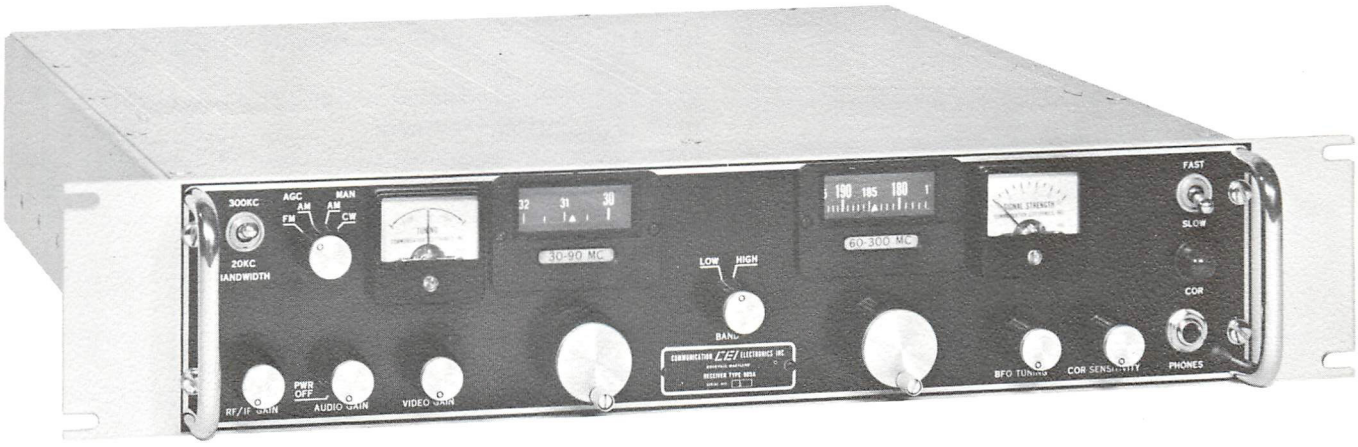
Technical Data

DATA SHEET 191.50 1/11/66

TYPES 901B, 904A, 905A, AND 906A VHF RECEIVERS



TYPE 905A RECEIVER

The CEI Types 901B, 904A, 905A, and 906A Receivers were designed to fulfill the need for compact, high performance VHF receivers covering the frequency range of 30 mc to 300 mc. These four receiver types are identical except that the 904A and 906A include a crystal marker oscillator (CMO) not included in the 901B and 905A, and the 905A and 906A contain a carrier operated relay (COR) not contained in the 901B and the 904A.

These receivers provide AM, FM, or CW reception and tune the 30-300 mc range in two bands: 30 mc to 90 mc and 60 mc to 300 mc. Automatic gain control is provided for FM operation, manual gain control operates during CW reception, while either automatic or manual gain control may be selected by the operator during AM reception.

All four receivers include IF bandwidths of 300 kc and 20 kc; the bandwidth in use is selected by a front-panel switch. The built-in BFO operates in either bandwidth and is automatically activated when the mode switch is placed in the CW position.

In addition to compact mechanical designs (panel heights are only 3.5 inches), these receivers feature electrical designs which employ both solid-state devices and electron tubes. By taking this approach (Nuvistor-type tubes are used in the tuners; all other active elements are solid state), we are able to offer quality receivers which combine the best features of electron tubes and semiconductors. Other features of the receivers include a 21.4-mc output to operate a signal monitor, a local oscillator output to drive a counter (such as the CEI type DRO-300), a 21.4-mc IF output suitable for pre-detection recording, and tape dials for increased readability.

The CMO included in the 904A and 906A provides 1-mc and 5-mc markers which are used for dial calibration. The CMO is under the control of a front-panel switch. The COR circuitry included in the 905A and 906A provides for the control of external devices as a function of received carrier level. Front-panel controls allow the sensitivity and release time of the COR to be adjusted.

All four receivers were designed for mounting in a standard 19-inch rack. Power consumption is approximately 20 watts. Primary input power may be either 115 vac or 230 vac (controlled by slide-switch on rear apron), 50 cps to 400 cps.

COMMUNICATION ELECTRONICS INCORPORATED

6006 Executive Boulevard, Rockville, Maryland 20852 • Phone (301) 933-2800 881-3300

SPECIFICATIONS

Type of Reception	AM, FM, and CW
Frequency Range	30 to 300 mc in two bands: Band A, 30-90 mc Band B, 60-300 mc
Dial Accuracy	±1%
Input Impedance	50 ohms nominal, type BNC connector
Noise Figure	Band A: 4.5 db, maximum; Band B: 6.5 db, maximum
Image Rejection	Band A: 60 db, minimum; Band B: 50 db, minimum
IF Rejection	54 db, minimum, at 30 mc; 80 db, minimum, above 50 mc
Oscillator Radiation at Antenna Input	15 μv, maximum, below 260 mc; 25 μv, maximum above 260 mc
Local Oscillator Frequency	Incoming signal frequency plus 21.4 mc
Intermediate Frequency	21.4 mc
IF Bandwidths	300 kc or 20 kc, selectable by front-panel control
Sensitivity	
20-kc Bandwidth	AM: 1 μv input, modulated 50% at 1 kc rate, produces 10 db (s plus n)/n, minimum FM; 2 μv input, modulated at 1 kc rate with 7 kc deviation, produces 21 db (s plus n)/n, minimum
300-kc Bandwidth	AM: 4 μv input, modulated 50% at 1 kc rate, produces 10 db (s plus n)/n, minimum FM: 6 μv input, modulated at 1 kc rate with 100 kc deviation, produces 21 db (s plus n)/n, minimum
Output Stability	AM: Output varies less than 5 db for an input signal level range of 4 μv to 10,000 μv FM: Output varies less than 2 db for input signal levels above 1.5 μv
Video Output Level	5 volts, rms, across a 10K ohm unbalanced load
Video Amplifier Response	Less than 3 db variation from 100 cps to 150 kc
Audio Output Level	100 mw into a 600 ohm balanced or unbalanced load
Audio Amplifier Response	100 cps to 40 kc at 3 db points
FM Deviation Sensitivity	12 mv/kc, minimum, at video output jack
BFO	21.4 mc, adjustable ±20 kc; operates in CW mode
Signal Monitor Output	21.4 mc center-frequency output provided for use with CEI Signal Monitors
Local Oscillator Output	50 mv, minimum, into 50-ohm load
IF (pre-detection) Output	21.4-mc center frequency output provides 100 mv, minimum, into a 50-ohm load for input signal levels above AGC threshold
Meters	Tuning, Signal Strength
COR (Types 905A and 906A only)	
Sensitivity	Less than 1 μv
Range	Adjustable to operate over an input signal range of 1 μv to greater than 500 μv
Release Time	Slow: 6 seconds, ±20%; Fast: less than 0.5 seconds
Output	SPDT contacts
Crystal Marker Oscillator (Types 904A and 906A only)	
Outputs	1.0 mc or 5.0 mc (harmonics to 300 mc)
Frequency Stability	±0.005% from 0° to 120°F
Front Panel Controls	IF BANDWIDTH: 300 KC-20KC; BFO TUNING; VIDEO GAIN; AUDIO GAIN; POWER: Bandswitch; RF GAIN; COR SENSITIVITY (905A, 906A only); CMO: OPERATE-1MC-5 MC (904A, 906A only)
Power Input	115/230 volts, 50-400 cps
Power Consumption	20 watts, approximately
Weight	18 lbs, approximately
Size	19-inches wide, 3.5-inches high, and 16-inches deep

PRICE: Type 901B - $1,925.00 Type 904A - $2,075.00 Type 905A - $2,025.00 Type 906A - $2,175.00

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