

# VX-800 SERIES

## VHF/UHF Portable Radios

### HIGH-PERFORMANCE, RUGGED 200-CHANNEL PORTABLE RADIOS WITH INVERTIBLE LIQUID-CRYSTAL DISPLAYS



- 200 CHANNEL CAPACITY
- WIDE-BAND COVERAGE
- 5 WATTS POWER OUTPUT  
(Selectable to 2.5, 1.0, 0.25 W)
- MIL-STD 810 C/D/E
- 12.5/25 kHz BANDWIDTH  
PROGRAMMABLE PER CHANNEL
- 2 TONE DEC OR 5 TONE DEC/ENC  
AVAILABLE
- CTCSS/DCS ENCODE + DECODE
- USER SELECTABLE TONES / CODES
- ADVANCED 8 CHARACTER  
INVERTIBLE ALPHANUMERIC DISPLAY
- LONG BATTERY LIFE:  
16 HOURS (w/FNB-62LI , VX-800V w/saver)
- PROGRAMMABLE/USER DEFINABLE  
SCAN MODES
- BCLO, BTLO AND TOT FUNCTIONS
- 2 PROGRAMMABLE SOFT KEYS + 1  
MULTI-POSITION PROGRAMMABLE  
TOGGLE SWITCH
- VOICE INVERSION ENCRYPTION  
AVAILABLE
- WATER SHIELD MICROPHONE  
CONNECTION
- MIL-SPEC SPEAKER MIC AVAILABLE
- LOUD 500 mW AUDIO OUTPUT
- EMERGENCY FUNCTIONS
- ENCRYPTION
- EMBEDDED MESSAGE
- PC PROGRAMMABLE
- RADIO-TO-RADIO CLONING
- OPTIONAL ALKALINE BATTERY CASE
- INTRINSICALLY SAFE VERSION  
AVAILABLE



# VX-800

## SERIES

Public safety officers demand and require ruggedness, reliability, and versatility, and the Vertex Standard VX-800 excels in every respect. With its invertible Alphanumeric display, super-long-life battery, and unmatched versatility in programming flexibility, the VX-800 series is a public safety user's ideal communications partner.

## VERSATILITY

### 200 CHANNEL CAPACITY

The huge 200-channel capacity may be partitioned into as many as 10 Memory Groups, with no limit on the number of channels in each Group. A single radio may therefore be programmed with channels sets for a number of different jurisdictions or organizations.

### 2 PROGRAMMABLE SOFT KEYS + 1 MULTI-POSITION PROGRAMMABLE TOGGLE SWITCH

Customization of feature access is easily accomplished at the time of programming. Flexibility in assignment of features ensures compatibility with existing-system requirements.



### 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. DCS is ideal for crowded RF environments, providing superior immunity from false opening of squelch.

### PROGRAMMABLE/USER DEFINABLE SCAN MODES

Scanning of a single Memory Group or multiple Groups is provided, along with Priority Scan, Follow-Me Scan, and Follow-Me Dual Watch. The scan list may be locked in during programming, or the user may be allowed to edit the scan list.

### PC PROGRAMMING

The channel and feature configurations are easily programmed in minutes by the dealer, using the optional CT-42A Programming Cable and CE31 Programming Software.

## HIGH PERFORMANCE

### 5 WATTS POWER OUTPUT (Selectable to 2.5, 1.0, 0.25 Watt)

The VX-800 is designed to produce up to five solid Watts of power output, for extended communications range. For more localized applications, the power output may be reduced to 2.5 Watts, 1 Watt, or 1/2 Watt, for enhanced battery life.

### 12.5/25 kHz BANDWIDTH PROGRAMMABLE BY CHANNEL

When programming radios for use in different jurisdictions, the VX-800 portables may be set up, by channel, for use either in 12.5 kHz or 25 kHz environments, with deviation and bandwidth automatically set when this selection is made.

### LONG LIFE LITHIUM-ION BATTERY (1600 mAh)

The FNB-V62LI Lithium-Ion Battery Pack, holding 1600 mAh of capacity, is capable of providing up to 16 hours of operation (VX-800V, Battery Saver on), even when using 5 Watts of transmitter power (5-5-90 duty cycle). The FNB-V62LI is ideal for long public-safety or surveillance operations.

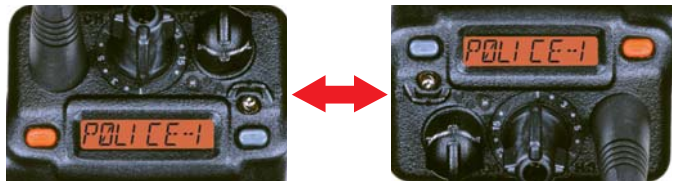
### LOUD 500 mW AUDIO OUTPUT

Ideal for reception in noisy environments, the VX-800's high-powered audio is coupled to a large internal speaker, assuring solid copy throughout difficult crowd control, fire, or sporting-event operations.

## EASY USER INTERFACE

### ADVANCED 8 CHARACTER INVERTIBLE ALPHANUMERIC DISPLAY

Providing indication of either the channel number or an Alphanumeric Channel Label of up to 8 characters, the LCD display also provides convenient operation function icons to provide instant recognition of radio status.



### 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.

### RADIO TO RADIO CLONE FEATURE

For quick programming of VX-800 radios for an emergency task force, the Clone feature allows copying of all channel and configuration data from one VX-800 to another, using the optional CT-72 Cloning Cable.

## SECURITY

### BCLO, BTLO AND TOT FUNCTIONS

To facilitate efficient channel management, the VX-800 provides Busy Channel Lock-Out (BCLO) and Busy Tone Lock-Out (BTLO) features. What's more, the transmitter's Time-Out Timer (TOT) function prevents a "stuck microphone" condition from jamming a channel for an extended period of time.

### EMERGENCY FUNCTIONS

The VX-800 may be programmed to transmit an emergency DTMF ANI 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.



## DURABLE CONSTRUCTION

### MIL-STD 810 C/D/E

Built to meet or exceed the requirements of the U.S. MIL-STD 810 C/D/E standard, the VX-800 is designed to survive under difficult operating conditions of shock, vibration, and driving rain. Cost-performance begins with durability, and the Mil-Spec toughness of the VX-800 is your guarantee of its design quality.



● Weatherproof Construction

### DIE-CAST CHASSIS AND WEATHERPROOF CASE DESIGN

The VX-800'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, sealed against water ingress by a robust O-ring.



● Rugged Die-cast Chassis with Robust O-ring

### WATER SHIELD MICROPHONE CONNECTION

The multi-pin accessory connector on the side of the VX-800, 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.



### INTRINSICALLY SAFE VERSION AVAILABLE

Included in the VX-800 Intrinsically Safe version's certification is approval for use in the hazardous Hydrogen and Acetylene environments. This difficult-to-obtain certification attests to the superior design and manufacture of the VX-800.



ACTUAL SIZE

Specifications		VX-800V	VX-800U
<b>General Specifications</b>			
Frequency Range		134-160 MHz (A) 148-174 MHz (C)	400-430 MHz (AS1) 440-470 MHz (CS) 450-490 MHz (D) 485-512 MHz (F)
Number of Channels	200 Channels		
Channel Spacing	12.5/15/25/30 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-V62LI (1600 mAh)	12 hrs. (16 hrs. w/saver) @5 W		10 hrs. (13 hrs. w/saver) @5 W
Ambient Temperature Range	-22° F to +140° F (-30° C to +60° C)		
Frequency Stability EIA: ETS:	±2.5 ppm ±1.5 kHz		
Dimensions	2.3"(W) x 4.3"(H) x 1.1"(D) (58 x 110 x 28.9 mm)		
Weight	0.7 lb. (300 g) w/FNB-V62LI, Antenna, Belt clip		
<b>Receiver Specifications</b> Measurements made per EIA standard TIA/EIA-603			
Circuit Type	Double Conversion Superheterodyne		
Sensitivity EIA 12 dB SINAD 20 dB Quieting ETS(20 dB SINAD)	0.25 µV 0.35 µV (emf) 0.5 µV (emf)		
Adjacent Channel Selectivity EIA: ETS:	75 dB (25 kHz) / 70 dB (12.5 kHz) 70 dB (25 kHz) / 60 dB (12.5 kHz)	75 dB (25 kHz) / 68 dB (12.5 kHz) 70 dB (25 kHz) / 60 dB (12.5 kHz)	
Intermodulation EIA: ETS:	75 dB (25 kHz) / 68 dB (12.5 kHz) 65 dB (25 kHz / 12.5 kHz)	75 dB (25 kHz) / 65 dB (12.5 kHz) 65 dB (25 kHz / 12.5 kHz)	
Spurious and Image Rejection EIA: ETS:	75 dB 70 dB		
Audio Output	0.5 W @16 Ohms, 5 % THD		
<b>Transmitter Specifications</b> Measurements made per EIA standard TIA/EIA-603			
Power Output	5.0/2.5/1.0/0.25 W (Selectable)		
Modulation EIA: ETS:	Direct FM 16K0F3E / Direct FM11K0F3E 16K0G3E, 8K50G3E		
Conducted Spurious Emissions EIA: ETS:	70 dB Below Carrier 73 dB Below Carrier		
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-800 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	
<b>MH-50A7A</b> Speaker /Microphone (Noise Canceling)	<b>VH-110</b> Over the Head, Heavy Duty Headset
<b>VH-120</b> 3-Wire Earpiece, Mic, Palm PTT Switch	<b>VH-130</b> 2-Wire Palm Kit
<b>FVP-25</b> Encryption/DTMF Pager Unit	<b>VTP-50</b> VX-Trunk Unit
<b>F2D-8</b> 2-Tone Decode Unit	<b>F5D-14</b> 5-Tone ENC/DEC Unit
<b>FNB-V62LI</b> 7.4 V 1600 mAh Lithium-Ion Battery	<b>FNB-V57</b> 7.2 V 1100 mAh Ni-Cd Battery Pack
<b>FNB-V57IS</b> Intrinsic-Safe 7.2 V 1100 mAh Ni-Cd Battery	<b>FBA-25</b> Alkaline Battery Case (6 X AA)
<b>VAC-6000 + CA-26</b> 6-Unit Multi Charger	<b>NC-77 B/C/U*</b> Overnight Desktop Charger (only for FNB-V57/IS)
<b>VCM-1</b> Mobile Mounting Bracket for VAC-800	<b>VAC-800B/C/U*</b> Desktop Rapid Charger
<b>CT-70</b> Radio Programming Cable (Requires VPL-1)	<b>CT-72</b> Radio to Radio Programming Cable
<b>CE31</b> Programming Software	<b>LCC-800</b> Leather Case (S for swivel belt clip)

\*B for 120 VAC/C for 240 VAC  
Various accessories listed may not be available in some countries.



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