

Commercial Analogue Series

VX-450, VX-4600 and VXR-9000



Meets the following standards:
AS/NZS4295, ISO9001 and ISO4001



Commercial Analogue Series

VX-450, VX-4600 and VXR-9000

Durable on-the-job responsiveness

Vertex Standard analogue two-way portable and mobile radios are built for heavy-duty use and come packed with emergency features and functionality. Extend your analogue communication reach by incorporating a Vertex Standard analogue repeater.

All Vertex Standard portable and mobile two-way radios come backed with our industry leading three-year warranty.

Improved worker safety

Vertex Standard radios include built in emergency and lone worker alerts to enhance your safety at all times. Activating the lone worker function means your radio will automatically switch to emergency mode to alert for help if you do not 'check-in' on your radio within pre-set intervals.

In addition, the portable radios in this series provide an option for Man Down. This will alert your central control point if the radio tilts to a point that shows you may have fallen or are injured.

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.

Large group communications made easy to manage

This series of radios has 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.

In addition the VX-450 and VX-4600 Series are multisite (Voting) capable. These are the perfect radios for large analogue networks or commercial contractors who frequently move between job sites.

The VXR-9000 can perform in repeater or base station mode, depending on the application and includes Priority Channel scanning capability for efficient communications monitoring.

Solid build for extreme environments

The portable radios in this series withstand job site abuse meeting military standards for ruggedness and IP67 (ingress protection) rating - where water does not harm the radio when submerged to a depth of one metre for up to 30 minutes.

Our mobile is versatile

If there is limited installation space, our mobile radio has the added benefit of a remote mounted faceplate. Mount the faceplate in the dashboard and the main radio elsewhere; concealed under a seat or behind the driver in the cab of a truck, with no impact to your communications. The optional remote mount kit comes complete with a five metre ribbon cable with waterproof connectors.

Our repeater has power supply backup with alert

Should DC power fail at the repeater site, the VXR-9000 will automatically revert to a backup DC power source, if connected. Under backup DC power, the repeater will transmit an alert message to notify the operator that immediate attention is required at the repeater site.

Simplex / Duplex capacity

The Vertex Standard analogue repeater is designed for simplex mode with single-antenna operation or full-duplex mode with the optional duplexer.

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The Vertex Standard Difference

Universal chargers

Vertex Standard portable two-way radios can be used in the same universal single unit and multi unit chargers (with a compatible UNI battery attached) reducing the equipment you need to stay connected.

What's in the box?

Vertex Standard portable two-way radios come complete with a:

- radio
- antenna (options available)
- belt-clip
- charger
- adapter
- plus choice of high capacity or slim line battery (battery options available on selected models only).

Vertex Standard mobile two-way radios come complete with a:

- microphone
- power lead
- mounting bracket with hardware.

3 year warranty

All Vertex Standard radios are backed with an industry leading 3 year warranty.

The Vertex Standard Difference

Our number one goal is achieving superior customer satisfaction by delivering products and services that exceed your expectations. Vertex Standard radios are built to last and are backed by an industry-leading 3 year warranty.



Additional features

- Three programmable keys (VX-451)
- Seven programmable keys (VX-454)
- Nine programmable keys (VX-459)
- Six programmable keys (VX-4600)
- 8-character alphanumeric display (VX-454/459/4600)
- Voice inversion encryption (VX-451/454/459)
- Manual on/off encryption activation
- RSSI signal strength indicator (VX-454/459/4600)
- RX/TX battery power save (VX-451/454/459)
- DTMF ANI
- DTMF speed dial
- DTMF paging
- Speed dial (VX-4600)
- CTCSS / DCS encode and decode
- Stun/kill/revive (5-tone)
- Compander
- Clear voice
- Whisper (VX-451/454/459)
- Direct channel entry (VX-459/4600)
- Minimum volume control
- Manual squelch adjustment
- BCLO, BTLO and TOT functions
- Programmable LED colour alert
- Priority scan
- Dual priority scan
- Dual watch scan
- Follow-me scan
- Talk around scan
- Talk back scan
- Group scan (VX-4600)
- Operator selectable scan
- Radio-to-radio cloning
- D-sub 15 pin accessory connector (VX-4600)
- Public address / horn alert (VX-4600)
- Voting

Repeater features

- Six dual-function programmable keys
- 50 CTCSS tones / 108 DCS codes encode & decode
- Multi-tone decode
- CW ID transmitter
- CW message
- Compander per channel
- D-sub 25 pin accessory connector
- Automatic DC backup switching w/alert
- EIA rack mount size (19" rack)

Portable accessories

Batteries

- FNB -VI34 Li: 2300 mAh Li-Ion (high capacity battery) UNI (included option)
- FNB -VI33 L: 1380 mAh Li-Ion (slim line battery) UNI (included option)

Chargers

- CD-58: Single unit charger base UNI (included)
- PA-55H: Power supply 16V@1Amp to suit CD-58 UNI (included)
- VAC-6058H: 6 unit multi-radio charger UNI

Remote audio

- MH-450S: Small speaker microphone
- MH-45B4B: Noise cancelling microphone
- MH-66A4B: Submersible speaker microphone
- MH-81A4B: Small speaker microphone
- VH-215S: Over-the-head single-muff headset

Leather cases

Range of swivel and non-swivel belt loop cases available

Mobile accessories

Microphones and speakers

- MH-67A8J: Standard microphone (included)
- MH-75A8J: DTMF microphone, 16 key, black
- MLS-100: External speaker (12 Watt peak power)
- MLS-200: Weatherproof external speaker (12 Watt peak power)

Remote mount kit

- RMK-4600: Remote mount kit (VX-4600)
- CT-156 CABLE: Three metre cable
- CT-157 CABLE: Five metre cable
- CT-158 CABLE: Seven metre cable

Repeater accessories

- MH-67A8J: Standard microphone

Option boards

- DVS-8: Digital voice storage unit (mobile and portable)
- DVS-9: Man down alert with digital voice storage (portable only)

VX-450 Series Portables

For durable, on-the-job responsiveness, the VX-450 Series maximises worker uptime with expanded safety applications and convenient built-in features designed for heavy duty use. The VX-450 Series of radios is packed with features for users who require a compact, reliable, commercial radio with private communications.

VX-450 Series Specifications

	VHF	UHF
General Specification		
Frequency Range	134 - 174 MHz	400 - 470 MHz; 450 - 520 MHz
Number of Channels and Groups	512 / 32 Groups (VX-459, VX-454) 32 / 2 Groups (VX-451)	
Power Supply Voltage	7.5V DC \pm 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 (high capacity) FNB-V134LI 1380 mAh (slim line) FNB-V133LI	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 67	
Operating Temperature Range	-30°C to +60°C	
Frequency Stability	\pm 2.5 ppm	
RF Input-Output Impedance	50 Ohms	
Dimension (H x W x D)	109 x 58.5 x 34mm (w/FNB-V134) 109 x 58.5 x 43mm (w/FNB-V133)	
Weight (Approx.)	296g (w/FNB-V134, ANT, Belt Clip) 340g (w/FNB-V133, ANT, Belt Clip)	
Receiver Specification: measured by TIA/EIA-603		
Sensitivity 12dB SINAD	0.25 μ V	0.32 μ V
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	\pm 5.0 kHz / \pm 2.5 kHz	
Conducted Spurious Emissions	70 dB below carrier	
FM Hum and Noise	45 dB / 40 dB	
Audio Distortion	< 3 % @ 1 kHz	



VX-454

VX-451

VX-459

Applicable MIL-STD

Standard	Methods/Procedures				
	MIL 810C	MIL 810D	MIL 810E	MIL 810F	MIL 810G
Low Pressure	500.1 / I	500.2 / I, II	500.3 / I, II	500.4 / I, II	500.5 / I, II
High Temperature	501.1 / I, II	501.2 / I, II	501.3 / I, II	501.4 / I, II	501.5 / I, II
Low Temperature	502.1 / I	502.2 / I, II	502.3 / I, II	502.4 / I, II	502.5 / I, II
Temperature Shock	503.1 / I	503.2 / I	503.3 / I	503.4 / I	-
Solar Radiation	505.1 / I	505.2 / II Cat. A1	505.3 / II Cat. A1	505.4 / I, II Cat. A1	-
Rain	506.1 / I, II	506.2 / I, II	506.3 / I, II	506.4 / I, III	506.5 / I, III
Humidity	507.1 / I, II	507.2 / II, III	507.3 / II, III	507.4 / III	507.5 / I, III
Salt Fog	509.1 / I	509.2 / I	509.3 / I	509.4 / I	509.5 / I
Dust	510.1 / I	510.2 / I	510.3 / I	510.4 / I, III	510.5 / I
Vibration	514.2 / VIII, X	514.3 / Cat. 10	514.4 / Cat. 10	514.5 / Cat. 20, 24	514.6 / Cat. 20, 24
Shock	516.2 / I, III, V	516.3 / I, IV	516.4 / I, IV	516.5 / I, IV	516.6 / I, IV

Optimise mobile communications with this mobile radio's enhanced features and signalling performance for increased flexibility and worker safety. The VX-4600 is a feature-packed commercial radio designed for users who require a versatile, compact and reliable mobile radio with secure communications.

VX-4600 Series Specifications

	VHF	UHF
General Specification		
Frequency Range	134 - 174 MHz	400 - 470 MHz; 450 - 520 MHz
Number of Channels and Groups	512 with 32 Groups (VX-4600)	
Power Supply Voltage	13.6 V DC \pm 20%	
Channel Spacing	12.5 / 20 / 25 kHz	
PLL Steps	1.25 / 2.5 / 5 / 6.25 kHz	5 / 6.25 kHz
Current Consumption	TX: 11 A, RX: 2.5 A, Standby: 200 mA	
Operating Temperature Range	-30°C to +60°C	
Frequency Stability	\pm 2.5 ppm	
RF Input-Output Impedance	50 Ohms	
Dimension (H x W x D)	45 x 165 x 155 mm	
Weight (Approx.)	1.25 kg	

Receiver Specification: measured by TIA/EIA-603

Sensitivity 12dB SINAD	0.25 μ V
Adjacent Channel Selectivity	75 dB / 70 dB
Hum and Noise	45 dB / 40 dB
Intermodulation	75 dB
Spurious and Image Rejection	85 dB / 80 dB
Audio Output	Internal: 4 W @ 20 Ohms External: 12 W @ 4 Ohms, < 5% THD

Transmitter Specification: measured by TIA/EIA-603

Output Power (Selectable)	25 / 12.5 / 5 W	25 / 12.5 / 5 W
Modulation	16K0F3E, 11K0F3E	
Maximum Deviation	\pm 5.0 kHz / \pm 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	Methods/Procedures				
	MIL 810C	MIL 810D	MIL 810E	MIL 810F	MIL 810G
Low Pressure	-	500.2 / I	500.3 / I	500.4 / I	500.5 / I
High Temperature	501.1 / I, II	501.2 / I	501.3 / I	501.4 / I	501.5 / I
Low Temperature	502.1 / I	502.2 / I, II	502.3 / I, II	502.4 / I, II	502.5 / I, II
Temperature Shock	503.1 / I	-	-	-	-
Solar Radiation	-	-	505.3 / I	505.4 / I	-
Rain	506.1 / II	506.2 / II	506.3 / II	506.4 / III	506.5 / III
Humidity	507.1 / II	-	-	-	-
Salt Fog	509.1 / I	509.2 / I	509.3 / I	509.4 / I	509.5 / I
Dust	-	-	510.3 / I	-	-
Vibration	514.2 / VIII, X	514.3 / Cat. 10	514.4 / Cat. 10	514.5 / Cat. 24	514.6 / Cat. 24
Shock	516.2 / I	516.3 / I	516.4 / I	516.5 / I	516.6 / I
Transit Drop	-	-	-	-	516.5 / IV



VX-4600



REMOTE MOUNT OPTION

If there is limited space, this radio has the added benefit of a remote mounted faceplate. Mount the faceplate in the dashboard and the main radio elsewhere; concealed under a seat or behind the driver in the cab of a truck, with no impact to your communications. The optional remote mount kit comes complete with a five metre ribbon cable with waterproof connectors.

VXR-9000 Repeater

The VXR-9000 delivers reliable performance and extended range. The slim-line design is crafted for easy installation and integration into most repeater sites.

VXR-9000 Series Specifications

	VHF	UHF
General Specification		
Frequency Range	134 – 160 MHz (A) 148 – 174 MHz (C)	400 – 430 MHz (A) 450 – 490 MHz (D)
Number of Channels	32	
Power Supply Voltage	13.6 V DC \pm 10%	
Channel Spacing	12.5 / 25* kHz	
Operating Temperature Range	-30°C to +60°C	
Frequency Stability	1.5 ppm, 1.0 ppm (30 min. after wake up)	
RF Input-Output Impedance	50 Ohms	
Dimension (H x W x D)	88 x 483 x 343 mm	
Weight (Approx.)	9.7 kg (50 W model)	
Receiver Specification: measured by TIA/EIA-603		
Sensitivity 12dB SINAD	0.25 μ V	0.3 μ V
Adjacent Channel Selectivity	85 dB / 79 dB	84 dB / 77 dB
Intermodulation	83 dB / 81 dB	82 dB / 80 dB
Spurious and Image Rejection	90 dB	
Audio Output	4 W @ 4 Ohms	
Transmitter Specification: measured by TIA/EIA-603		
Output Power	50 / 25 / 10 W (100 W optional)	
Duty Cycle	50 %	
Modulation	16K0F3E, 11K0F3E	
Maximum Deviation	\pm 5.0 kHz / \pm 2.5 kHz	
Audio Distortion	< 2.5 % @ 1 kHz	
Conducted Spurious Emission	80 dB below carrier	



VXR-9000

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