

RADIO CORPORATION OF AMERICA.

HARRISON, NEW JERSEY, U.S.A.



TEST EQUIPMENT

AND ACCESSORIES

YOUR ASSURANCE
OF **TOP-QUALITY** PERFORMANCE

RCA is the oldest continuous manufacturer of radio and TV service test equipment in the United States. RCA's more than 35 years of engineering and manufacturing experience in every field of electronics assures you of the highest quality and performance from any RCA instrument you buy.

All prices are subject to change without notice. Prices may be higher in Alaska, Hawaii, and the West.

A FEW WORDS ABOUT
RCA
TEST EQUIPMENT KITS

A number of instruments described in this catalog are **available in kit form** at prices representing substantial savings over the factory wired and calibrated versions. For those who prefer to build their own instruments from kits, we offer the following list of RCA advantages.

- **RCA KITS USE THE SAME HIGH-QUALITY PARTS AND CIRCUITS** specified for factory-assembled instruments. Neither quality nor design is compromised in the Kit versions of RCA professional equipment.
- **RCA KITS ARE EASY TO BUILD.** Clear, detailed instructions take you step by step through your Kit assembly and adjustment procedures. Many simplified illustrations show you how to mount, wire, and solder parts, and how to adjust your Kit for professional-quality performance.
- **SPECIAL ASSEMBLIES ARE FACTORY BUILT AND PRE-ALIGNED.** No special skills or expensive equipment are needed to assemble your RCA Kit instrument. Complex or precision parts, such as meters, coil assemblies, and special probes are pre-assembled at the factory. In addition, critical tuned circuits are supplied pre-aligned, and need only a slight "touch-up" after installation.
- **PROFESSIONAL STYLING** of RCA Kit instruments reflects their expert engineering and performance. No "do-it-yourself" identification appears on the equipment. RCA Kit versions of professional instruments are "at home" in the finest shops, laboratories, and homes.
- **TECHNICAL CONSULTING SERVICE** is always available—either through your local RCA distributor or from RCA's staff of equipment engineers and technicians. These experts are ready to help you with any construction, alignment, or application problem involving your RCA equipment.
- **SPECIAL SERVICE DEPOTS** throughout the United States can repair or adjust any RCA Kit instrument. The specialists at these repair centers can service your RCA Kit instrument expertly and quickly.

RCA ELECTRONIC INSTRUMENTS

METER TYPE INSTRUMENTS

VoltOhmyst®
Senior VoltOhmyst®
Volt-Ohm-Milliammeter
AC Vacuum-Tube Voltmeter
DC Microammeter

WV-77E*
WV-98C*
WV-38A*
WV-76A*
WV-84C

OSCILLOSCOPES

5" Oscilloscope
Super Portable Oscilloscope

WO-91A
WO-33A*

SIGNAL GENERATORS

Stereo FM Signal Simulator
Color Bar/Dot/Crosshatch Generator
Television/FM Sweep Generator
Crystal-Calibrated Marker Generator
RF/IF/VF Marker Adder
UHF Sweep Generator
RF Signal Generator
Audio Signal Generator Sine/
Square Wave Output

WR-51A
WR-64A
WR-69A
WR-99A
WR-70A
WR-86A
WR-50A*

WA-44C

TUBE TESTERS

Electron Tube Micromhometer
Color Picture Tube Tester

WT-100A
WT-115A

EDUCATIONAL DEVICES

V-O-M Dynamic Demonstrator Kit
Transistor Radio Dynamic Dem-
onstrator Kits

WE 95A(K)
WE-93A (K)
and WE-92A (K)

*Also available in kit version



WV-77E
(Kit or Wired)

VOLTOHMYST®

\$29.95* WV-77E(K) VoltOhmyst Kit \$46.95* WV-77E VoltOhmyst (Factory-wired)

The WV-77E features flat frequency response $\pm 5\%$ 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 ranges. The WV-77E measures dc from 0.02 volt to 1500 volts, rms ac from 0.1 volt to 1500 volts, peak-to-peak ac from 0.2 volt to 4000 volts, and resistance from 0.2 ohm to 1000 megohms—all in seven overlapping ranges! Full-scale accuracy is $\pm 3\%$ on dc and $\pm 5\%$ on ac. Meter is electronically protected against burnout. Separate scales are provided for low ac measurements. Input resistance is standard 11 megohms. Width $5\frac{3}{8}$ ", Depth $4\frac{3}{4}$ ", Height $7\frac{3}{4}$ ", Weight 5 lbs.

- Sleeve on handle stores probes and cables
- Fuse in ohms circuit prevents accidental burnout
- Circuit minimizes effect of residual gas in tube of circuit bridge
- Color-coded scales for easier, faster readings
- Ultra-slim probes and extra-flexible cables

(Prices for WV-77E(K) and WV-77E include dc probe and cable, ac/ohms probe and cable, ground lead and clip, and instruction booklet. Assembly instruction sheet is provided with the WV-77E(K) VoltOhmyst Kit.

*User Price (Optional)



WV-98C
(Kit or Wired)

SENIOR VOLT-OHM-[®]

\$57.95*

WV-98C(K)
Senior
VoltOhmyst Kit.

\$79.50*

WV-98C
Senior VoltOhmyst
(Factory Wired)

Provides direct reading of peak-to-peak voltages of complex waveforms found in video, sync, and deflection circuits. Includes an improved circuit providing $\pm 3\%$ accuracy full-scale on both ac and dc measurement with less than 1% tracking error. Separate color-coded peak-to-peak and rms-voltage scales in two distinctive colors simplify readings. Features die-cast aluminum case; high input resistance; electronic protection against burnout, rugged 200-microampere meter movement; precision multiplier resistors with accuracy of $\pm 1\%$ and 0.5-volt full-scale dc range for checking transistor circuits. Width 7", Height $6\frac{1}{2}$ ", Depth $3\frac{3}{4}$ ", Weight 6 lbs.

- Large $6\frac{1}{2}$ " easy-to-read, full vision meter (26 sq. in.)
- Measures complex waveforms directly from 0.2 volt to 4200 volts peak-to-peak in 7 overlapping ranges.
- Measures rms values of sine waves from 0.1 volt to 1500 volts in 7 overlapping ranges.
- Measures from 0.01 volts to 1500 volts dc on two scales in 8 overlapping "3-to-1" ranges.
- INPUT RESISTANCE (With switch on WG-299D set to "DC") — 11 megohms on all dc ranges.
- Measures resistance from 0.2 ohm to 1000 megohms on single scale, with 7 overlapping ranges.
- FREQUENCY RESPONSE — 30 cps to 250 Mc with WG-301A Crystal-Diode Accessory Probe — ± 1 db 30 cps to 3 Mc (1.5 and 5 VAC Ranges)

Kit features pre-assembled DC/AC-OHMS Probe

*User Price (Optional)



WV-38A
(Kit or Wired)

VOLT-OHM-MILLIAMMETER

\$43.95*

WV-38A VOM (Factory
Wired and Calibrated)
(Batteries not incl.)

\$29.95*

WV-38A (K)
VOM Kit
(Batteries not incl.)

NEW FEATURES:

- Meter movement protected against burn-out.
- New 2 color front panel.

Ohms-divider network fuse-protected. Easier-to-read scales on extra-large $5\frac{1}{4}$ inch meter. Polarity reversal switch. Full-wave bridge rectifier. Less circuit loading. Standard dbm ranges. Extra 1-volt and 0.25-volt (250 mv) ranges. Handle clips accommodate probes and test leads for extra carrying convenience.

The WV-38A VOM has an input resistance of 20,000 ohms-per-volt on dc and 5,000 ohms-per-volt on ac and an accuracy of $\pm 3\%$ of full scale on dc, $\pm 5\%$ of full scale on ac. Regular scales: 2.5, 10, 50, 250, 1000, 5000 volts, ac and dc; 50 uamp, 1, 10, 100, 500 ma, 10 amps (dc); plus extra scales of 250 mv and 1-volt (dc). Frequency response (ac), flat from 10 cps to 50 Kc within $\frac{1}{2}$ db with usable response at 500 Kc. Ohms—3 ranges—R x 1 (0-2,000 ohms), R x 100 (0-200,000 ohms), R x 10,000 (0-20,000,000 ohms). Dimensions: W $5\frac{1}{4}$ " x H $6\frac{1}{2}$ " x D $3\frac{3}{4}$ ", weight: $3\frac{1}{2}$ lbs.

Kit version is extremely easy to assemble. Just mount six components on the front panel, wire all other components on one side of laminated circuit board, attach circuit board to panel and put on knobs and back cover!

*User Price (Optional)



WV-76A
(Kit or Wired)

AC VACUUM-TUBE VOLTMETER

\$79.95* WV-76A Factory
Wired and Calibrated **\$57.95*** WV-76A (K) Kit

A high-sensitivity AC VTVM for Hi-Fi and other audio applications. Designed for measuring AC voltages from 0.0002 volt to 500** volts over the frequency range of 10 to 1,500,000 cycles. Offers nine overlapping AC voltage ranges—from 10 millivolts to 100 volts full scale.

Incorporates a decibel scale for measurements of levels from -40 db to +40 db.

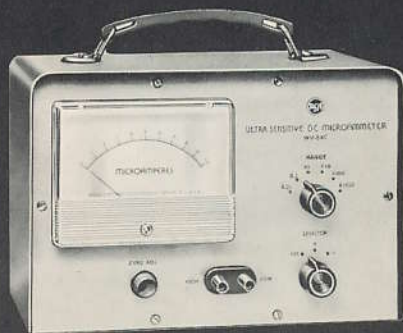
Offers a built-in amplifier which may be used separately as a pre-amplifier. Provides approximately 38 db gain throughout the frequency range from 10 cps to 500 Kc with probe in "Low-Cap" position and 10 cps to 1.5 Mc with probe in "Direct" position.

The RCA WG-300B Direct/Low Capacitance Probe and Cable is supplied with the WV-76A at no additional charge. Switch in probe housing provides for switching from direct to low-capacitance input. In "Direct" position probe measures up to 100 volts; in "Low-Cap" position, probe can be used to measure up to 500 volts or +56 db. Probe and cable shielded throughout its length to eliminate pick-up from stray field.

Dimensions: 5 $\frac{3}{8}$ " W x 7 $\frac{3}{8}$ " H x 4 $\frac{3}{4}$ " D. Weight 5 lbs.

*User Price (Optional)

**With the WG-300B set to the "Low-Cap" position.



WV-84C

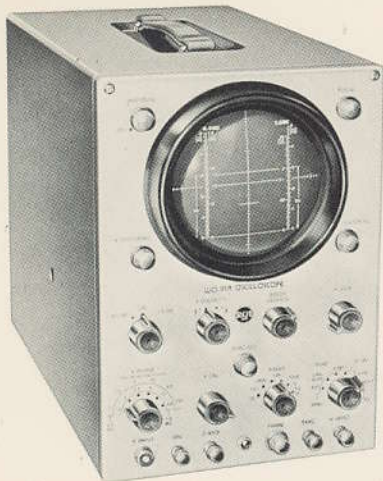
ULTRA-SENSITIVE DC MICROAMMETER

\$110.00* Includes 50- and 950-megohm multiplier resistors, instruction booklet. Batteries not included.

Application: a battery-operated vacuum tube microammeter designed for measuring minute direct currents, for making current and voltage measurements in electrolysis and corrosion investigations, and for checking currents in light meters, ultra-violet and infrared detectors, and spectrophotometric devices. Self-contained batteries permit use almost anywhere. Low-drain tubes extend battery life and protect the delicate meter against burnout due to accidental overloads. When used as a voltmeter, it is especially suited to measurements in circuits where loading is a critical factor. Can also be used as an ohmmeter to measure extremely high resistance, such as leakage and insulation resistance.

- Six direct-current ranges for measuring currents from 0.0002 to 1000 microamperes.
- Can be used as ohmmeter to measure resistance in the order of billions of ohms.
- Voltage drop for full-scale deflection only 0.5 volts.
- Input resistance of 100 megohms for measurement of voltages from 0.1 to 1 volt; 1000 megohms input resistance for voltages from 1 to 10 volts, 1005 megohms for voltages from 1 to 100 volts.
- Over-all microammeter accuracy on .01 range $\pm 5\%$ or better, accuracy on all other ranges $\pm 4\%$ or better.
- Size 7 $\frac{1}{2}$ " x 1 $\frac{1}{2}$ " x 6 $\frac{1}{4}$ ". Weight: 10 lbs. including batteries.

*User Price (Optional)



WO-91A

5" OSCILLOSCOPE

\$249.50*

Application: for production and servicing both black-and-white and color TV receivers. Used to measure color burst signals and for trouble-shooting wideband color circuits, signal tracing and aligning wide-band video amplifiers, and chrominance circuits. A multi-scale graph screen makes peak-to-peak voltage measurements as simple as with a VTVM. Response: Wide-band within -1 db from 10 cps to 4.5 Mc; High sensitivity within -1 db from 10 cps to 0.5 Mc; within -6 db to 1.5 Mc. Sensitivity: 0.05 volt peak-to-peak per inch (0.018 volts rms) in high-sensitivity position; 0.15 volt peak-to-peak per inch (0.053 rms volts in wide-band position). New 2-stage SYNC-SEPARATOR for improved stability makes it easy to check TV horizontal and vertical sweep-synchronization.

- Voltage-calibrated, frequency-compensated, 3-to-1 step attenuator for "V" amplifier.
- Shielded vertical-input connector and shielded cable minimize hum, stray field pickup.
- Input Resistance: 1 megohm shunted by 40 uuf. Low capacitance position—10 megohms shunted by 11 uu.
- Z-Axis input 12 volts for blanking
- Preset "V" and "H" sweep positions.
- "Plus" or "Minus" internal-sync selector
- Positive-lock internal sync.
- Sweep Frequency: 10 cps to 100 Kc.
- Maximum ac input: 600 volts peak-to-peak
- Size $13\frac{1}{2}'' \times 16\frac{1}{2}'' \times 9''$. Weight: 30 lbs.

*User Price (Optional)



WO-33A
(Kit or Wired)

SUPER PORTABLE OSCILLOSCOPE

\$79.95*

WO-33A(K)
Oscilloscope Kit

\$129.95*

WO-33A
Oscilloscope
(Factory-wired)

The WO-33A 3-inch Oscilloscope is the "all purpose" scope! All the bandwidth you need for servicing color-TV, video broadcast monitors and cameras; and for square-wave testing of audio and ultrasonic equipment! All the gain you need for low-level audio work—servicing pickups, microphones, preamps; plus signal-tracing radios, amplifiers—trouble shooting communications signaling systems, ham radio and hi-fi equipment, industrial electronics machinery and other applications.

With vertical amplifier in narrow-band position, sensitivity is 3 rms millivolts/inch; bandwidth within -3 db, 20 cps to 150 Kc. Wide band position: sensitivity 100 rms millivolts/inch; bandwidth within -3 db, 5.5 cps to 5.5 Mc. Sweep circuit: Sawtooth range from 15 cps to 75 Kc; sync: external, \pm internal; line sweep— $160''$ adjustable phase; sync range to 4.5 Mc.

- for accuracy—voltage-calibrated frequency compensated, 3-to-1 step attenuator
- for measurement—scaled graph screen and calibrating voltage source allows direct reading of peak-to-peak voltages
- for stability—"plus-minus" internal sync . . . holds sync to 4.5 Mc
- for completeness—shielded input cable with low capacitance probe included
- for portability—compact size—W $6\frac{1}{2}''$ x H $8\frac{3}{4}''$ x D $10\frac{1}{4}''$ —weight only 14 lbs. Plus built in brackets to hold power cord and cables

(Prices for the WO-33A(K) and WO-33A include Direct Low-Cap probe and cable, and instruction booklet.)

*User Price (Optional)



WR-51A

STEREO FM SIGNAL SIMULATOR

\$249.50*

The RCA WR-51A is a compact, lightweight instrument designed to generate the signals necessary for complete service and maintenance of Stereo Multiplex FM receivers and adaptors.

Signals available from the WR-51A include:

- Composite stereo output signal for either left or right channel, and a "Phase Test" signal (L + R in phase) for accurate phase adjustment of subcarrier transformers. Signals can be modulated with 400, 1000, or 5000 cps frequencies.
- A variable-level 19 Kcs ($\pm 0.1\%$) crystal controlled subcarrier signal for checking the lock-in range of stereo receivers.
- Four additional sine-wave signals, 28, 38, 48, and 67 Kc for adjusting bandpass networks.
- 100 Mc carrier signal, adjustable ± 8 Mc to permit selection of a quiet point in the fm band. This signal may be frequency modulated with the composite stereo or monaural information, with adjustable deviation from 0 to 75 Kc.
- The 100 Mc signal may be swept over an adjustable range of from 0 to 700 Kc at a 60 cps rate, permitting over-all rf/if alignment checks.
- Crystal-controlled 5.35 Mc signal to provide a 10.7 Mc if marker, and harmonic markers at 80.95 Mc, 96.30 Mc, 101.65 Mc, and 107 Mc for rf alignment of the receiver.

The WR-51A comes complete with two connecting cables; one direct, unterminated cable for use with the COMP/SIG*AUDIO output and for IF MARKER output, and one terminated cable for use with a 75 ohm or 300 ohm receiver antenna input. In addition, two cables are permanently wired into the rear of the instrument for connection to the amplifier voice-coil output.

The WR-51A measures 13½" x 10" x 8" Weight: 14 lbs.

*User Price (Optional)



WR-64A

COLOR BAR/DOT/ CROSSHATCH GENERATOR

\$189.50*

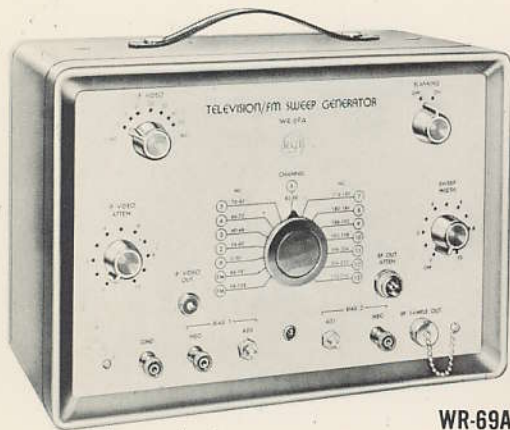
Complete with RF output cable, cable-carrying bracket attachment and instruction booklet.

For checking over-all operation of Color-TV receivers. A "must" for adjusting and trouble-shooting color phasing and matrixing circuits. Generates signals for producing ten bars of different colors simultaneously. Also provides extremely stable fine-line crosshatch and dot patterns free from "jitter" and "crawl" for making adjustments for convergence. Fixed number of bars and dots facilitate adjustment of over-scan (height and width) and linearity in both color and black-and-white sets.

The Color-Bar and Dot/Crosshatch generating functions require no external sync connections. All three patterns are RF outputs which are connected directly to the antenna input terminals of the receiver, factory set to channel 3 (can be set to channel 4). A sound carrier is provided to permit accurate adjustment of the fine-tuning control on the receiver.

The WR-64A features a chroma control helpful in checking color sync lock and color AFC alignment. The color sub-carrier frequency, the horizontal and vertical sync-pulse frequency, the crosshatch pattern generating frequencies and the "bar" frequency, are all crystal controlled. A shielded output cable is provided with the instrument. Width 13½", Height 10", Depth 8". Weight only 13¼ pounds.

*User Price (Optional)



WR-69A

TELEVISION/FM SWEEP GENERATOR

\$295.00* Complete with RF Output cable, IF/Video Output Cable and instruction booklet.

Tops for visual alignment of both TV and FM receivers, the WR-69A has preset switch positions for all VHF TV channels, the FM broadcast band, and TV video, chrominance, and if frequencies. VHF output is on fundamental frequencies only; no beat notes or harmonics are used. Exceptionally good linearity is provided by a precision vibrator capacitor. Continuously adjustable sweep width and flat output make for accurate sweep response displays. The WR-69A is especially suited for alignment of color receivers. Special sample-voltage terminal on panel permits use with marker-adder units in alignment. Dual-piston attenuator provides smooth even attenuation over 60 db range for TV and FM channels and 70 db range for if and video. Width 13 $\frac{3}{8}$ " , Height 10" , Depth 7" . Weight: 16 lbs.

- IF/Video output frequency continuously tunable from 50 Kc to 50 Mc in 6 ranges.
- Sweep-frequency bandwidth continuously adjustable from 50 Kc to 20 Mc on if/video and fm; 12 Mc max. on TV channels.
- Return trace blanking.
- Two continuously adjustable bias voltages, 0 to -12 volts, available on front panel.

*User Price (Optional)



WR-99A

CRYSTAL-CALIBRATED MARKER GENERATOR

\$256.50* complete with rf output cable, instruction booklet.

Application: supplies a fundamental frequency rf carrier of crystal accuracy for use in aligning and trouble-shooting TV (color and black-and-white) and FM receivers, and other electronic equipment operating in the range of 19 to 260 Mc in 8 bands on fundamental frequencies. Built-in crystal calibrator, heterodyne detector, amplifier and speaker provides calibrating beats at 1 Mc or 10 Mc intervals throughout entire tuning range which is covered by 8 bands. A built-in 4.5 Mc crystal provides necessary accuracy for alignment of intercarrier-if amplifiers and discriminators.

- At least 0.1 volt output VFO ranges; 0.05 volt crystal frequencies, into a termination of 90 ohms.
- Provides signals for adjusting vertical or horizontal linearity.
- Precision matched impedance/resistance pad attenuator, 0-60 db in 5 db steps.
- Special modulation input available for re-transmission.
- Provision for use as Heterodyne Frequency Meter.
- Provides dual markers 4.5 Mc apart for band-width checks and rf alignment.
- Triple markers for sound-if alignment and band-width checks.
- Adjustable dial pointer for accurate registration with crystal-calibration check points.

*User Price (Optional)



WR-70A

RF/IF/VF MARKER ADDER

\$74.50* complete with four coaxial cables and instruction booklet.

Application: for rf, if and video sweep alignment of both color and black-and-white TV receivers. Provides sharp, easy-to-read markers for alignment. A choice of four different marker shapes is available, permitting use of marker type best suited to the response curve. Designed for use with conventional marker and sweep generators, such as the RCA WR-39 and WR-89 series marker generators and the WR-59 and WR-69 series TV sweep generators. With the WR-70A, the marker signal is added to the sweep-response curve after the sweep signal is taken out of the receiver under test.

- Eliminates or reduces distortion of sweep curve by the marker.
- Permits trap alignment without marker "suckout."
- Hi-Q markers—high in amplitude, narrow in width.
- Four marker choices—positive peak, negative peak, positive and negative peaks (wide band), positive and negative peaks (narrow band).
- Power supply voltage stabilized for rock-steady trace display.

*User Price (Optional)



WR-86A

UHF SWEEP GENERATOR

\$137.50* Complete with WG-227 RF Output Cable, WG-296 50 to 300-ohm padded balun, instruction booklet.

Invaluable for UHF TV application from 300 to 950 Mc, this UHF sweep generator combines a wide sweep range with a high output voltage of excellent amplitude linearity. A blanking circuit is included to provide a reference base line on an oscilloscope. Horizontal sweep frequency for the scope can be obtained from front-panel terminals. The WR-86A has 50-ohm output and will work into a 50-ohm unbalanced load or with the WG-296 padded balun provided, into a 300-ohm balanced load.

Width 13½", Height 9¾", Depth 7½".

- Output frequency continuously variable on center frequencies from 300 to 950 Mc.
- Sweep width is 10% of indicated dial frequency up to 750 Mc; 75 Mc width from 750 to 950 Mc.
- Adjustable piston-type attenuator gives 60 db range of attenuation.
- At least 0.6-volt output across either 50 ohms or 300 ohms.
- Amplitude variation at maximum sweep width no greater than 0.1 db/Mc.
- Lightweight and portable; attractively styled.

*User Price (Optional)



WR-50A
(Kit or Wired)

RF SIGNAL GENERATOR

\$59.95* WR-50A (Factory
Wired and Calibrated)

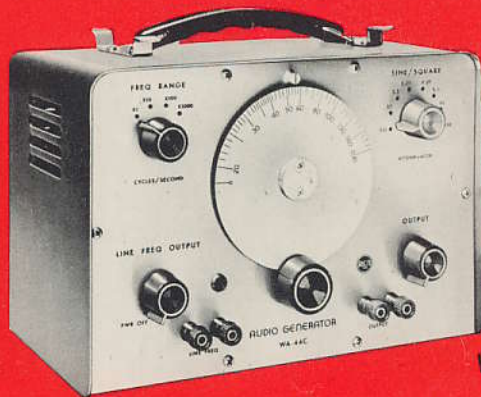
\$39.95* WR-50A(K)
Kit

Designed for maintenance, troubleshooting and instructional purposes, this versatile RF Signal Generator provides an accurate source of CW or amplitude-modulated signals in the fundamental range of 85KC to 40 MC. The WR-50A is particularly well suited for aligning and signal tracing AM, FM, Hi-Fi and Citizens' Band and amateur radio receivers. Many other uses can be found for this instrument in troubleshooting and service of TV sets. A 400-cycle af output provides a practical means for checking audio amplifier circuits.

The WR-50A features an attractive brushed aluminum panel with permanent deep-etched multi-color calibration scales and lettering. Height 7¾", Width 5¾", Depth 4¾", Weight 5 lbs.

- Easy-to-read dial scale and pointer for variable oscillator
- Convenient switch and control locations on front panel
- Output cables permanently attached
- DC blocking capacitors built into each output cable
- Calibrating oscillator circuit with front panel socket for crystal
- 400-cycle oscillator for internal modulation or af output
- Shielded cables for rf, and af output

*User Price (Optional)



WA-44C

AUDIO SIGNAL GENERATOR SINE/SQUARE WAVE OUTPUT

\$98.50* Complete with 20 page instruction booklet.

The Compact WA-44C is ac operated from a 50-to-60 cycle, 105-125 volt source, and covers in four bands a range from 20 cps to 200,000 cps. Can be used for a wide variety of applications, including the measurement of frequency response characteristics of audio amplifiers, and the testing of loudspeakers and enclosures or finding the impedance of LC combinations. Width 10 1/16", Height 7", Depth 6 1/8"; Weight: 10 1/2 lbs.

The circuit of the sine-wave function consists of a "Bridged-T" oscillator with a cathode follower output stage. The square-wave output is developed by using the sine-wave oscillator output to drive a clipping and shaping circuit. Produces a stable signal with an amplitude variation of not more than ± 1.5 db. Total harmonic distortion is limited to 0.25% over the range of 30 cps to 15 kc.

- Switch selection for sinewave or squarewave output
- Simple one-scale dial
- Separate 60 cps line frequency output for intermodulation distortion measurements
- Wide frequency range, 20 cps to 200,000 cps
- Less than ¼ of 1% distortion over the audio-frequency range

*User Price (Optional)



WT-100A

ELECTRON-TUBE MICROMHOMETER

\$989.00* Complete with 4 multiple-socket plug-in units, instruction booklet.

A precision laboratory measuring instrument which tests tubes under typical operating conditions as specified in the tube manufacturers' technical data manuals. It is particularly useful in production line testing, design and development work, pre-selecting for critical applications, quality control programs, and preventive maintenance. MEASUREMENTS PERFORMED: ac heater current from 0.02 ampere to 10 amperes • dc filament current up to 250 ma. • voltage drop across rectifier tubes and semiconductor diodes • transconductance from 10 micromhos to 100,000 micromhos. Within the range of its facilities it will test: vacuum tubes—diodes, triodes, tetrodes, pentodes, heptodes, hexodes, octodes, and multi-unit types; gas tubestyratrons, voltage regulators, cold-cathode and hot cathode rectifiers; in these bases and envelopes—bases with 4, 5, and 6 pins, octal, lock-in, miniature, sub-miniature, pencil and lighthouse; and semi-conductor diodes—small dry-disc rectifiers, germanium and silicon diode types. Size: W 23½" x H 8" x D 18½". Weight: 50 lbs.

- measures transconductance up to 100,000 micromhos in six ranges
- measures both control-grid-to-plate and suppressor-grid-to-plate transconductance
- built-in calibrating circuit—no null meters or extra devices required
- meter completely burnout-proof
- regulated power supplies for dc plates and screen test voltages
- measures transconductance to an accuracy of $\pm 3\%$
- accurate measurement of "hybrid" auto receiver tube types under actual operating conditions
- built-in shorts test for any combination of tube elements

*User Price (Optional)



WT-115A

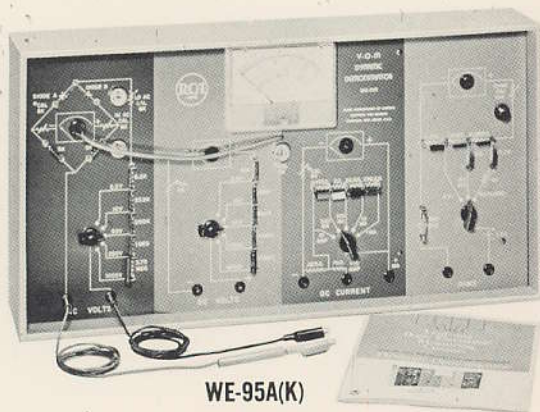
COLOR PICTURE TUBE TESTER

\$89.50* Complete with sturdy laminated vinyl case with convenient cable storage compartment.

The RCA WT-115A Color Picture Tube Tester is designed specifically for the testing of color picture tubes, including types 21AXP22, 21AXP22A, 21CYP22, 21CYP22A, 21FBP22, 21FKP22, and 21FJP22. The RCA WT-115A offers a quick, reliable means of testing each gun of the color picture tube for emission quality (including warm-up performance), interelectrode leakage, and shorted elements. Readily portable, the WT-115A provides distributors and dealers with an accurate instrument for the testing of color picture tubes in the customer's home or in the store.

- Designed specifically for testing TV color picture tubes
- Tests each gun for emission quality, interelectrode leakage, and shorts
- Large, 3-color, sensitive meter with two scales:
 - Red/green "quality" scale, with reference marks from 0 to 10
 - Separate yellow scale to indicate interelectrode leakage
- Sensitive meter and cut-off adjustment control for evaluating the true emission of each gun
- Neon shorts indicator
- AC line-voltage adjustment for accurate measurements
- Test procedure includes 2-minute and 4-minute tests for determining warm-up performance of tube
- Tests color picture tube in-set or out-of-set
- Built-in cable and socket assembly

*User Price (Optional)



WE-95A(K)

V-O-M DYNAMIC DEMONSTRATOR KIT

\$37.95*

Includes assembly instructions and "Learning Basic Electronic Circuits" booklet. (Batteries not included)

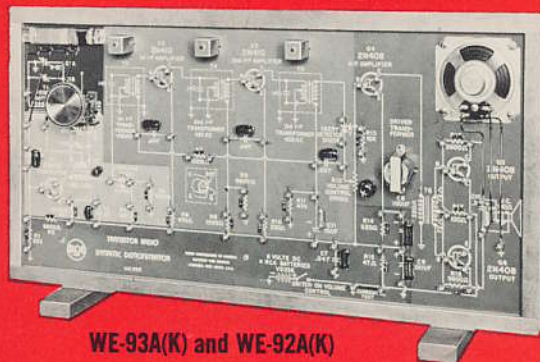
Here is a dynamic aid for teaching the principles of meters and metering circuits in science classes at the high school level or in technical trade schools. RCA has taken its production-type V-O-M, the instrument most frequently used for electronic measurements, and converted it into an easy-to-assemble kit especially designed for classroom instruction. This kit is not simply an educational aid, but once assembled, it becomes an actual test instrument that can be used to test and service TV, AM, FM and shortwave radios, Hi-Fi monophonic and stereo sound equipment.

Note these important features:

- Separate schematic and wiring diagrams printed on large, easy-to-follow layout panel.
- All components are positioned on front of panel in their proper place in each circuit.
- Each circuit function is color-coded for easy identification.
- Wiring diagram for each circuit is printed on rear of panel to avoid mistakes and speed assembly.
- Kit assembly is so simple no previous experience is required. Easy-to-follow assembly instructions are provided.

The 24-page instruction manual included illustrates and explains what happens in each of the different circuits of a V-O-M.

*User Price (Optional)



WE-93A(K) and WE-92A(K)

TRANSISTOR RADIO DYNAMIC DEMONSTRATOR KIT

\$39.95*

WE-93A(K)
12" x 24" Student model
(Batteries not included)

\$69.50*

WE-92A(K)
24" x 48" Instructors model
(Batteries not included)

The RCA WE-93A(K) and WE-92A(K) are AM superheterodyne transistor radio receivers converted into kit form for educational and instructional purposes. Once assembled they become actual operating AM receivers.

Designed to provide the student with easy-to-follow, step-by-step instruction, the RCA Transistor Radio Dynamic Demonstrators are extremely easy to assemble. No previous kit assembly experience is required. The circuit diagram is drawn in a straightforward, easily understood manner on a sturdy color-coded panel. The wiring diagram on the reverse side helps avoid mistakes and speeds assembly.

Note these important features:

- Special silver-plated spring connectors provide mechanical and electrical connection . . . assure easy component installation.
- All components positioned on front panel in their proper place in each circuit.
- Each circuit function is color-coded for easy identification.
- Inherent operational simplicity assures ease of service checks and tests . . . exceptionally easy component substitution.
- Solid mahogany frame and stand (unfinished).
- Includes 304 page RCA Transistor Manual and assembly instruction.

*User Price (Optional)



WV120A
\$14.95*

POWER LINE MONITOR

For constant indication of power line voltage

Features: • expanded scale 100 to 140 volts indicates true rms values • accuracy $\pm 2\%$ at 120 volts, $\pm 3\%$ at 100 and 140 volts • readable from 10 feet or more • plugs in to power line outlet • wide frequency range, 25 to 400 cps.
H $3\frac{1}{8}$ " , W 5" , D $3\frac{1}{8}$ " ;
Weight: $1\frac{1}{2}$ lbs.

* User Price (Optional)



WG-330A
\$22.95*

TV SIGNAL AMPLIFIER AND SET COUPLER

For improved reception in fringe areas.

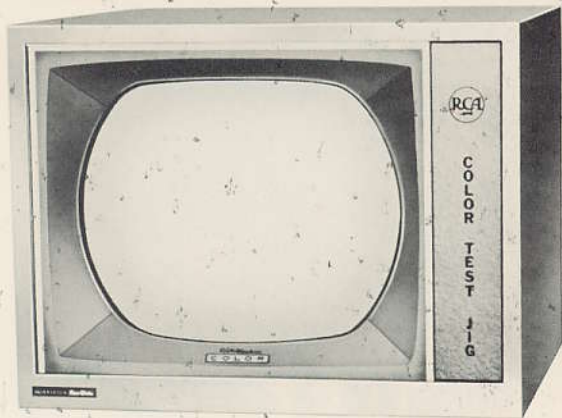
• 2 Nuvistors for increased gain, greater stability • Provides up to 12 db gain • Feeds up to 6 sets by means of easily-made directional couplers • On/Off switch • Installs indoors . . . Not at the antenna!

*User Price (Optional)



TEST EQUIPMENT ACCESSORIES

These versatile RCA test equipment accessories are expertly engineered to give you an economical and convenient means of extending the range and usefulness of your test equipment. RCA test equipment accessories are available for most servicing applications. They are especially useful in applications involving very high dc voltages, high frequencies, high impedances, or other special measurements.



11A1015

COLOR TEST JIG

\$135.00*

Includes kit with all necessary components, hardware and instructions for installation of an RCA Tri-Color Kinescope (Kine not included)

A "must" for any serviceman now servicing or planning to service Color TV receivers, the RCA Color Test Jig makes a one man service call out of costly two man cabinet pulling jobs. Eliminates necessity of removing picture tube from cabinet and of reconverging tube when chassis is returned. Convergence control panel provides dynamic as well as static convergence.

- Versatile—Can be used with CTC-4, 5, 7, 9, 10, 11, 12 and 15 chassis.
- Safe—Supplied with factory-installed safety glass and kine mask.

EXTENSION CABLES AVAILABLE FOR CONNECTING COLOR TEST JIG TO CHASSIS:

Stock No.	Description	Receiver Chassis Type							
		CTC-4	CTC-5	CTC-7	CTC-9	CTC-10	CTC-11	CTC-12	CTC-15
220X1	Kinescope Socket Ext.	X	X	X	X	X	X	X	X
221X1	Deflection Yoke Ext.	X	X	X	X	X	X	X	X
222X1	Convergence Ext.	X							
224X1	Convergence Ext.		X						
225X1	High Voltage Ext.		X	X	X	X			
228X1	Deflection Yoke Ext.			X	X	X	X	X	X
13A100	High Voltage Ext.						X	X	X
13A101	High Voltage Ext.	X							

ADDITIONAL ACCESSORIES AVAILABLE:

205W1 Degaussing Coil All Series
 226X1 Grid Shunt Switch and Cable Assembly.... All Series

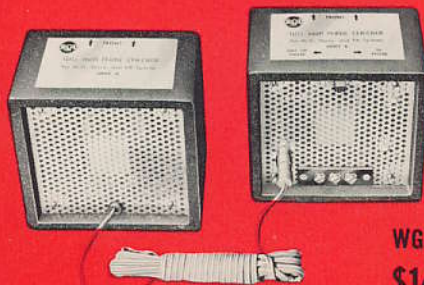
* User Price (Optional)



WG-295C
\$32.50*

VIDEO MULTIMARKER

The WG-295C provides seven simultaneous absorption-type markers at accurately preset frequencies for marking video response curves in color receivers. Markers 0.5 Mc, 1.5 Mc, 2.5 Mc, 3 Mc, 3.58 Mc, 4.1 Mc, and 4.5 Mc. Each marker is identified simply by touching a corresponding contact on the WG-295C case. This reduces the amplitude of that particular marker. The WG-295C connects between the IF/VF output on the sweep generator and the video output cable.



WG-360A
\$14.95*

PHASE CHECKER

Used for a dynamic check of phasing in any audio system from input to the output of the speakers.

Features:

- sound powered, requires no external voltage source
- any VOM, VTVM, or oscilloscope may be used as the indicator

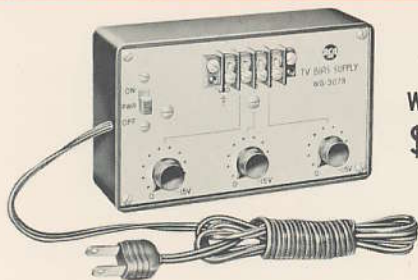
*User Price (optional)



WP-25A
\$22.00*

TV ISOTAP

Speeds up servicing, prevents damage to test equipment, minimizes shock hazard, cuts down costly returns. The WP-25A may be used as a high-medium-low voltage isolation transformer or as an auto-transformer for testing radio and TV receivers at various settings of line voltage. Supplies outputs of 130, 115, and 105 ac volts at maximum load and is tapped to match line voltages from 105 to 130 volts in six steps.



WG-307B(K)
\$11.95*

TV BIAS SUPPLY KIT

The RCA WG-307B (K) TV bias supply provides three output voltages, and is designed for use in servicing and aligning color and black-and-white TV receivers. Three separate output voltages, adjustable from 0 to —15 volts minimum are provided for application in rf, if, and agc bias circuits. The WG-307B (K) utilizes a power transformer and operates from 105-125 volts, 60 cps.

*User Price (Optional)

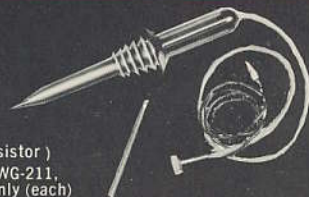


WG-354A
\$7.50*

CAPACITANCE-TYPE VOLTAGE DIVIDER PROBE

The RCA WG-354A Capacitance-Type Voltage Divider Probe is a slip-on accessory for use with the WG-300B Direct/Low Capacitance Oscilloscope Probe. The WG-354A used with the WG-300B Probe and Cable extends the range of oscilloscopes such as the RCA WO-33A† and WO-91A so that signal pulse amplitudes up to 5000 volts can be observed.

†The WG-300B and WG-354A can be used with the WO-33A if the WG-271A Connector Adaptor is employed.



WG-289, WG-297

\$11.95* WG-289 or WG-297,
Probe Only (Less resistor)
\$3.50* WG-206, WG-210, or WG-211,
Multiplier Resistor Only (each)

HIGH-VOLTAGE PROBES

THE WG-289 extends the dc-voltage range of the WV-77A, WV-77B, WV-77C, WV-87A, WV-87B, WV-87C, WV-97A, WV-98A, WV-98B and WV-98C VoltOhmysts to 50,000 volts.

The WG-297 extends the range of the WV-77E VoltOhmyst® and WV-38A volt-ohms-milliammeter to 50,000 volts dc.

The WG-289 is provided with a microphone-type connector, and the WG-297 is provided with banana-plugs for use with appropriate VoltOhmysts and other VTVM's, VOM's.

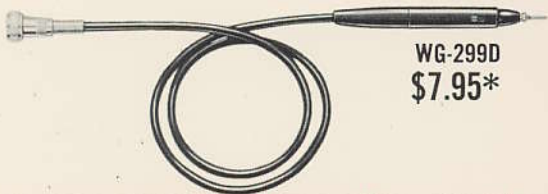
A choice of three multiplier resistors is available, enabling these probes to be used with many popular electronic and non-electronic volt-ohm-meters!

WG-206—1090-megohm multiplier resistor for VTVM's having 11-megohm input (multiplying factor 100). Use WG-206 for the WV-77, WV-87, and WV-98 series VoltOhmysts®.

WG-210—900-megohm resistor multiplies 5000-volt dc range of 20,000-ohms-per-volt VOM's by a factor of 10.

WG-211—495-megohm resistor multiplies 250-volt dc range of 20,000-ohms-per-volt VOM's by a factor of 100.

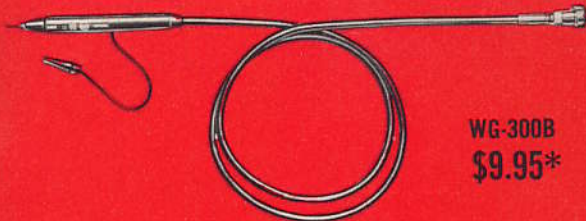
*User Price (Optional)



WG-299D
\$7.95*

DC AC/OHMS PROBE AND CABLE

The WG-299D is a single-unit probe for use with VoltOhmysts® except WV-77E. Switch provides instant selection of dc or ac/ohms operation. The WG-299D replaces the WG-299A, WG-299B and WG-299C.



WG-300B
\$9.95*

DIRECT/LOW-CAPACITANCE PROBE AND CABLE

Designed for use with the RCA Scopes. Cable is 48" long, completely shielded from microphone connector to probe tip to minimize hum and stray field pick-up. Built-in switch provides instant selection of direct or low-capacitance operation. Input characteristics: 10 megohms resistance, less than 12.5 uuf capacitance in low capacitance position. Includes ground lead and clip.



WG-301A
\$7.75*

CRYSTAL-DIODE PROBE

"Slip-on" type for use with the WG-299A, B or C DC/AC Ohms Probe and Cable extending the frequency range of VoltOhmyst® to 250 Mc.



WG-302A
\$8.50*

RF/IF/VF SIGNAL TRACING PROBE

"Slip-on" type high-frequency probe designed for use with the WG-300A and B probe and cable to permit visual signal tracing for rapid isolation of trouble in radio receivers and in television if and video stages.

*User Price (Optional)

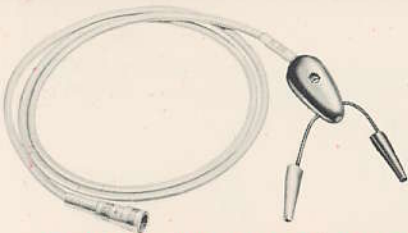


WG-304B
\$16.50*

RF MODULATOR

An accessory used to check the over-all frequency response of TV receivers from antenna to picture tube grid. The unit permits modulation of an rf marker signal from a marker generator (such as WR-89A or WR-99A) by a signal from a video sweep generator (such as WR-59C or WR-69A).

*User Price (Optional)



WG-350A
\$4.95*

DEMODULATOR PROBE

For use with the WO-33A Super-Portable Oscilloscope for demodulation and signal tracing of radio/TV rf and if signals.

WG-351A
\$4.95*



CRYSTAL DIODE PROBE

For extending the rf measuring capability of the WV-77C, WV-77E VoltOhmyst, and WV-77E(K) VoltOhmyst Kit, to over 100 Mc.

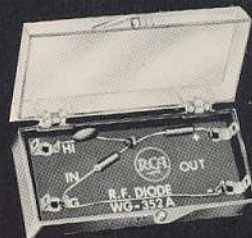


WG-349A
\$5.95*

DIRECT/LOW-CAPACITANCE PROBE

A 48 inch, small diameter, extremely flexible shielded cable designed for use with the WO-33A Oscilloscope. The probe consists of three short leads with alligator clips for ground, direct, and low-capacitance connections. For convenient use, the WG-349A eliminates the need for switching. It connects to the oscilloscope by means of a miniature-type microphone connector. Increases input impedance to 10 megohms, 12 uuf capacitance, when used with the WO-33A and WO-33A(K).

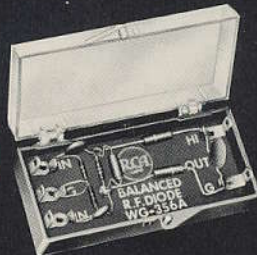
* User Price (Optional)



WG-352A
\$2.95*

RF DIODE

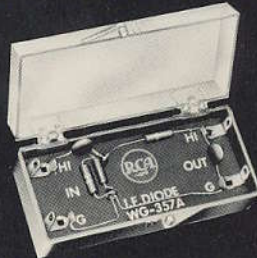
The RCA WG-352A RF Diode is designed for use with the RCA WV-38A or WV-38A(K) Volt-Ohm-Milliammeter in rf applications from approximately 100 kc to 100 Mc. When the WG-352A is connected in a high frequency circuit, it will provide rectified output which can be read directly from the meter scales of the WV-38A.



WG-356A
\$3.95*

BALANCED RF DIODE

The RCA WG-356A Balanced RF Diode is designed for use with an oscilloscope, such as the RCA WO-33A or WO-91A, in measuring the voltage output of sweep-frequency generators having balanced, 300-ohm output circuits, and for checking the bandpass and gain characteristics of VHF TV rf preamplifiers and antenna distribution amplifiers. The diode is useful through the video/lf/rf frequency range up to approximately 250 Mc.



WG-357A
\$3.95*

IF DIODE

The RCA WG-357A IF Diode is an unbalanced detector-demodulator designed primarily for use with an oscilloscope, such as the RCA WO-33A or WO-91A, in displaying the sweep output from an lf/video sweep generator having an unbalanced output circuit. The WG-357A, which is usable up to approximately 100 Mc, can also be used to observe the rf/lf response of individual amplifier stages. It has a maximum input signal rating of 20 rms volts, and a maximum dc voltage rating of 250 volts.

*User Price (Optional)

FOR USE WITH WT-100A ELECTRON TUBE MICROMHOMETER

WG-229A	Multiple Socket Plug-in Unit (7-pin, 9-pin Min., 8-pin octal)	\$25.00*
WG-230A	Multiple Socket Plug-in Unit (Lock-in 8-pin and 8-pin)	25.00*
WG-231A	Multiple Socket Plug-in Unit (Small 4-pin, 5-pin, 6-pin)	25.00*
WG-232A	Multiple Socket Plug-in Unit (Acorn, subminiature, 7-pin, 8-pin)	25.00*
WG-233A	Industrial Socket Plug-in Unit (Min. 7-pin)	25.00*
WG-234A	Industrial Socket Plug-in Unit (Octal 8-pin)	25.00*
WG-235A	Industrial Socket Plug-in Unit (Noval 9-pin)	25.00*
WG-236A	Kit of Plug-in Socket Parts	15.00*

FOR USE WITH WT-110A AUTOMATIC ELECTRON TUBE TESTER

WG-325A	Accessory Unpunched Cards	2.25*
WG-326A	Accessory Card Punch	5.95*
WG-337A	Tube Socket Adapter Set (small 4-pin, small 5-pin, small 6-pin, small and medium 7-pin bases)	7.95*
WG-338A	Tube Socket Adapter (7-lead in-line subminiature)	2.95*
WG-339A	Tube Socket Adapter (8-lead circular subminiature)	3.50*
WG-340A	Tube Socket Adapter for triode-type Nuvistor (The WG-340A may also be used with the WT-100A MocoMhoMeter.)	3.50*

* User Price (Optional)

OTHER RCA TEST EQUIPMENT ACCESSORIES

WG-210	900-Megohm Resistor for WG-297	\$3.50*
WG-211	495-Megohm Resistor for WG-297	3.50*
WG-206	1090-Megohm Resistor for WG-289	3.50*
WG-271A	Adapter for using WG-300B Cable and Probe on WO-33A, WO-33A(K)	2.50*
WG-218	Direct Probe and Cable (W/microphone-type connector)	3.75*
WG-219	Low Pass Filter Kit for WR-59A,B,C Modification	4.50*
WG-222	DC/Direct Probe for WG-218	4.50*
WG-227	RF-Output Cable	7.00*
WG-264	Crystal Diode Probe for WG-218	7.75*
WG-388A	Wide Band Modification Kit for WO-88A	5.95*
WG-270A	Carrying Case for WV-38A	4.95*
WG-291	Demodulator Probe for WG-218	7.95*
WG-373A	Carrying Case for WR-50A, WV-77E, WV-76A, WT-115A	4.95*

* User Price (Optional)

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