



## BD502 BUSINESS DIGITAL RADIO

SIMPLE, ROBUST, CLEAR-VOICE



Hytera's BD502 two-way radio is the compact device that provides a professional communication in easy to operate way. Today, communication tool is the key to improve the efficiency. When we ask for clear voice, it means a reliable talk that's easy to hear and understand. Long battery life helps you to avoid losing contact. A rugged and robust device with high performance but simple to operate will make everything easier to handle.

Hytera understands customers' requirements and meets them all in one, also with lightweight, easy-operation, excellent performance, long-time working and reliability. So we redefine a business radio with Hytera digital technology, quickly responding to what you need.

### EXCELLENT PERFORMANCE

With innovative design, BD502 has a better performance than analog radios. An excellent receiving ability makes the communication range extend further. What's more, BD502 is a DMR digital radio with good performance of anti-interference, providing purely stable communication.

### RUGGED AND RELIABLE

BD502 is designed and tested to meet Military Standards 810 C, D, E, F and G, including temperature shock, vibration, high & low temperature and humidity. IP54 dust- and water-proof design guarantees the reliability in different environments. And based on TDMA technology, the radio can work longer, up to 22 hours in digital mode.

### CLEAR VOICE

With digital encoding and correction technology, human voice is transmitted much clearer without background noise, even from a rather far distance. This is a new experience of better audio quality.

**ANTENNA**  
Enhanced signal receiving ability.

**CHANNEL KNOB**  
Supports 16 channels to be changed very easily.

**LED INDICATOR**  
Shows the radio receiving and transmitting status as green light and red light.

**SPEAKER AND MICROPHONE**  
Provide clear audio when receiving or transmitting.

**POWER ON/OFF, VOLUME UP/DOWN**

**AUDIO JACK**  
Supports different kinds of earpieces and a remote speaker.

**PUSH-TO-TALK BUTTON**  
Easy to find and touch.

**PROGRAMMABLE BUTTON**  
It can be programmed as any useful function as you like.

## PROFESSIONAL AND SIMPLE TO USE

### **A/D** ANALOG & DIGITAL DUAL MODES

BD502 can support both analog and digital modes on the same hardware. You can switch between two operation modes very easily and it helps you to communicate with analog radios.

### **↔** ANALOG & DIGITAL AUTO DETECT

BD502 can detect the signal type when receiving a call, then automatically switches between analog mode and digital mode to get the voice out of the speaker. During the call hang time, users can easily reply the call by push-to-talk. This is a real migration technology from analog to digital.

### **📶** EXTENDED TALK RANGE

Greatly extend your talk range based on Hytera's innovative technology.

### **🕒** LONG WORKING TIME

Based on TDMA technology, BD502 in digital mode can work as long as 16 hours @1500mAh or 22 hours @2000mAh in 5-5-90 mode.

### **🎤** CLEAR VOICE

Excellent audio quality comes from the DMR digital technology, which makes the communication more reliable.

### **🛡️** RELIABLE AND DURABLE

BD502 is compliant with MIL-STD-810 C/D/E/F/G and IP54.

### **⚡** ANTI-INTERFERENCE

Adopting digital encoding and error correcting module, BD502 can have a better ability to avoid signal interference on the same frequency.

### **DMR** DMR SIGNALING

With DMR signaling, transmitting group calls, private calls and all calls with PTT ID becomes quite easy.

### **📡** REPEATER MODE OPERATION

Utilize a DMR Tier II repeater to extend your communication range.

### **🗣️** VOICE ANNOUNCEMENT

Channel number announcement helps you to switch channels quickly and correctly, even in blindness operation.

### **📠** DUAL CAPACITY DIRECT MODE

In direct mode, you can have two voice calls simultaneously from DMR two time slots. This feature can be used to increase the radio capacity at no extra costs or frequency license.

### **🎧** VOX







This feature allows you to activate the radio microphone via speaking volume, and free your hand from PTT.

### **🔄** SCANNING





















Allow BD502 listening to communication activities on other channels.

# ACCESSORIES

## STANDARD ACCESSORIES

 <p><b>AN0435W09</b> Whip Antenna, 400-470MHz,<sup>①</sup> 16cm</p>	 <p><b>BL1506</b> 1500mAh Li-ion battery</p>	 <p><b>CH10L23</b> BD502 standard drop-in single unit charger</p>	 <p><b>BC08</b> Belt clip</p>	 <p><b>RO03</b> Nylon hand strap</p>	 <p>Power Adapter input: 100-240VAC, output: 12VDC/1A  US/UK/AU/EU/CHINA/JAPAN /KOREA</p>
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## OPTIONAL ACCESSORIES

 <p><b>EHM15</b> D-style earpiece with in-line PTT &amp; MIC VOX switch</p>	 <p><b>EHM18</b> D-style earpiece with in-line PTT &amp; MIC VOX switch</p>	 <p><b>ESM12</b> Ear-bud with PTT on MIC VOX switch</p>	 <p><b>EAM12</b> Ear-bud with PTT on MIC VOX switch</p>	 <p><b>EAM13</b> 2-wire surveillance earpiece VOX switch</p>
 <p><b>ACM-01</b> PTT&amp;MIC-only with 3.5mm jack Ip54</p>	 <p><b>ES-01</b> Receive-only ear-bud</p>	 <p><b>ES-02</b> Receive-only surveillance earpiece</p>	 <p><b>EH-01</b> Receive-only C style earpiece</p>	 <p><b>EH-02</b> Receive-only earhook speaker</p>
 <p><b>EHM18</b> Transparent acoustic tube replacement For EAM12 and EAM13</p>	 <p><b>SM08M3</b> Remote speaker microphone with 3.5mm audio jack</p>	 <p><b>SM26M1</b> Remote speaker microphone Ip54 with 3.5mm audio jack</p>	 <p><b>LCBN13</b> Universal nylon chest Pack</p>	 <p><b>NCN011</b> Nylon carrying jacket</p>
 <p><b>BL2018</b> 2000mAh Li-ion battery</p>	 <p><b>MCL19</b> BD502 multi-unit charger</p>	 <p><b>CHV09</b> Vehicle adapter (Input: 11-25V DC, Output: 12V DC &amp; 1A)</p>	 <p><b>AN0435H13</b> Stubby antenna,400-470MHz,<sup>①</sup> 9cm</p>	 <p><b>PC76</b> Data programming cable</p>

① AN0435H13: 400-470MHz, 9cm AN0141H06: 136-147MHz, 17cm AN0167H06: 160-174MHz, 17cm AN0153H08 AN0153H08: 147-160MHz/1575MHz, 12cm  
AN0435W09: 400-470MHz, 16cm AN0153H07: 147-160MHz, 17cm AN0160H14: 146-174MHz, 15cm AN0167H07 AN0167H07: 160-174MHz/1575MHz, 12cm

# SPECIFICATION

General	
Frequency Range	UHF:400-470 MHz VHF:146-174 MHz
Channel Capacity	48
Zone Capacity	3
Channel Spacing	25/12.5KHz
Operating Voltage	7.2V
Battery	1500mAh (Li-Ion) 2000mAh (Li-Ion)
Battery Life (5/5/90)	Analog/Digital: 12/16 hours (1500mAh) 16/22 hours (2000mAh)
Weight	8 oz. (with AN0435W09 and BL1506)
Dimensions	108x54x29mm
Frequency Stability	±0.5ppm
Antenna Impedance	50Ω
Receiver	
Sensitivity (Digital)	0.22μV / BER 5%
Sensitivity (Analog)	0.22μV (Typical) (12dB SIN AD) 0.4μV (20dB SIN AD)
Adjacent Selectivity	TIA-603 60dB @ 12.5KHz/70dB @ 25KHz
Spurious Response Rejection	TIA-603 70dB @ 12.5/25KHz
Inter-modulation	TIA-603 65dB @ 12.5/25KHz
Hum & Noise	40dB @ 12.5KHz 45dB @ 25KHz
Rated Audio Power Output	0.5W
Rated Audio Distortion	≤3%
Audio Response	+1 ~ -3dB
Conducted Spurious Emission	<-57dBm

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 & Voice: 7K60FXW
Conducted/Radiated Emission	-36dBm <1GHz, -30dBm >1GHz
Modulation Limiting	±2.5KHz @ 12.5KHz ±5.0KHz @ 25KHz
FM Hum & Noise	40dB @ 12.5KHz 45dB @ 25KHz
Adjacent Channel Power	60dB @ 12.5KHz, 70dB @ 25KHz
Audio Response	+1 ~ -3dB
Audio Distortion	≤3%
Digital Vocoder Type	AMBE++
Digital Protocol	ETSI-TS102 361-1,-2,-3
Environmental	
Operating Temperature	-30°C ~ +60°C
Storage Temperature	-40°C ~ +85°C
ESD	IEC 61000-4-2 (Level 4) ±8kV (Contact) ±15kV (Air)
Dustproof & Waterproof	Ip54 Standard
Humidity	Per MIL-STD-810 C/D/E/F/G Standard
Shock & Vibration	Per MIL-STD-810 C/D/E/F/G Standard

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



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