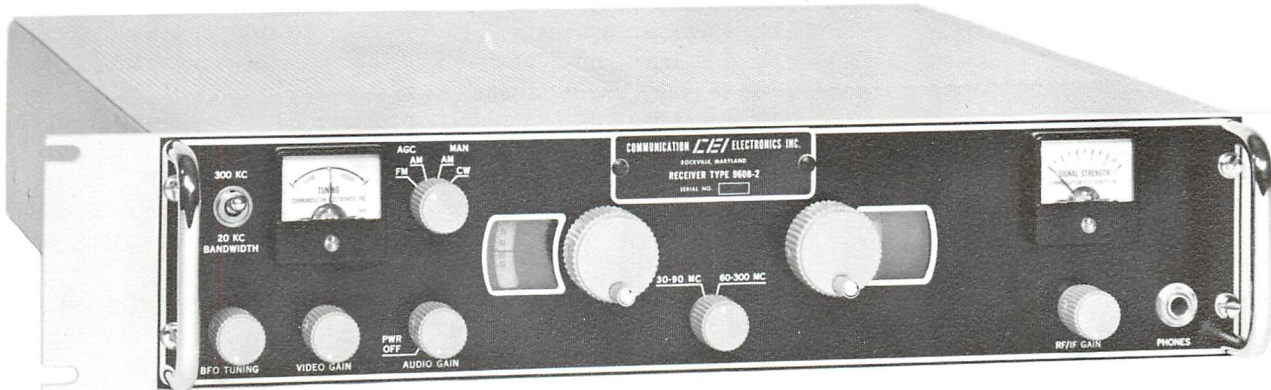




# Technical Data

## TYPES 960B AND 960B-2 RECEIVERS



### TYPE 960B-2 RECEIVER

Designed for AM, FM, or CW reception, the CEI types 960B and 960B-2 Receivers are highly compact units which tune the 30-mc to 300-mc frequency range in two bands: 30 mc to 90 mc and 60 mc to 300 mc.

Solid state devices and electron tubes are both employed in the design for the functions for which they are best suited. This approach has produced instruments with high performance, low power requirements, and small size. The receivers draw less than 25 watts, weighs less than 20 lbs, and occupy only 3.5 inches of vertical rack space.

Three IF bandwidths have been included in each receiver; 2 mc, 200 kc, and 20 kc in the 960B, and 2 mc, 300 kc, and 20 kc in the 960B-2. The 2-mc IF bandwidth operates continuously, and separate AM video and FM video outputs from this strip are provided on the rear apron. The operation of the 20/200 kc (or 20/300 kc) bandwidth IF amplifier is controlled by a front-panel switch. Audio and video outputs are also provided on the rear apron from whichever of these two bandwidths is in operation.

The receivers include both manual and automatic gain control as selected by the operator. In addition, a built-in BFO is activated when the CW reception mode is selected. Other features include provisions for separate or common antenna operation, 21.4-mc IF (pre-detection) outputs from both the 2-mc bandwidth IF amplifier and the 20/200 kc (or 20/300 kc) bandwidth IF amplifier, a 21.4-mc IF output to operate a signal monitor, and a local oscillator output from the tuner in operation.

### SPECIFICATIONS

Type of Reception . . . . .	AM-FM- CW
Frequency Range . . . . .	30-300 mc in two bands: Band A, 30-90 mc; Band B, 60-300 mc
Input Impedance . . . . .	50 ohms, nominal
Noise Figure. . . . .	Band A, 4.5 db, maximum; Band B, 6.5 db, maximum
IF Frequency . . . . .	21.4 mc

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IF Bandwidths . . . . .	Two operating simultaneously: 2 mc, and either 200 kc (300 kc in 960B-2) or 20 kc selectable from front panel
IF Rejection . . . . .	Band A, below 50 mc, 54 db minimum, above 50 mc, 60 db minimum; Band B, greater than 100 db
Image Rejection . . . . .	Band A, 60 db; Band B, 50 db
Local Oscillator Output . . . . .	50 mv, nominal, into 50-ohm load
Oscillator to Antenna Conduction . . . . .	Band A, 15 $\mu$ v maximum; Band B, below 260 mc, 15 $\mu$ v maximum, above 260 mc, 25 $\mu$ v maximum
Sensitivity	
200-kc Bandwidth (960B only) . . . . .	AM: 3.5 $\mu$ v input modulated 50%, produces 10 db (s plus n)/n, minimum FM: 4 $\mu$ v input, modulated at 1 kc rate with 70-kc deviation, produces 21 db (s plus n)/n, minimum
300-kc Bandwidth (960B-2 only) . . . . .	AM: 4 $\mu$ v input modulated 50%, produces 10 db (s plus n)/n, minimum FM: 6 $\mu$ v input, modulated at 1 kc rate with 100-kc deviation, produces 21 db (s plus n)/n, minimum
20-kc Bandwidth . . . . .	AM: 1 $\mu$ v input, modulated 50%, produces 10 db (s plus n)/n, minimum FM: 2 $\mu$ v input, modulated at 1 kc rate with 7-kc deviation, produces 20 db (s plus n)/n, minimum
2-mc Bandwidth . . . . .	AM: 11 $\mu$ v input, modulated 50%, produces 10 db (s plus n)/n, minimum FM: 13 $\mu$ v input, modulated at 1 kc rate with 750-kc deviation, produces 21 db (s plus n)/n, minimum
Audio Output Power . . . . .	100 milliwatts, minimum, into 600-ohm load, balanced or unbalanced
Audio Response . . . . .	Within 3 db from 100 cps to 40 kc
Video Output, 20/200 kc (or 20/300 kc) . . . . .	5 volts, rms, across a 10K-ohm load
Response of Video Amplifier for 20/200-kc (or 20/300 kc) IF Bandwidth Video Output . . . . .	Within 3 db from 50 cps to 150 kc
Video Outputs, 2-mc IF Bandwidth . . . . .	0.7 volts, rms, across a 93-ohm load
Response of FM Video Amplifier for 2-mc IF Bandwidth . . . . .	Within 3 db from dc to 1 mc
Response of AM Video Amplifier for 2-mc IF Bandwidth . . . . .	Within 3 db from 30 cps to 1 mc
Signal Monitor Output . . . . .	21.4-mc center frequency IF signal output
IF Outputs . . . . .	21.4-mc output provided from both IF strips; output levels are 100 mv for input signal levels above AGC threshold
Output Stability	
20/200-kc (or 20/300 kc) IF Bandwidth with AGC . . . . .	AM: Output varies less than 3 db for input range of 4-10,000 $\mu$ v FM: Output varies less than 2 db for input above 1.5 $\mu$ v
2-mc IF Bandwidth . . . . .	AM: Output varies less than 3 db for input levels from 10 $\mu$ v to 10 mv FM: Output varies less than 2 db for input levels above 4 $\mu$ v
BFO . . . . .	Variable $\pm$ 20 kc: not used with 2-mc IF bandwidth
Power Input . . . . .	115 vac, 50-400 cps
Power Consumption . . . . .	23 watts, approximately
Weight . . . . .	16 pounds, approximately
Size . . . . .	19-inches wide, 3.5-inches high, and 15.5-inches deep

PRICE: \$2,550.00

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

NOTE: Nomenclatured versions of both the 960B and 960B-2 Receivers, complete with MIL-type technical manual and provisioning documentation, are available. Inquire for details.