



DATA

SHEET

198.50

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# Technical Data

## TYPE RS-111-1B-12 VHF-UHF RECEIVING SYSTEM

(REPLACEMENT FOR TYPE RS-111-1B RECEIVING SYSTEM)



The RS-111-1B-12 Receiving System is the latest version of the well-known CEI RS-111-1B series. The dash 12 system incorporates a totally new signal monitor with a 21.4-mc crystal marker controlled by a front-panel switch and improved linearity. A field-effect transistor is used as the first mixer in the signal monitor to minimize the generation of spurious signals. An additional unamplified AM video output from the narrowband IF amplifier is supplied by the RS-111-1B-12. This receiving system also provides a front-panel signal strength meter in lieu of the tuning meter found on previous models. The 21.4-mc marker now provided in the signal monitor makes the tuning meter unnecessary. The new system retains the compact 5.25-inch high by 19-inch wide package as well as all the features found in the RS-111-1B.

### SPECIFICATIONS

Type of Reception . . . . .	AM, FM, CW
Frequency Range . . . . .	30-1000 mc in four bands: Band A, 30-60 mc; Band B, 60-300 mc; Band C, 235-500 mc; Band D, 490-1000 mc
Input Impedance . . . . .	To operate from 50-ohm source
Noise Figure . . . . .	Band A, 4 dB max; Band B, 6.5 dB max; Band C, 10 dB max; Band D, 12 dB max
Image Rejection . . . . .	Band A, 60 dB min; Band B, 50 dB min; Band C, 65 dB min; Band D, 75 dB min
IF Rejection . . . . .	Band A, 54 dB min; Band B, 80 dB min; Band C, 80 dB min; Band D, 90 dB min
Oscillator to Antenna Conduction . . . . .	Band A, 15 $\mu$ V max; Band B, 15 $\mu$ V max from 60-260 mc and 25 $\mu$ V max from 260-300 mc; Band C, 8 $\mu$ V max; Band D, 75 $\mu$ V max
IF Bandwidths. . . . .	Four total, two operating simultaneously: 2 mc and either 20 kc, 75 kc, or 300 kc selectable from front panel.
Band A and Band B Sensitivity	
20-kc Bandwidth . . . . .	AM: 1 $\mu$ V input, modulated 50%, produces 10 dB (s plus n)/n, min FM: 2 $\mu$ V input, modulated at 1 kc with 7-kc deviation, produces 21 dB (s plus n)/n, min

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Band A and Band B Sensitivity (cont'd):

75-kc Bandwidth . . . . .	AM: 2 $\mu$ V input, modulated 50%, produces 10 dB (s plus n)/n min FM: 3 $\mu$ V input, modulated at 1 kc with 25-kc deviation, produces 21 dB (s plus n)/n, min
300-kc Bandwidth . . . . .	AM: 4 $\mu$ V input, modulated 50%, produces 11 dB (s plus n)/n, min FM: 6 $\mu$ V input, modulated at 1 kc with 100-kc deviation, produces 21 dB (s plus n)/n, min
2-mc Bandwidth . . . . .	AM: 11 $\mu$ V input, modulated 50%, produces 10 dB (s plus n)/n, min FM: 12 $\mu$ V input, modulated at 1 kc with 750-kc deviation, produces 21 dB (s plus n)/n, min

Band C and Band D Sensitivity

20-kc Bandwidth . . . . .	AM: 2 $\mu$ V input, modulated 50%, produces 10 dB (s plus n)/n, min FM: 4 $\mu$ V input, modulated at 1 kc with 7-kc deviation, produces 21 dB (s plus n)/n, min
75-kc Bandwidth . . . . .	AM: 8 $\mu$ V input, modulated 50%, produces 17 dB (s plus n)/n, min FM: 6 $\mu$ V input, modulated at 1 kc with 25-kc deviation, produces 21 dB (s plus n)/n, min
300-kc Bandwidth . . . . .	AM: 8 $\mu$ V input, modulated 50%, produces 10 dB (s plus n)/n, min FM: 8 $\mu$ V input, modulated at 1 kc with 100-kc deviation, produces 21 dB (s plus n)/n, min
2-mc Bandwidth . . . . .	AM: 22 $\mu$ V input, modulated 50%, produces 10 dB (s plus n)/n, min FM: 24 $\mu$ V input, modulated at 1 kc with 750-kc deviation, produces 21 dB (s plus n)/n, min

Band A and Band B Output Stability

20-kc/75-kc/300-kc Bandwidths . . . . .	AM: Output varies less than 3 dB for input range of 2 to 10,000 $\mu$ V FM: Output varies less than 2 dB for input range of 1.5 to 10,000 $\mu$ V
2-mc Bandwidth . . . . .	AM: Output varies less than 4 dB for input range of 4 to 10,000 $\mu$ V FM: Output varies less than 4 dB for input range of 4 to 10,000 $\mu$ V

Band C and Band D Output Stability

20-kc/75-kc/300-kc Bandwidth . . . . .	AM: Output varies less than 4 dB for input range of 4 to 10,000 $\mu$ V FM: Output varies less than 2 dB for input range of 3 to 10,000 $\mu$ V
2-mc Bandwidth . . . . .	AM: Output varies less than 4 dB for input range of 8 to 10,000 $\mu$ V FM: Output varies less than 4 dB for input range of 8 to 10,000 $\mu$ V

Outputs from 20-kc/75-kc/300-kc Bandwidth

Audio Amplifier Response . . . . .	Within 3 dB from 100 cps to 40 kc
Audio Output Power . . . . .	0.1 watt, min, into 600-ohm load, balanced or unbalanced
Video Amplifier Response . . . . .	Within 3 dB from 50 cps to 150 kc
Video Output Level . . . . .	0-5 volts rms across a 10K unbalanced load
NB AM Video Output Level . . . . .	100 mV, rms across 1M $\Omega$ unbalanced load

Outputs from 2-mc Bandwidth

FM Video Amplifier Response . . . . .	Within 3 dB from dc to 1 mc
AM Video Amplifier Response . . . . .	Within 3 dB from 30 cps to 1 mc
FM Video Output Level . . . . .	0.7 volt rms across a 93-ohm load
AM Video Output Level . . . . .	0.7 volt rms across a 93-ohm load

Fine Tuning . . . . .

Operates on all bands

Beat Frequency Oscillator . . . . .

Operates in CW mode on either 20-kc, 75-kc, or 300-kc IF bandwidths

Local Oscillator Outputs . . . . .

50 mV, minimum, into 50-ohm load (all bands)

Frequency Display Section

Sweep Linearity . . . . .	Within 5% of sweep width
Sweep Width . . . . .	Continuously adjustable from 0 to 3 mc
Sensitivity for Full Deflection . . . . .	2.5 $\mu$ V input to receiver
Resolution . . . . .	Using approximately 100-kc sweep width, two signals 20-kc apart will be displayed with at least a 6-dB valley between the peaks

Power Input . . . . .

115/230 volts, 50-400 cps

Power Consumption . . . . .

45 watts, approximately

Weight . . . . .

35 lbs., approximately

Size . . . . .

5.25 inches high x 19 inches wide x 15.5 inches deep

PRICE: \$6,250.00

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