

**NEW**  
**FOR SERVICE  
 AND INDUSTRY**  
 Superior  
 Engineered  
 Test Equipment

# SENCORE

426 S. Westgate Drive, Addison, Illinois 60101

***NO. 1 STANDARD OF ELECTRONIC TESTING EQUIPMENT***





# TF151 IN OR OUT OF CIRCUIT TRANSISTOR & FET TESTER

TESTS ALL TRANSISTORS AND FIELD EFFECT TRANSISTORS IN OR OUT OF CIRCUIT. Here is the updated version of Sencore's popular in and out of circuit testers that really work — each and every time; in or out of circuit. The all new TF151 uses the tried and proven signal injection method as used on the earlier TR139 and TR15A . . . but that's not all. Flip the large function control to the right and the TF151 becomes an in or out of circuit tester for the all new field effect transistors too. Technicians and engineers are now being confronted with the FET every day and it's almost impossible to tell it from a regular transistor in appearance. You'll be equipped for either a "regular" transistor or an FET with this deluxe instrument. An all new self-contained reference book will guide you all the way. Check these features and you'll want to update your equipment now.

**NEW**  
**SENCORE**

TRANSISTOR	LO PW	HI PW	N-PNP P-PNP	BASE DIAG	GAIN (BETA)			LEAKAGE
					MIN.	AVE.	MAX.	ICBO MAX $\mu$ A
2N4267	✓	✓	✓	NS	32	200	200	1.0
2N4268	✓	✓	✓	NS	32	200	200	1.0
2N4269	✓	✓	✓	NS	32	20	140	
2N4270	✓	✓	✓	NS	32	20	140	
2N4271	✓	✓	✓	NS	32	20	140	10.0
2N4272	✓	✓	✓	NS	32	20	140	1.5 MA
2N4273	✓	✓	✓	NS	32	20	140	1.8 MA
2N4274	✓	✓	✓	NS	32	20	140	1.8 MA
2N4275	✓	✓	✓	NS	32	20	140	1.8 MA
2N4276	✓	✓	✓	NS	32	20	140	1.8 MA
2N4277	✓	✓	✓	NS	32	20	140	1.8 MA
2N4278	✓	✓	✓	NS	32	20	140	1.8 MA
2N4279	✓	✓	✓	NS	32	20	140	1.8 MA
2N4280	✓	✓	✓	NS	32	20	140	1.8 MA
2N4281	✓	✓	✓	NS	32	20	140	1.8 MA
2N4282	✓	✓	✓	NS	32	20	140	1.8 MA
2N4283	✓	✓	✓	NS	32	20	140	1.8 MA
2N4284	✓	✓	✓	NS	32	20	140	1.8 MA
2N4285	✓	✓	✓	NS	32	20	140	1.8 MA
2N4286	✓	✓	✓	NS	32	20	140	1.8 MA
2N4287	✓	✓	✓	NS	32	20	140	1.8 MA
2N4288	✓	✓	✓	NS	32	20	140	1.8 MA
2N4289	✓	✓	✓	NS	32	20	140	1.8 MA
2N4290	✓	✓	✓	NS	32	20	140	1.8 MA
2N4291	✓	✓	✓	NS	32	20	140	1.8 MA
2N4292	✓	✓	✓	NS	32	20	140	1.8 MA
2N4293	✓	✓	✓	NS	32	20	140	1.8 MA
2N4294	✓	✓	✓	NS	32	20	140	1.8 MA
2N4295	✓	✓	✓	NS	32	20	140	1.8 MA
2N4296	✓	✓	✓	NS	32	20	140	1.8 MA
2N4297	✓	✓	✓	NS	32	20	140	1.8 MA
2N4298	✓	✓	✓	NS	32	20	140	1.8 MA
2N4299	✓	✓	✓	NS	32	20	140	1.8 MA
2N4300	✓	✓	✓	NS	32	20	140	1.8 MA
2N4301	✓	✓	✓	NS	32	20	140	1.8 MA
2N4302	✓	✓	✓	NS	32	20	140	1.8 MA

NEW REFERENCE BOOK



LARGE 6" METER

- Checks transistors in or out of circuit for AC Beta and out of circuit for  $I_{CBO}$  leakage.
- Increased current check for Hi power transistors makes tests more accurate.
- Special test for critical RF transistors like GE9s that often slipped through before.
- True Gm mutual conductance test made on all field effect transistors; in or out of circuit. Truly revolutionary.
- $I_{GSS}$  leakage checked out of circuit on FETS.
- Special Gate 2 check provided for FETs with two gates (comprises less than 5 percent of all FETs).
- Special  $I_{DSS}$  (Zero Bias) current checks provided for matching FETs or for industrial "culling."
- Special positive bias test for the new enhancement FETs
- Special reference book clearly shows all information necessary for testing a transistor or FET, if it is a transistor or FET, and results to expect.

9 1/2" x 7 1/2" x 6" 9 lbs.

- **TRANSISTOR** tester — in or out of circuit
- **FIELD EFFECT** Transistor tester — in or out of circuit

Only  
**\$129<sup>50</sup>**

# TF17 COMPACT IN OR OUT OF CIRCUIT TRANSISTOR & FET TESTER



Hi-styled 4 1/2" meter.  
9 1/2" x 7 3/4" x 3 3/4" 7 lbs.

The new Sencore TF17 In-Circuit Transistor and Field Effect Transistor Tester is tomorrow's space age tester. The TF17 is versatile, reliable and compact to make field servicing on transistors and FETs a "snap." The TF17 is electrically the same as the TF151, but is mechanically designed for the man on the go. Protected by Sencore's new all-steel Handi-Case that enables the TF17 to be used anywhere. The TF17 features speak for themselves.

**Tests FETs** in or out of circuit for true Gm gain in micromhos.

**Tests Transistors** in or out of circuit for AC current gain in Beta.

**Tests Leakage** of FET's  $I_{GSS}$  and transistors  $I_{CBO}$  in actual microamps.

**Separate Test for Hi-Power** transistors. This is a heavy-duty test to pick out those troublesome output transistors.

**Separate Test for Special RF** transistors that may have been missed before.

**Special  $I_{DSS}$  Current check** for industrial "culling" and absolute matching of all FETs.

**Sencore's own Reference Book** that lists over 12,000 different transistors and FETs, with average Gm, Beta,  $I_{CBO}$  and  $I_{GSS}$  readings as tested with the TF17 and TF151.

**New Sencore Handi-Case** very handsomely protects the TF17 with a tough scuff-resistant all vinyl-clad steel case. Lid is removable and houses the Reference Book. The TF17 has outstanding features, at a compact price.

**\$109<sup>50</sup>**



# FE149 SENIOR FIELD EFFECT METER



**PUSH-BUTTON  
FET METER**

**99  
RANGES**

*at your fingertips with FET Accuracy*

## A NEW STANDARD OF THE INDUSTRY FAR SUPERIOR TO ANY VTVM OR VOM

- **Less circuit loading** than any other multimeter on the market 15 megohms on both AC and DC; insures most accurate measurements possible in the electronic industry.
- **Simplified push-button operation** places at your fingertips every range and measurement possible. Just check the specifications below and you'll see that nothing has been left off. Three separate operating controls would be necessary to provide these checks if rotary switches were used.
- **3-way power with instant stability**; you can use the FE149 anywhere, anytime without waiting for warm-up or stabilization . . . truly deluxe.
- **Complete meter and circuit protection.**
- **Unmatched accuracy** of 1.5% DC and 3% AC.

### SPECIFICATIONS

#### DC VOLTAGE RANGES:

+0 to .5, 1.5, 5, 15, 50, 150, 500, 1500 full scale.  
-0 to .5, 1.5, 5, 15, 50, 150, 500, 1500 full scale.  
-.25 to .25, -.75 to .75, -2.5 to 2.5, -7.5 to 7.5, -25 to 25, -75 to 75, -250 to 250 and -750 to 750 zero center ranges.

**Input resistance:** 15 megohms shunted by 45 pf; 1500 megohms when using high voltage probe.

**Accuracy:**  $\pm 1.5\%$

**AC Rejection:** 30 db minimum

#### AC VOLTAGE RANGES:

RMS 0 to .5, 1.5, 5, 15, 50, 150, 500, 1500 full scale.  
Peak to Peak 0 to 1.4, 4.5, 14, 45, 140, 450, 1400, 4500 full scale.

**Input Impedance:** 15 megohms shunted by 125 pf.

**Frequency Response:** Flat: 25 Hz to 1 MHz. 3 db points 8 Hz to over 10 MHz.

**Accuracy:**  $\pm 3\%$

#### OHMMETER RANGES:

0 to 600, 6,000, 60K, 600K, 6 meg, 60 meg, 600 meg, 6,000 megohms.

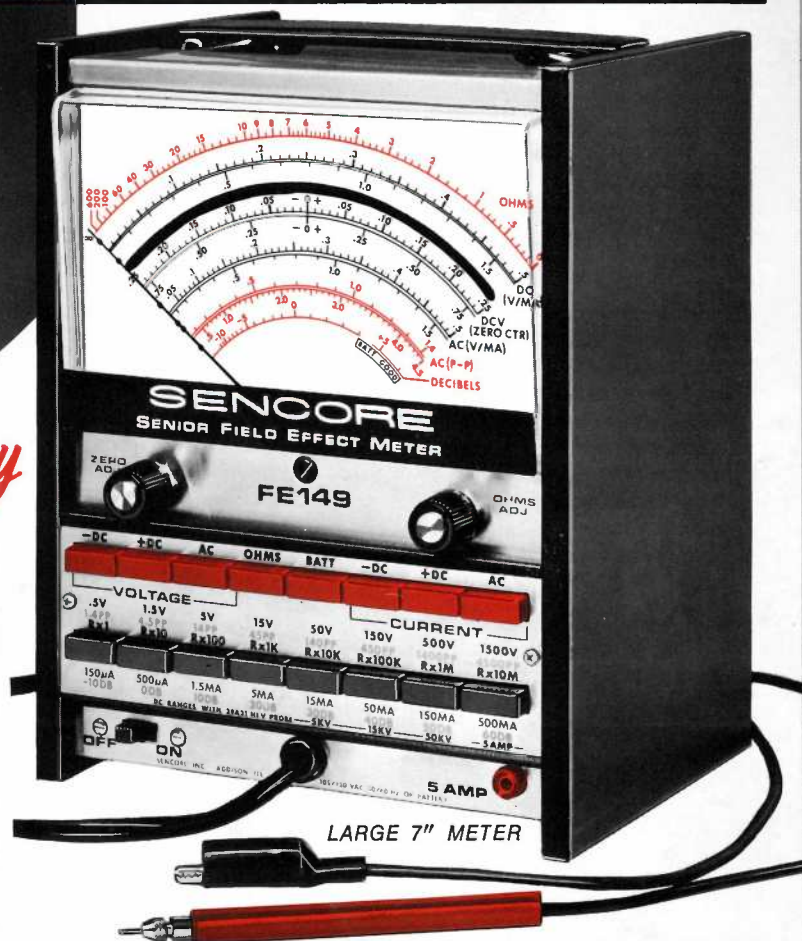
**Accuracy:**  $\pm 1\frac{1}{2}$  degree arc

#### HIGH VOLTAGE RANGES

High voltage probe 39A21 extends 50 volt DC range to 5KV, 150 volt DC range to 15KV and 500 volt DC range to 50KV.

#### ULTRA HIGH IMPEDANCE RANGES

High voltage probe 39A21 increases DC input impedance to 1500 megohm on all DC ranges.



LARGE 7" METER

- **Special ohms scale** of 6 ohms center, special .25 Volt Zero Center for transistor servicing, and shielded input lead to prevent RF pickup means the most accurate measurements even in critical circuits.
- Vinyl-clad, scuff-resistant case with satin chrome panel gives the appearance of class all the way.

#### DC CURRENT RANGES:

0 to 150 microamps, 500 microamps, 1.5, 5, 15, 50, 150, and 500 milliamps. 5 amps thru special jack on front panel.

**Accuracy:**  $\pm 3\%$  full scale

#### AC CURRENT RANGES:

0 to 150 microamps, 500 microamps, 1.5, 5, 15, 50, 150 and 500 milliamps. 5 amps thru special jack on front panel.

**Accuracy:**  $\pm 3\%$  full scale

#### DECIBELS:

Ranges: -10, 0, 10, 20, 30, 40, 50 and 60 db.

Reference: 1 milliwatt into 600 ohms.

#### GENERAL

**Meter:** 7", 100 microamps  $\pm 2\%$ ,  $\pm 1\%$  tracking accuracy; diode and fuse protected and isolated from the input.

**Multiplier Resistors:**  $\frac{1}{2}$  % precision type.

**Ohms Battery:** 1.5 volt "D" cell (not supplied)

**Power:** Internal 9.6 volt rechargeable battery, Burgess type #CD 24 or equivalent (available direct from Sencore Service dept. - \$9.95) Built-in battery charging circuit and battery checker.

Use standard 105 to 130 volt AC, 50 to 60 Hertz with or without rechargeable battery.

**Weight:** (less batteries) 6 pounds

**Dimensions:** 9" x 7 $\frac{1}{2}$ " x 6"



**39A21 HIGH VOLTAGE PROBE . . . . . \$14.95**

ONLY  
**\$149<sup>50</sup>**



# CG141 COLOR KING



## THE KING OF ALL COLOR GENERATORS

Here is truly the finest standard color bar generator modern technology and design methods can produce. At long last a generator that can be completely relied upon for functional design and absolute stability. Patterns will remain rock solid at any temperature. Compare these features with any generator in any price range.

- **Temperature controlled circuits:** No more worry about pattern instability in cold weather or on hot days. Sencore's new "Temp Control" maintains a thermostatically controlled temperature above 80 degrees even on the coldest days. New silicon timers specially designed for hot weather maintain complete stability to 140 degrees Fahrenheit. A Sencore exclusive.
- **TWO new color patterns:** The Color King has all five standard patterns plus two NEW patterns; a single dot and a single cross. The dot and cross can be centered or moved to any spot on the screen, simplifying both static and dynamic convergence. A Sencore exclusive.
- **NEW snap tuning for channels 2 through 6.** Eliminates troublesome tuning between channels and co-channel interference. It's just like tuning in a channel on your TV.
- **Interlace.** A patent pending interlace control to stop dot bounce found on some sets. Forms a perfectly round dot.
- **New analyzing features:** Increased output of composite chroma ( $\pm 7VPP$ ) and sync signals ( $-5VPP$ ) for new TV sets makes the job of tying down chroma troubles a snap.

- **Standard color bars . . .** RCA licensed standard color bars, 14 horizontal lines, 10 vertical lines, crosshatch, adjustable white dots, and an individual movable single dot and single cross. Complete convenience.
- **Crystal controlled sound carrier** 4.5 megahertz for adjusting fine tuning according to manufacturer recommendations.
- **Color gun interrupters . . .** with switches on the front panel. Resistors in lead piercing clips eliminate picture smearing found on other generators.
- **Solid state . . .** AC operated and solid state throughout. Zener regulated power supply for added stability and solid patterns.
- **No internal adjustments.** All adjustments are located on the front panel under the hinged pattern strip. You never have to tear your generator apart to make a simple touch-up adjustment. Three timer controls, 5 fine tuning trimmers, one for each channel, and a dot size adjustment. Sencore exclusive.
- **All steel vinyl covered case** with removable protective lid. High quality shock-mounted plate glass mirror in lid for convenient setup and convergence in the home.

You must agree that the Sencore Color King has everything. Yet it's priced as much as \$20.00 under other generators that offer far less. 10" x 9" x 3½", 9 lbs.

**\$169<sup>95</sup>**

## CR143 CRT CHAMPION



### NOW - COMPARE CRT COLOR GUNS AUTOMATICALLY

Now, for the first time, you can test CRT color guns for color tracking automatically; and exactly according to industry standards. No more time-consuming logging of each color gun reading at every setting of the G2 control like other testers.

Only the Sencore CRT CHAMPION has three separate G2 screen grid controls just like the color TV itself.

A color tracking scale right on the meter makes the all-important tracking test easy, fast, and accurate. This is most important when claiming credit for a defective color CRT.

The Champion has all of the standard tests too, such as shorts test, emission test with pure DC, and life test. It is much easier to use than you might imagine.

Rejuvenation and shorts removal is accomplished with the exclusive Automatic Controlled Rejuvenation circuit.

When the REJ button is pushed, the large electrolytic is disconnected from the tester circuit. A direct short in the CRT will quickly discharge the capacitor so that no damage is done. If the tube needs rejuvenation, the RC timer takes over to apply the longest rejuvenation cycle to the CRT that has the lowest emission. The user simply pushes the rejuvenation button without fear of damage.

One-step rejuvenation and automatically controlled RC timer presents a fast on-the-spot back up if the CRT is bad. Shorts can be removed as well with the automatic circuit. It virtually thinks for you.



New line voltage adjust assures you of the most accurate check possible.

Equipped with plug-in sockets for fast testing and easy updating. Controls, calibrated in actual DC volts, are so standard that they can be set from any CRT manual if the need should arise. Housed in chrome panel and rugged all steel vinyl case with spacious lead compartment. 10" x 9" x 3 1/2" 11 lbs.

**\$119<sup>50</sup>**

## SS137 COMPLETE SWEEP CIRCUIT ANALYZER



Everything you need to isolate ANY sweep circuit troubles in seconds and eliminate all guesswork.

- Universal horizontal and vertical oscillator signals for direct circuit injection.
- Dynamic in-circuit flyback checker.
- Direct Horizontal Yoke substitution for B/W and color.
- Vertical Yoke and Vertical Output transformer test drive signals.
- Horizontal stabilization and Sync test provisions.
- External checks with built-in VTVM: No need to hunt for a second meter while checking out the sweep circuits; DC volts from 0 to 1000 volts, AC volts peak to peak from 0 to 1000 volts, and 2nd anode voltage measurements of 10KV and 30KV. Current scale of 300 Ma for checking fuse current and output tube cathode current; special 3 Ma range for setting high voltage regulator current in color TV.
- Housed in all-steel case with shock mounted high quality plate glass mirror in detachable hinged cover. 10" x 9" x 3 1/2", 10 lbs. All test leads supplied.



**\$94<sup>50</sup>**

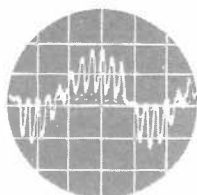




# PS148 DUAL PURPOSE OSCILLOSCOPE/VECTORSCOPE

**NEW**  
**SENCORE**

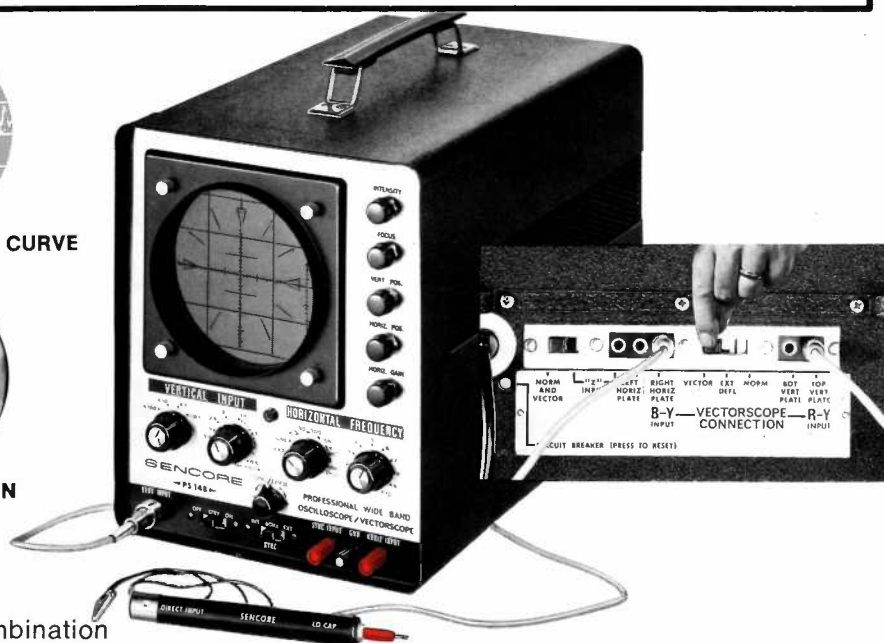
**THE  
FIRST  
REALLY  
COMPLETE  
SCOPE**



STANDARD RCA "S" CURVE



VECTOR PATTERN



The many exclusive features place this combination oscilloscope/vectroscope in a class by itself. Portable and smartly styled, this scope equips you for every servicing job; outstanding flexibility makes it ideal for field engineering and production line testing and many other applications where ease of operation and healthy specifications are desired. The Sencore PS 148 compares to other scopes costing much more for comparable features and performance.

## • A PROFESSIONAL 5 INCH VECTORSCOPE

**CONVERTS EASILY TO PROFESSIONAL VECTOR-SCOPE.** Flick one switch at the rear of the PS 148 and you have a 5-inch vectorscope. Connect the lead piercing clips to the output of the B-Y and R-Y chroma circuits or right at the color CRT grids. Actual vectors as taught on vector charts will appear on the screen.

**COMPLETE CHROMA BANDPASS AND COLOR SUB CARRIER ALIGNMENT** is made with the one vector pattern. Concise demodulation angle is determined with the special vector graph.

**MINIMUM CIRCUIT LOADING** prevents distorted vector pattern. Lead lengths and inter-lead capacities are kept to a minimum by having vectorscope connecting at rear of PS 148.

## • A CONVENTIONAL WIDEBAND OSCILLOSCOPE

**DIRECT VERTICAL PEAK TO PEAK VOLTAGE READ-OUT** that is always accurate. Voltages are read right off the front panel. No need to feed in confusing calibration signals and interpolate readings. Measure exactly any voltage on display with no confusing bandswitching. It is even faster than using a VTVM.

**WIDE BAND.** Vertical amplifier frequency response from 10 Hz to 5.2 megahertz,  $\pm 1$ DB. Rise time of .055 microseconds. This extra response insures true waveform reproduction of complex signals.

**HIGH SENSITIVITY.** Vertical amplifier sensitivity of .017 volts rms per inch deflection. Great for transistor work and to read low level signals such as directly from the tuner in a TV receiver.

**EXTENDED HORIZONTAL SWEEP FREQUENCIES** Horizontal sweep ranges 5 Hertz to 500KHz in five overlapping ranges. TV horizontal and vertical sweep frequencies preset on course control.

**POSITIVE SYNC** outstanding stability is due to precise control over sync signals. Variable control enables operator to lock in complex waveforms almost as easily as triggered sweep types.

**HIGH INPUT IMPEDANCE** Minimum circuit loading is assured with input impedance of 27 megohms shunted by 11pf using built-in low capacity probe. Direct probe is 2.7 megohms shunted by 107pf.

**SEVEN KILOVOLT HI VOLTAGE RATING** in built-in low capacity probe to view waveforms in TV horizontal and vertical output circuits.

**EXTERNAL INPUTS** for horizontal sweep and external sync on front panel. Provisions for intensity modulation and direct connection to deflection plates on rear of instrument.

**RETRACE BLANKING** Horizontal retrace is built in and effective on all of the horizontal sweep ranges.

**STANDBY SWITCH.** Cuts to half power when unit is not in use and provides instant warm-up when needed.

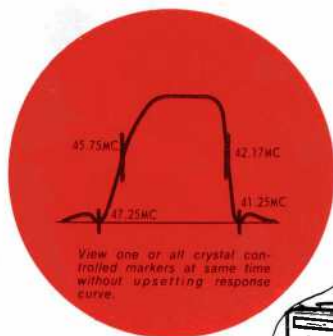
**ALL-STEEL CASE** with beautiful brushed chrome front panel, the Sencore PS148 is as handsome as it is functional.

11" x 9" x 15½", 22 lbs. 100 watts, 60 cycle, AC, 47 watts on standby.

39G3 Demodulator probe (Not supplied).....\$5.75

**\$249<sup>50</sup>**

# SM152 SWEEP AND MARKER GENERATOR



Simplified hookup — only three connections.

## THE FIRST COMPLETELY SELF-CONTAINED ALL SOLID STATE SWEEP AND MARKER GENERATOR

- **Ultra-flat linear sweep output** (all channels from 10MHz to 920MHz)
- **Crystal controlled true post-injected IF markers**
- **Exclusive calibrated sweep width and RF output**
- **Variable RF generator for IF spot aligning**
- **Exclusive preset chroma sweep for both IF and chroma bandpass injection**
- **Complete with cable and termination networks**

Now for the first time you can see textbook response waveforms instantaneously with the all new solid state SM152 combination sweep and marker generator.

Never before has so much been designed into one remarkable instrument. The SM152 can completely sweep align the UHF tuner, the complete VHF tuner, the IF, and the chroma bandpass. Each stage can be aligned individually, or the entire signal system can be aligned for a correct over-all response. Any number of true post-injection markers can be selected at a push of a button.

Sound, video, color, and all trap markers "pop" singly or simultaneously on the response waveform. Hooking up the SM152 is fast and simple. Only 3 hook-up cables are required; one for RF signal in, one for detected signal out, and one for the scope. Complete receiver alignment is literally cut to 1/8 of the time required using the old-fashion tube alignment gear. Only the SM152 can give this tremendous time gap because it combines all the functions plus many more which used to require at least five separate instruments. Just study these main features of the SM152 and you will agree that there has been nothing like it before.

- **RF SWEEP OUTPUT** is calibrated and variable from 10 microvolts to .1 volts.



## ALL NEW

- **ULTRA LINEAR SWEEP WIDTH** is calibrated from 0.3 to 15 MHz; exclusive with Sencore. VHF and IF output is virtually flat ( $\pm 0.3\text{db}$ ).
- **6 BANDS** cover all frequencies VHF, UHF, IF, including chroma for bandpass alignment. Also a special IF spot align band for touch up or setting IF adjustments prior to sweeping.
- **CRYSTAL CONTROLLED IF MARKERS** at 39.75, 41.25, 41.67, 42.17, 42.67, 44.25, 45.75, and 47.25 MHz. True post-injection system used for all markers.
- **TWO PRESET CHROMA OUTPUTS AVAILABLE.** 1) A 3.58 MHz swept chroma signal of 0 to 2 volts peak to peak at the chroma output jack. 2) A 3.58 MHz swept signal at IF frequencies for direct injection into the IF.
- **CRYSTAL CONTROLLED CHROMA MARKERS** at 3.08, 3.58 and 4.08 MHz.
- **RF VIDEO CARRIER MARKERS** for channel 4, 5, 10 and 13. Also crystal reference markers for sound and color on these four VHF channels.
- **CRYSTAL CONTROLLED FM IF MARKER** at 10.7 MHz plus 10.6 and 10.8 MHz bandwidth markers.
- **EXTERNAL MARKER** input at 75 ohms for a 25 millivolt or greater signal input.
- **SWEEP DIRECTION** and response curve polarity fully controlled so you can duplicate the response curve in any alignment procedure.
- **WIDE 10" TUNING DIAL** with only the range in use visible. VHF and UHF channels and other special check points are indicated along with the frequency.
- **UNIT IS COMPLETE** with all leads, matching pad and detector probes.

13 5/8" x 9 1/2" x 5 3/4" weight 15 lbs.

**\$395<sup>00</sup>**





## MU150 DYNAMIC MUTUAL CONDUCTANCE TUBE TESTER



CONTINENTAL II

MU150

\$229<sup>50</sup>

THE WORLD'S FINEST  
TUBE ANALYZER



Step up to a TRUE Gm tester. • 5000 Cycle Gm test • Full Cathode Emission Check • 100 megohm Grid Leakage Test.

A "must" for modern servicing . . . Production line testing . . . Quality control . . . and Laboratory . . . The Continental checks tubes accurately and from every possible angle. It just cannot lie. Tubes that don't perform are found fast and in no uncertain terms. Each tube is checked for:

- Full rated cathode current drawn from every tube. Important when checking power and rectifier tubes.
- 100 Megohm Grid Leakage test to find the tough grid contamination defects that other testers miss.
- Stethoscopic shorts test that checks each element against all others for shorts.
- True Gm using 5000 Hertz square wave to completely analyze any tube.
- Life test to find intermittents and temperature sensitive failures.

FAST . . . Using only the first three controls, the Continental is a speedy Mighty Mite tester. Flip the last three switches into operation from the setup data and you have an ultra-accurate mutual conductance test.

New setups can be made from any good tube manual or data sheet. No need to wait for tube setup information with this straightforward approach.

Checks over 3000 foreign and domestic tubes. Here is a superb mutual conductance tester that is everything you could want. Its famous four-way independent tests make you a master of the art of tube testing . . . The beautiful Continental is housed in a vinyl-clad solid-steel attache case with lustrous all-chrome front panel. Up-to-date plastic-coated tube chart is tear-proof and washable. Yet at a price below all competition. 17" x 11" x 4" 18 lbs.



## TC142 THE MIGHTY MITE V



\$84<sup>50</sup>

FASTER THAN EVER

- MODERN AND UP-TO-DATE
- MIGHTY MITE RELIABILITY
- CHECKS OVER 3000 TUBES

The fifth generation of the famous Mighty Mite tube tester still has all of the features that made the 50,000 Mighty Mites before it so popular. The Mighty Mite has long been the leader among tube checkers, because it has the versatility, reliability and durability professional service men demand . . . Checks them all, fast and easy: Compactrons, Novars, Nuvistors, frame grid types, and the latest 10 pin types, such as 6U9, 6Y9, and 6W9. Now the Mighty Mite V even has a new Magnoval socket for checking such types as 6BG5, 6KG6, 6EC4, 9ED4, etc. Checks more tubes than any other tester, over 3000 in all.

**Speedy.** New, simplified arrangement of the setup controls assures even faster setup than previous Mighty Mites. A third hand setup booklet holder cuts setup time and speeds tube testing.

**Reliability.** The Mighty Mite V accurately checks each tube at full rated cathode current for emission. Less reliable testers miss this point.

**Reliability.** A VTVM circuit measures grid leakage caused by contamination, with a high sensitivity of 100 megohms. This extra sensitivity finds the tough dogs that other testers miss.

**Reliability.** Shorts test uses famous stethoscopic approach that checks each individual element of a tube against all others for shorts.

**Rugged.** Durable vinyl-clad all steel construction, with a scratch-resistant brushed chrome panel. 10" x 9" x 3½", 9 lbs.



## CG18 COLOR CADET STANDARD COLOR GENERATOR

**NEW**  
SENCORE



- COMPACT
- PORTABLE
- VERSATILE
- STABLE



You get the best features of the Lo-Boy and Color King color generators in one handsome package. Compactness, portability, versatility all combined to create a color generator to do just what you need. So basic are the CG18 functions that it can be called nothing more than the Standard Color Generator. The CG18 Color Cadet can easily be the little brother of the CG141 Color King or the big brother of the CG10. Just compare the features and see where the CG18 Color Cadet fits into your servicing needs.

**Standard color bars** . . . RCA licensed 10 standard keyed color bars, 10 vertical lines, 14 horizontal lines, crosshatch, and adjustable white dots. The standard convergence patterns.

**Snap tuning for channels 3, 4 and 5.** Just like a standard TV tuner. Eliminates any unnecessary co-channel interference.

**Timer controls right on the front panel.** This is a Sencore patent pending exclusive feature. Only three adjustments, horizontal hold, vertical hold just like on a regular TV, and a horizontal line adjustment solidly stabilize the CG18 fast.

**Interlace control.** Another Sencore exclusive. Stops dot bounce and pairing of horizontal lines that varies from set to set.

**Solid state, crystal controlled.** Battery operated for maximum portability. Special Zener regulated DC power supply for greatest stability.

**Automatic shut-off.** When the lid is shut the CG18 is automatically turned off. This prevents unnecessary battery drain if accidentally left on and insures continuous "topnotch" performance.

**Crystal controlled sound carrier** 4.5 megahertz for adjusting fine tuning in accord with the different manufacturers' alignment procedures.

**Color gun interrupters** right on the front panel. Load resistors are mounted in the special heavy duty lead piercing clips to eliminate picture smearing.

**Sencore's new all-steel "Handi-Case."**

A tough scuff-resistant combination of vinyl covered steel with brushed aluminum trim give a unique eye appeal. The removable protective steel lid contains a high quality shock-mounted plate glass mirror. Convenient for quick convergence in the home.

9 1/2" x 7 3/4" x 3 3/4" 7 lbs.

**\$129<sup>95</sup>**

## LO-BOY STANDARD COLOR BAR GENERATORS



**CG12 LO-BOY STANDARD COLOR BAR GENERATOR.** Same styling as CG10 above. AC operated with a zener regulated power supply for added stability even with line voltage variations. Has 4.5 MHz crystal controlled signal for fine tuning as recommended by color TV manufacturers ... only 10" x 8 3/4" x 3 3/4" 8 lbs.

**\$89<sup>95</sup>**  
CG10

**\$109<sup>95</sup>**  
CG12

Feature for feature, dollar for dollar, it's by far your best buy in color generators.

**STANDARD RCA PATTERNS.** Licensed color bar pattern, cross-hatch, vertical lines, horizontal lines, adjustable white dots — all the patterns found on generators costing much more.

**INTERLACE CONTROL.** A standard with Sencore. Stops dot bounce that varies from set to set.

**ALL NEW TIMING CIRCUITS.** Patent pending, using new silicon transistors that perform up to 140°. Timer controls are as easy to adjust as the horizontal and vertical hold controls on a TV set. Controls are within easy reach right on the front panel, which absolutely eliminates timer instability.

**ALL SOLID STATE.** Low warm-up time, provides all patterns instantly.

**TOUGH CONSTRUCTION.** Scuff-resistant vinyl-clad steel that can "really take it"; stays new looking longer. Compact — hardly bigger than a cigar box. Easy to carry from job to job.

**SENCORE CG10.** New zener regulated battery power with long-life "C" cells. The 12 volt battery supply can wear down to nearly 9 volts without affecting the circuits. New leakproof battery holders permit easy replacement without dismantling the unit.

Priced at less than the cost of a kit





## FE14 - FE16 FIELD EFFECT MULTIMETERS

# FAR SUPERIOR TO VTVM OR VOM...



Special shielded input leads prevent RF pickup.

- Less Circuit loading than a VTVM 15 megohm on DC and 10 megohm on AC
- Instant stability — Zero warm-up time
- Full meter protection — 100 times AC overload
- All advantages of VOM too — portability, zero center scale and DC current test

These true Field Effect Meters combine the precision and accuracy of a VTVM with the compactness and portability of a VOM. All this is made possible by a newly developed semiconductor device called the Field Effect Transistor which is far superior to a vacuum tube in loading characteristics. Minimum circuit loading, true zero center scale, mirrored scale, built-in battery check, and an all steel case combined with the specifications to represent the finest meters yet.

### SPECIFICATIONS

#### DC VOLTS

Ranges: 0 to 1, 3, 10, 30, 100, 300, 1000 full scale.  
± .5, 1.5, 5, 15, 50, 150, and 500 zero center scales.  
Input Resistance: 15 megohms shunted by 14PF.

#### AC VOLTS

Ranges: (RMS): 0 to 1, 3, 10, 30, 100, 300 and 1000 full scale.

Ranges: (Peak to Peak) 0 to 2.8, 8.4, 28, 84, 280, 840 and 2800 full scale, frequency compensated.

Input Impedance: 10 megohms shunted by 29PF.

Frequency Response: 10Hz to 10MHz at 3 DB points

#### OHMMETER

Ranges: 0 to 1000, 10K, 100K ohms, and 100 megohms.

#### DC CURRENT MEASUREMENTS

Ranges: 0 to 100 microamps, 1ma, 10ma, 100ma, and 1 ampere.

#### GENERAL

Meter: 4½", 100 microamp±2%, diode protected and isolated from output.

Ohms Battery: 1.5V "C" cell (not supplied).

Weight: 4 lbs. Dimensions: 5" x 7⅞" x 3⅞" d.

Accessories: High Voltage Probe (39A19) extends 300 volt range to 30KV (Not supplied). For both FE14 and FE16..... \$9.95



#### FE14 — Standard FET METER

ACCURACY: DC ±2.5%  
AC ±4.5%

- 4½ inch meter, vinyl-clad steel case.

**\$69<sup>95</sup>**

#### FE16 HI ACCURACY FET METER

ACCURACY: DC ±1.5%  
AC ±3%

- 4½ inch high styled meter, high-styled knobs, and special meter tilting metal handle. Vinyl-clad steel case.

**\$84<sup>50</sup>**



## RC144 HANDY "36"

Provides 36 most often needed resistors, capacitors and electrolytics—24 ½ watt and 1 watt resistors from 10 ohms to 5.6 megohms; 10 capacitors from 100-mmf to 0.5 mfd at 600 volts; and two electrolytics at 10mfd and 40-mfd at 450 volts DC. 4" x 3" x 2", 2 lbs.



**\$17<sup>95</sup>**

## RC145 HANDY "53"

Same resistor and capacitor line-up as RC144 above. Full range of electrolytics from 2 mfd to 250 mfd at 450 VDC can be used as single or duals for direct fast substitution. Exclusive current surge protector protects circuit and operator.



**\$34<sup>95</sup>**

## RC146 HANDY "75"

Save valuable servicing time "hunting up" exact components for substitution testing only.

The Sencore substitutors also cost you less than your cost of the individual parts inside.



"Top-of-the-line" substitution unit. Provides 75 frequently used values of carbon resistors, capacitors, electrolytics, power resistors, and universal selenium and silicon rectifiers for fast, on-the-spot substitution. Twelve 1-watt resistors from 10 to 5.6k ohms. Twelve ½-watt resistors from 10k to 5.6 megohms. Ten 600-volt capacitors from 100mmfd to 0.5mfd. Ten electrolytics that can be used singly or as duals to form up to 25 different values. Exclusive electrolytic surge protector circuit prevents arc, spark or heating of electrolytic in set; 2mfd to 250mfd at 450 volts. Power resistors of 20 watts from 2.5 to 15,000 ohms, and a universal 0.5 amp silicon and selenium rectifier makes the RC146 a deluxe instrument for parts substitution. 10¼" x 4¾" x 4¾", 3½ lbs.

**\$49<sup>95</sup>**

## BE113

### DUAL TV BIAS SUPPLY



Save time in AGC trouble shooting and TV alignment. A single or two separate 0 to 20 volts DC bias supplies — without interaction. Provides all recommended TV alignment biases. Well filtered; effectively pure DC with less than 1/10th of 1% ripple — calibration accuracy better than equivalent battery tolerance. 4" x 3" x 2", 1 lb.

**\$14<sup>95</sup>**

## FC147

### FILAMENT CHECKER



Check continuity of all tube filaments including the new Compactrons, Novars, 10-pins, Nuvisitors and the new Decals. Test leads for CRT filament checking. Also, doubles as neon voltage indicator. TV cheater cord is used to power unit as a check on the cord to insure 115 volts AC on TV. 4" x 3" x 1". 1 lb.

**\$5<sup>95</sup>**

## BE124

### BATTERY ELIMINATOR



Power supply replaces batteries during transistor radio repair. Tapped voltages at 1.5 volt DC intervals from 0 to 12 volts on front panel, connects simply for center tap and bias voltages as required. Function switch converts meter to trouble-shooting 0 to 50 Ma current reading device to monitor transistor radio current drain. Charges nickel-cadmium batteries.

Guaranteed accurate.  
5" x 4½" x 2½",  
3 lbs.

**\$29<sup>95</sup>**





# FS134 UHF-VHF-FM SOLID STATE FIELD STRENGTH METER



Get in on the lucrative business in distribution systems, UHF, FM, and VHF antenna jobs with the all new FS134 completely solid state portable field strength meter. Calibrated in true microvolts on all bands:  $\pm 3\text{DB}$  on VHF-FM/ $\pm 6\text{DB}$  on UHF.

**FS134 Field Strength Meter** — The FS134 uses Jerrold coax connectors so you can correct problems on existing systems, as well as install, balance, and check new distribution systems. Built-in attenuators of 0, 20, and 40 db (X1, X10, and X100) enable you to measure signal strength from the amplifier to the last tap-off in the system. The FS134 is portable and requires no AC cord; you can take it to the top of the tower to orient the VHF TV, UHF TV, and FM antennas for best signal with minimum interaction between them. Highly sensitive: 30 Microvolts  $\pm 3\text{DB}$  on VHF-FM and 30 Microvolts  $\pm 6\text{DB}$  UHF. Separate built-in UHF tuner for greater accuracy in critical antenna work and translator checking. 4" 2% meter calibrated in microvolts and db. Uses industrial standard for 0 db, often called 0 DBJ or DBM.

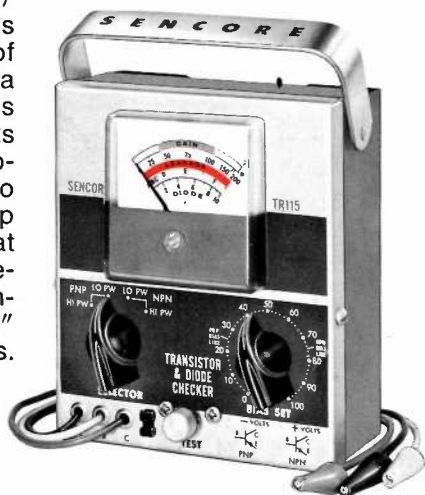
Now check db loss in various cables and lines, compare different antennas and amplifiers for db gain, field intensity surveys, and show a critical customer why he needs a new antenna for his FM stereo or color TV set. The audio amplifier and speaker let you monitor the TV or FM sound signal and aid in tracking down noise. Besides the Jerrold connector for 75 ohm cable, the FS134 has a built-in balun to match 300 ohm twin-lead; no messy adaptors. The FS134 is powered by easy-to-get "C" cells or optional rechargeable battery supply (part #39G15), installed in minutes as cheater cord receptacle is already riveted to panel. 10" x 9" x 5", 9 lbs.

**39G15 Rechargeable battery supply**  
(less battery) ..... \$9.95

**\$229<sup>50</sup>**

## TR115 TRANSISTOR-DIODE CHECKER

Handy, compact GO-NO-GO transistor/diode tester. Tests all transistors out of circuit for DC beta gain, shorts, opens and leakage; checks diodes for front-to-back ratio. Easy to operate, no set-up book required. Great for the hobbyist, beginner, or the technician on the go. 5" x 4½" x 2½" 2 lbs.



**\$29<sup>95</sup>**

FORM NO. 473

LOOK FOR  
THE  
COMPLETE  
SENCORE  
FAMILY OF  
QUALITY TEST  
EQUIPMENT  
DISPLAYED AT  
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DISTRIBUTOR.

