

# 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 existing 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)
<b>General Specifications</b>		
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)
<b>Receiver Specifications</b>		
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	
Intermodulation	80 dB / 80 dB / 67 dB (TIA/EIA) 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)	
<b>Transmitter Specifications</b>		
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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