

# VX-2500 SERIES

VHF/UHF Mobile Radios



- 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
- VERSATILE SCANNING
- COMPANDER INCLUDED
- EMERGENCY FUNCTION
- ENCRYPTION (OPTIONAL - FVP-25)
- DTMF PAGING
- DB9 CONNECTOR BUILT-IN
- FRONT MOUNTED SPEAKER
- ARTS™ FUNCTIONS
- TOT, BCLO, BTLO FUNCTIONS
- MIL SPEC RATED (MIL 810 C, D and E)
- KEY ASSIGNMENT AVAILABLE
- PROGRAMMABLE ALERT TONES
- PC PROGRAMMABLE



 **Vertex Standard**  
*We make a difference*

## VX-2500 SERIES

The 128-channel VX-2500 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, 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 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.

### 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.

### 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.

### 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.

### 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.

### DTMF Paging

DTMF Paging function is good for dispatch or network operations.

### 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/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	501.2/Procedure 1,2	501.2/Procedure 1,2	501.3/Procedure 1,2
Low Temperature	502.1/Procedure 1	502.2/Procedure 1,2	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	514.2/Procedure 1,8	510.2/Procedure 1	510.3/Procedure 1
Vibration	516.2/Procedure 1,4	514.3/Procedure 1,8	514.4/Procedure 1,8
Shock		516.3/Procedure 1,4	516.4/Procedure 1,4

## 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	13.8V DC ±15 %	
Channel Spacing	25 / 12.5 kHz	
Current Consumption	TX: 6 A RX: 700 mA	
Operating Temperature range	-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)	160 mm x 40 mm x 110 mm	
Weight(Approx)	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 µV	
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

 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
 FVP-25 Encryption unit	 LF-1 Line Filter	 CT-4 (T9101411) Cloning cable	 VPL-1 Programming Kit (Computer to Radio)	 CE 52 PC-Programming Software



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