VX-450 SERIES

BUILT TO LAST

GOODBYE CROSSTALK

BROADEN YOUR REACH

COME IN LOUD AND CLEAR

KEEP YOUR TEAM SAFE

POWER THROUGH THE SHIFT

For robust, dedicated push-to-talk communication, look to the VX-450 Series.

Choose from three analog portable radios: the VX-451 (without display) and the VX-454/ VX-459 (with display). Water submersible and available with HazLoc consideration, it's built for use in harsh conditions and hazardous locations. With enhanced interoperability, the VX-450 series offers comprehensive signaling options including: MDC1200®, DTMF, deeper and richer 2-tone options, as well as 5-tone capabilities. And it integrates seamlessly into a mixed fleet, while allowing your system to grow as your needs do. Compatible with the universal battery system, you'll eliminate equipment clutter and confusion by standardizing on one charging base for the entire team.

GENERAL FEATURES

- Channel Capacity:
  - 32 Channels/ 1 Group (VX-451)
  - 512 Channels/ 32 Groups (VX-454, VX-459)
- Programmable Keys:
  - 3 Programmable Keys (VX-451)
  - 7 Programmable Keys (VX-454)
  - 9 Programmable Keys (VX-459)
- Display:
  - No Display (VX-451)
  - 8-Character Alphanumeric Display (VX-454/459)
- Safety Features:
  - Lone Worker Alert
  - Emergency Alert
- Intrinsically Safe Option for Hazardous Locations
- Operates in a Universal Battery System
- Solid Build for Extreme Environments (IP57)
- Voice Inversion Encryption

- Manual On/Off Encryption Activation
- Large Group Communication Made Easy to Manage
- RX/TX Battery Power Save
- Compander
- Clear Voice
- Whisper
- Minimum Volume Control
- Manual Squelch Adjustment
- Busy Channel Lock Out (BCLO)
- Busy Tone Lock Out (BTLO)
- Time Out Timer (TOT)
- Programmable LED Color Alert
- Scan Features:
  - Priority
  - Dual Watch
  - Follow-Me
  - Talk Around
- Radio-to-Radio Cloning
- LTR® Trunking (Option)

SIGNALING FEATURES

- CTCS/DCS Encode/Decode
- MDC-1200® Encode/Decode
- 2-Tone, 5-Tone Encode/Decode
- DTMF ANI
- DTMF Paging
- DTMF Speed Dial
- Stun/Kill/Revive (5-Tone)

MOTOROLA SOLUTIONS

GENERAL SPECIFICATIONS

	VHF	UHF
Frequency Range	134 - 174 MHz	400 - 470 MHz; 450 - 512 MHz
Number of Channels and Groups	512/32 Groups (VX-459, VX-454) 32/2 Groups (VX-451)	
Power Supply Voltage	7.5 V DC ± 20%	
Channel Spacing	12.5/20*/25* kHz	
Channel Spacing	1.25/2.5/5/6.25 kHz	5/6.25 kHz
Battery Life (5-5-90 Duty) 2300 mAh FNB-V134LI-UNI 1380 mAh FNB-V133LI-UNI	18.5 hours (W/Saver)/16 Hours 11 hours (W/Saver)/10 Hours	18 hours (W/Saver)/15.5 Hours 11 hours (W/Saver)/10 Hours
IP Rating	57	
Power Output	Digital 3W: 12 Hours/Analog 2W: 11 Hours	
Power Supply Voltage	3.7 VDC (Nominal)	
Operating Temperature Range	-22ºF to +140ºF (-30ºC to +60ºC)	
Frequency Stability	±2.5 ppm	
RF Input-Output Impedance	50 Ohms	
Dimension (H x W x D) VX-451 Model	4.3 x 2.3 x 1.7 Inches (109 x 58.5 x 43 mm) FNB-V134LI-UNI 4.3 x 2.3 x 1.4 Inches (109 x 58.5 x 35 mm) FNB-V133LI-UNI	
Weight (Approx.) with Antenna, Belt Clip VX-451; VX-454/459	11.6 oz; 12.6 oz (330 g; 356 g) FNB-V134LI-UNI 9.9 oz; 10.8 oz (281 g; 307 g) FNB-V133LI-UNI	

RECEIVER SPECIFICATIONS measured by TIA/EIA 603

Sensitivity 12dB SINAD	0.25 µV Typical
Adjacent Channel Selectivity	70 dB/65 dB
Hum and Noise	45 dB/40 dB
Intermodulation	70 dB/65 dB
Spurious and Image Rejection	70 dB
Audio Output	700 mW (Internal @ 16 Ohms, 5% THD) 500 mW (External @ 4 Ohms, 5% THD)

TRANSMITTER SPECIFICATIONS measured by TIA/EIA 603

Output Power	5/2.5/1/0.25 Watt (Selectable by Channel)
Modulation	16K0F3E, 11K0F3E
Maximum Deviation	± 5.0 kHz/± 2.5 kHz
Conducted Spurious Emissions	70 dB Below Carrier
FM Hum and Noise	45 dB/40 dB
Audio Distortion	< 3 % @1 kHz

APPLICABLE MIL-STD

	Methods/Procedures				
Standard	MIL 810C	MIL 810D	MIL 810E	MIL 810F	MIL 810G
Low Pressure	500.1 proc 1	500.2 proc 1/2	500.3 proc 1/2	500.4 proc 1/2	500.5 proc 1/2
High Temperature	501.1 proc 1/2	501.2 proc 1/2	501.3 proc 1/2	501.4 proc 1/2	501.5 proc 1/2
Low Temperature	502.1 proc 1	502.2 proc 1/2	502.3 proc 1/2	502.4 proc 1/2	502.5 proc 1/2
Temperature Shock	503.1 proc 1	503.2 proc 1	503.3 proc 1	503.4 proc 1	-
Solar Radiation	505.1 proc 1	505.2 proc 2/Cat A1	505.3 proc 2/Cat A1	505.4 proc 1/2/Cat A1	-
Rain	506.1 proc 1/2	506.2 proc 1/2	506.3 proc 1/2	506.4 proc 1/3	506.5 proc 1/3
Humidity	507.1 proc 1/2	507.2 proc 2/3	507.3 proc 2/3	507.4 proc 3	507.5 proc 1/3
Salt Fog	509.1 proc 1	509.2 proc 1	509.3 proc 1	509.4 proc 1	509.5 proc 1
Dust	510.1 proc 1	510.2 proc 1	510.3 proc 1	510.4 proc 1/3	510.5 proc 1
Vibration	514.2 proc 8/10	514.3 Cat 10	514.4 Cat 10	514.5 Cat 20/24	514.6 Cat 20/24
Shock	516.2 proc 1/3/5	516.3 proc 1/4	516.4 proc 1/4	516.5 proc 1/4	516.6 proc 1/4

ACCESSORIES

Antennas
- ATU-16B: 400-420 MHz 6.8" (15.7 cm)
- ATU-16BS: 400-430 MHz 3.43" (8.7 cm)
- ATU-16C: 420-450 MHz 5.94" (15.1 cm)
- ATU-16D: 450-470 MHz 5.43" (13.8 cm)
- ATU-16DS: 450-490 MHz 3.43" (8.7 cm)
- ATU-16F: 470-520 MHz 5.31" (13.5 cm)
- ATV-16A: 136-150 MHz 5.35" (13.7 cm)
- ATV-16B: 150-163 MHz 5.39" (13.7 cm)
- ATV-16C: 162-174 MHz 5.39" (13.7 cm)
- ATV-16XL: Untuned 7.55" (19.2 cm)

Battery
- FNB-V133LI-Uni: 1380 mAh Li-Ion Battery
- FNB-V134LI-Uni: 2300 mAh Li-Ion Battery
- FBA-41: Alkaline Battery Pack

Carry Solutions
- LCC-133LN: Belt Loop Case (FNB-V133LI-UNI) No Display
- LCC-134LN: Belt Loop Case (FNB-V134LI-UNI) No Display
- LCC-133SN: Swivel Belt Clip Case (FNB-V133LI-UNI) No Display
- LCC-134SN: Swivel Belt Clip Case (FNB-V134LI-UNI) No Display
- LCC-133LD: Belt Loop Case (FNB-V133LI-UNI) Display
- LCC-134LD: Belt Loop Case (FNB-V134LI-UNI) Display
- LCC-133SD: Swivel Belt Clip Case (FNB-V133LI-UNI) Display
- LCC-134SD: Swivel Belt Clip Case (FNB-V134LI-UNI) Display
- CLIP-20: Belt Clip

Chargers
- VAC-6058: Multi Unit Charger for UNI Batteries
- CD-58: 120V Single Unit Charger
- VCM-5: Vehicle Charger Mounting Adapter

Audio Accessories
- MH-100: 3.5MM Earpiece for RSM Audio Jack
- MH-101A4B: 1 Wire Surveillance Kit
- MH-102A4B: 2 Wire Surveillance Kit
- MH-103A4B: 3 Wire Surveillance Kit
- VH-150A IS: Lightweight Behind-the-Head VOX Headset
- VH-150B IS: Lightweight Over-the-Head VOX Headset
- MH-201A4B: Heavy Duty Headset, OTH, IS
- MH-360S: Compact Speaker Microphone
- MH-37A4B: Earpiece Microphone
- MH-450S: Speaker Microphone
- MH-45B4B: Noise Canceling Speaker Microphone

Option Boards
- DVS-9: Man Down Alert with Digital Voice Storage

VX-451   VX-454   VX-459

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