VX-450 Series

VHF/UHF Portable Radios

Durable On-the-Job Responsiveness

The industrial grade VX-450 Series maximizes worker uptime with expanded safety applications and convenient built-in features designed for heavy duty use.

Monitor Worker Safety

As with all Vertex Standard radios, the VX-450 series includes built-in Emergency and Lone Worker alerts. Emergency notification is user-initiated with a press of a button for the radio to switch to a designated channel and send an alert for help. Lone Worker mode is a built-in timer that requires the user to reset at a predetermined interval. If not reset, the radio automatically switches to Emergency mode to alert help.

When constant contact is required at all times, Vertex Standard's exclusive Auto-Range Transpond System (ARTS™) is included to inform the user that other ARTS™- equipped radios are within communication range.

No two job sites are alike and the optional Man Down function (with DVS-9 unit) is programmable to monitor a variety of worker timed safety scenarios vertically and horizontally as well as worker degree of motion. Adjusting the settings of the 3-axis sensor adapts the radio to each distinct work environment to monitor movement.

Solid Build for Extreme Environments

The VX-450 Series withstands job site abuse meeting military standards for ruggedness and meets the IP57 ingress protection standard where water does not harm the radio when submersed to a depth of 3 feet for up to 30 minutes.

Audio and Voice Responsiveness

Features 700 mW loud audio output ideal for noisy work environments.

Includes Channel Announcement which loudly speaks the channel description to simplify changing channels when focused on other tasks simultaneously.

Features voice activation (VOX) when used with MH-81A4B headset that enables users to transmit voice without pressing the Push To Talk button for hands-free operation.

Record and store up to 120 seconds of voice messages using the optional DVS-8 Voice Storage unit.

Built-in Selective Signaling Modes for Greater Flexibility

Includes MDC-1200® encode/decode along with both 2-tone and 5-tone encode/decode providing selective radio calling and efficiency in supporting a variety of discreet communications needs.

Large Group Communications Made Easy to Manage

Both the VX-459 and VX-454 radios have a massive 512-channel capacity and 32 groups to easily manage a variety of calls at the most complex job site or plant operation. The VX-459 also includes Direct Channel Entry to punch in the channel desired from the keypad for fast navigation.

FCC Narrowband Compliant

Meets the FCC Part 90 requirement for using 12.5 kHz channels by January 1, 2013.

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VX-459   VX-454   VX-451

4.29" (H) X 2.3" (W) X 1.34" (D)

The Vertex Standard Difference

Our number one goal is achieving superior customer satisfaction by delivering products and services that exceed your expectations. Count on Vertex Standard for radios that are built to last and designed to provide more features for a better return on your investment. Ask your Dealer for more details.
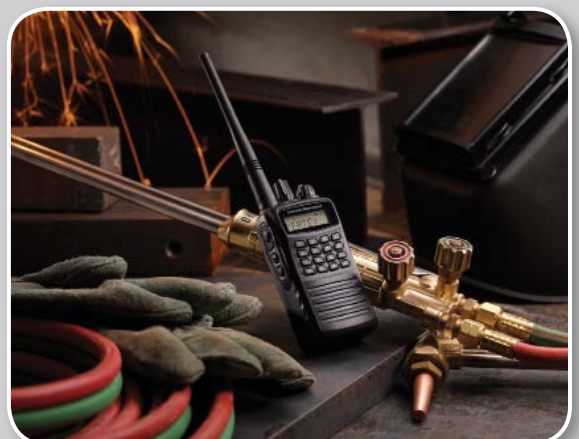
Additional Features

- Nine programmable keys (VX-459)
- Seven programmable keys (VX-454)
- Three programmable keys (VX-451)
- 8-Character alphanumeric display (VX-454/459)
- Voice inversion encryption
- Manual on/off encryption activation
- RX/TX Battery power save
- DTMF ANI
- DTMF Speed dial
- DTMF Paging
- CTCSS / DCS Encode and Decode
- Stun/kill/revive (5-tone)
- Compander
- Clear voice
- Whisper
- Minimum volume control
- Manual squelch adjustment
- BCLO, BTLO and TOT Functions
- Programmable LED color alert
- Priority scan
- Dual Watch scan
- Follow-me scan
- Talk Around scan
- Radio-to-radio cloning

Accessories

- MH-360S: Compact speaker microphone
- MH-37A4B: Earpiece microphone
- MH-450S: Speaker microphone
- MH-45B4B: Noise cancelling speaker microphone
- MH-81A4B: Over-the-head light duty VOX headset
- VH-110S: Over-the-head heavy duty dual-muff headset
- VH-115S: Behind-the-head headset w/boom mic
- VH-215S: Over-the-head single-muff headset
- VH-120S: Earpiece mic w/palm PTT switch
- VH-130S: Earpiece w/palm mic and PTT switch
- FNB-V113LI: 2300 mAh Li-Ion battery
- FNB-V112LI: 1170 mAh Li-Ion battery
- Desktop chargers available

Option Boards

- DVS-8: Digital voice storage unit
- DVS-9: Man down alert with digital voice storage

VX-450 Series Specifications

	VHF	UHF
Frequency Range	134 - 174MHz	400 - 470 MHz 450 - 512 MHz
Number of Channels and Groups		512 / 32 Groups (VX-459, VX-454) 32 / 2 Groups (VX-451)
Power Supply Voltage		7.5 V DC ± 20%
Channel Spacing		12.5 / 20 / 25 kHz
PLL Steps	1.25 / 2.5 / 5 / 6.25 kHz	5 / 6.25 kHz
Battery Life (5-5-90 duty) 2300 mAh FNB-V113LI 1170 mAh FNB-V112LI	18.5 hours (w/saver) / 16 hours 9.5 hours (w/saver) / 8.6 hours	18 hours (w/saver) / 15.6 hours 9.2 hours (w/saver) / 8.3 hours
IP Rating		IP 57
Operating Temperature Range		-22° F to +140° F (-30° C to +60° C)
Frequency Stability		±2.5 ppm
RF Input-Output Impedance		50 Ohms
Dimension (H x W x D)		4.29 x 2.3 x 1.34 inches (109 x 58.5 x 34 mm) (w/FNB-V112LI) 4.29 x 2.3 x 1.69 inches (109 x 58.5 x 43 mm) (w/FNB-V113LI)
Weight (Approx.)		10.44 oz (296 g) (w/FNB-V112LI, ANT, Belt Clip) 11.99 oz (340 g) (w/FNB-V113LI, ANT, Belt Clip)

Receiver Specification: measured by TIA/EIA-603

Sensitivity 12dB SINAD	0.25 µV	0.32 µV
Adjacent Channel Selectivity		70 dB / 65 dB
Hum and Noise		45 dB / 40 dB
Intermodulation		70 dB / 65 dB
Spurious and Image Rejection		70 dB
Audio Output		700 mW (internal @ 16 Ohms, 5% THD) 500 mW (external @ 4 Ohms, 5% THD)

Transmitter Specification: measured by TIA/EIA-603

Output Power	5 / 2.5 / 1 / 0.25 Watt (selectable by channel)
Modulation	16K0F3E, 11K0F3E
Maximum Deviation	± 5.0 kHz / ± 2.5 kHz
Conducted Spurious Emissions	70 dB below carrier
FM Hum and Noise	45 dB / 40 dB
Audio Distortion	< 3 % @1 kHz

Applicable MIL-STD

Standard	MIL 810C Methods/Procedures	MIL 810D Methods/Procedures	MIL 810E Methods/Procedures	MIL 810F Methods/Procedures	MIL 810G Methods/Procedures
Low Pressure	500.1 / Procedure I	500.2 / Procedure I, II	500.3 / Procedure I, II	500.4 / Procedure I, II	500.5 / Procedure I, II
High Temperature	501.1 / Procedure I, II	501.2 / Procedure I, II	501.3 / Procedure I, II	501.4 / Procedure I, II	501.5 / Procedure I, II
Low Temperature	502.1 / Procedure I	502.2 / Procedure I, II	502.3 / Procedure I, II	502.4 / Procedure I, II	502.5 / Procedure I, II
Temperature Shock	503.1 / Procedure I	503.2 / Procedure I	503.3 / Procedure I	503.4 / Procedure I	–
Solar Radiation	505.1 / Procedure I	505.2 / Procedure II Cat. AI	505.3 / Procedure II Cat. AI	505.4 / Procedure I, II Cat. AI	–
Rain	506.1 / Procedure I, II	506.2 / Procedure I, II	506.3 / Procedure I, II	506.4 / Procedure I, III	506.5 / Procedure I, III
Humidity	507.1 / Procedure I, II	507.2 / Procedure II, III	507.3 / Procedure II, III	507.4 / Procedure III	507.5 / Procedure I, III
Salt Fog	509.1 / Procedure I	509.2 / Procedure I	509.3 / Procedure I	509.4 / Procedure I	509.5 / Procedure I
Dust	510.1 / Procedure I	510.2 / Procedure I	510.3 / Procedure I	510.4 / Procedure I, III	510.5 / Procedure I
Vibration	514.2 / Procedure VIII, X	514.3 / Cat. 10	514.4 / Cat. 10	514.5 / Cat. 20, 24	514.6 / Cat. 20, 24
Shock	516.2 / Procedure I, III,V	516.3 / Procedure I, IV	516.4 / Procedure I, IV	516.5 / Procedure I, IV	516.6 / Procedure I, IV