

# VX-2500 SERIES

VHF/UHF LTR® Mobile Radios

- ALPHA NUMERIC DISPLAY (14 SEGMENTS x 8 DIGITS)
- RUGGED DIE-CAST CONSTRUCTION
- CTCSS ENCODER/DECODER
- DCS ENCODER/DECODER
- DTMF ANI ENCODER
- FIRMWARE UPDATE CAPABILITY
- VERSATILE SCANNING
- KEY ASSIGNMENT AVAILABLE
- PROGRAMMABLE ALERT TONES
- COMPANDER INCLUDED
- EMERGENCY FUNCTION
- ENCRYPTION (OPTIONAL - FVP-25)
- DTMF PAGING (OPTIONAL - FVP-25)
- FRONT MOUNTED SPEAKER
- ARTS™ FUNCTIONS ON THE CONVENTIONAL MODE
- TOT, BCLO, BTLO FUNCTION
- MIL SPEC RATED (MIL 810 C, D and E)
- PC PROGRAMMABLE



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 **Vertex Standard**

**Vertex Standard's VX-2500 is the reliable, durable choice for LTR® or Conventional-mode communications in a wide variety of applications. Built into an extremely rugged, die-cast aluminum chassis, the VX-2500 Series radios are the performance and durability standard in the Land Mobile industry.**

**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-2500, 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.

**DTMF ANI Encoder**

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

**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.

**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.

**PC Programmable**

All frequencies and configuration data may be programmed directly from a PC, using the optional VPL-1 Programming Kit and CE47 Programming Software.

**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.

**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 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.

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

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

**DTMF Paging (Optional FVP-25 required)**

For dispatch or network operations where DTMF Paging is required, the optional FVP-25 Paging/Encryption fulfills this requirement, as well.

**ARTS™ Feature (Conventional Mode)**

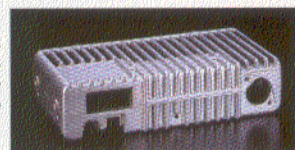
The Auto-Range Transponder System, a Vertex Standard exclusive, alerts the operator when another ARTS™-equipped station (for example, a hand-held unit) moves out of communication range. You can then advise the other user to move to a better location.

**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.

**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/Procedures	MIL 810D Methods/Procedures	MIL 810E Methods/Procedures
Low Pressure		500.2/Procedure 1	500.3/Procedure 1
High Temperature		501.2/Procedure 1,2	501.3/Procedure 1,2
Low Temperature		502.2/Procedure 1,2	502.3/Procedure 1,2
Temperature Shock		503.2/Procedure 1	503.3/Procedure 1
Solar Radiation		505.2/Procedure 1	505.3/Procedure 1
Rain	506.1/Procedure 2	506.2/Procedure 2	506.3/Procedure 2
Humidity	507.1/Procedure 2	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**

General Specifications	VX-2500V	VX-2500U
Frequency range	134-160 MHz 148-174 MHz	400-430 MHz 450-490 MHz 480-512 MHz
Number of Systems	32	
Number of Groups	250	
Number of Channels	Conventional 250 channels Trunking 640 channels	
PLL Steps	2.5 kHz/5.0 kHz/6.25 kHz	5.0 kHz/6.25 kHz
Power Supply Voltage	13.8V DC ±15 %	
Channel Spacing	12.5 / 15.0 / 25.0 / 30.0 kHz	12.5 / 25.0 kHz
Current Consumption	TX: 6 A RX: 700 mA STBY: 250 mA	
Operating Temperature range	-22F to 140F (-30° C to +60° C)	
Frequency Stability	Better than ±2.5 ppm	
RF Input-Output Impedance	50 Ohms	
Audio Output Impedance	4 Ohms	
Dimensions	6.3 in x 1.57 in x 4.33 in (160 mm x 40 mm x 110 mm)	
Weight	1.87 lb (0.85 kg)	

	VX-2500V	VX-2500U
<b>Receiver Specifications</b>	Measurements made per TIA/EIA-603	
Circuit type	Double conversion Super-heterodyne	
Sensitivity	0.25 uV (12 dB SINAD)	
Adjacent Channel Selectivity	80/70 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	
Power Output	25 W (low: 5 W)	
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	

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

**Accessories & Options**

 <b>MH-700D</b> DTMF Dial Microphone	 <b>MD-11A&amp;J</b> Desktop Microphone	 <b>MLS-100</b> Mobile Loud Speaker (12 Watts Peak Power)	 <b>FP-1023A</b> External Power Supply 23 A DC	 <b>FVP-25</b> DTMF Paging + Encryption unit
 <b>LF-1</b> Line Filter	 <b>VPL-1</b> Programming Kit (Computer to Radio)	 <b>CT-4</b> (T99101411) Cloning cable	 <b>CE 47</b> PC-Programming Software	



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