

VX-900 SERIES

VHF/UHF Portable Radios



- 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

VX-900

SERIES

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 Canceling 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.



● Weatherproof Construction



● Durable One-Piece Case Design

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's circuitry is a one-piece high-impact case,



● Rugged Die-cast Chassis with Robust O-ring

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.



● Reliable Non-wire Assembly

HIGH PERFORMANCE

LOUD 700 mW AUDIO OUTPUT

Ideal for reception in noisy environments, the VX-900's high-powered audio is 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.

MIL-SPEC SPEAKER/MIC AVAILABLE

Built to survive under difficult field conditions, the optional MH-50A7A Speaker/Mic includes a Noise Canceling microphone design.

12.5/25 kHz BANDWIDTH PROGRAMMABLE PER CHANNEL

The VX-900 may be programmed with Wide or Narrow operating bandwidths, channel by channel, to conform to your local channel environment. Ideal for multi-jurisdiction operations.

LITHIUM-ION BATTERIES PROVIDE EXTENDED OPERATING TIMES

The 1800 mAh Lithium-Ion Battery Pack typically provides 11 hours of operation, while the long life 2400 mAh Battery Pack yields up to 14 hours on the UHF Version.

OPTIONAL ALKALINE BATTERY CASE

For situations where recharging of battery packs is not available, the optional FBA-27 Alkaline Battery Pack allows the use of six AA Alkaline batteries to power the VX-900.

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.



EASY USER INTERFACE

8-CHARACTER ALPHANUMERIC, INVERTIBLE LCD DISPLAY

Providing indication of either the channel number or an Alphanumeric Channel Label of up to 8 characters, the LCD display may be inverted when the radio is worn on the body. Convenient operation function icons provide instant recognition of radio status. And the display is canted forward 15... from horizontal to ensure easy visibility over a wide



SIXTEEN-POSITION ROTARY CHANNEL SELECTOR

The top panel's rugged rotary switch may be used for channel selection, or for selection of the desired Memory Group.

KEY LOCK

A soft key may be assigned as a Key Lock control, to prevent inadvertent frequency change or unwanted activation/de-activation of functions. This is especially valuable in surveillance operations, where the radio may be concealed and subject to accidental pressure on its keys.

ERGONOMIC CONSTRUCTION

The carefully-engineered case construction features a gently rounded shape for a solid grip, whether the radio is wet or dry. Its over-sized front panel keys are easy to activate, even for users with large fingers.



SECURITY

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



ACTUAL SIZE

Specifications

VX-900V		VX-900U	
General Specifications			
Frequency Range	134-160 MHz (A) 148-174 MHz (C)	400-430 MHz (AS1) 450-490 MHz (D) 485-512 MHz (F)	
Number of Channels	512 Channels		
Channel Spacing	12.5/25/30 kHz	12.5/25 kHz	
PLL Steps	1.25/2.5/5/6.25 kHz	5/6.25 kHz	
Power Supply Voltage	7.4 VDC ± 20 %		
Battery Life (5-5-90 duty)	w/FNB-V68LI(1800 mAh) 13 hrs. (17 hrs. w/saver) @5 W		11 hrs. (14 hrs. w/saver) @5 W
	w/FNB-V69LI(2400 mAh) 16 hrs. (21 hrs. w/saver) @5 W		14 hrs. (18 hrs. w/saver) @5 W
Operating Temperature Range	-22° F to +140° F (-30° C to +60° C)		
Frequency Stability	Better than ±2.5 ppm		
Dimensions	2.3"(W) x 6.1"(H) x 1.3"(D) (59 x 155 x 34 mm)		
Weight	0.93 lb. (420 g) w/Antenna, FNB-V68LI and Belt clip		
Battery	Lithium-Ion 7.4 V 1800 mAh or Lithium-Ion 7.4 V 2400 mAh		
Receiver Specifications Measurements made per EIA standard TIA/EIA-603			
Sensitivity	EIA 12 dB SINAD 0.25 µV 20 dB Quieting 0.35 µV		
Adjacent Channel Selectivity	25 kHz / 12.5 kHz channel spacing	75 dB / 70 dB	75 dB / 68 dB
Intermodulation	25 kHz / 12.5 kHz	75 dB / 68 dB	75 dB / 65 dB
Spurious and Image Rejection	75 dB		
Hum & Noise	45 dB / 40 dB		
Audio Output	700 mW @16 Ohms, 5 % THD		
Transmitter Specifications Measurements made per EIA standard TIA/EIA-603			
Power Output	5.0/2.5/1.0/0.25 W		
Modulation	Direct FM 16K0F3E, 11K0F3E		
Conducted Spurious Emissions	70 dB Below Carrier		
FM Hum & Noise	45 dB (25 kHz) / 40 dB (12.5 kHz)		
Audio Distortion @1 kHz	<3 %		

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
























Applicable MIL-STD

Standard	MIL 810C Methods/Procedures	MIL 810D Methods/Procedures	MIL 810E Methods/Procedures
Low Pressure		500.2/Procedure 2	500.3/Procedure 2
High Temperature	501.1/Procedure 1, 2	501.2/Procedure 1, 2	501.3/Procedure 1, 2
Low Temperature	502.1/Procedure 1	502.2/Procedure 1, 2	502.3/Procedure 1, 2
Temperature Shock	503.1/Procedure 1	503.2/Procedure 1	503.3/Procedure 1
Solar Radiation	505.1/Procedure 1	505.2/Procedure 1	505.3/Procedure 1
Rain		506.2/Procedure 1, 2	506.3/Procedure 1, 2
Humidity	507.1/Procedure 2	507.2/Procedure 2	507.3/Procedure 2
Salt Fog		509.2/Procedure 1	509.3/Procedure 1
Dust		510.2/Procedure 1	510.3/Procedure 1
Vibration	514.2/Procedure 8, 10	514.3/Procedure 1 Cat. 10	514.4/Procedure 1 Cat. 10
Shock	516.2/Procedure 1, 5	516.3/Procedure 1, 4	516.4/Procedure 1, 4

Intrinsically Safe 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-25 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	 FBA-27 Alkaline Battery Case (6xAA)
 FNB-V69LI 7.4 V 2400 mAh Li-Ion Battery	 VAC-6900 6-unit Multi Charger
 VAC-900B/C Desktop Rapid Charger (B for 120 VAC/ C for 240 VAC)	 VCM-1 Mobile Mounting Bracket for VAC-900
 CT-70 Radio Programming Cable (Requires VPL-1)	 LCC-900/S Leather Case (S for swivel belt clip)
 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.



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Sukagawa Division
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ISO9001 certification



Sukagawa Division
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