

RCA Quality Test Equipment



MODEL WV-38A(K) VOLT-OHM-MILLIAMMETER

The basic instrument required for all types of electronic servicing, now available in kit or wired form. High input resistance and extreme accuracy and an extra-large 5½" meter scale offer extreme versatility. Two extra scales: 1-volt and 0.25-volt for transistor servicing applications. Clips on side hold probes and cable when not in use, AC Volts: 0-2.5, 10, 50, 250, 1000, 5000 volts. Accuracy, ±5%; input resistance, 5000 ohms/volt; frequency response, (reference 1000 cps) flat within ½ db from 10 cps to 50 kc on 2.5, 10, 50-volt ranges. DC Volts: 0-0.25, 1, 0, 2.5, 10, 50, 250, 1000, 5000 volts. Accuracy, ±3%; input resistance, 20.000 ohms/volt. Ohm Ranges: 0-2K ohms (12 ohms center); 0-200K ohms (1200 ohms center); 0-20 megs. (120K ohms center); 0-200K ohms (1200 ohms center); 0-10 megs. (120K ohms center); 0-200K ohms (1200 ohms center); 0-10 megs. (120K ohms center); 0-200K ohms (1200 ohms center); 0-200K ohms (1200

MODEL WV-77E(K) VOLTOHMYST® KIT

MODEL WV-77E(K) VOLTOHMYST® KIT

New addition to the VoltOhmyst series, available in kit or wired
form. The laminated circuit board is keyed for accurate placement
of components. Range switch has only two decks. Meter is electronically protected against burnout. Additional protection provided by a fused ohms-resistor network. Provides for stability
under conditions of line voltage fluctuation. An additional circuit
minimizes the effect of contact potential change. RF shielding
metal case. Uses 1% tolerance resistors in voltage divider network.
AC Volts: 0 to 1.5, 5, 15, 50, 150, 500, 1500, seven overlapping
ranges. Peak-to-Peak: 0 to 4, 14, 40, 140, 400, 1400, 4000 volts,
seven overlapping ranges. Accuracy, ±5% of full scale, Frequency

response, flat within ±5%, from 40 cps to 5 mc on the 1.5, 5, and 15 volt rms ranges and the 4, 14, and 40 volt peak-to-peak voltage ranges. DC Volts: 0 to 1.5, 5, 15, 50, 150, 500, 1500 volts, seven overlapping ranges. Accuracy, ±3% of full scale. Center scale values, 10 ohms, 100 ohms, 1K ohms, 10K ohms, 100K ohms, 1.0 meg, and 10 megs. Power Required: 5 w. input., 105-125 volts, 50-60 cps. Tubes: 1-6AL5, 1-12AU7. Battery: 1-VS035. Hammertone finished; satin aluminum front panel with acid etched lettering. Size: 55% w. x 4½% d. x 7½% h. Weight. 5 lbs. \$2995 Model WV-77E (K) VoltOhmyst Kit—Net Each.....\$46.95 Wotel Each.....\$46.95 .\$46.95

MODEL WV-98C (K) SENIOR VOLTOHMYST®

MODEL WY-76A AC VACUUM TUBE VOLTMETER

High sensitivity AC VTVM for hi-fi and other audio applications. Measures AC voltages from 0.0002 to 500 v., plus decibels. Built-in amplifier may be used separately as a preamplifier, providing 38 db gain. Complete with WG-300B Direct/Low Capacitance probe; probe and cable shielded to eliminate pickup from stray fields. Switch in probe housing for direct or low capacitance input. Frequency Range: 10 cps to 1.5 mc. AC Voltage Ranges: Zero to .01, .03, .1, .3, 1, 3, 1, 3, 10, 30 and 100 volts. Measures to 500 v. with probe in low capacitance position. Decibels: -40 to +40 (to +56 with probe in low capacitance position). Size: 5½% w. x. 4½% d. x. 7½% h. Weight, 5 lbs. \$5795 Model WV-76A AC VTVM—With WG-300B probe. Net \$79.95

MODEL WV-84C DC MICROAMMETER

MODEL WV-84C DC MICROAMMETER

Battery-operated vacuum tube microammeter measures minute currents from 0.0002 to 1.000 μa. For use in electrolysis and corrosion investigations and checking currents in light meters, ultraviolet and infrared detectors, and spectrophotometric devices. May be used as a voltmeter, especially where loading is a critical factor. Also usable as ohmmeter, measuring extremely high resistances. DC Current Ranges: Zero to 0.01, 0.1, 1, 1, 10, 100, 1000 μa. Accuracy: ±5% on .01 range, ±4% on others. Voltage Drop: 0.5 v. for full scale deflection. Input Resistance: 100 meg, 0.1–1 v.; 1000 meg, 1–10 v.; 1005 meg, 1–100 v. Self-contained batterles: low-drain tubes for long battery life plus meter protection. Size: 7½" x 1½" x 6¾". Weight, 10 lbs. with batterles. With two multiplier resistors and instructions; less batterles. batteries.

Model WV-84C DC Microammeter—Net Each.....

MODEL WT-100A ELECTRON TUBE MICROMHOMETER

TUBE MICROMHOMETER

Precision lab instrument tests tubes under typical operating conditions. Useful for production line testing, design and development, critical preselection and many other applications. Tests vacuum tubes, diodes, dry disc and cold and hot cathode rectifiers, gas tubes, regulators and thyratrons, providing actual operating voltages. Measures AC heater current, 0.02 to 10 amps, DC up to 250 ma; transconductance from 10 to 100,000 micromhos in six ranges, both control grid to plate and suppressor grid to plate, with accuracy of #= 3%, Also measures voltage drop across rectifier tubes and diodes, Shorts test for any combination of tube elements, Bullt-in calibrating circuit; no null meters or extra devices needed. Completely burnout-proof meter. Power supplies regulated for DC plate and screen voltages. Size: 23½ w. x 18½ d. x 8 h. Weight, 50 lbs. With four multiple socket plug-in units, instruction booklet.

MODEL WT-115A COLOR PICTURE TUBE TESTER

Designed specifically for the testing of color picture tubes including 21AXP22, -A, 21CYP22, -A, 21FBP22, 21FKP22 and 21FJP22. Checks each gun of the color picture tube quickly and reliabily, in set or out of set, for emission quality (including warm-up performance), interelectrode leakage and shorted elements. Large, three-color sensitive meter with "quality" scale and leakage scale. AC line voltage adjustment for accurate measurements. Complete with sturdy laminated vinyl case, built-in cable and socket assembly plus convenient cable storage compartment.

Model WT-115A Color Picture Tube Tester—Wired and \$8950 tested. Net Each.



RCA Quality Test Equipment

NEW WR-52A STEREO FM SIGNAL SIMULATOR

Compact instrument generates signals for service, alignment and maintenance of mono and stereo FM receivers and multiplex adapters. Its three low-distortion sine wave frequencies (400, 1000 and 5000 cps), crystal-controlled 19- and 38-kc frequencies, and tunable 100-Mc carrier also make it ideal for broadcast, lab and assembly line use. Also produces: 67- and 72-kc frequencies for trap circuit adjustments; standard or composite FM stereo output signals for either left or right channel; low-distortion monaural FM signal with disabling switch for 19-kc oscillator; 60-eps FM sweep; special internal test signal for phase adjustment of WR-52A stereo signal. Carrier signal at 100 Mc is variable from 0 to 75 kc, permitting selection of quiet spot in band for testing; 100-Mc sweep also adjustable from 0 to over 750 kc at 60 cps rate. Crystal-controlled 19- and 38-kc signals for multiplex circuit adjustment are accurate to ±2 cps. Panel meter, for adjusting RF deviation of stereo/mono FM output, has separate color-coded stereo/mono scales; meter also used to set 19-kc subcarrier level. Unit has RF output attenuator control and binding posts for AF signals from external source. Blue-gray hammertone case with AF signals from external source. Blue-gray hammertone case with brushed aluminum panel. Power Required: 115-125 VAC, 60 cps, 40 watts. Size: 134, w. x. 8" d. x. 10" h. Shipping Weight, 21 lbs. Complete with WG-371 terminated RF output cable, WG-30" direct output cable, cable-holding bracket, registration card, and instruction booklet. Model WR-52A Signal Simulator-Net Each....

NEW MODEL WR-64B COLOR-BAR/DOT/ CROSSHATCH GENERATOR

Precision instrument featuring exceptional stability, portability and ease of operation. An indispensible aid for servicing any make or model of color TV receiver; also checks out black and white sets. Generates signals for ten bars of different colors simultaneously, accurately spaced at 30° phase intervals. Pattern provides all signals needed for accurate adjustment of color phasing; also invaluable for signal tracing in color circuits, for checking matrixing, and for aligning automatic frequency and phase control circuits. As an aid in checking convergence, three front-panel switches provided for shorting out the red, blue or green guns of color picture tubes. Extremely stable and fine-line crosshatch and dot patterns are free from "fitter" and "crawl". A fixed number of crosshatch bars and dots make over-scan (height, width), linearity adjustments. No external sync connection required; simply connects to antenna terminal of any black-and-white or color set. All three patterns are RF outputs, factory set to channel 3 (can be set to channel 4). Sound carrier permits accurate adjustment of the fine-tuning control on receivers, "Chroma" control helps check color sync lock and AFC alignment. Color subcarrier, horizontal and vertical sync pulses, "bar" and crosshatch pattern generating frequencies are all crystal controlled. Shielded output cable provided, Size: 13½f" w. x 8° d. x 10° h. Weight, 17 lbs. With RF output cable, cable-carrying bracket attachment and instruction booklet.

Model WR-64B Color-Bar/Dot/Crosshatch Gen-

MODEL WR-50A RF SIGNAL GENERATOR

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MODEL WR-99A MARKER GENERATOR

Crystal calibrated generator; supplies fundamental frequency RF carrier for aligning and trouble-shooting color and black-and-white TV receivers, FM receivers, and other electronic equipment operating in the 19-260 mc range, Bullt-in 4.5 mc crystal calibrator, heterodyne detector, amplifier and speaker provide calibrating beats at 1 mc or 10 mc intervals through entire tuning range in eight bands. At least 0.1 v. output, into 90 ohms terminated: special modulation input for re-transmission: dual markers for bandwidth checks, RF alignment; triple markers for sound IF alignment and band-width checks; matched impedance/resistance pad, 0-60 db in 5 db steps; vertical/hortzontal linearity adjustment; usable as heterodyne frequency meter. Size: 13½ w. x? d. x 10° h. Complete with output cable, two phone tips and instruction book. struction book.

Model WR-99A Marker Generator—Net Each.....

MODEL WY-120A POWER LINE MONITOR (NOT ILLUS.)

Gives constant indication of power line voltage. Expanded scale indicates true rms voltage, 100 to 140 v. Readable from distance of 10 feet or more. Simply plugs into power outlet. Accuracy: ±2% at 120 v.: ±3% at 100 and 140 v. Frequency Range: 25-400 cps. Size: 5' w. x 31/4' d. x 31/4' h. Weight, 11/2 lbs. \$1495 Model WV-120A Power Line Monitor—Net Each..... 1495





WR-64B





WR-50A, WR-50A(K)

WR-99A





MODEL WA-44C AUDIO SIGNAL GENERATOR -SINE/SQUARE WAVE OUTPUT

Compact design for testing electronic equipment and other uses requiring a sine or square wave audio-frequency signal. Operates from any 105-125 v. AC, 50-60 cps source. Covers 20-200.000 cps in four bands. Can be used to measure frequency response in amplifiers, speakers and enclosures. Can also be used to find impedance of LC combinations. A "bridged-T" oscillator circuit with cathode follower output stage provides the sine-wave function. Attenuator, clipper and cathode follower circuits produce the square wave output. Signals are stable with an amplitude variation of not more than ±1.5 db. Harmonic distortion limited to 0.25% over 30-15,000 cps range. Can be used with high or low impedance circuits. Size: 10¹¹/₂" w. x. 6¹/₂" d. x. 7" h. Weight, 10¹/₂ lbs. With 20 page instruction book. Model WA-44C Audio Signal Generator—Net Each...

MODEL WR-69A TV/FM SWEEP GENERATOR

Pre-set switch positions for all VHF TV channels, continuous tuning from 50 kc to 50 mc. High output voltage flat and free from spurious responses. Fundamental signals generated on all channels. Special blanking circuit produces zero reference line for quantitative gain measurements and balancing discriminator circuits. Phase-controlled sweep voltage at power-line frequency for 'scopes lacking sweep and phase controls. Dual-piston attenuator with range down to 5 µv. TV channels 2 to 13 preset. IF, 50 kc-50 mc for continuous tuning. Sweep width continuously variable for both IF and VF ranges. Output, 0.1 v. rms min. Max. attenuator ratio: RF, 20,000:1; IF, 4000:1. Hor. phase sweep adjust, range, 160°. Size: 13 ½6° w. x 7° d. x 10° h. Wt., 18 lbs. Complete with RF output cable, IF/Video output cable and instruction book. \$29500 Model WR-63A TV Sweep Generator—Net Each... \$2950

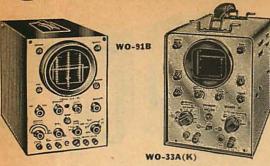
MODEL WG-304B RF MODULATOR (NOT ILLUS.)

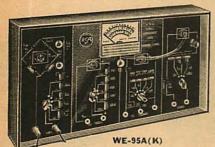
For checking overall frequency response of TV receivers from antenna to picture tube grid. Permits modulation of RF marker signal from marker generator, by signal from video sweep gener-

HARVEY RADIO CO., I ELECTRONICS, INC. BINGHAMTON, N. Y.



RCA Quality Test Equipment













MODEL WG-360A PHASE CHECKER

For dynamic phase check in any audio system from input to output of speakers. Sound powered; requires no external voltage source. Any VOM, VTVM or oscilloscope may be used as indicator.

Model WG-360A Phase Checker—

\$1495

MODEL WG-307B(K) TV BIAS SUPPLY
Designed for use in servicing and aligning both color and black
and white television receivers. Provides three separate DC output
voltages, each adjustable from 0 to -15 volts (minimum) for
application in RF, IF, and other circuits of TV receivers. Three
output voltages available from three separate terminals on top of
unit. Separate potentiometers are provided for adjusting the
three 0 to -15 volts outputs. Utilizes a power transformer and
operates from 105-125 v. AC, 60 cps power source. Supplied with
complete assembly instructions, solder, hook-up wire, and insulating sleeving.

Model WG-307B(K) TV Bias Supply Kit—Net Each. . 1196

Model WG-307B(K) IV Bias Supply RIC—Net Each.

TEST PROBES FOR RCA SCOPES

Model WG-300B—Direct/Low Capacitance Probe and Cable for use with RCA 'scopes. Net Each.

\$9.95

Model WG-302A—RF/IF/VF Signal Tracing Probe, slips on WG-300A and B. Net Each.

88.50

Model WG-349A Direct/Low Capacitance Probe—For WO-33A 'scope. Increases input impedance to 10 meg. cap. 12 \(\mu\mu\)f. Eliminates need for switching. Small dia., 48' long, extremely flexible, shielded. Alligator clips for ground, direct, low capacitance connections. Net Each.

\$5.95

Model WG-350A Demodulator Probe—For WO-33A 'Scope for demodulation and signal tracing of radio/TV RF and IF.

Net Each.

\$4.95 MODEL WO-91B OSCILLOSCOPE

MODEL WO-33A(K) OSCILLOSCOPE

Compact three-inch 'scope that handles all black and white or color TV servicing problems. Increased gain and bandwidth enables it to be used in PA, radio, TV, broadcast, ham radio, Hi-Fi, laboratory and industrial applications, Vertical Amplifier Sensitivity: Wide band, 100 rms mv/inch: Narrow band, 3 rms mv/inch. Vertical Amplifier Bandwidth: Wide band, within -3 db, 5.5 cps to 5.5 mc: Narrow band within -3 db, 20 cps to 150 kc. Sweep Circuit: Sawtooth range, 15 cps-75 kc; Sync, external, ±internal; line sweep, 160° adjustable phase; sync range, to 4.5 mc. Vertical circuit impedance at Lo-Cap cable input, 10 megs, 10 µI (approx.). Power Required: 105-125 v. AC, 50-60 cps, 50 watts. Size: 6½° w. x 10½° d. x 8¾° h. Weight, 14 lbs. Complete with Direct/Lo-Cap probe and cable, and instruction book.

Model WO-33A (K) Oscilloscope Kit—Assembly instruc-\$795 tions included. Net Each.

Not Each. \$129.95

\$129.95

MODEL WE-95A(K) VOM DYNAMIC

Dynamic visual aid for teaching principles of meters and metering circuitry, at high school or trade school level. Educational value goes beyond that of assembly; may be used for all normal VOM applications and for effective visual demonstrations of meter circuits, Consists of standard VOM converted into a kit, for easy assembly in panel form. Separate schematic and wiring diagrams printed on large, easily read layout panel; simple assembly instructions provided. Individual wiring diagram for each circuit printed on rear of panel for rapid, accurate assembly. No previous experience required. All components positioned in relation to their proper place in each circuit; each circuit function color-coded for easy identification. Instruction manual not only includes assembly instructions, but illustrates and explains the operation of each VOM circuit. VOM circuit.

Model WE-95A(K) VOM Demonstrator Kit—Net Each.

MODEL WE-93A(K) TRANSISTOR RADIO DYNAMIC DEMONSTRATOR KIT (NOT ILLUS.)

DYNAMIC DEMONSTRATOR KIT (NOT ILLUS.)

AM superheterodyne transistor radio converted into kit form for educational and instructional applications. Clear, step-by-step instructions make the demonstrator extremely easy to assemble: No previous kit assembly experience required. Circuit diagram drawn on sturdy, 12" x 24" color-coded panel. Wiring diagram on reverse side for rapid, accurate assembly. After construction, the demonstrator serves as a visual aid as well as an operating radio receiver. Components are placed in their proper position in the circuit, with each function color-coded for easy identification and explanation. Special silver-plated spring connectors used for electrical and mechanical connection, assuring easy component installation. Simple operation for convenience in testing and component substitution. Unfinished, solid mahogany frame and stand, Includes 304 page RCA Transistor Manual, plus assembly instructions, Less batteries.

Model WE-93A(K) Transistor Radio Dynamic Demon-\$395 strator Kit—Net Each.

Model WE-92A(K)—24" x 48" instructor's model of above.

Net Each.

S69.50

MODEL WR-70A RF/IF/VF MARKER-ADDER
Provides sharp, narrow, easy to read markers for RF, IF and sweep frequency alignment of color and black and white TV receivers. Designed to be used with existing marker generators to give a choice of four markers having different shapes. Eliminates distortion of the marker and distortion of the sweep curve by the marker due to overloading or clipping by the TV receiver circuits. Front panel controls for marker shape, amplitude and polarity as well as the sweep-trace amplitude and polarity. Size: 10½° w. x 6½° d. x 7½° h.

Model WR-70A RF/IF/VF Marker-Adder—Net Each.