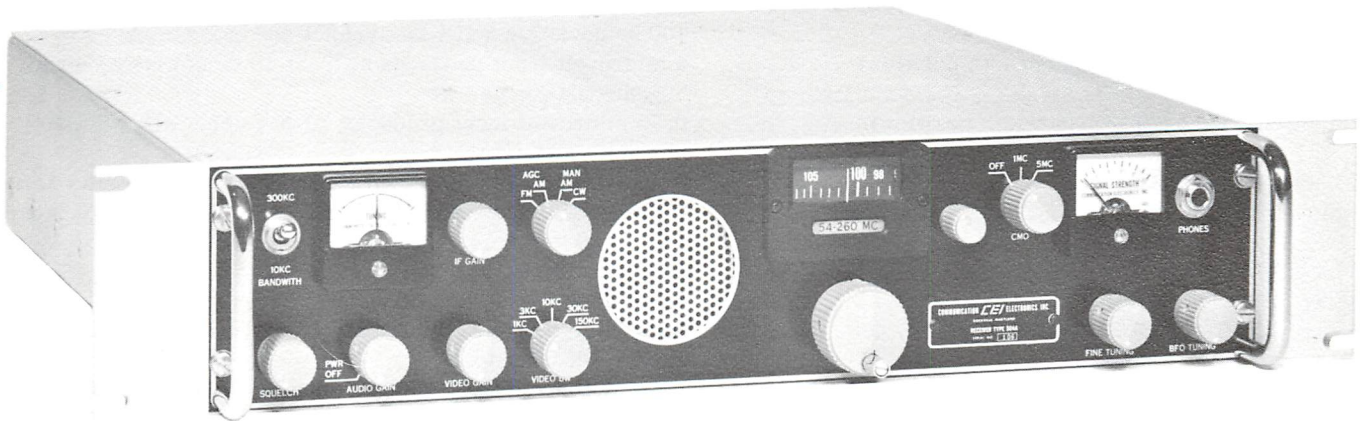




# Technical Data

## TYPES 501A AND 504A VHF RECEIVERS



**TYPE 504A RECEIVER**

The CEI Types 501A and 504A Receivers provide AM, FM, and CW reception in the 54 mc to 260 mc frequency range. The units tune this frequency range in a single band. The 501A and the 504A differ only in the fact that the 504A includes a Crystal Marker Oscillator (CMO) which is not included in the 501A. The CMO allows the operator, by means of front panel controls, to accurately adjust dial calibration to the nearest 1-mc or 5-mc mark on the dial. Two IF bandwidths are included, either 300 kc or 10 kc as determined by a front-panel switch setting.

These receivers include both audio and video outputs on the rear apron. The audio output is designed to operate into a 600-ohm load while the video is designed to work into a high-impedance load. The video bandwidth is adjustable from 1 kc to 150 kc by means of a five-position front-panel switch.

Both receivers have been designed using solid-state devices exclusively. The result is high reliability, low power requirements (approximately 1.5 watts), and a compact package which mounts in a standard 19-inch rack with a panel height of only 3.5 inches.

In addition to the transistorized design, the 501A and 504A also feature a tape dial which offers excellent readability and smooth, trouble-free operation. Other features include a power supply which will operate on either 115 vac or 230 vac at line frequencies from 50 cps to 400 cps, a built-in BFO and Squelch, an output to drive a signal monitor, an IF output, and a local oscillator output.

### SPECIFICATIONS

Type of Reception . . . . .	AM, FM, and CW
Frequency Range . . . . .	54-260 mc
Input Impedance . . . . .	50 ohms, nominal
Noise Figure. . . . .	6,5 db, maximum
Oscillator Radiation at Antenna Input . . . . .	15 microvolts, maximum
Image Rejection . . . . .	50 db, minimum

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IF Rejection . . . . .	70 db, minimum
IF Frequency . . . . .	21.4 mc
IF Bandwidths . . . . .	300 kc or 10 kc, selectable by front panel switch
Sensitivity, FM (300 kc bandwidth position) . . . . .	6 microvolt input produces at least 21 db (s plus n)/n with 100 kc deviation and 1 kc modulation
Sensitivity, AM (300 kc bandwidth position) . . . . .	4 microvolt input produces at least 10 db (s plus n)/n with 50% modulation at 1 kc
Sensitivity, AM (10 kc bandwidth position) . . . . .	0.75 microvolt input produces 10 db (s plus n)/n with 50% modulation at 1 kc
FM Output Stability . . . . .	Output varies less than 2 db for inputs above 1.5 microvolt
AM Output Stability . . . . .	Output varies less than 3 db for an input level change from 4 $\mu$ v to 10 mv
Video Response . . . . .	10 cps to 150 kc
Video Bandwidth Control . . . . .	5 positions: 1, 3, 10, 30, and 150 kc
Video Output Level . . . . .	Adjustable by front panel control. Capable of 5 volts rms across 10K ohm load
Beat Frequency Oscillator . . . . .	Crystal controlled at 21.4 mc; operates with 300-kc or 10-kc bandwidths in CW mode
Audio Output . . . . .	100 mw into 600 ohms
Pre-detection (IF) Output . . . . .	21.4-mc output provides 100 mv minimum into a 50-ohm load for input levels above AGC threshold
Local Oscillator Output . . . . .	50 mv, minimum, into 50-ohm load
Signal Monitor Output . . . . .	21.4-mc center frequency
Crystal Marker Oscillator (Type 504A only) . . . . .	Outputs: 1.0 mc or 5.0 mc (harmonics to 300 mc) Frequency Stability: $\pm 0.005\%$ from 0°F to 120°F
Size . . . . .	19-inches wide, 3.5-inches high, and 15.5-inches deep
Weight . . . . .	15 lbs.
Power Input . . . . .	115/230 volts, 50-400 cps
Power Consumption . . . . .	6 watts, approximately

FOB Rockville, Maryland. Taxes extra where applicable. Price and specifications subject to change without notice.