



DATA
SHEET
198.40
4/15/68

Technical Data

TYPE RS-111-1B-7 VHF-UHF RECEIVING SYSTEM



The RS-111-1B-7 VHF-UHF Receiving System provides AM, FM, and CW reception, as well as a visual display of RF signals in the 30-1000-mc frequency range. The dash-seven system is a modified version of the well known CEI Type RS-111-1B. Features exclusive to the RS-111-1B-7 include the use of internal relays (controlled by front-panel switches) which provide a single AM or FM video output from the IF strip in operation and allow the system to operate over its entire frequency range from a single antenna input. In addition, the RS-111-1B-7 provides an AGC monitor output at a rear apron terminal board. This receiving system retains the 5.25-inch high by 19-inch wide package as well as all other features found in the standard 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	50 ohms, nominal
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 μ V max; Band B, 15 μ V max from 60-260 mc and 25 μ V max from 260-300 mc; Band C, 8 μ V max; Band D, 75 μ V max
IF Bandwidths	Four total: 2 mc, 20 kc, 75 kc, or 300 kc, front panel selectable
IF Frequency	21.4 mc
Band A and Band B Sensitivity	
20-kc Bandwidth	AM: 1 μ V input, modulated 50%, produces 10 dB (s plus n)/n, min FM: 2 μ V input, modulated at 1 kc with 7-kc deviation, produces 21 dB (s plus n)/n, min
75-kc Bandwidth	AM: 2 μ V input, modulated 50%, produces 10 dB (s plus n)/n, min FM: 3 μ V input, modulated at 1 kc with 25-kc deviation produces 21 dB (s plus n)/n, min

COMMUNICATION ELECTRONICS INCORPORATED

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

Band A and Band B Sensitivity (cont'd)

300-kc Bandwidth	AM: 4 μ V input, modulated 50%, produces 11 dB (s plus n)/n, min FM: 4 μ V input, modulated at 1 kc with 100-kc deviation, produces 21 dB (s plus n)/n, min
2-mc Bandwidth	AM: 11 μ V input, modulated 50%, produces 10 dB (s plus n)/n, min FM: 12 μ 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 μ V input, modulated 50%, produces 10 dB (s plus n)/n, min FM: 4 μ V input, modulated 1 kc with 7-kc deviation, produces 21 dB (s plus n)/n, min
75-kc Bandwidth	AM: 8 μ V input, modulated 50%, produces 17 dB (s plus n)/n, min FM: 6 μ V input, modulated at 1 kc with 25-kc deviation, produces 21 dB (s plus n)/n, min
300-kc Bandwidth	AM: 8 μ V input, modulated 50%, produces 10 dB (s plus n)/n, min FM: 8 μ V input, modulated at 1 kc with 100-kc deviation, produces 21 dB (s plus n)/n, min
2-mc Bandwidth	AM: 22 μ V input, modulated 50%, produces 10 dB (s plus n)/n, min FM: 24 μ 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 μ V FM: Output varies less than 2 dB for input range of 1.5 to 10,000 μ V
2-mc Bandwidth	AM: Output varies less than 4 dB for input range of 4 to 10,000 μ V FM: Output varies less than 4 dB for input range of 4 to 10,000 μ V

Band C and Band D Output Stability

20-kc/75-kc/300-kc Bandwidths	AM: Output varies less than 4 dB for input range of 4 to 10,000 μ V FM: Output varies less than 2 dB for input range of 3 to 10,000 μ V
2-mc Bandwidth	AM: Output varies less than 4 dB for input range of 8 to 10,000 μ V FM: Output varies less than 4 dB for input range of 8 to 10,000 μ 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	5 volts rms across a 10K unbalanced load
IF Output	21.4 mc predetection output

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
IF Output	21.4 mc predetection output

Fine Tuning

Operates on all bands

Beat Frequency Oscillator

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

AGC Monitor Amplifier Output

15 volts max, across 10K ohm load

Meter

Tuning

L. O. Output

50 mV across 50-ohm load

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 μ 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, 19 inches wide, 15.5 inches deep

PRICE: \$6,250.00

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