VHF/UHF Portable Radios

VX-900 SERIES

- 512 CHANNEL CAPACITY
  (Managed in up to 20 Memory Groups)
- WIDE-BAND COVERAGE
- 5 WATTS POWER OUTPUT
  (Selectable to 2.5, 1.0, 0.25, W)
- LONG BATTERY LIFE:
  14 (w/FNB-V68LI) or 18 (w/FNB-V69LI)
  HOURS (VX-900U w/saver)
- SIXTEEN POSITION ROTARY
  CHANNEL SELECTOR
- 12.5 / 25 kHz BANDWIDTH
  PROGRAMMABLE PER CHANNEL
- MIL-STD 810 C/D/E
- DIE-CAST CHASSIS
- NON-WIRE MAIN BOARD
  CONSTRUCTION
- SINGLE / DUAL PRIORITY SCAN MODES
- NOISE CANCELING MICROPHONE
- WATER SHIELD MICROPHONE
  CONNECTION
- MIL-SPEC SPEAKER MIC AVAILABLE
- LOUD 700 mW AUDIO OUTPUT
- 8 CHARACTER ALPHANUMERIC,
  INVERTIBLE LCD DISPLAY
- 8 PROGRAMMABLE SOFT KEYS AND
  3-POSITION TOGGLE SWITCH
- DTMF SIGNALING & DIALING FEATURES
- USER SELECTABLE TONES / CODES
- CTCSS / DCS ENCODE + DECODE
- EMERGENCY FUNCTIONS
- ENCRYPTION
- EMBEDDED MESSAGE
- INTRINSICALLY SAFE VERSION
  AVAILABLE
- OPTIONAL ALKALINE BATTERY CASE
- RADIO TO RADIO CLONE FEATURE
- TALK AROUND
- BCLO, BTLO, AND TOT FUNCTIONS
- PROGRAMMABLE MINIMUM VOLUME
Engineered to make its advanced features easy to use, and providing the ruggedness demanded by public safety users, the VX-900 utilizes a large-capacity Lithium-Ion battery, which typically provides 14 hours of operating time (VX-900U w/FNB-V69LI). With improved scan speeds, Emergency Alert, and Invertible 8 Character LCD Display, User Selectable Tones / Codes, 512 Channel Capacity, and a host of easily-programmable customization features, the VX-900 is ideal for a wide variety of public safety and commercial applications.

The VX-900 gives you the reliability and dependability you require, built to meet the punishing test procedures of MIL-STD 810 C, D, & E, as well as the highest-level Intrinsically Safe rating. With a Weather Sealed mic connector, built-in Noise Cancelling Microphone, and a loud 700 mW audio output stage, this very capable and rugged package is ready to serve your communications needs.

**DURABLE CONSTRUCTION**

**MIL-SPEC CONSTRUCTION**
Built to meet or exceed the requirements of the U.S. MIL-STD 810 C/D/E standards, the VX-900 is designed to survive under difficult operating conditions of shock, vibration, and driving rain.

**DIE-CAST CHASSIS AND WEATHERPROOF CASE DESIGN**
The VX-900's ruggedness begins with its one-piece die-cast aluminum chassis, which provides high strength and durability along with light weight. Surrounding the portable circuitry is a one piece high-impact case.

**WATER SHIELD MICROPHONE CONNECTION**
The multi-pin accessory connector on the side of the VX-900, sealed for protection against weather, provides a convenient connection point for the MH-50A7A Speaker/Microphone or other accessories. Its gold-plated contacts ensure many years of reliable service.

**NON-WIRE MAIN BOARD CONSTRUCTION**
Advanced non-wire construction improves reliability over the life of the radio. Non-wire construction eliminates the durability concern of pinched wires and broken wire connection at solder points. The construction is neat and well protected against the rigors of daily, heavy use.

**HIGH PERFORMANCE**

**LOUD 700 mW AUDIO OUTPUT**
Ideal for reception in noisy environments, the VX-900 is high-powered audio coupled to a large internal speaker, assuring solid copy throughout difficult crowd control, fire, or sporting-event operations.

**NOISE CANCELING MICROPHONE**
Providing a significant reduction in transmitted background noise, the built-in Noise Canceling Microphone helps push your critical messages through, even in very noisy environments.

**VERSATILITY**

**512 CHANNEL CAPACITY (Managed in up to 20 Memory Groups)**
Huge 512-channel capacity may be partitioned into as many as 20 Memory Groups, with no limit on the number of channels in each Group. A single radio may therefore be programmed with channel sets for a number of different jurisdictions or organizations.

**WIDE-BAND COVERAGE**
Coverage beyond typical limits allows programming in guard band channel allocations, and ensures compatibility for programming in a wide variety of locations.

**SINGLE/DUAL PRIORITY SCAN MODES**
Monitor one or two important channels on a Priority basis. Flexible Revert and Talk-Back functions ensure compatibility with existing user operating knowledge, thus minimizing training time in new installations.

**HIGH-SPEED SCAN**
The lightning-fast scanning capability allows rapid coverage of the VX-900's huge memory bank. Nuisance channels may temporarily be deleted, and single-group and multiple-group scanning are available.

**PROGRAMMABLE SOFT KEYS (4- and 8-Key Models Available) AND 3-POSITION TOGGLE SWITCH**
Customization of feature access is easily accomplished at the time of programming. Complete flexibility in assignment of features ensures compatibility with.

**DTMF SIGNALING & DIALING FEATURES**
The 16-Key versions of the VX-900 provide both manual and Speed Dial DTMF calling. All versions provide programmable PTT ANI for business or fleet applications.

**CTCSS/DCS ENCODE + DECODE**
High-performance Encoder/Decoder circuits for both CTCSS and Digital Code Squelch are provided, for access to tone/code controlled systems.

**USER-SELECTABLE TONES/CODES**
Field programming of the CTCSS tones or DCS codes is available, allowing access to multiple systems.
EMERGENCY FUNCTIONS
The VX-900 may be programmed to transmit an emergency DTMF ENI burst, with or without a live microphone engaged, to alert the dispatcher to an emergency situation requiring assistance to the officer.

ENCRYPTION
The FVP-25 Encryption Unit provides security for your important public safety and private security communications, and it also includes a DTMF Paging function for selective calling.

EMBEDDED MESSAGE
At the time of programming, an I.D. number may be imbedded in the radio's memory, allowing identification of a stolen radio if its serial number or other external identification tags have been removed.

INTRINSICALLY SAFE VERSION AVAILABLE
Included in the VX-900 Intrinsically Safe version's certification is approval for use in the hazardous Hydrogen and Acetylene environments.

RADIO-TO-RADIO CLONE FEATURE
For quick programming of VX-900 radios for an emergency task force, the Clone feature allows copying of all channel and other configuration data from one VX-900 to another, using the optional CT-72 Cloning Cable.

OTHER FEATURES:
- 5 Watts Power Output (Selectable to 2.5, 1.0, 0.25 W)
- Talk Around
- BCLO, BTLO, and TOT functions
- Programmable Minimum Volume
### Specifications

#### VX-900V

<table>
<thead>
<tr>
<th>General Specifications</th>
<th>VX-900U</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency Range</td>
<td>134-160 MHz (A)</td>
</tr>
<tr>
<td></td>
<td>148-174 MHz (C)</td>
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<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of Channels</td>
<td>512 Channels</td>
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<tr>
<td>Channel Spacing</td>
<td>12.5/25/50 kHz</td>
</tr>
<tr>
<td>PLL Steps</td>
<td>1.25/2.5/5/6.25 kHz</td>
</tr>
<tr>
<td>Power Supply Voltage</td>
<td>7.4 VDC ± 20 %</td>
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</tbody>
</table>

- Battery Life (5-5-90 duty)
  - w/FNB-V68Li (1800 mAh) 13 hrs. (17 hrs. w/saver) @ 5 W
  - w/FNB-V68Li/1 (2400 mAh) 16 hrs. (21 hrs. w/saver) @ 5 W

- Operating Temperature Range
  - -20° F to +140° F (30°C to +60°C) (w/FNB-V68Li/1800 mAh)
  - 11 hrs. (14 hrs. w/saver) @ 5 W (w/FNB-V68Li/2400 mAh)

<table>
<thead>
<tr>
<th>Receiver Specifications</th>
<th>Measurements made per EIA standard TIA/EIA-603</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensitivity</td>
<td>EIA 12 dB SINAD 0.25 µV</td>
</tr>
<tr>
<td></td>
<td>20 dB Quieting 0.35 µV</td>
</tr>
<tr>
<td>Adjacent Channel Selectivity</td>
<td>25 kHz / 12.5 kHz channel spacing 75 dB / 70 dB</td>
</tr>
<tr>
<td></td>
<td>75 dB / 68 dB</td>
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<tr>
<td>Intermodulation</td>
<td>25 kHz / 12.5 kHz 75 dB / 68 dB</td>
</tr>
<tr>
<td></td>
<td>75 dB / 65 dB</td>
</tr>
<tr>
<td>Spurious and Image Rejection</td>
<td>75 dB</td>
</tr>
<tr>
<td>Hum &amp; Noise</td>
<td>45 dB / 40 dB</td>
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<tr>
<td>Audio Output</td>
<td>700 mW @ 16 Ohms, 5 % THD</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Transmitter Specifications</th>
<th>Measurements made per EIA standard TIA/EIA-603</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Output</td>
<td>5.0/2.5/1.0/0.25 W</td>
</tr>
<tr>
<td>Modulation</td>
<td>Direct FM 16K0F3E, 11K0F3E</td>
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<tr>
<td>Conducted Spurious Emissions</td>
<td>70 dB Below Carrier</td>
</tr>
<tr>
<td>FM Hum &amp; Noise</td>
<td>45 dB (25 kHz) / 40 dB (12.5 kHz)</td>
</tr>
<tr>
<td>Audio Distortion @ 1 kHz</td>
<td>&lt;3 %</td>
</tr>
</tbody>
</table>

Measurements per EIA standards unless noted above. Specifications subject to change without notice or obligation.

#### Applicable MIL-STD

<table>
<thead>
<tr>
<th>Standard</th>
<th>MIL 810C Methods/Procedures</th>
<th>MIL 810D Methods/Procedures</th>
<th>MIL 810E Methods/Procedures</th>
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<td>500.3/Procedure 2</td>
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<tr>
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<td>501.2/Procedure 1, 2</td>
<td>501.3/Procedure 1, 2</td>
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<tr>
<td>Temperature Shock</td>
<td>503.1/Procedure 1</td>
<td>503.2/Procedure 1</td>
<td>503.3/Procedure 1</td>
</tr>
<tr>
<td>Solar Radiation</td>
<td>505.1/Procedure 1</td>
<td>505.2/Procedure 1</td>
<td>505.3/Procedure 1</td>
</tr>
<tr>
<td>Rain</td>
<td>506.2/Procedure 1</td>
<td>506.3/Procedure 1</td>
<td>506.4/Procedure 1</td>
</tr>
<tr>
<td>Humidity</td>
<td>507.1/Procedure 2</td>
<td>507.2/Procedure 2</td>
<td>507.3/Procedure 2</td>
</tr>
<tr>
<td>Salt Fog</td>
<td>509.1/Procedure 1</td>
<td>509.2/Procedure 1</td>
<td>509.3/Procedure 1</td>
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<tr>
<td>Dust</td>
<td>510.1/Procedure 1</td>
<td>510.2/Procedure 1</td>
<td>510.3/Procedure 1</td>
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<tr>
<td>Vibration</td>
<td>514.2/Procedure 8, 10</td>
<td>514.3/Procedure 1 Cat. 10</td>
<td>514.4/Procedure 1 Cat. 10</td>
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<tr>
<td>Shock</td>
<td>516.2/Procedure 1, 5</td>
<td>516.3/Procedure 1, 4</td>
<td>516.4/Procedure 1, 4</td>
</tr>
</tbody>
</table>

#### Intrinsic Safety Approvals

The VX-900 VHF and UHF models have been given an intrinsically safe rating for use in ANSI/UL-913-88 Class I, II, and III, Division 1, Groups A, B, C, D, E, F, and G hazardous environments on models equipped with the Intrinsically Safe option.

### Accessories & Options

- MH-50A7A Speaker/Microphone (Noise Canceling)
- VH-110 Over the Head, Heavy Duty Headset
- VH-120 3-Wire Earpiece, Mic, Palm PTT Switch
- VH-130 2-Wire Earpiece, Palm Mic/PTT Combo
- VH-140 DSP VOX Earpiece-Mic*
- VH-150 DSP VOX Bone-vibration Headset*
- VH-160 Earpiece, Mic, Body PTT System*
- VH-170 Bone-vibration Headset*
- FVP-28 Encryption/DTMF Pager Unit
- VTP-50 VX-Trunk Unit
- F2D-8 2-Tone Decode Unit
- F5D-14 5-Tone ENC/DEC Unit
- FNB-V68LI 7.4 V 1800 mAh Li-Ion Battery
- FSA-27 Alkaline Battery Case (6xAA)
- FNB-V69LI 7.4 V 2400 mAh Li-Ion Battery
- VAC-9000 6-unit Multi Charger
- VAC-9000C Desktop Rapid Charger (B for 130 VAC, C for 240 VAC)
- VCM-1 Mobile Mounting Bracket for VAC-900
- CT-70 Radio Programming Cable (Requires VPL-1)
- CT-71 Radio Programming Cable
- CT-72 Radio to Radio Programming Cable
- CE39 Programming Software

* Non-inventory item, special order required.

Various accessories listed may not be available in some countries.