# Hytera DMR Professional Two-way Radio and Repeater Solution Catalog

**DMR**
DIGITAL MOBILE RADIO ASSOCIATION

# Hytera
Respond & Achieve

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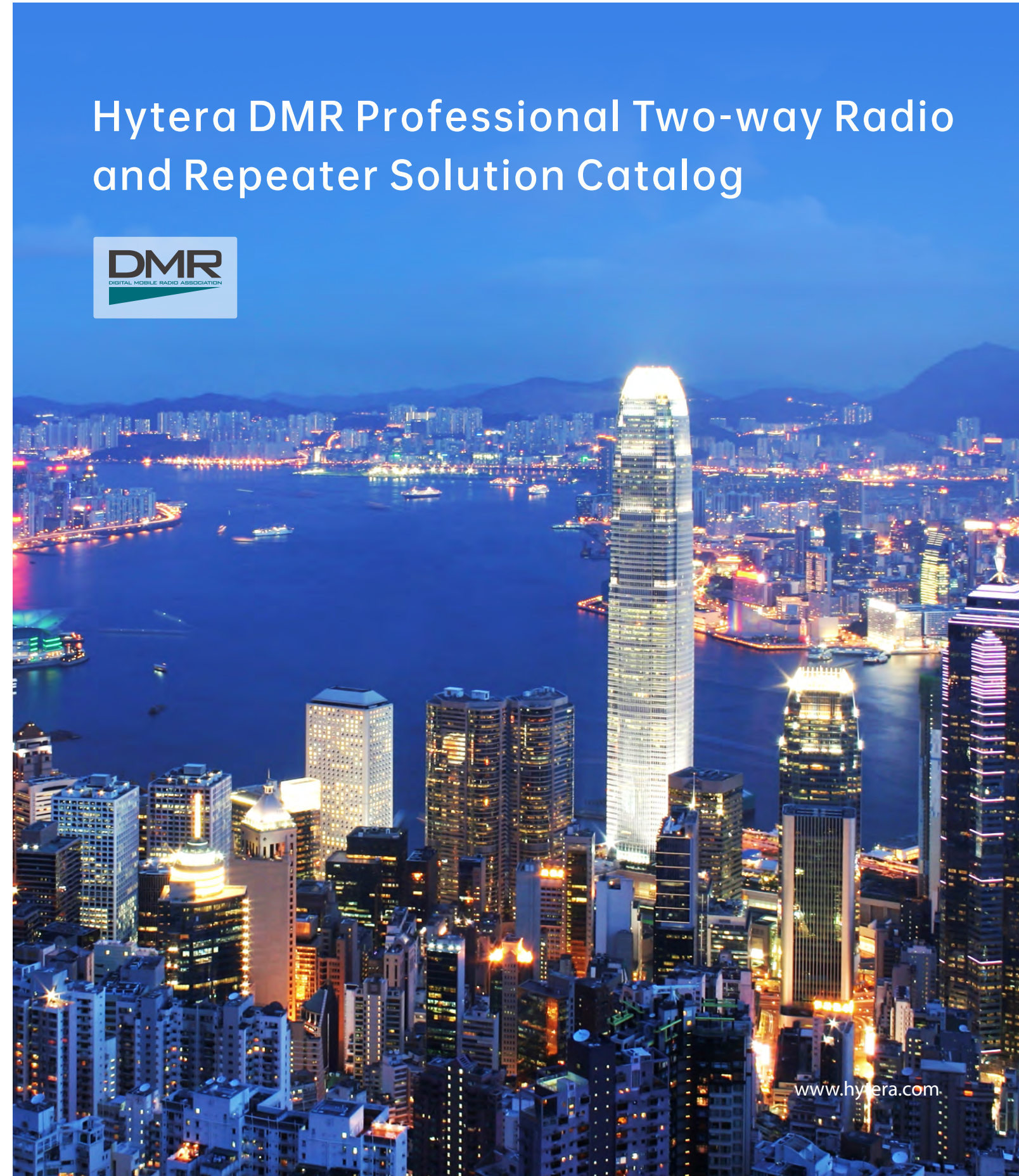**Tel:** +86-755-2697 2999   **Fax:** +86-755-8613 7139   **Post:** 518057
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# Hytera DMR Professional Two-way Radio and Repeater Solution

## Professional DMR Two-way Radios

Professional DMR Portable Two-way Radio

Professional DMR Mobile Two-way Radio
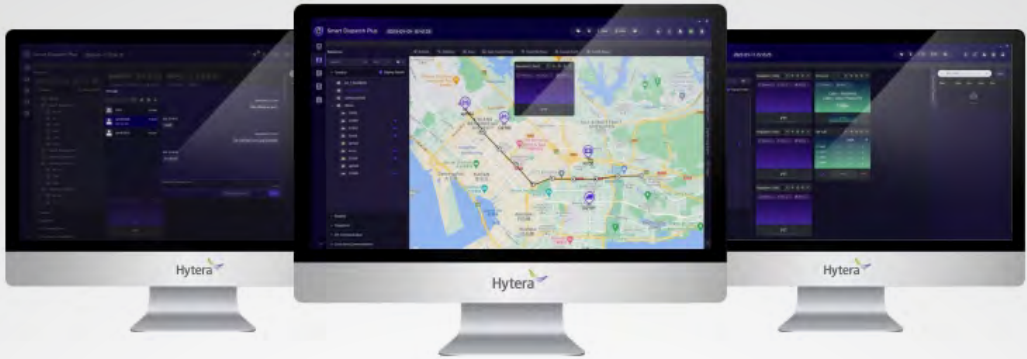
DMR Repeater

Dual-mode Rugged Radio

## Extended Pseudo Trunk System

## Smart Dispatch Plus System

## DMR Trunking SCADA Solution

## Specifications



Smart Dispatch Plus

HP7 Series          HP6 Series          HP5 Series

HM68X

PD98X          X1p          PDC680          HM65X

HM78X

HR65X          HR106X          RD98XS

Hytera DMR Professional Two-way Radio and Repeater Solution

# Professional DMR Two-way Radios

## >> Professional DMR Portable Two-way Radio

### HP7 SERIES

#### Overview

HP7 series starts from innovation and conducts breakthrough design and development in appearance and function. With its ultra-clear audio, ultra-strong battery, ultra-fast response, ultra-light weight and solid reliability, it brings more reliable, more efficient and more reliable and to comfortable communication experience industry users.

#### Highlights

**Thinner and lighter**
An optimized mechanical design and a compact lithium polymer battery are discreetly made to fit into the HP7 series design, making the radio thinner and lighter, easy to carry.

**Louder and clearer audio**
HP7 series 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. 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.

**Higher level of ruggedness**
Hp7 series 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 drop onto concrete. No matter where the mission drives the officer, the HP7 series is the partner to count on, because it can stand up to the toughest environment.

**Longer battery life**
HP7 series 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 (standard battery) / 30 hours (optional battery) on high transmit power and ensure a full day of delivering key information and calls.

#### Accessories

**Standard**
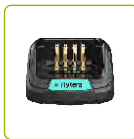
| Charger | Adapter(12V/1A) | Li-polymer battery 2400mAh | Antenna | Belt clip | Strap |
|---|---|---|---|---|---|

**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 |
|---|---|---|---|---|---|---|

### HP6 SERIES

#### Overview

HP6 series integrates lightweight appearance design, perfect functional design and professional manufacturing process. It has beautiful appearance, clear voice, and easy to use. It can make users work easier and more focused, organize and operate more orderly and efficiently, which is ideal for communication.

#### Highlights

**Light and stylish**
The streamlined HP6 series is compact and light for easy carrying and wearing.

**Rugged and durable**
Wear-resistant and heat-resistant PC material, and the back surface is anti-slip textured. Being manufactured as per the MIL-STD-810H standard, the HP6 series is IP67 rated and resilient to 2-meter drop to stand up to a lot of wear and tear.

**Ultra clear audio**
It has louder and clearer audio though the leading AI-based voice enhancement technology that decreases the unwanted background noise and howling.

**Powerful battery**
A lithium polymer battery, small and light, yet with high capacity is installed to the HP6 series, delivering a duty cycle of 5/5/90 on achieving a shift life of 20 hours (standard battery) / 30 hours (optional battery) on high transmit power.

**Extended range**
Thanks to the improved receiver sensitivity, the HP6 series provides better connectivity both in marginal areas of coverage and indoors. This will deliver improved safety and operational benefits for operatives in the field.

**Simple and practical**
Larger PTT button, dual-feature knob, flexible programmable buttons, built-in low-power BT 5.2 supports a variety of accessory connections.

\* Subsequent BT version upgrades are subject to no further notice, and the right of interpretation belongs to our company.

#### Accessories

**Standard**
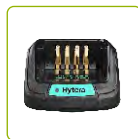
| Charger | Adapter(12V/1A) | Li-polymer battery 2400mAh | Antenna | Belt clip | Strap |
|---|---|---|---|---|---|

**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 |
|---|---|---|---|---|---|---|

## Overview

HP5 series is a new-gen professional portable two-way radio that provides reliable voice communications for high-end office buildings, stadiums, industrial parks, schools, hospitals, and more. The universal Type-C port makes programming, upgrading, and charging more convenient than ever before. Durable enough to withstand dust, heat, shock and water submersion, the HP5 series is IP67 and MIL-STD-810H certified. The superior audio has never been compromised, thanks to the powerful speaker and the AI-based noise cancellation algorithm. The outstanding sensitivity ensures stable communications in challenging environments.

## Highlights

### Crisp, clear audio
Purify your voice, and eliminate the noise. The HP5 series delivers crystal-clear audio in any environment, thanks to AI-based noise cancellation. This technology suppresses any annoying feedback howling and filters out the unwanted ambient noises. So you can feel like talking face to face in every call no matter where you are.

### Versatile type-c port
Just share the same USB data cable with your smartphone, then you can charge your radio with a power bank or car charger, or program and upgrade your radio. All of these benefit from the universal Type-C port.

### Rugged reliability
The HP5 series is built to withstand the harsh conditions that come with all kinds of industry fieldwork. The radio housing is made of polycarbonate with excellent abrasion and heat resistance. And the texture on the back of the radio is non-slip design. More importantly, this tough radio is IP67-rated and meets stringent MIL-STD-810H military standards for protecting against dust, water, vibrations, 1.5-meter drops, extreme temperatures, and more.
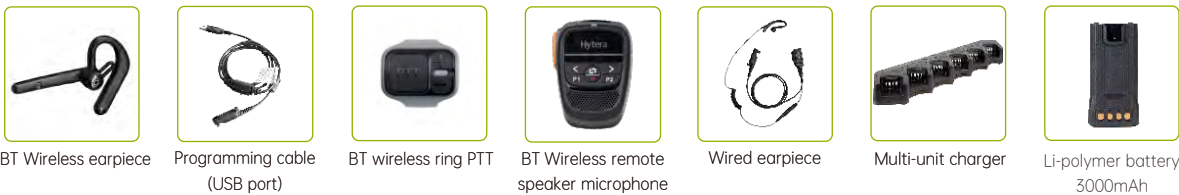
### Bt, wirelessly, conveniently
The HP5 series has optional BT 5.2 capability, so you can experience total freedom with no cords when using BT audio accessories. This feature also allows you to pair the radio with your smartphone, and then get radio programming done by the HyTool Radio Manager app on your smartphone.

### Easier to use
The HP5 series has dedicated dual knobs for volume and channel controls, improving your efficiency. The U-shaped slot on the back of the battery allows you to install or remove the belt clip more easily. The enlarged LED indicator makes you know radio status at a glance, no matter whether the radio is in your hand, on your shoulder or waist.

### Break through the distance
When you go further out, you may encounter degraded communications due to weak radio signal. With the 0.18μV (−122dBm) sensitivity, the HP5 series provides exceptional communication coverage. It ensures reliable communications even at the far edge of coverage with weak signal. Wherever you go in the workplace, you can always keep connected.

## Accessories

### Standard



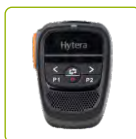| Charger | Adapter(12V/1A) | Li-polymer battery 1500mAh | Antenna | Belt clip | Strap |

### 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 |

## Overview

As a new generation digital trunking radio, it uses top-notch digital noise-cancelling technologies, which ensures clear and crisp voice quality even in noisy environments. It features full duplex call for bi-directional communication between radios. The built-in BT 4.0 module exhibits lower power consumption, faster transmit rate, and more wireless connection function. You can separately order smart battery and corresponding charger, with which the charging time is reduced to half. It supports call recording and local information inquiry over conventional network, facilitating backtrace of call processing method. With its MIL-certified feature and IP68 protection, the radio is fully accommodate to various harsh conditions.

## Highlights

### Noise-cancelling technology
Use completely new noise-cancelling technology, which guarantees voice quality in noisy environments.

### IP68 protection
IP68 dust and waterproof standard ensures outstanding performance even in harsh environments.

### Built-in BT 4.0 module for efficient and convenient application
PD98X has built in BT 4.0, which not only supports audio transmission, but also data transmission, such as programming via BT etc.

### Single frequency repeater mode
Based on interference cancellation technique, PD98X can use one slot to receive signal and the other to transmit it in the same frequency at the same time in DMO mode to extend communication distance.

### Full duplex call
PD98X can make full duplex call with PD98X, telephone or cell phone.

## Optional Accessories



| Remote Speaker Microphone (IP57) | C-Earset | Swivel Earset | Earbud | 3-Wire Surveillance Earpiece with Transparent Acoustic Tube (beige) | Receive-only Earpiece | Six-Unit Switching Powe | Programming Cable (USB Port) |



| Battery Optimizing System | MCU Multi-unit Charger (for Thick Battery) | 3-wire Surveillance Earpiece with Transparent Acoustic Tube(Black) | 2-wire Earpiece with Wireless Earphone and Neck Loop(Beige) | Receive-only Earpiece |

## X1p

### Overview

X1p is constructed in compact style with a thickness of only 23 mm(1400mAh), which facilitates carrying and operation. It uses 1.8" transflective 65536 color display which is still readable in sunlight. All afore-mentioned features combined with its IP67 protection facilitate it the primary option for users.



### Highlights

**Dual modes**
The radio can operate in analog mode and digital mode for a smooth analog-to-digital migration.

**Reliable and durable**
Compliant with MIL - STD - 810 C/D/E/F/G and IP67 certified.

**Compact structure**
Comfortable-to-touch metal frame makes the radio ideal for leadership, undercover, and decision-making personnel.

**Superior audio quality**
With narrowband codec and digital error-correction technologies, X1p delivers superior voice under noisy environments.

**Advanced encryption**
The radio supports AES encryption algorithm and 256-digit dynamic encryption keys to secure communication.
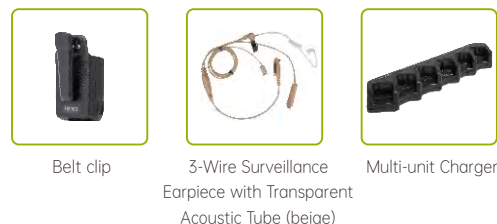
**Ease of use**
The radio is as thin as 23 mm(1400mAh) and can work with wireless headsets, collar microphone, palm controller and flexible antenna.

### Accessories

#### Standard



| | | | |
|---|---|---|---|
| Li-ion Battery | Switching Power Adapter | dual-Pocket rapid-charger MCU | Strap |
| | | | Antenna |

#### Optional



| | | |
|---|---|---|
| Belt clip | 3-Wire Surveillance Earpiece with Transparent Acoustic Tube (beige) | Multi-unit Charger |

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## >> Professional DMR Mobile Two-way Radio

## HM78X

### Overview

It is a flexible and highly scalable DMR digital mobile radio. The product is flexible in form, supports single, split and fixed platforms, and can be applied to various environments, including vehicles, motorcycles, fixed control rooms and ships, providing efficient communication between partners. The product supports a variety of connections, expands rich applications, and facilitates integration into existing businesses to improve your work efficiency.



### Highlights

**Reliable and durable**
The quality of the whole machine conforms to MIL-STD-810H and IP54 industrial protection standards, and can play an excellent role in various harsh working environments.

**Longer communication distance**
Digital receiving sensitivity increased to 0.18μV. Reach the leading level in the industry. It can ensure the timely transmission and diffusion of key information in a larger area, and further ensure the personal safety of users and organizational efficiency.

**Clear and loud sound quality**
Professional AI intelligent noise elimination technology is adopted, which can effectively reduce environmental noise and echo, and improve speech intelligibility.

**Flexible deployment**
With the flexible control heads and accessories, the HM78X can be installed in various environments to satisfy different user requirements. the connection cable of the remote control head can be either 3m, 10m or 40m as standard. a connection cable of up to 100m is also available (single head). it support standard integrated control head, remote single/dual control head and desktop fixed station .

**Ethernet interface**
It can transmit the communication data of on-board stations through IP link, and has a variety of application schemes, such as IP interconnection between on-board stations, secondary development based on on on-board station network interface, etc.

### Accessories

#### Standard



| | | | | | |
|---|---|---|---|---|---|
| Conventional model: palm microphone without keypad | Trunking model: palm microphone without keypad | Mounting bracket | Power cord | Fuse | Model with GPS: GPS antenna |

#### Optional



| | | | | | | |
|---|---|---|---|---|---|---|
| DB26 connector external speaker | 10-pin connector desktop microphone | Power supply for mobile radio | Programming cable | DB26 Connector foot PTT | DB26M-DB9M cable connects mobile radio and repeater for wireless link solution | DB26-DB26 cable connects two repeater to realize cross-brand (VHF_UHF) or cross mode(analog_digital) communication |



| | | | | |
|---|---|---|---|---|
| Ignition cable | Antenna | Power supply of fixed station cabinet | BT Wireless remote speaker microphone | BT Wireless ring PTT |

## Overview

The HM6 series is the new generation entry-level professional DMR mobile two-way radio designed to provide reliable voice and data communication in the vehicle anytime. Compact and lightweight, the radio is easy to install. Thanks to the handheld control head (HHCH), you can install the HM6 series unit anywhere in your vehicle such as in the trunk and still control the radio. With the ergonomic design, the four piano-style buttons make operations effortless. The AI-based noise cancellation ensures the HM6 series to deliver superb clear audio without ambient noise. With the higher RX sensitivity, the HM6 series provides you with smoother communication. Thus you can always stay connected with your teammates anywhere you move. The HM6 series is born to be your best partner in transportation, business, utilities, and more.

## Highlights

### Smoother communication
Thanks to the high RX sensitivity, the HM6 series can deliver clear and dependable communications even in areas where the signal is unstable or weak.

### Wireless connection
With the built-in BT 5.0 module, the HM6 Series can work with the BT audio accessories to boost your safety and productivity during in-vehicle communications. And these radios can be programmed through BT, saving time and resource.

### Crystal-clear audio
The HM6 series delivers superb audio in noisy streets or highways. The AI-based noise cancellation filters out echoes and background noises such as horn and engine sounds, making you hear and be heard in the conversation. The howling suppression prevents the screeching or howling feedback between two radios in the same vehicle, ensuring clear and uninterrupted communication on the move.

### Handheld control head
With the HHCH connected, the HM6 series can be installed under the seat, in the trunk, or anywhere in the vehicle, making the installation more flexible. Also, the HHCH helps you turn on or off the HM6 Series, switch channels or contacts, adjust volumes, or view messages.

### Superior durability
The HM6 series withstands harsh temperatures, shock, and vibration, and meets MIL-STD-810H standards, and IP54 for dust and water intrusion. The connection between the palm microphone and 10pin aviation connector keep very tight and is difficult to loosen. The drawstring of the palm microphone has the excellent stretching ability to protect the palm microphone to get the maximum service life.

### Unrivaled versatility
Except for reliable voice calls, the HM6 series provides various data services including text message, clarity transmission, emergency alarm, radio enable/disable, GPS location, and more. These services dramatically enhance your safety and productivity.

## Accessories

### Standard

| Remote Speaker Microphone Without Display(HM68X) | Remote Speaker Microphone With Display(HM65X) | Power cord | Mounting Bracket Kit | Model with GPS: GPS antenna |

### Optional

| External power supply | Ignition cable | Bluetooth remote speaker microphone | Back to back data cable | External Speaker | DB26 Programming and data Cable | Antenna | USB Programming/downloading firmware upgrading cable |

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## >> DMR Repeater

## Overview

The HR106X Ultra-thin DMR Repeater is the next generation in creative style and functionality that elevates the industry standard in professional two-way radios. The HR106X is the new state-of-the-art in digital radio communications, providing a more efficient experience with loud and clear audio, support for multiple types of radio and communications systems, and extended range. The HR106X features AC and DC auto-switching power, two simultaneous TDMA voice channels, high performance cooling, all in a compact 1U form factor.

## Highlights

### Economical 1u structure
The 1U height of HR106X makes it compact, reducing space requirements for installation which is quite helpful especially when deploying the repeater in vehicle with limit space such as SUV(Sport Utility Vehicle).

### Ac/Dc auto switch
HR106X equipped built-in power adapter support 100-240V AC power supply that reduce the deployment cost and support also the backup battery which connected to DC input port. The repeater can charge the backup batteries during AC power supply.

### Cost-effective network construction
The enhanced version of HR106X is integrated with router and SIP gateway features. Less devices and simplified management. It offers a cost-effective solution for your network construction.

### Convenient management
In the enhanced version a web-based back end platform has been designed to simplify repeater management. Configuration, upgrade and real-time diagnosis can all be completed through a web browser, which is ideal for remote management.

### Wide coverage
The communication range of HR106X series is extended with enhanced Rx sensitivity. And the Ethernet port enables access to IP networks, which provides the capability for the HR106X to connect everyone and everywhere. Users can connect multiple repeaters to cover larger areas.

## Accessories

Standard          Optional

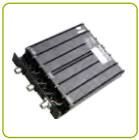| AC power cable | Palm microphone | DB26-DB26 cable connects two repeater for backup function | DB26-DB9 cable connects mobile radio and repeater for wireless link solution | DB26-DB26 cable connects two repeter to realize cross-band (VHF-UHF)or cross mode(analog-digital) communication | Programming cable |

| External duplexer | Feeder connects external duplexer and repeater | 1/2 RF feeder | DC power cable connects to battery or dc power supply |

## HR65X

It is the new generation business-ready digital repeater designed to expand the communication range of your DMR radios. High performance and high reliability, the repeater ensures consistent, reliable, seamless voice and data communications your team need most. It is a top pick for hotels, office buildings, supermarkets, industrial parks, and more. Compact and lightweight, the repeater can be flexibly mounted to the wall or carried on the back by tailored accessories, uncompromising with on-site installation conditions. The rugged structure makes the repeater stand up to harsh environments. The repeater allows the communication connection anywhere you need.

### Highlights

#### Flexible deployment
The innovative structure design gives the repeater unprecedented outlook and lightweight performance. With the compact body and the built-in duplexer, the repeater consider the space conservation properly. The tailored matching installation accessories achieve the very flexible installation on the sites with very limited conditions. You can realize the site construction as long as there is a wall or a limited piece of plane. When you work outside, the weight only about 2 kg makes the repeater effortless to carry on the back. Thus to reduce the transportation burden and cost greatly. For the scenario of indoor coverage, the raido super slim size minimize site requirement and deliver digital services to each of your work floors.

#### High reliability
The repeater is built to outperform in harsh environment. It conforms to MIL-STD-810H standards for ruggedness, and is IP67 rated (for 10 W version) or IP54 (for 25 W version) for dust and water intrusion.
Designed to operate on AC power source or an optional battery, the repeater can keep running in the event of apower outage. When it connects to the AC power supply, the battery works as a backup. In case of the outage, the 12.5Ah battery is ready to power the repeater for up to nine hours at 10 W output or four hours at 25 W output with a 50% duty cycle. Moreover, benefiting from the latest fast charging technology, the battery can be fully charged in just 3.5 hours. The repeater gives you a durable communication with time extension.

#### IP multi-site connect
From the small region single site DMR conventional system, to large region IP Multi-site system, the repeater delivers powerful and stable signal to every corner of your workplace. It can also interconnect with other Hytera repeaters, building a tailored network to meet your variable requirements.

#### Smooth transision
The repeater can operate in analog mode, DMR mode, or dynamic mixed digital/analog mode, which automatically switches between analog and digital based on the call it receives. This repeater is the ideal solution for you to migrate smoothly from analog to digital with minimal disruption and investment.

### Accessories

Standard    Optional

| Power Cord | Battery | Antenna UHF-M | Wall-mount kit | Power adapter | Manpack |
|---|---|---|---|---|---|

| GPS Antenna | Palm | Built-in duplexer | Programming cable | External duplexer cable | Wall Mount Bracket Kit |
|---|---|---|---|---|---|

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## RD98XS 100W

### Overview

The RD98XS 100W High-power DMR Repeater Pro is at the heart of analogue and digital radio networks. With outstanding functionality and high reliability, it can support up to 100W transmission power, this repeater overcomes signal obstruction to greatly expand the range of the radio system, ensuring reliable communication over a longer distance.

### Highlights

#### Compact design
Though integrated with the built-in high power amplifier, RD98XS_100W still remains the compact 2U height structural design which is very easy and flexible to install in different cabinets, and reduces numerous concerns for installation.

#### High cooling capacity
The power amplifier can dissipate most generated heat with extraordinary efficiency. In addition, the integrated fan system ensures stable and powerful operation.

#### User friendly
Thanks to the high-resolution display, programmable buttons and clear LED indicators. the RD98XS_100W is extremely easy to use, whether during ongoing operations, or during maintenance tasks.

#### Wide coverage
With 100W transmit power output, RD98XS_100W can dramatically enlarge your communication range, provide a huge area coverage while reducing your network investment. And the Ethernet port enables the access of IP network, which provides the capability for RD98XS_100W to connect everyone everywhere.

### Accessories

#### Standard

Power Cord

#### Optional

| Palm Microphone | Desktop Microphone | Bracket for PS22002(L) (2U)(black) | Bracket for PS22002(L) (2U)(grey) | 10pin programming cable (USB) | Db26 data cable (USB) | Omni-directional Antenna |
|---|---|---|---|---|---|---|

| Palm Microphone (IP67) | Back to Back Data Cable | Duplexer | Power Supply for RD98XS 100W PS21001 | Power Supply for RD98XS(50W) PS22002(L) |
|---|---|---|---|---|
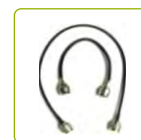
# Dual-mode Rugged Radio

## PDC680

**All in one All in control**
**Mission critical focused**

Hytera PDC680 dual-mode rugged radio combines a mission-critical DMR radio with an Android-based smartphone in a single device. It harnesses the power of narrowband and broadband technologies to provide mission-critical voice call, photo and video taking, positioning, and more. This innovative radio enables seamless communications between DMR network and public network such as 2G, 3G, LTE, and WLAN.

As a professional rugged radio, the PDC680 is engineered for effortless usability. The ergonomic design on smart knob and keys and the modular design on UIs make it easy for you to accomplish tasks with one hand.

## Highlights

### All-in-one device
With highly integrated and modular design, the PDC680 combines a DMR radio and a smartphone into a single device. So you do not need to carry two separate handsets for accessing voice, data, video, and more.

### Precise positioning
The PDC680 provides fast and accurate positioning to track people or devices, indoor and outdoor. The GPS, Galileo, GLONASS, QZSS, BDS, and A-GPS are used for outdoor positioning, while the location-based service (LBS) and WLAN are adopted for indoor positioning.

### Automatic switch
The PDC680 can automatically switch between DMR network and LTE network. Registering with both networks using the same ID, the PDC680 can always select the optimal one to deliver smooth and reliable voice communications everywhere, indoors or out.

### Live streaming
Thanks to the dual HD cameras, the PDC680 allows you to capture on-site pictures and videos, and then send them to another radio or command center in real time to dramatically improve situational awareness. The PDC680 also supports the external camera.

### Purpose-built app
With the Android system, the PDC680 can support system-level apps developed by Hytera and other third-party apps. This helps you communicate and respond efficiently.

### Loud and clear audio
Using the enlarged front chamber technology and professional acoustic design, the PDC680 can output sound at up to 128 dB. To ensure crystal and clear audio in noisy environments, the PDC680 adopts AI-based noise cancellation, echo cancellation, and wind noise reduction technologies.

### Rugged and durable
Rated at IP68 and ESD IEC Level 4, the PDC680 withstands water, dust, and electrostatic discharge. It can also withstand 1.5-meter drop from all angles. The industrial-grade touchscreen stands up to continuous use in any weather. All these help the PDC680 perform well in harsh environments.

### All-round security assurance
The PDC680 can secure the voice and data through authentication, software and hardware encryption, or more. TrustZone protects the system; full-disk encryption (FDE) protects the user data; air interface encryption (AIE) and end-to-end encryption (E2EE) protect the voice and data communication; and remote control helps you manage radios.

### Smart management
You can remotely manage radios in batches, including upgrade programming, permission control, key configuration, app management, device health management, and data backup and recovery.

## Specifications

| | | |
|---|---|---|
| Wireless Data Communication | DMR/Analog | 340-470MHz  136-174MHz |
| | LTE | 3GPP LTE<br>FDD-LTE: B1/B2/B3/B4/B5/B7/B8/B20/B26/B28<br>TDD-LTE: B34/B38/B39/B40/B41 |
| | CDMA | CDMA 1xRTT BC0<br>CDMA2000 1xEV-DO BC0 |
| | WCDMA | B1/B2/B4/B5/B8 |
| | GSM | 850/900/1800/1900MHz |
| | WLAN | 802.11 a/b/g/n/ac, 2.4GHz/5GHz |
| | NFC (Optional) | 13.56MHz |
| | BT | V4.2, BDR/EDR/BLE |
| | Positioning | GPS/BDS/GLONASS/Galileo/QZSS/A-GPS<br>Position performance for open zone:<br>TTFF (Cold boot) < 1minute<br>Horizontal accuracy<5m( 95% probable at -130dB) |
| General Specifications | Dimensions (H x W x D) | 140mm x 60mm x 29.1mm |
| | Weight (with antenna & battery) | 325g±5g |
| | Weight (with antenna & battery) | Android 10.0 |
| | Google Certification | Google Mobile Services |
| | Ports | 13PIN Accessory/Charging Port |
| | Screen | Top Screen: 0.92" Color: black & white<br>Main Screen: 3.6" 1280x720, Color depth:  24bit |
| | Camera | Front Camera: 8MP, Fixed Focus<br>Rear Camera: 13MP, Auto Focus |
| | Memory | Front Camera: 8MP, Fixed Focus<br>Rear Camera: 13MP, Auto Focus |
| | Card Slots | 2x Nano SIM card<br>1x Micro SD card<br>1x Encryption card for Narrowband |
| | Operating Voltage | 7.7V (Rated) |
| | Battery | Standard: 2400 mAh<br>Optional: 4000 mAh |

| | | |
|---|---|---|
| Transceiver | Channel Spacing | 25/20/12.5kHz |
| | TX Power | UHF: 1W/4W<br>VHF: 1W/5W |
| Environment | Dust and Water | IEC60529- IP68 (2m, 4h)<br>IEC60529- IP66 |
| | ESD | IEC 61000-4-2 (Level 4), ±8 kV (Contact), ±15 kV (Air) |

## Accessories

### Standard

| | | | | | |
|---|---|---|---|---|---|
| 2,400 mAh Li-Poly Battery | Charger (2A) | Power Adapter (2A) | Belt Clip | Antenna | Strap |

### Optional

| | | | | | | |
|---|---|---|---|---|---|---|
| EHW08  BT Earpiece | SM27W2 Wireless Remote Speaker Microphone | ACN-02P PTT&MIC Controller | EH-02 Receive-only Swivel Earset | Bp4005 4,000 mAh Li-poly Battery | MCA25 Multi-unit Charger | NCNO29 Nylon Carry Case |

# Extended Pseudo Trunk System

## Overview

Extended Pseudo Trunk is a new distributed trunking system solution developed by Hytera, which is based on Pseudo Trunk technology and combined with advantages of digital trunking system.

## Highlights

### Outstanding features
Extended Pseudo Trunk system possesses advantages and features of the digital conventional system and provides such special features as Dedicated Data Channel, Dynamic Authentication, Priority Interrupt, Inter-site Group Call, Multi-site Handover, Priority Call etc.

### Significant reduction of call conflicts
Extended Pseudo Trunk system uses the mechanism "Request and Permit" to allocate channels. The radio transmits or receives services only after the data handshake is successful. This ensures the radio not to stay on a wrong channel due to call conflict, and prevents interference from a radio with strong signal.

### Cost-effective system
Conventional system can be upgraded to Extended Pseudo Trunk system via software, protecting the existing investments.

### High flexibility
Extended Pseudo Trunk system can be used with dispatching system, phone system, XNMS (Extended Network Management System) to increase its flexibility.

### Strong fault-tolerant capability
Extended Pseudo Trunk system automatically detects failures and takes measures to minimize the influences, ensuring proper repeater services in fault tolerance mode.

### Dedicated control channel not required
By sharing logic channels of the repeater, Extended Pseudo Trunk system allows the radios to communicate via all repeaters in the site. There is no need for specific control channels, thus the channel utilization is increased.

### Advanced load balancing
Extended Pseudo Trunk system allocates different groups to different home repeaters to minimize call conflicts on the same repeater and improves success rate of call access.

### Large capacity
The Extended Pseudo Trunk network based on HR106X (DMR version 2.5) supports up to 30 sites.
Each Extended Pseudo Trunk single-site system based on HR106X (DMR version 2.5) supports up to 12 voice repeaters and 8 data repeaters.
The Extended Pseudo Trunk network composed of a mixture of RD9 and HR106X supports up to 16 sites.
Each Extended Pseudo Trunk single-site system composed of a mixture of RD9 and HR106X supports up to 8 voice repeaters and 8 data repeaters.

# Smart Dispatch Plus System

## Overview

Hytera Smart Dispatch Plus is designed for DMR conventional radio network with efficient communication, management and dispatching functions. Characterized by C/S structure, modularized design and supporting VoIP, Hytera Smart Dispatch Plus delivers you an enhanced dispatching platform with high scalability and robustness.
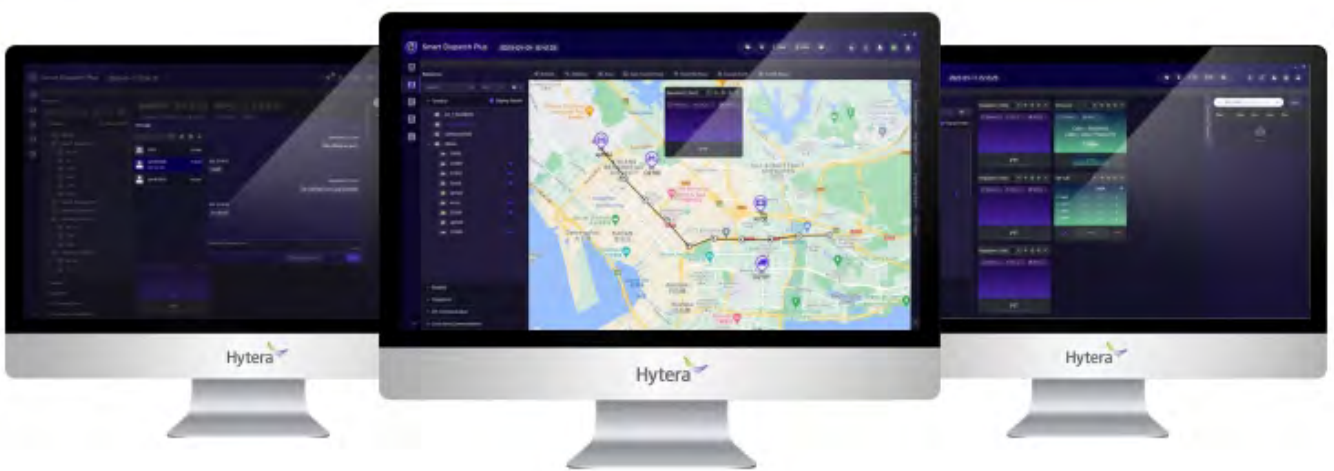
## Highlights

### Flexible deployment
Smart Dispatch Plus adopts a modular design and consists of server, client, and gateway. It can be flexibly deployed based on user's requirements.
· Server, gateway and client can be installed on a same computer.
· Server, gateway and client can also be deployed in different places.
· Both repeaters and mobile radios can directly connect with Smart Dispatch Plus.

### Rich service
· Various kind of voice service: individual call, group call, all call, dispatcher intercom, sip call, voice recording, etc.
· Short message, timed message, Email access.
· Location service: Real-time track and historical playback, Gen-fencing, overspeed / underspeed alarm, POI, etc.
· Safety service: Disable/enable, remote monitor, lone worker and emergency alarm.

### High efficiency applications
· Work order management
· Telemetry
· OTAP (Over the air programming)

### User-friendly
· Graphical interface for easy operation and management
· Support multiple languages
· Support RTL (Right to Left) input

# DMR Trunking SCADA Solution

## Overview

Hytera DMR Trunking SCADA Solution is designed for telemetry and data communication, it offers a secure and reliable wireless data transmission solution based on the DMR Tier III trunking standard.

Hytera DTM-6000 is a dedicated data modem that provides wide coverage data communication and abundant data services for power industry users, allowing different devices such as RTUs, PLCs and meters to interface with SCADA systems through IP/Ethernet or serial ports. Providing full support for industry standard protocols such as IEC60870-5-101, IEC60870-5-104, DNP3 and Modbus.

## Architecture

**SCADA Control Center**

IP
DNP/IEC

**Hytera SCADA Solution**

Hytera SCADA Gateway          MSO          NMC

IP Network

BS          BS

DTM-6000
DMR Data Modem

DTM-6000
DMR Data Modem

DTM-6000
DMR Data Modem

**Scada System Remote Terminal Units**

DNP/IEC          DNP/IEC          DNP/IEC

Sensor          Sensor          Sensor

RTU          RTU          RTU
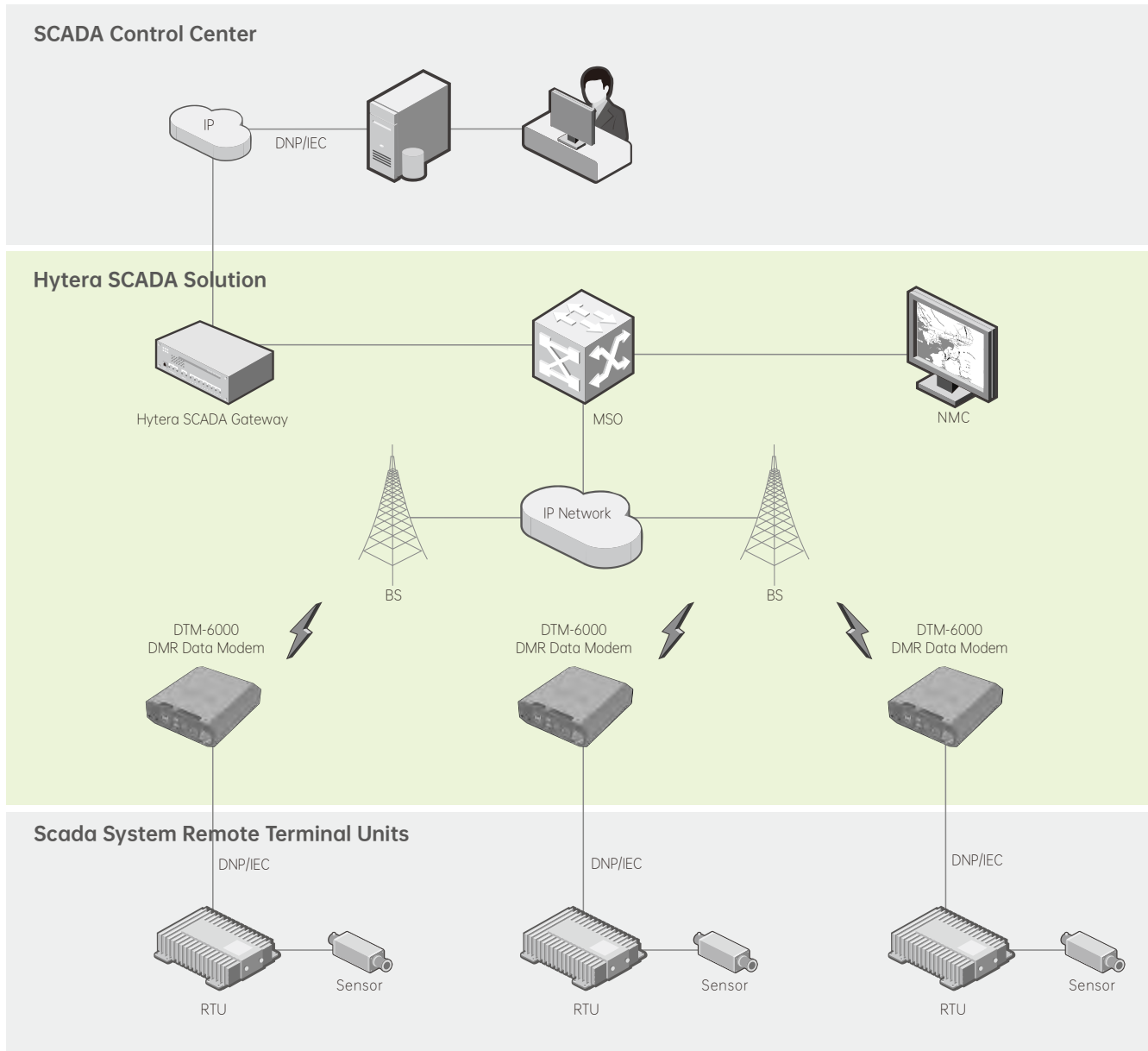
**Hytera SCADA gateway:** connected to SCADA control center. Transfer the DMR protocol to SCADA protocol.

**DMR data modem:** connected to RTU with IP/Ethernet port and serial port, transfer the SCADA protocol to DMR protocol.

## Highlights

### Voice&Data in one system
On the basis of providing reliable and efficient data communication, Hytera DMR Trunking SCADA Solution provides excellent voice dispatching capability from DMR standard, providing individual call, group call, broadcast call, PSTN call and other trunking voice call related features to meet different aspects of requirements and scenarios.

### High efficiency data transmission ability
Any traffic channel can be configured as dedicated SCADA data transmission channel according to end user's need so as to guarantee data priority and realize the load balance. Hytera provides end to end encryption for data transmission.
Dual timeslots data transmission is one of innovative features, it combines 2 timeslots in the same channel unit for data transmission, improving the efficiency of data transmission, doubling the speed of data transmission.

### Multiple data modem interfaces
Supporting IP/Ethernet and serial ports concurrent communication in a network. A single modem could provide various interfaces for industrial equipments.

### Large coverage
Hytera DMR trunking base station offers large and reliable coverage with higher terminal output power, the maximum output power of data modem is 25W. In this way, with less base stations, a certain area can be covered, the number of required base station will be fewer and the construction investment will be saved.

### High priority for emergency data
Together with End to End QoS Solution, data traffic would be categorized with priorities to ensure high priority data like alarm message can be delivered to host in time.

### Easy modem configuration and maintenance
The network management system provides configuration management, performance management, fault management and firmware version management of the data modem.

### Security services
This system supports End-to-end Encryption (E2EE) mode, in which data is transferred in form of cipher text and protected during the entire transfer process before reaching the SCADA Gateway and the DMR modem. The data is encrypted or decrypted at the SCADA Gateway and DMR modem through the Advanced Encryption Standard (AES 128 or 256) Encryption algorithms and then sent to the SCADA system.

## Key Componets

SCADA Gateway

DTM Management System

DMR Trunking System          DTM-6000 Data Modem          Network Management System

| Type | HP78X | HP70X | HP68X | HP60X | HP56X | HP50X | HM78X | HM68X | HM65X | HR106X | HR65X |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Frequency Range | UHF1: 400-470MHz<br>UHF3: 350-400MHz<br>VHF: 136-174MHz | UHF1: 400-470MHz<br>UHF3: 350-400MHz<br>VHF: 136-174MHz | UHFm: 400-527MHz<br>VHF1: 136-174MHz | UHFm: 400-527MHz<br>VHF1: 136-174MHz | UHF1: 400-470MHz<br>VHF1: 136-174MHz | UHF1: 400-470MHz<br>VHF1: 136-174MHz | UHF1:400-470MHz<br>UHF3:350-400MHz<br>VHF1:136-174MHz<br>UHF5:806-941MHz | UHF1: 400-470MHz<br>VHF1: 136-174MHz | UHF1: 400-470MHz<br>VHF1: 136-174MHz | UHF1:400-470MHz<br>VHF:136-174MHz<br>UHF2:450-527MHz | UHF1: 400-470MHz |
| Zone Capacity | 64 | 64 | 64 | 64 | 32 | 16 | 64 | 16 | 16 | / | / |
| Channel Capacity | 1024 | 1024 | 1024 | 1024 | 512 | 256 | 1024 | 512 | 512 | 1024 | 1024 |
| Display | 2.4 inch color LCD, 240*320, 10 Line | 0.91 inch OLED | transflective LCD, 1.8 inch | 0.91 inch OLED | 1.45 inch LCD, 240 x320 pixels, colorful, 6 line display | NA | 2.4 inch, 8 Line | 1.45 inch,6 Line | NA | Nixie tube display | Nixie tube display |
| Keypad | Full | NA | Full | NA | Half | NA | Half | Half | NA | / | / |
| Dedicated Emergency Button | Support | Support | NA | NA | NA | NA | Support | Support | NA | / | / |
| Programmable Buttons | 6 | 2 | 5 | 2 | 7 | 2 | 7 | 2 | NA | / | / |
| Dust and Water Intrusion | IP66,IP68 | IP68 | IP67,IP68 | IP67,IP68 | IP67 | IP67 | IP54 | IP54 | IP54 | / | 25W: IP54<br>10W: IP67 |
| Humidity | MIL-STD 810H | MIL-STD 810H | MIL-STD 810H | MIL-STD 810H | MIL-STD 810H | MIL-STD 810H | MIL-STD-810G | MIL-STD-810G | MIL-STD-810G | / | MIL-STD 810H |
| Shock and Vibration | MIL-STD 810H | MIL-STD 810H | MIL-STD 810H | MIL-STD 810H | MIL-STD 810H | MIL-STD 810H | MIL-STD-810G | MIL-STD-810G | MIL-STD-810G | / | MIL-STD 810H |
| Analog Conventional Mode | Support | Support | Support | Support | Support | Support | Support | Support | Support | Support | Support |
| MPT-1327 Trunking | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Digital Conventional Mode | Support | Support | Support | Support | Support | Support | Support | Support | Support | Support | Support |
| IP Site Connect | Optional(Roaming) | Optional(Roaming) | Optional(Roaming) | Optional(Roaming) | Optional(Roaming) | Optional(Roaming) | Optional(Roaming) | Optional(Roaming) | Optional(Roaming) | Optional | Optional |
| XPT Trunking | Support | Support | Support | Support | Optional (single site) | Optional (single site) | Support | Optional | Optional | Optional | NA |
| DMR Tier III Trunking | Optional | Optional | NA | NA | NA | NA | Optional | NA | NA | NA | NA |
| Integrated Wi-Fi | NA | NA | NA | NA | NA | NA | NA | NA | NA | / | / |
| GPS | Optional | Optional | Optional | Optional | Optional | Optional | Optional | Optional | Optional | / | Optional |
| Integrated GLONASS | Optional | Optional | Optional | Optional | Optional | Optional | Optional | NA | NA | / | / |
| Vibration | Support | Support | Support | Support | NA | NA | / | / | / | / | / |
| Bluetooth | Optional 5.2 | Optional 5.2 | Optional 5.2 | Optional 5.2 | Optional 5.2 | Optional 5.2 | Optional 5.0 | Optional 5.0 | Optional 5.0 | / | / |
| Lone Worker | Support | Support | Support | Support | Support | Support | Support | Support | Support | / | / |
| Man-down | Support | Support | Support | Support | NA | NA | / | / | / | / | / |
| RFID Board | NA | NA | NA | NA | NA | NA | / | / | / | / | / |
| TF Card | Support (8G/16G) | Support (8G/16G) | NA | NA | NA | NA | Support | / | / | / | / |
| Option Board | Support | Support | NA | NA | NA | NA | Support | / | / | / | / |
| Type-C Port | NA | NA | NA | NA | Support | Support | NA | NA | NA | NA | NA |
| Noise Cancellation | Support | Support | Support | Support | Support | Support | Support | Support | Support | Support | Support |
| Over The Air Programming | Support | Support | Support | Support | NA | NA | Support | NA | NA | Support | Supporpt |
| HyTool Radio Manager | NA | NA | Support | Support | coming soon | coming soon | / | / | / | / | / |
| Water-porting Design | Support | Support | NA | NA | NA | NA | / | / | / | / | / |
| Ethernet Port | / | / | / | / | / | / | Support | / | / | Support | Support |
| Remote Control Head | / | / | / | / | / | / | Support | / | / | / | / |
| Router | / | / | / | / | / | / | / | / | / | Support | / |
| SIP Gateway | / | / | / | / | / | / | / | / | / | Support | / |
| Web-Based Management | / | / | / | / | / | / | / | / | / | Support | / |