

VX-820E 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-820E 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-820E series meets international waterproofing standard IP57 where water does not harm the radio when submersed to a depth of 1 metre for up to 30 minutes.

Long-Lasting Power for Responsiveness

To give you maximum performance, the VX-820E 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-colour LED with a variable flash pattern for custom incoming call alerts.

When Safety Counts – Never Be Alone

When help is needed, the VX-820E 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 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.

Exclusive Auto-Range Transpond System – ARTS™

Only Vertex Standard radios are designed to inform you when you and another ARTS™-equipped station are within communication range. If out of range for more than 2 minutes, your radio senses no signal has been received and beeps to alert you. The base station can then alert the field unit to move back in range. A great solution to keep your workers co-ordinated.



Top



VX-829E

VX-824E

VX-821E

96.5 (H) X 57.5 (W) X 37.5 (D) mm



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

- 512 Channel capacity (VX-829E/824E)
- 16 Channel capacity VX-821E)
- Wide band coverage
- Seven programmable keys (VX-829E/824E)
- Three programmable keys (VX-821E)
- 512 Channel capacity (VX-829E/824E)
- 16 Channel capacity (VX-821E)
- Wide band coverage
- Seven programmable keys (VX-829E/824E)
- Three programmable keys (VX-821E)
- Programmable channel selector
- Direct channel recall
- 12-Character alphanumeric display (VX-829E/824E)
- RX/TX Battery power save
- DTMF ANI
- Stun / kill / revive (5-tone)
- Lone Worker
- Compander
- Whisper
- Minimum volume control
- Scan options: 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-V92LIIS: 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-820E Series Specifications



| | VHF | UHF |
|--|--|------------------------------|
| General Specification | | |
| Frequency Range | 134 – 174 MHz | 400 – 470 MHz; 450 – 520 MHz |
| Number of Channels and Groups | 512 and 32 Groups (VX-829E/VX-824E) 16 and 1 Group (VX-821E) | |
| Power Supply Voltage | 7.4V DC ± 20% | |
| Channel Spacing | 12.5 / 20 / 25 kHz | |
| PLL Steps | 5 / 6.25 kHz | |
| Battery Life (5-5-90 duty) | 23 hrs (18 hrs w/o saver) / 16 hrs (12.5 hrs w/o saver) | |
| 3000 mAh FNB-92LI | 21.5 hours (16.5 hrs w/o saver) / 15 hrs (11.5 hrs w/o saver) | |
| 2000 mAh FNB-V87LI | | |
| IP Rating | IP 57 | |
| Operating Temperature Range | -30° C to +60° C | |
| Frequency Stability | ±2.5 ppm | |
| RF Input-Output Impedance | 50 Ohms | |
| Dimension (H x W x D) | 96.5 x 57.5 x 37.5 mm (w/FNB-86LI) | |
| Weight (Approx.) | 310 g (w/FNB-V86LI and Belt Clip) | |
| Receiver Specification: measured by EN 300 086 | | |
| Sensitivity 20 dB SINAD | -4 / -2 dB µV emf | |
| Adjacent Channel Selectivity | 75 / 65 dB | |
| Intermodulation | 65 dB | |
| Spurious and Image Rejection | 70 dB | |
| Audio Output | 700 mW @ 16 Ohms 5% THD | |
| Transmitter Specification: measured by EN 300 086 | | |
| Output Power | 5 / 2.5 / 1 / 0.25 W | |
| Modulation Limiting | ±5.0 kHz @ 25 kHz ±4.0 kHz @ 20 kHz ±2.5 kHz @ 12.5 kHz | |
| Modulation | 16K0F3E, 11K0F3E | |
| Spurious Emissions | 70 dB below carrier -36 dBm @ ≤ 1 GHz, -30 dBm @ > 1 GHz (EN) | |
| 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 I, III | 507.3/Procedure I, 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 |
| 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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