



H-SERIES DMR RADIOS



INTRINSICALLY SAFE COMMUNICATIONS



H-Series HP702-IS and HP782-IS

INTRINSICALLY SAFE DMR RADIOS

Hytera was a founding member of the DMR Association and was the first company to successfully deploy DMR Tier II and Tier III systems. Since then, Hytera has been a leading provider of intrinsically safe DMR radios and systems, and has continuously improved products based on customer feedback.

The H-Series intrinsically safe radios is the culmination of this experience and spirit of innovation. The HP702-IS and HP782-IS DMR handheld radios are the next-generation in safety and functionality that elevates the industry standards in professional digital two-way radios.



HP702-IS



HP782-IS



Intrinsically Safe

HP702-IS and HP782-IS radios, batteries, and accessories are designed for use in hazardous areas with explosive gas and dust.



Higher Level of Ruggedness

The HP7-IS radios are fully compliant with the IP68 and MIL-STD- 810 G standards. They are dust proof, impervious to water jets, submersible to a depth of 2 meters for 4 hours, and can stand up to drop shock testing at 2 meters. The anti-magnetic speaker does not attract magnetic metal dust.



Louder and Clearer Audio

Hytera provides industry-leading audio quality through a large 36mm forward-facing optimized speaker that provides up to 93dB of loudness, and AI-based voice enhancement with deep learning ability that can accurately extract voice from noise in real time and decreases unwanted background noises as loud as 30db. Acoustic feedback suppression prevents howling when multiple radios are in close proximity. Water-porting technology quickly drains water out of speaker cavity to maintain audio clarity.



Enhanced Worker Safety

The HP7-IS radios are designed for worker safety with an easy access emergency button, emergency calling, and priority interrupt. Lone Worker prompts the user to press a key or speak to indicate they are safe. Man Down allows the radio to automatically enter emergency mode when the radio is inclined at a pre-set angle or remains motionless. Hearing protection prevents the maximum volume when using audio earpieces.



Longer Battery Life

The latest in lithium polymer technology is used to power the HP7-IS radios for excellent performance. The Intrinsically Safe battery delivers a shift life of over 24 hours on high transmit power with a duty cycle of 5/5/90.



Clear and Bright Display

The HP782-IS features a 2.4-inch, 240x320 HD TFT-LCD display with up to 10 lines of content and an intuitive nine-grid interface.

The HP702-IS features a 0.91-inch OLED display that shows the channel, signal strength, power status, power level, and BT status.

THE H-SERIES IS THE NEW STANDARD OF RADIO NETWORK PERFORMANCE



Extended Coverage and Connectivity

The HP7-IS radios extend radio range through increased Tx power efficiency, Rx sensitivity, improved antenna gain, and reduced attenuation. This produces a 25% increase in coverage distance and signal penetration through buildings. The enhanced coverage improves efficiency and reduces network infrastructure costs. Two patented technologies and a voice buffer reduces packet loss during Rx handover for consistently clear calls and fewer dropped words.



Higher Security

Supports Digital End-to-End and Over-the-Air Encryption for voice and data transmitted on digital channels to prevent eavesdropping. Hardware encryption is implemented through a built-in encryption card. Software encryption uses the secure and reliable ARC4 and AES encryption algorithms. Radio authentication prevents unauthorized users from accessing the system. If a radio is lost or stolen, the system can Stun or Kill the radio to prevent unauthorized use.



Multi-System Operation

The HP7-IS radios can be deployed in a wide variety of analog and digital radio networks, including Analog and Digital Conventional, XPT Trunking, DMR Tier II and Tier III Trunking, IP Multi-Site Connect, and DMR Simulcast Systems.



Enhanced GPS Location Tracking

The HP782-IS and HP702-IS radios with optional GPS can report current location information to other radios, the dispatcher, or third-party applications in real time, enhancing visualized dispatch applications. GPS data can be transmitted during voice calls for immediate location targeting, and GPS data can be compressed to increase channel capacity and reduce hardware cost.



Greater Calling Flexibility

A variety of calling modes provides the flexibility to communicate with any or all users. The HP7-IS radios support Individual Calls (radio to radio, radio to dispatcher), Group Calls (one radio to many, dispatcher to many), Unaddressed Group Calls (a single call to multiple groups), All Call (broadcast call to all radios, transmit only), and Telephone Calls (requires PSTN, PABX or SIP networks).



DTMF Signaling

DTMF is a system of analog tonal signals that enables routing telephone calls to radio networks. DTMF is also used to control physical devices such as irrigation systems, motorized gates and doors, and other devices. The radios can send DTMF signals manually (with HP782-IS keypad) or send up to 256 stored pre-programmed DTMF strings.



Bluetooth and MicroSD Card

Optional built-in Bluetooth enables connectivity to wireless accessories. The MicroSD card provides additional capabilities like voice recording.

THE HP782-IS THE NEW STANDARD OF FUNCTIONALITY AND USER EXPERIENCE



The HP782-IS radios feature a large HD TFT-LCD display that provides the necessary screen area for easily accessing a variety of information and functionality.

The following features are supported on the HP782-IS.

Simplified Navigation

The app icons are arranged in a nine-grid layout, making visual recognition more intuitive. The menu layers are simplified and streamlined so users can easily change settings and adjust features.

Clear Notifications and Information Display

On the home screen, the HP782-IS displays time and contact alias/ID, and can display two notifications simultaneously. The radio supports notifications of emergency calls, missed calls, call alerts, and new messages, and users can preview message contents.

The dialing interface supports selection of individual calls, group calls, PSTN / PABX phone dialing, fast dialing, and channel switching (CPS selection configuration).

The call interface displays call status (digital / analog, encryption status, recording status, call transfer, etc.), contact alias / ID, contact address, call duration, and speaker location information.

Multiple User Profiles

The HP782-IS supports four User Profiles that can be selected to set the corresponding tone, volume, vibration, and more. For example, profiles can match the environment, such as indoors or outdoors, or in a meeting.

Interface Switcher

The HP782-IS features an Interface Switcher that allows users to easily switch between the home screen and up to three frequently used interfaces. This makes it easy to view or perform feature settings on these interfaces for efficient operations and to ensure rapid response in critical situations.

Dynamic Calls

The HP782-IS allows users to manually dial without switching the dialing mode. In the dialing interface, users can select a private, group, or PSTN/PABX call. In addition to the contact alias/ID, the radio also displays call status (including call mode, encryption status, recording status, and call forwarding status), contact address, and call duration.

Text Messaging and Conversational SMS

The HP782-IS supports sending private and group text messages. Messages can be typed freeform or the user can send and receive a variety of preprogrammed messages.

The short message is displayed in the form of a dialog box, along with the message and sender details. The interactive mode is more intuitive, and the message sending and receiving is simple and efficient.



STANDARD ACCESSORIES

INCLUDED WITH THE HP702-IS and HP782-IS



R003
Nylon Hand Strap



BC39
Belt Clip



UHF Stubby Antenna
or VHF Long Antenna



PS1014
Power Adapter



CH10L30
Drop-In Single Unit Charger



BL2801-Ex
Intrinsically Safe 2850mAh Li-Ion IS Battery

OPTIONAL ACCESSORIES

Intrinsically Safe accessories include the LCY206 leather carrier, and all accessories noted with -P at the end of the part number.

COMBINATION EARPIECES

External earpieces that are used in combination with the ACN-02-P



ACN-02-P
Mic and PTT button with VOX and
3.5mm Jack Receive-only Earpiece (IP54)



ES-01
Receive-Only Earbud



EA-01
Receive-Only Earpiece with
Transparent Acoustic Tube



EH-01
Receive-Only C-Style Earloop



EH-02
Receive-Only Swivel Earpiece

ALL-IN-ONE EARPIECES AND HEADSET

External earpieces and microphones that attach directly to the radio



EHN26-P
C-style Earpiece with microphone
and in-line PTT button



EAN21-P
3-wire Surveillance
Earpiece with Transparent Acoustic Tube

OTHER ACCESSORIES



MCL39
6-Radio Multi-Unit Charger



ECN21-P
Noise-Cancelling Headset
with PTT and boom microphone

REMOTE SPEAKER MICROPHONES

Remote Speaker Mics provide easy access for audio, are water resistant, and attach directly to the radio.



SM26N1-P
Palm PTT Mic with Speaker
and emergency button (IP67)



SM26N2-P
Palm PTT Mic with Speaker
and emergency button (IP54)



LCY206
Leather Carrying Case



PC152
USB programming cable

SPECIFICATIONS

General	
Frequency Range	UHF 350-470MHz , VHF 136-174MHz
Channel Capacity	1,024 Channels (512 Analog, 512 Digital)
Zone Capacity	64 Zones with 256 Channels per Zone
Channel Spacing	12.5kHz / 20kHz / 25kHz
Operational Voltage	7.4V (Rated)
Battery	2850mAh Li-Ion Polymer IS certified
Battery Life (5/5/90)	HP702-IS: 25 Hours, 29 Hours GPS disabled HP782-IS: 24 Hours, 28 Hours GPS disabled
Weight (with antenna and battery)	HP702-IS: 13oz (369g) HP782-IS: 13.7oz (389g)
Dimensions (H x W x D)	5 3/16" x 2 5/32" x 1 7/16" (132 x 55 x 36.5mm) without antenna
Frequency Stability	± 0.5ppm
Antenna Impedance	50Ω
Display	HP702-IS: OLED 0.91" Display HP782-IS: LCD 2.4", 320x240, 262,000 colors
Bluetooth	BT 5.0 BLE+EDR
Encryption (Optional)	Advanced end-to-end digital (128/266bit) DMRA encryption. Additional license required.
GPS (5 Satellites visible at nominal 130dBm)	
Time to First Fix Cold Start	<60 Seconds (Typical TTFF)
Time to First Fix Hot Start	<10 Seconds (Typical TTFF)
Horizontal Accuracy	<5 meters
Receiver	
Digital Sensitivity	0.18μV (BER 5%)
Analog Sensitivity	0.16μV (Typical) (12dB SINAD) 0.18μV (12dB SINAD)
Adjacent Selectivity	TIA-603: 60dB@12.5kHz, 70dB@20/25kHz ETSI: 60dB@12.5kHz, 70dB@20/25kHz
Spurious Response Rejection	TIA-603: 70dB@12.5/20/25kHz ETSI: 70dB@12.5/20/25kHz
Intermodulation	TIA-603: 70dB@12.5/20/25kHz ETSI: 65dB@12.5/20/25kHz
Hum and Noise	40dB@12.5kHz, 43dB@20kHz, 45dB@25kHz
Rated Audio Power Output	0.5W
Rated Audio Distortion	≤3%
Audio Response	+1 to -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 14K0F3E @ 20kHz 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 ±4.0kHz @ 20kHz ±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+2™
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	IP68 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	
HP702-G-BT-IS-Uv	UHF 350-470MHz (Antenna 400-470MHz), 1-4W, with GPS and Bluetooth
HP702-G-BT-IS-V1	VHF 136-174MHz (Antenna 146-164MHz), 1-5W, with GPS and Bluetooth
HP782-G-BT-IS-Uv	UHF 350-470MHz (Antenna 400-470MHz), 1-4W, with GPS and Bluetooth
HP782-G-BT-IS-V1	VHF 136-174MHz (Antenna 146-164MHz), 1-5W, with GPS and Bluetooth



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