

VX-820/870 Series

VHF/UHF Portable Radios

SPECIFICATION SHEET

Compact Size With Robust Capabilities

Don't let the size deceive you. The smallest radio offered by Vertex Standard is unobtrusive and easy to wear all day and built with more enhanced features typically not found in other radios of this size. Designed to perform in the most demanding and critical conditions, the VX-820/870 series gives you maximum radio performance for less in size and less in total cost of ownership.

Withstands Harsh Environments

Rain, snow, fire suppression spray and dust are no problem for these radios manufactured to strict IP ratings. The VX-820 series meets international waterproofing standard IP57 where water does not harm the radio when submersed to a depth of 3 feet for up to 30 minutes. For more demanding environments, the VX-870 series meets the industry best IP68 waterproofing standard and is able to perform after submersion in water to a depth of 6 feet for 3 hours.

Intrinsically Safe

The VX-820/870 Series come in intrinsically safe options that meet the SGS requirements of ANSI/UL913 6th Edition for Class I, Division 1, Groups A-D, Class II, Groups E-G; and Class III for use in hazardous locations.

Long-Lasting Power for Responsiveness

To give you maximum performance, the VX-820/870 series offers a choice of Li-Ion battery power up to 3000 mAh for over 20 hours of battery life (per specifications).

Tailored Communications to Meet Your Demands

Get the ultimate signaling performance with a choice of multiple 2-tone encode and decode or 5-tone signaling to support the most advanced communications needs from individual to fleet operations. The front panel also includes a 7-color LED with a variable flash pattern for custom incoming call alerts.

When Safety Counts – Never Be Alone

When help is needed, the VX-820/870 Series has Emergency notification that will switch to a designated channel and send an emergency alert. The radios also include Remote Listen which turns the radio transmit on remotely if needed to check out what is happening near the radio.

Loud Audio for Noisy Environments

With 700 mW audio output, be assured of hearing critical information you need in most situations.



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 – another great reason to choose Vertex Standard. Ask your Dealer for more details.



Additional Features

- 512 Channel capacity (VX-829/824/879/874)
- 16 Channel capacity (VX-821/871)
- Wide band coverage
- Nine programmable keys (VX-829/879)
- Seven programmable keys (VX-824/874)
- Three programmable keys (VX-821/871)
- Programmable channel selector
- Direct channel recall
- 12-Character alphanumeric display (VX-829/824/879/874)
- RX/TX Battery power save
- DTMF ANI
- DTMF Speed Dial (VX-829/879)
- Stun / kill / revive (5-tone)
- Lone Worker
- Auto-Range Transpond System (ARTS™)
- Compander
- Whisper
- Minimum volume control
- Scan options: Priority, Dual Priority, Dual Watch, Follow-me, Follow-me Dual Watch, Talk Around
- Programmable home channel function
- Radio-to-radio cloning

Accessories

- MH-50D7A: Public Safety speaker mic w/toggle
- MH-66A7A: Submersible noise cancelling speaker mic
- MH-66B7A: Submersible speaker mic w/PF key & toggle
- VH-121: 3-Wire mini lapel microphone surveillance kit
- VH-131: 2-Wire earpiece, palm mic. with PTT
- VH-111: Over-the-head dual-muff headset
- FNB-V92LI: 3000 mAh Li-Ion battery
- FNB-V92LIS: 3000 mAh Intrinsically safe Li-Ion battery
- FNB-V87LI: 2000 mAh Li-Ion battery
- FNB-V86LI: 1150 mAh Li-Ion battery
- VAC-920: Desktop rapid charger
- VAC-6920: 6-Unit rapid charger
- VCM-2: Vehicular charger kit
- LCC-820S: Leather case w/swivel belt clip

Option Boards

- FVP-25: Voice Inversion Encryption & DTMF Paging
- FVP-35: Rolling Code Encryption
- FVP-36: Voice Inversion Encryption
- DVS-5: Digital voice storage
- VME-100: MDC-1200® / GE-STAR® ANI Encode
- VMDE-200: MDC-1200® / GE-STAR® ANI Enc./Dec.

VX-820/870 Series Specifications

	VHF	UHF
General Specification		
Frequency Range	134 – 174 MHz	400 – 470 MHz; 450 – 512 MHz
Number of Channels and Groups	512 and 32 Groups (VX-829/824/879/874) 16 and 1 Group (VX-821/871)	
Power Supply Voltage	7.4V 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)		
3000 mAh FNB-92LI	23 hrs (18 hrs w/o saver)	21.5 hours (16.5 hrs w/o saver)
2000 mAh FNB-V87LI	16 hrs (12.5 hrs w/o saver)	15 hrs (11.5 hrs w/o saver)
IP Rating	IP 57 / IP 68 (820/870 series)	
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)	3.8 x 2.3 x 1.5 inches (96.5 x 57.5 x 37.5 mm) (w/FNB-86LI)	
Weight (Approx.)	10.9 oz (310 g) (w/FNB-V86LI and Belt Clip)	
Receiver Specification: measured by TIA/EIA-603		
Sensitivity 12dB SINAD	0.25 / 0.32 µV	
Adjacent Channel Selectivity	75 / 70 dB	
Intermodulation	75 / 70 dB	
Spurious and Image Rejection	75 dB	
Audio Output	700 mW @ 16 Ohms 5% THD	
Transmitter Specification: measured by TIA/EIA-603		
Output Power	5 / 2.5 / 1 / 0.25 W	
Modulation	16K0F3E, 11K0F3E	
Conducted Spurious Emissions	70 dB	
FM Hum & Noise	45 / 40 dB	
Audio Distortion	< 3 % @1kHz	

Applicable MIL-STD

Standard	MIL 810C Methods/ Procedures	MIL 810D Methods/ Procedures	MIL 810E Methods/ Procedures	MIL 810F Methods/ Procedures
Low Pressure	500.1	500.2	500.3	500.4
High Temperature	501.1/Procedure I, II	501.2/Procedure I, II	501.3/Procedure I, II	501.4/Procedure I, II
Low Temperature	502.1/Procedure I, II	502.2/Procedure I, II	502.3/Procedure I, II	502.4/Procedure I, II
Temperature Shock	-	-	-	503.4/Procedure I
Solar Radiation	505.1/Procedure I	505.2/Procedure I Cat. A1	505.3/Procedure II, Cat. A1	505.4/Procedure I, II Cat. A1
Rain	506.1/Procedure I	506.2/Procedure I	506.3/Procedure I, II	506.4/Procedure I
Humidity	507.1/Procedure I, II	507.2/Procedure II, III	507.3/Procedure II, III	-
Salt Fog	509.1/Procedure I	509.2/Procedure I	509.3/Procedure I	509.4/Procedure I
Dust	-	510.2/Procedure I	510.3/Procedure I	510.4/Procedure I, III
Immersion (VX-870 series)	512.1/Procedure I	512.2/Procedure I	512.3/Procedure I	512.4/Procedure I
Vibration	514.2/ Procedure VIII, X	514.3/Procedure I Cat. 10	514.4/Procedure I Cat. 10	514.5/Procedure I Cat. 20, 24
Shock	516.2/Procedure I	516.3/Procedure I	516.4/Procedure I	516.5/Procedure I

Specifications are subject to change without notice or obligation.

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