



Hytera DMR Series Product Introduction

Hytera, complying with ETSI DMR open standard, brings you versatile DMR series products, including portable radio, mobile radio, repeater, multi-site IP connection, simulcast system and trunking system. Hytera responds to your demands for smoother communication and higher management efficiency with the most valuable solution of leading digital technologies, innovative user-oriented product design, and complete product portfolio.



Hytera Communications Corporation Limited

Address: HYT Tower, Hi-Tech Industrial Park North, Beihuan Rd.,
Nanshan District, Shenzhen, China
Tel: +86-755-2697 2999 Fax: +86-755-8613 7139 Post: 518057
Http: //www.hytera.com Stock Code:002583

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Digital Value is Here

Today, the migration from analog to digital is transforming the industry of professional mobile communications.

With features that analog system has difficulties in achieving, digital technologies enable you to communicate smoothly, respond instantly, and operate efficiently with superior performance and versatile applications.

A flexible and scalable digital communication solution is what one expect. So who can deliver the best one?

Hytera, a leading provider of PMR terminal and system equipment, keeps turning mature and advanced technologies into solutions that you can count on for your everyday communication. Attentively and rapidly responding to customer demands, Hytera delivers customized solutions to facilitate your digitization, providing higher organizational efficiency with its complete DMR portfolio fully compliant to ETSI DMR open standard: portable radio, mobile radio, repeater, multi-site IP connection, simulcast system and trunking system*.

To achieve more with Hytera, digital value is right here for you.

Hytera is here to response and provide digital value.

Join Hytera and together we will response an achive our desired goal.



* More products and solutions to be launched soon. For more information please visit our website or contact our local sales representatives.

**X=0, 2, 5 or 8, model number varies geographically. For details, please contact our regional sales representatives.

Hytera DMR Advantages



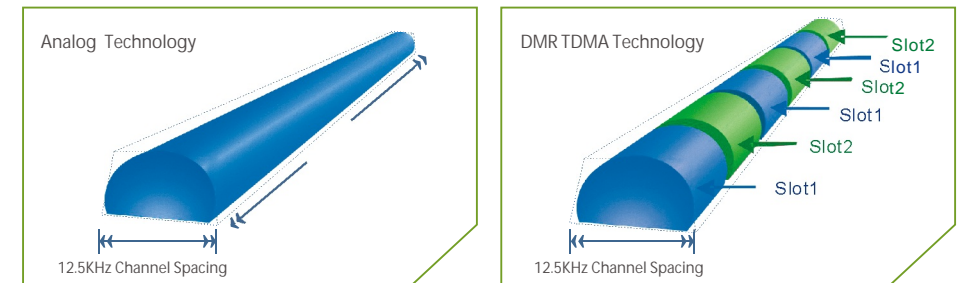
Digital Mobile Radio (DMR) is an open digital radio standard established by European Telecommunication Standards Institute (ETSI). Featured with rich functions, such as voice & data transmission, and various applications in conventional and trunking mode, DMR has received global recognitions.*

As a premium member of DMR Association, Hytera had mastered this technology All our DMR products are fully compliant to ETSI DMR requirements and feature innovative applications.

Advanced Digital Technology »

1 Higher Spectrum Efficiency

Benefiting from the TDMA technology, our DMR products allow twice the channels based on the same bandwidth. This is a big help to relieve the stress of increasing shortage in spectrum resource.

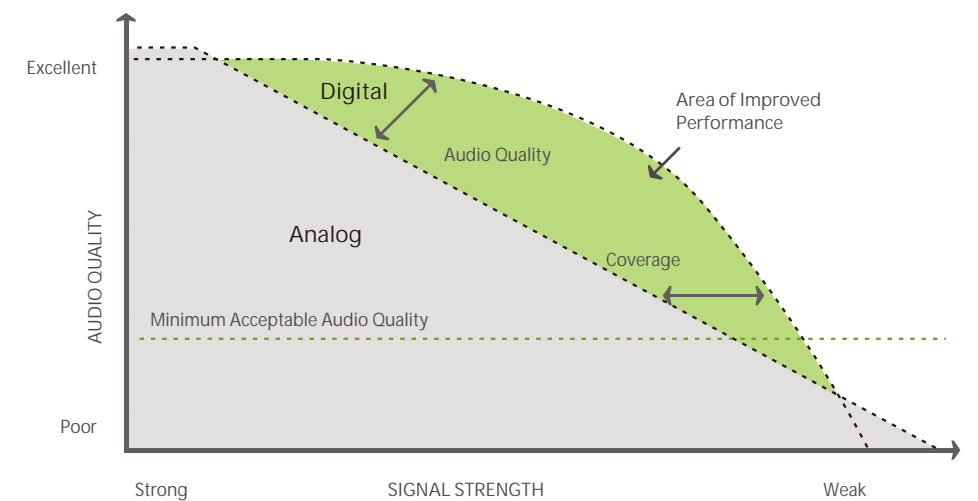


2 Compatible with analog Mode

Our DMR products can operate in either analog or digital mode. It is compatible with the prevalent analog system, ensuring a smooth analog-to-digital transition.

3 Superior Audio Quality

With the combined application of low rate vocoder and digital error-correction technologies, our DMR products ensure you superior audio quality even in noisy environments or at the edge of the coverage area.



* For more information about DMR technology, please visit the official site of DMR Association: www.dmrassociation.org or visit our website for the DMR TechnicalWhitepaper.

4 Affordable Networking

Another advantage of the DMR TDMA approach is that you get two channels with one repeater, one antenna, and a simple repeater and duplexer. Compared with FDMA solutions, two-slot TDMA allows you to achieve 6.25 kHz efficiency while minimizing investments on network infrastructure.

5 Secure Communication

Voice signal is easy to be monitored on analog channel. With DMR technology, your communication can be secured by either signalling or ID (up to 16776415 IDs); what's more, our DMR products are equipped with a multi-level privacy mechanism comprising analog scrambler*, software encryption (encryption algorithm up to 256-bit), ensuring confidentiality of your communication.

6 Durable Battery

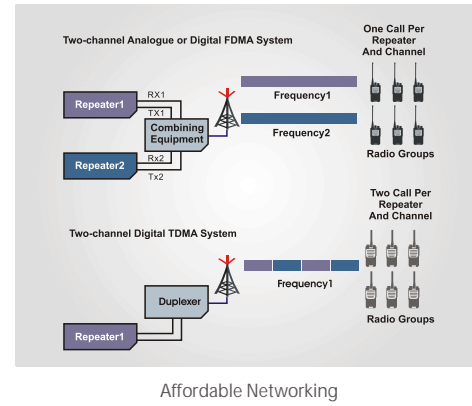
Compared with analog and FDMA technology, TDMA can improve digital radio battery life by up to 40%.

7 Rich Data Services

In addition to conventional communication services, our DMR products are powered by rich data services such as Message, GPS and Telemetry.

8 Versatile Voice Calls

The DMR intelligent signaling can realize various voice calls, including PTT ID, Private Call, Group Call, All Call, Emergency Call, Remote Monitor and Transmit Call Interrupt.



Ergonomic Design »

1 Large-size Colour Display & Multilingual UI

The large-size TFT LCD display with multilingual UI delivers you favorable accessibility.

2 User-friendly Menu

The menu gives you quick access to all services and functions. All our DMR products employ the same UI style so that you can learn to operate different models easily.

3 Globally Patented Antenna Design

The radio antenna and GPS antenna are integrated to ensure convenience operation and better performance.

4 Separated Knobs

Separated by the antenna, the two knobs of portable radio stand apart from each other, which reduces misoperation when with gloves on or under dim light.

5 Ergonomic Key

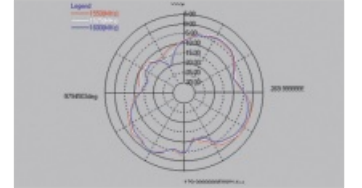
The equipment incorporates big keys for ease of use and precise operation.

6 2-in-1 Knob

The 2-in-1 large knob allows easy channel selection and volume control with one knob operation.



Large-size colour Display & User-friendly Menu



Innovative antenna which is integrated to ensure better performance.



Distinctive Knob Design

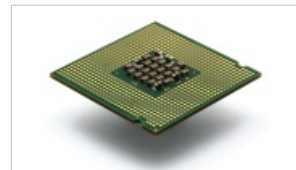


Ergonomic Key

Innovative Applications »

1 Dual-slot Pseudo Trunking

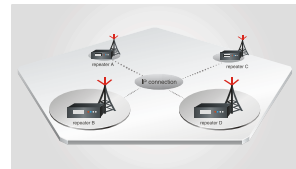
With this unique feature, the free slot can be dynamically allocated to a member who needs to communicate, enhancing frequency efficiency.



Advanced Encryption

2 Advanced Encryption

Our DMR products provide the 128-bit AES & ARCFOUR (ARC4) encryption with enhanced key management to secure your communication.



Multi-site IP Connection

3 Multi-site IP Connection

The scattered repeaters of different frequency bands can be connected via IP to create a wide communication network.

4 Analog/Digital Telephone Interconnect (via DTMF signaling)

The DMR base station supports simplex voice communications between radio and telephone users. It allows a radio user to make a telephone call; or a telephone user to make either a Group or Private call to radio users. This feature utilizes the Commercial Off The Shelf (COTS) Analog Phone Patch boxes and a Plain Old Telephone Service (POTS) line to connect the Repeater to the Corporate Office Phone System (PBX) or Public Switched Telephone Network (PSTN).



Further Development Port

Prominent Scalability »

1 Future Development Port

Our DMR products reserve port for you or any third party to further develop desired functions such as GPS, Call Control and Telemetry.

2 Upgradable Software

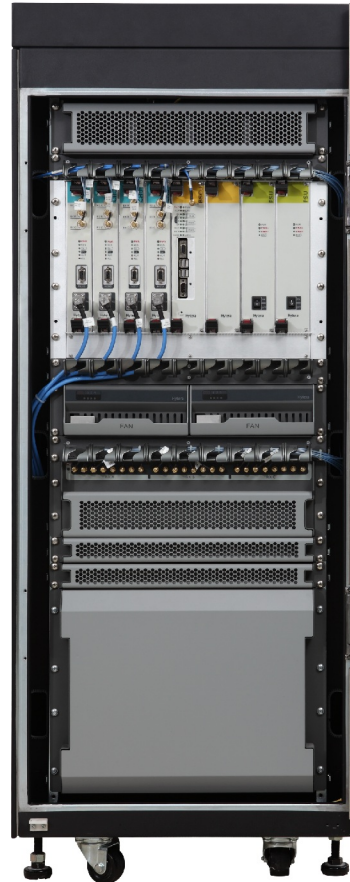
Authorized dealers can download the Software Upgrade Kit from Hytera official website; this can help end-users upgrade software and enjoy further new enhancements & features*.

3 Optional Interface

A standard interface is reserved for you or any third party to further develop desired functions (such as Voice recorder, Bluetooth, RFID and Encryption) with the optional board.



Optional Interface



Trunking System

* Indicates functions compatible with HYT analog two-way radios.

*Contact our local sales representative for details.

Portable Radio

PD78X/78XG PD70X/70XG

Professional Digital Portable Two-way Radio

Featured with compact design, IP67 protection, superior audio quality, rich applications and A/D compatibility, the portable radio family will refresh your communication experience!





PD70X/70XG^{*3}

PD78X/78XG^{*3}

Ergonomic Design

- ① Large-size Colour Display
PD78X/PD78XG adopts a 1.8" TFT LCD display (65536 colours), allowing good visibility even under outdoor strong sun light.
- ② Ergonomic Key
The radio incorporates big keys for easy of use and precise operation.
- ③ Distinctive Knob Design
Separated by the antenna, the two knobs of the portable radio stand apart from each other, which reduces accidental activation when changing volume channel.
- ④ Integrated Antenna
The radio antenna and GPS antenna are integrated to ensure convenience and high performance.
- ⑤ Rugged and Reliable
Compliant to MIL-STD-810 C/D/E/F/G and HALT (Highly Accelerated Life Test).
- ⑥ IP67 Compliance
All portable radios comply with IP67 requirements, withstanding immersion testing (1m for up to 30 minutes).

Additional Features

-  **Messaging**
PD78X/PD78XG supports multi-line text message transmission, up to 256 characters per message.
-  **GPS**
The built-in GPS chipset in PD78XG/PD70XG allows GPS data transmission.
-  **Durable Battery**
The supplied 2000mAh Li-Ion battery enables your radio to work for at least 14^{*1} hours continuously under the duty cycle of 5-5-90^{*2}.
-  **Vibration Alert**
Quite useful when you are in meeting or in noisy environments.
-  **Channel Announcement**
The radio can provide a voice announcement for the current channel during channel change.
-  **Man Down**
An emergency alarm will be triggered when the radio is down or positioned aslant for a preset time period, improving user safety.
-  **Rich Signaling**
HDC1200, DTMF^{*4}, 2-Tone and 5-Tone offers strong scalability, through software upgrade.
-  **Multilingual Menu**
The radio supports up to 13 languages, including English, Simplified Chinese, Traditional Chinese, German, Spanish, French, Italian, Polish, Russian, Turkish, Korean, Greek and Portuguese, allowing you to select as per your need.
-  **One Touch**
PD78X/78XG supports One Touch features that comprise of Text Message, Voice Calls and Supplementary Services.
-  **Scan**
PD78X/78XG supports scanning of pure Analog voice and signaling, pure Digital voice and data, and also mix mode scan both Analog and Digital activities.
-  **Supplementary Services**
PD78X/78XG supports supplementary services of Radio Check, Remote Monitor, Call Alert, Radio Enable and Radio Disable.
-  **Transmit Call Interrupt**
Enable master radio to over write clear channel for emergency or urgent communication.

^{*1}Above 14 hours in digital mode; Above 10.5 hours in analog mode.

^{*2}5-5-90: 5% for transmitting, 5% for receiving and 90% for standby.

^{*3}PD70XG/78XG are the models with GPS.

^{*4}Available in later version.



All portable radios comply with IP67 requirements, withstanding immersion testing (1m for 30 min).

Portable Radio

PD79X Ex

IIC Intrinsically Safe
Digital Portable Two-way Radio

Hytera PD79X Ex, fully compliant to DMR open standard of ETSI, comes to be the world's First IIC Intrinsically Safe Digital Portable Radio. Plastic-encapsulated technology, error-prevention design, and IP67 protection ensure intrinsically safe and reliable communication in hazardous scenes with explosive gas and combustible dusts.








PD79X Ex

Ergonomic Design

- ① **Large-size Colour Display**
PD79X Ex adopts a 1.8-inch high resolution colour transfective LCD display, allowing crystalclear visibility even under outdoor strong sun light. Big keypad ensures precise and convenient operation even with gloves on.
- ② **Durability**
PD79X Ex fulfills our Asselerated Life Test (ALT) cycles that simulates harsh environments. MIL-STD-810C/D/E/F/G compliance & IP67 protection ensure outstanding and reliable performance in demanding environments.
- ③ **Error-prevention Design**
Safety features are designed-in to ensure highest intrinsic-safe protection level, by providing full compatibility only to permitted Hytera DMR accessories and batteries.
- ④ **Intrinsically Safe Encapsulation Engineering**
The polymeric encapsulation engineering is applied to the radio unit and battery, isolating their internal circuits from direct exposure to ignitable gas and dusts.
- ⑤ **IP67 Enclosure Protection**
PD79X Ex is designed to meet internationally recognized Ingress Protection rating at IP67, with excellent margin to prevent dusts intrusion under severe environment and to deter pressurized water ingress for more than half an hour.
- ⑥ **Maximum Electrostatic Charge Buildup Avoidance Design**
Patented hybrid enclosure design ensures maximum electrostatic charge dissipation, minimum charge builds up. Application of static dissipative material increases cost to manufacturer but ensure user convenient in not needing a carry case at will for suitable environment.
- ⑦ **Tough Display**
High strength display window surpasses stringent ATEX requirements for enclosure safety. PD79X Ex is built to with stand sever concentrated impacts from all angles, under extreme temperature.
- ⑧ **Innovative Battery Latch**
The patented double latching mechanism prevents accidental battery disengagement during drop, ensuring safe and smooth operations.
- ⑨ **Non-slip Design**
Grab-hod and provide comfortable longer handheld operation.

Additional Features

-  **GPS**
The built-in GPS module supports GPS data transmission.
-  **Versatile Voice Calls**
The DMR intelligent signaling supports various voice calls, including Private Call, Group Call and All Call.
-  **Vibration**
This feature is helpful in alerting you to reception of any voice call or message under noisy conditions.
-  **Various Analog Signaling**
PD79X Ex supports various analog signaling (HDC1200, DTMF*, 2-Tone and 5-Tone), providing more expansion capacity.
-  **Multilingual Menu**
The radio supports up to 13 languages, including English, Simplified Chinese, Traditional Chinese, German, Spanish, French, Italian, Polish, Russian, Turkish, Greece, Portuguese and Korean, allowing you to select as per your need.

*Available in later version.

Portable Radio

X1e

Digital Covert Two-way Radio

Hytera X1e Covert Radio, fully compliant to DMR open standard of ETSI, emerges as the world's smallest DMR radio. Perfect combination of structural rigidity, versatile functionalities, and refined design; secure communication ensured by AES encryption algorithm & 256 digits dynamic encryption key; convenient application development facilitated by built-in Bluetooth and USB port; and worry-free handling achieved by IP67 protection.

All comes with a surprisingly small size:18mm thin.










X1e

Ergonomic Design

- ① **Ease of use**
Easy to use with the rugged body as thin as 18mm, professional wireless headsets or collar microphone, palm controller and flexible antenna.
- ② **Full RF Power**
4W (UHF) / 5W (VHF)
- ③ **IP67**
Comply with IP67 requirements, withstanding immersion e testing(up to 30 minutes).
- ④ **Durability**
Certified of HALT (Highly Accelerated LifeTest) and MIL-STD-810 C/D/E/F/G.

Additional Features

-  **Advanced Encryption**
AES encryption algorithm & 256 digits dynamic encryption key ensures secure communication.
-  **Built-in Bluetooth**
The built-in bluetooth chipset provides a powerful wireless interconnect with other bluetooth accessory.
-  **Open USB Interface**
Open USB port facilitates secondary and application development.
-  **GPS Positioning**
The built-in GPS module supports GIS applications.
-  **Dual Modes (analog & digital)**
Dual modes (analog & digital) operation ensures a smooth analog-to-digital migration.
-  **Versatile Voice Call**
Versatile voice calls include individual call, group call and all-call.
-  **Vibration Alert**
Quite useful when you are in meeting or in noisy environments.
-  **Rich Signalling**
Multiple advanced analog signaling, including HDC1200, DTMF*, 2-Tone and 5-Tone, provides more expansion capacity.
-  **Software Upgradable**
Upgradable software enables new features without buying a new radio.

*Available in later version.

Mobile Radio

MD78X/78XG

Professional Digital Mobile Two-way Radio

Characterized by superb performance, high reliability and strong scalability, the mobile radio family will enrich your communication experience!



MD78X/78XG*2

Ergonomic Design

- ① Large-size Colour Display
2.0" TFT LCD display (260,000 colours).
- ② 2-in-1 Knob
Easy channel selection and volume control with one knob operation.
- ③ Rugged and Reliable
Compliant to MIL-STD-810 C/D/E/F/G & IP54 requirements, and passing of HALT. (Highly Accelerated Life Test).
- ④ LED Indicator
The LED is integrated around the knob to give you clear indication about the radio status.
- ⑤ Secure MIC Jack
Working with a palm microphone to ensure audio quality.
- ⑥ Powerful Speaker
The built-in 7W speaker generates loud and clear voice.
- ⑦ 7 Programmable Keys
- ⑧ Durable Front Panel
- ⑨ Standard DB26 Secondary Development Port reserved for further development.



Large-size colour display

Additional Features

- Rich Analog Signaling
MD78X/78XG supports various analog signaling types (HDC1200, DTMF*, 2-Tone and 5-Tone), various squelch control types (CTCSS/CDCSS), thus providing higher function expansion capacity to the analog world.
- Switchable Power
50W/25W for VHF and 45W/25W for UHF.
- Messaging
MD785/MD785G supports text message transmission, up to 256 characters per message.
- GPS
The built-in GPS chipset in MD785G allows GPS data transmission.
- Multilingual Menu
The radio supports up to 13 languages, including English, Simplified Chinese, Traditional Chinese, German, Spanish, French, Italian, Polish, Russian, Turkish, Greek and Portuguese, allowing you to select as per your need.
- One Touch
MD78X/78XG supports One Touch features that comprise of Text Message, Voice Calls and Supplementary Services.
- Scan
MD78X/78XG supports scanning of pure Analog voice and signaling, pure Digital voice and data, and also mix mode scan that comprise of Analog and Digital activities.
- Supplementary Services
MD78X/78XG supports supplementary services of Radio Check, Remote Monitor, Call Alert, Radio Enable and Radio Disable.

*1 Available in later version.
*2 MD785G is the model with GPS.

Repeater

RD98X

Professional Digital Repeater

Distinguished by modularized design, excellent heat dissipation and handy management, the repeater delivers you more than reliability.



Front of RD98X



Rear of RD98X

Ergonomic Design

- ① Modularized Design
Helpful to enhance reliability and performance.
- ② Large-size Colour Display & UI Interface
The 2.0" TFT LCD display & UI interface enables you to access and manage the repeater easily.
- ③ Ergonomic Navigation Knob
Easy access to functions with big navigation knob to facilitate operation.
- ④ Excellent Heat Dissipation
The unique cooling design combining a built-in heat pipe and a temperature-controlled fan ensures quick heat dissipation, enabling the repeater to work well even with full load.
- ⑤ LED Indicator
The LED indicators enables you to identify the repeater status clearly.
- ⑥ Compact Body
The 2RU/19" rack allows more installation flexibility while requiring less space.
- ⑦ Built-in Duplexer
Enough space is reserved for built-in duplexer, saving installation space.
- ⑧ 4 Programmable Keys
- ⑨ Built-in Speaker

Additional Features

- Repeater Diagnostic and Control (RDAC)
RD98X supports Remote (via IP port to connect to internet) and Local diagnostic (via USB) PC applications to monitor, diagnose and control the repeater status, thus increasing the maintenance efficiency. Hytera's developed RDAC is able to support multiple master network connection to allow radio administrator to monitor multiple radio network upcoming!
- Dual-slot Audio Output
Capable of seamless recording and monitoring of your communication.
- Analog Digital Autoswitch
The repeater can be operated in both digital and analog modes, and smartly shift to the right mode according to the type of received signal.
- Flexible Networking
The multiple scattered repeaters of different frequencies can be interconnected via IP to form a wireless communication network, allowing automatic roaming and voice & data transmissions for terminals within the network.
- Digital-analog Interconnection for Smooth Transition
Back to back interconnection of digital & analog network can be achieved by wired or wireless IP, ensuring a smooth analog-to-digital transition.
- RF Output Power up to 50W
- 16 Channels
RD98X supports decoding up to maximum of 16 CDCSS/CTCSS in Analog channels, allowing repeating of different Analog voice users from various groups.
- Supports Operating both in Analog and Digital Mode
- Analog Repeater Knockdown
RD98X supports repeater knockdown, that when activated via the repeater's rear accessory pin, will disabled the transmit path of the repeater.

Repeater

RD96X*

Digital Portable Repeater

RD96X is Hytera's first digital/analog portable repeater that is compatible with the DMR standard. Compact and embedded with a mini duplexer, the device is fairly wieldy. Equipped with a wide selection of components, RD96X easily fits into various application scenarios, whether on your back and a wall or in your suitcase and a cabinet. It supports a range of power supply plans to guarantee uninterrupted communications during emergencies; its API and 100 Mbps network port combine to support an extended array of applications; the device provides IP67 protection, making it reliable in any hostile operating environment.



RD960

Ergonomic Design

- ① Slim and Portable
Based on a compact design, the device measures only 42mm and weighs less than 5kg, (include the 10Ah battery).
- ② Flexible Applications
Fitted with a wide variety of components, the product can be desk or wall-mounted for in-building coverage, installed in a mobile suitcase or cabinet for emergency communications, or carried on the back for forest firefighting.
- ③ Built-in Duplexer
Embedded with an optional mini duplexer, RD96X can be slimmer in size.
- ④ External Battery
With an external large-capacity battery, the device delivers an extended battery life to guarantee uninterrupted communications.
- ⑤ Emergency Port
The port allows for power connection in emergencies.
- ⑥ IP67 Protection
Compatible with the IP67, the device can operate properly under immersion test (1meter for up to 30 minutes).
- ⑦ Reliable and Durable
Compatible with the American military standard MIL-STD-810 C/D/E/F/G and HALT-verified, the device can perform excellently in hostile operating environments.
- ⑧ User-friendly Panel
The operating panel provides a wide range of channel status indicators, a button for channel adjustment, and a port for palm microphone or remote speaker microphone.

Additional Features

- GPS**
The GPS module supports GPS data transmission and enables emergency command centers to monitor the location of a small mobile network in real time.
- Smart Battery (optional)**
A 10Ah smart Li-Ion battery can support at least eight hours of work when working at 50% duty cycle and high TX power. Compatible with the smb1.1 standard, RD96X can monitor battery conditions such as estimated remaining capacity, used capacity percentage, and usage record; the device can also maximize the battery life; through smart charge management, it can automatically recharge the battery for use anytime; powered by three levels of battery protection, the device considerably enhances charging safety and reliably.
- Repeater Diagnostics and Control**
Through a PC-based application, the product can monitor, diagnose and control remote (connected to the Internet via an IP port) and local repeaters (via a USB port), thus increasing the productivity. Hytera's RDAC software supports network access at multiple points and allows the administrator to monitor networked two-way radios.
- Voice Input/output via Dual Time Slots: easy for monitoring and voice recording**
In digital mode, the device supports voice input and output via dual time slots and enables users to record calls continuously.
- Digital/analog Compatibility and Smart Switching**
Back to back interconnection of digital & analog network can be achieved by wired or wireless IP, ensuring a smooth analog-to-digital transition.
- Flexible Networking**
By connecting geographically distributed repeaters that run at the same or different frequencies to form an IP-based and location-independent wireless communication network, IP-based repeater interconnection allows mobile radios to obtain voice and data services while roaming.
- 16 Channels**
The product supports up to 16 channels. You can switch between channels using PC-based RDAC software, the channel selector knob on the front panel, or the external interface on the repeater.
- Digital-analog Interconnection for Smooth Transition**
The feature enables two-way radios with digital and analog capabilities, and digital and analog users to intercommunicate in different operating modes to guarantee users' seamless transition from analog to digital capabilities.
- Supports Operating both in Analog and Digital Mode**
- Upgradable Software**
This enables you to easily add functions through software upgrade without purchasing a new device.

*New upcoming Product; Q3 of 2012

Repeater

RD98XS*

Digital Super Repeater

As an improved version of RD98X DMR digital repeater, RD98XS adopts a more powerful and compatible hardware platform, and can flexibly function as 8 kinds of products by software upgrade, meeting customers' requirements in different periods for higher ROI. The possible functions are:

- Analog conventional repeater
- Analog simulcast transceiver
- MPT trunking transceiver
- MPT trunking simulcast transceiver*¹
- Digital conventional repeater
- Digital simulcast transceiver*¹
- DMR trunking transceiver
- DMR trunking simulcast transceiver*¹



Front of RD98XS



Rear of RD98XS

*New upcoming Product.

Ergonomic Design

- ① Modularized Design
Helpful to enhance reliability and performance.
- ② Large-size Colour Display & UI Interface
The 2.0"TFT LCD display & UI interface enables you to access and manage the repeater easily.
- ③ Ergonomic Navigation Knob
Easy access to functions with big navigation knob to facilitate operation.
- ④ Excellent Heat Dissipation
The unique cooling design combining a built-in heat pipe and a temperature-controlled fan ensures quick heat dissipation, enabling the repeater to work well even with full load.
- ⑤ LED Indicator
The LED indicators enables you to identify the repeater status clearly.
- ⑥ Compact Body
The 2RU/19"rack allows more installation flexibility while requiring less space.
- ⑦ Built-in Duplexer
Enough space is reserved for built-in duplexer, saving installation space.
- ⑧ 4 Programmable Keys
- ⑨ Built-in Speaker

Additional Features

- Compatible Hardware and Scalable Software**
Based on a unified hardware platform, RD98XS enables customers to upgrade software from analog to digital, conventional to simulcast, and conventional to trunking capabilities without purchasing a new repeater.
- Repeater Diagnostics and Control**
Through a PC-based application, the product can monitor, diagnose and control remote (connected to the Internet via an IP port) and local repeaters (via a USB port), thus increasing the productivity. Hytera's RDAC software supports multi-site connection and allows the administrator to monitor networked repeaters.
- Voice via Dual Time Slots (easy for monitoring and voice recording)**
In digital mode, RD98XS supports voice input and output through dual time slots and enables users to record calls continuously.
- Digital-analog Interconnection for Smooth Transition**
Back to back interconnection of digital & analog network can be achieved by wired or wireless IP, ensuring a smooth analog-to-digital transition.
- Flexible IP Networking**
By connecting geographically distributed repeaters that run at the same or different frequencies to form an IP-based and location-independent wireless communication network, the IP feature allows mobile terminals to obtain voice and data services while roaming.
- High Reliability**
MTBF of up to 100,000 hours for cyclic and continuous transmission at 50W TX power and 100% duty cycle.

* Additional GPS board is required when using as simulcast transceiver



Accessories

Hytera also provides a full line of professional accessories (such as audio accessory, battery, charger and carrying accessory*) to deliver an optimal communication experience.

For Portable Radio »

High-capacity Battery

- BL2006 Li-Ion Battery (2000mAh) (Standard)
- BL2503 Li-Ion Battery (2500mAh) (Optional)
- BL1807-Ex Explosion-proof Li-Ion Battery (1800mAh) (Optional)

Power Supply

- CH10A04 MCU Rapid-rate Charger (for Li-Ion/Ni-MH batteries) (Standard)
- CHV09 Vehicle Power Adapter (Output: 12V 1A)
- PS1026 Switching Power Adapter (with a rapid-rate charger) (Output: 12V 1A) (Standard)
- MCA06 MCU Multi-unit Rapid-rate Charger (for Li-Ion/Ni-MH batteries)
- MCA05 Battery Optimizing System (with LCD)
- PS7002 Six-unit Switching Power

Carrying Accessories

- LCY003 Carrying Case (for thick battery) (leather) (swivel)
- LCY005 Explosion-proof Carrying Case (for thick battery) (leather) (swivel)
- RO04 Leather Strap (Standard)
- BC19 Spring Belt Clip (Standard)

Antenna

- GPS Antenna

Data Cables

- PC38 Programming cable (USB)



Carrying Case (LCY003)

Explosion-proof Carrying Case (LCY005)



MCU Multi-unit Rapid-rate Charger(MCA06)



Battery Optimizing System (MCA05)



ESN10



EHN12



EAN16



EAN17



EAN18



SM18N2



EBN04-Ex

Audio Accessories

- ESN10 Earbud with on-MIC PTT
- EHN12 D-earset with on-MIC PTT
- EAN16 Earpiece with on-MIC PTT & Transparent Acoustic Tube
- EAN17 3-wire Surveillance Earpiece with Transparent Acoustic Tube (Beige)
- EAN18 3-wire Surveillance Earpiece with Transparent Acoustic Tube (Black)
- SM18N2 Waterproof Remote Speaker Microphone (IP57)
- ESS07 Receive-Only Earbud (for use with remote speaker microphone)
- ESS08 Receive-Only Earpiece with Transparent Acoustic Tube (for use with remote speaker microphone)



ELN05-Ex



SM18N4-Ex

- SM18N4-Ex Explosion-proof Palm Microphone (IP67)
- ELN05-Ex Explosion-proof Light Weight Throat-vibrating Earpiece
- EBN04-Ex Explosion-proof Ear Canal Bone Induction Earpiece

For Mobile Radio »

Audio Accessories

- SM16A1 Palm Microphone
- SM10A1 Desktop Microphone
- SM09D1 External Speaker
- SM19A1 Palm Microphone with Keypad

Power Supply

- PS22002 External Power Supply (300W, applicable to backup batteries. If AC power malfunctions, backup battery will operate as a substitute automatically.)

Power Cord

- PWC10 Vehicle Power Cord 12#
- POA33 ATO Fuse (0257015 32V 15A)
- PWC11 Vehicle Power Cord(10A 12AWG)

Installation Accessories

- BRK08 Mounting Bracket for Mobile Radio (Standard)
- BRK15 1DIN Vehicle mounting bracket
- RCC05 Mobile Radio Remote Mount Kit (6m)
- RCC04 Mobile Radio Remote Mount Kit (3m)

Data Cables

- PC43 DB26 Data Cable (USB&Dual audio)
- PC49 Dispatch cable
- PC40 DB26 programming cable (USB)
- PC37 10-pin Programming Cable (USB)



GPS Antenna



Palm Microphone (SM16A1)



Palm Microphone with Keypad(SM19A1)

For Repeater »

Power Cord

- PWC11 DC Power Cord for Repeater

Installation Accessories

- BRK12 Installation accessory for rack-mounted power supply (2U)(Black)
- BRK14 Installation Accessory for Rack-mounted Power Supply (2U)(Gray)
- BRK09 Duplexer Installation Kit (For DT11&DT14)
- BRK16 Duplexer Installation Kit (For DT11-DT17)

Data Cables

- PC37 10pin programming cable (USB)
- PC40 DB26 Data Cable (USB)
- PC49 Dispatch cable

Power Supply

- PS22002 External Power Supply (300W, applicable to backup batteries. If AC power malfunctions, backup battery will operate as a substitute automatically.)

Duplexer

- DT11 for frequency: 380-470MHz; RX-TX spacing: 5-13MHz
- DT12 for frequency: 160-174MHz; RX-TX spacing:5MHz
- DT13 for frequency: 148-160MHz; RX-TX spacing:5MHz
- DT14 for frequency: 336-370MHz; RX-TX spacing: 8-13MHz



External Speaker(SM09D1)



Desktop Microphone(SM10A1)



1DIN vehicle mounting bracket



Duplexer Installation Kit (For DT11&DT14)



External Power Supply(PS22002)



Installation Kit(2U)(Gray)(Black)

- DT15 for frequency: 136-148MHz; RX-TX spacing:5MHz
- DT16 for frequency: 440-480MHz; RX-TX spacing:5MHz
- DT17 for frequency: 480-512MHz; RX-TX spacing:5MHz

* Indicates accessories to be promoted. For more information, please visit our website or contact our local sales representative.

	Portable Radio		Backpack Repeater	
	PD79X Ex	X1e	RD96X	
Frequency Range	400-470MHz	400-470MHz; 350-400MHz; 136-174MHz	UHF1:400-470MHz; UHF2:450-520MHz; UHF3:350-400MHz;	VHF:136-174MHz
Channel Capacity	1024	32	16	
Zone Capacity	64 (each with a maximum of 16 channels)	3 (each with a maximum of 16 channels)	-	
Channel Spacing	25/20/12.5KHz			
Operating Voltage	7.4V (rated)		DC: 13.6 V ± 15% Battery: 14.8V	
Current Drain	Standby		≤0.8A	
	Receive		-	
	Transmit		≤3.5A	
Battery	1800mAh (Li-Ion)	1100mAh (Li-Ion)	10Ah (Li-Ion)	
Battery Life(5-5-90 Duty Cycle, High TX Power)	Analog: 14.5h/13h (G) Digital: 17.5h/15h (G)	Analog: Above 8 hours Digital: Above 10 hours	8h	
Frequency Stability	± 0.5ppm			
Antenna Impedance	50 Ω			
Duty Cycle	-		100%	
Dimensions (H x W x D)	141x55x39mm (with standard battery, without antenna)	119.5x57x18mm (with standard battery, without antenna)	52x183x302mm (with Repeater & Protection case) 42x172x280mm (without Repeater & Protection case)	
Weight	495g (with antenna & standard battery)	About 200g (with antenna & standard battery)	3.5Kg (without standard battery)	
Front Case	PC+Anti-static material	PC & Mental frame	AL5052+PC+ABS	
LCD Display	160 X 128 pixels, 65536 colour, 1.8-inch, 4 rows	-		
Anti-explosion levels	IECEX: Ex ib IIC T4 Ex tb IIIC IP6X T90°C	-		
RF Power Output	1W	UHF1/UHF3 High Power: 4W UHF1/UHF3 Low Power: 1W VHF High Power: 5W VHF Low Power: 1W	1-10W (adjustable)	
FM Modulation	11K Φ F3E @ 12.5KHz 14K Φ F3E @ 20KHz 16K Φ F3E @ 25KHz			
4FSK Digital Modulation	12.5KHz Data Only: 7K6 Φ FXD; 12.5KHz Data & Voice: 7K6 Φ FXW			
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++ or SELP			
Digital Protocol	ETSI-TS102 361-1, 2&3			
Sensitivity	Analog	0.3 μ V (12dB SINAD) ; 0.22 μ V (Typical) (12dB SINAD); 0.4 μ V (20dB SINAD)		
	Digital	0.3 μ V/BER5%		
Selectivity	TIA-603	60dB @ 12.5KHz; 70dB @ 20/25KHz		65dB @ 12.5KHz; 75dB @ 20/25KHz
	ETSI	60dB @ 12.5KHz; 70dB @ 20/25KHz		65dB @ 12.5KHz; 75dB @ 20/25KHz
Intermodulation	TIA-603	70dB @ 12.5/20/25KHz		75dB @ 12.5/20/25KHz
	ETSI	65dB @ 12.5/20/25KHz		70dB @ 12.5/20/25KHz
Spurious Response Rejection	TIA-603	70dB @ 12.5/20/25KHz		80dB @ 12.5/20/25KHz
	ETSI	70dB @ 12.5/20/25KHz		80dB @ 12.5/20/25KHz
Blocking	TIA-603	80dB		90dB
	ETSI	84dB		84dB
S/N	40dB @ 12.5KHz; 43dB @ 20KHz; 45dB @ 25KHz		40dB @ 12.5KHz; 43dB @ 20KHz; 45dB @ 25KHz	
Rated Audio Power Output	0.5W	External (@16 ohm load) 1W		Internal (@20ohm load) 3W External (@8 ohm load) 7.5W
Rated Audio Distortion	≤ 3%			
Audio Response	+1 ~ -3dB			
Conducted Spurious Emission	< -57dBm			
Operating Temperature	-20°C ~ +50°C		-30°C ~ +60°C	
	Storage Temperature		-40°C ~ +85°C	
ESD	IEC 61000-4-2 (level 4); ± 8kV (contact); ± 15kV (air)		IEC 61000-4-2 (level 4); ± 8kV (contact); ± 15kV (air)	
	American Military Standard	MIL-STD-810 C/D/E/F/G		-
Dust & Water Intrusion	IP67 Standard		IP54 Standard	
Humidity	Per MIL-STD-810 C/D/E/F/G Standard		Per MIL-STD-810 C/D/E/F/G Standard	
Shock & Vibration	Per MIL-STD-810 C/D/E/F/G Standard		Per MIL-STD-810 C/D/E/F/G Standard	
TTFF (Time To First Fix) Cold Start	<1 minute		<1 minute	
	TTFF (Time To First Fix) Hot Start		<10 seconds	
Horizontal Accuracy	<10 meters		<10 meters	

	Portable Radio		Mobile Radio	Repeater
	PD70X/70XG	PD78X/78XG	MD78X/78XG	RD98X/RD98XS
Frequency Range(MHz)	UHF1: 400-470MHz; UHF2: 450-520MHz; UHF3: 350-400MHz; VHF: 136-174MHz			
Channel Capacity	32	1024		16
Zone Capacity	3 (each with a maximum of 16 channels)	64 (each with a maximum of 16 channels)		-
Channel Spacing	25/20/12.5 KHz			
Operating Voltage	7.4V (rated)		13.6 V ± 15%	
Current Drain	Standby	-	< 0.6A	< 0.8A
	Receive	-	< 2.0A	-
	Transmit	-	< 12A (45W/50W) < 8A (25W) < 5A (5W)	<11A
Battery	2000mAh (Li-Ion)		-	-
Battery Life(5-5-90 Duty Cycle, High TX Power)	Analog: UHF1: 13.5h/12h (G) UHF2: 12.5h/11h (G) UHF3: 12.5h/11h (G) VHF: 11h/10h (G)	Digital: UHF1: 15.5h/14h (G) UHF2: 14.5h/12.5h (G) UHF3: 14.5h/12.5h (G) VHF: 13.5h/12h (G)	-	-
Frequency Stability	± 0.5ppm			± 0.5ppm/ ± 10Hz (transceiver)
Antenna Impedance	50 Ω			
Duty Cycle	-			100%
Dimensions (H x W x D)	125 X 55 X 35mm (with standard battery, without antenna)	125 X 55 X 37mm (with standard battery, without antenna)	60 X 174 X 200mm	88 X 483 X 366mm
Weight	335g (with antenna & standard battery)	355g (with antenna & standard battery)	1.7Kg	8.5Kg
Front Case	PC		PC+ABS	-
LCD Display	-	160 x 128 pixels, 65536 colours 1.8 inch, 4 rows	220 x 176 pixels, 262000 colours 2.0 inch, 4 rows	
RF Power Output	UHF1/UHF3 High Power: 4W UHF1/UHF3 Low Power: 1W VHF High Power: 5W VHF Low Power: 1W		Low Power UHF1 (400-470MHz): 5-25W/UHF2 (450-520MHz): 5-25W UHF3 (350-400MHz): 5-25W/VHF (136-174MHz): 5-25W	High Power UHF1 (400-470MHz): 5-45W/UHF2 (450-520MHz): 5-45W UHF3 (350-400MHz): 5-45W/VHF (136-174MHz): 5-50W
FM Modulation	11K Φ F3E @ 12.5KHz 14K Φ F3E @ 20KHz 16K Φ F3E @ 25KHz			
4FSK Digital Modulation	12.5KHz Data Only: 7K6 Φ FXD ; 12.5KHz Data & Voice: 7K6 Φ FXW			
Conducted/Radiated Emission	-36dBm < 1GHz -30dBm > 1GHz			
Modulation Limiting	± 2.5kHz @ 12.5 kHz ± 4.0kHz @ 20 kHz ± 5.0kHz @ 25 kHz			
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++ or SELP			
Digital Protocol	ETSI-TS102 361-1, 2&3			
Sensitivity	Analog	0.3 μ V (12dB SINAD) ; 0.22 μ V (Typical) (12dB SINAD) ; 0.4 μ V (20dB SINAD)		
	Digital	0.3 μ V/BER5%		
Selectivity	TIA-603	60dB @ 12.5KHz; 70dB @ 20/25KHz	65dB @ 12.5KHz; 75dB @ 20/25KHz	65dB @ 12.5KHz; 75dB @ 20/25KHz
	ETSI	60dB @ 12.5KHz; 70dB @ 20/25KHz	60dB @ 12.5KHz; 70dB @ 20/25KHz	65dB @ 12.5KHz; 75dB @ 20/25KHz
Intermodulation	TIA-603	70dB @ 12.5/20/25KHz	75dB @ 12.5/20/25KHz	75dB @ 12.5/20/25KHz
	ETSI	65dB @ 12.5/20/25KHz	70dB @ 12.5/20/25KHz	70dB @ 12.5/20/25KHz
Spurious Response Rejection	TIA-603	70dB @ 12.5/20/25KHz	75dB @ 12.5/20/25KHz	80dB @ 12.5/20/25KHz
	ETSI	70dB @ 12.5/20/25KHz	70dB @ 12.5/20/25KHz	80dB @ 12.5/20/25KHz
Blocking	TIA-603	80dB	90dB	90dB
	ETSI	84dB	84dB	90dB
S/N	40dB @ 12.5KHz; 43dB @ 20KHz; 45dB @ 25KHz			
Rated Audio Power Output	0.5W	Internal (@20ohm load) 3W External (@8 ohm load) 7.5W		0.5W
Rated Audio Distortion	≤ 3%			
Audio Response	+1 ~ -3dB			
Conducted Spurious Emission	< -57 dBm			
Operating Temperature	-30°C ~ +60°C		-30°C ~ +60°C	
	Storage Temperature		-40°C ~ +85°C	
ESD	IEC 61000-4-2 (level 4); ± 8kV (contact); ± 15kV (air)		IEC 61000-4-2 (level 4); ± 8kV (contact); ± 15kV (air)	
	American Military Standard	MIL-STD-810 C/D/E/F/G		-
Dust & Water Intrusion	IP67 Standard		IP54 Standard	
Humidity	Per MIL-STD-810 C/D/E/F/G Standard		Per MIL-STD-810 C/D/E/F/G Standard	
Shock & Vibration	Per MIL-STD-810 C/D/E/F/G Standard		Per MIL-STD-810 C/D/E/F/G Standard	
TTFF (Time To First Fix) Cold Start	<1 minute		<1 minute	
	TTFF (Time To First Fix) Hot Start		<10 seconds	
Horizontal Accuracy	<10 meters		<10 meters	

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

RD96X Coming soon: Q3 of 2012



PD79X Ex



PD78X/78XG PD70X/70XG



X1e



RD98X

RD98XS New upcoming product.



MD78X/78XG