

# PROFESSIONAL DMR PORTABLE RADIO

## HP78X

EMPOWER YOUR OPERATION





# NEW TECHNOLOGY, NEW EXPERIENCE, NEW FUTURE

As the leading supplier, Hytera has huge experience in R&D and manufacturing of professional digital radios, and received a large number of suggestions and ideas from users of all industries. Having analyzed and extracted users' need, we perceive that it is not enough to improve the status: the radio needs to be more future ready.

Taking inspiration from the feedback received from our users, we are continuously envisioning and exploring better communication within an eco-system of new standards, new technologies, new products and new applications across the innovation chain. The HP78X is our brand new professional digital radio, and represents the future on style and functions that refreshes the standards in digital radios, providing more efficient and more reliable communication with loud and clear audio, powerful battery, remarkable portability and ruggedness for ease of use across multiple environments and industries.



# HIGHLIGHTS



## THINNER AND LIGHTER

An optimized mechanical design and a compact lithium polymer battery are discreetly made to fit into the HP78X's design, making the radio only 29.5mm in thickness and 310g in weight. This easy to carry and minimalist design benefits officers by allowing them to keep their focus on the critical mission at hand.



## LONGER BATTERY LIFE

HP78X optimizes product design and technologies to reduce power consumption, meanwhile the latest in proven lithium polymer technology is used in the standard battery which is lighter and smaller than ever before.

The new technologies bring a duty cycle of 5/5/90 on achieving a shift life of 24 hours on high transmit power and ensure a full day of delivering key information and calls.



## LOUDER AND CLEARER AUDIO

HP78X equips an optimized powerful loudspeaker that can help users to hear clear sounds even in a noisy environment. Water-porting technology is also used to drain out any water that gets into the speaker cavity, ensuring the audio clarity is maintained in case of water.

AI-based noise cancellation technology can decrease 30dB background noise and howling. No matter what noise environment the calling party is in, it ensures that the called party hears a clear sound.



## MORE INTUITIVE AND EFFICIENT

HP78X brings a large screen and a brand new intuitive UI to make the operation more efficient. The 2.4-inch colour screen can display more information (i.e. 6 contacts) per page. Its Quick Access Menu allows users to set the radio faster. Messages are listed in conversation for quick reading and review. The Interface Switcher is added to the option of programmable buttons, allowing quick switch between up to four frequently accessed interfaces.



## ENHANCED COVERAGE

The HP78X extends the operational range and improves the talk range through high receiver sensitivity and high transmit power, stretching communications into areas where it simply was not possible before. This enhanced coverage improves the user safety and reduces network cost as much as possible.



## HIGHER LEVEL OF RUGGEDNESS

HP78X is designed as per the MIL-STD-810H. It is IP68 rated, impervious to water jets and submersible to a depth of 2 meters for 4 hours, and also resilient to 2-meter drops onto concrete. No matter where the mission drives the officer, the HP78X is the partner to count on, because it can stand up to the toughest environment.





## FLEXIBLE WIRELESS CONNECTION

HP78X supports the built-in BT 5.0 for wireless connections. The advantages of BT 5.0 are low power consumption, rapid transmission, multiple devices and more rich data applications such as BT earpiece, BT Patrol, BT positioning.



2.4-inch color display



Loud and clear audio



Superior long battery life



AI based noise cancellation



Water-porting design



Global Positioning



BT 5.0 audio and data



Micro SD Card

# FEATURES

## Supplementary

- Profiles
- QR Code
- Roaming
- Covert Mode
- Radio Check
- Remote Monitor
- Alert Call

## Operating Modes

- Analog conventional
- Digital conventional
- Digital trunking

## Data Services

- Text Message
- Status Message
- Quick Text Message

## Voice Service

- Private Call
- Group Call
- All Call
- PSTN/PABX Call
- Broadcast Call
- Emergency Call
- Call Priority

## Connection

- BT Audio
- BT Data
- High Efficiency GNSS
  - GPS
  - GLONASS
- Wide Range of Accessories
- Open API

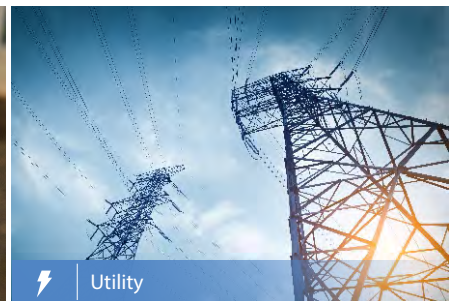
## Safety

- Emergency
- Man Down
- Lone Worker
- Authentication
- Air Interface Encryption
- End-to-End Encryption
- Scrambler
- Disable/Enable
- Micro SD Card(max.16G)
- Audio recording

## Analog Mode

- 2-Tone signaling
- 5-Tone Signalling
- HDC1200

# APPLICATIONS



# SPECIFICATIONS

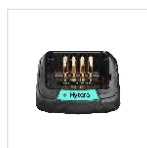
General	
Frequency Range	UHFv: 350-470MHz VHF: 136-174MHz UHF5: 806-825MHz(only transmit), 851-870MHz(transmit & receive), 896-902MHz(only transmit), 935-941 (transmit & receive)
Channel Capacity	1024
Zone Capacity	64
Zone Channel	256
Channel Spacing	12.5kHz/20kHz/25kHz
Operating Voltage	7.7V (rated)
Battery	2400 mAh Li-polymer Smart Battery: 3000 mAh Li-polymer(optional)
Battery Life (5/5/90 Duty Cycle, High TX Power)	2400 mAh: 24h (GNSS OFF) 24h (GNSS ON) 3000 mAh: 30h (GNSS OFF) 25h (GNSS ON)
Frequency Stability	±0.5ppm
Antenna Impedance	50Ω
Dimensions (H x W x D)	2400 mAh: 132 x 55 x 29.5mm 3000 mAh: 132 x 55 x 37.5mm
Weight(with antenna&battery)	2400mAh: 310g 3000mAh: 345g
Display	LCD, 320×240 pixel, 262000 colors, 2.4 inch
BT	BT 5.0
Receiver	
Sensitivity	Analog: 0.18μV (12dB SINAD); 0.16μV (Typical) (12dB SINAD) Digital: 0.18μV/BER5%
Adjacent Channel Selectivity	TIA-603: 60dB@12.5kHz / 70dB@20/25kHz ETSI: 60dB@12.5kHz / 70dB@20/25kHz
Intermodulation	TIA-603: 70dB@12.5/20/25kHz ETSI: 65dB@12.5/20/25kHz
Spurious Response Rejection	TIA-603: 70dB@12.5/20/25kHz ETSI: 70dB@12.5/20/25kHz
Blocking	TIA-603: 80dB ETSI: 84dB
Hum and Noise	40dB@12.5kHz; 43dB@20kHz; 45dB@25kHz
Rated Audio Power Output	0.5W
Rated Audio Distortion	≤3%
Audio Response	+1 ~ -3dB
Conducted Spurious Emission	<-57dBm

Transmitter	
RF Power Output	UHFv: 1/4W VHF: 1/5W UHF5: 1/3W (806-870MHz) , 1/2.5W (896-941MHz)
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&Noise	40dB@12.5kHz; 43dB@20kHz; 45dB@25kHz
Adjacent Channel Power	60dB@12.5kHz; 70dB@20/25kHz
Audio Response	+1 ~ -3dB
Audio Distortion	≤3%
Digital Vocoder Type	AMBE+2™/SELP
Digital Protocol	ETSI-TS102 361-1,-2,-3,-4
Environmental	
Operating Temperature	-30°C~+60°C
Storage Temperature	-40°C~+85°C
ESD	IEC 61000-4-2 (Level 4) ±8kV (contact); ±15kV (air)
Dust and Water Protection	IEC60529 IP66 IP68
Humidity	Per MIL-STD-810H Standard
Shock and Vibration	Per MIL-STD-810H Standard
Location Services	
Accuracy specs are for long-term tracking(5 satellites visible at nominal -130dBm)	
GNSS	GPS, GLONASS, GPS+GLONASS
TTF (Time To First Fix) Cold Start	<1 min (Typical)
TTF (Time To First Fix) Hot Start	<10 sec (Typical)
Horizontal Accuracy	<5m (probable at -130dBm)

\*Radio only - Battery -20°C

# ACCESSORIES

## Standard



Charger



Adapter(12V/1A)



Li-polymer battery  
2400mAh



Antenna



Belt clip



Strap

## Optional



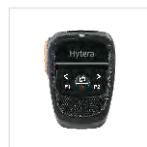
BT Wireless earpiece



Programming cable  
(USB port)



BT wireless ring PTT



BT Wireless remote  
speaker microphone



Wired earpiece



Multi-unit charger



Li-polymer battery  
3000mAh



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