

VX-2500E SERIES

VHF/UHF Mobile Radios



- 32 SEMI-DUPLEX CHANNELS
- WIDE / NARROW
(25 / 20 / 12.5 kHz PER CHANNEL)
- DIE-CAST CONSTRUCTION
ALUMINUM CHASSIS
- CTCSS OR DCS ENCODER / DECODER
- 5 TONE ENCODE/DECODE
(COMPATIBLE WITH VX-180E/160E)
- 5 TONE/DTMF ANI
- 2 TONE DECODER
- FIRMWARE UPDATE CAPABILITY
- PRIORITY SCANNING
- PROGRAMMABLE KEY ASSIGNMENT
- PROGRAMMABLE ALERT TONES
- COMPANDER INCLUDED
- EMERGENCY FUNCTION
- ALPHANUMERIC LCD DISPLAY
(14-SEGMENTS x 8-CHARACTORS)
- BCLO, BTLO, TOT FUNCTIONS
- FRONT MOUNTED SPEAKER
- MIL-STD 810 C/D/E
- PC PROGRAMMABLE AND CLONE
- EN 300 086, EN 300 219



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VX-2500E SERIES

The 32-channel VX-2500E Series mobile transceivers are ideal for business and public safety applications. With 25 Watts of power output, an easy-to-read 8-character invertible alpha-numeric display, seven programmable keys, and a host of signaling formats, the VX-2500E will get your message through under the toughest conditions.

Alpha-numeric Display (14 Segments x 8 Digits)

The 8-digit Alpha-numeric display allows quick channel identification by the user, and is easy to read from a wide range of viewing angles.

CTCSS Encoder/Decoder

Subaudible (CTCSS) 50-tone Encoder and Decoder circuits are built into every VX-2500E, ensuring compatibility with modern repeater requirements.

DCS Encoder/Decoder

For applications requiring Digital Coded Squelch signaling, full-featured DCS Encoder and Decoder circuits provide leading-edge protection from false decoding.

5-TONE ENCODE/DECODE

The VX-2500E also has a 5 Tone Encoder and Decoder built-in. The radio can respond to an individual or group call 5 tone sequence, and can generate 5 Tone calling sequences for individual or group call facilities.

DTMF ANI Encoder

Automatic Number Identification (ANI) via an automatic DTMF Encoder is also provided among the VX-2500E's versatile signaling capabilities.

Versatile Scanning

A wide range of set-up options are available during configuration of the VX-2500E, to ensure compatibility with the operating requirements of your system's users.

Companion Included

For narrow-band channel applications, the built-in Audio Companding system compresses the voice waveform during transmission, and expands it during reception, allowing full-sounding audio despite the restricted transmission bandwidth.

Emergency Mode

When activated, the "Emergency" feature sends out the 5-Tone or DTMF ANI, and cycles between transmit and receive, to serve as an emergency beacon to alert the dispatcher as to the need for immediate aid.

ARTS™ Feature

The Auto-Range Transponder System, a Vertex Standard exclusive, alerts the operator when another ARTS™-equipped station (for example, a hand-held unit) moves out of communication range. You can then advise the other user to move to a better location.

TOT, BCLO, BTLO Features

Among the most useful protection features of the VX-2500E are the transmitter Time-Out Timer (TOT), Busy Channel Lock-Out (BCLO), and Busy Tone Lock-Out (BTLO), to ensure efficient network performance at all times.

Programmable Front Panel Keys

Custom assignment of important functions to front panel keys is available at the time of programming, to provide the most ergonomically-friendly transceiver available today.

Programmable Alert Tones

Among the useful set-up options for the VX-2500E is the capability to customize the "Alert" tones generated from the transceiver, for ease of recognition by the user.

Rugged, Die-cast Construction

The VX-2500E's circuitry is housed within a die-cast aluminum enclosure, which doubles as a heat sink. This extraordinarily durable construction ensures many years of reliable operation, even in high-vibration installations.



MIL-Spec Rated (MIL 810 C/D/E)

The ultra-rugged design of the VX-2500E Series enables it to be fully compliant with the exacting specifications of MIL 810 C, D, and E, pursuant to the test procedures documented below.

APPLICABLE MIL-STD

| Standard | MIL 810C Methods/Procedures | MIL 810D Methods/Procedures | MIL 810E Methods/Procedures |
|-------------------|-----------------------------|-----------------------------|-----------------------------|
| Low Pressure | 501.1/Procedure 1,2 | 500.2/Procedure 1 | 500.3/Procedure 1 |
| High Temperature | 502.1/Procedure 1 | 501.2/Procedure 1,2 | 501.3/Procedure 1,2 |
| Low Temperature | 503.1/Procedure 1 | 502.2/Procedure 1 | 502.3/Procedure 1,2 |
| Temperature Shock | 505.1/Procedure 1 | 503.2/Procedure 1 | 503.3/Procedure 1 |
| Solar Radiation | 506.1/Procedure 2 | 505.2/Procedure 1 | 505.3/Procedure 1 |
| Rain | 507.1/Procedure 2 | 506.2/Procedure 2 | 506.3/Procedure 2 |
| Humidity | | 507.2/Procedure 2 | 507.3/Procedure 2 |
| Salt Fog | | 509.2/Procedure 1 | 509.3/Procedure 1 |
| Dust | | 510.2/Procedure 1 | 510.3/Procedure 1 |
| Vibration | 514.2/Procedure 1,8 | 514.3/Procedure 1,8 | 514.4/Procedure 1,8 |
| Shock | 516.2/Procedure 1,4 | 516.3/Procedure 1,4 | 516.4/Procedure 1,4 |

Specifications

| | VX-2500E(VHF) | VX-2500E(UHF) |
|-------------------------------|--|-------------------|
| General Specifications | | |
| Frequency range | 134-174 MHz (C) | 400-470 MHz (CS1) |
| Applicable Standard | EN 300 086, EN 300 219 (EN) TIA/EIA-603-A (TIA/EIA) | |
| Number of Channels | 32 Channels (16+16) | |
| Frequency Steps | 5 kHz/ 6.25 kHz | |
| Power Supply Voltage | 13.2 VDC | |
| Channel Spacing | 25 kHz/ 20 kHz/ 12.5 kHz | |
| Current Consumption | Receive 700 mA Transmit 6 A | |
| Temperature Range | -20° C to +55° C (EN) -30° C to +60° C (TIA/EIA) | |
| Frequency Stability | ±1.5 kHz (EN) < ±2.5 ppm (TIA/EIA) | |
| RF Input-Output Impedance | 50 Ohms | |
| Dimensions (W x H x D) | 160 mm x 40 mm x 110 mm | |
| Weight (approx.) | 0.85 kg | |

(TIA/EIA): Measurements made per EIA Standard TIA/EIA-603-A (EN): Measurements per ETSI ETS 300 086 Specification are subject to change without notice or obligation.

| | VX-2500E(VHF) | VX-2500E(UHF) |
|------------------------------------|--|-------------------|
| Receiver Specifications | | |
| Circuit Type | Double-conversion Super-heterodyne | |
| Sensitivity 20 dB SINAD | -5 dBµV (EN) | -4 dBµV(EN) |
| 12 dB SINAD | 0.22 µV (TIA/EIA) | 0.25 µV (TIA/EIA) |
| Adjacent Channel Selectivity | 78 dB / 78 dB / 65 dB (EN) | |
| 25/ 20/ 12.5 kHz | 80 dB / 80 dB / 67 dB (TIA/EIA) | |
| Intermodulation | 68 dB (EN) / 75 dB (TIA/EIA) | |
| Spurious & Image Rejection | 80 dB | |
| Hum & Noise 25/ 20/ 12.5 kHz | 45 dB/ 45 dB/ 40 dB (TIA/EIA) | |
| AF Output | 4 W @ 4 Ohms (< 5% THD) | |
| Transmitter Specifications | | |
| Power Output | 25 W / 5 W | |
| Maximum Deviation 25/ 20/ 12.5 kHz | ±5 kHz / ±4 kHz / ±2.5 kHz (EN) | |
| Type of emission 25/ 20/ 12.5 kHz | 16K0F3E / 14K0F3E / 11K0F3E (TIA/EIA) | |
| Conducted Spurious Emissions | 0.25 µV (EN) / 80 dB Below Carrier (TIA/EIA) | |
| Hum & Noise | 45 dB/ 45 dB/ 40 dB (TIA/EIA) | |
| Audio Distortion | < 3% @ 1 kHz | |
| Microphone Type | Dynamic | |
| Microphone Impedance | 600 Ohms | |

Accessories & Options

| | | | | |
|---|--|---|---|--|
|  MH-25A8J Standard Microphone |  MH-700D DTMF Dial Microphone |  MD-11A8J Desktop Microphone |  MLS-100 Mobile Loud Speaker (12 Watts Peak Power) |  FP-1030A External Power Supply 30 A DC |
|  LF-1 Line Filter |  CT-4 (T9101411) Cloning cable |  VPL-1 Programming Kit (Computer to Radio) |  CE 63 PC-Programming Software | |



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