

## BD5i SERIES



## BD502i and BD552i Two-Way DMR Radios

Compact UHF and VHF BD5i Series DMR radios provide cost-effective and easy-to-use radio communications with excellent performance

### Excellent Performance

The BD5i Series radios provide high-quality voice communications with an audio equalizer, and long battery life for up to 16 hours of operation. The BD5i Series features excellent reception with digital encoding and high output power for extended range. Optional Bluetooth (BD552i-BT) supports wireless audio accessories.

### Light and Compact

Weighing less than 9 ounces, the light and compact design makes the BD5i Series easy to carry and operate.



### Analog and Digital

Can be programmed to operate in analog or digital DMR mode to provide an easy and cost-effective upgrade path to digital systems.

### Rugged and Reliable

The BD5i Series radios meet MIL-STD-810-G for shock and vibration, and are IP54 rated for dust and water resistance to guaranty reliability in harsh environments.



### BD502i

UHF 400-470MHz / VHF 136-174MHz  
48 Channels, 3 Zones  
Audio Channel Announcement

### BD552i

UHF 400-470MHz / VHF 136-174MHz  
256 Channels, 16 Zones  
OLED Display and Optional Bluetooth

## Key Features



### ERGONOMIC AND EASY TO USE

- Tactile buttons for no-look PTT and emergency calling
- The BD552i features a high contrast OLED screen for Channel number, Caller ID, Zone number, battery power, and high/low power



### ANALOG OR DIGITAL OPERATION

- The BD5i series operates in both analog or digital modes
- Allows switching between the two operation modes for communication with analog radios
- Enables simple and cost-effective migration path to digital



### HIGH QUALITY AUDIO

- Audio equalizer adjusts low, mid, and high frequency gain
- Provides the best audio performance in noisy or quiet environments



### LONG-LIFE BATTERY

- Powerful 1500mAh Lithium Ion batteries deliver up to 16 hours of operation in digital mode and 12 in analog mode



### RELIABLE AND DURABLE

- Compliant with MIL-STD-810-G for shock and vibration
- IP54 rated for water and dust resistance



### EMERGENCY CALLING

- One-touch Emergency Alarms can be sent to other radios with the programmable button
- Improves worker safety and emergency response time



### BUILT-IN BLUETOOTH

- Built-in Bluetooth enables connectivity to earpieces and other wireless accessories (BD552i-BT models only)



### ANTI-INTERFERENCE

- Digital encoding and error correcting reduces signal interference on the same frequency



### DMR

- DMR signaling enables group call, private call, and all call transmitting with PTT ID
- Supports DMR Tier II repeaters to extend coverage



### PSEUDO TRUNKING

- This virtual trunking feature automatically uses whichever digital timeslot is free to improve call connectivity and frequency efficiency



### AUDIO CHANNEL ANNOUNCEMENT

- Channel number voice announcement for fast and accurate channel switching, even in low visibility (BD502i only)



### VOX

- Voice activated microphone enables hands free operation
- Also supported on external earpiece and microphone accessories



### SCANNING

- Allows listening to communication activities on other channels

# Standard Accessories

 AB0435W09 16cm Whip Antenna 400-470MHz	 BL1506 1500mAh Li-Ion Battery	 BC08 Belt Clip	 CH10L23 Drop-In Single Unit Charger	 R003 Nylon Hand Strap	 Power Adapter Input: 100-240VAC Output: 12VDC/1A
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# Optional Accessories

## EARPIECES

External earpieces with in-line PTT Mics and a VOX (hands free) switches

 EH01 Receive-only C-Style Earpiece	 EH02 Receive-only Swivel C-Style Earpiece	 ES01 Receive-only Earbud
 ES02 Receive-only Acoustic Tube Surveillance Earpiece	 ACM-01 <sup>①</sup> PTT Mic with 3.5mm Jack Connects to Receive-only Earpieces	 ESM12 Earbud with PTT Mic and VOX
 EAM13 2-Wire Transparent Acoustic Tube Surveillance Earpiece	 EHM15-A D-Style Earpiece with PTT Mic and VOX	 EHM18-A C-Style Earpiece with PTT Mic and VOX

## REMOTE SPEAKER MICROPHONES

Remote Speaker Mics provide easy access for audio, are IP rated for water resistance, and have audio jacks for receive-only earpieces.

 SM08M3 <sup>①</sup> IP54 Rated 3.5mm audio jack	 SM13M1 <sup>①</sup> Noise Cancelling with High / Low Speaker Volume IP55 Rated, 3.5mm audio jack	 SM26M1 <sup>②</sup> IP54 Rated 2.5mm audio jack
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## BLUETOOTH

BD552-BT models support Bluetooth accessories that enable wireless audio and Push-to-Talk

 ESW-01 Bluetooth earpiece with charger (requires PS1030 power adapter)	 POA121 PTT Bluetooth Ring (attaches to finger or handlebars)
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## POWER ACCESSORIES

 BL2018 2000mAh Li-Ion Battery Provides 22 hours operation in Digital Mode (16 Analog)	 MCL19 Multi-unit Charger for Six Radios (includes power supply)	 CHV09 Vehicle Adapter (Input: 11-25V DC, Output: 12V DC & 1A)
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## OTHER ACCESSORIES

 PC76 Data Programming Cable	 Stubby Antenna <sup>③</sup>	 NCN011 Nylon Carrying Jacket
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① Features 3.5mm jack for receive-only ES01 Earbud, ES02 Acoustic Tube Surveillance Earpiece, EH01 C-Style Earpiece, and EH02 Swivel C-Style Earpiece

② Features 2.5mm jack for receive-only EAS03 Acoustic Tube Earpiece, EHS18 C-Style Earloop Earpiece, and EHS17 Swivel C-Style Earpiece

③ AN0435H13: 400-470MHz, 9cm AN0141H06: 136-147MHz, 17cm AN0167H06: 160-174MHz, 17cm AN0153H08: 147-160MHz/1575MHz, 12cm  
AN0435W09: 400-470MHz, 16cm AN0153H07: 147-160MHz, 17cm AN0160H13: 146-174MHz, 15cm AN0167H07: 160-174MHz/1575MHz, 12cm

# Specifications

General	
Frequency Range	UHF: 400-470 MHz VHF: 136-174 MHz
Channel Capacity	BD502i: 48 Channels (24 Analog, 24 Digital) BD552i: 256 Channels (128 Analog, 128 Digital)
Zone Capacity	BD502i: 3 Zones with 16 Channels per Zone BD552i: 16 Zones with 16 Channels per Zone
Channel Spacing	25/12.5kHz
Operational Voltage	7.2W
Battery	1500mAh (Li-Ion) Standard, 2200mAh Optional
Battery Life (5/5/90)	1500mAh: 16 hours Digital, 12 hours Analog 2200mAh: 22 hours Digital, 16 hours Analog
Weight	BD302i: 8.5 ounces (240g) BD352i: 8.8 ounces (250g) (with AN0435W09 antenna and BL1506 battery)
Dimensions	BD502i and BD552i: 4 1/4" x 2 1/8" x 1 5/32" (108 x 54 x 29mm)
Frequency Stability	± 0.5ppm
Antenna Impedance	50Ω
Display	BD352i: 0.91" OLED single-line display
Receiver	
Digital Sensitivity	0.22μV (BER 5%)
Analog Sensitivity	0.22μV (Typical) (12dB SINAD) 0.4μV (20dB SINAD)
Adjacent Selectivity	TIA-603: 60dB @ 12.5kHz, 70dB @ 25kHz
Spurious Response Rejection	TIA-603: 70dB @ 12.5/25kHz
Intermodulation	TIA-603: 65dB @ 12.5/25kHz
Hum and Noise	40dB @ 12.5kHz, 45dB @ 25kHz
Rated Audio Power Output	0.5W
Rated Audio Distortion	≤5%
Audio Response	+1 to -3dB
Conducted Spurious Emission	<-57dBm

All specifications are subject to change without notice due to continuous development.



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Transmitter	
RF Power Output	VHF High Power: 5W VHF Low Power: 1W UHF High Power: 4W UHF Low Power: 1W
FM Modulation	11K0F3E @ 12.5kHz 16K0F3E @ 25kHz
4FSK Digital Modulation	12.5kHz Data Only: 7K60FXD 12.5kHz Data and Voice: 7K60FXW
Conducted/Radiated Emission	-36dBm <1GHz / -30dBm >1GHz
Modulation Limiting	±2.5kHz @ 12.5kHz ±5.0kHz @ 25kHz
FM Hum and Noise	40dB @ 12.5kHz, 45dB @ 25kHz
Adjacent Channel Power	60dB @ 12.5kHz, 70dB @ 25kHz
Audio Response	+1 to -3dB
Audio Distortion	≤3%
Digital Vocoder Type	AMBE++
Digital Protocol	ETSI-TS102 361-1,-2,-3
Environmental	
Operating Temperature	-22°F to +140°F (-30°C to +60°C)
Storage Temperature	-40°F to +185°F (-40°C to +85°C)
ESD	IEC 61000-4-2 (Level 4) ±8kV Contact, ±15kV Air
Dust and Water Ingress	IP54 Standard
Humidity	Per MIL-STD-810 C/D/E/F/G Standard
Shock and Vibration	Per MIL-STD-810 C/D/E/F/G Standard

## Ordering Information

Part Number	Description
BD502i-V1	VHF 136-174MHz, 48 Channels
BD502i-U1	UHF 400-470MHz, 48 Channels
BD552i-V1	VHF 136-174MHz, 256 Channels, OLED display
BD552i-U1	UHF 400-470MHz, 256 Channels, OLED display
BD552i-BT-V1	VHF 136-174MHz, 256 Channels, OLED display, Bluetooth
BD552i-BT-U1	UHF 400-470MHz, 256 Channels, OLED display, Bluetooth