Motorcycles Application

Police Car Application

Fire Engine Application

SPECIFICATION

GENERAL			
Frequency Range		UHFv：350~470MHz，VHF1:136-174MHz	
Channel Capacity		1024	
Zone Capacity		64(each with a maximum of 256 channels)	
Channel Spacing		12.5kHz/20kHz/25kHz	
Operating Voltage		13.6 V ±15%	
Current Drain	Standby	< 0.5A	
	Receive	< 2.0A	
	Transmit	1W	<3A
		5W	<4A
		25W	<8A
		45W/50W	<12A
Frequency Stability		±0.5 ppm	
Antenna Impedance		50Ω	
Dimensions (H x W x D)		61. 5 x 177 x 179 mm	
Weight		1520 g	
LCD Display		2.4 inch	

RECEIVER			
Sensitivity	Analog	0.18μV(12dB SINAD) 0.16μV(Typical)(12dB SINAD)	
	Digital	0.18μV/BER5%	
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		Internal (20 Ohm load)	3W
		External (8 Ohm load)	7.5W
Max Audio Power Output		Internal (20 Ohm load)	8W
		External (8 Ohm load)	20W
Rated Audio Distortion		≤3%	
Audio Response		+1 ~ -3dB	
Conducted Spurious Emission		<-57dBm	

TRANSMITTER	
RF Power Output	Low power : UHFv:1-25W, VHF1:5-25W High power: UHFv:1-45W, VHF1:5-50W
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™

ENVIRONMENTAL	
Operating Temperature	-30℃~ +60℃
Storage Temperature	-40℃~ +85℃
ESD	IEC 61000-4-2 (Level 4) ±8kV (Contact) ±15kV (Air)
American Military Standard	MIL-STD-810 G
Dustproof & Waterproof	IP54
Humidity	Per MIL-STD-810 G Standard
Shock & Vibration	Per MIL-STD-810 G Standard

Location Service	
GNSS	GPS, GPS+GLONASS, GPS+BDS
TTFF (Time To First Fix) Cold Start	＜1minute
TTFF (Time To First Fix) Hot Start	＜10seconds
Horizontal Accuracy	＜5meters

Accuracy specs are for long-term tracking (95th percentile values>5 satellites visible at a nominal -130dBm signal strength)

ACCESSORIES

Standard

- Conventional model: palm microphone without keypad
- Conventional model: palm microphone without keypad
- Palm microphone holder
- Microphone hanger screw
- Locking knob
- Self-tapping screw
- Mounting bracket
- Power cord
- Fuse
- Model with GPS: GPS antenna

Optional

External Speaker SM09D1 | Desktop Microphone SM10A1 | External Power Supply PS22002 | Programming Cable (USB Port) PC37 | Data Cable PC40 | Foot Switch (external PTT) | Wireless Earpiece ESW01 | Ignition Cable PC60

Antenna | GPS Antenna | 1DIN vehicle mounting bracket | Dispatch cable | Mobile Radio Remote Mount Kit | Cabinet Power Supply | Wireless remote speaker microphone | Wireless PTT POA121

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HM78X Next Generation Digital Radio

- FLEXIBLE INSTALLATION
- CLEARER AUDIO
- RICH SCALABLE

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HM78X Next Generation Digita Radio

HM78X

Leading the PMR industry, Hytera possesses comprehensive capabilities of software and hardware development and continually evolves for more than 20 years to provide solutions to tens of thousands of PMR users worldwide.

This time, Hytera presents a next generation of professional digital radio, the flexible and scalable HM78X. The HM78X supports standard single control head, remote control head (one or dual), to fit in different environments such as vehicles, motorcycles, and fixed control rooms, ensuring efficient communication. Moreover, it provides various connections, through which rich applications can be integrated into existing services to improve work efficiency.

The HM78X adopts a new appearance while maintaining high quality. The new UI interaction facilitates faster operation. The AI-based noise cancellation technology guarantees clearer voice in noisy environments.

Vertical Markets


Fire fighting


Healthcare


Public safety


Transportation

ENHANCED DESIGN

PRODUCT HIGHLIGHTS

MORE FLEXIBLE INSTALLATION

With the flexible control heads and accessories, the HM78X can be installed in varies environment for different using requirement.
The connection cable of remote control head is up to 120 meters long (customization required).

Form	 Standard control head	 Remote control head (one or dual) Connection cable (3m, 10m, or 40m)	 Fixed station
Application	Small vehicles, motorcycles	Ambulance, fire engine, truck, large bus	desktop office

AI-BASED NOISE CANCELLATION FOR CLEARER AUDIO

The HM78X adopts the AI noise cancellation technology to filter out background noise (such as road noise), eliminate echoes, extract human voices from noise, and reduce howling and exhalation sound at close distance. With this technology, the mobile radio provides clearer and brighter audio for the other party.
The advantages of AI noise cancellation are as follows.

- Better
  Extremely high noise cancellation on steady and unsteady noise, up to 30dB
  Can reduce howling outside 30cm
- Faster
  Accurately extract human voices from noise in milliseconds or even without delay
- Flexible
  With deep learning ability, suitable for more noise
  10-level adjustable noise reduce level

RICH SCALABLE APPLICATION

HM78X supports multiple connections through BT, accessory port and network port, it also supports Clarity Transmission, Back-to-Back, which will facilitate your solutions a lot. Such as:

- Collect the data of the equipment (wired or BT), and use the IP network or radio network to transmit the data to the background platform.
- The coverage in conventional digital mode can be extended by IP Transit.
- Cross-band or cross-system communication can be achieved through Back-to-Back or IP Transit.
- Based on the wireless link connection between the mobile radio and the repeater, you can establish a narrowband wireless communication network with a small coverage. The network can be applied to scenarios where the wired network is unreachable or the cost of network deployment is too high, such as oil extraction.

Application Solution

CLARITY TRANSMISSION

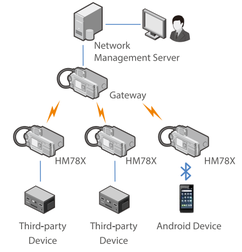
The data Clarity Transmission feature provides a transparent channel for data transmission without any change. As a part of the data acquisition and monitoring control system, the HM78X provides customers with solutions for monitoring and controlling industrial production processes.

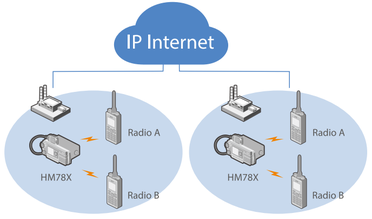
IP Transit Solution

With the network interface of HM78X, IP Transit offers an economical and simple networking solution that complements the existing two-way radio system. This solution works in direct mode operation (DMO) and expands the communication range of the radios through the IP network. It can effectively solve the communication problems across regions, at complex terrain, or in buildings where signals are difficult to penetrate. Meanwhile, this solution only requires one frequency point and simple function configuration, greatly lowering the cost.

The IP Transit solution supports the following services:

- All voice calls (including calls with acknowledgement)
- All data services
- All signaling





MAIN FEATURES

Work Mode

- Conventional(digital/analog)
- Digital trunking

Text Message

- Private message
- Group message
- Quick text

Solution

- IP Transit
- Back to back
- Wireless link
- Clarity Transmission

Voice Service

- Private call
- Group call
- All call

Security

- Emergency alarm
- Lone worker
- Authentication
- Over the air encryption
- E2EE
  - Basic encryption
  - Full encryption
  - Hardware encryption

GPIO Pins

- Public Address
- Horn & Lights
- Voice notify
- Ignition sense

Supplementary

- Alert call(conventional)
- Remote monitor
- Enable/Disable
- Radio check

Analog Mode

- 2-Tone signaling
- HDC1200