



## **G/VRC-140/E**

### **HF Digital Ground-Based/ Vehicular Radio Communication System**

G/VRC-140/E is a Software Defined Radio (SDR) in HF frequency band designed and manufactured according to the MIL-STD-141B standard. Modem of the radio meets the MIL-STD-188-110C for stability and increasing quality of voice/data transmission in HF frequency band. In addition, this radio is a frequency hopping radio to establish stable communication in EW situation. In order to keep away the operators from propagation center, the radio can be operated via a remote control unit as a panel. Output power of the radio is 150W. G/VRC-140/E is designed for installing inside a vehicle as well as stationary operation using the related power supply and various types of HF antennas. Using the ALE-3G capability, reliable/secure communication link can be established via the G/VRC-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) –<br>19200bps (BW=6KHz)<br>Frequency hopping: 2400bps |
| Antenna.....                               | Wire, Whip, NVIS, X Dipole, Folded Dipole                                                 |

## Transmitting Specifications

|                          |                                                                |
|--------------------------|----------------------------------------------------------------|
| Output power.....        | LP: 10W, 20W, 30W<br>MP: 40W, 60W, 80W<br>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<br>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).....      | Radio: 440×400×220 mm<br>Remote: 195×140×53 mm<br>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                                                        |