

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 Componder 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 | 506.1/Procedure II | 502.2/Procedure I,II | 502.3/Procedure I,II |
| Temperature Shock | | 503.2/Procedure I | 503.3/Procedure I |
| Solar Radiation | 507.1/Procedure II | 505.2/Procedure I | 505.3/Procedure I |
| Rain | | 506.2/Procedure II | 506.3/Procedure II |
| Humidity | 514.2/Procedure I,VIII | 507.2/Procedure II | 507.3/Procedure II |
| Salt Fog | | 509.2/Procedure I | 509.3/Procedure I |
| Blowing Dust | 516.2/Procedure I,IV | 510.2/Procedure I | 510.3/Procedure I |
| Vibration | | 514.3/Procedure X | 514.4/Procedure X |
| Shock | | 516.3/Procedure I,IV | 516.4/Procedure I,IV |

Specifications

| | VX-2500V | VX-2500U |
|-------------------------------|--|--|
| General Specifications | | |
| 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 |
|-------------------------------------|------------------------------------|----------|
| Receiver Specifications | | |
| 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 | |
| Transmitter Specifications | | |
| 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>MH-25AsJ Standard Microphone</p> |  <p>MH-700D DTMF Dial Microphone</p> |  <p>MD-11A8J Desktop Microphone</p> |  <p>MLS-100 Mobile Loud Speaker (12 Watts Peak Power)</p> |  <p>FP-1023A External Power Supply (23 A)</p> |
|  <p>FVP-25 Encryption unit</p> |  <p>LF-1 Line Filter</p> |  <p>CT-4 (T9101411) Cloning cable</p> |  <p>VPL-1 Programming Kit (Computer to Radio)</p> |  <p>CE52 PC-Programming Software</p> |