 3 to 15

Ver. Lines or Vert. Dot Rows

App. Range from 10 to 20 by adj. of rear control, which is normally set for 12 vert. lines

RF Output Connector

75 ohms

Synchronization

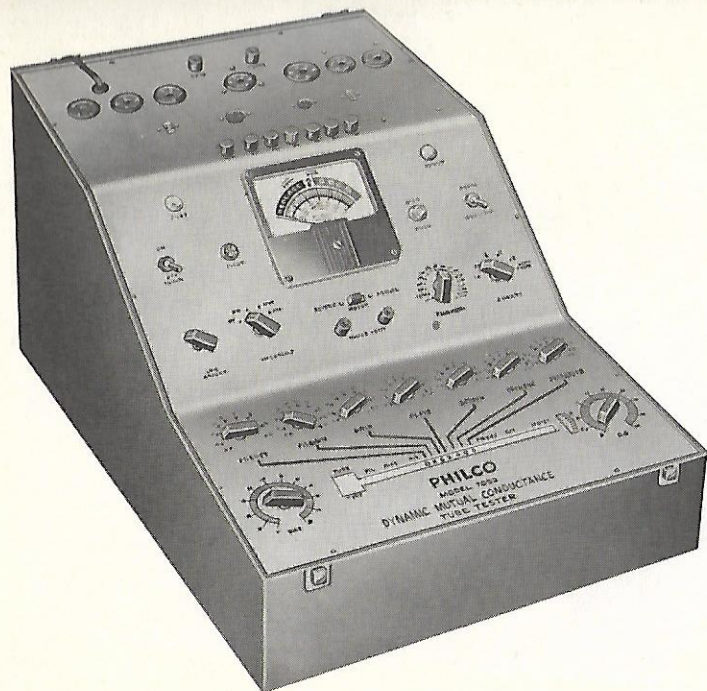
Built-in Sync Circuit.

Ext. sync for more accurate Synchronization

Part No. 45-1908

Suggested Dealer Net \$69.95

764



PHILCO Mutual Conductance Tube Checker

Model 7052

Applications

By means of actual transconductance checks, the true dynamic characteristics of all type of tubes can be accurately checked with this unit.

Checking Shorts

Shorts on tube elements can be determined.

Tube Life

The tube-life can be accurately predicted with this unit.

Gain

Gain characteristics can be measured.

SPECIFICATIONS

Types of Tubes Checked

All Receiving Tubes
Low Powered Acorn Transmitting Tubes
Miniature Hearing Aid Type Tubes

Power Supply

Volt—110-120V AC
Freq.—60 C.P.S.

Type of Case

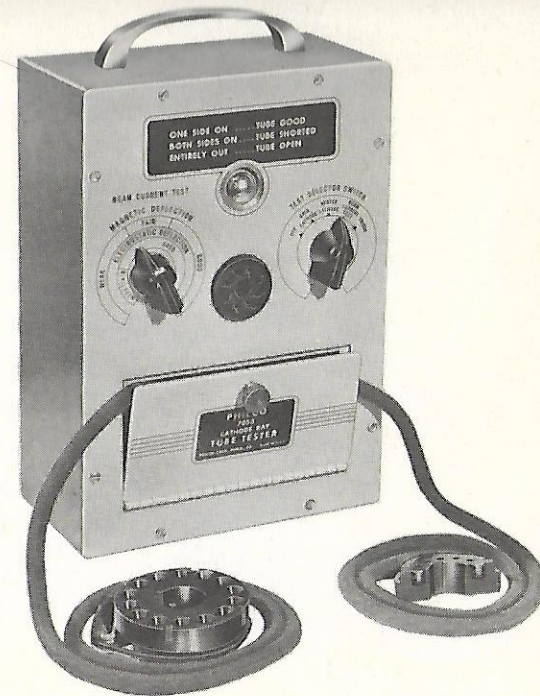
Gray Leatherette on Wood—Cover for case.

Weight — 21½ lbs., Shipping Weight — 24 lbs.

Part No. 45-1876

Suggested Dealer Net \$187.50

23950



PHILCO CRT Checker

Model 7053

Applications

The Model 7053 shows the exact condition of television picture tubes. It eliminates guess work as each unit is individually calibrated to assure accurate and practical indications.

SPECIFICATIONS

Indicating Circuit

NE—45 in Bridge Arrangement

Types of Tubes Tested

All CRTS

Calibration

Individually calibrated with built-in factory calibration controls to Assure Accuracy

Weight — 4 lbs., Shipping Weight — 5 lbs.

Part No. 45-1877

Suggested Dealer Net \$29.95

370



PHILCO Dynamic Signal Tracer

Model 7031

The Philco Model 7031 is a one package audio and rf trouble-shooting unit which provides for fast diagnosis of trouble.

Trouble-shooting

It provides radio trouble-shooting facilities by audibly monitoring RF and AF circuits.

Audio Systems and Amplifier

It can be used to check P.A. systems, microphones and phonograph pick up circuits. It can be utilized as a radio amplifier by using the built in detector probe.

Distortion Checking

Hums, buzz, oscillation or motorboating can be localized. Audio distortion can be quickly checked.

SPECIFICATIONS

Power Supply

Voltage—110 to 120V AC
 Freq.—60 CPS
 Power—20 Watts

Tubes Used

1-6AQ6 Detector
 1-7L7 1st. Audio
 1-7A5 Audio Out.
 1-7Y4 Rectifier

Speaker Size 4" dynamic

Suggested Dealer Net \$54.95

Part No. 45-1878

22-50



PHILCO Appliance Tester

Model 5007

Applications

This new Philco Appliance Tester Model 5007 permits complete analysis of overall performance of refrigerators, air conditioners, ranges and household appliances. This versatile unit comes equipped with all necessary "pick-up" elements for temperature determination. Contains built in continuity checker to determine shorts and opens. Has built in voltmeter for voltage checks.

SPECIFICATIONS

Temperature Range

-100° to +600° F

Voltage

0 to 300 VAC
 Contains continuity checker

Power Readings

0 to 3 KV

Dimensions

Width 18"
 Depth 9"
 Height 6 1/4"

Meter

4 5/8"

Weight — 10 1/2 lbs., Shipping Weight — 12 1/2 lbs.

Part No. 45-1879

Suggested Dealer Net \$149.50

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Applications for
PHILCO UHF Sweep Signal Generator

Model G8002

Applications

The high output level of the Model G8002 makes possible testing and alignment of low level units such as UHF tuners, boosters, converters, etc.

Level

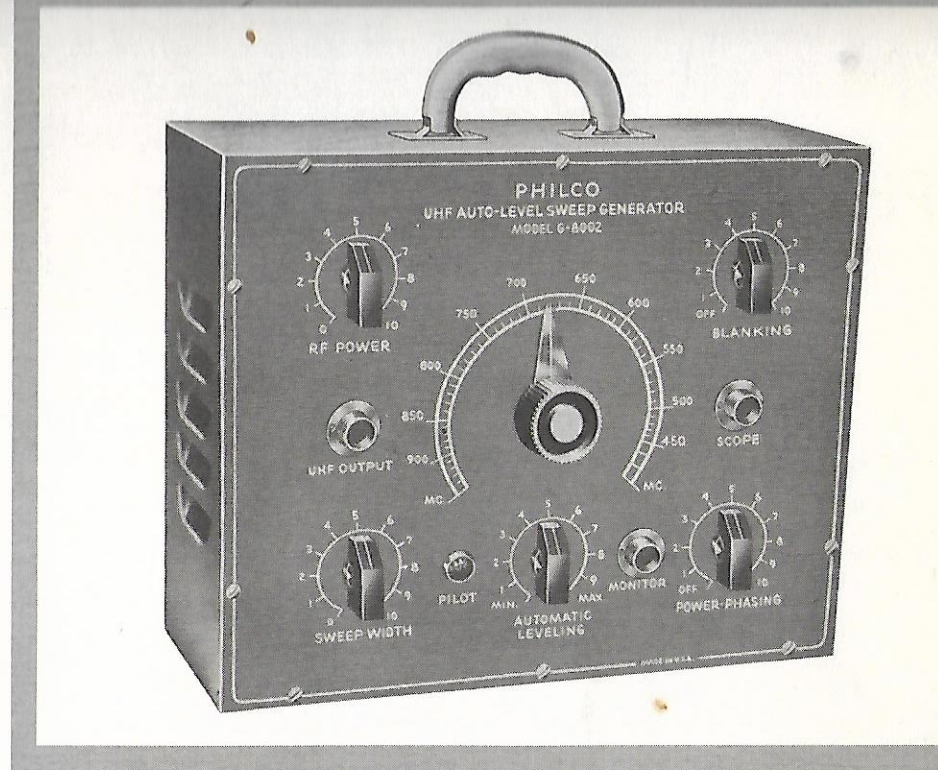
The output is controllable and the leakage is negligible making possible overall trouble-shooting of UHF TV receivers, from the antenna terminals to the output of the video detector. The Philco UHF Variable Attenuator, Model A-1000, Part Number 45-1984, may be used for additional external attenuation.

Alignment

It may be used with any test oscilloscope for sweep alignment purposes. The Philco UHF Matching Transformer, Model T-1000, Part Number 45-1983 may be used for accurate matching to a 300 ohm input.

Sensitivity

It may be used for checking the relative sensitivity of any kind of UHF device, by taking advantage of the exclusive built-in monitoring system.



PHILCO UHF Sweep Signal Generator

Model G8002

SPECIFICATIONS

Output

Minimum of 1V Peak to Peak
(Blanked)

Flatness of Sweep

± 1 DB over Entire Range
(470-890MC) due to exclusive
electronic leveling circuit.

Frequency Coverage

470 — 890MC on Fundamentals

Output Impedance

72 Ohm Unbalanced

Power Supply

Voltage — 110-120 V AC
Frequency — 50 to 60 CPS
Power Consumption — 30W

Monitoring

Built-in monitor circuit gives
rectified output of UHF gen-
erator.

Sweep Width

Continuously Variable
Minimum of 25 MC at low
end, 50 MC at high end.

Blanking

Adjustable, can be turned off
by switch.

Phasing

Adjustable 0 to 140°.

Part No. 45-1956

Suggested Dealer Net \$289.50

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Accessory Division
PHILADELPHIA, PENNA.

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