



MRC-140/E

Marine Radio Communication System

MRC-140/E is a HF marine radio communication system with the DSC capability (Digital Selective Call for sending emergency, immediate, and safety messages) for operating inside various military boats. This radio consists of three parts that are Transmitter/Receiver (T/R), Control Unit (CU), and Matching Unit (MU). T/R and CU are installed inside the boat cabin and MU is installed on its deck. Output power of the radio is 150W. Control unit can be disconnected from the transmitter unit and is located far from it via a pair field wire for remote operation. MRC-140/E is a SDR (Software Defined Radio) system designed and manufactured to establish analogue voice, encrypted digital voice, SMS, and data communication in the HF frequency band according to the MIL-STD-141B standard. Using the ALE-3G capability, reliable/secure communication link can be established via the MRC-140/E. Another capability of the system is frequency hopping for reaching reliability against Electronic Warfare.

General specifications

Frequency range.....	1.6 ~ 29.9999 MHz
Number of preset channels.....	100 channels
Input supply.....	24-30 VDC
Modulation types.....	PSK-FSK-AME-USB-LSB-CW
Audio bandwidth.....	300Hz ~ 3KHz 6dB
Communication type.....	Simplex/Half-duplex
Data/control interface.....	ISDN, RS-232, LAN port
Digital voice.....	in 600 and 1200 statuses
ALE-3G.....	comply
FH (Frequency Hopping).....	comply
GPS.....	Internal, connect to external GPS
SMS sending/receiving.....	comply
Data transmission with internal modem.....	Fixed frequency: 9600bps (BW=3 KHz) – 19200bps (BW=6KHz) Frequency hopping: 2400bps
Antenna.....	Wire, Whip, NVIS, X Dipole, Folded Dipole

Transmitting Specifications

Output power.....	LP: 10W, 20W, 30W MP: 40W, 60W, 80W HP: 100W, 120W, 150W
Harmonic rejection.....	better than -40dB
Frequency stability.....	±1PPM
Antenna matching.....	automatic with memory
SWR.....	less than 2.5

Receiving Specifications

Receiving sensitivity.....	SSB: better than 10dB for -111dBm AME: better than 15dB for -90.7dBm
Audio output.....	10mW with 300Ω resistance
Spurious signal rejection.....	better than -40dB
Carrier wave rejection in SSB mode.....	-65dB
IF frequency rejection.....	better than -70dB
Image frequency rejection.....	better than -70dB

Physical/Environmental Specifications

Dimension (H×W×D).....	T/R: 400×300×150 mm CU: 200×250×60 mm MU: 350×250×80 mm
Operating temperature.....	-25°C ~ +65°C
Storage temperature.....	-40°C ~ +70°C
Environmental standard.....	MIL-STD-810F
EMC/EMI standard.....	MIL-STD-461E