

# VX-2500 SERIES

## VHF/UHF Mobile Radios



- POWER OUTPUT 25 W
- 128 CHANNEL (10 GROUPS) CAPACITY
- INVERTIBLE ALPHA NUMERIC DISPLAY (14 SEGMENTS x 8 DIGITS)
- RUGGED DIE-CAST CONSTRUCTION
- CTCSS ENCODER/DECODER
- DUAL 2-TONE DECODING
- DCS ENCODER/DECODER
- DTMF ANI ENCODER
- DTMF ANI ID DISPLAY
- DTMF PAGING
- VERSATILE SCANNING
- AUDIO COMPANDER INCLUDED
- EMERGENCY FUNCTION
- ENCRYPTION (OPTIONAL - FVP-25)
- FRONT MOUNTED SPEAKER
- ARTS™ FUNCTIONS
- TOT, BCLO, BTLO FUNCTIONS
- MIL SPEC RATED (MIL 810 C, D and E)
- 9 PROGRAMMABLE SOFT KEYS
- PROGRAMMABLE ALERT TONES
- DB9 ACCESSORY CONNECTOR
- PC PROGRAMMABLE



**VX-2500 SERIES**

The 128-channel VX-2500 Series mobile transceivers are ideal for business and industrial applications. With 25 Watts of power output, an easy-to-read 8-character invertible alpha-numeric display, nine programmable keys, and a host of signaling formats, the VX-2500 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/DCS**

Subaudible (CTCSS) 50-tone Encoder and Decoder circuits are built into every VX-2500, ensuring compatibility with modern repeater requirements. For applications requiring Digital Coded Squelch signaling, full-featured DCS Encoder and Decoder circuits provide leading-edge protection from false decoding. Any combination of CTCSS and DCS will be available on the same channel.

**DUAL 2-TONE Decoding**

For applications where a mobile may be receiving calls from more than one dispatcher on a particular channel, the VX-2500 includes a built-in Dual Two-Tone Decoder circuit.

**DTMF ANI Encoder / ID Display**

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

**DTMF Paging**

DTMF Paging function is good for dispatch or network operations.

**Versatile Scanning**

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

**Audio Comander 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.

**Encryption (Optional FVP-25 required)**

For applications requiring secure communications, the optional FVP-25 Paging/Encryption Unit provides scrambling and descrambling functions.

**Emergency Mode**

When activated, the "Emergency" feature sends out the 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-2500 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-2500 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-2500'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-2500 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	MIL 810D Methods	MIL 810E Methods
Low Pressure	501.1/Procedure I,II	500.2/Procedure I	500.3/Procedure I
High Temperature		501.2/Procedure I,II	501.3/Procedure I,II
Low Temperature		502.2/Procedure I,II	502.3/Procedure I,II
Temperature Shock		503.2/Procedure I	503.3/Procedure I
Solar Radiation		505.2/Procedure I	505.3/Procedure I
Rain	506.1/Procedure II	506.2/Procedure II	506.3/Procedure II
Humidity	507.1/Procedure II	507.2/Procedure II	507.3/Procedure II
Salt Fog		509.2/Procedure I	509.3/Procedure I
Blowing Dust		510.2/Procedure I	510.3/Procedure I
Vibration	514.2/Procedure I,VIII	514.3/Procedure X	514.4/Procedure X
Shock	516.2/Procedure I,IV	516.3/Procedure I,IV	516.4/Procedure I,IV


**Specifications**

	VX-2500V	VX-2500U
<b>General Specifications</b>		
Frequency range	134-160 MHz(A) 148-174 MHz(C)	400-430 MHz(AS1) 450-490 MHz(D) 480-512 MHz(F)
Number of Groups	10	
Number of Channels	128 Channels	
PLL Steps	2.5 kHz/5.0 kHz/6.25 kHz	5.0 kHz/6.25 kHz
Power Supply Voltage	13.8 V DC ±15 %	
Channel Spacing	25 / 12.5 kHz	
Current Consumption	TX: 6 A RX: 700 mA	
Operating Temperature range	-22° F to +140° F (-30° C to +60° C)	
Frequency Stability	Better than ±2.5 ppm	
RF Input-Output Impedance	50 Ohms	
Audio Output Impedance	4 Ohms	
Dimensions(WxHxD)	6.4" x 1.6" 4.4" (160 mm x 40 mm x 110 mm)	
Weight(Approx)	1.87 lbs (0.85 kg)	

Measurements per EIA standards unless noted above. Specifications subject to change without notice or obligation.

	VX-2500V	VX-2500U
<b>Receiver Specifications</b>		
Measurements made per TIA/EIA-603-A		
Circuit type	Double conversion Super-heterodyne	
Sensitivity (12 dB SINAD)	0.25 uV	
Adjacent Channel Selectivity	80/70 dB	80/67 dB
Intermodulation	75 dB	
Spurious and Image Rejection	90 dB	
Audio Output	4 W @ 4 Ohms 5% THD	
Audio Distortion	<3 % @ 1 kHz	
<b>Transmitter Specifications</b>		
Measurements made per TIA/EIA-603-A		
Power Output	25 W (Low: 5W)	
Modulation	16K0F3E, 11K0F3E	
Max Deviation	±5.0/2.5 kHz	
Conducted Spurious Emission	70 dB below carrier	
Audio Distortion	<3 % @ 1 kHz	
Microphone type	Dynamic	
Microphone impedance	600 Ohms	

**Accessories & Options**

 <p><b>MH-25A&amp;J</b> Standard Microphone</p>	 <p><b>MH-700D</b> DTMF Dial Microphone</p>	 <p><b>MD-11A&amp;J</b> Desktop Microphone</p>	 <p><b>MLS-100</b> Mobile Loud Speaker (12 Watts Peak Power)</p>	 <p><b>FP-1023A</b> External Power Supply (23 A)</p>
 <p><b>FVP-25</b> Encryption unit</p>	 <p><b>LF-1</b> Line Filter</p>	 <p><b>CT-4</b> (T9101411) Cloning cable</p>	 <p><b>VPL-1</b> Programming Kit (Computer to Radio)</p>	 <p><b>CE52</b> PC-Programming Software</p>



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