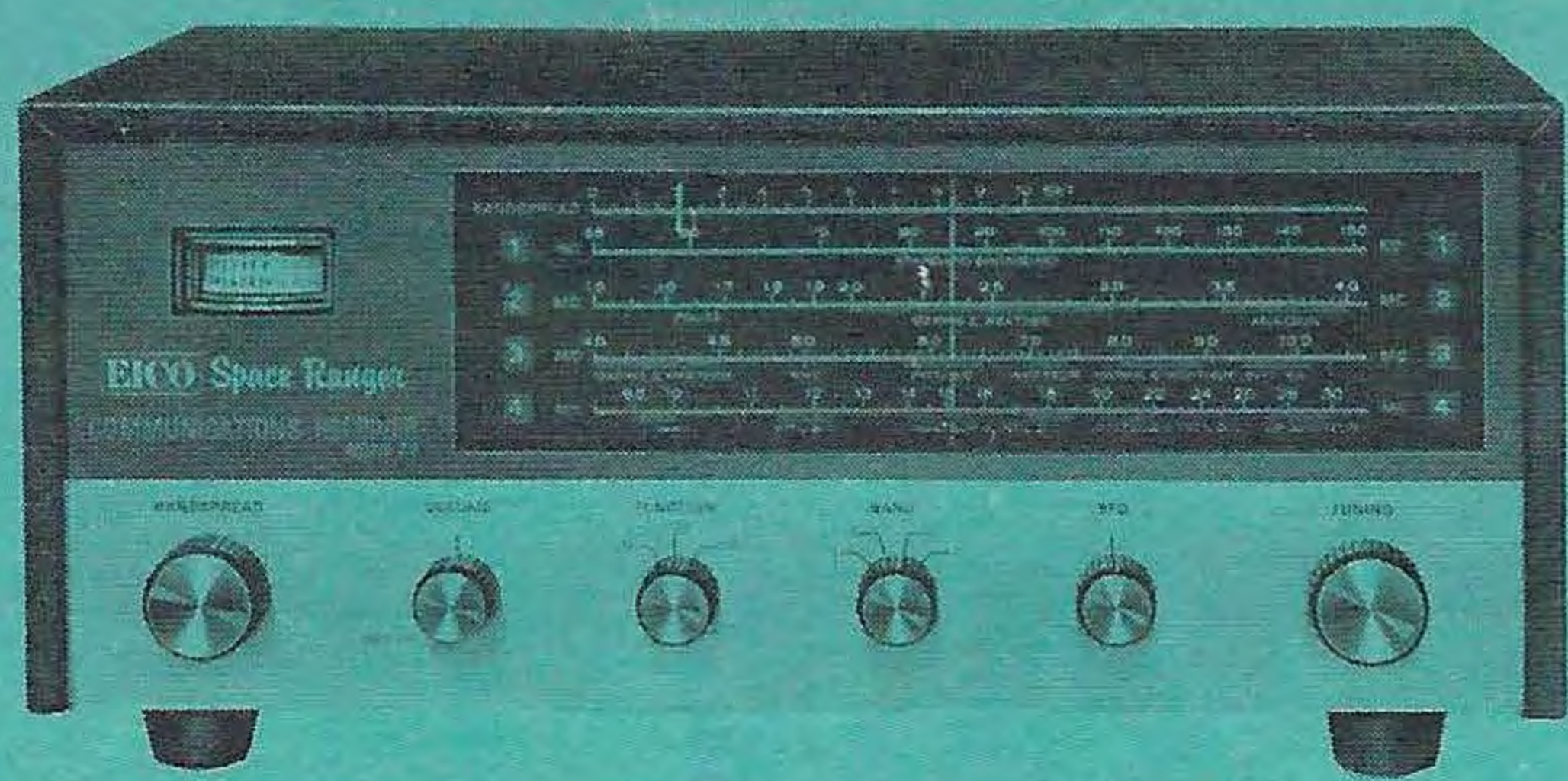




Space Ranger

NEW
PRODUCTS
FOR '67
KIT & WIRED

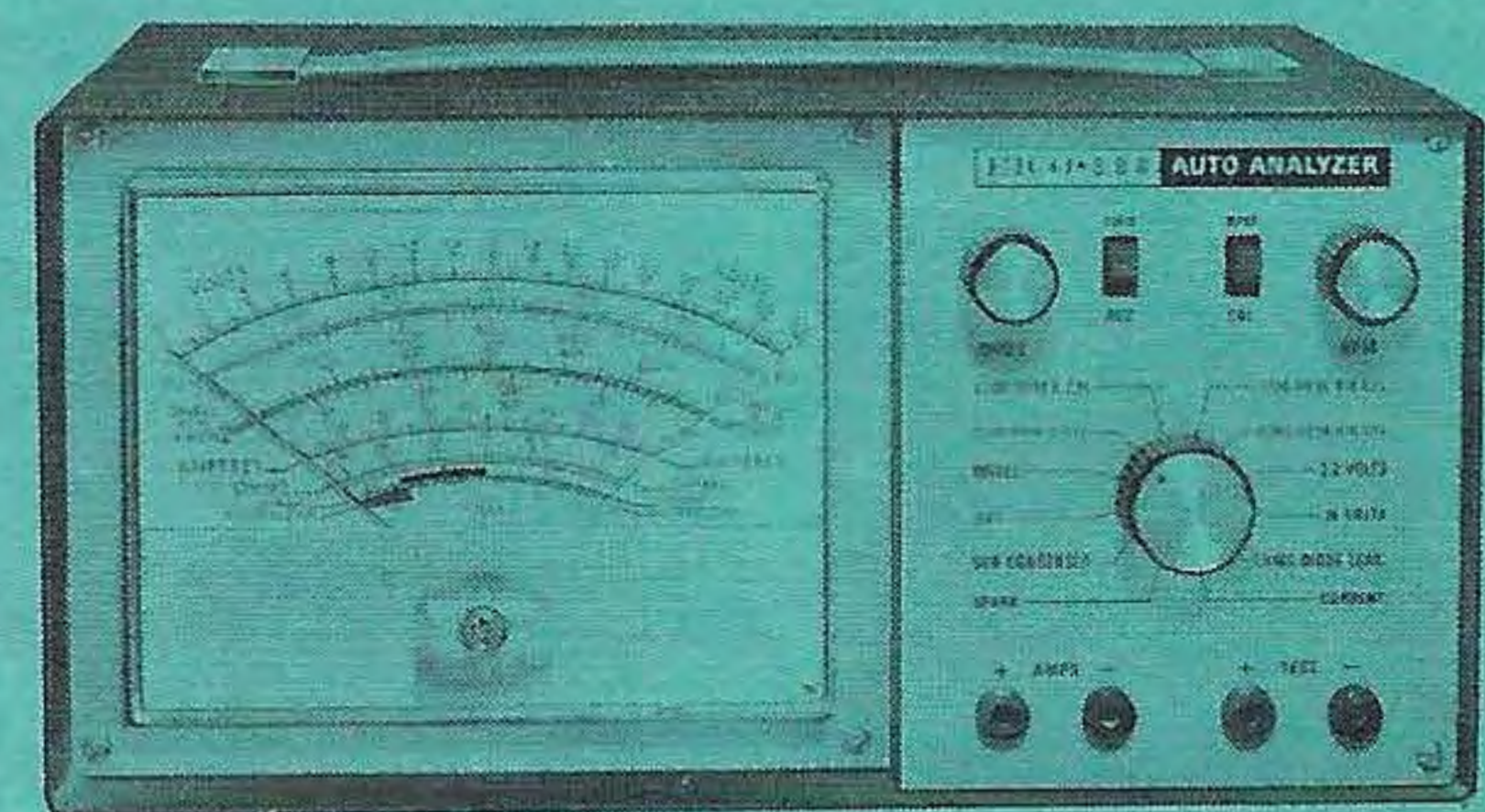


EICOCRAFT



nova-23

• 888 •
Engine Analyzer



"cortina"

1967 EICO CATALOG

DISTRIBUTED BY
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- Test Instruments
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WORLD'S FOREMOST MANUFACTURER OF QUALITY ELECTRONIC PRODUCTS • KIT & WIRED

"cortina"

Introducing the Industry's lowest

EICO believes that, concerning high fidelity tuners, amplifiers and receivers, the 1967 art of solid state technology

now makes it possible to attain levels of efficiency and reliability that are *near perfection* — and to do so at *moderate* manufacturing cost.

To design such components — and to pass the manufacturing savings on to you — is the goal of the Cortina series.

Now you can enjoy the very best in natural "transistor sound" and save money too. See and hear Cortina at your local EICO dealer soon.



EICO "Cortina" 3070 All Silicon Solid State 70 Watt Stereo Amplifier

Versatile Enough For The Audophile, Simple Enough For The Beginner!

- Powerful new silicon solid state stereo amplifier at an exceptionally low price.
- Extremely compact "low silhouette" design ideally suited for bookshelf or cabinet installations. ■ Price includes vinyl clad danish walnut cabinet.
- Full complement of controls for every source.

Kit \$89.95
.....
Wired \$129.95



Driver PC Board.



Phono Input Amplifier PC Board.



Preamplifier PC Board.



Miniature Rocker Switches — custom molded to enhance the low, modern "Cortina" Design

The amplifier that has changed people's thinking about what quality stereo prices should be. Here is the natural transparency of transistor sound; 70-watts of reserve power for easy, smooth handling of transient bursts of power; the ruggedness and long life of all-silicon solid-state; completeness of control and amplification; a new compactness clothed in a styling of quiet, graceful luxury — in a word, **total performance** — all at a price unheard of until now.

- Cool-running, hum-free, non-microphonic **all-silicon** solid-state design. 18 all-silicon transistors plus 12 all-silicon rectifiers.
- New bookshelf compactness (3 1/8" high, 12" wide, 7 3/4" deep). Esthetically striking design in Danish walnut vinyl cabinet and pale gold front panel in a graceful "low silhouette" configuration.
- Complete control facilities: tape monitor, loudness contour, low and high cut filters, balance control, and speaker systems switch.
- Wide dynamic range undistorted amplification with exceptionally low noise, and maximum freedom from overload.
- 70 watts and 50 watts IHF Music Power with 4 or 8 ohm speakers, respectively.
- Preservation of natural sound: low distortion, variable

inflection feedback tone controls (in Baxandall circuit configuration) permit cut or boost at the extremes of the range without affecting the mid-range or volume level.

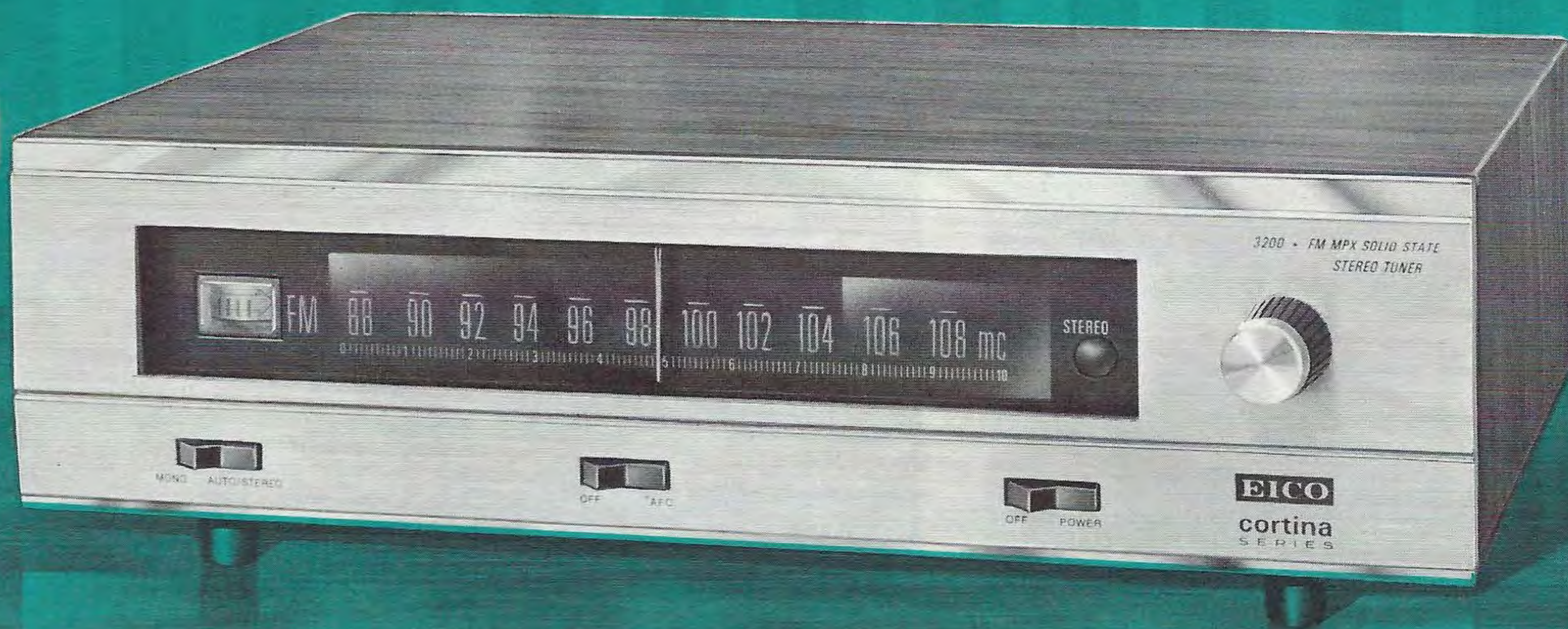
- Perfect, natural filter action: low and high cut filters wholly independent of the tone control action provide controlled amounts of attenuation at the low and high ends of the spectrum for most effective rumble and scratch elimination.
- No output or interstage transformers: this permits the wide frequency range power amplifiers and their complementary drivers to deliver unrestricted bass response and perfectly controlled transient response.
- Elimination of transistor failure is assured by the excellence of the rugged silicon transistors and the built-in stability inherent in the very design of the output stages. Protective circuits with their unavoidable attendant compromise of circuit performance, are therefore unnecessary.
- Simplified Kit Assembly: through advanced techniques in modular circuitry each channel uses three etched printed circuit bonded module boards each for phono amplifier; tone control/preamplifier; and driver. Only the output transistors are mounted directly on the chassis. The result is a new high in flexibility and interchangeability.

SPECIFICATIONS

TOTAL MUSIC POWER: 70W into 4Ω load; 50W into 8Ω load. FREQUENCY RESPONSE: ±1.5db 5Hz to 100kHz; ±0.5db 8Hz to 60kHz. HARMONIC DISTORTION: less than 0.8%. HUM & NOISE: 72db below rated output. CHANNEL SEPARATION: 50db. INPUT SENSITIVITY: 4.2mV on magnetic phono input; 270mV on other inputs. POWER BANDWIDTH: 10Hz to 40kHz. DAMPING FACTOR WITH 8Ω LOAD: minimum 30. RISE TIME: 4μsec. TONE CONTROLS ACTIONS: treble control ±15db at 10kHz; bass control ±15db at 50Hz; low (rumble) filter -6db at 50Hz; high (scratch) filter -7db at 10kHz. RANGE OF BALANCE CONTROL: 23db. RIAA EQUALIZATION: ±0.5db 30Hz to 15kHz. RMS OUTPUT POWER: 40W into 4Ω 30W into 8Ω; 16W into 16Ω (total continuous). IM DISTORTION WITH 8Ω LOAD: less than 2% at full power, less than 1% at 8W per channel. INPUT IMPEDANCE: 47KΩ on magnetic phono input; 110KΩ minimum on other inputs. INPUTS: magnetic phono, tuner, tape, auxiliary. OUTPUTS: a) Two stereo speaker systems with impedances of 4Ω, 8Ω or 16Ω; b) Tape recorder output (not affected by controls setting); c) Stereo headphones jack on front panel for all low impedance headphones (protective resistance is provided internally in the amplifier). POWER REQUIREMENTS: 20W no signal at 105-130 VAC; 75W at full output (100W with 4Ω loads.) AC RECEPTACLES: one switched, one unswitched. SIZE (HWD): 3 1/8" x 12" x 7 3/4". WEIGHT: 7 1/2 lbs.

★ Export Model available

priced TOTAL PERFORMANCE STEREO



EICO "Cortina" 3200 All Solid State FM/MPX Automatic Stereo Tuner

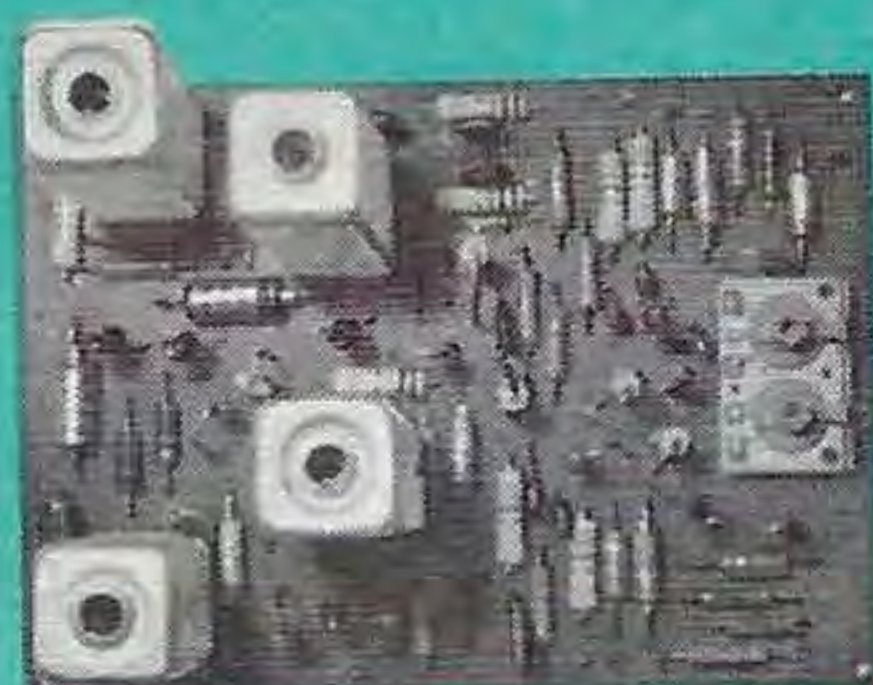
*A Low Cost Stereo Tuner With Advanced Features
For Superb Performance!*

- An outstanding new solid state FM Stereo Tuner value!
- Perfect companion to Cortina 3070 Stereo Amplifier.
- Price includes vinyl clad danish walnut cabinet.
- Preamsembled front end, multiplex, IF's.

Kit \$89.95

Wired \$129.95

FM Stereo Indicator
lights automatically
on stereo broadcast



Prewired, prealigned
MPX circuit board



Prewired, prealigned
4-stage FM IF strip



Prewired, prealigned
FM RF "Front-End"

Here's the **mind-changer** in stereo tuners. The quiet, crystal-clear transparency of all-transistor design; latest wideband circuitry for maximum sensitivity, selectivity, separation and stability; filtered outputs for direct beat-free "off-the-air" tape recording; completeness of operating features; Cortina styling that delights the eye; and versatility of installation—everything you want in a quality stereo tuner, at a price considered unbelievable until EICO did it.

Risk-free Simplified Kit Assembly: Since the RF, IF and Multiplex circuitry are all supplied completely assembled and pre-aligned — the kit-builder does not build or adjust any part of these critical circuits. Only the non-critical power supply circuits are to be wired by the kit builder. You need no special skills or knowledge to build this beautiful kit.

- All-Solid-State Circuitry. The semiconductor complement comprises 13 transistors, 8 diodes, 2 rectifiers.
- Comprehensive Multi-Stage Front Ends. As found in tuners costing \$200 and more, the Cortina 3-transistor front end contains 2 RF stages and 5 tuned circuits. All this is coupled to a 4-stage double-tuned IF circuit. The result is excellent tuner performance and reliability; high sensitivity (2.4uV for 30db quieting-IHF Standard); and excellent rejection of all interference, such as image, IF and spurious, with no overloading. A strong local signal will not "blanket" the dial, so you won't

need either 2 sets of antenna terminals for "local, strong" or "distant, weak" stations, or an antenna switch.

- New automatic time-switching transistor multiplex circuitry achieves excellence of channel separation (40db) and completely filters out all types of interference.
- Noiseless, purely electronic automatic switching between FM Stereo and FM Mono is controlled by the pilot frequency in the broadcast signal; with defeat switch.
- Manual mono-stereo switching does not disturb performance of the stereo indicator indicating stereo stations regardless of the position of the switch.
- D'Arsonval tuning meter gives **exact** tuning indication — because it responds to the strength of the received signal.
- Exactly right AFC pull-in range permits you to tune in stereo stations with ease and then defeat; can be defeated for tuning in the weakest stations.
- Driftless performance; once tuned in to the station you want, the 3200 stays precisely tuned without AFC.
- Transformer-operated power supply with silicon diode rectifiers for heat-free long life.
- Low output impedance output stages prevent cable losses.
- New bookshelf compactness (3 1/8" high, 12" wide, 7 3/4" deep). Esthetically striking design in Danish walnut vinyl cabinet and pale gold front panel in a graceful "low silhouette" configuration.

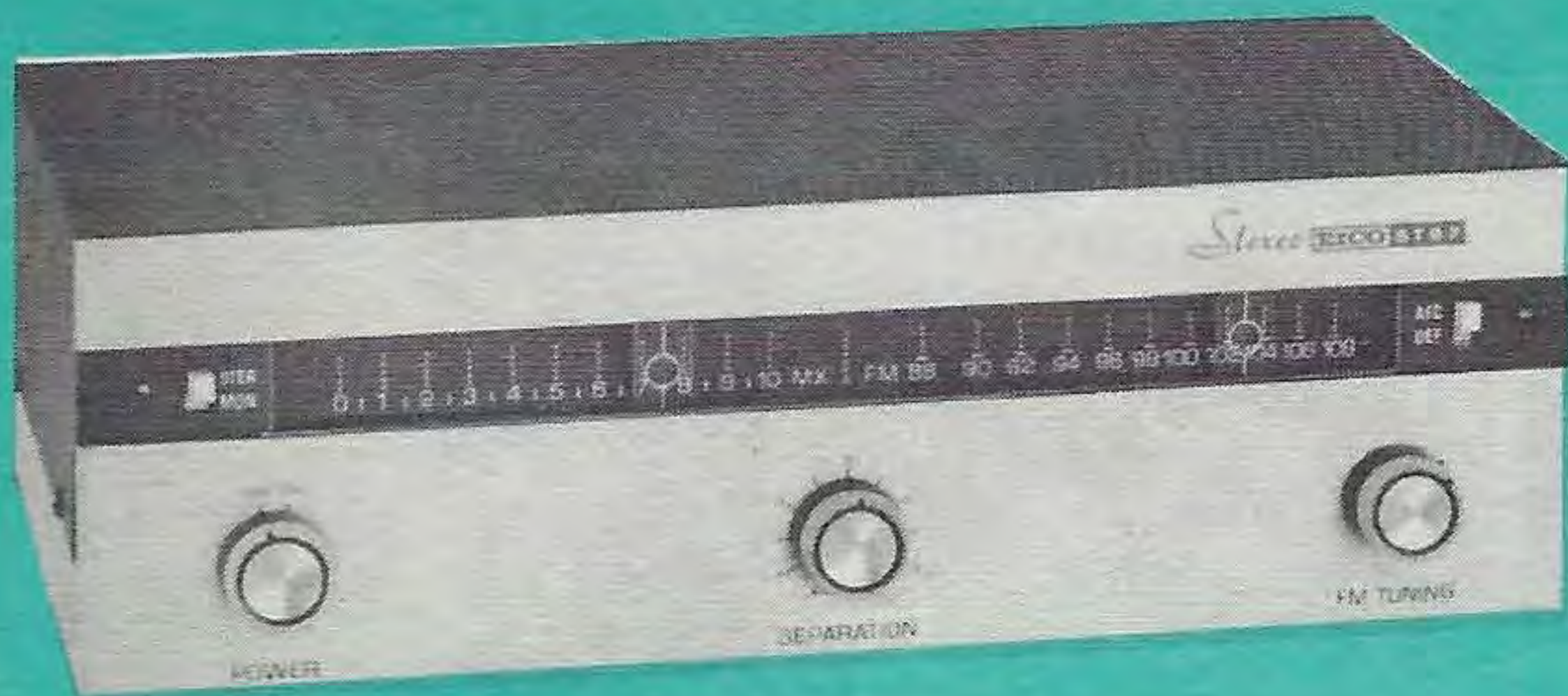
SPECIFICATIONS

USABLE SENSITIVITY IHF: 2.4uV for 30db quieting. CHANNEL SEPARATION: 40db at 1kHz. HARMONIC DISTORTION: less than 0.75%. CAPTURE RATIO: 4.5db. SIGNAL-TO-NOISE RATIO: 60db. IMAGE REJECTION: 45db. IF REJECTION: 80db. SPURIOUS RESPONSE REJECTION: 80db. SELECTIVITY: 45db. FULL LIMITING: 4uV. 19KC SUPPRESSION: 40db. 38KC SUPPRESSION: 50db. SCA SUPPRESSION: 50db. AUDIO FREQUENCY RESPONSE: ±1db 20Hz to 15kHz. AM SUPPRESSION: 40db. HUM: 70db below output. OUTPUT IMPEDANCE: 5000 ohms. ANTENNA INPUT: 300Ω balanced. SEMICONDUCTOR COMPLEMENT: 13 transistors, 8 diodes, 2 rectifiers. POWER REQUIREMENT: 5W maximum 105-130 VAC. SIZE (HWD): 3 1/8" x 12" x 7 3/4". WGT. 7 lbs.

★ Export Model available

"Best Buys"

FAMOUS ST SERIES COMPONENTS...



EICO ST97 FM MPX STEREO TUNER

- FM "Front End" & 4 stage IF strip pre-wired & pre-aligned
- 10 stage "zero phase shift" MPX circuit with pre-aligned coils
- MPX lock-in below $3 \mu\text{v}$ & full limiting from $10 \mu\text{v}$

Kit \$89.95

Wired \$139.95

Includes metal cover

A tuner designed with painstaking care to meet high fidelity standards even with inexperienced kit builders, through prefabrication and prealignment of critical component assemblies.

THE FRONT END: Wideband printed circuit. Rugged plated steel housing for protection and shielding. Precise temperature-compensation for freedom from drift even with AFC defeated.

THE IF STRIP: Four IF amplifier-limiter stages and an ultra-wide-band detector for perfect limiting; flat frequency response and flat output.

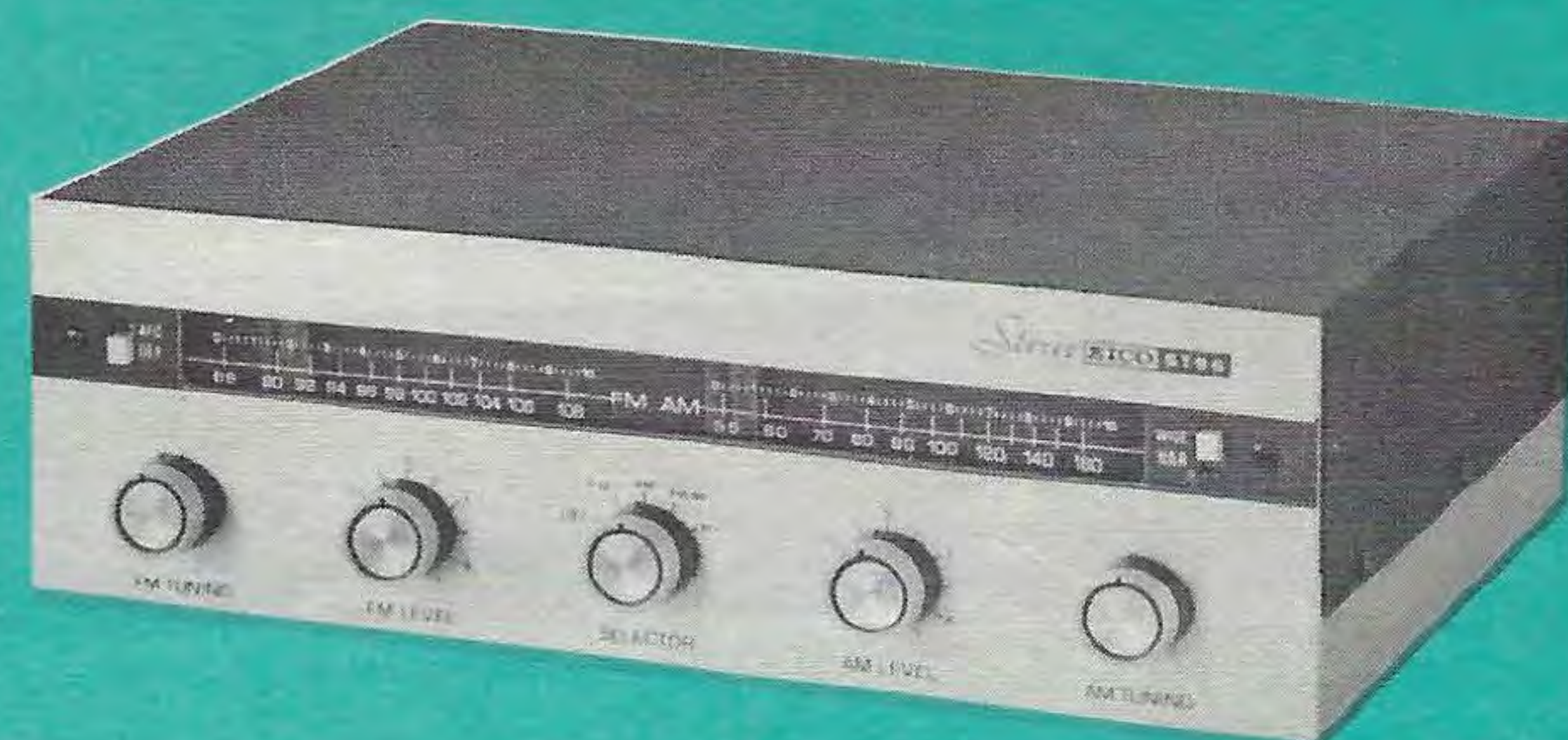
THE STEREO DEMODULATOR: Ten stage zero phase-shift, filterless detection circuit, eliminates loss of separation due to phase-shift in the stereo sub-channel before recovery. Self-limiting 19 kc amplifier stage provides outstanding sensitivity on weak signals but prevents overloading on strong signals. Slide-rule dial features famous Eico "eye-tronic®" traveling tuning-eye. Automatic stereo indicator lamp.

FULL LIMITING IS ACHIEVED AT $10 \mu\text{v}$ input signal, meaning that low distortion and noise specifications apply to all but the most distant and difficult-to-receive stations.

SPECIFICATIONS

ANTENNA INPUT: 300 ohms balanced. IHF USABLE SENSITIVITY: $3 \mu\text{v}$ (30 db quieting), $1.5 \mu\text{v}$ for 20 db quieting. SENSITIVITY FOR PHASE-LOCKING (SYNCHRONIZATION) IN STEREO: $2.5 \mu\text{v}$. FULL LIMITING SENSITIVITY: $10 \mu\text{v}$. IF BANDWIDTH: 280 kc at 6 db points. RATIO DETECTOR BANDWIDTH: 1 mc peak-to-peak separation.

AUDIO BANDWIDTH AT FM DETECTOR: Flat to 53 kc. IHF SIGNAL-TO-NOISE RATIO: -55 db. IHF HARMONIC DISTORTION: 0.6%. IHF IM DISTORTION: 0.1%. OUTPUT AUDIO FREQUENCY RESPONSE: ± 1 db 20 cps-15 kc. IHFM CAPTURE RATIO: 3 db. CHANNEL SEPARATION: 30 db. AUDIO OUTPUT: 0.8V. OUTPUT IMPEDANCE: low impedance cathode followers. CONTROLS: POWER, SEPARATION, FM TUNING, STER-MON, AFC-DEFEAT. POWER: 117V, 60 cps; 60 watts; extractor fuse post Size (HWD): $5\frac{1}{8}$ " x $15\frac{3}{8}$ " x $11\frac{3}{8}$ ". WT.: 19 lbs.



EICO ST96 FM-AM TUNER

Kit \$84.95 : Wired \$119.95

Includes metal cover

- Pre-wired & pre-aligned RF & IF sections for both FM & AM
- Independent FM & AM sections can be used simultaneously
- Excellent MPX stereo performance with MX99 adaptor
- Tuned RF stage on AM

Superb, separate AM and FM tuners, mounted on one compact chassis. Both tuners feature pre-wired, pre-aligned RF and IF sections, precision pre-wired "eye-tronic" traveling tuning indicators, slide-rule dials, smooth precise flywheel tuning and low interstation noise.

The FM tuner features switched AFC, AGC, stabilized low limiting threshold assuring excellent performance from weaker signals, and broadband connection to EICO MX99 FM MULTIPLEX AUTODAPTER.

The AM tuner features switched wide and narrow band-pass, "narrow" (to 7 kc) essential for picking up weak or distant stations with minimum of interference, "wide" (to 14 kc) for the best available on AM. Built-in ferrite loop antenna and tuned RF stage. High Q filter eliminates 10 kc whistle.

The Panel Controls include separate AM, FM tuning and level controls, FM AFC switch and AM bandwidth switch. Selector switch can choose FM, AM, FM & AM, FM stereo (with adaptor connected).

SPECIFICATIONS

FM TUNER: SENSITIVITY: $1.5 \mu\text{v}$ for 20 db quieting. SELECTIVITY: 250 kc IF bandwidth (6 db down). FREQUENCY RESPONSE: 20-15,000 cps ± 1 db. IMAGE REJECTION: 40 db. HUM LEVEL: 60 db down. DRIFT: less than 2 parts in 10,000 from cold start. OUTPUT LEVEL: 2.5V for 100% mod. **AM TUNER:** SENSITIVITY: $3 \mu\text{v}$ for 1.0V average output at 20 db S/N ratio. SELECTIVITY: overall IF bandwidth of 18 kc at "wide bandwidth", 9 kc at "narrow bandwidth" 6 db down. FREQUENCY RESPONSE: 20-9,000 cps on "wide," 20-4,500 cps on "narrow." IMAGE REJECTION: 60 db. HUM LEVEL: 60 db down. OUTPUT LEVEL: 1.0V average. SIZE (HWD): $5\frac{1}{8}$ " x $15\frac{3}{8}$ " x $13\frac{3}{8}$ ". POWER REQUIREMENTS: 117V, 60 cps; 45 watts, WEIGHT: 10 lbs.

EICO MX99 FM MPX ADAPTOR



- Unique 10 stage "zero phase shift" circuit
- Pre-aligned coils & convenient circuit board

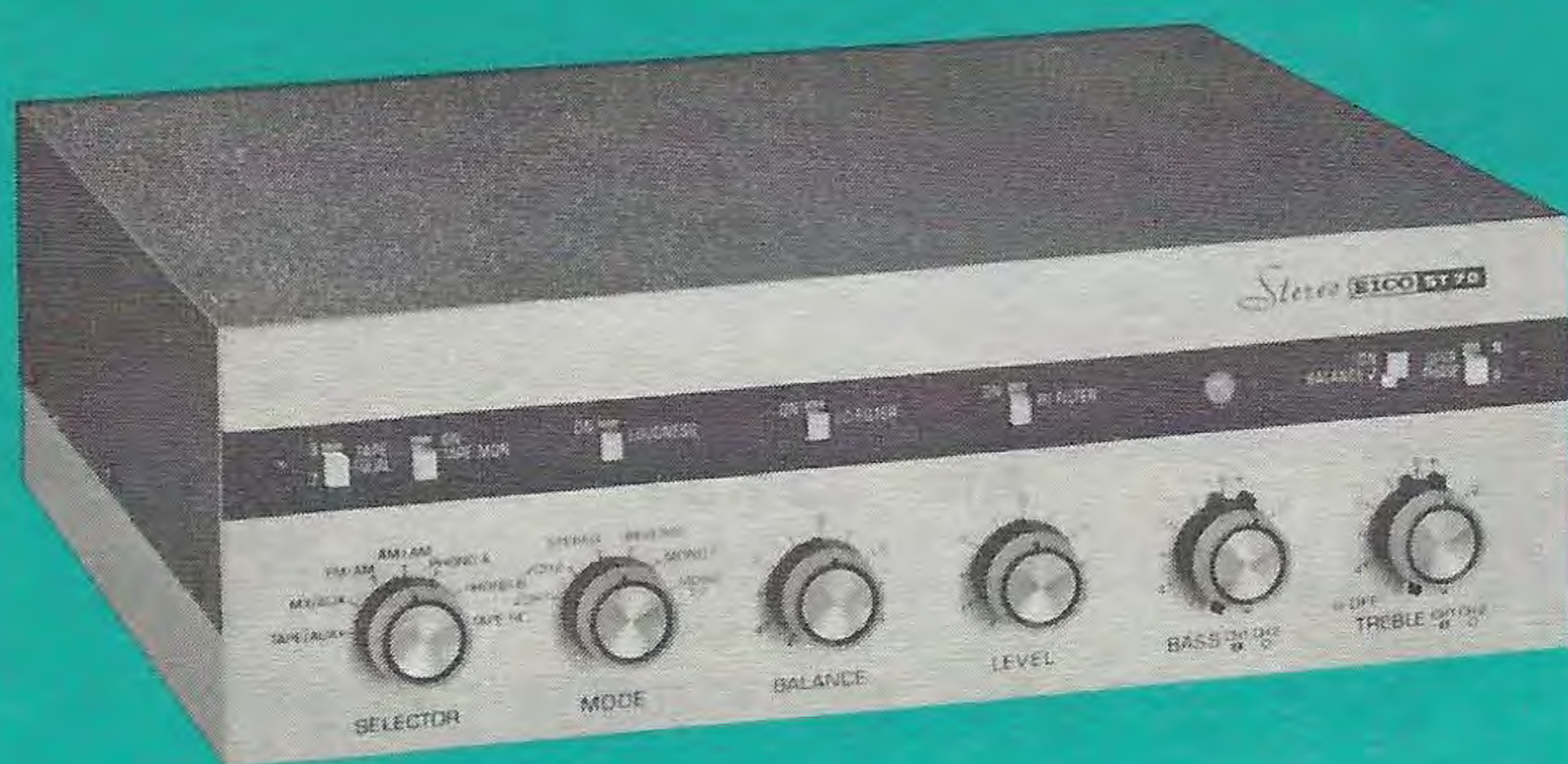
The MX99 delivers superb FM MPX stereo with EICO HFT 90/90A, HFT 92/A, and ST96 tuners. An indicator lamp turns on when the station selected is broadcasting multiplex stereo. Unique, 10-stage "zero phase-shift" circuit provides outstanding 35 db separation between channels. Interference is effectively filtered out for perfect stereo tape

\$36.95 : \$59.95
Kit : Wired

recording. The MX99 is self-powered, and includes low impedance cathode follower outputs. Controls include a multiplex defeat switch (NORMAL for stereo, MAIN CH for defeat or mono) and a separation control. Size (HWD): $3\frac{3}{8}$ " x $6\frac{1}{8}$ " x $9\frac{1}{4}$ ". Weight: 7 lbs. Power Requirements: 120V., 60 cps, 37 watts drain. Optional cover \$2.95.

Patent Pending

UNMATCHED IN PERFORMANCE, QUALITY, PRICE



EICO ST70 80 WATT STEREO AMPLIFIER

Kit \$99.95 : Wired \$149.95
Includes metal cover

- Unequalled control facilities
- Lowest distortion high power amplifier available at the best price
- Best value in highest quality rank of stereo amplifiers according to independent tests

Quality-first, completely flexible stereo high-fidelity at moderate cost. Has separate pairs of inputs for **preamplified tape, tape head, two magnetic cartridges, tuner and auxiliary**. Controls include selector switch for choosing stereo inputs; tape speed equalization and **tape monitor** switches; **separate level and balance** controls; **balance check** switch; **scratch and rumble filters**; speaker-phase reversal switch; loudness compensation switch; individual feedback-type **bass and treble tone controls** for each channel. **Direct center-channel speaker connection**. Each audio power amplifier of the ST70, conservatively rated at 40 watts, employs superior performing **cathode-coupled phase inverter** circuitry, preceded by a direct-coupled voltage amplifier. **Fixed-biased** push-pull 7591's are used in the output stage and provision is made for both bias and dc balance adjustment. The **preamplifier-control** section of each channel includes a dual-triode preamplifier with equalization in a loop around both stages for minimum distortion, and a dual-triode in a variable inflection type tone control circuit for best control action and lowest distortion due to feedback. In addition, the ST70 is characterized by those hallmarks of quality which are expected of all EICO products: Clean, wide spacing of components, with particular attention paid to keeping heat-sensitive components a sufficient distance from power tubes; **straightforward point-to-point wiring** simplifying kit-building; **highest quality output transformers**; filter electrolytics and rectifiers operating **well below maximum ratings** to insure long life.

SPECIFICATIONS

OUTPUT POWER: 80 watts total IHF music power; 70 watts (two 35-watt channels) continuous; 140 watts peak. IM DISTORTION: 1% at 70 watts. HARMONIC DISTORTION: less than 1% from 25 to 20,000 cps within 1 db of 70 watts. FREQUENCY RESPONSE (2 WATTS - 1 WATT EACH CHANNEL): $\pm \frac{1}{2}$ db 10-50,000 cps. INVERSE FEEDBACK: 17 db. STABILITY MARGIN: 10 db. DAMPING FACTOR: above 6. SENSITIVITY (INPUT FOR 35 WATTS): mag. phono - 4 mv; tape head - 2 mv; tuners, auxiliaries - 0.5v. HUM AND NOISE LEVEL (BELOW 35 WATTS): mag. phono - 63 db; tape head - 54 db; tuners, auxiliaries - 78 db. TONE CONTROL RANGE: ± 15 db at 50 cps and 10 kc. SPEAKER CONNECTION: 4, 8, and 16 ohms. TUBES: 3-12AX7, 2-12DW7, 2-6SN7GTB, 4-7591, 1-GZ34 rectifier. POWER SOURCE: 117 v. 60 cps. POWER CONSUMPTION: 150 watts. SIZE (HWD): $5\frac{1}{8}$ " x $15\frac{1}{8}$ " x 15". WEIGHT: 44 lbs.



EICO ST40 50 WATT STEREO AMPLIFIER

Kit \$79.95 : Wired \$129.95
Includes metal cover

- Complete control facilities
- Lowest distortion medium power amplifier available at the best price
- Popular Science magazine first choice for "Music Lover's System"

The ST40 will accept, control and amplify signals from any stereo source. Has separate pairs of inputs for **preamplified tape, tape head, two magnetic cartridges, and tuner and auxiliary** inputs. For each stereo source there is a separate pair of inputs and a separate position on the selector switch. Other controls include **tape monitor** switch; **separate level and balance** controls; **balance check** switch; **scratch and rumble filters**; loudness compensation switch; individual feedback-type **bass and treble tone controls** for each channel. **Direct center channel speaker connection**.

The ST40 contains two audio power amplifiers, each conservatively rated at 20 watts, and employing a voltage amplifier, a split-load phase inverter, and a pair of self-biased 7591 output tubes. The preamplifier-control section of each channel includes a dual-triode preamplifier with equalization in a loop around both stages for minimum distortion, and a dual-triode in a variable inflection type tone control circuit for best control action and lowest distortion due to feedback.

Other important design features (characteristic of all EICO products) include: rugged, generous chassis, allowing maximum separation of power tubes from each other and from heat-sensitive components; trouble-free point-to-point wiring; high quality audio output transformer with grain-oriented steel, extensively interleaved windings. Heavy duty power transformer, filter electrolytics and rectifier tube operate well below maximum ratings to insure long life.

SPECIFICATIONS

OUTPUT POWER: 50 watts total IHF music power; 40 watts (two 20-watt channels) continuous; 80 watts peak. IM DISTORTION: 1% at 40 watts. HARMONIC DISTORTION: Less than 1% 40-20,000 cps within 1 db of 40 watts. FREQUENCY RESPONSE: (2 watts - 1 watt each channel): ± 1 db 12-25,000 cps. INVERSE FEEDBACK: 18 db. STABILITY MARGIN: 11 db. DAMPING FACTOR: 11. SENSITIVITY: (input for 20 watts): mag. phono - 3 mv; tape head - 1.75 mv; FM, AM, Multiplex, Tape - 360 mv. Hum and Noise Level: (below 20 watts): mag. phono - 63 db; tape head - 54 db; tuners auxiliaries - 78 db. TONE CONTROL RANGE: ± 15 db at 50 cps and 10 kc. SPEAKER CONNECTIONS: 4-, 8-, 16 ohms. TUBE: 2-12AX7, 4-12DW7, 4-7591, 1-GZ34 rectifier. POWER SOURCE: 117V, 60 cps. POWER CONSUMPTION: 165 watts. SIZE (HWD): $5\frac{1}{8}$ " x $15\frac{1}{8}$ " x $13\frac{1}{8}$ ". WEIGHT: 33 lbs.



Kit \$39.95 : Wired \$64.95
: Metal Cover E3A: \$3.95

EICO HFT90A FM TUNER

The most popular FM tuner kit ever made! Features include a **pre-wired, pre-aligned RF section, pre-aligned IF transformers**, slide-rule dial with effortless flywheel tuning, and travelling **tuning eye indicator** (eye-tronic® tuning). Also important are **stabilized low limiting threshold** for excellent performance from weaker signals, and broadband ratio detector for easier tuning. Output for connection to Eico MX99FM MULTIPLEX ADAPTOR.

SPECIFICATIONS

SENSITIVITY: 1.5 μ v for 20 db quieting. **FREQUENCY RESPONSE:** 20 to 20,000 cps $\pm$ 1 db. **SELECTIVITY:** 260 kc IF bandwidth (60 db down). **OUTPUT:** Two provided: cathode follower and multiplex. Cathode follower permits use of up to 200 ft. of connecting cable. For 10 μ v input with 75 kc deviation, an audio output of 1.0 volt is obtained. **HUM:** 60 db below 1 volt. **TUBES:** 1-ECC85/6AQ8 grounded grid r-f amplifier and reflex converter; 2-6AU6 IF amplifiers; 1-6AU6 IF amplifier/limiter; 1-6AL5 dual diode detector; 1-DM70 tuning indicator; 1-6C4 cathode follower output; 1-6X4 full-wave rectifier. **POWER:** 110-125 VAC, 60 cps; 40 watts drain. **SIZE (HWD):** 3 $\frac{5}{8}$ " x 12" x 8 $\frac{1}{4}$ ". **WEIGHT:** 24 lbs.



Kit \$39.95 : Wired \$59.95
: Includes metal cover

EICO HF12A 18 WATT MONO AMPLIFIER

The HF12A is a true high fidelity 18-watt integrated amplifier. It provides complete "preamplifier" facilities plus power amplifier. Performance is of such excellence that we recommend it unreservedly for any medium-power high fidelity application. Inputs for mag, phono, tape head, tuner, tape recorder.

SPECIFICATIONS

RATED OUTPUT: 14 watts continuous, 25 watts peak. **IM Distortion** (60 and 6000 cps at 4:1): 2% at 14W; 0.55% at 6W; 0.3% at 4W. **Frequency Response:** 1W: $\pm$ 0.5 db 12 cps-75 kc; 12W: $\pm$ 0.5 db 25 cps-20 kc. **Harmonic Distortion:** 20 cps: 2% at 4.2W; $\frac{1}{2}$ % at 2.5W; 30 cps: 2% at 11W; $\frac{1}{2}$ % at 6.3W; 40 cps: 1% at 12W; $\frac{1}{2}$ % at 9.3W; 2000 cps: $\frac{1}{2}$ % at 12W; 10 kc; 1% at 10W; $\frac{1}{2}$ % at 6W. **Hum and Noise Level** (below 12W): mag. phono -60 db; tape head-50 db; tuner, auxiliary-75 db. **Tubes:** 3-ECC83/12AX7, 2-EL84, 1-EZ81. **Power Requirements:** 117V, 60 cps; 70 watts drain. **Size (HWD)** 3 $\frac{5}{8}$ " x 12" x 8 $\frac{1}{4}$ " **Weight:** 13 lbs.

★ Export Model available



Kit \$39.95 : Wired \$64.95
Includes metal cover

EICO HFT94A AM TUNER

Features a choice of **wide** (to 14 kc) or **narrow** (to 7 kc) bandpass, the former for the highest fidelity available on AM, the latter for pulling in weaker or more distant stations. The **tuned RF stage** and built-in ferrite loop antenna help provide sufficiently high selectivity and sensitivity so that very little signal is required to achieve acceptable signal-to-noise ratio. Noise and distortion are remarkably low. A high Q filter **eliminates 10 kc whistle** while reducing response by no more than 3 db at 9 kc.

SPECIFICATIONS

TYPICAL SENSITIVITY: 3 μ v at 30% mod. for 1.0v output, 20 db S/N **OVERALL SELECTIVITY:** (Wide) 14 kc at -6 db, (Narrow) 7 kc at -6 db. **FREQUENCY RESPONSE:** (Wide) 20-9000 cps at -3 db. (Narrow) 20-5000 cps at -3 db. **IMAGE REJECTION:** 58 db. **HUM LEVEL:** 60 db below output with 3 μ v input 30% modulation (1.0 volt). **DISTORTION:** Less than 1% harmonic distortion at 100% modulation. **OUTPUT:** Low impedance plate follower (8000 ohms). Extra recording output. **CONTROLS:** Bandwidth Selector, Level/Power On-Off, Tuning. **TUBES:** 2-6BA6, 1-6BE6, 1-12AU7/ECC82, 1-DM70 tuning eye, 1-6X4, 1-CK885 diode. **POWER:** 117V, 60 cps; 40 watts. **SIZE (HWD):** 3 $\frac{5}{8}$ " x 12" x 8 $\frac{1}{4}$ ". **WEIGHT:** 13 lbs.



Kit \$59.95 : Wired \$92.95
Includes Metal cover

EICO HFT92A FM/AM TUNER

The HFT92A FM/AM Tuner combines, on one chassis, the renowned HFT90 High Fidelity FM Tuner with excellent AM tuning facilities. Output for connection to Eico MX99 FM MULTIPLEX ADAPTOR.

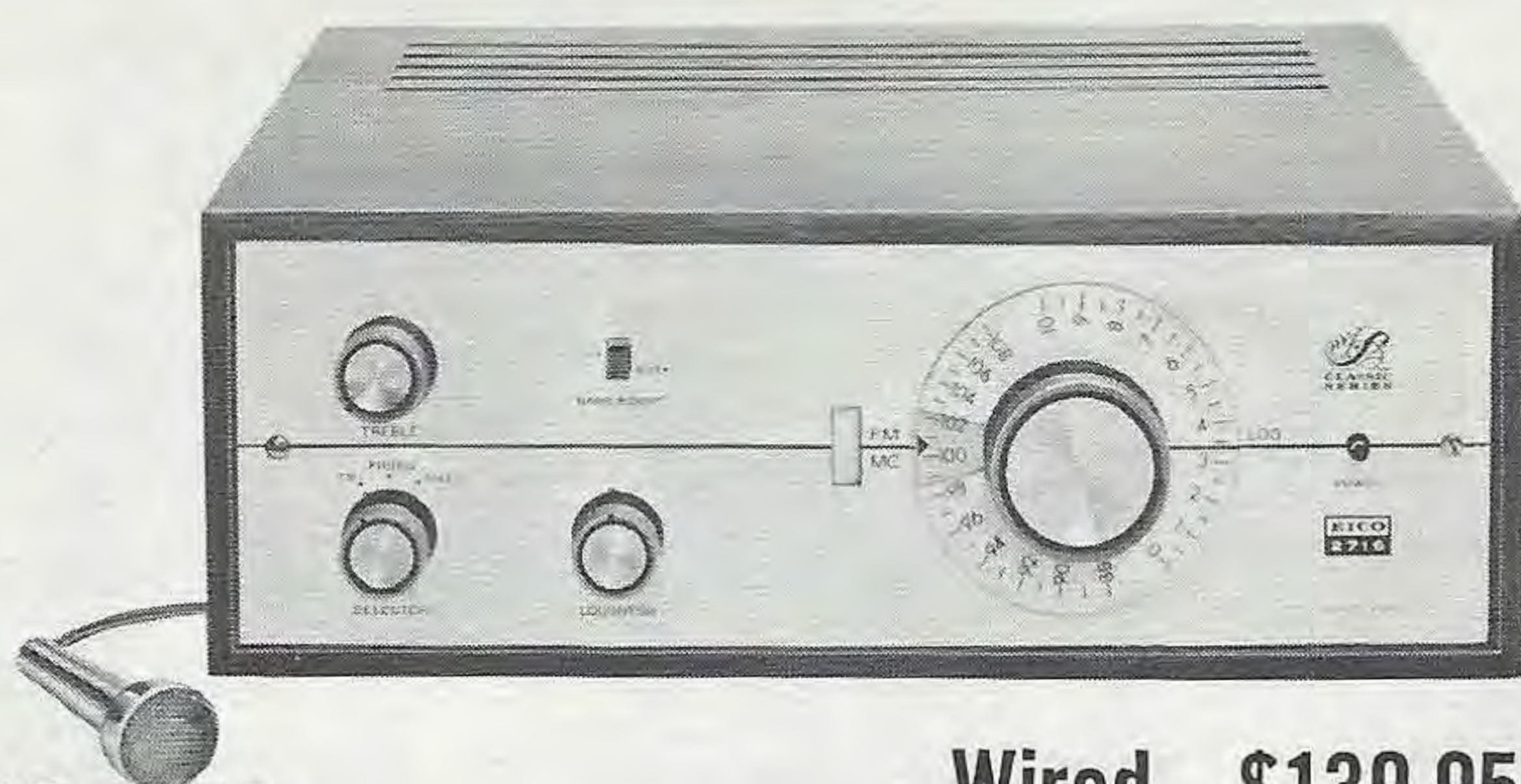
SPECIFICATIONS (AM only. FM specifications same as HFT90A): **SENSITIVITY:** 20 μ v for 0.8v output with 15 db S/N. **Selectivity** (IF Bandwidth): 8 kc at 6 db. **ANTENNA INPUT:** Ferrite Rod; terminals for external antenna provided. **FREQUENCY RESPONSE:** 20-5000 cps $\pm$ 3 db. **HUM:** 60 db below 1 volt. **OUTPUT:** Min. output of 0.8 volt with 20 μ v input, 30% modulation. **IMAGE REJECTION:** 40 db. **TOTAL HARMONIC DISTORTION:** Below 2% up to 70% modulation. **CONTROLS:** Tuning, Volume/Power On-Off, FM-AM Selector. **SIZE (HWD):** 3 $\frac{5}{8}$ " x 12" x 8 $\frac{1}{4}$ " **WEIGHT:** 13 lbs.

HFT90, HF12 CONVERSION KITS

Step up the appearance of your HFT90 tuner and HF12 amplifier to the trim, modern styling of the HFT90A. Kit consists of cabinet bottom plate, knobs and instructions. Front panel handsome brushed gold; knobs have brushed gold inserts.

CK-90 for converting HFT90 . . . \$7.95
CK-12 for converting HF12 . . . \$7.95

OF VERSATILE, ECONOMICAL HI FI COMPONENTS



EICO 2716

Wired \$139.95

18 W FM TUNER/AMPL. WITH PAGING

The Model 2716 combines a superb FM tuner and a low-distortion amplifier, with microphone stage and a relay for paging and other public address uses. Enough power to drive 30 speakers. Outputs are 8 and 16 ohms plus 25 volt line (45 ohms). Inputs for tape and ceramic phono cartridge. Tape outputs at rear for recording FM programs. Remote relay control switch at microphone permits silencing music for making announcements.

TUNER: ANTENNA INPUT: 300 ohms balanced. IHF USABLE SENSITIVITY: $3 \mu\text{V}$ (30db quieting), $1.5 \mu\text{V}$ for 20db quieting. Full limiting sensitivity: $10 \mu\text{V}$. IF Bandwidth: 280kc at 6db points. Ratio detector bandwidth: 1mc peak-to-peak separation. Audio bandwidth at FM detector: Flat to 53kc. IHF signal-to-noise ratio: 55db. IHF harmonic distortion: 0.6%. IHF capture ratio: 3db.

AMPLIFIER: POWER: 18 watts IHF music; 14 watts continuous. IM DISTORTION: 2% at 14 watts. HARMONIC DISTORTION: 0.6% at 10 watts, 40 cps to 10kc; 0.2% at 1 watt, 30 cps to 20kc. FREQUENCY RESPONSE: $\pm 1\text{db}$ 15 cps to 40kc. INPUTS: Phono (ceramic), tape, mic. OUTPUTS: 8 ohms, 16 ohms, and 25 volt line (45 ohms). SENSITIVITY: 240mv on phono, tape; 4mv on mic. SIZE (HWD): $5\frac{1}{8}'' \times 15\frac{7}{8}'' \times 11\frac{1}{8}''$. WEIGHT: 23 lbs. POWER REQUIREMENTS: 117 V AC, 60 cps. 100 watts.



EICO 3566 Solid State FM MPX Automatic Stereo Tuner-Amplifier

Kit \$219.95

(walnut cabinet \$14.95)

Wired \$325.00

(including walnut cabinet)

Praised by both the audio expert and consumer, the 3566 all solid-state stereo receiver is the best buy of its kind.

43 transistors, 19 diodes, 6 rectifiers in an advanced circuitry deliver a total of 112 watts of distortion-free music power.

Completely prewired and prealigned RF, IF and MX circuits, assure superlative performance and stability. Output stages with extended frequency response and without output transformers provide low distortion performance with unrestricted bass response and excellent transient reproduction.

SPECIFICATIONS

AMPLIFIER/PREAMPLIFIER: TOTAL IHF MUSIC POWER: 112 watts at 4 ohms, 75 watts at 8 ohms, 37.5 watts at 16 ohms. TOTAL RMS POWER: 52 watts at 4/8 ohms, 28 watts at 16 ohms. POWER BANDWIDTH: 8-60, 000Hz at .5% distortion. HARMONIC DISTORTION: less than 0.5% at full power. FREQUENCY RESPONSE: $\pm 1\text{db}$ 5-60, 000Hz. HUM & NOISE: 70db below rated output. SENSITIVITY: 3m V mag. phone, 180m V other inputs. **FM MPX STEREO TUNER:** Sensitivity 2uV for 30db. HARMONIC DISTORTION: less than 0.5%. AUDIO FREQUENCY RESPONSE: $\pm 1\text{db}$ 20-15,000 cps. CHANNEL SEPARATION: 40db. SCA SUPPRESSION: 40db. SIZE (HWD): $5 \times 16\frac{1}{2} \times 13\frac{1}{4}$ inches. WT: 25 lbs.



Kit \$24.95

EICO RA6 TRANSISTOR PORTABLE RADIO KIT

Even a novice can build this modern American all-transistor superheterodyne portable receiver. The RA6 provides unusual sensitivity, selectivity, and high undistorted sound output in a size that's just right for comfortable carrying. An efficient $4'' \times 6''$ oval PM speaker driven by a 250 milliwatt push-pull output stage supplies satisfying big-set volume and tone quality. Operating features include accurate vernier tuning, a high impedance earphone jack, and a built-in rod-type antenna for good reception in any location. Kit construction features include: the latest type plug-in transistor sockets that prevent overheating the transistors during soldering and provide easy replacement should it ever become necessary. Prealigned IF transformers permit top performance to be achieved by a slight touch-up alignment using a radio station broadcast as a reference. The RA6 is housed in a handsome tan simulated leather carrying case with a retractable handle. Weight: 4 lbs.



Wired only, \$44.95

EICO HFS-8 2-WAY SPEAKER

The two speakers are an 8" cloth bellows suspension, high-gap energy woofer-midrange transducer, and a matched 2" tweeter. The bass reflex cabinet has an internal duct behind the port to tune the enclosure to the low 55 cps resonance of the woofer and thereby further reduce distortion. The 2" tweeter provides remarkably smooth coverage with excellent "spread" for the high frequencies so important to stereo.

High efficiency permits use with low power amplifiers, but amplifiers of any power may be used if adjusted to reasonable volume levels. Oil-finished walnut.

SPECIFICATIONS

2 SPEAKERS: 8" woofer with 8.1 oz. slug magnet, 10,500 gauss flux density; 2" tweeter with 1 oz. slug magnet, 10,000 gauss flux density. POWER HANDLING CAPACITY: 25 watts on peaks of music or speech (per channel stereo). CROSSOVER: Approximately 4000 cycles. RATED IMPEDANCE: 8 ohms. FREQUENCY RESPONSE: $\pm 5\text{db}$ 50 to 15,000 cycles. SIZE (HWD): $13'' \times 22\frac{1}{2}'' \times 6\frac{1}{2}''$. WEIGHT: 17 lbs.

EICO SPEAKER SYSTEMS



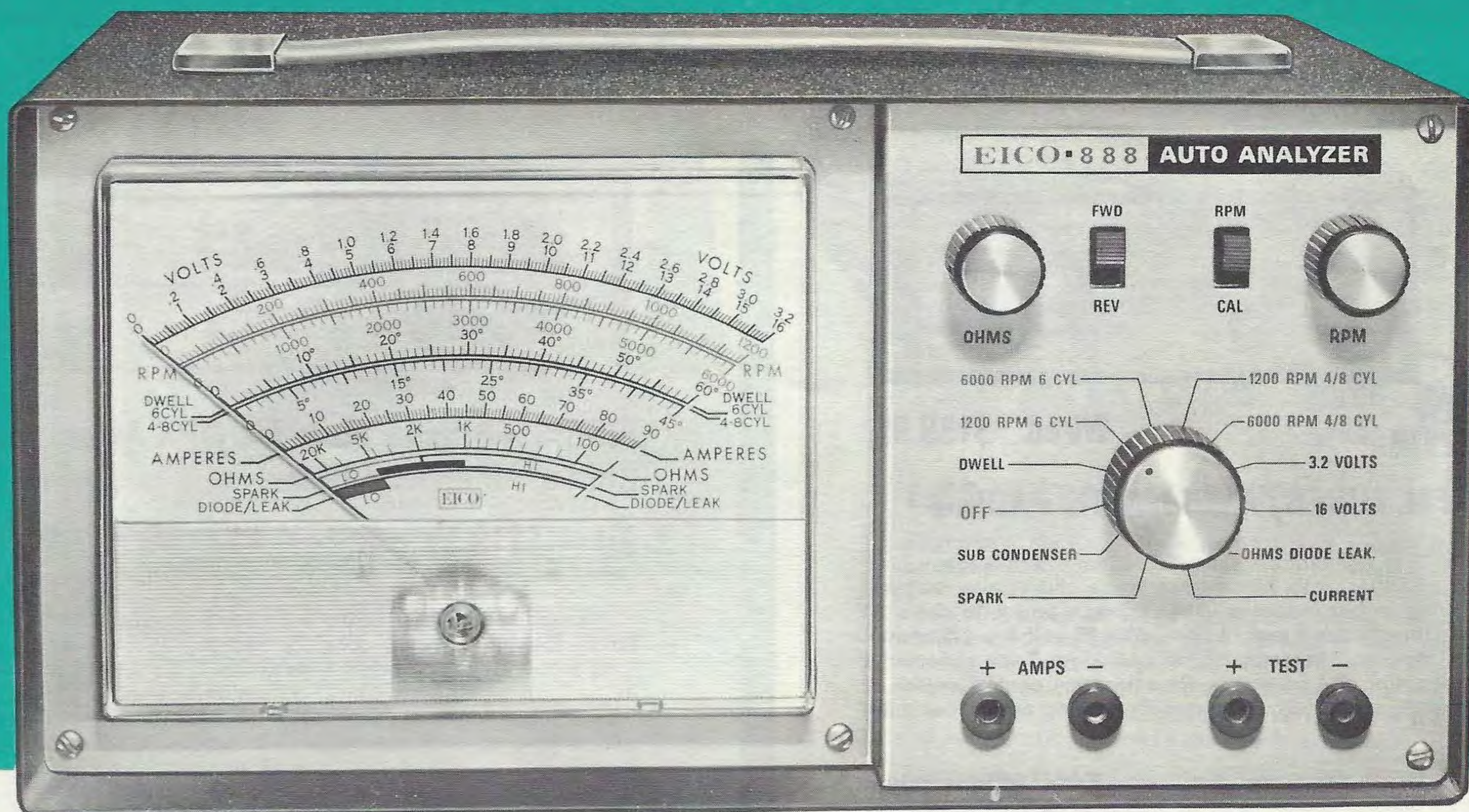
Wired only, \$29.95

EICO HFS-10 2-WAY SPEAKER

Two speakers are a $6\frac{1}{2}''$ low resonance, high-gap energy woofer-midrange transducer (5 oz. slug magnet, 11,000 gauss flux density), and a matched 2" tweeter. Excellent woofer damping and rigid cabinet construction provide full bass without boom. High efficiency permits use with low power amplifiers, but amplifiers having up to 18-watts music power per channel may be used, if adjusted to reasonable volume levels. Ideal for narrow shelf placement or wall mounting. Oil-finished walnut.

SPECIFICATIONS

FREQUENCY RESPONSE: $\pm 6\text{db}$ 60 to 15,000 cps. CROSSOVER REGION: 4000 cycles. IMPEDANCE: 8 ohms. SIZE (HWD): $12'' \times 18'' \times 5\frac{1}{4}''$. WEIGHT: 11 lbs.



EICO 888 Solid State Universal Engine Analyzer

Tunes Up & Troubleshoots Any Car or Boat!

EASY-TO-BUILD KIT \$44.95

WIRED \$59.95

Keep your car or boat engine in tip-top shape with this completely portable, self-contained, self-powered universal engine analyzer.

Now you can electronically tune up and trouble-shoot engine performance **exactly as the professionals do**. Useful for all 6- or 12-volt; 4, 6, or 8 cylinder engines; negative or positive ground. With its more than 30 separate, easy-to-perform tests, you can make exact check of your total ignition/electrical system including: storage battery; generator; alternator; voltage regulator; alternator diodes; starter; starter solenoid; distributor; points; condenser; ignition coil; spark plugs; dwell angle; carburetor; fuses; bulbs, switches, accessories; all electrical wiring.

- Completely tests your total ignition/electrical system.
- Tests and checks all the same parameters in the exact way as **professional automotive technicians do**.
- Tests everything about all gas engines, car or boat.
- Performs over 30 engine and wiring tests.
- Includes a comprehensive tune-up and trouble-shooting manual.
- Simplified operation for fast, easy, dependable, **professional results**.
- Latest reliable all-transistor circuitry.
- Large 6" D'Arsonval wide-view 2-color meter with 10 large, clear, easy-to-read scales: (Volts, Engine RPM, Dwell Angle, Amperes, Ohms, Spark Output, Diode/Leakage).
- Self-powered: you can take it into car or boat for actual car-running, boat-running tests.

FUNCTIONS

DWELL ANGLE — The dwell angle meter function provides quick check of distributor operation and spark advance: precise check and adjustment of the opening and closing of single and double breaker points, variation in dwell angle, and distributor wear.

RPM — The electronic tachometer function helps you to set exact engine idle speed and automatic transmission shift points (using separate scales for low and high speed tachometer functions for 4-, 6- and 8-cylinder engines), plus checking carburetor idle mixture and speed adjustment.

VOLTAGE — The voltmeter function has 2 accurate scales for 0-3.2V and 0-16V to check voltage regulator/alternator, generator and battery.

CURRENT — The ammeter function (0-90 amperes) keeps tabs on the exact operation of generator/alternator and associated voltage regulator and whether they are adequately charging the battery.

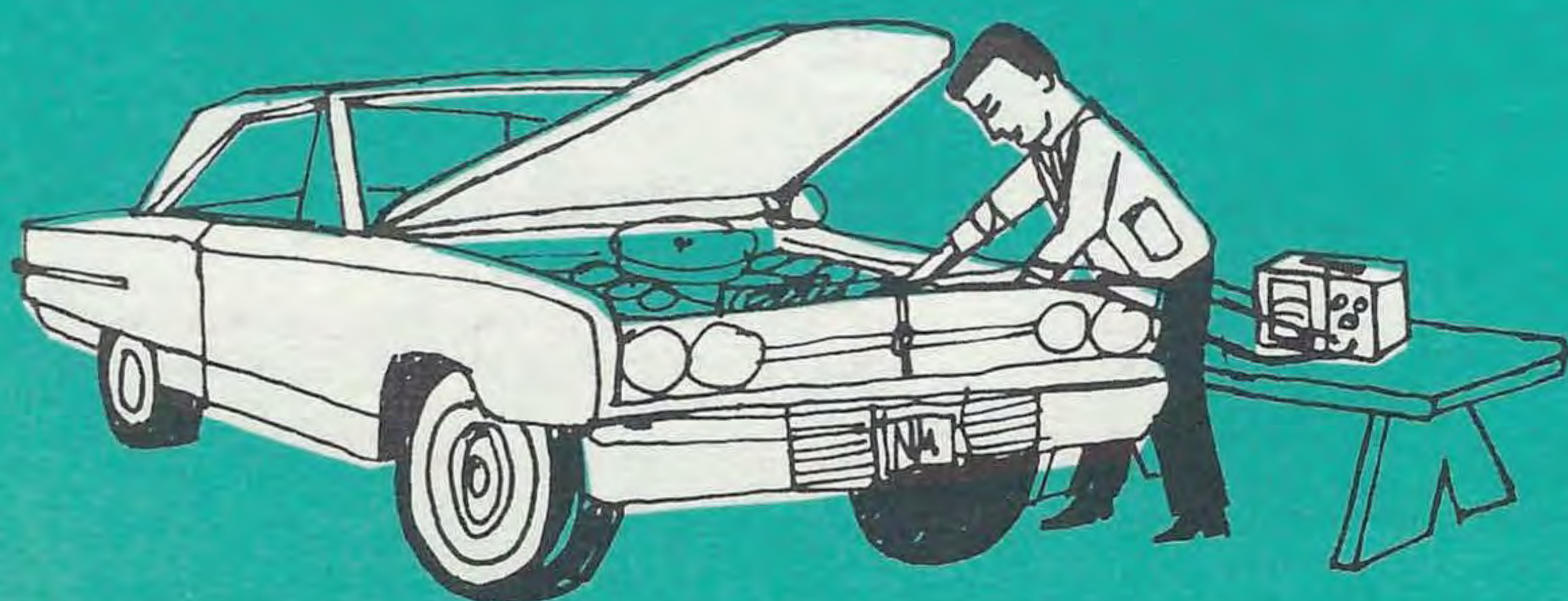
RESISTANCE — The ohmmeter function measures ohms from 0 to infinity for checking alternator diodes (forward and reverse), coil, condenser, fuses, lamps, relays, horn, wipers, all electrical accessories. It locates open and shorted circuits and poor connections.

HIGH VOLTAGE — This meter function checks the condition of the ignition spark system right to the plugs and measures spark output.

SUBSTITUTE CONDENSER — Provides for substitution of 888's own condenser for car's suspected faulty condenser.

EXCLUSIVE MANUAL — Only EICO publishes such a comprehensive instruction tune-up and trouble-shooting manual. Covering over 40 different brands of American and foreign cars from 1953 to 1966, it lists the idle speeds for both manual and automatic transmissions and the dwell angles.

The 888 is an all-professional dependable design and comprises the latest circuitry and conveniences: the master control is a single function, 12-position switch with associated calibration and adjust controls for RPM and ohms. Reliable printed circuit board construction and solid-state throughout, the circuitry is precision and field-proven incorporating 1% resistors: the RPM circuit, for example, employs 3 transistors with a Schmitt trigger pulse counter. Meter is recessed for full protection. Sturdy metal cabinet; handle for easy portability. Self-powered: 4 "D" batteries supplied. Complete with "how-to-use" manuals with both test and calibration leads. SIZE (HWD): 5 $\frac{3}{4}$ " x 11 $\frac{1}{2}$ " x 5". WEIGHT: 6 lbs.



NEW!



EICO "Nova 23" Model 7923 All Solid State 23 Channel 5 Watt CB Transceiver

Small In Size — Large In Operating Convenience!

- All crystals provided for 23 crystal controlled transmit and receive channels.
- All solid-state design for extra reliability, low battery drain and instantaneous operation.

Wired Only
\$189.95

Two Years Ahead of Its Time . . . A product of EICO innovation engineering. The New EICO Nova-23 includes a host of space-age advances — plus 4 exclusive engineering innovations — give you a 1969 rig-in '67.

- **EXCLUSIVE** Dual-crystal lattice filter for advanced razor-sharp selectivity of reception.
- **EXCLUSIVE** Highly efficient up-converter frequency synthesizer provides advanced stability and freedom from trouble in all 23 crystal-controlled transmit-receive channels. No additional crystals to buy!
- **EXCLUSIVE** Use of precision series-mode fundamental crystals for superior transmit and receive stability.
- **EXCLUSIVE** New Look for '67. A perfect marriage of professionalism—modern styling and human-engineering.

25 Transistor, 5 Diode Circuitry Assure Clean, Crystal Controlled Signals

The EICO "Nova 23" (Model 7923) is a fully transistorized, highly efficient 5-watt input (legal limit) CB transceiver incorporating a 23-channel frequency synthesizing circuit that provides crystal-controlled transmit and receive on all 23 CB channels with no additional crystals ever needed. A single control selects transmit and receive channels with channel numbers 1 through 23 appearing in an illuminated window. Note that channel 22A is not a legal CB channel at this time and should not be used until authorized by the FCC.

The receiver uses special low-noise transistors in the RF and mixer stages. An EICO-exclusive dual-crystal lattice filter is used in the first of two 5.255 MHz IF stages to produce a very sharp selectivity curve at the IF. Adjacent channel rejection is typically 40db minimum. Image rejection of the receiver is 60db. The use of amplified AGC permits uniform receiver response for input signals ranging between 5 and 10,000uV to prevent overloading with resulting audio distortion.

A bridge-type S-meter circuit makes for a more reliable meter indication. In this set, S9 is approximately 100uV of input signal.

Automatic Highly Efficient "Lossless" Noise Limiter Always in Operation

A highly efficient shunt-type limiter clips noise peaks without any attenuation of the input signal, thus allowing full-time use without impairing the received signal. The two-stage high-speed squelch circuit requires only 1uV to activate a 10uV input signal.

Converts To a 3.5 Watt P.A. at the Flick of a Switch

The push-pull audio output stage supplies about 3 watts to the internal speaker, and either an external speaker, or a PA speaker. A rear switch selects either CB or PA use. The PA speaker is automatically disconnected when the system is in the CB position, and the external speaker is automatically disconnected in the PA mode.

Superior "Broadcast-Type" Modulation Provided by Improved Audio Techniques and a Noise Cancelling Mike

The efficient 5-watt input silicon solid-state transmitter provides in excess of 3-watts RF output. High modulation level, up to 100% is provided without excessive distortion. A noise-cancelling, ceramic element push-to-talk mike (Turner 333) with a coiled cord is included.

An EICO-exclusive up-conversion frequency synthesis circuit makes for more stable and trouble-free operation. Only this method of frequency synthesis enables the use of precision series-mode fundamental crystal operation. Burn-out proof switching is accomplished by the rugged, removable "computer-type" sealed relay.

The transmitter uses silicon transistors for more reliability, maximum power output, and less danger of transistor burnout due to antenna mismatch.

Both the driver and final amplifier are 100% modulated to insure maximum efficiency with the lowest distortion.

Extremely Compact and Lightweight — Fits Anywhere

The EICO "Nova-23" is powered directly from the 12-volt DC input and requires only 250mA in the receive mode; and 1.3 amperes in the transmit 100% modulation mode. The wiring of the "Nova-23" is such that either side of the car battery can be grounded (although most cars use a negative ground, some cars and boats still use a positive ground) making this transceiver independent of battery polarity. A power cord for use on a 12-volt system is provided. For use on house current, the EICO Model 791 Solid-State Power Supply may be used. (EICO Model 791, wired only \$24.95) Weight: 4 lbs.

A mounting bracket is provided for automobile mounting. Ruggedized military-type modular PC construction is proof against mobile vibration and shock. The steel case is scuff-proof vinyl finished for maximum durability, the front panel is heavy-gauge extruded aluminum, brushed/polished and anodized. Size (HWD): 3" x 8" x 8 1/4". Weighs only 7 lbs.



EICO "Sentinel Pro" Model 779A 23-Channel Crystal-Controlled Dual-Conversion 5-Watt CB Transceiver

Featuring New Advanced Exclusive "Range-Plus" Circuitry!

- All crystals supplied for crystal-controlled transmit and receive on all 23 CB channels
- Dual conversion superhet receiver
- Dual power supply — 117 VAC and 12 VDC transistorized

Wired Only
\$169.95

With the new EICO "Sentinel-Pro" you enjoy all the powers of TOTAL CB COMMUNICATIONS CAPABILITY — super-sensitivity; noise-free reception; rock-steady stability, and all the talk-power "reach" the law will allow.

Exclusive "Range-Plus" Circuitry Enables You To "Punch Through" Interference

In common with all professional units, the EICO Sentinel-Pro is a full 5-watt RF (legal limit) input CB transceiver. Uncommonly, however, the "Sentinel-Pro" incorporates special circuitry which results in superior articulation and greater "talk-power" reach. This is accomplished by means of the exclusive "Range-Plus" feature (via a front-panel switch). It greatly boosts the duration that the average modulation of 100% is sustained, thus increasing the effective output power of the final modulated signal.

The same kind of advanced, yet performance-proven, design thinking is present throughout every section of the "Sentinel-Pro."

All Crystals Supplied For 23 Crystal-Controlled Transmit & Receive Channels

High reliability, clean, crystal-sharp RF signal power is generated by the "Sentinel-Pro's" modern, highly efficient 10-crystal frequency synthesizer circuit. More than 3 watts of radiated power leave the antenna. The "Sentinel-Pro" provides **crystal-controlled** transmit and receive on all 23 authorized CB channels — no additional crystals are ever needed! One single control selects the transmit and receive channels with channel numbers 1 through 23 appearing in an illuminated window. Provisions are made for the addition of extra channels if and when authorized by the FCC.

New "ANL" Front Panel Selector Switch Super-Sensitizes the Transceiver for Weak DX Signals

Controllable sensitivity is another unusual feature in the "Sentinel-Pro." When the signals you want to pick up are particularly weak due to distance or mixed with noise, just flip the front panel "ANL" selector switch. Into play goes the Automatic Noise Limiter — goodbye noise. Of course, adjustable squelch is also provided.

Super Selective Dual Conversion Receiver Features 1/4 Microvolt Sensitivity

The receiver is a dual conversion superheterodyne with one 6mc

and three 455kc IF's to achieve the very finest performance. Sensitivity is rated at 0.25 microvolts for 10db signal-to-noise ratio. Excellent adjacent channel rejection is achieved without excessive narrowing of the desired channel bandpass since the 6db down points are 3kc from the carrier. A bandspread control on the front panel permits ± 3 kc adjustment for stations transmitting slightly off frequency. Primary image rejection is better than 60db. The **rear illuminated** dual-function (S/RF) meter serves as an "S" (signal strength) meter when receiving.

Exclusive "Finger-Tip" Antenna Loading & Transmitter Tuning Controls

Another exclusive feature, "Finger-Tip Tuning," makes it possible for you, at any time, without tools, to tune the transmitter output to match almost any antenna between 30 and 100 ohms impedance — so as to get maximum transmitter RF output. An adjustable TVI filter permits attenuation of any harmonics that might interfere with local TV reception on the lower VHF channels. A noise cancelling, ceramic element push-to-talk mike with coiled cord is included (Turner 333).

Converts To 3.5 Watt P. A. System With Any Remote Speaker

A PA/CB switch permits the receiver's audio amplifier to serve as a 3.5 watt PA (Public Address) amplifier with an external speaker or bullhorn plugged into a rear receptacle. In addition to the built-in 4-inch loudspeaker, headphones or an external remote speaker may be connected simply by plugging into a front-panel phone jack. This automatically silences the built-in speaker.

Dual Solid State Mobile and Base Station Power Supplies

The EICO "Sentinel-Pro" employs a transistor switching power supply and can be operated either directly from 117 volts AC or directly from 12 volts DC in negative ground vehicles only (most domestic makes since 1957). Individual power cords for 117 volts AC and 12 volts DC operation are included.

Brackets are provided for convenient mobile mounting. The vinyl finished steel case is scuff-proof for maximum durability, the panel is brushed and clear anodized extruded aluminum with polished edges. Size (HWD) is $4\frac{3}{4} \times 12\frac{3}{8} \times 7\frac{1}{2}$ inches and the weight (net) is 18 pounds.

FOR EVERY NEED, EVERY BUDGET

CITIZEN'S BAND RADIO PROVIDES CONVENIENT COMMUNICATION FOR BUSINESS AND PERSONAL NEEDS

Two-way Citizens Radio is permitted for both business and personal uses within the rules of Part 95, Citizens Radio Service, obtainable from the U.S. Government Printing Office, Washington, D.C. Any individual, partnership, or incorporated association (providing the individual or partner is 18 years of age or over) is eligible for a license to operate one or more stations in Class D service.

Licenses are obtained without difficulty from the Federal Communications Commission, Gettysburg, Penn. No skill or technical knowledge of radio is required to obtain a license.

CB radio communication may be used by business firms for communicating with their delivery vehicles, in mobile vehicles operating around construction projects, on farms and ranches, and by sportsmen. In addition, volun-

teer fire departments, auxiliary police and civil defense agencies may also use this service. Licensees are not assigned specific frequencies, but may use all 23 channels authorized by the FCC for intrastation communication between units under the same station license. Seven channels may be used for interstation communication with units under different station licenses.

Transmitting equipment employed for voice communication in the Citizens Radio Service must be operated under a station license issued by the Federal Communications Commission and in accordance with the limitations on permissible communications contained in Part 95, (formerly Part 19) Citizens Radio Service, of its rules. The operation of such equipment as a hobby, in and of itself, or for the exchange of aimless small talk is not permitted.

NEW!



Wired only \$99.95

EICO "SENTINEL 12" MODEL 712 12 CHANNEL CB TRANSCEIVER

- Efficient 5-watt input transmitter.
- Part 15 switch for reduced output power operation.
- Variable "pi" network provides antenna impedance matching.
- Adjustable harmonic filter eliminates TVI.

If you're a discriminating CB'er who'll settle for nothing less than ultimate professionalism in 5-watt CB equipment, but don't need crystal control of all 23 channels, now you can enjoy the best CB there is and save money too! The new "Sentinel 12" was designed with you in mind. Made in the Sentinel tradition of **superlative** quality, stability, and ruggedness, it provides 12 crystal-controlled transmit and receive channels and **complete tunable reception of all 23 channels**. It incorporates adjustable squelch and noise limiter, TVI filter, and switches for 3.5 watt public-address use, spotting and Part 15 operation. Integral transistorized dual power supply operates from 12VDC and 117VAC. Nobody but EICO gives you so much CB engineering for so low a price!

RECEIVER

SENSITIVITY: .25mv for 10db signal-to-noise @ 30% modulation. SELECTIVITY: 3kc @ 6db down. AUTOMATIC NOISE LIMITER: Series floating type. ADJUSTABLE SQUELCH: Sensitivity .25mv. INTERMEDIATE FREQUENCY: 455kc. AUDIO OUTPUT: 3.5 watts.

TRANSMITTER

POWER: 5 watts input. 3 watts output. HUM & NOISE: 40db down minimum. MODULATION: 100% AM. HARMONIC SUPPRESSION: 55db down minimum. FREQUENCY STABILITY: .005%. ANTENNA IMPEDANCE: 30-100Ω ("pi" network). Supplied with channel 9 transmit crystal, mobile mounting brackets, AC & DC power cords, noise-canceling push-to-talk ceramic mike with coiled cord and hang-up clip. SIZE (HWD): 4 3/4" x 12 3/8" x 7 1/2". WEIGHT: 13 lbs.



EICO 715 HAM/CB TRANSCEIVER TEST SET

NEW!

Kit \$34.95 : Wired \$44.95

A modest investment that pays off in a lifetime of better communications performance.

At last — here's an **all-professional** test set that's designed for **complete checking** of both ham and CB equipment . . . and doesn't put a dent in your bank account. Reliable, compact, portable, quick and easy to use, it enables you to obtain maximum results from your ham or CB transceiver or transmitter. At the flick of a switch it obtains constant visual and/or audio indications of transmitter performance. Self-powered, it's excellent for both professional and hobbyist, in the shack or field.

- Measure R.F. power output to 50 watts
- Standing Wave Ratio (Fwd. & Ref. power)
- Ideal for antenna adjustment
- Modulation percentage
- Direct Reading
- Field Strength Meter
- 50 Ohm built-in dummy load

SPECIFICATIONS

100 micro-amp meter for sensitive, accurate readings. SWR: 1-30. True RF power ranges: 10 watts (5%); 50 watts (10%). Modulation percentage 0-100%. Modulation distortion: headphone jack output. Relative field strength 1-10. Size (HWD): 4 7/8" x 8 1/8" x 1 1/2". Weight 5 lbs.



NEW!

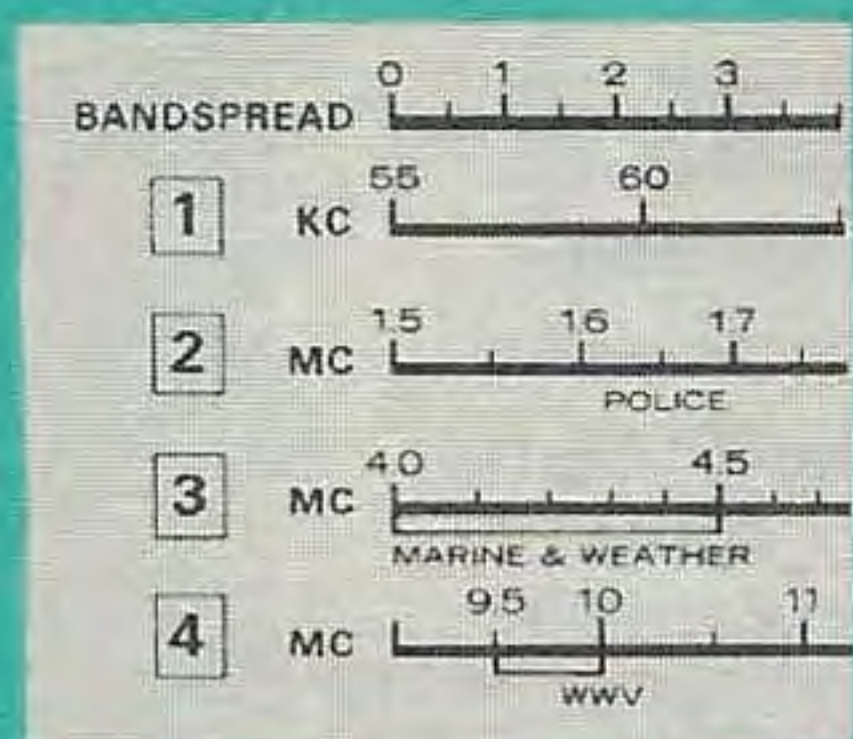
EICO 711 "Space Ranger" Short Wave Communications Receiver

A Full Capability SWL at Low Cost!

- Professional appearance includes scuff-proof vinyl-clad cabinet and custom molded knobs.
- High voltage, transformer-operated Power Supply. Insures shock-free operation and top-rated receiver efficiency.
- Electrical band spread tuning for precise station selection.

Kit	\$49.95
Wired	\$69.95

Professional signal strength "S" meter tells you when you are exactly on the station.



Wide view illuminated panel for easy slide rule tuning



Modern printed circuit board construction makes kit-building fast and easy

Addis Ababa, Antwerp, Berlin, Brisbane, Copenhagen, Leningrad, London, Mexico City, Paris, Rio de Janeiro, Tokyo — a veritable roll-call of civilization — every major center of world culture and current events "comes alive" at your call with the new EICO earth-circling "SPACE RANGER." And that's not all. In addition, with an instant, simple flip of a switch, you tune in on "what's happening" all around the world inside the exciting world of the amateur (ham) radio operators, ship-to-shore broadcasts, weather reporters, meteorologists, etc. Furthermore — you can catch the unmistakable drone of the LORAN stations of the Coast Guard, the exact time from the official U.S. Government Station WWV in Washington, D.C. — plus, too, the full AM standard broadcast band with all your favorite programs. There's never a dull moment with the EICO "SPACE RANGER."

THE CIRCUITRY IS AS ADVANCED AS THE CAPABILITIES ARE COMPLETE —

The power supply is of the modern high-voltage (115 volts AC) transformer-operated type, you're certain of both safe, shock-free operation and top-rated receiver efficiency. Finest quality parts — such as modern printed circuit board construction — rated with extra margins of safety, assure you of extra measures of stability whether you build the kit or buy the "SPACE RANGER" "ready to play." Careful consideration to generous spacing between circuits, contributes to greater stability and reliability of operation and faster, easier assembly of the kit.

With 4 latest high-gain high-efficiency vacuum tubes and

2 silicon diode rectifiers in a new high-efficiency super-heterodyne circuit, the "SPACE RANGER" achieves a unique combination of sensitivity and selectivity with stability and long-term reliability.

With the variable BFO (Beat Frequency Oscillator) Control, you "pick up" CW (continuous wave) transmissions by "beating against" their frequency, thus producing audio tones whose pitch you can vary — thus you can tune in on code and SSB (Single Side Band) transmissions.

Extra ease and sharpness of station selection are made possible by electrical bandspread tuning. And — if you prefer listening in private, just plug into the headphone jack. On the back are convenience terminals for external antenna, Q-multiplier input and noise-limiter on/off switch.

FEATURES

- 4 big bands, continuously tuning 550 kilocycles through 30 megacycles — which includes the Amateur Radio bands of 160; 75; 40; 20; 15; and 10 meters; and the 550 kc to 1620 kc AM radio broadcast band
- Modern superheterodyne circuitry made even more efficient with latest high-gain tubes, silicon diodes, and finest parts.
- Built-in sensitive ferrite rod AM antenna and provision for external antenna.
- Bandsread tuning.
- Variable BFO for reception of CW code & SSB.
- Built-in high-efficiency permanent magnet 4-inch speaker for plenty of audio sock and good fidelity.
- Headphone jack provides private listening.

CONTROLS & FUNCTIONS:

- Main tuning
- Bandsread for sharp tuning
- Volume level control and power ON/OFF switch
- Automatic noise limiter (ON OFF)
- AM-C. W. & Standby function switch
- B. F. O. control to vary CW pitch
- Headphone jack
- Q-Multiplier input
- Self contained AM antenna ferrite rod
- External antenna connections
- Band Selector switch

SPECIFICATIONS:

Frequency ranges: 550KC-30 MC in 4 overlapping bands. Power requirements: 117 volt 50/60 cycles AC-30 watts. Dimensions: 6" x 13 1/2" x 9". Weight: 17 lbs.

EICO Pioneers The Idea That **EVERYBODY** Can Enjoy Building Electronic Kits.

EICOCRAFT easy-to-build solid-state electronic kits!

EICOCRAFT is a new exclusive original concept and product line designed and manufactured by EICO expressly for the purpose of introducing people of all ages to the exciting world of electronic kits.

If you — or a relative or friend — ever thought that kit building was expensive, or difficult, or a pleasurable activity reserved only for the experts — now for as little as \$2.50 for an EICOCRAFT MODEL EC-1000 can change your mind.

You need no technical knowledge or experience to enjoy

all the creative fun of building with your own hands a wide variety of fine *professional* electronic devices.

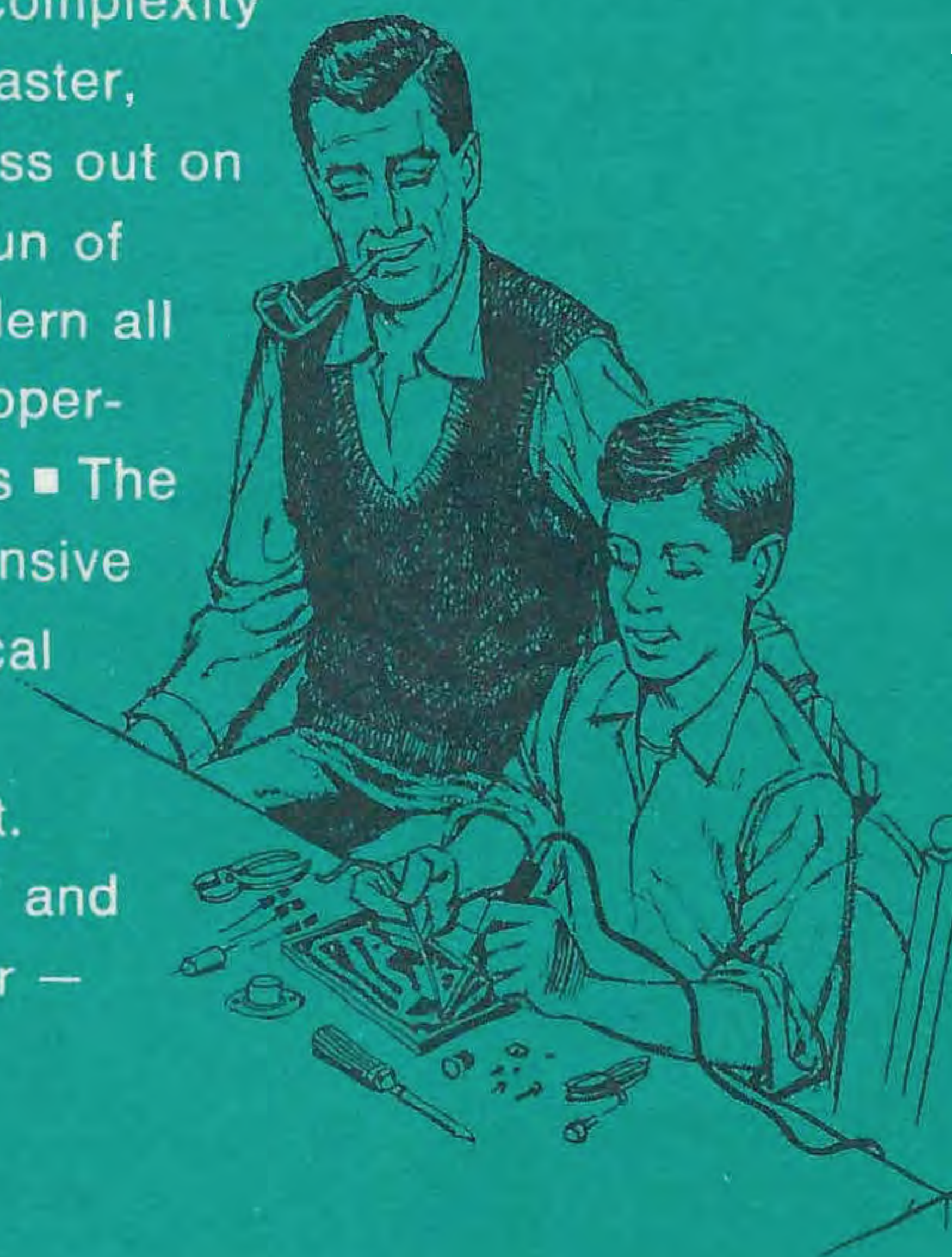
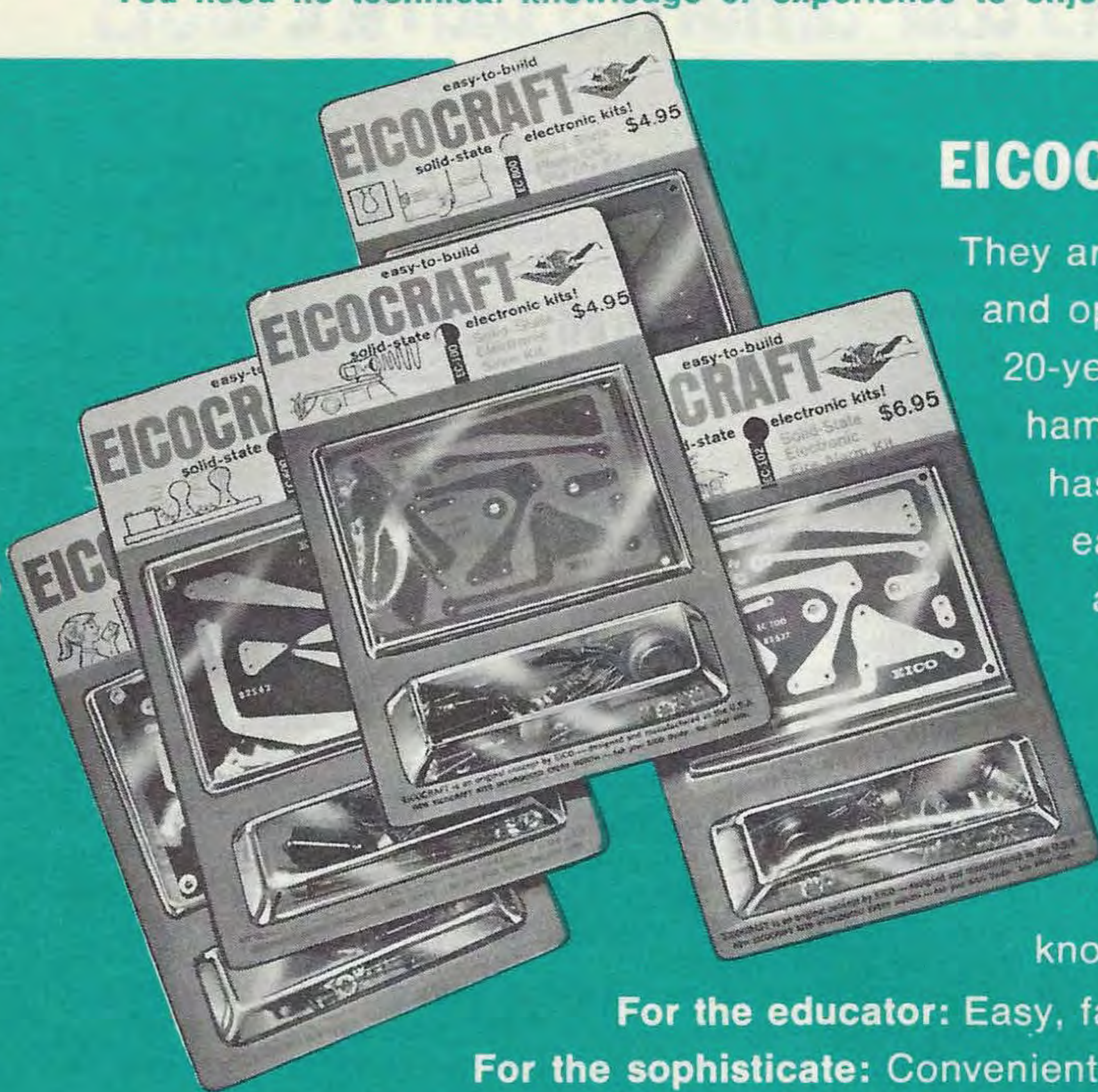
If you can follow simple step-by-step instructions, you can enter into the fascinating, rewarding world of electronic kit building. You can enjoy all the creative educational fun of handling *professional* parts, reading *professional* symbols, performing *professional* tasks like mounting, connecting, soldering, enclosing and operating — and experience the inner personal satisfaction of carefully doing a 100%-professional job.

EICOCRAFT are true electronic kits

They are every bit as professional in quality, performance and opportunity for participation by the builder as the 20-year famous EICO line of kits for stereo, hi-fi, CB, ham gear and test instruments. Only the complexity has been reduced to make kit-building faster, easier and less expensive. You don't miss out on any ingredient of the self-expressive fun of building electronic kits. You get: Modern all solid-state circuitry ■ Pre-drilled copper-plated etched printed circuit boards ■ The finest quality parts ■ Easy comprehensive step-by-step instructions ■ No technical knowledge or experience necessary.

For the educator: Easy, fast, educational, useful — and low-cost.

For the sophisticate: Convenient relaxing projects that are both "jiffy" and 100% professional. Many projects are "expandable" by adding kits together — your imagination is the only limitation.



12 EICOCRAFT kits to enjoy:

EC-100 Electronic Siren Kit, \$4.95 — Powerful 3-transistor battery-operated alarm; emits a penetrating wail.

EC-101 Electronic Burglar Alarm Kit, \$6.95 — Powerful 3-transistor 6-volt battery-operated burglar alarm; excellent warning device against intruders.

EC-102 Electronic Fire Alarm Kit, \$6.95 — Thermosensor trips at about 135°F — activates powerful 3-transistor 6-volt battery-operated fire alarm.

EC-200 Electronic Intercom Kit, \$3.95 — Rugged 2-transistor battery-operated master intercom station for a 2-way communication system.

EC-300 Audio Power Amplifier Kit, \$4.95 — High quality battery-operated 3-transistor general purpose 2 watt audio amplifier.

EC-400 Electronic Metronome Kit, \$3.95 — Adjustable, 2-transistor pre-

cision battery-operated Metronome.

EC-500 Tremolo Kit, \$8.95 — Reliable 3-transistor battery-operated Tremolo for guitar and other musical instruments.

EC-600 Electronic Light Flasher Kit, \$3.95 — Rugged 2-transistor battery-operated "multivibrator" or "flip-flop" circuit.

EC-700 Electronic "Mystifier" Kit, \$4.95 — Amazing relaxation oscillator battery-operated set of blinking lights. Only you can control its random or geometric sequence of blinks.

EC-800 Photo Cell Nite Lite Kit, \$4.95 — Sensitive battery-operated photocell with a 2-transistor high-gain amplifier/switch for adjustable sensitivity.

EC-900 Power Supply Kit, \$7.95 — Reliable transformer-operated high current, transistor regulated, 6-volt DC output Power Supply with full-wave bridge rectifier using silicon diodes.

EC-1000 Electronic Code Oscillator Kit, \$2.50 — Rugged 2-transistor battery-operated code practice oscillator producing strong, sharp tones.

A SENSATIONAL NEW VALUE IN SSB



EICO 753 3-BAND SSB/AM/CW TRANSCEIVER WITH SILICON SOLID STATE VFO

- High level dynamic ALC prevents flat-topping even with extreme over-modulation, permits linear amplifier use
- Automatic carrier level adjustment on CW & AM
- Receiver offset tuning (10kc bandsread) without altering transmit frequency
- Front panel selected STANDBY, VOX, or P-T-T operation
- VFO & IF Circuit boards. • Preamsembled crystal lattice filter

Kit	\$189.95
Wired	\$299.95

REC. OFFSET TUNE



Receiver offset
tuning desirable
for net and
CW work

STBY PTT
OFF VOX



Function selection
includes standby



S meter/cathode
current meter
back lit for easy reading



Position of hairline
adjustable on panel,
with cap to
prevent accidental
movement.

The finest sideband rig on the market, with unique **plus** features and \$110 savings in kit form. A complete tri-band transceiver, offering SSB/AM/CW operation with conservatively rated 200 watts PEP on all modes (rated for maximum **efficiency** rather than maximum possible input power). Both phone and CW segments are covered completely on the 80, 40, and 20 meter bands.

The outstanding operating features of the 753 reveal not only its exceptional value, but the thoughtfulness in design you should be looking for ■ SILICON SOLID-STATE VFO for drift-free and voltage stable operation in both fixed and mobile installations. ■ VOX/PUSH-TO-TALK/STANDBY operation selected on front panel. ■ Receiver offset tuning control permitting up to 10kc receiver bandspread without altering transmit frequency. ■ Tuning system with precision capacitor and unique dual-vernier ball

drive. ■ Single knob gives both 6:1 rapid band tuning and 30:1 vernier bandspread. ■ Position of hairline adjustable on panel, with cap to prevent accidental movement. ■ High level dynamic ALC prevents flat-topping even with extreme over-modulation. ■ Automatic carrier level adjustment on CW and AM. ■ S Meter/Cathode Current Meter. ■ Fast attack, slow decay AGC.

Consider also these important design features. ■ High frequency crystal lattice bandpass filter, 2.7kc at 6db down. ■ Grid-block break-in CW keying. Product detector for SSB and triode detector for AM. ■ Adjustable output pi network 40-80Ω. ■ TR relay with auxiliary contacts for use with high power linear amplifier.

The appearance and construction of the 753 is absolutely of the highest calibre. The massive extruded aluminum panel with end caps is brushed and clear anodized.

SPECIFICATIONS

FREQUENCY RANGE: 3490-4010kc, 6990-7310kc 13890-14410kc. TYPES OF EMISSION: SSB (LSB 80 and 40 meters, USB 20 meters), AM (SSB with carrier inserted), CW. RF POWER INPUT: 180 watts PEP SSB and AM, 180 watts CW. RF POWER OUTPUT: 110 watts PEP SSB and AM, 110 watts CW. OUTPUT IMPEDANCE MATCHING RANGE: 40-80 ohms. SSB GENERATION: 5.2 Mc crystal lattice filter; bandwidth 2.7 kc at 6db. FREQUENCY STABILITY: 400 cps after warm-up. SUPPRESSION: carrier-50db; unwanted sideband-40db. OPERATING FACILITIES: all modes - offset tuning, AGC, S-Meter on receive; SSB - VOX or P-T-T with ALC on transmit, product detector on receive; AM - VOX or P-T-T with ALC on transmit, product detector on receive; CW - grid block break-in transmit, product detector on receive. AUDIO INPUT: High impedance, low level. CONTROLS: Front panel - Tuning, Band selector, AF Gain, RF Gain, MIC Gain with Calibrator switch at extreme ccw rotation, Hairline set, Mode (SSB, AM, CW, tune), Function (OFF, STANDBY, P-T-T, VOX), Carrier Balance, Exciter tune, PA tune, PA load, Receiver Offset Tune, MIC. input, phone jack Rear apron - VOX threshold, VOX delay, VOX sensitivity, Anti-VOX sensitivity, PA Bias adjust, S-Meter zero adjust, power socket, external relay, antenna connector, key jack, accessory calibrator socket. METERING: PA cathode on transmit; S-Meter on receiver. RECEIVER SENSITIVITY: 1.0μV for 10db S/N ratio. RECEIVER SELECTIVITY: 2.7 kc at 6db. RECEIVER AUDIO OUTPUT: Better than 2 watts; 3.2 ohms. SIZE (HWD): 5½" x 14" x 11¼". SHIPPING WEIGHT: 25 lbs.

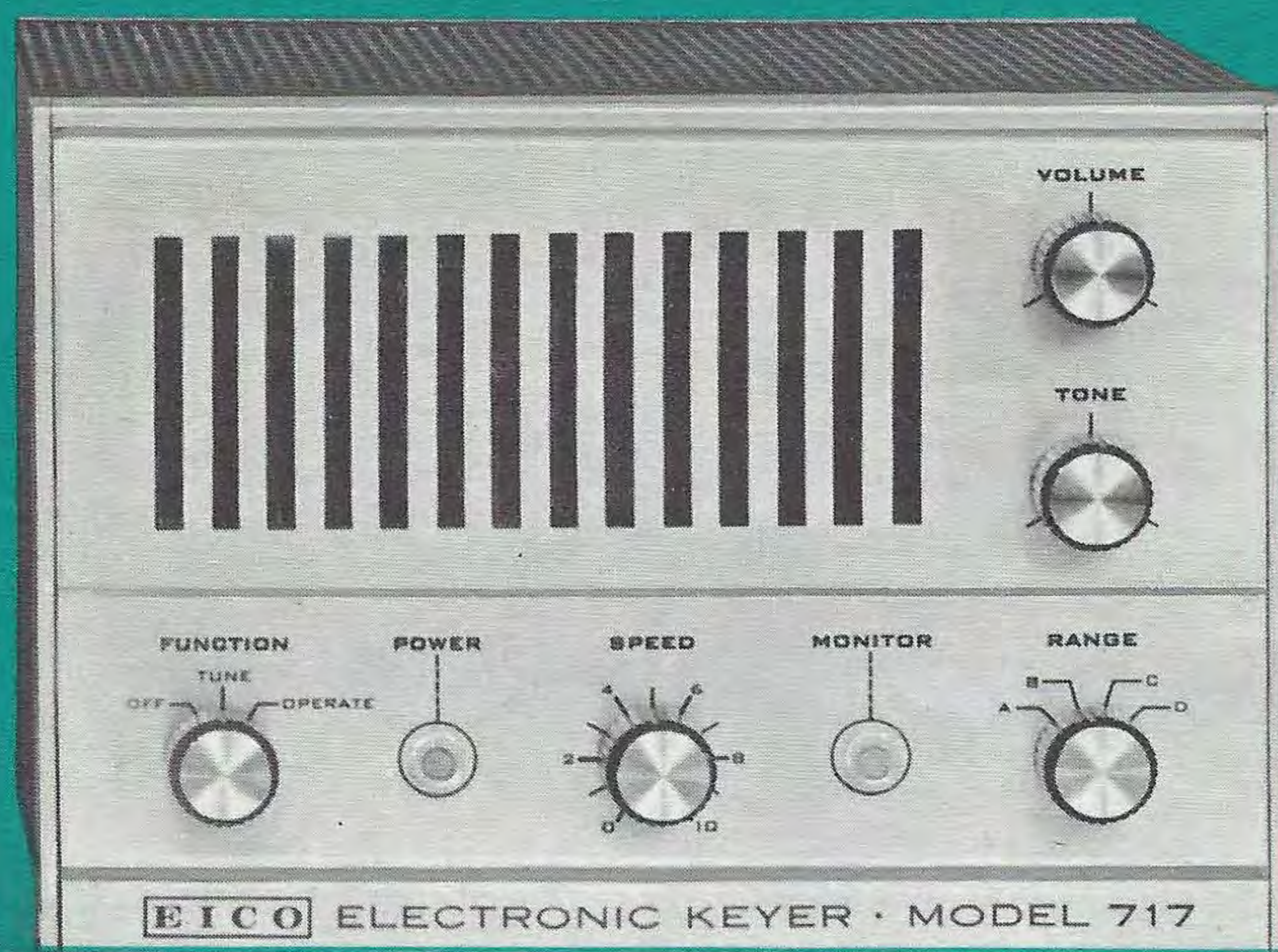
POWER REQUIREMENTS: 750 volts DC at 300 ma, 250 volts DC at 170 ma, -100 volts DC at 5 ma, 12.6 volts AC at 3.8 amps.

EICO Model 751 AC Supply/Speaker Console: Provides all necessary operating voltages for Model 753. Incorporates PM Speaker. Matches 753 in appearance to make it a perfect table-top companion unit. Conservatively rated components and silicon rectifiers for minimum heat and extended trouble-free life. Interconnecting plug-in cables provided to make all necessary connections to Model 753. **Kit \$79.95. Wired \$109.95.**

SPECIFICATIONS: OUTPUT VOLTAGES: 750 volts DC at 300ma, 250 volts DC at 170ma - 100 volts DC at 5ma, 12.6 volts AC at 4 amps. INPUT VOLTAGE: 117 VAC. SIZE: 5½" x 8" x 11¼". WEIGHT: 25 lbs.

EICO Model 752 Solid State Mobile Power Supply: Provides all necessary operating voltages for Model 753 in mobile operation. For use with 12 volt positive or negative ground systems. Fully protected against polarity reversal or overload. Output voltages identical to Model 751. Input voltage 11-14 volts DC. **Kit \$79.95. Wired \$109.95.**

NEW FOR THE CW MAN!



EICO 717 ELECTRONIC KEYER

- Accurately keys any CW transmitter with perfect machine-like Morse Code.
- A perfect electronic and esthetic match to the EICO 753 3-band Transceiver.

Kit \$49.95
Wired \$69.95

An always-welcome accessory for the CW ham—the fully automatic 717 Electronic Keyer provides self-completing clean-cut dots, dashes and spaces accurately timed and proportioned from 3 to 75 WPM in four overlapping switch-selected ranges, with vernier control of all speeds within each range. Because the output is via a high-speed dry-reed relay, having 25 VA-rated contacts, the 717 can simply attach to the key terminals of any type CW transmitter. The internal audio oscillator and 3" x 5" speaker, with variable tone and volume, keyed in parallel with the reed relay, enable aural monitoring of transmissions — also permit the 717 to act as a code practice oscillator. Plugging into rear panel headphone jack disconnects internal speaker.

- Automatically makes dashes equal in time to 3 dots and sets the correct one dot spacing in a series of dots or dashes.
- Automatically self-completes: once a dot or dash is begun, it becomes impossible to "break" the character.
- Aural and front panel lamp monitoring.
- Dot/Space Ratio — 1:1 electronically timed to within 2 milliseconds at all speeds.
- Dash/Dot Ratio — 3:1 electronically timed to within 2 milliseconds at all speeds.

SPECIFICATIONS

5 tubes, 2 silicon rectifiers; 100-130 VAC, 50-60Hz, 40 watts. SIZE (HWD): 5½" x 8" x 8¼". WGT.: 9 lbs.

EICO 706 CODE PRACTICE OSCILLATOR

Kit \$8.95 Wired \$12.95

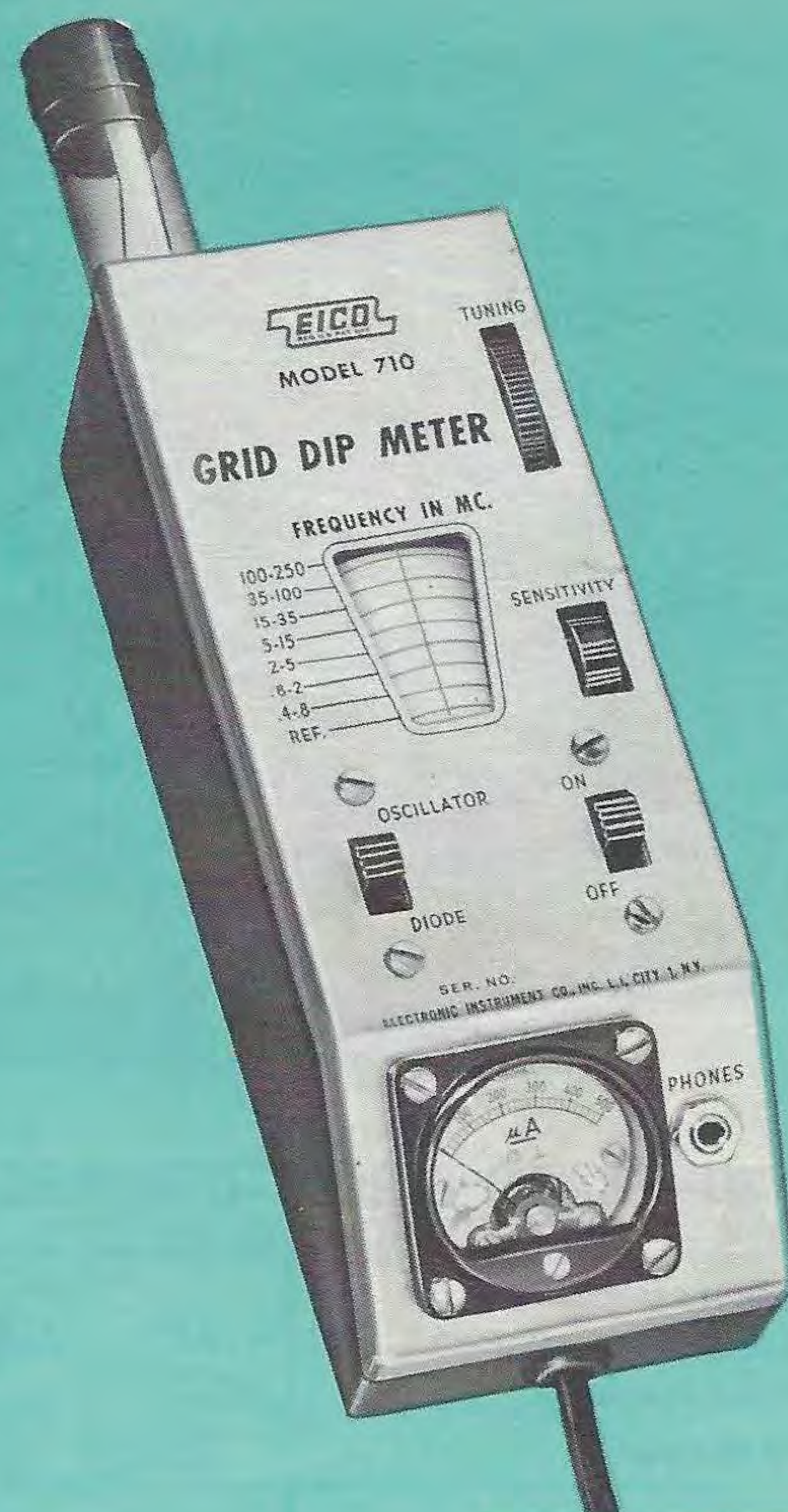


Supplied with battery

Invaluable aid for learning Morse Code with outstanding conveniences not found in other units. Unusually efficient speaker provides a clean, loud signal. Includes pitch control to obtain subjectively pleasing tone, phone jack for private use, and choice of tone, flashing light, or both together. Employs battery-operated transistor oscillator to provide many years of trouble-free service.

SPECIFICATIONS

TONE FREQUENCY RANGE: Approx. 500 to 2000 cps, continuously variable. CONTROLS: PITCH, TONE, and/or LIGHT. CURRENT DRAIN (TONE): 40 ma at 3VDC. CURRENT DRAIN (LIGHT): 300 ma at 3VDC. CURRENT DRAIN (TONE AND LIGHT): 340 ma at 3VDC. TERMINALS: Key, Phones. CASE: High-impact bakelite. PANEL: Satin finish, deep-etched aluminum. SIZE (HWD): 6½" x 3¾" x 2¾". WEIGHT: 2 lbs.



Kit \$29.95
Wired \$49.95

EICO 710 GRID-DIP METER

Including complete set of coils for full band coverage

- Covers all broadcast, FM, "ham" and TV bands in 8 overlapping ranges
- Accurately wound ($\pm 1\%$) plug-in coils

Basically a VFO with a microammeter in its grid circuit, the 710 determines frequency of other oscillators or tuned circuits; has a sensitivity control and phone jack to facilitate "zero beat" listening; and excels as an absorption wave meter. Ham uses: pretuning and neutralizing transmitters, power indication, locating parasitic oscillations, antenna adjustment, correcting TVI, general de-bugging with transmitter power off, determining C,L,Q. Electronic servicing uses: alignment of traps, filters, IF's, peaking compensation networks, and as signal or marker generator. Easy to hold and thumb-tune with one hand. Continuous coverage of broadcast, FM, ham and TV bands in 8 ranges. Brushed satin deep-etched aluminum panel; grey wrinkle steel case.

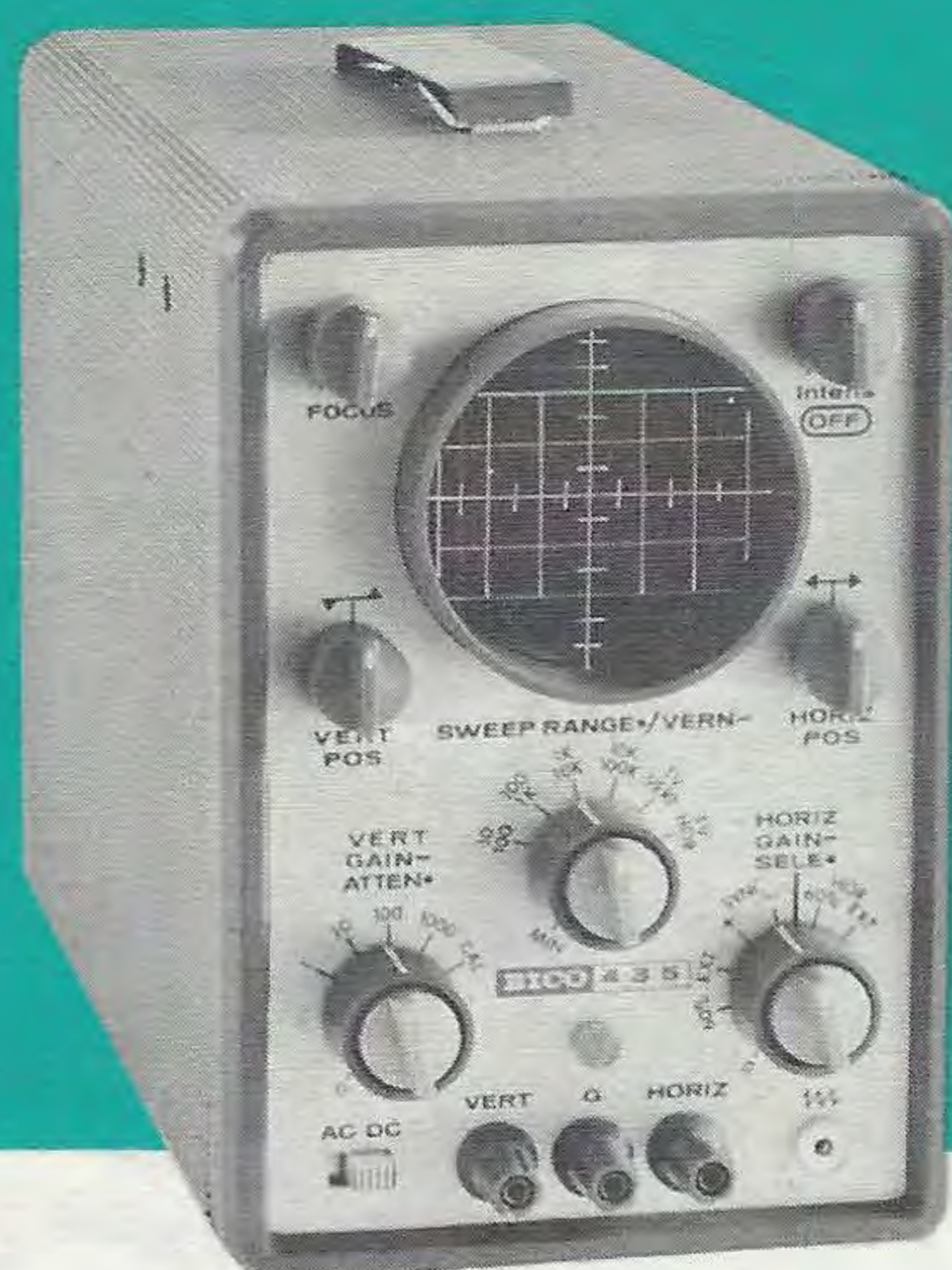
SPECIFICATIONS

FREQUENCY RANGE: 400 kc-250 mc in 8 overlapping ranges. METER MOVEMENT: 500 microamperes. PLUG-IN COILS: Accurately wound to $\pm 1\%$ accuracy, inside polystyrene forms. Labelled for easy identification. CIRCUIT: Exceptional stability is obtained with improved grid current stability over tuning range. TUNING: Tuning condenser, equipped with planetary drive of 1:7 ratio. TUBE: 6AF4(A) (Colpitts oscillator). SCALE: Rotating drum, 340° rotation. All scales on the drum are the same length for all ranges. Scale is illuminated by pilot light, is approximately 3¾" long. POWER REQUIREMENTS: 117V, 60 cps; 10 watts. POWER SUPPLY: Transformer-operated selenium rectifier. SIZE (HWD): 2¼" x 2¼" x 6⅞". WEIGHT: 3 lbs.

★ Export Model available

EQUIP YOUR BENCH WITH PERFORMANCE

NEW!



EICO 435 WIDEBAND DIRECT-COUPLED 3" SCOPE

- 18 mv rms/cm sensitivity
- Zener diode calibration
- DC-4.5mc flat response
- TV-V & TV-H sweeps

Kit \$109.95
Wired \$159.95

Complete many more color or B & W TV service calls on location! The Model 435 is really portable ($\frac{1}{3}$ the usual size of 5" scopes), yet provides outstanding facilities and fine performance. Push-pull amplification (3 stages) and direct-coupling throughout the vertical amplifier. With the Zener diode calibration facility and the 4-position frequency-compensated decade attenuator, either dc or peak-to-peak ac (or combination) measurements may be made from 50 mv to 500 V. Clarity and detail equal to 5" scopes are obtained with a far sharper and brighter trace (1600 V accelerating potential) on a flat-faced CRT; and distortionless V & H trace expansion is provided with drift-free V & H positioning up to many screen diameters. A mu-metal neck shield on the CRT minimizes the effect of external fields. Intensity and focus controls, and sawtooth (sweep) output are provided on the front panel; intensity modulation input is provided at the rear. DC balance and astigmatism adjusts are accessible without cabinet removal. Sync is fully automatic on all ranges and modes, with automatic sync limiter and amplifier eliminating sync voltage adjustment. An added circuit refinement eliminates any undesired intensity modulation of the trace by the sync voltage. Full retrace blanking and edge-lit calibration grid are provided.

SPECIFICATIONS

VERTICAL AMPLIFIER: Frequency response from dc to 4.5 mc, +1, -3db (useful to 10 mc); sensitivity 18 mv rms/cm (50 mv p-p/cm); input impedance 1 M Ω /35 pf. HORIZONTAL AMPLIFIER: Frequency response from 1 cps to 500 kc, +1, -3db; sensitivity 0.7 v rms/cm; input impedance 4 M Ω /40pf. SWEEP RANGES: 10-100, 100-1K, 1K-10K, 10K-100K cps; plus TV-VERT position (30 cps) and TV-HOR position (7875 cps). Synchronization may be (+) or (-) internal, external, or line frequency. POWER REQUIREMENTS: 117 VAC, consumption approximately 110 watts. SIZE (HWD): 8 $\frac{1}{2}$ x 5 $\frac{3}{4}$ x 12 $\frac{5}{8}$ inches. WEIGHT: 18 lbs.

★ Export Model available



EICO 430 GENERAL PURPOSE 3" SCOPE

- 25 mv rms/cm sensitivity • Sharp, bright trace
- Direct V plate connections • Automatic sync

Kit \$79.95 : Wired \$109.95

A very handy general-purpose scope that is truly portable ($\frac{1}{3}$ the usual size of 5" scopes), yet provides outstanding performance quality. Excellent for servicing audio, communications and industrial equipment, and ideal as an industrial or ham shack monitor. Clarity and detail equal to 5" scopes is obtained with a far sharper and brighter trace (1600V accelerating potential) on a flat-faced CRT; and distortionless V&H trace expansion is provided with drift-free V & H positioning up to many screen diameters. A mu-metal neck shield on the CRT minimizes the effect of external fields. The power supply is V-R tube regulated for stability. Intensity and focus controls are provided on the front panel; intensity modulation input is provided at the rear. Sync is fully automatic on all ranges and modes, with automatic sync limiter and amplifier eliminating sync voltage adjustment. Full retrace blanking is provided.

SPECIFICATIONS

VERTICAL AMPLIFIER: Frequency response from 2 cps to 500 kc, +1, -3db (approximately -6db at 1Mc); sensitivity 25 mv rms/cm (70mv p-p); input impedance 1M Ω /30 mmf; input decade attenuation of 1/100. HORIZONTAL AMPLIFIER: Frequency response from 2 cps to 300 kc, +1, -3db; sensitivity 0.25 V rms/cm; input impedance 10M Ω /40 mmf. SWEEP RANGES: 10-100, 100-1K, 1K-10K, 10K-100K cps. Synchronization may be internal or external. POWER SUPPLY: 117 VAC, consumption approximately 60 watts. SIZE (HWD): 8 $\frac{1}{2}$ x 5 $\frac{3}{4}$ x 11 $\frac{1}{4}$ inches. WEIGHT: 15 lbs.

★ Export Model available

EICO SCOPE ACCESSORY PROBES

- fully shielded • rugged terminal board mounting of all parts • shock mounted floating construction
- swivel action for ease of handling • color-coded for identification • easy accessibility of all parts



OSCILLOSCOPE DEMODULATOR PROBE PSD

Kit \$3.95 : Wired \$5.95

For signal tracing and checking of TV/radio RF and IF stages. Permits scope to be used as a waveform tracer, gain analyzer and alignment indicator in all these stages. Demodulates amplitude-modulated carriers between 150 kc and 250 mc.



OSCILLOSCOPE DIRECT PROBE PD

Kit \$2.95 : Wired \$3.95

Direct test probe for use in low-frequency or low-impedance circuits. Eliminates stray pick-up and signal re-radiation.



OSCILLOSCOPE LOW CAPACITY PROBE

Kit \$3.95 : Wired \$5.95

For TV sync signal tracing and general tests in video, sync and sweep circuits. High impedance, low capacity probe is extremely useful for tracing waveforms in high impedance, high frequency and wideband circuits (as in TV), without distortion from overload or frequency discrimination.

PROVEN TOP QUALITY EICO TEST INSTRUMENTS



EICO 427 SENSITIVE DIRECT-COUPLED 5" SCOPE

- 3.5 mv rms/cm sensitivity • Zener diode calibration
- Direct V plate connections • Automatic sync

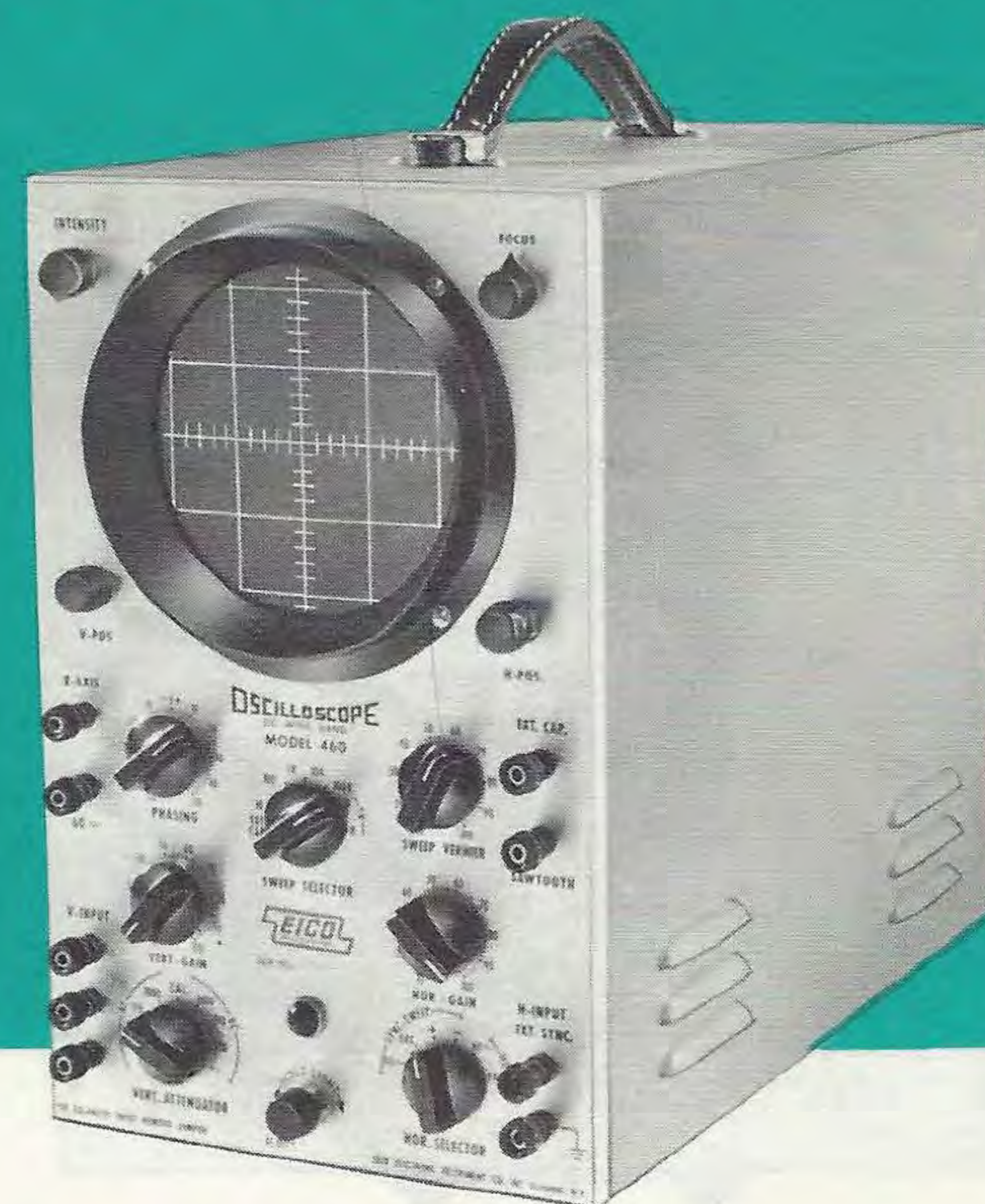
Kit \$89.95 : Wired \$129.95

A very sensitive, general purpose oscilloscope with the facilities and quality required for service, production, or R & D of audio communications and industrial equipment. Push-pull amplification (3 stages) and direct-coupling throughout vertical amplifier. With Zener diode calibration and 4-position frequency-compensated decade attenuator, either dc or peak-to-peak ac (or combination) measurements may be made from 10 mv to 500 v. The trace is sharp and clean, and free of "blooming." A trace may be expanded to 30 cm vertically and 20 cm horizontally, with instantaneous drift-free positioning to permit centering any part of expanded trace. Intensity, focus, astigmatism, dc balance controls and sawtooth sweep output are provided on the front panel; intensity modulation input is provided at the rear. Sync is fully automatic on all ranges and modes, with automatic sync limiter and amplifier eliminating sync voltage adjustment. Full retrace blanking.

SPECIFICATIONS

VERTICAL AMPLIFIER: Frequency response from dc to 500kc, +1, -3db (approximately -6db at 1 mc); sensitivity 3.5 mv rms/cm (10 mv p-p/cm) input impedance 1 M Ω /30pf. HORIZONTAL AMPLIFIER: Frequency response from 2 cps to 450kc, +1, -3db; sensitivity 0.18 V rms/cm; input impedance 10M Ω /40 mmf. SWEEP RANGES: 10-100, 100-1K, 1K-10K, 10K-100K cps. Synchronization may be (+) or (-) internal, external, or line frequency. POWER REQUIREMENTS: 117 VAC, approximately 55 watts. SIZE (HWD): 12½" x 8½" x 16½". WEIGHT: 23 lbs.

★ Export Model available



EICO 460 WIDEBAND DIRECT-COUPLED 5" SCOPE

- 10 mv rms/cm sensitivity • DC - 4.5mc flat response
- Automatic sync • TV-V and TV-H sweeps

Kit \$99.95 : Wired \$139.95

Ideal for color and B&W, TV servicing and production line testing, and excellent for audio and industrial work as well. Push-pull amplification (3 stages) and direct-coupling throughout vertical amplifier. With internal calibration voltage and 4-position frequency-compensated decade attenuator, either dc or peak-to-peak ac (or combination) measurements may be made from 25mv to 500V. Instantaneous, drift-free positioning permits centering any part of an expanded trace. Intensity and focus controls, 60 cps output jack and phasing control, sawtooth (sweep) output jack, intensity modulation (Z axis) input jack, and external capacitor jack for very low frequency sweeps are all on the front panel. DC balance and astigmatism adjustments are accessible without cabinet removal. Sync is fully automatic on all ranges and modes, with automatic sync limiter and amplifier eliminating sync voltage adjustment. Full retrace blanking. Edge-lit calibration grid.

SPECIFICATIONS

VERTICAL AMPLIFIER: Frequency response from dc to 4.5 mc, +1, -3db (useful to 10 mc); sensitivity 10 mv rms/cm (25 mv p-p/cm); input impedance 3 M Ω /35pf. HORIZONTAL AMPLIFIER: Frequency response from 1 cps to 400 kc, +1, -3db; sensitivity 0.24 v rms/cm; input impedance 5 M Ω /35pf. SWEEP RANGES: 10-100, 100-1K, 1K-10K, 10K-100K cps; plus EXT CAP position for very low frequency sweeps with external capacitor, TV-V position (30 cps) and TV-H position (7875 cps). Synchronization may be (+) or (-) internal, external, or line frequency. POWER REQUIREMENTS: 117VAC, approximately 95 watts. SIZE (HWD): 13 x 8½ x 16 inches. WEIGHT: 25 lbs.

★ Export Model available

EICO 488 ELECTRONIC SWITCH

Kit \$25.95 : Wired \$39.95

★ Export Model available

Simultaneously observe 2 patterns on 1 scope. Compare voltage and current amplitudes, waveforms, frequencies and phase relationships. Continuously variable switching rates from less than 10 cps to over 2000 cps in 3 ranges. Useful as square wave generator.

Response dc to 30 kc (-2db); useful to 300kc. Maximum gain of 10. Maximum input 400 v p-p. Input impedance 100K, output impedance 50K Ω . Power Requirements: 117 VAC. Size: 6" x 8" x 6". Weight: 7 lbs.

BEST BUY SCOPE KITS

EICO's scope kit engineering leadership, backed by 20 years of development experience, gives you truly outstanding scope capabilities, operating conveniences, and freedom from performance difficulties. For example, EICO was the first in kits to offer a direct-coupled (DC)* vertical amplifier (to prevent phase and amplitude distortion of slowly varying waveforms and provide a true zero voltage reference to permit absolute voltage readings at any point on a waveform). Now EICO is first again with Zener diode regulated calibration voltage, adjustable to $\pm 1\%$ permanent accuracy, unaffected by normal line voltage variation. And there are many other "fine points" in EICO scope design, not revealed in specifications, that make EICO scopes not just good values, but surprisingly good instruments by any standards.

*Capacitive-coupling (AC) may be selected when observing a small ac waveform superimposed on a relatively large dc voltage.





EICO 667 DYNAMIC CONDUCTANCE TUBE & TRANSISTOR TESTER

Kit \$79.95 : Wired \$129.95

- Tests the new tube types
- Separate plate, screen and grid voltages
- Individual element settings by lever switches

TYPES TESTED: 5 & 7-pin nuvistor, 7-pin miniature, 7-pin subminiature (in-line base), 8-pin subminiature, octal, loctal, combination 9 and 10-pin miniature, combination novar and pilot light, compactron (12-pin). In addition to receiving types, tests many small transmitting and special purpose tubes and pnp transistors. Use with Model 615 Adaptor for older type tubes — settings are already on the roll chart or supplement.

TRANSISTOR TEST: Two-step test for both npn and pnp signal transistors using internal DC power supply.

DYNAMIC CONDUCTANCE TUBE TEST: Composite indication of mutual conductance, plate conductance, and peak emission capability. Readings are on both numerical and quality zone scales. Rectifiers tested near maximum rated current for extra accuracy.

LEAKAGE/SHORT TEST: Direct-reading of inter-element leakage up to 20 MΩ. DC leakage test voltage is always applied in correct polarity to eliminate emission effects from readings. Accurate heater-cathode leakage achieved by isolation of heater and cathode from remaining tube elements during test. Push-button transfer switches (12) permit rapid insertion of tube elements in leakage test circuit.

IMPORTANT FEATURES: Each active tube element can be individually connected, by 12 six-position individual element lever switches to any of the following busses: plate voltage, screen voltage, grid voltage, filament voltage, ground (cathode and filament return), no connection. Two additional lever switches are used to select from 4 combination of 3 plate, 3 screen, and 3 ranges of control grid voltage (variable over each range with a 5% accurate wire-wound control) and 5 ranges of meter sensitivity (1% shunts and 5% accurate wire-wound control). Multi-section tubes have each section individually tested by rapid selection from 12 push button transfer switches while all sections are simultaneously drawing full-rated current. Pentodes are tested as pentodes, with no lumping together of tube elements.

Line-adjust rheostat for testing independent of tube filament loading or line voltage variation.

Gear-driven roll chart mechanism provides smooth trouble-free operation.

Power: 105-135 volts AC. Provided with pilot lamp and fuse. Size (HWD): 12" x 15" x 4½". Weight: 20 lbs.



EICO 628 TUBE TESTER

- Tests the new tube types
- Individual element settings by lever switches

Kit \$44.95 : Wired \$59.95

TYPES TESTED: 5-pin nuvistor, 7-pin nuvistor, 7-pin miniature, octal, loctal, combination 9 and 10 pin miniature, combination novar and pilot light, compactron (12-pin). Use with Model 615 Adaptor for older type tubes — settings are already on the roll chart or supplement.

CATHODE CONDUCTANCE TUBE TEST: Proportional reading of cathode conductance (emission) on 4½" meter with numerical and 3-color quality zone scales.

SHORT TEST: Inter-element short and continuity tests with neon lamp indicator.

IMPORTANT FEATURES: Each active tube element can be individually connected by 12 three-position individual element lever switches to any of the following busses: plate-screen-grid, filament voltage, ground (cathode and filament return).

Line adjust rheostat for testing independent of tube filament loading or line voltage variation.

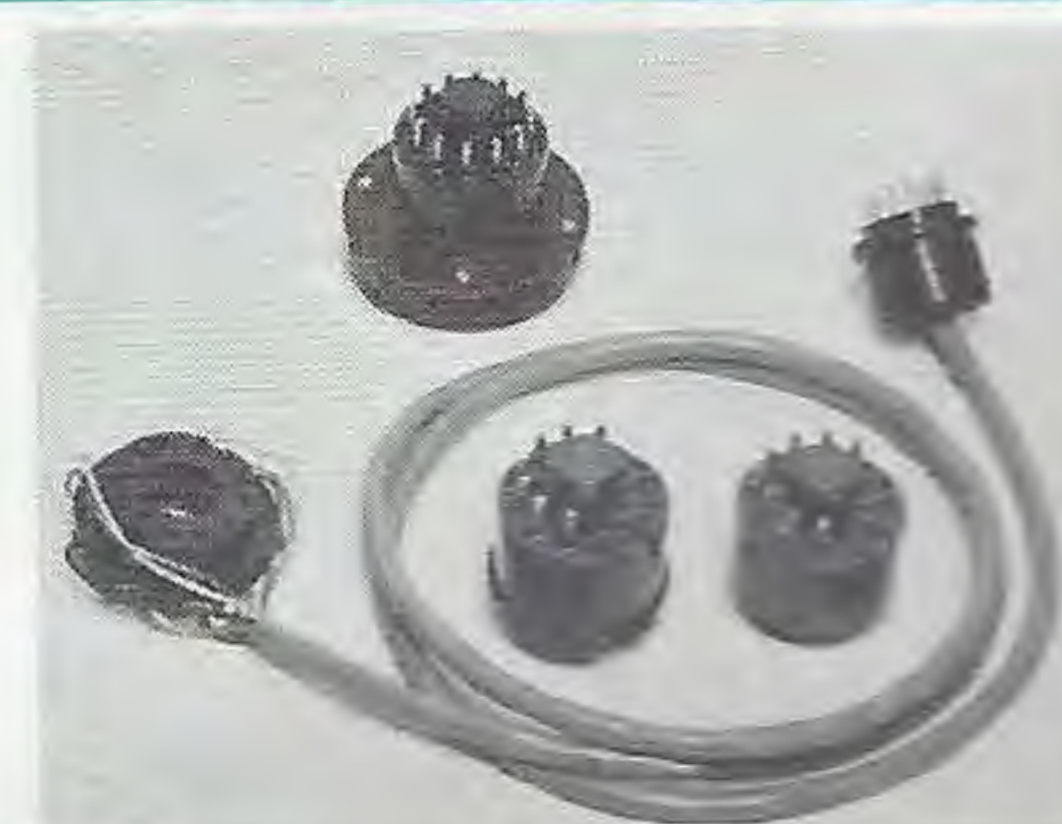
Pin straighteners for 7 and 9-pin miniature tubes conveniently mounted on panel.

Circuit overload lamp indicates overload on transformer.

"SPEEDROLL" 3-column roll chart simplifies finding and reading of tube test data. Anti-backlash design.

Power: 105-135 volts AC. Provided with pilot lamp. Size (HWD): 9½" x 12½" x 4¼". Weight: 11 lbs.

ACCESSORIES: L-1 lid for regular carrying case \$3.98. TTC-1 counter display case \$14.95.



EICO TV PICTURE TUBE TEST ADAPTORS

CRA, WIRED \$4.50

For testing 70° and 90° picture tubes with #625 and #666 tube testers. Includes 12-pin CRT socket adaptor and cable.

CRA-110: WIRED 3.95

For testing 110° picture tubes with #625 and #666 tube testers.

CRU, WIRED \$9.95 (illustrated)

For testing color, black and white picture tubes with #667 and #628 tube testers. Includes 1-7 pin, 1-8 pin, 1-12 pin and 1-14 pin large CRT socket adaptors and cable.

QUALITY ACCURACY & DEPENDABILITY



MODEL 632 CRT TESTER & REJUVENATOR

- Tests, repairs, rejuvenates color or B & W CRT's
- Luggage case holds 5-socket cable & line cord

Kit	\$49.95	Wired	\$69.95
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IMPORTANT FEATURES: Completely transformer-isolated from the power line on all functions for safety.

Measures actual beam current (derived from effective cathode area) proportional to screen brightness, as controlled by the voltage on Grid 1.

Two ranges of Grid 2 voltage permit testing tubes using low voltage on G2.

Push-button selection of individual elements for short-open testing under hot cathode conditions. Employs neon lamp indicator. Quickly identifies location of inter-electrode short or leakage, or an open element. Table indicates, in each case, if repair procedure is possible and which to use.

Push-button selection of beam current, gas, and life tests. Provides greater convenience, versatility, and safety for both the tester and the tube under test.

Precisely controlled filament voltage, continuously variable in 3 ranges (0-5, 5-10, 10-15 VAC). Vital for determining applicability of a booster, rejuvenation and repair procedures, compensating for line voltage variation, and to prevent the possibility of obsolescence. Fine voltage control is a 25-watt rheostat, and exact filament voltage is read on the 0-5, 0-15 VAC meter scales.

Transformer-operated 150 volt negative DC supply (Silicon rectifier) with a potentiometer providing continuously variable grid cut-off voltage read on the 0-150 VDC scale on the meter. Vital feature for determining the ability of the tube to provide proper contrast, and for a sensitive gas test.

Transformer-operated 1000 VDC supply (6AX4 rectifier) for rejuvenation and repair of tube defects.

Accurate, easily read 4½" D'Arsonval meter with 3-color quality zone scales for beam current testing, 0-150 VDC scale for reading grid cut-off voltage, and 0-5, 0-15 VAC scales for reading filament range.

Tube chart in manual provides settings for color and black-and-white tubes. Sockets included are 2-8 pin (110°), 1 Sylvania 90° special 7-pin, 1-12 pin 90° and 1 (Neodiheptal) 14 pin color. Miniature 14-pin (diheptor) not included.

SPECIFICATIONS

POWER REQUIREMENTS: 117 VAC. SIZE (HWD): 5¼" x 9½" x 12". WEIGHT: 11 lbs.



EICO 680 TRANSISTOR & CIRCUIT TESTER

- Measures transistor ICBO, ICEO, DC Beta
- 20 KΩ/V VOM for testing transistor circuits
- Simple criteria for all tests in manual; no charts are needed

Kit	\$25.95
Wired	\$39.95

IMPORTANT FEATURES: ICBO (collector-base leakage current) and ICEO (collector-emitter leakage current) are measured accurately on microammeter ranges with sensitivity to 50 μA full scale. Separate test positions are provided for signal and power transistors.

DC beta for signal transistors given directly by reading base current on a reciprocal scale (multiplied by appropriate range factor) to establish standard 1mA collector current indexed on scale. DC beta for power transistors can be approximated by calculating ratio of ICBO to ICEO.

AC Beta for signal transistors determined by reading base current settings required to establish two standard collector current, 0.75mA and 1.25mA, indexed on the scale (500 μA shift). AC beta is obtained by dividing 500 by the base current difference in μA, or referral to a chart in the manual which gives the result without calculation.

Quality of selenium rectifiers, germanium and silicon diodes determined by measurement of forward and reverse currents. Beta calibrate/zero ohms adjust also prolongs useful life of batteries.

SPECIFICATIONS

DC CURRENT ICBO/ICEO RANGES: 50μA, 500μA, 5mA, 50mA, 500mA. DC VOLT RANGES: 5V, 50V. RESISTANCE RANGES: Rx1 (0 to 2KΩ, 12Ω center scale), Rx100 (0-200Ω, 1200Ω center scale), Rx10K (0 to 20MΩ, 120KΩ center scale). TRANSISTOR DC BETA RANGES: 2 to 30, 20 to 300. ACCURACY: ±3% F.S.D. CONNECTORS: Three permanently connected clip-on test leads (C, B, E) or a panel socket for transistor connectors; two banana jacks for VOM test leads. CONTROLS: RANGE switch, MODE switch (NPN, PNP, VOM), TEST switch (ICBO, ICEO, PWR ICBO, PWR ICEO, B CAL, READ B), B CAL/OΩ adjust control. BATTERIES: 4 size AA, 1 size C. SIZE (HWD): 6¼" x 5¼" x 3". WEIGHT: 3 lbs.

New EICO 615 TUBE TESTER ADAPTOR

Kit \$5.95 Wired \$11.95

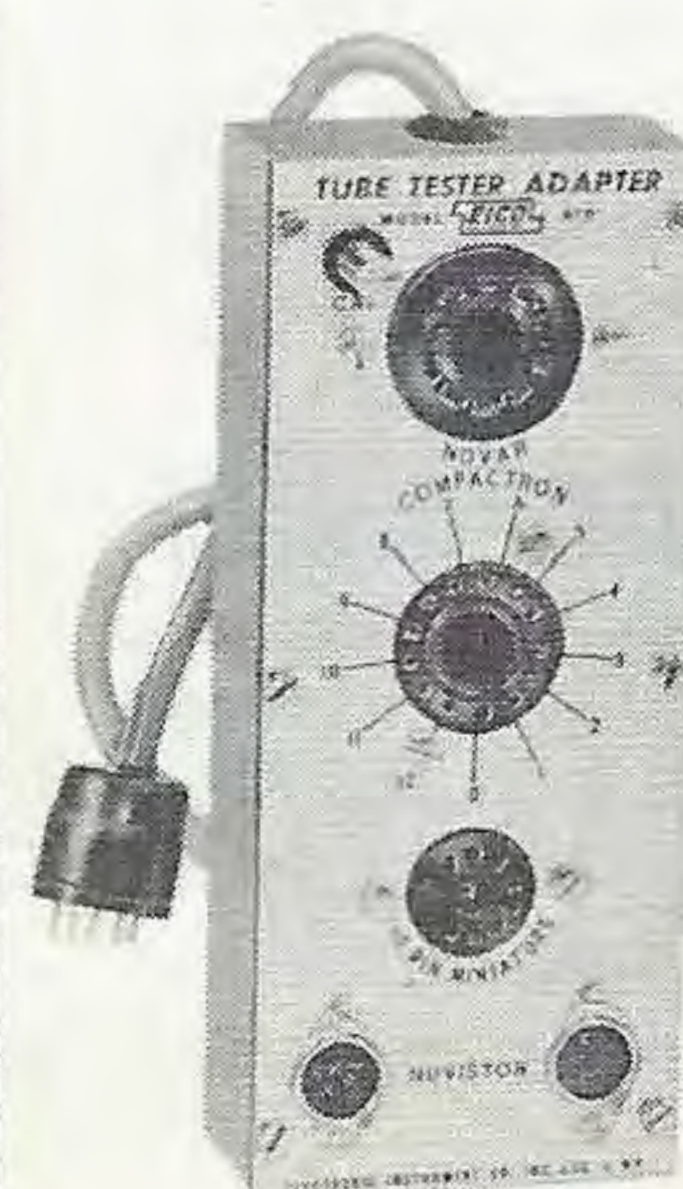
Adapts EICO Models 628 and 667 tube testers for testing 4, 5, 6 or 7 pin tubes (older types), for which test sockets are not provided in those models.

EICO 610 TUBE TESTER ADAPTOR

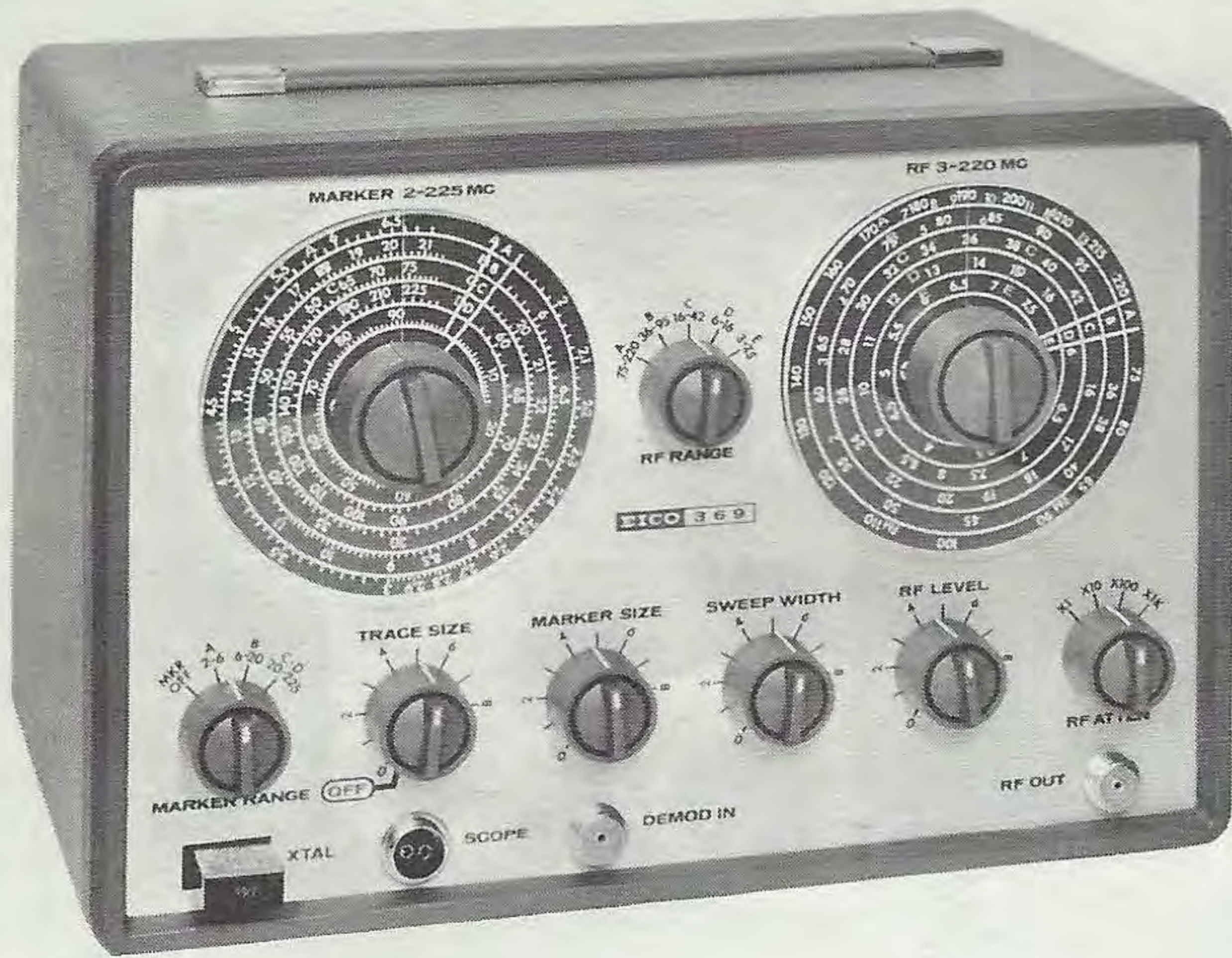
Kit \$5.95 Wired \$11.95

Adapts EICO Models 625 and 666 tube testers for testing these new tube types: nuvistor, 5-pin and 7-pin; novar; 10-pin miniature; compactron, 12-pin. Tube settings are already provided in the latest 625 and 628 roll charts and supplements.

Size (HWD): 1¼" x 2½" x 6". Weight: 1 lb.



NEW COLOR AND B&W SERVICE INSTRUMENTS



EICO 369 TV-FM SWEEP & MARKER GENERATOR

- Both variable and crystal marker oscillators
- Incorporates marker-adder

Kit \$99.95 : Wired \$149.95

The finest of all TV/FM Sweep Alignment Generators, the new EICO 369 has unequalled design features including controllable inductor sweep, variable and crystal marker oscillators, as well as a built-in marker-adder. Provides the easiest, fastest visual alignment of color or black-and-white TV and FM receiver RF and IF circuits. Use it with a fine wide-band scope such as the EICO 435 or the EICO 460.

The controllable inductor sweep circuit in the Model 369 is purely electronic and has no mechanical parts to wear and give trouble later. Five fundamental sweep ranges are provided from 3-220 mc, with a 6:1 vernier dial for easy frequency setting. Retrace blanking and a 3-stage AGC circuit keep the amplitude of the swept signal constant even when the widest sweep width of 20 mc is used.

The variable marker generator in the Model 369 has 4 ranges covering 2-225 mc (to 75 mc on fundamentals), with a 6:1 vernier dial for easy frequency setting. A crystal marker oscillator is also provided that turns on when a crystal is plugged into the panel socket (4.5 mc crystal supplied for TV sound alignment).

With the EICO 369, circuit response is not affected by markers, and markers are not affected by circuit response. Only the required sweep signal is fed to the input of the circuit being aligned or tested. At the output end of the circuit, a demodulator cable picks off the signal, and feeds the demodulated signal to a mixer stage inside the generator where the markers are added. The demodulated waveform with post-injected markers is fed to the vertical input of the scope, and the horizontal sweep to the horizontal input of the scope, through a single, shielded, two-conductor cable. Separate level controls for trace size and marker size on the front panel can be used independently.

SPECIFICATIONS

SWEEP OSCILLATOR: Fundamental sweep ranges and output levels controlled by four-step decade and continuous attenuators. Output impedance 50Ω.

Center frequency	Output	Regulation
3-7.5 mc	0.3V	± 1/2db
6-16 mc	0.3V	± 1/2db
16-42 mc	0.3V	± 1/2db
36-95 mc	0.2V	± 1/2db
75-220 mc	0.1V	± 1db

SWEEP WIDTH: Continuously variable up to 20 mc depending on range. Minimum sweep width on all TV channels and IF frequencies 10 mc. PHASING: Narrow-range phasing control permits permanent adjustment of horizontal deflection signal for accurate alignment. MARKER OSCILLATOR: Fundamental ranges are 2-6 mc, 6-20 mc, 20-75 mc; calibrated harmonic range 60-225 mc. CRYSTAL MARKER OSCILLATOR: Uses 4.5 mc crystal supplied. Crystal socket on panel permits higher or lower frequency crystals to be used. Automatically activated by insertion of crystal. Crystal marker is internally mixed with variable frequency marker. CABLES: RF output (50 termination), Demodulated Signal Cable (incorporating low-pass filter), Scope Cable (dual shielded cable carrying both vertical and horizontal scope input leads). POWER REQUIREMENTS: 117 VAC, 50 watts. SIZE (HWD): 8 1/2" x 12 1/2" x 7". WEIGHT: 17 lbs.

★ Export Model available



- Instant operation
- 33 transistors
- 4 pounds light

NEW!

EICO 380 SOLID STATE NTSC COLOR GENERATOR

- Swing-out circuit boards for compactness & accessibility
- Rock-stable performance with 3 crystal oscillators

Wired only, \$169.00

Compact, inherently rugged solid-state color signal and dot-bar generator. Provides the precisely shaped, completely standard color signals essential for setting up and servicing color TV sets. Also generates dot-bar patterns needed for other adjustments on both color and black & white sets. The only transistorized model providing completely standard, fully saturated NTSC color signals, including both chrominance and luminance signals exactly as specified. Color burst is precisely gated and delayed to N.T.S.C. standards.

Phase angles for all colors are permanently established according to N.T.S.C. standards by taps on a linearly distributed delay line so that no adjustments are ever required.

Use of saturated transistors for switching and delay provides square "clean" waveforms without significant overshoots or ringing, for excellent signal definition. The design of the 380 is an absolute protection against obsolescence and assures the professional service engineer that apparent set trouble is not caused by a non-standard test signal. In addition to generating 11 different color signals, one at a time, for hue and demodulator adjustments, the Model 380 generates dots, crosshatch, horizontal lines, and vertical lines for convergence and linearity adjustments. Both a video output and an RF output, permitting direct connection to the antenna terminals of the TV set, are provided, with separate video and RF gain controls. Permits checks of hue and sync at different signal levels. Three crystal-controlled oscillators are employed for precise color burst and color information, convergence and sync signals free of jitter or crawl, and RF output on TV Channel 3. (High signal strength with direct antenna connections eliminates any possibility of interference from a local Channel 3 broadcast.)

SPECIFICATIONS

RF OUTPUT: 0-50,000 μV into 300Ω (62.25 Mc crystal controlled for TV Channel 3). VIDEO OUTPUT: Both positive and negative polarities, 0-10 p-p into 4.7 KΩ. NTSC COLORS PROVIDED:

COLORS	PHASE ANGLE (Degrees)	LUMINANCE LEVEL (VOLTS)
Yellow	12.5	0.85
I	57.0	0.54
Red	76.6	0.38
R-Y	90.0	0.34
Magenta	119.2	0.41
Q	147.0	0.27
B-Y	180.0	0.16
Blue	192.9	0.11
Cyan	256.6	0.70
Green	299.2	0.59
White		1.00

HORIZONTAL LINES: 13 (variable thickness) for vertical linearity and horizontal convergence adjustments. VERTICAL LINES: 10 (variable thickness) for horizontal linearity and vertical convergence adjustments. CROSSHATCH: 13 horizontal and 10 vertical lines for vertical and horizontal linearity, horizontal and vertical convergence adjustments. DOTS: 130 (variable size) for static and dynamic convergence adjustments. POWER REQUIREMENTS: 117VAC, 60 cps. SIZE (HWD): 8 1/2" x 5 3/4" x 6 3/8". WEIGHT: 8 lbs.

NEW FM MULTIPLEX AND RF SIGNAL GENERATORS



- FM stereo broadcasting from tape/phono stereo source
- Low distortion signals to permit alignment for low-distortion

NEW!

EICO 342 FM MULTIPLEX SIGNAL GENERATOR

- Crystal-controlled 19 kc (± 2 cps) pilot
- Both composite audio and FM RF outputs

Wired only \$149.95

The EICO Model 342 is a compact, efficient instrument essential for test or alignment of the multiplex circuits of FM Multiplex Stereo tuners, receivers, and radios. FM Stereo is a field as fast-growing as color TV, and a multiplex generator is an absolute must for getting a share of the increasingly important and profitable service business. The circuitry of the Model 342 is of the design lab quality needed for restoring original performance quality to the costliest equipment, but the controls have been simplified for fast, uncomplicated operation. With it, you can quickly measure and adjust channel separation and balance, or obtain input level needed for synchronization or switch-over to stereo operation.

The Model 342 provides signals as perfect as those available from generators costing many hundreds of dollars. It provides both a controlled amplitude composite audio output for direct signal injection beyond the detector into a multiplex section, and the same signal modulating an FM RF carrier at about 100 mc (adjustable) with controlled deviation ± 75 kc (100% modulation) for connection directly to the antenna terminals. Either a built-in 1 kc oscillator (below 0.3% distortion) or an external audio oscillator may be used to provide the left only, right only, difference, or sum signals. The 19 kc pilot signal is crystal controlled and may be switched on or off independently of the composite signal. The signal may be obtained without audio information and only the 19 kc pilot injected. An oscilloscope sync output is provided, with a choice of either 19 kc sync or internal 1 kc/external oscillator sync. In addition, an input is provided for connecting an external audio oscillator to provide an SCA signal when required.

Another important and valuable feature of the Model 342 is dual inputs and amplifiers for a stereo source to permit FM MULTIPLEX STEREO demonstrations to customers when there are no stereo programs being broadcast. Modern compactron tubes are used to obtain a lightweight, compact package that is easily portable. SIZE (HWD): $8\frac{1}{2}'' \times 5\frac{3}{4}'' \times 12\frac{1}{2}''$. WEIGHT: 10 lbs.

SPECIFICATIONS

SEPARATION: 40 db minimum from 200 cps to 10 kc; 30 db minimum from 50 cps to 15 kc. CARRIER SUPPRESSION: 40 db minimum below maximum composite signal level. COMPOSITE SIGNAL OUTPUT: 0-8 V p-p, continuously variable; output impedance 1.5k Ω . INTERNAL MODULATION OSCILLATOR: Frequency approximately 1 kc; THD less than 0.3%. EXTERNAL MODULATION OSCILLATOR REQUIREMENTS: 1 V RMS input for maximum composite signal level output; input impedance 10k Ω . STEREO SOURCE MODULATION REQUIREMENTS: 1 V RMS input each channel for maximum composite signal level output; input impedance 1M Ω . Input amplifier stages provide required FM emphasis. FM MULTIPLEX RF OUTPUT: 200 mv; output impedance 50 Ω . MODULATION CONTROL: to ± 75 kc (100% modulation). PILOT FREQUENCY: 19 kc ± 2 cps (crystal controlled); adjustable phase ($\pm 45^\circ$ with respect to carrier) and adjustable amplitude (0-15% of maximum composite signal). Pilot may be switched off. SIGNAL SELECTION: L+R (sum), L-R (difference), L only, R only, 19 kc pilot only, stereo source. FREQUENCY RESPONSE: ± 1 db 40 cps - 15 kc. TOTAL HARMONIC DISTORTION: Under 1%. OSCILLOSCOPE SYNC SIGNALS: Switch selection of either modulation oscillator (internal 1 kc or external) or 19 kc pilot. POWER REQUIREMENTS: 117 VAC, 50/60 cps. SIZE (HWD): $8\frac{1}{2}'' \times 5\frac{3}{4}'' \times 12\frac{1}{2}''$. WEIGHT: 10 lbs.



EICO 324 RF SIGNAL GENERATOR

Kit \$32.95 : Wired \$44.95

- 150 kc - 435 mc in 7 bands with $\pm 1.5\%$ accuracy
- Variable int./ext. modulation, coarse/fine RF attenuators

Use it for color or B & W TV, AM/FM radio, or communication gear alignment and signal tracing, or wherever a modulated or unmodulated RF signal from 150 kc to 435 mc is required.

The RF oscillator provides excellent waveform and is plate-modulated by a cathode follower for improved modulation. Modulation may be internal or external. The internal 400 cps modulating signal is available separately.

Selection of external modulation rearranges the audio oscillator stage as an amplifier for an external modulating signal, permitting up to 30% modulation from a 3-volt audio source. Percentage modulation by either the internal or an external source, as well as the separate audio output, is adjustable by a single panel control. Coarse and fine RF attenuators provide smooth control of the RF output signal.

Six tuning bands are employed to cover the fundamental frequency range from 150 kc to 145 mc. Calibration of the third harmonic of the highest fundamental provides a seventh tuning band from 111 mc to 435 mc. The 6 to 1 vernier tuning dial permits exact setting of the output frequency.

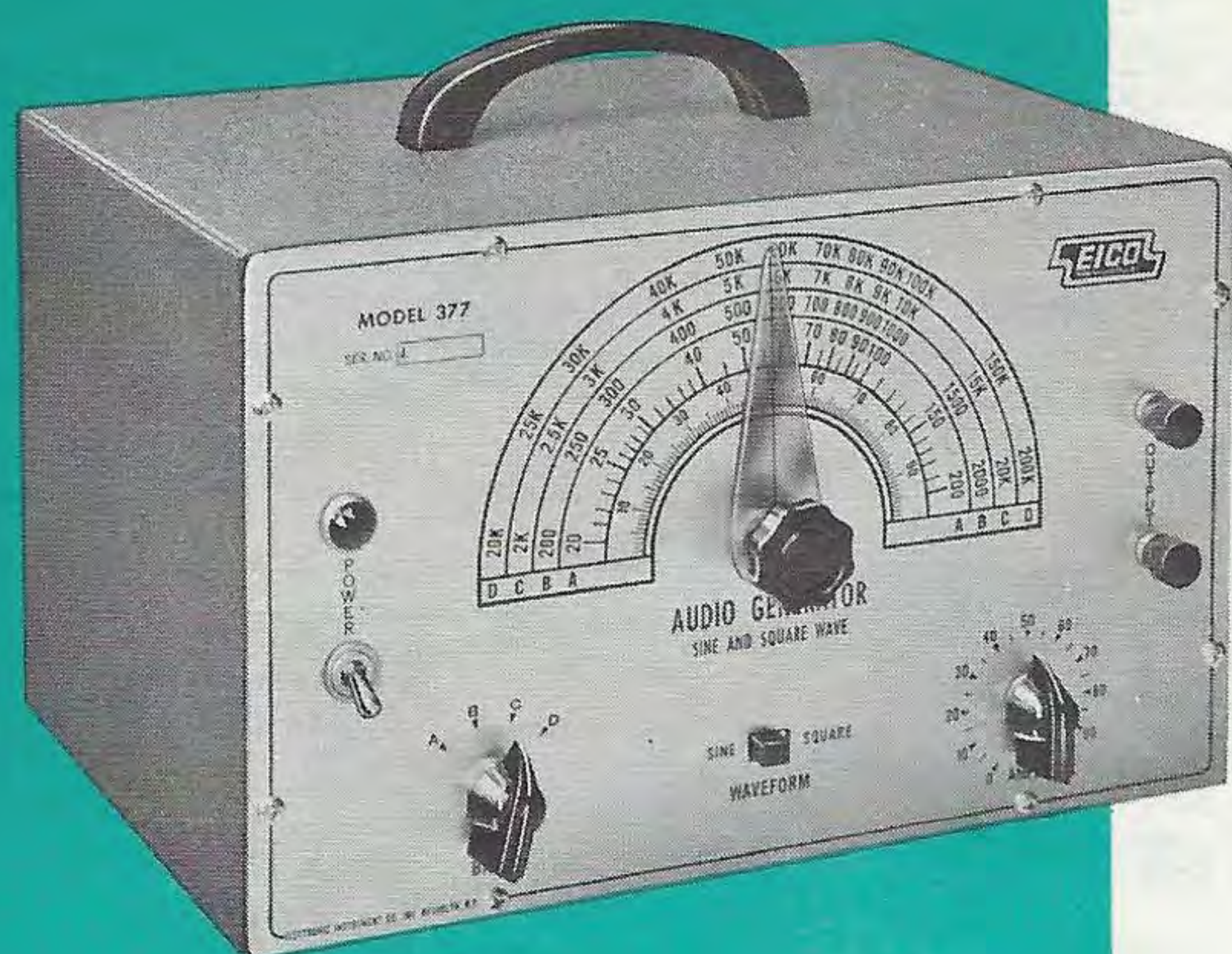
Construction of the dial and tuning assembly is unusually fine. An etched aluminum tuning dial is fastened to the shaft of the tuning capacitor behind the panel and rotates with the tuning knob. The dial is viewed through twin plexiglass windows, four complete scales appearing in one window and four in the other, so that, despite the large number of scales, they are well-spaced and not easily confused. The plexiglass not only affords protection for the tuning dial, but, due to its unique light-conducting property, permits the use of an illuminated hairline, which is engraved in the plexiglass and edge-lit by a panel lamp to permit maximum ease of reading. The illuminated hairline also serves as a pilot. Other important construction points include the use of turret mounted, slug-tuned coils for maximum accuracy, copperplated chassis for minimized interference, line filters, shielded RF output cable and jack-top binding posts for audio in/out.

SPECIFICATIONS

RF OUTPUT FREQUENCY RANGE: 150 kc to 145 mc on fundamentals in 6 bands, 111 mc to 435 mc on calibrated harmonics. TUNING DIAL CALIBRATION ACCURACY: $\pm 1.5\%$. RF COARSE ATTENUATION: In two steps, each approximately 20 db. RF FINE ATTENUATION: Continuous 0 to max. INTERNAL AF MODULATING FREQUENCY: Approx. 400 cps. POWER REQUIREMENTS: 117 VAC, 60 cps, 8 watts. SIZE (HWD): $8'' \times 10'' \times 4\frac{3}{4}''$. WEIGHT: 8 lbs.

★ Export Model available

OUTSTANDING SIGNAL GENERATING INSTRUMENTS



- High design standards maintained by costlier components
- R-C (Wien Bridge) oscillator circuit with 1% precision resistors
- Excellent calibration accuracy, stability and purity of waveform

EICO 377 SINE & SQUARE WAVE GENERATOR

Kit \$39.95 : Wired \$54.95

The EICO 377 is expressly designed to fill the test instrument needs of the audio engineer, high-fidelity enthusiast and the radio-TV Serviceman. Its many modern features and its advanced circuitry and design make it particularly suitable for electro-acoustic experimentation, development work, as well as for TV service and wide-band amplifier work.

The 377 is another EICO exclusive instrument achievement. It is the equal in quality of separate professional sine and square wave generators each costing more than the 377 alone! Among its outstanding features, the 377 includes choke filtering in the power supply to minimize the hum level and high power output over a wide range of loads, coupled with constant output over a wide frequency range. These and the many other features of the 377 allow it to be used for a multitude of applications including amplifier testing and design, determining radio receiver fidelity and loudspeaker response, square wave testing of TV receivers, development of filter or compensating circuits and frequency measurements in conjunction with an oscilloscope such as the EICO 435.

SPECIFICATIONS

FREQUENCY RANGE: Sine wave, 20-200,000 cps in 4 bands. Square wave, 60-50,000 cps. (5% tilt at 60 cps, 5% rounding at 50,000 cps.) CALIBRATION ACCURACY: $\pm 3\%$ or 1 cps, whichever is greater. FREQUENCY RESPONSE: ± 1.5 db, 60-150,000 cps. OUTPUT VOLTAGE: 10 V across 1000 ohms rated load (100 milliwatts); drops to 8 V across 500 ohms, rises to 14 V across 10,000 ohms or higher. DISTORTION: Less than 1%. HUM: Less than 0.4% of rated output. TUBE COMPLEMENT: 2-6K6, 1-6SN7, 1-6SJ7, 1-6X5, and 1-3S6 3-watt lamp. POWER REQUIREMENTS: 117 VAC, 60 cps, 50 watts. SIZE (HWD): $7\frac{1}{8}'' \times 11\frac{1}{8}'' \times 7\frac{5}{8}''$. WEIGHT: 13 lbs. ★ Export Model available

NEW!



Kit \$49.95 : Wired \$69.95

- Switch selectable frequency output
- One cycle to 110kc
- Attenuated output in 8 steps
- Metered output voltage
- Excellent frequency resettability

EICO 378 AUDIO GENERATOR

Especially designed for today's needs for more precision, versatility and reliability in audio signaling and testing.

Extreme versatility and positive error elimination are now yours for: testing audio amplifiers for gain and frequency response, as a signal source for various bridge measuring circuits, for modulation of RF signal generators, or any other application where a stable, accurate audio sine wave must be used. Based on a highly reliable circuit, the 378 produces a very low distortion sine wave signal over a very wide range of frequencies. Unlike most other audio generators that require interpretation of a dial setting with possible error, the frequency-determining elements of the 378 are not continuously variable; rather they are set by **positive-setting detent** switches that select combinations of 1% resistors and 2% capacitors which comprise the frequency-selecting network. This results in a precisely metered output controlled by 8-position decade and fine attenuators, fantastically low distortion and highly **accurate, repeatable switch-selected** frequencies from 1 cps to 110kc. The output level of this instrument can be set with great precision between 0 and 10 volts RMS (or between -70 and +22db) on a $4\frac{1}{2}$ -inch, 2% full-scale accuracy meter. Below 1 volt RMS output, the instrument is provided with a switch-selected internal 600 ohm load that can be disconnected as desired. All this in a man-sized instrument with well-spaced controls and a big $4\frac{1}{2}$ inch meter easy-to-read at normal working distance — a bench workhorse that takes you speedily through all your audio work without waste motion and annoying uncertainty. A bargain — pays for itself in the first job! For a complete audio test lab, team it up with the EICO 902 IM/HARMONIC DISTORTION METER.

SPECIFICATIONS

Switch selectable frequency output from cycles to kilocycles: one cycle steps (1-10 cps); 10 cycles steps (10-100 cps); 100 cycles steps (100 cps-1kc); 1kc steps (1kc to 10kc); 10kc steps (10kc-100kc). FREQUENCY ACCURACY: $\pm 5\%$. DISTORTION: Less than 0.1%, 20 cps-20kc. OUTPUT VOLTAGE RANGES: 0-3, 10V into hi-Z (10K min.); 0-003, .01, .03, .1, .3, 1V into ext. or internal 600 Ω load. OUTPUT METER ACCURACY: $\pm 5\%$ of full scale. POWER REQUIREMENTS: 120V, 50/60 cps, 40 watts. SIZE (HWD): $8\frac{1}{2}'' \times 12\frac{1}{2}'' \times 9''$. WEIGHT: 16 lbs.

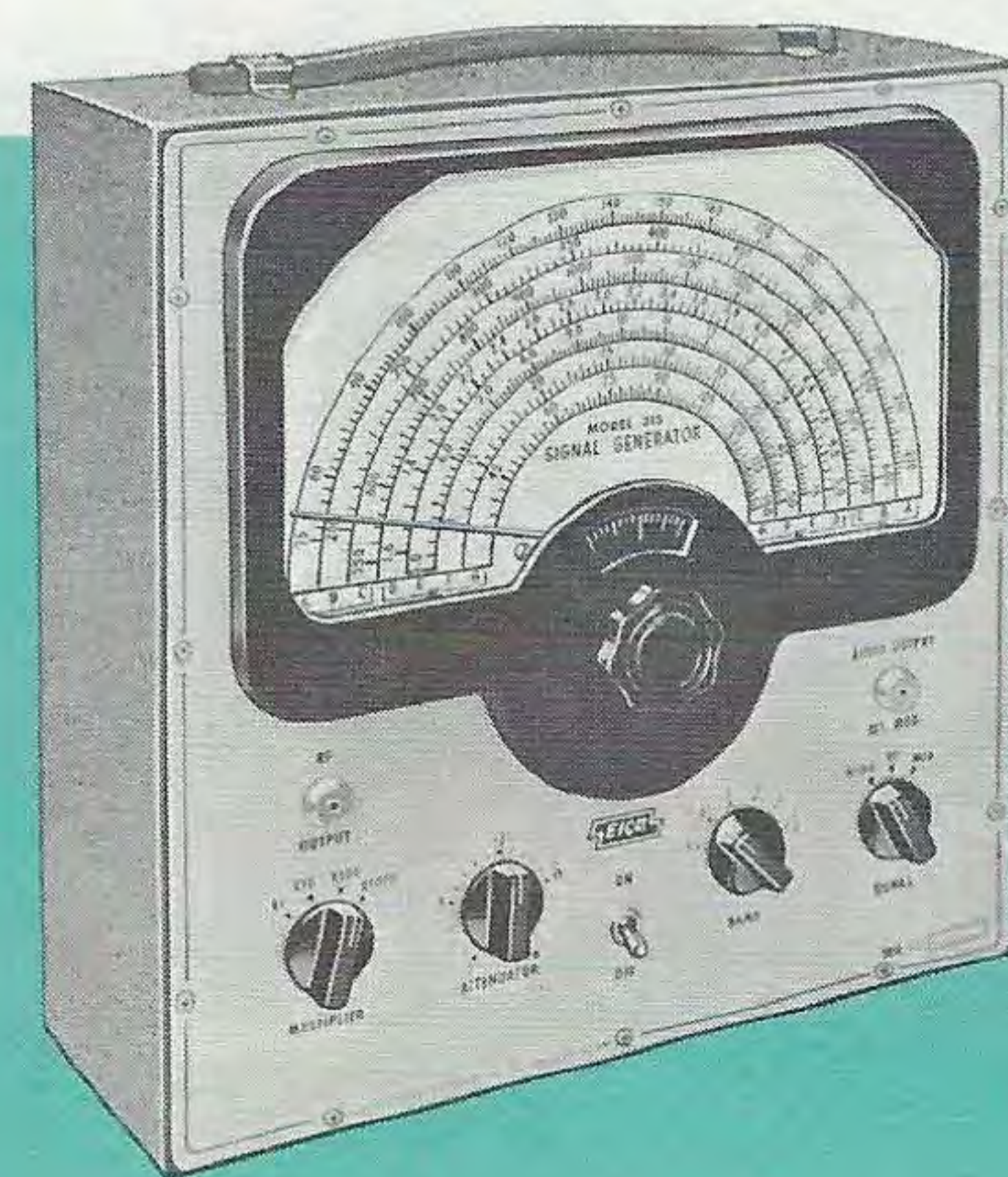
EICO 315 DELUXE RF SIGNAL GENERATOR

Kit \$59.95 : Wired \$79.95

Complete with RF Cable

Deluxe in every professional feature and detail, yet rock bottom in cost, the 315 is one more EICO champion instrument value. The frequency range of 75 kc to 50 mc in 5 bands is covered on fundamentals, and calibrated harmonics cover 13 mc to 150 mc in two bands. Internal modulation is 400 cps, with a provision for external modulation. The frequency dial offers a reading accuracy of better than 1% on all ranges. Model 315 features a VR tube regulated power supply for unfailing accuracy and stability, fully shielded copper-plated chassis, attenuation controls and line filter for extremely low leakage output.

Overall dimensions are $13'' \times 12'' \times 7''$ and the unit weighs 18 pounds. ★ Export Model available



EICO VOM'S TOPS IN VALUE



EICO 565 V-O-M

- Complete with batteries, less leads
- 20,000 ohms per volt sensitivity
 - 31 range, 50- μ v movement

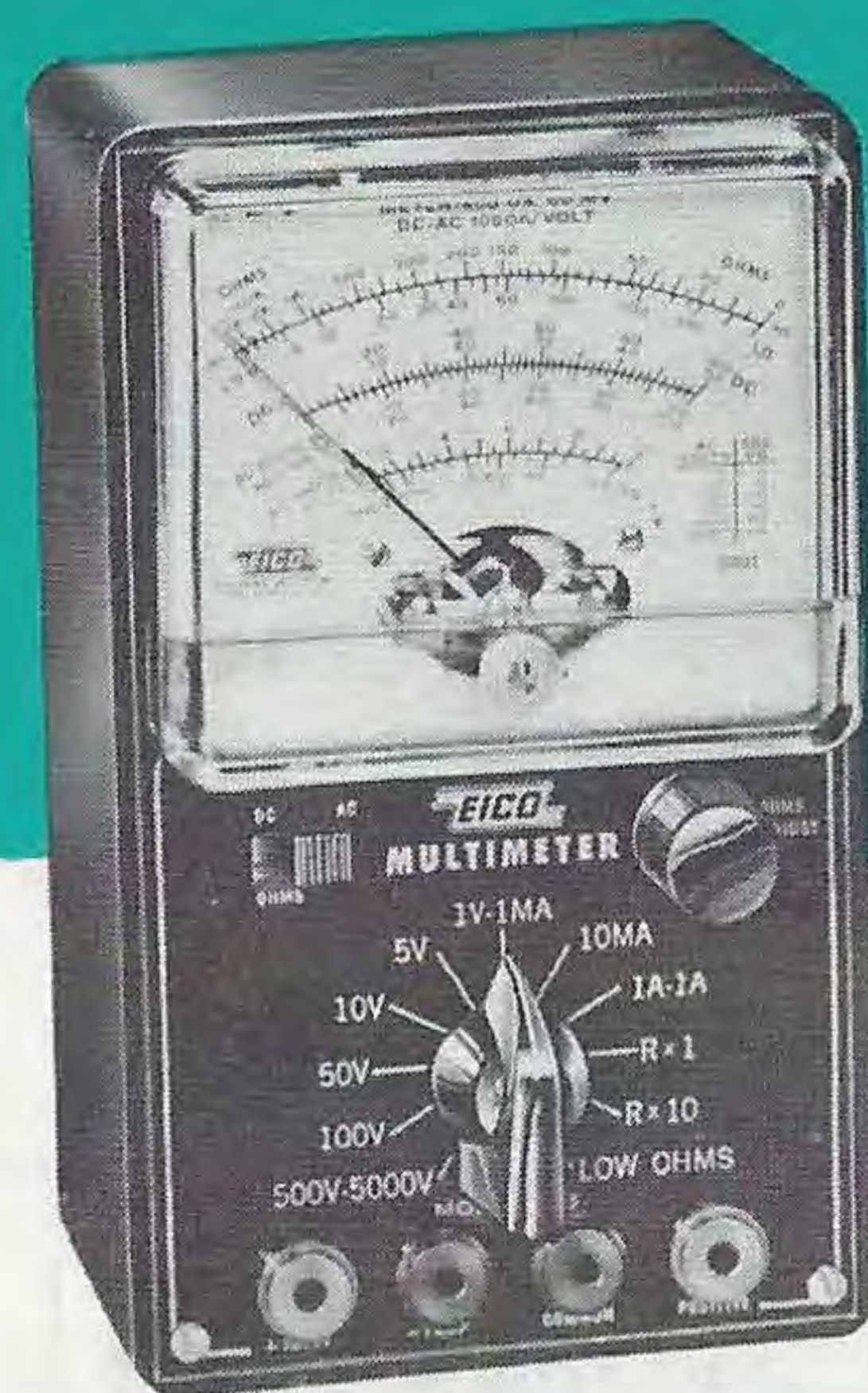
Kit \$24.95 : Wired \$29.95

The 565 volt-ohm meter is the famous performance-proven EICO multimeter design with world-wide recognition for excellence in laboratory and field work. Engineered for maximum versatility, it is a valuable professional instrument for the accurate servicing of TV, radio and other electronic equipment. Complete battery operation makes it ideal for portable applications, field work and remote locations.

Measurements can be made of AC and DC voltage, DC current, resistance and decibels. Circuitry, ranges and physical layout have been carefully designed with the service man in mind for convenience, speed and ease of operation. A beautiful gleaming high-impact case acts as a dust-free seal for the meter. Factory adjusted wire-wound potentiometers compensate for individual rectifier characteristics to assure accurate measurements. An output voltage range on the 565 allows for measurement of signal voltages in circuits where dc is present.

SPECIFICATIONS

DC VOLTAGE: Ranges 0-2.5, 10, 50, 250, 1000, 5000 volts. Sensitivity 20,000 ohms/volt. AC/OUTPUT VOLTAGE: Ranges 0-2.5, 10, 50, 250, 1000, 5000 volts. Sensitivity 1000 ohms/volt. DC CURRENT: 0-100 μ a, 10 ma, 100 ma, 500 ma, 10 amp. DECIBELS: -12 to +55 db in 5 ranges. RESISTANCE: Ranges: 0-2000 ohms, 0.2 megohms, 20 megohms (.2 ohms to 20 megohms). METER: 4½" size, 50 μ a movement. SIZE (HWD): 6¾" x 5¼" x 3". WEIGHT: 4 lbs.



EICO 536 V-O-M

- Complete with batteries, less leads
- 1,000 ohms per volt sensitivity
 - Seven AC/DC voltage ranges

Kit \$14.95 : Wired \$18.95

Considered the "tops" of its type, the EICO 536 gives you seven full-scale AC/DC ranges, to 5,000 volts. One unique feature of the 536 is that it is the only 1,000 ohm/volt meter with a 0-1 volt full scale range, making possible accurate low voltage readings. For example, on an instrument whose lowest full-scale range is ten, one-half volt will deflect the needle only 1/20th of the scale, but on the 536 the one-half volt will deflect the needle to mid-scale, for a highly precise reading.

The 2-pound meter is packaged in a high-impact bakelite case, making it compact, sturdy and portable for any shop or field use. An advanced new AC rectifier circuit, employing a high quality rectifier in a half-wave hook-up, provides excellent linear characteristics. Every modern feature required in an instrument of this type is built-into the 536. Compare it with other units of similar design and see for yourself why EICO gives you the best — for less!

SPECIFICATIONS

AC/DC VOLTAGE RANGES: 0-1, 5, 10, 50, 100, 500, 5000 volts. AC/DC SENSITIVITY: 1000 ohms/volt. AC/DC CURRENT RANGES: 0-1 ma, 10 ma, 0.1 amp, 1 amp. OHMS RANGES: 0-5000 ohms, 100K ohms, 1 megohm. DB RANGES: -20 to +69 in 6 ranges. METER: 3" size, 400 μ a movement. SIZE (HWD): 6½" x 3¾" x 2¾". WEIGHT: 3 lbs.



EICO 566 V-O-M

- Complete with batteries, less leads
- 1000 ohms per volt sensitivity
 - 4½" meter with 2-color scales

Kit \$16.95 : Wired \$22.95

Essentially a larger version of the 536, the 566 Volt-Ohm-Milliammeter possesses all the excellent circuitry and application advantages of the former, plus seven extra ranges. Added to this is the convenience of the large 4½" meter with 2-color scales. The 566 also boasts the accurate 0-1 volt scale featured on the 536 meter and can list among its features both shunt and series rectifier compensation for uniform accuracy. Other features include one set of precision divider resistors on AC and DC to minimize switching, a high-quality instrument rectifier in dual half-wave hook-up and a high-impact bakelite case.

There are seven AC/DC/Output ranges, four current ranges and three ohm scales. Six decibel ranges cover -20 to +69. You need only examine the 566 side-by-side with any comparable meter to agree that it is one more EICO "best buy" in professional service instruments.

SPECIFICATIONS

AC/DC/OUTPUT RANGES: 0-1, 5, 10, 50, 100, 500, 5000 volts. AC/DC SENSITIVITY: 1000 ohms/volt. AC/DC CURRENT RANGES: 0-1 ma, 10 ma, 0.1 amp, 1 amp. OHMS RANGES: 0-5000 ohms, 100K ohms, 1 megohm. DB RANGES: -20 to +69 in 6 ranges. METER: 4½" size, 400 μ a movement. SIZE (HWD): 6¾" x 5¼" x 3". WEIGHT: 3 lbs.

EICO 555 V-O-M

Complete with leads, less batteries

Kit \$29.95 : Wired \$34.95

A highly precise 20,000 ohms per volt volt-ohm meter. Similar to EICO 565 V-O-M except that it employs 1% precision resistors.

EICO 526 V-O-M

Kit \$15.95 : Wired \$19.95

A more precise 1000 ohms per volt VOM. Similar to EICO 536 except that it employs 1% precision resistors.

EICO 556 V-O-M

Kit \$18.95 : Wired \$25.95

A precise 1000 ohms per volt V-O-M. Similar to EICO 566 except that it employs 1% precision resistors.

NEW!

EICO 235 PROFESSIONAL VTVM

- 1/2-Volt Full-Scale DC Transistor Servicing Range
- Deluxe Full-View 6" 200 Microamp Meter Movement
- Dual Purpose AC/DC Uni-Probe

Kit \$44.95
Wired \$64.95

Complete
with batteries
and leads

EICO 232 PEAK-TO-PEAK VTVM

- Dual Purpose AC/DC Uni-Probe
- Calibration without cabinet removal
- 7 non-skip ranges on every function

Kit \$29.95
Wired \$49.95

Complete
with batteries
and leads

Designed with the stringent requirements of today's electronic technicians, engineers and experimenters in mind, the new Model 235 is not only excellent for servicing all FM, AM, mono/color TV, and precision electronic equipment; it is especially qualified for the exacting measurements encountered in solid-state circuitry — where even a difference as small as a few millivolts may distinguish between the proper or improper operation of a transistor circuit. Accurate measurements down to as little as 0.01 volts are quick and certain on the large, easy-to-read 6" meter on its 1/2-volt scale!

Unique ease and speed of operation and versatility are offered by the exclusive two-color coding and coordination of the positions of the function and range switches with the arcs of the meter scale. The dual purpose AC/DC Uni-Probe, another EICO exclusive, adds its famous versatility to the package. Both peak-to-peak and RMS AC voltages are read on separate scales in 7 overlapping ranges, up to 4.2KV. With its frequency response of 30Hz to 3MHz (and up to 250MHz with optional probe), the EICO 235 is ideal for all high frequency measurements.

Its very high input impedance (more than 11 megohms) assures negligible circuit loading in precision DC voltage measurements from 0.01 volt to 1.5KV (in 8 overlapping ranges); and to 30KV with optional high-voltage probe. (EICO Model HVP-2).

Additional professional features of the 235 include: ceramic switches to assure non-arcing at all inputs within the capability of the unit; 1% tolerance precision resistors for greatest accuracy; seven overlapping resistance ranges covering 0.2Ω to 1000MΩ for precise resistance measurement; zero-center for TV-FM sound detector alignment; one zero center adjustment for all functions and ranges; and a transformer-powered supply for line isolation and removal of shock hazard. The outstanding balanced-bridge circuit is engineered for years of exceptional stability and accuracy.

The Model 235 also features the EICO-exclusive professional look—that has been welcomed by both serviceman and industrial users.

SPECIFICATIONS

8 DC Ranges: 0-0.5-1.5-5-15-50-150-500-1500 (to 30,000 volts with optional high voltage probe). 7 AC Peak-to-Peak Ranges: 0-4-14-42-140-1400-4200. 7 AC RMS Ranges: 0-1.5-5-15-50-150-500-1500. 7 Resistance Ranges covering: 0.2Ω to 1000MΩ. Frequency Response: 3 cps to 3Mc ±1db (up to 250Mc with optional PRF probe). Input Resistance: DC 11MΩ; AC 1M shunted by 60mmf. Power Requirements: 117 VAC, 50 or 60 cps; 6 watts. 1% precision multiplier resistors. 3% accuracy on AC and DC scales. Employs 1 silicon rectifier, 1-12AU7A tube and 1-6AL5 tube. Dimensions (HWD): 8 1/2" x 7 1/2" x 5". Weight: 9 lbs.

The 232 is the established leader in VTVMs, and is well suited to color or monochrome TV servicing. You could spend two or three times more money for a VTVM and not get all the advanced engineering features of this precision instrument. By far the best professional VTVM value in electronics, the 232 features up-to-minute circuitry, design, functional simplicity and modern styling. The unit also boasts high sensitivity and precision, wide ranges and versatility — and day-in day-out dependability.

Use the 232 for all your TV/FM/AM/electronic servicing with the highest accuracy, getting true peak-to-peak measurements of complex voltage waveforms (necessary in TV servicing) and both peak-to-peak and rms measurement of sine wave AC voltages on separate scales. Use the 232 for resistance measurements, precision dynamic DC voltage measurements with negligible circuit loading, frequency response measurement, output meter and servicing electrical equipment.

A new balance bridge circuit yields exceptional stability and accuracy and the high impedance input results in negligible circuit loading. As an important safety feature, the large 4 1/2" meter can't burn out — thanks to a built-in protective circuit. There are seven non-skip ranges on all four functions.

Other features that make the 232 a valuable addition to the service bench are: zero center for TV-FM discriminator alignment, one zero adjustment for all functions and ranges, 1 per cent precision ceramic multiplier resistors, uniform 3 to 1 range ratio for extreme wide range accuracy and a transformer for isolation and safety.

The 232 has smart professional styling — satin finish, etched aluminum panel and grey wrinkle steel case. Nobody but EICO brings you such outstanding instrument performance for so low a price.

SPECIFICATIONS

PEAK-TO-PEAK AC RANGES: 0-4, 14, 42, 140, 420, 1400, 4200 volts. RMS SINE VOLTAGE RANGES: 0-1.5, 5, 15, 50, 150, 500, 1500 volts. DC VOLTAGE RANGES: 0-1.5, 5, 15, 50, 150, 500, 1500 volts. Reads up to 30,000 volts with HVP probe using 1090-megohms Multiplier Resistor. FREQUENCY RESPONSE: 30 cps to 3 mc (up to 250 mc with PRF probe). OHMMETER: 0.2 ohms to 1000 megs in 7 ranges. TUBE COMPLEMENT: 12AU7, 6AL5, selenium rectifier. BATTERY: 1.5 v. WEIGHT: 5 lbs. POWER REQUIREMENTS: 117 VAC, 60 cps; 5 watts. SIZE (HWD): 8 1/2" x 5" x 5". INPUT IMPEDANCE: 11 megohms.

★ Export Model available

PTP11 or PTP25



Kit \$4.95 **Wired \$6.95**

For accurate reading of peak-to-peak voltages directly on the DC scales of your VTVM or for tracing complex AC waveforms through TV receiver deflection systems, these probes operate efficiently over the entire range of 5 kc to 5 mc. Use PTP-11 for EICO 222, PTP-25 for EICO 221. Supplied less connector — requires MC1F for EICO VTVM's (except 221).

HVP-2



Wired only \$6.95

For safe measurements up to 30,000 volts DC with any VTVM or 20,000 ohms/volt VOM, the HVP-2 is the ideal probe. A choice of multiplier resistors to match most popular instruments. Specify Resistor Required When Ordering: Takes 1090 meg. for 235, 232, 249, 222; 740 meg. for 221. Less connector — use MC1F for EICO VTVM's (except 221).

PERFORMANCE PROVEN EICO VTVM'S



Complete with batteries and leads

EICO 222 VACUUM TUBE VOLTMETER

- Dual purpose AC/DC Uni-Probe
- Calibration without cabinet removal
- Exceptional stability and accuracy

Kit \$27.95 : Wired \$42.95

The EICO Model 222 is a remarkably efficient VTVM design. A 400 μ A meter, separate +DC and -DC volts calibration adjustments, more accurate low-voltage measurement plus measurement to higher voltages than ever before, and vastly improved appearance all contribute to making this instrument the finest value possible.

The Model 222 is an excellent general purpose VTVM for service work industrial testing, school and home laboratories. Complete electronic protection against meter over-load or burn-out, adjustment of all calibration controls without cabinet removal, and UNI-PROBE, a single unit probe used for all functions (a half-turn of the probe tip inserts the isolating resistor for DC voltage measurements) are provided at one low price. For use of the instrument as a null detector, or for f-m detector alignment, a zero center scale is provided. A 1½ volt battery is used for resistance measurements to avoid danger to delicate apparatus that may be tested with the instrument. The meter is 2% accurate and multiplier resistors are 1% accurate.

DC VOLTMETER—RANGES: 0 to 3, 15, 75, 300, 1500 volts. INPUT RESISTANCE: 11 megohms. ACCURACY: $\pm 3\%$ of full-scale. (Reads to 30,000 volts with HVP probe and 1090 meg μ multiplier.) **AC VOLTMETER**—RANGES: 0 to 3, 15, 75, 300, 1500 RMS volts. INPUT RESISTANCE: 1 megohm. ACCURACY: $\pm 5\%$ of full-scale. FREQUENCY RESPONSE: 30 cps to 3 Mc (source impedance 100 ohms or less). **OHMMETER**—RANGES: RX1 (0-1 K ohm), RX10 (0-10 K ohm), RX1K (0-1 megohm), RX10K (0-10 megohm), RX1M (0-1000 megohm). TUBE COMPLEMENT: 1-2AU7, 1-6AL5. POWER REQUIREMENTS: 105-125 VAC, 60/50 cps; drain: 5 watts. SIZE (HWD): 8½" x 5¾" x 5½". WEIGHT: 7 lbs.

★ Export Model available

EICO 249 DELUXE VTVM

Kit \$39.95 : Wired \$59.95

Complete with batteries and leads

For those who want a quality VTVM with the ease and convenience of reading a large 7½" meter, the EICO 249 meets the challenge. Incorporating all the outstanding and exclusive features of the EICO 232 VTVM including the Uni-Probe, the 249 is a solid, impressive piece of test equipment for bench or field use.

The dual purpose Uni-Probe is a terrific timesaver! One probe performs the functions of many — a twist (½ turn) of the probe tip selects DC or AC/Ohms.

Measuring 8½" x 13" x 5", the 249 weighs only 9 pounds. It draws 5 watts from a standard 117V, 60 cps AC line.

★ Export Model available



EICO 221

VACUUM TUBE VOLTMETER

Kit \$25.95 : Wired \$39.95

Complete with batteries and leads

The EICO Model 221 Electronic Volt-Ohm Meter is a high quality VTVM that is especially suited for use in television, f m, and a m radio servicing. Featuring a rugged and easy reading 4½" meter, this instrument provides entirely electronic measurement of AC voltage, DC voltage, decibels and resistance.

Complete overload protection is provided electronically on all AC voltage, DC voltage, and ohmmeter ranges. To eliminate the need for reversing the test leads on DC voltage measurement (when a negative DC voltage is to be measured), positive and negative DC positions have been provided on the function switch. A zero centering position on the meter facilitates discriminator alignment in f m and a f c circuits.

DC VOLTAGE RANGES: 0 to 5, 10, 100, 500, 1000 volts. INPUT IMPEDANCE: 25 Meg. AC VOLTAGE RANGES: 0 to 5, 10, 100, 500, 1000 volts (special scale for 0 to 5 volts). INPUT IMPEDANCE: 3 Meg. Electronic Ohmmeter RANGES: 0 to 1000, 10,000, 1 Meg., 10 Meg., 1000 Meg. DECIBEL RANGES: -20 to +55 db. FREQUENCY RANGE: 20-200,000 cps. ACCURACY: d-c volts, ohms — $\pm 3\%$ a-c volts — $\pm 5\%$. POWER SUPPLY: 115 V, 50-60 cps, 10 w. OHMMETER BATTERY: 1½ V dry cell. TUBES: 6X5, 6H6, 6SN7. SIZE (HWD): 9¾" x 6" x 5". WEIGHT: 7 lbs.

NOTE: Reads to 30,000 DC volts with HVP probe and 740 meg multiplier.



ACCESSORY PROBES

EXCLUSIVE UNI-PROBE®



Kit \$4.95 : Wired \$6.95

Performs all functions. A half-turn of the probe tip selects DC or AC-ohms. Adapts to EICO 221 or other VTVM's in just 15 minutes. Complete instructions supplied. Supplied less series isolating resistor or connector. Use 1 megohm for all EICO VTVM's except 221, use 15 megohms for 221. EICO VTVM's (except 221) take MC1F connector; 221 must be modified.

PRF-11 or PRF-25



Kit \$3.95 : Wired \$4.95

For voltage measurements at radio frequencies up to 250 mc. Very useful for measuring TV and radio RF and IF stages. Accuracy $\pm 10\%$. Use with any 11 or 25 megohm VTVM. Supplied less connector. Use PRP-11 for all EICO VTVM's except 221; use PRF-25 for 221.

EQUIP YOUR LAB WITH DEPENDABLE EICO TEST



- Wien Bridge with unique shunt resistance balancing circuit
- Capacity accuracy of $\pm 10\%$ at any point on the capacity dial
- Bright bar pattern gives sharp, unmistakable indications for accurate readings

Kit \$19.95
Wired \$39.95

EICO 955 IN-CIRCUIT BRIDGE-TYPE CAPACITOR TESTER

A truly advanced, highly dependable in-circuit and out-of-circuit capacitor tester, the 955 provides exceptionally sensitive short and open tests.

In evaluating the 955, ELECTRONICS WORLD had this to say: "In actual use, tests were simple, fast and clearly indicative. But for the capacitance-measuring function, nothing more than a simple switch need be operated. . . . Part of the manufacturer's new line of industrial equipment, the 955 is sturdily and attractively housed."

A quick, easy glance at the electron-ray tube lets you know the status of shorts (closed bars indicate a short). A 60 cps test frequency and a maximum test voltage of 6.3 VAC (open leads), decreasing with decreasing impedance, are also featured. In normal situations open tests can be made on capacities as low as 15 pf, but with constant voltage supply, internal adjustment can be made as little as 5 pf sensitivity. For in-circuit testing, shunt resistance may be as low as 35 ohms for capacitors above 250 pf and 7 K ohm at 15 pf. The test frequency is approximately 19 mc and the voltage is very low.

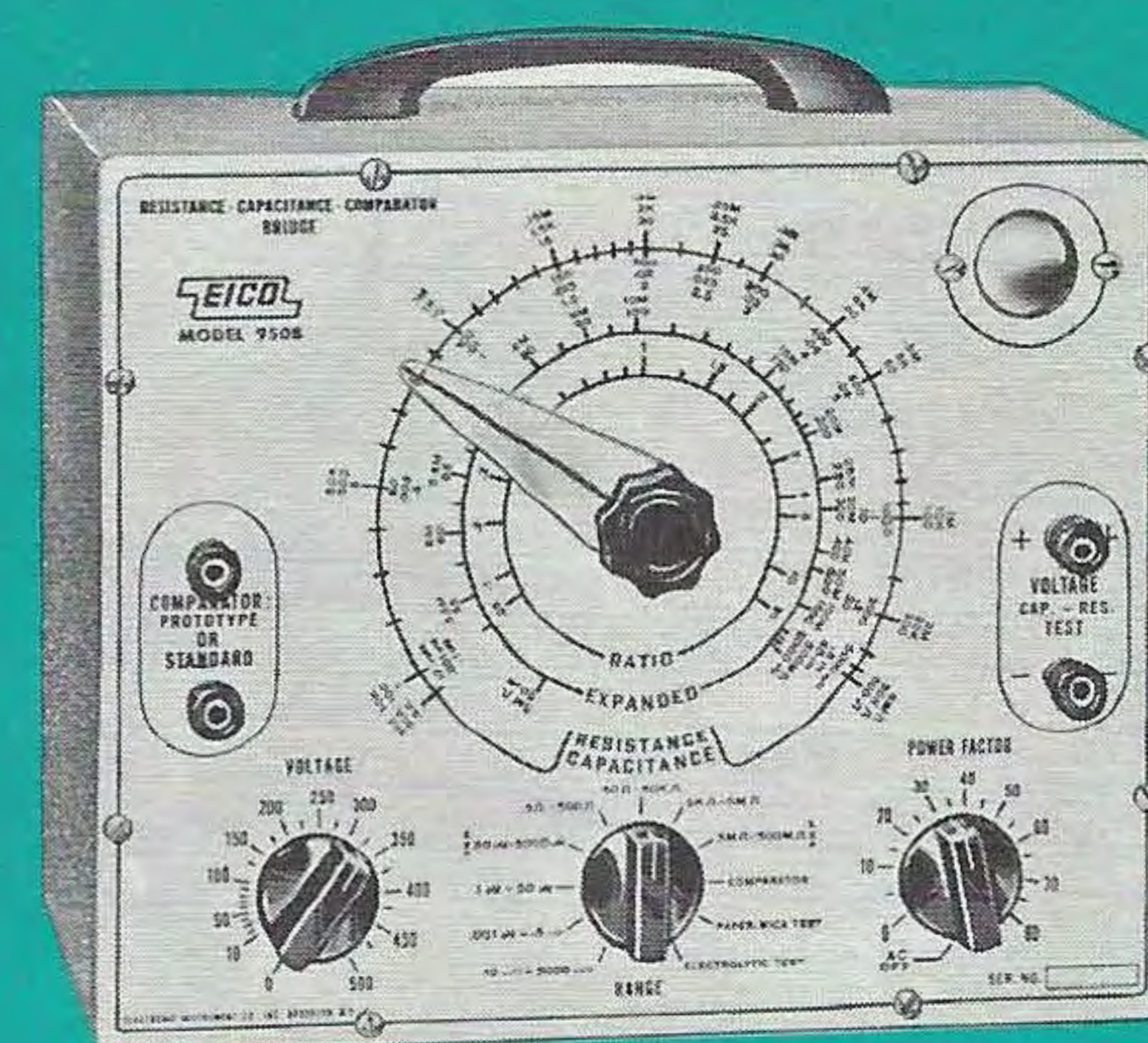
For capacity measurement the scale is screened on a 4" diameter heavy-gauge lucite disc. The reading point is just above the center of the bar pattern, and operating frequency of the bridge is 60 cps.

The $\pm 10\%$ accuracy is achieved by a sharp null indication (closed bars) when shunt resistance is balanced by the RC BALANCE control, and the .1-50 mfd CAPACITY dial is set at the correct capacitance value. The RC BALANCE control is calibrated in RC product (equivalent shunt resistance in kilohms multiplied by the capacitance in microfarads) in two ranges, 0.6 to 10.5 and 7 to infinity, selected by the RC RANGE switch. The very wide RC product range provided, with excellent spread permitting easy setting to any value, is the key to the accurate capacity measurement provided either in or out of circuit. For out-of-circuit measurements, the RC product value can be translated into dissipation or power factor by means of conversion charts in the manual.

SPECIFICATIONS

INDICATOR: Electron-ray tube EM84/6BG6. TEST SELECTOR: Three-position switch — SHORT, CAPACITY, OPEN. TEST LEADS: One coax type for all tests: detachable, with mic connector coupling to unit. SHORT TEST: Out-of-circuit or in-circuit short check, with shunt resistance as low as 1 ohm. Reliable up to 2000 uf. OPEN TEST: Out-of-circuit or in-circuit open test of capacitors as small as 15 pf with instrument adjusted normally. CAPACITY MEASUREMENT: From 0.1 to 50 μ f using Wien Bridge with unique shunt resistance balancing, permitting $\pm 10\%$ accuracy at any point on the capacity dial in out-of-circuit or in-circuit measurements. POWER REQUIREMENTS: 117 VAC, 60 cps, 8 watts. SIZE (HWD): 8 1/2" x 5 3/4" x 6". WEIGHT: 6 lbs.

★ Export Model available



Kit \$25.95
Wired \$34.95

EICO 950 R-C BRIDGE & R-C-L COMPARATOR

- Comparator range allows the use of complementary components as standards
- Continuously variable polarizing leakage test voltage from 0-500 VDC

Here's a professional instrument that should be standard equipment in every laboratory and service shop. With the extremely valuable Comparator range — exclusive with EICO at this outstanding low price — the 950B is one more "best buy" from the service-man minded electronics laboratories of EICO.

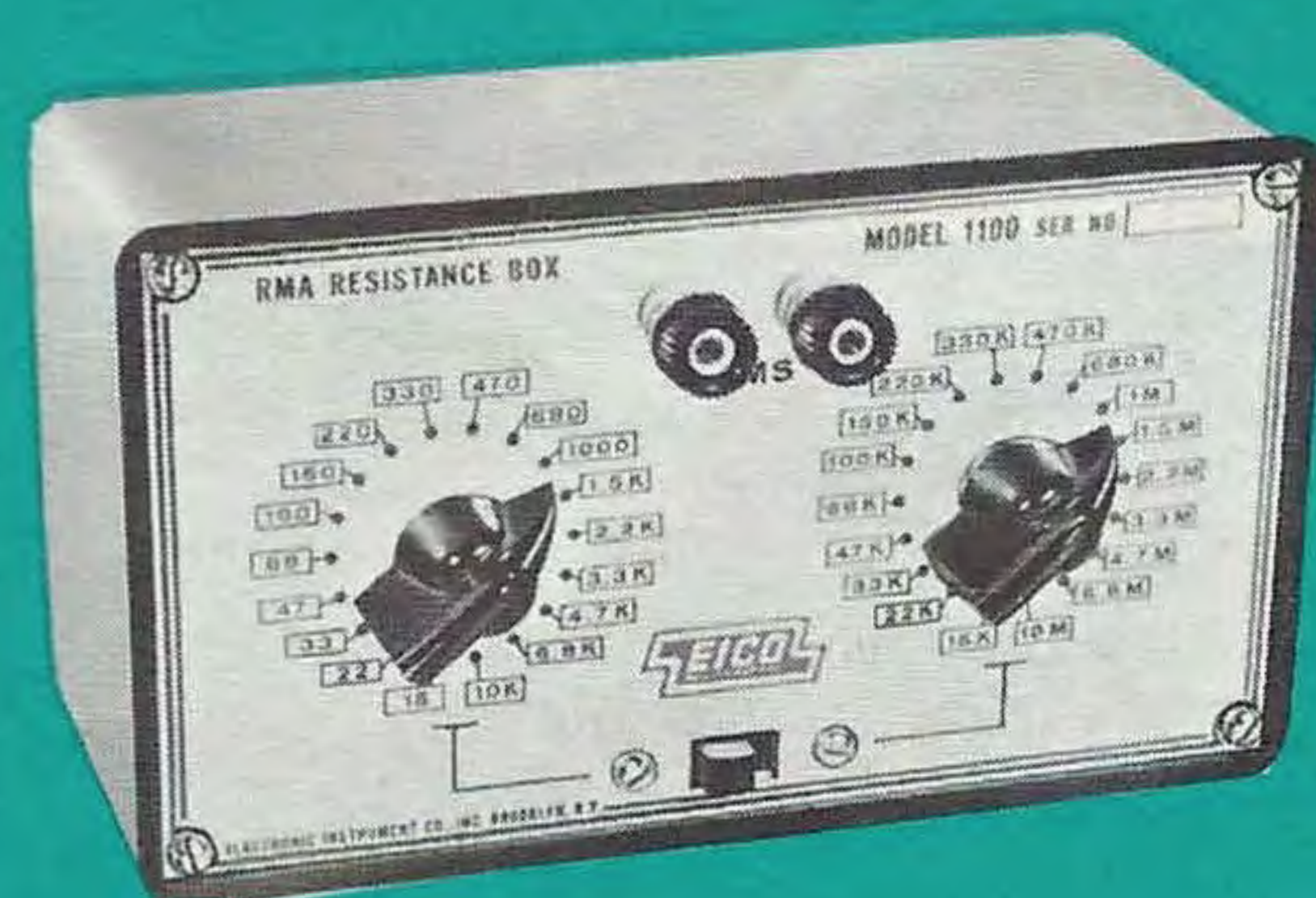
Four separate capacity and an equal number of resistance ranges are featured in the 950B. The comparator range allows measurement of resistances, capacitances and inductances with a complementary component as a standard. You can depend upon the EICO 950B for rapidity and precision in the measurement of unknown resistors and condensers. Readings are taken directly from the calibrated front panel — without the need of complex and time consuming computations. Safe operation is assured by the transformer power supply.

SPECIFICATIONS

CAPACITY: 4 ranges, 10 μ f to 5000 μ f. RESISTANCE: 4 ranges, 0.5 ohms to 500 megohms. COMPARATOR: 1 range, ratio from .05 to 20 (400 to 1). DC POLARIZING VOLTAGE: 0 to 500 volts DC (continuously variable) $\pm 10\%$. TUBE COMPLEMENT: 1-1629, 1-6X5. POWER REQUIREMENTS: 117 volts AC, 60 cps. SIZE (HWD): 8" x 10" x 4 3/4". WEIGHT: 8 lbs.

★ Export Model available

EICO 1100 EIA RESISTANCE SUBSTITUTION



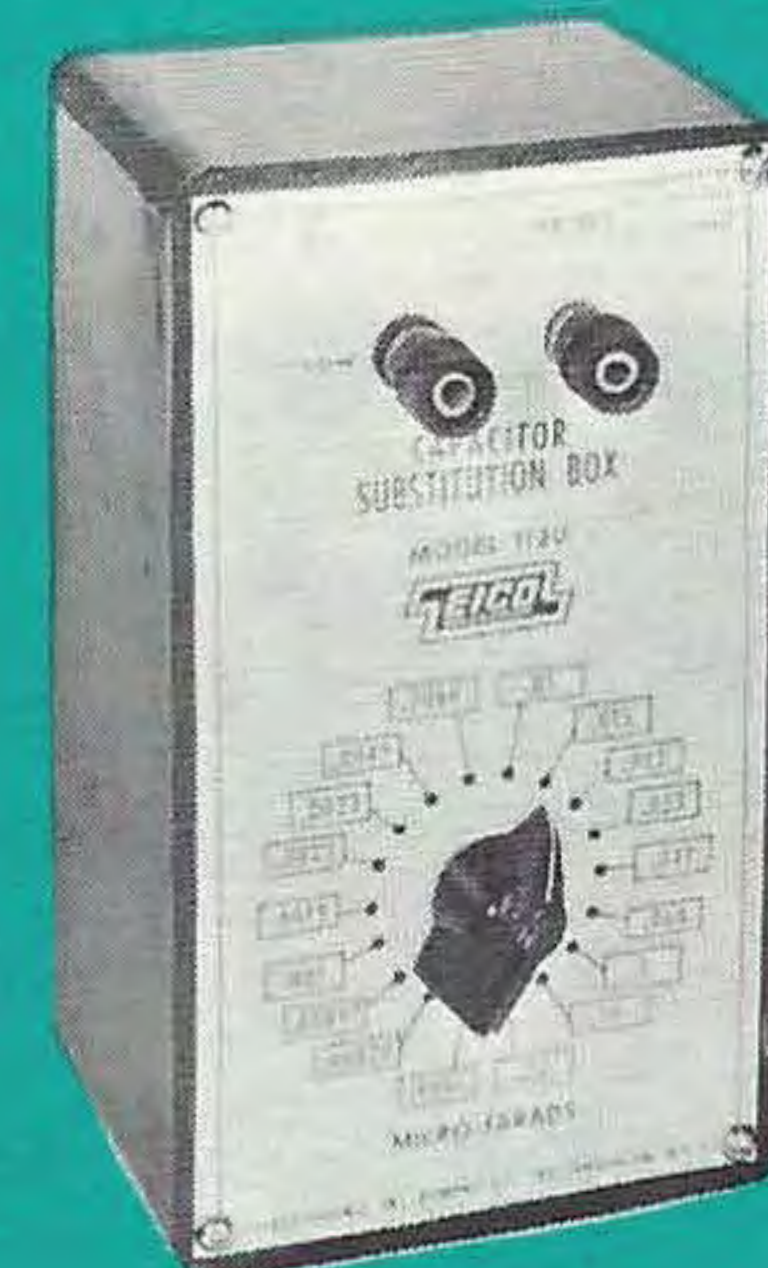
Kit \$8.95
Wired \$13.95

The EICO model 1100 EIA Resistance Substitution Box provides a means of rapidly substituting a wide range of EIA resistance values in a circuit to determine the best resistance value for a desired result or the value of a badly charred or otherwise illegible resistor.

SPECIFICATIONS

RESISTANCE RANGE: 15 ohms to 10 megohms in decade multiples of 15, 22, 33, 47, 68 and 100 ohms. RATED ACCURACY: $\pm 10\%$ at any setting. RATED POWER DISSIPATION: 1 watt at any setting. CONTINUOUS DUTY VOLTAGE RATING: 500 volts. TERMINALS: Five-way, jack-top binding posts. SIZE (HWD): 3 3/4" x 6 1/2" x 3 1/2". WEIGHT: 2 lbs.

EICO 1120 EIA CAPACITANCE SUBSTITUTION



Kit \$7.95
Wired \$12.95

The EICO 1120 is an excellent and logical companion to the 1100, and it affords the same multiplicity of servicing, development and time saving advantages for capacitors as the 1100 does for resistors. Here, too, the price of the 1120 kit is less than the retail value of the capacitors alone!

SPECIFICATIONS

CAPACITORS (MFD): .0001, .00047, .001, .0015, .0022, .0033, .0047, .0068, .01, .015, .022, .033, .047, .068, .1, .15, .22. VOLTAGE RATINGS: Capacitors .0001 mfd through .00047 mfd 500 volts, capacitors .001 mfd through .1 mfd: 600 volts, capacitors .015 and .22 mfd: 400 volts resistors: TERMINALS: Five-way, jacktop binding posts. SIZE (HWD): 3 3/4" x 6 1/2" x 3 1/2". WEIGHT: 2 lbs.

INSTRUMENTS AND SAVE



Kit \$29.95
Wired \$49.95

EICO 147A DELUXE MULTI-SIGNAL TRACER

- Employs both visual and aural signal monitors
- RF channel gain permits tracing up to receiver input

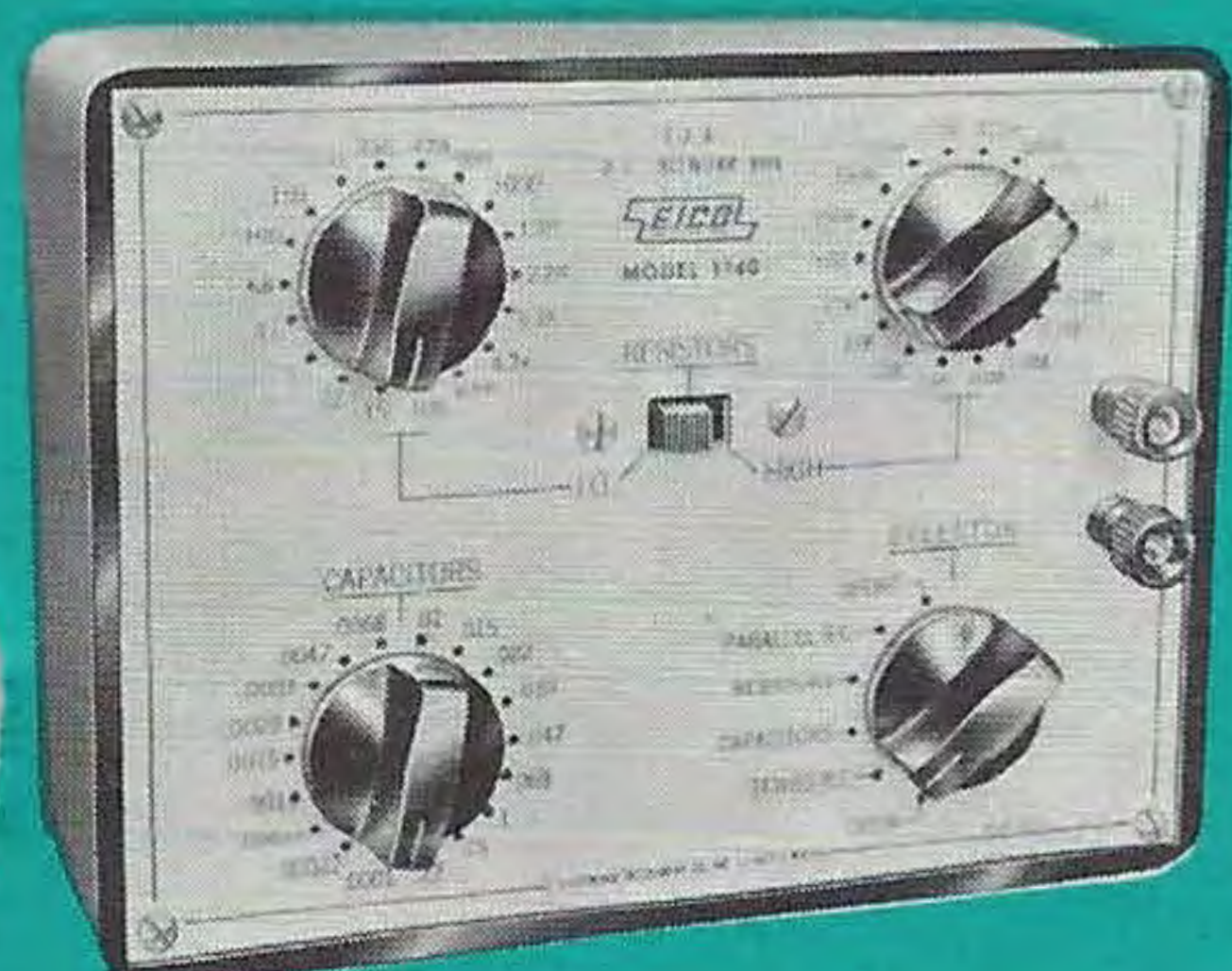
A professional deluxe instrument crammed with unsurpassed facilities and conveniences for extra-easy, extra-fast profitable servicing of AM, FM and TV receivers. Here's one of the most useful and convenient instruments the serviceman can use in the servicing of TV, FM, AM, audio and electronic equipment. The 147 is a deluxe signal tracer brought up to date by EICO engineers in the light of the serviceman's latest needs for this type of all-purpose instrument. Two separate input channels assure maximum adaptability for both RF and audio work, and RF gain is so high you can trace right up to the antenna terminals of the set under test. Now you can both see and hear the signal level in each stage — the eye tube and speaker give you both aural and visual monitoring. The valuable noise locator and calibrated wattmeter turn suppositions into certain answers — and fast! The 147 has everything you could ask for in a modern, up-to-date professional signal tracer, and then some more features no other tracer gives you. It's one more champion precision instrument, at lowest cost . . . from EICO.

Two probes, shielded RF crystal demodulator and direct probe, are provided. Individual panel receptacles provided for easy change-over from RF to audio tracing or vice versa. An extremely valuable noise locator circuit ferrets out noisy controls, resistors, capacitors, coils, transformers and cold solder joints. Calibrated wattmeter affords a rapid preliminary check of power consumption in equipment under test, detects B+ shorts, intermittent filament circuits, defective filters or bypass capacitors.

SPECIFICATIONS

TUBE & DIODE COMPLEMENT: 1-12AX7 as dual voltage amplifier, 1-6AQ5 as beam power amplifier, 1-1629 as electron-ray indicator, 1-6X4 as full-wave rectifier, 1-1N48 (germanium diode) as wattmeter rectifier. POWER REQUIREMENTS: 105-125 volts ac, 50/60 cycles. SIZE (HWD): 8" x 10" x 4 3/4". WEIGHT: 10 lbs. ★ Export Model available

EICO 1140 SERIES/PARALLEL R-C COMBINATION BOX*



The EICO model 1140 Series/Parallel R-C Combination Box is an extremely valuable combination of the model 1100 Resistance Box and the model 1120 Capacitance Box, with additional switching facilities that permit selection of any resistance alone, any capacitance alone, or any combination of resistance and capacitance in series or parallel (1350 combinations). Open and short circuit positions are provided.

SPECIFICATIONS

RESISTORS: See Model 1100. CAPACITORS: See Model 1120. TERMINALS: Five-way jack-top binding posts. SIZE (HWD): 6 3/4" x 5 1/4" x 2 3/8". WEIGHT: 3 lbs.

Kit \$14.95
Wired \$23.95

*U.S. Patent



Kit \$17.95
Wired \$24.95

EICO 1180 DECADE CONDENSER BOX

The EICO model 1180 Capacitance Decade Box consists of three decade-capacitor assemblies mounted in a metal cabinet which serves as a shield. Each decade has eleven positions, 0 to 10 inclusive so that the decades overlap. The added capacity per step is 0.01 mfd for the largest decade, .001 mfd for the next largest decade, and .0001 mfd (100 mmf) for the smallest decade. Each decade consists of a ceramic wafer rotary switch and four capacitors whose values are 1 times, 2 times, and 4 times the added capacity per step for the particular decade.

SPECIFICATIONS

VOLTAGE RATING: 350 volts DC continuous, 500 volts DC intermittent, 1000 volts DC test. INSULATION RESISTANCE: Production test limit is 50,000 megohms at 1000 volts DC, but bulk of capacitors are well over 250,000 megohms. POWER FACTOR: Better than 0.001. ACCURACY: $\pm 1\%$. WEIGHT: 3 lbs.



Kit \$24.95
Wired \$34.95

EICO 1171 DECADE RESISTANCE BOX

The EICO model 1171 Resistance Decade Box is a rugged and simple to operate piece of test equipment. Design application permits this instrument to be used in the laboratories of both the radio serviceman and the engineer.

The 1171 decade box provides standard resistances within known accuracies, enabling the technician to make tests to readily pin-point troubles and design new devices.

SPECIFICATIONS

RANGE: 0-99,999 ohms in 5 decades. CURRENT RATINGS: 350 ma (0-9 ohms) to 2.5 ma (10 K Ω to 100 K Ω). CABINET: Steel, baked enamel. PANEL: Aluminum, deeply etched panel. SIZE (HWD): 3 1/2" x 12" x 3". WEIGHT: 3 lbs.



Kit \$12.95
Wired \$15.95

EICO 540 READI-TESTER

Designed expressly for "do-it-yourself" home appliance & auto repair — easily finds defects in irons, fans, heaters, TV & radio tubes, batteries, ignition coils, etc. It is an all-in-one MULTI-RANGE AC/DC voltmeter, ammeter, ohmmeter, wattmeter, leakage checker. Extremely versatile, dependable, low in cost.

Provides "GOOD-BAD" readings on 6 V and 12 V automobile storage batteries, and permits checking of individual cells.

SPECIFICATIONS

VOLTAGE RANGES: 0-7.5, 15, 150, 300 volts (AC/DC). CURRENT RANGE: 0-15 amps. RESISTANCE RANGE: 0-1000 ohms (direct reading). LEAKAGE TEST: Neon lamp circuit. WEIGHT: 3 lbs.



Kit \$9.95
Wired \$12.95

EICO 584 BATTERY TESTER

For fast running check of battery stock, testing of batteries commonly in portable vacuum tube & transistor radios, hearing aids, flashlights, photo-flash equipment, etc. Versatile, dependable, at a typical low EICO price. Rotary switch selection of the exact voltage of the battery under test inserts the proper resistor in series and in shunt with the meter. Therefore the battery's internal resistance reduces its terminal voltage exactly as occurs under actual operating conditions.

SPECIFICATIONS

TEST POSITIONS (VOLTS): 1.5, 4.5, 6.0, 7.5, 9.0, 22.5, 45, 67.5, 75, 90, plus spare position. SIZE (HWD): 6 1/4" x 3 3/4" x 2". WEIGHT: 2 lbs. Test leads provided.

NEW!

SIMPLIFY SERVICING & TESTING



- Regulated B+ continuously variable 0-400 VDC
- Regulated bias supply continuously variable 0 to -150 VDC
- Ripple less than 3 millivolts RMS
- Both 6.3 and 12.6 VAC filament supplies

Kit \$59.95
Wired \$99.95

EICO 1030 REGULATED POWER SUPPLY

Now, at last, a low-priced reliable and versatile double power supply that can simultaneously deliver any regulated B+ or regulated bias voltage required for circuit design, production testing, workbench or school experiments.

The EICO Model 1030 delivers **exactly** the voltage needed to test any circuit, while **simultaneously** monitoring both voltage and current used by the circuit being tested.

The Model 1030 also delivers 6.3 VAC at 3 amperes, 6.3 VAC at 3 amperes center-tapped (both filament supplies are independent of each other), or 12.6 VAC at 3 amperes.

As an added feature, a front-panel switch is provided to turn off the high voltage to the circuit under test without shutting of the filament power to the test circuit or the power supply. This provides an "instant turn-on" action that eliminates wasted time in bench work.

The regulated B+ supply (0-400 VDC) consists of a high-current rectifier and a pair of parallel-connected, high-current, series-pass tubes, and a sensitive control tube, connected in an electronic filter arrangement. The screen grids of the series-pass tubes are supplied from a separate power supply contained within the Model 1030. Regulation of the B+ power supply is such that with loads of 100 MA applied, the output voltage will vary less than 0.3% or 3 volts, and, if the power line voltage varies as much as ± 10 volts, the output voltage will change as little as 0.5 volts. All this with a ripple of less than 3 mv RMS.

The independent bias supply (0 to -150 VDC) consists of a rectifier, a pi-type RC filter, and gas tube regulation. Like the B+ power supply, if the power line voltage varies as much as ± 10 volts, the bias voltage output will change as little as 0.5 volts. Ripple is less than 3 mv RMS.

SPECIFICATIONS

REGULATED B+: 0-400 VDC continuously variable; 0-100 MA continuous from 0-200 VDC, 0-125 MA intermittent from 0-200 VDC, 0-150 MA continuous from 200-400 VDC. LOAD REGULATION: Varies less than $\frac{1}{3}\%$ or 0.3V (whichever is greater) from 0-100 MA. LINE REGULATION: varies less than 0.4% or 0.5V (whichever is greater) for a ± 10 V line variation. RIPPLE: Less than 3 mv RMS. OUTPUT IMPEDANCE: Less than 10 ohms from DC to 1MC. REGULATED BIAS SUPPLY: 0 to 150 VDC continuously variable. CURRENT RANGE: 0-2 MA. LINE REGULATION: Varies less than 0.4% or 0.5V (whichever is greater) for ± 10 V line variation. RIPPLE: Less than 3 mv RMS. AC FILAMENT SUPPLIES: 6.3 VAC at 3 amperes, and 6.3 VAC at 3 amperes center tapped; 12.6 VAC at 3 amperes by series connection of the two 6.3 VAC windings; and 6.3 VAC at 6 amperes by parallel connection of the two 6.3 VAC windings. METERING: Double-jewelled D'Arsonval Meters: voltmeter with switched ranges of 0-400 VDC (regulated B+) and 0-200 VDC (regulated bias supply); milliammeter with 0-200 MA scale for monitoring the regulated B+ supply. POWER REQUIREMENTS: 120 VAC, 50/60 cps, approximately 160 watts. SIZE (HWD): 8 $\frac{1}{2}$ " x 12 $\frac{1}{2}$ " x 9". WEIGHT: 21 lbs.

EICO 944 FLYBACK TRANSFORMER & YOKE TESTER

Now you can make one of the most difficult TV servicing jobs a breeze. Here's fast, positive testing of flybacks and yokes, in or out of the set at lowest cost!

The 944 Flyback Transformer & Yoke Tester gives you positive checks on all types of flybacks and yokes in seconds. Operation is on the extremely sensitive grid-dip principle, which shows up even one shorted turn! Exclusive separate calibration for air-core and iron-core flybacks and yokes assures accuracy in testing all types. The large easy-to-read 4 $\frac{1}{2}$ " meter has three separate colored scales. Continuity of coils, speakers, switches can also be checked. Featuring smart professional styling, the unit is packaged in a 7" x 5" x 4" satin-finish aluminum panel and grey wrinkle steel case and weighs 5 pounds.



EICO 1060 BATTERY ELIMINATOR & CHARGER

Kit \$42.95 : Wired \$52.95

- Specially designed for servicing all types of transistor equipment

The EICO 1060 is the most modern and versatile of battery eliminators. It incorporates an extra low-ripple filter circuit so that it can service all-transistor 6 and 12-volt equipment as well as hybrid or all-vacuum tube equipment. In order to extend the many advantages of this highly filtered DC output to all applications of the 1060, its special filter circuit comprises a very heavy duty iron choke and a dual 5000mf 20v electrolytic filter capacitor — designed to take the full continuous as well as the higher intermittent rated current output of the instrument.

Important exclusive features of the 1060 include automatic switching of appropriate ammeter range as you select either of the two voltage ranges (0-8 and 0-16 volts).

The continuous voltage adjustment with a variac-type transformer, heavy-duty selenium rectifiers, a fused primary and a secondary protected by an automatic re-set overload relay.

The 1060 is ideal for servicing 6 or 12-volt mobile equipment on the workbench to powering marine equipment while at dockside.

SPECIFICATIONS

DC OUTPUT VOLTAGE RANGES: (Range selected by 6V-12V toggle switch) 0-8 volts, 0-16 volts. AC RIPPLE: 12V range — 0.3% @ 2 amps, 1% @ 6 amps, 1.5% @ 10 amps. 6V range — 1.5% @ 2 amps, 2% @ 6 amps, 4.5% @ 10 amps. CURRENT RATINGS: 0-8 volt range: 10 amps continuous, 20 amps intermittent. 0-16 volt range: 6 amps continuous, 10 amps intermittent. METERS: Voltmeter — 0-20 volts. Ammeter — 0-10, 0-20 amps. POWER REQUIREMENTS: 105-125 volts AC, 60 cps; 150 watts. SIZE (HWD): 8 $\frac{3}{4}$ " x 10 $\frac{1}{2}$ " x 7 $\frac{3}{4}$ ". WEIGHT: 17 lbs.

Kit \$25.95
Wired \$34.95





EICO 1020 TRANSISTOR POWER AND BIAS SUPPLY

Kit \$25.95 : Wired \$34.95

- Continuously variable output voltage monitored by dual-range voltmeter
- Versatile, stable and reliable transistorized supply capable of handling 300 ma

Highly versatile, stable and reliable, the Model 1020 is a completely transistorized, very low ripple, portable DC power and bias supply providing continuously variable output voltage monitored by a dual range voltmeter (0-6, 0-30 VDC). It comprises a power transformer, full-wave silicon rectifier circuit, electrolytic capacitor input filter followed by a two-power transistor (2-2N256) cascaded filter circuit. The maximum permissible load current varies from 150 ma in the 0-12 V range to 300 ma in the 24-30 V range. The maximum ripple (120 cps) at full load is only 0.005%. The unit is housed in a rugged grey wrinkle steel case 5" x 4" x 5½" (HWD) and is fused for protection against short circuits.

Applications include: a universal power supply for servicing transistor devices, a variable bias supply to bias transistors or vacuum tubes, to offset AVC and AGC voltages in the alignment of TV and radio receivers or to cut off the color burst amplifier in color TV adjustment; a dc filament supply or a filament bias source, to recharge small storage batteries, or to do light electroplating.

SPECIFICATIONS

OUTPUT VOLTAGE RANGE: 0-30 VDC, continuously variable. MAX. OUTPUT CURRENT. CAPACITY (CONTINUOUS): 150 ma from 0-12 V, 200 ma from 12-24 V, 300 ma from 24-30 V. FUSE: ½ amp. will blow in case of short circuit to protect unit. Pilot lamp will remain lit even when fuse is blown but voltmeter will read zero. RIPPLE: (120 cps): 0.005% at full load. POWER REQUIREMENTS: 117V, 60 cps. SIZE (HWD): 5" x 4" x 5½". WEIGHT: 5 lbs.



Kit \$49.95
Wired \$59.95

EICO 1064 BATTERY ELIMINATOR & CHARGER

- Automatic switching of ammeter range as voltage ranges are selected
- Two DC voltage ranges: 0-8 volts and 0-16 volts
- Simultaneous monitoring of both voltage and current on both ranges

Of the EICO 1064 Battery Eliminator and Charger, ELECTRONICS ILLUSTRATED had this to say: "Our checks showed the instrument's residual ripple to be low enough to permit its use with any transistorized device from the pocket portable to automobile hybrid receivers."

This supply delivers the smooth, undistorted DC necessary for servicing transistorized equipment or for any application where minimum ripple is mandatory. The extra-low ripple output is achieved through the use of a special L-C filter circuit consisting of a very heavy-duty iron choke and a dual 5000 mf, 20-volt electrolytic filter capacitor. The ability of this circuit to handle the full continuous as well as the higher rated intermittent current output of the instrument, without overloading or danger of burnout — on both current ranges — ensures that the many advantages of its highly filtered DC output are available for all conceivable applications.

Among the 1064's applications are charging 6 or 12-volt storage batteries, simulating various battery operating voltages for detecting intermittents and shorts in radio equipment, supplying DC for filament voltages in high-gain audio-circuit work, determining starting point in vibrators, determining voltage operating range of oscillator circuits, running small electrical appliances (shavers, trains, etc.).

The 1064 also serves well for marine purposes, operating boat lights, radio-phone, amplifiers, transmitters, bilge pump and other electrical utility units while at dock-side, eliminating the need for installing a costly secondary AC lighting system. A fused primary and a re-set overload relay on the secondary add to the durability and safety of the 1064.

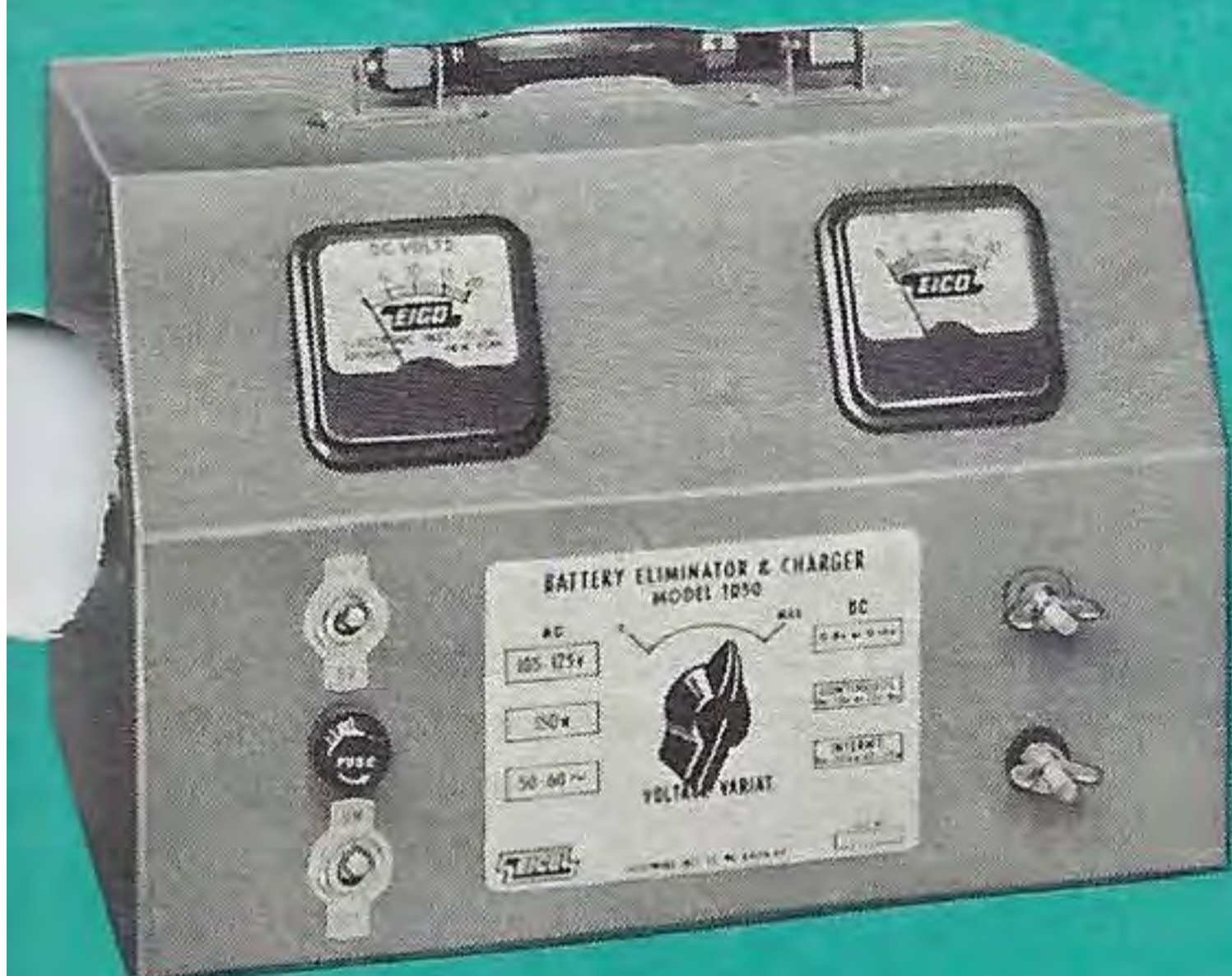
SPECIFICATIONS

DC OUTPUT VOLTAGE RANGES: (Range selected by 6V-12V toggle switch) 0-8 volts, 0-16 volts. CURRENT RATINGS: 0-8 volt range: 10 amps continuous, 20 amps intermittent; 0-16 volt range: 6 amps continuous, 10 amps intermittent. AC RIPPLE: 0-16 volts range: 0.3% @ 2 amps, 1% @ 6 amps, 1.5% @ 10 amps; 0-8 volt range: 1.5% @ 2 amps, 2% @ 6 amps, 4.5% @ 10 amps. METERS: Voltmeter—0-20 volts. Ammeter—0-10, 0-20 amps. POWER REQUIREMENTS: 117 volts AC, 60 cps; 150 watts. SIZE (HWD). 8½" x 5¾" x 7½". WEIGHT: 14 lbs.

EICO 1050 BATTERY ELIMINATOR & CHARGER

This modern battery eliminator fulfills all the needs for a dependable 6 and 12-volt DC supply source, for servicing vacuum tube auto radios and all other battery powered equipment where the AC ripple component is not an important consideration. The 1050 will do all that the EICO 1060 will do, but is not recommended for transistor work. Two DC voltage ranges cover 0-8 and 0-16 volts and are continuously adjustable with a variac-type transformer. Either the 6 or 12-volt range is selected by use of a toggle switch. Current ratings on the 0-8 volt range are 10 amps continuous duty and 20 amps intermittent, while on the 0-12 volt range the specifications are 6 and 12 amps respectively. The two meters read 0-20 (one for amperes and the other for volts).

Operation of the 1050 is from 50 to 60 cycle, 105-125 VAC at 150 watts. The compact (8¾" x 10½" x 7¾") unit weighs 3 pounds, has a fused primary and an automatic reset overload relay for the secondary.



Kit \$32.95
Wired \$42.95

EICO

INDUSTRIAL PRODUCTS DIVISION

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throughout the world.

EICO's quality and dependability are well known and appreciated by industrial users everywhere.



- High quality tuning capacitor provides easy frequency setting
- Less than 0.7 volt input required for measurements

Wired only \$250.00

EICO 902 IM/HARMONIC DISTORTION METER & AC VTVM

The EICO 902 is a unique audio test instrument combining IM and Harmonic Distortion Meters and a sensitive AC VTVM and db meter in one compact package. It offers the stability and accuracy needed for critical measurements in audio research, design, and development. Yet, its ease and speed of operation make it ideal for production testing, quality control and servicing.

For harmonic distortion measurement, the 902 incorporates a continuously variable 20-20,000 cps Wien Bridge rejection filter (in three ranges).

For IM distortion measurement, the 902 incorporates a 7 kc oscillator for the high frequency source and a filtered line-frequency signal for the low frequency source. External low frequency sources up to 400 cycles and high frequency sources down to 2 kc may be fed to the mixing bridge through panel jacks.

Used as an AC VTVM, the 902 provides a highest range of 300 V and a lowest range of 10 mV with uniformly excellent response at all levels. The AC VTVM section is employed in all instrument functions, and the linear 0-1, and 0-3 meter scales are used for all measurements. A decibel scale (-20 to +2) is also provided, based on 0 db = 1 mw in 600 ohms and permitting power measurements in dbm.

SPECIFICATIONS

IM DISTORTION: LF to HF ratios 4:1 and 1:1. TEST OUTPUT: 0-5 v. OUTPUT Z: 600Ω or external. INPUT Z: 500kΩ. MINIMUM INPUT: 0.7 v. DISTORTION RANGES: 0.3, 1, 3, 10, 30%. ACCURACY: ±5% of full scale. RESIDUAL DISTORTION: 0.05%. HARMONIC DISTORTION; FREQUENCY RANGES: 20-200, 200-2000, 2000-20,000 cps. INPUT Z: 500kΩ. MINIMUM INPUT: 0.7 v. DISTORTION RANGES: 0.3, 1, 3, 10, 30, 100%. ACCURACY: ±5% of full scale. INTERNAL DISTORTION: 0.1%. AC VTVM; RANGES: .01, .03, 0.1, 0.3, 10, 30, 100, 300 volts RMS. Also db scale of -20 to +2. INPUT Z: 2MΩ. FREQUENCY RESPONSE: ±0 db 10 cps to 100 kc, -3 db at 300 kc. ACCURACY: ±4% of full scale. POWER SUPPLY: V-R tube regulated. POWER REQUIREMENTS: 115 VAC, 60 cps, 60 watts. SIZE (HWD): 12½" x 8½" x 10½". WEIGHT: 22 lbs. EXPORT MODEL: 115 and 230 VAC, 60/50 cps.



- Low bridge supply voltage permits testing of all types of capacitors
- Measures diode revers and transistor quiescent current
- Measures insulation resistance and leakage currents

Wired only \$129.95

EICO 965 FARADOHM BRIDGE/ANALYZER

The Model 965 is an extremely flexible analyzer. It incorporates an RC bridge, a 6-range DC VTVM, and 11-range DC vacuum-tube microammeter and milliammeter and a built-in variable DC supply.

The bridge may be used for resistance and capacitance measurements, and also as a resistance-capacitance-inductance comparator with external standards.

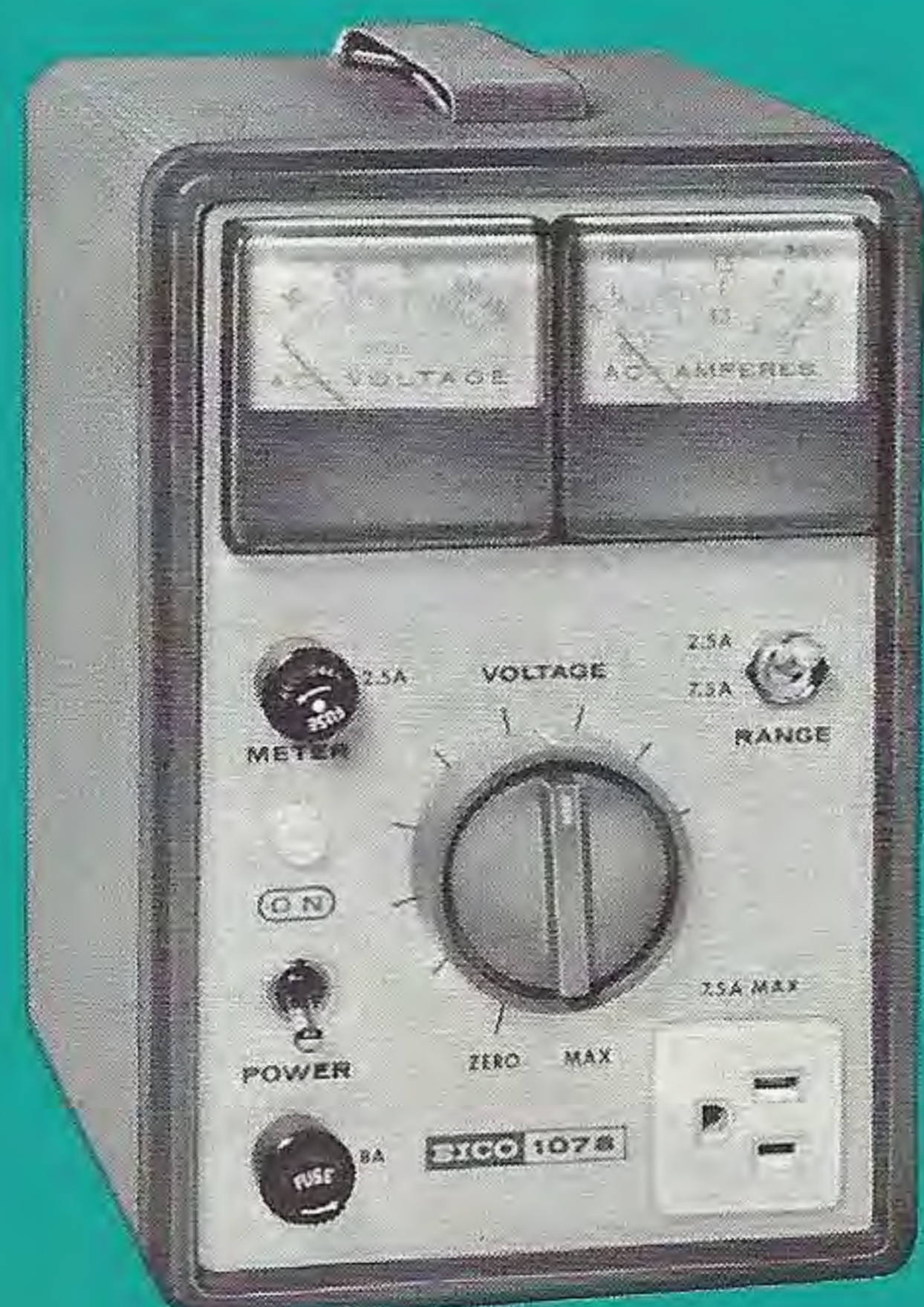
A very low internal AC bridge supply voltage permits testing all types of capacitors without damage. The bridge may also be supplied from an external source. An external polarizing voltage may be applied to capacitors above 0.5uf. A sensitive detector amplifier gives a sharply-defined null. Power factor measurement is provided for capacitors above 0.05uf shield is supplied to be used for small capacitors.

Leakage current and insulation resistance measurements may be made either to EIA standards, or for actual working conditions.

Overload protection is provided for the power supply, with overload signalled, and for the meter. A unique INSTANT ZERO pushbutton permits instantaneous zero adjustment of the VTVM without changing any settings or connections. A special DISCHARGE switch position and a panel warning light assure safety in handling of components.

SPECIFICATIONS

CAPACITANCE RANGES: 5 pF-10000 pF, 500 pF - 1 μF, .05 μF - 100 μF, 50 μF, 5000 μF. POWER FACTOR: 0-80% at 60 cps. RESISTANCE RANGES: 0.5Ω-1KΩ, 50Ω-100KΩ, 5KΩ-10MΩ, 5MΩ-500MΩ; Higher Resistances up to 200,000MΩ can be measured with the metered variable DC supply. RCL COMPARATOR RANGE: .025-50 (ratio). BRIDGE SUPPLY VOLTAGE: Below 0.5 VAC RMS at line frequency, except 10 VAC RMS on lowest capacitance and highest resistance ranges. VARIABLE DC SUPPLY VOLTAGE RANGES: .4 V-1.5 V, 1.4 V-5 V, 4 V-15 V, 14 V-50 V, 40 V-150 V, 140 V-500 V; maximum output 10 mA. DC VTVM RANGES: 0-1.5 V, 5 V, 15 V, 50 V, 150 V, 500 V. Input Z 10MΩ DC VTAM Ranges: 0-.15 μA, .5 μA, 1.5 μA, 5 μA, 15 μA, 50 μA, 15 mA, .5 mA, 1.5 mA, 5 mA, 15 mA. Voltage drop across terminals 75 mV. ACCURACY: ±5% throughout, except on power factor below 30%. POWER REQUIREMENT: 115 VAC, 60 cps, 32-45 watts. SIZE (HWD): 8½" x 12½" x 9". WEIGHT: 18 lbs.



EICO 1078 METERED AC SUPPLY

- 0 to 140 VAC adjustable output voltage
- Separate output ammeter and voltmeter

Kit \$49.95 : Wired \$69.95

Instrument-styled, fully metered, variable 0-140 VAC supply needed at every engineering bench, and in production testing, quality control and service work. Ideal for line voltage adjustment and studying performance under varying line conditions. Also for power consumption checks, and for exposing intermittent components by inducing failure with over-voltage. Provides 0-140 VAC adjustable output voltage from 120 VAC power line input, with no waveform distortion. Ammeter is dual range for greatest accuracy, and switching is permitted under load. Auto-transformer and ammeter are protected by separate extractor panel fuses.

SPECIFICATIONS

FREQUENCY: 50/60 cycles. INPUT VOLTAGE: 120 VAC. OUTPUT VOLTAGE: 0-140 VAC (30-140 VAC voltmeter). OUTPUT CURRENT: Two ranges, 0-2.5, 0-7.5 amperes. METER ACCURACIES: ±3% of full scale. POWER SWITCH: 2-pole type disconnects unit from both sides of the power line at the off position. LINE CONNECTION: 3-wire cord and plug. LOAD CONNECTION: 3-wire outlet receptacle. SIZE (HWD): 8½" x 5¾" x 7". WEIGHT: 16 lbs.

LABORATORY PRECISION AT LOWEST COST!



EICO 250 AC VTVM & AMPLIFIER

- Measures AC voltage from 100 μ V to 300 V
- Cathode follower input circuit for greater stability

Kit \$49.95 : Wired \$79.95

The EICO 250 is a high sensitivity, wide-band AC VTVM and amplifier of laboratory accuracy and quality. It measures AC voltage from 100 microvolts to 300 volts in 12 ranges. A function selector switch on the panel converts the instrument to a wide-band amplifier with a gain of 60 db on the 1 mv range, and a maximum output of 5 volts RMS.

The instrument responds to the average value of the applied wave and reads in RMS value of a sine wave. The 0-1, 0-3 voltage scales are linear. The decibel scale is based on 0 db = 1 mw in 600 ohms, with 10 db interval between ranges.

The EICO 250 features a frame-grid triode cathode follower input circuit, frequency-compensated input attenuator, and cathode circuit attenuator. The use of high-gain frame-grid pentodes permits fewer amplifier stages for less phase shift and greater stability.

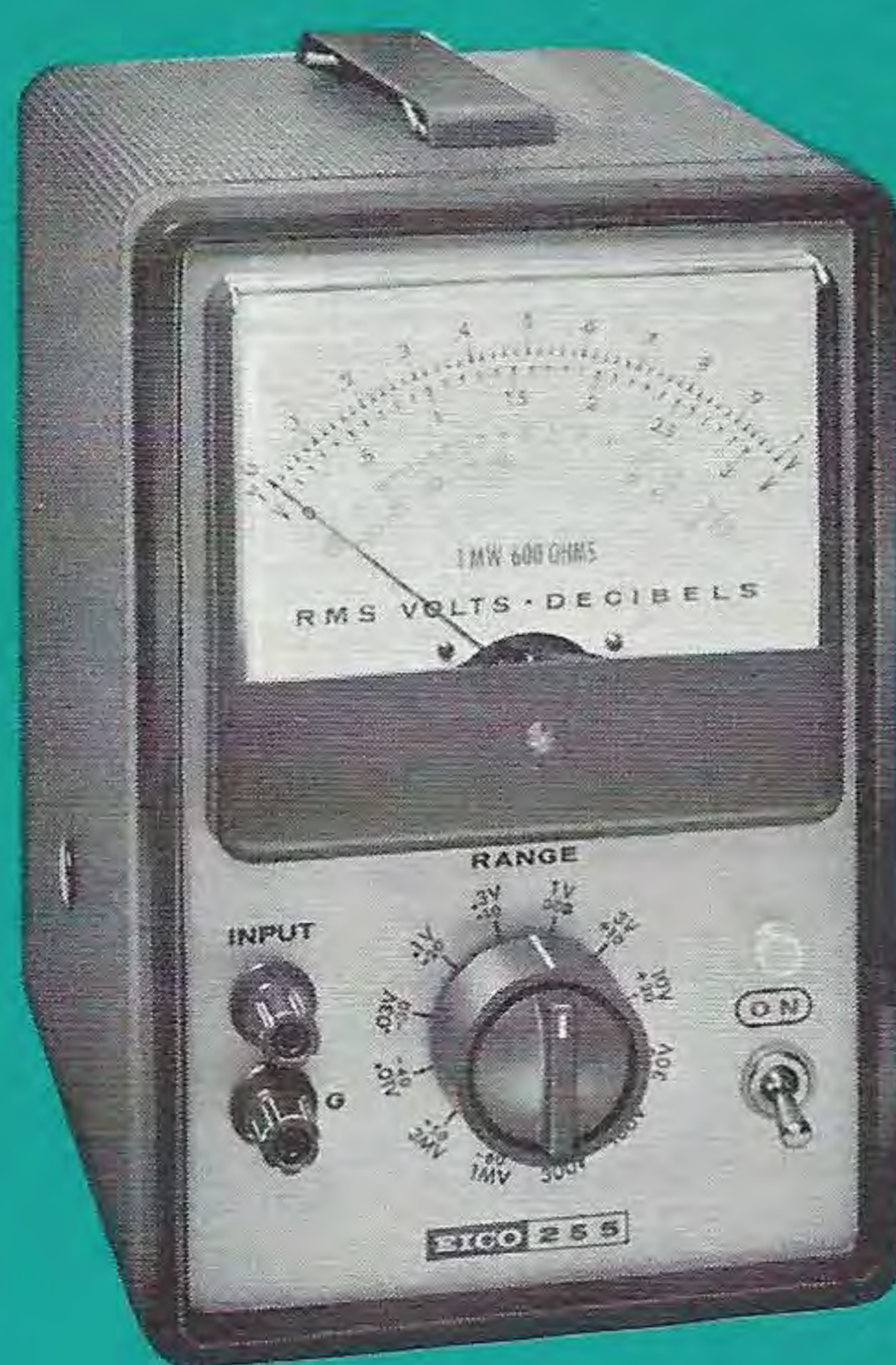
The model 250 employs a two-stage R-C coupled amplifier, and full-bridge meter circuit in one overall feedback loop. A single-sensitivity adjustment is utilized, and no response adjustment is required in the amplifier circuit.

SPECIFICATIONS

VOLTMETER VOLTAGE RANGES: 1, 3, 10, 30, 100, 300 RMS millivolts. 1, 3, 10, 30, 100, 300 RMS volts. **DECIBEL RANGE:** -80 to +52 db in 12 ranges. **FREQUENCY RESPONSE:** ± 0 db 10 c to 600 kc. **INPUT IMPEDANCE:** 10 megohms shunted by 15 mmf. **ACCURACY:** $\pm 3\%$ of full scale. **TUBE COMPLEMENT:** 2-6EJ7/EF184 frame grid pentodes, 1-6FY5/EC97 frame-grid triode, 1-6X4 full-wave rectifier, 1-OA2 voltage regulator.

AMPLIFIER MAX. OUTPUT VOLTAGE: 5 RMS volts. **MAX. GAIN (1 MV RANGE):** 60 db. **FREQUENCY RESPONSE:** +0, -3 db 8 c to 800 kc. **MAXIMUM HUM & NOISE:** -40 db with signals above 2 millivolts. **INPUT IMPEDANCE:** 10 megohms shunted by 15 mmf. **OUTPUT IMPEDANCE:** 5K ohms. **TUBE COMPLEMENT:** 2-6EJ7/EF184 frame-grid pentodes, 1-6FY5/EC97 frame-grid triode, 1-6X4 full-wave rectifier, 1-OA2 voltage regulator. **POWER REQUIREMENTS:** 105-125 VAC, 60 cps; 15 watts. **SIZE (HWD):** 8 1/2" x 5 3/4" x 7". **WEIGHT:** 10 lbs.

★ Export Model available



EICO 255 AC VTVM

- Measures voltage from 100 μ V to 300 V in 12 ranges
- Accuracy $\pm 3\%$ of full scale

Kit \$44.95 : Wired \$72.95

The model 255 is a high sensitivity, wide-band AC VTVM of laboratory accuracy and quality. It measures AC voltage from 100 microvolts to 300 volts in 12 ranges.

The instrument responds to the average value of the applied wave and reads in RMS value of a sine wave. The 0-1, 0-3 voltage scales are linear. The decibel scale is based on 0 db = 1 mw in 600 ohms, with 10 db interval between ranges.

Features include frame-grid triode cathode follower input circuit, frequency-compensated input attenuator, and cathode circuit attenuator. Use of high-gain frame-grid pentodes permits fewer amplifier stages for less phase shift and greater stability. Two-stage R-C coupled amplifier and full-bridge meter circuit in one overall feedback loop. Single sensitivity adjust; no response adjustment required in amplifier circuit. Regulated power supply and DC-biased filaments and hum-adjust pot. Pair of binding posts on the panel are input terminals for voltage measurement and will accommodate wire, pin tip, or banana plug. One binding post is connected to chassis ground.

The model 255 is essentially identical to the model 250, and the reviews of the model 250 quoted in this catalog can be considered to apply equally well to the model 255. The primary reason for offering the model 255 in addition to the model 250 is to provide an instrument with maximum control simplicity, a larger and more easily operated range selection knob, and a more easily read dial.

SPECIFICATIONS

VOLTAGE RANGES: 1, 3, 10, 30, 100, 300 RMS millivolts; 1, 3, 10, 30, 100, 300 RMS volts. **DECIBEL RANGE:** -80 to -52 db, in 12 ranges. **FREQUENCY RESPONSE:** ± 0 db 10 c to 600 kc. **INPUT IMPEDANCE:** 10 megohms shunted by 15 mmf. **ACCURACY:** $\pm 3\%$ of full scale. **TUBE COMPLEMENT:** 2-6EJ7/EF184 frame-grid pentodes, 1-6FY5/EC97 frame grid triode, 1-6X4 full-wave rectifier, 1-OA2 voltage regulator. **POWER REQUIREMENTS:** 105-125 VAC, 60/50 c; 15 watts drain. **SIZE (HWD):** 8 1/2" x 5 3/4" x 7". **WEIGHT:** 7 lbs.

★ Export Model available



EICO 261 AC VOLT-WATT METER

- 11 voltage ranges, 7 power ranges
- Regulated power supply, automatic load compensation

Kit \$49.95 : Wired \$79.95

The EICO 261 is a highly sensitive meter for measuring AC voltage and power. It is a required instrument for testing, evaluating and servicing amplifiers, oscillators, tone multiplex and similar equipment. It is also useful as a null indicator for Q measurements and for comparison measurement of capacity, inductance and resistance.

The unit features 11 voltage ranges from 10 mv to 1000 RMS volts. There are 7 power ranges from 0.15 mw to 150 watts. 1000-volt range permits checking power transformers.

The model 261 automatically compensates for any load selected, whether internal or external, to provide a single watt scale for all load and ranges. Power supply employs silicon diodes and is voltage regulated.

The instrument incorporates a tapped power resistor load (4, 8, 16 and 600 ohms) to handle up to 80 watts of power on 8 ohms, and 40 watts on other taps. It may be switched to external load up to 150 watts. The meter is automatically compensated for any load selected, internal or external, to provide a single watt scale for all loads and ranges.

The model 261 is an average reading device calibrated in RMS voltage or power of a pure sine wave. The 0-1, 0-3 voltage scales are linear and the single 0-1.5 power scale is quadratic.

SPECIFICATIONS

VOLTMETER RANGES: .01, .03, .1, .3, 1, 3, 10, 30, 100, 300, 1000 RMS volts. **FREQUENCY RESPONSE:** ± 0 db 10 c to 150 kc, -3 db at 500 kc. **INPUT IMPEDANCE:** 2 megohms shunted by 15 mmf. **ACCURACY:** $\pm 4\%$ of full scale.

WATTMETER RANGES: 0.15 mw, 1.5 mw, 15 mw, 150 mw, 1.5W, 15W, 150W. **FREQUENCY RESPONSE:** ± 0 db 10 c to 100 kc. **ACCURACY:** $\pm 5\%$. **INTERNAL LOADS:** 4 ohms (40W), 8 ohms (80W), 16 ohms (40W), 600 ohms (40W). **EXTERNAL LOADS:** 4 ohms, 8 ohms, 16 ohms, 600 ohms (all to 150W). **TUBE COMPLEMENT:** 6BL8/ECF80 pentode-triode, 12AT7 dual triode, OB2 voltage regulator. **POWER REQUIREMENT:** 105-125 VAC, 60 cps; 15 watts drain. **SIZE (HWD):** 8 1/2" x 5 3/4" x 7". **WEIGHT:** 6 lbs.

★ Export Model available



EICO ELECTRONIC INSTRUMENT CO., INC.
131-01 39th Avenue, Flushing, N.Y. 11352

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14 Grey Street, Brantford, Ontario

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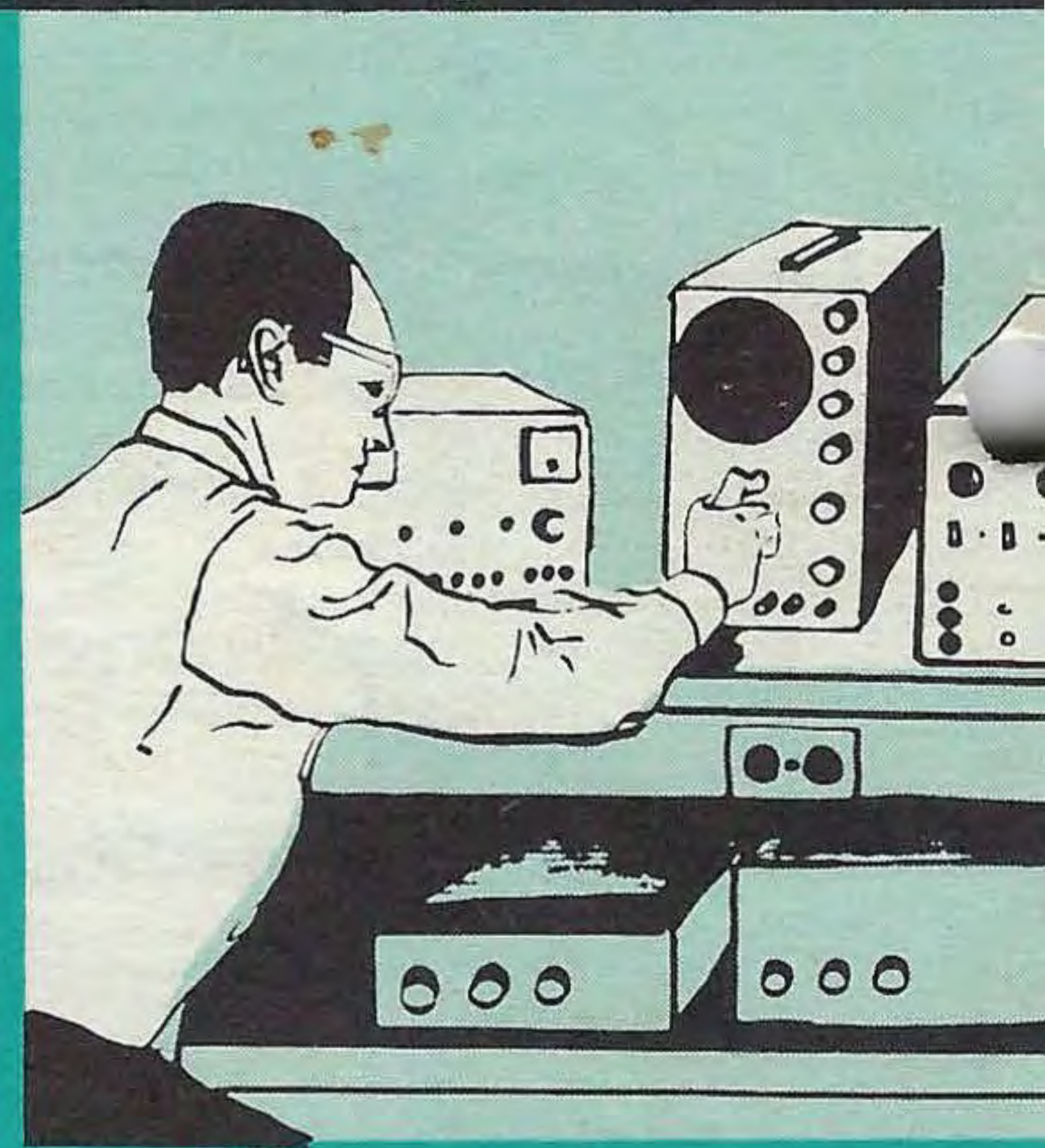
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