

## Specifications >>

	PD882T	MD882T	
Frequency Range ( MHz )	UHF3: 350-400 (UHF 1:400-470 VHF:136-174 Available in the future)		
Group Call Set-up Duration(Intra-BS)	90ms		
Group Call Set-up Duration(Inter-BS)	<360ms(Due to link delay)		
Channel Spacing	12.5 KHz		
Operating Voltage	7.4V	13.6V ± 15%	
Current Drain	Standby	< 0.6A	
	Transmit	< 2.0A	
	Maximum TX Current	< 12A (45W/50W) < 8A (25W)	
General	Battery	2000mAh (Li-Ion)	
	Battery Life (2000mAh High-capacity Li-Ion Battery, high TX power, on basis of 5-5-90 Duty Cycle)	Over 10.5 hours in analog mode Over 13 hours in digital mode	
	Frequency Stability	± 1.5ppm	
	Antenna Impedance	50 Ω	
	Duty Cycle	-	
	Dimensions (HxWxD)	125 X 55 X 37mm (with standard battery, without antenna)	60 X 174 X 200 (mm)
	Weight	355g (with standard battery and antenna)	1.7 Kg
Front Case	PC	PC+ABS	
LCD Display	160*128 pixels, 65535 colors, 1.8", four-line	220*176 pixels, 262k colors 2.0", four-line	
Transmitter	Power Output	VHF High Power : 5W VHF Low Power : 1W UHF1/UHF3 High Power : 4W UHF1/UHF3 Low Power : 1W	VHF High Power :50W VHF Low Power :25W UHF1 High Power :45W UHF1 Low Power :25 WUHF3:25W
	FM Modulation	11K Φ F3E @ 12.5 kHz	
	4-FSK Digital Modulation	12.5kHz Data only: 7K6 Φ FXD 12.5kHz Data and voice: 7K6 Φ FXW	
	Spurious Emission	-36dBm<1GHz	-30dBm>1GHz
	Modulation Limiting	±2.5kHz @ 12.5 kHz	
	FM Noise	40dB @ 12.5 kHz	
	Adjacent Channel Power	60dB @ 12.5 kHz	
	Audio Response	+1 ~ -3dB	
	Audio Distortion	≤3%	
	Digital Vocoder Type	SELP	
Digital Protocol	PDTS0101-0105		

	PD882T	MD882T	
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%	
Receiver	Blocking	-	100dB
	Adjacent Channel Selectivity	≥60dB @ 12.5 kHz	≥65dB @ 12.5 kHz
	Intermodulation	≥70dB @ 12.5	≥75dB @ 12.5
	Spurious Response Rejection	≥70dB @ 12.5	≥70dB @ 12.5
	S/N	40dB @ 12.5 kHz	
	Rated Audio Power Output	0.5W	3W
Environmental Specifications	Rated Audio Distortion	≤3%	
	Audio Response	+1 ~ -3dB	
	Conducted Spurious Emission	< -57 dBm	
	Operating Temperature	-30°C ~ +60°C	
	Storage Temperature	-40°C ~ +85°C	
	ESD Protection	IEC 61000-4-2 ( level 4 ) ± 8kV ( Contact Discharge ) ± 15kV ( Air Discharge )	
	Military Standard	MIL-STD-810 C/D/E/F	
	Water/dust Protection	IP57	IP54
	Humidity	MIL-STD-810 C/D/E/F	
	Shock & Vibration	MIL-STD-810 C/D/E/F	
GPS	TTF (Time To FirstFix) Cold Start	<1 s	
	TTF (Time To FirstFix) Hot Start	<10 s	
	Horizontal Accuracy	<10 m	

DMR Digital Trunking System Specifications	
Max. BS Capacity	50
Max. Carrier Capacity per BS(Carrier Frequency)	16
User Capacity	50 000
Group Call Capacity	5 000
Dispatcher Capacity (set)	200
NMS Terminal Capacity (set)	64
MPT Connectivity (Channel/ gateway)	10
PSTN/PABX Connectivity (Channel/ gateway)	60 ( 2XE1 )
Group Call Setup Duration (ms)	<360



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

For more information, Please visit <http://www.hytera.com/>

To purchase, become a dealer or application partner, please contact us [dmrmarketing@hytera.cn](mailto:dmrmarketing@hytera.cn)

# Hytera DMR Trunking Products and Solutions

Hytera DMR trunking system, developed from ETSI DMR open standard, is an IP-based Digital Trunked System Infrastructure specifically designed to provide mission critical voice, dispatching and management capacity across various geographic areas. The upgradable and flexible trunking solution allows for the deployment of a cost-effective and reliable infrastructure for public safety and emergency department users across multiple jurisdictions.



[www.hytera.com](http://www.hytera.com)





## About DMR

### The limitations of analogue technology

Although analogue technology still offers some great benefits: low total cost of ownership, customizable coverage and features like simple/reliable implementation, it has reached its peak. Among its chief limitations are battery life, voice quality, low productivity in communication and integrated data applications. In addition, analogue radio users are facing spectrum limitations resulting from frequency crowd and interference.

LMR systems have used 25 kHz-wide channels. The current spectrum efficiency can not meet the requirement. In December 2004, the Federal Communications Commission mandated that all private LMR users operating below 512 MHz move to 12.5 kHz narrowband voice channels and highly efficient data channel operations by January 1, 2013. If you are operating a wideband (25 kHz) system in the VHF or UHF land mobile band, you may continue to do so until the deadline of January 1, 2013. As a practical matter, however, you may want to start planning and preparing for your narrowband conversion now. In addition, beginning on January 1, 2011, licensees will be permitted to apply for new systems or to expand their existing systems only if they will be utilizing 12.5 kHz bandwidth (or less) equipment or equipment that satisfies the efficiency standard. Therefore, you will need to take this deadline into consideration if you are planning to implement a new system or to make modifications to your existing system.

On Dec. 16, 2009, Ministry of Industry and Information Technology of the People's Republic of China (MIIT) announced that 25kHz radio mode will not be approved after Jan. 1, 2010, analogue radio will not be approved after 2011, and all radios have to be migrated into digital by 2016.

### DMR Standard Introduction

Digital Mobile Radio (DMR<sup>®</sup>) is a digital radio standard specified for professional mobile radio (PMR) users developed by the European Telecommunications Standards Institute (ETSI), and first ratified in 2005. The DMR protocol covers unlicensed (Tier I), licensed conventional (Tier II) and licensed trunked (Tier III) modes of operation, although in practice commercial application is today focussed on the Tier II and III licensed categories.

The standard is designed to operate within the existing 12.5kHz channel spacing used in licensed land mobile frequency bands globally and to meet future regulatory requirements for 6.25kHz channel equivalence. The primary goal is to specify affordable digital systems with low complexity. DMR provides voice, data and other supplementary services. Today, products designed to its specifications are sold in all regions of the world.

\*For more information about DMR technology, please visit the official site of DMR Association: [www.dmrassociation.org](http://www.dmrassociation.org) or visit our website for the DMR Technical Whitepaper.



### The difference between DMR and other standards

Although DMR, TETRA, P25, and MPT-1327 are all based on open standards, they are also based on different protocols and targeted at different markets (e.g., TETRA and P25 are largely used by public safety organisations) and are not technically compatible. Another standard created by ETSI, dPMR, is considered a competitor to DMR in the business market, but as of today, products built to the standard are targeted at the low power, unlicensed part of the specification, best suited for personal use, recreation, small retail and other settings that do not require wide area coverage or advanced features. Moving forward, we hope to see more and more systems work in conjunction with DMR, where it makes market/business.

The coverage area of a TETRA base station is approximately between half and one third compared to that of an analog or DMR radio system, therefore TETRA needs a lot of more sites. A medium size TETRA system may cost 3 to 5 times more than a DMR one. The features of these systems are near the same (digital encryption, positioning, messaging ...) and the younger DMR is developing rapidly the applications.

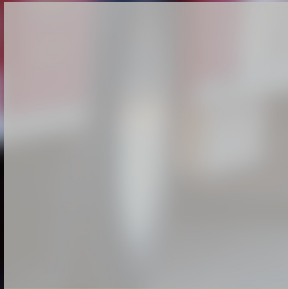
TETRA is a trunking system targeted to point to point communications in multi cell and high traffic density environments. Like a telephone network, hundreds of users in a little area require a lot of radio cells to deliver the communications. DMR is a dedicated channel or trunking system targeted to provide robust coverage rather than capacity.

### About The DMR Association

The DMR Association was first set up in 2005 as the DMR-MoU Association by a group of leading public mobile radio manufacturers to support ETSI during the DMR standardization process. The DMR Association is open to any organization or individual interested in using or building DMR products or in supporting the DMR standard in other ways. The Association maintains links with regulators, trade bodies and standards organizations around the world.







## Target Users of DMR

When the increasingly demand of professional communications hits the bottleneck of analog trunking technologies, professional users don't have too many options. Hytera DMR Trunking System, compliant to DMR Tier III of ETSI, brings with solutions of both advanced technologies and high customer value.

As a complete trunking system of voice and data capacities, Hytera DMR Trunking is developed to promote communication efficiency of public safety and other industry users, and to facilitate the analog-to-digital migration, which is going on across the world, in a smoothly way. Hytera DMR trunking products and solutions are widely applicable for public security, military, oil & gas, , port & airport, rail transport, emergency response department, and other professional users.

### DMR Applicable Industries



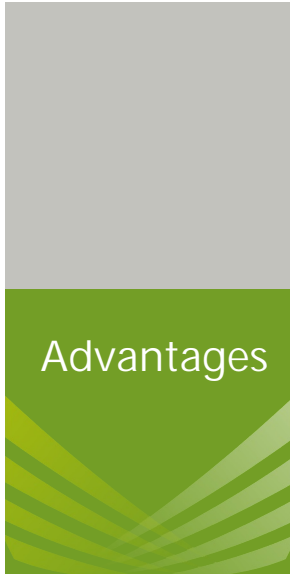
Public Security  
Police, Military, Armed Police,  
Firefighter



Public Utility  
Airport, Port, Transportation



Business  
Oil & gas, Forestry, Mining

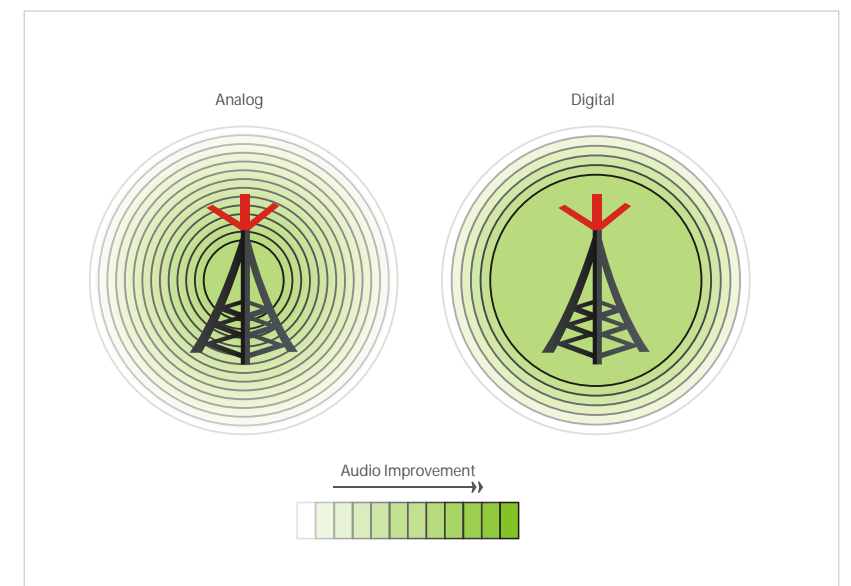
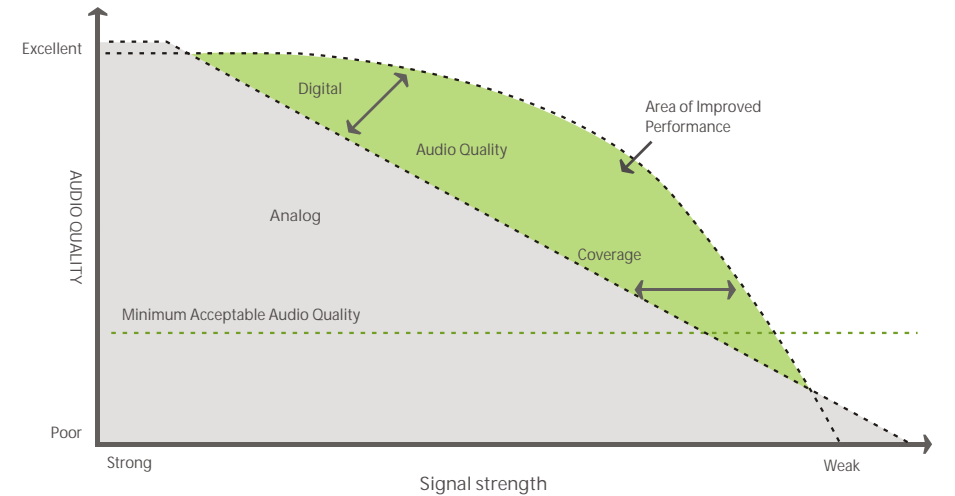


## Advantages

### 1 Digital Voice, Superior Anti-interference and Voice Quality

The digital voice compression technology of DMR terminal provides better noise rejection and preserves voice quality over a greater range than analogue, especially at coverage edges, thanks to the application of narrowband encoder/decoder and digital correction technology.

The digital process could filter noise and rebuild signal from damaged transmission, so that users can get better communication quality and wider coverage.



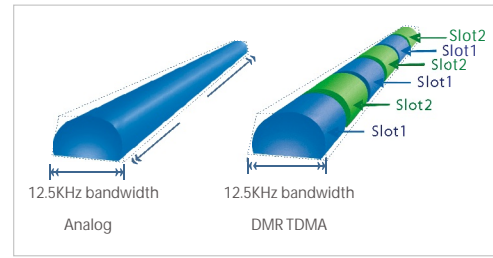
Ensures clear and smooth voice communication  
Larger signal coverage than analog

## 2 Improved Spectrum Efficiency, Double Channel Capacity

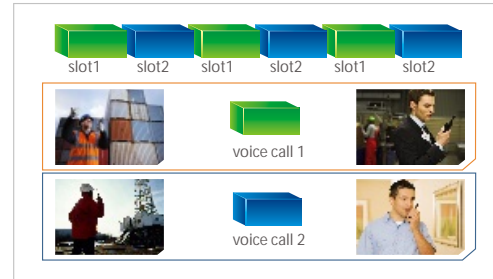
DMR two-slot TDMA technology reserves 12.5kHz bandwidth, and divides it into 2 alternate time slots, therefore one 12.5kHz channel could support 2 synchronized or individual calls. Each slot could operate as an individual communication channel and has equivalent bandwidth (6.25 kHz), while this 12.5 kHz is still able to interconnect with other analogue 12.5 kHz channels.

DMR is fully compatible with already authorized PMR frequencies, so that users can get twice the channel space without re-configuration or buying additional frequencies.

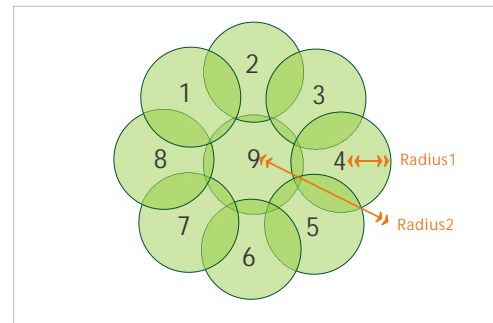
While the first time-slot is working, the second time-slot can, in a TDMA system, be used for data transmission such as text messaging or location data in parallel with voice call, which is very useful in dispatch systems that provide both voice and visual transmission. The enhanced data capability is becoming more and more important to facilitate large amount of data transmission. Future developments of the two-slot TDMA application include temporarily integrating two time slots to double data transmission speed, and using two time slots at the same time in order to enable full-duplex call.



TDMA two-slot



Advantage: double the channel capacity



The coverage area of base station used by small coverage to large coverage is 1 : 9

## 3 Large Coverage, Low Networking Cost

DMR uses nonlinear amplifier and large coverage technologies, which has technical advantages as below:

The radius ratio of base station coverage used by large coverage to small coverage is 3:1;

High spectrum efficiency, high amplifier efficiency and improved battery power saving;

City-area coverage could be achieved with fewer base stations;

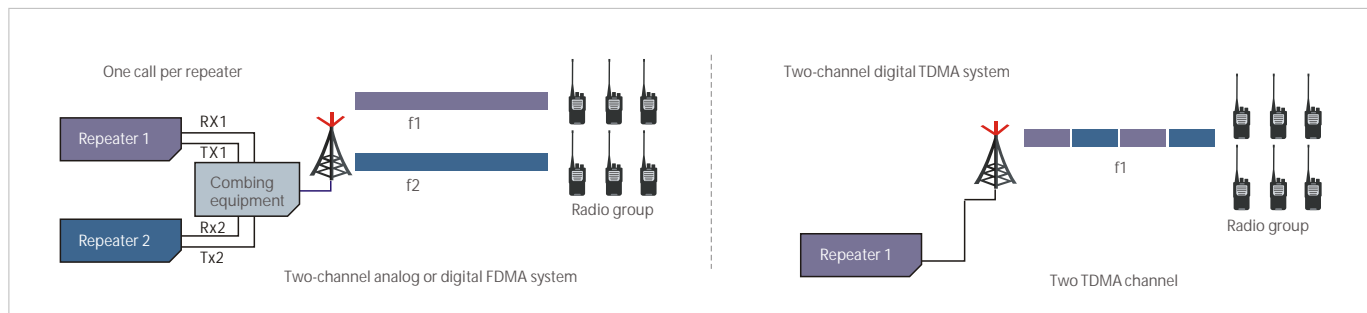
Less base stations make the network much simple, thus greatly improve network reliability and security.

Networking with less base stations could save a lot of investment for customers in basic facilities, and notably reduce the cost and facilitate both operation and maintenance.

## 4 Saving Investment on Basic Facilities

Another advantage of the DMR TDMA approach is that you get two channels with one repeater, one antenna, and a simple duplexer. Compared to FDMA solutions, two-slot TDMA allows you to achieve 6.25 kHz efficiency while minimizing investments on repeaters and combiner. FDMA requires a repeater for each channel, plus additional combiner and frequencies, and there's a notable loss in signal quality and coverage when combiner is used in this way.

DMR gets two stable channels with only one repeater, and does not require additional repeater or combiner, thereby investment of users on infrastructure will be greatly reduced, and the networking solutions can also be simplified.

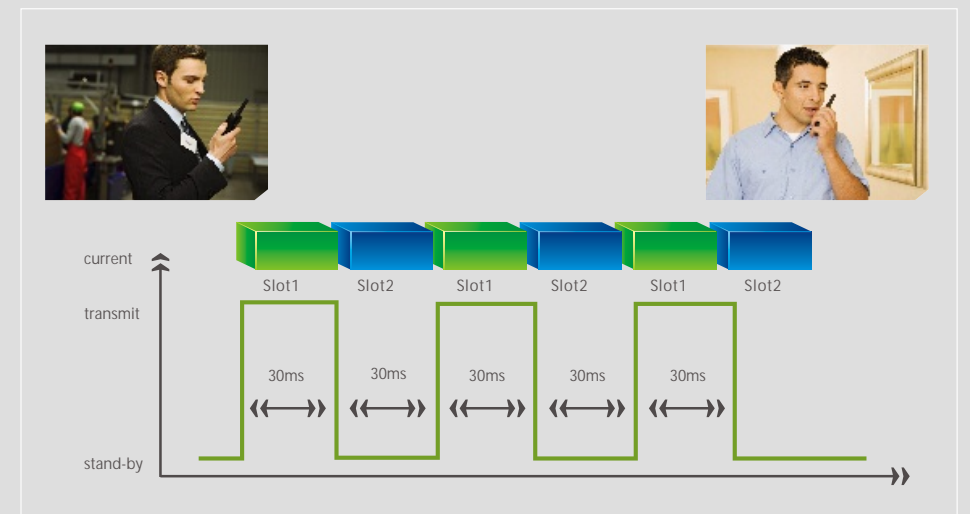


Investment saving

## 5 More Power Saving, Battery Life Extended

Battery life has always been a great challenge for mobile devices, and the talk time for a single battery charge is limited.

Two-slot TDMA, however, offers a good solution. Since an individual call uses only one of the two timeslots, it requires only half of the transmitter's capacity. The two timeslots are in use alternatively, so that the transmitter is idle half of the time. For example, in a typical duty cycle of 5 percent transmitting, 5 percent receiving, and 90 percent standby, the transmit time accounts for a high proportion of the drain on the battery. By cutting the effective transmit time in half, two-slot TDMA can enable up to 40 percent improvement in talk time in comparison with analogue radios. Because of the total power consuming of every call has been reduced, working time of the battery would be extended and charging time interval become longer. Modern digital equipment also has sleep and power management technologies, which could also extend the battery life.

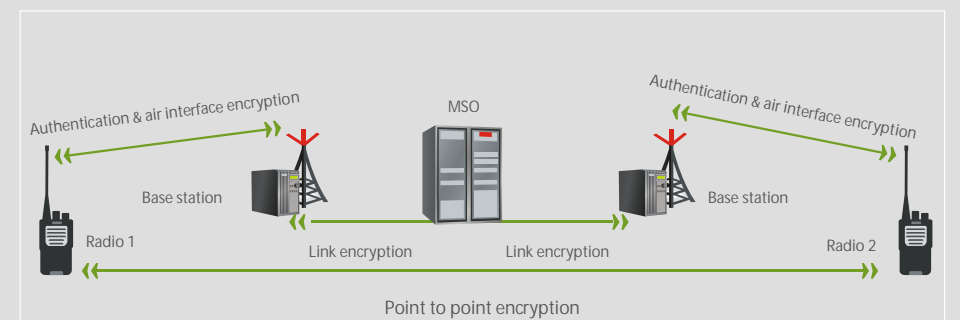


Extended battery life

## 6 Reliable Encryption Technology

Enhanced Communication Confidentiality

Voice signal is easy to be monitored on analogue channel. However, the signal could not be monitored when DMR digital technology is applied, unless signaling or ID (16,776,415 in total) is matched, thus the confidentiality of your communication is ensured.



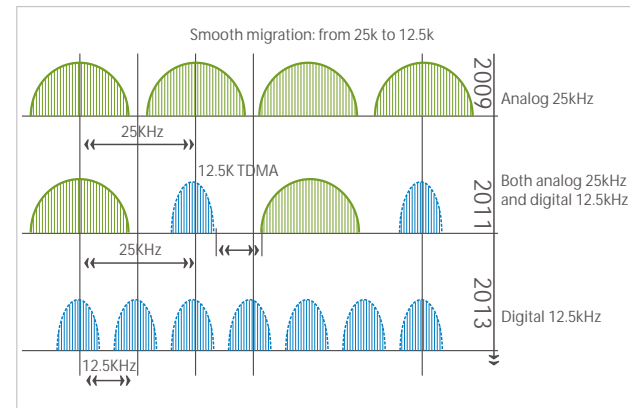
## 7 Smooth Migration from Analogue System & Terminal

DMR system uses constant envelope modulation similar to MPT system, and both the terminal and system use nonlinear power amplifier, which makes it easier for important and DMR system and terminal to adopt a multimode design. DMR standard has inherited technical features of MPT, and makes smooth migration possible from analogue MPT systems.

DMR is compatible with both analogue and digital system. Analogue and digital users could operate and be interoperable with each other in one network. DMR mobile terminals have the same coding rule, operation method and user habit with analog ones. Common application will not be impacted during the transition from analogue to digital. The smooth transition includes three parts: spectrum, system and conventional terminal.

### Smooth Transition of Spectrum

Comparing with analogue MPT system, the spectrum efficiency of DMR digital trunking system is enhanced 4 times, which is a big help to relieve the stress of increasing shortage in spectrum resource. Meanwhile, customers do not have to reapply for spectrum resource as the frequency assignment is fully compatible with analogue 25kHz bandwidth and digital 12.5kHz bandwidth, and channels of analogue and digital could be used simultaneously during the transition without any interference.



Smooth transition from analog to digital

### Smooth Transition of System

DMR trunking system can take a compatible design of both digital and analogue, and support two working modes as MPT and DMR; it also facilitates seamless transition from analogue to digital and MPT to DMR trunking as follows:

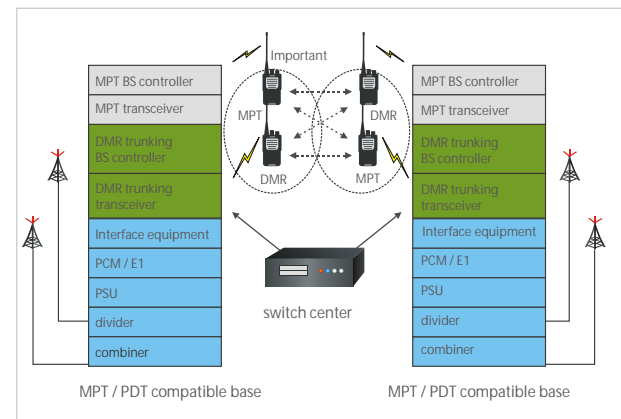
DMR controller and IP router are added into the existing analogue MPT system;

Some of the analogue transceivers are replaced by digital ones;

Replace some of the analogue terminal with digital ones;

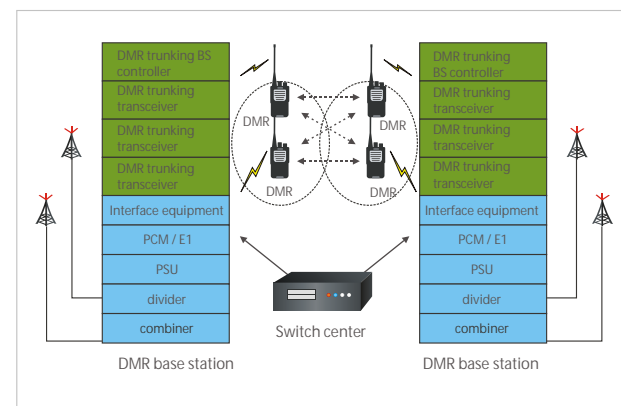
Gradually replace the analogue transceivers with digital transceivers;

Achieve digitized communication in the whole system.



### Smooth Transition of Terminal

DMR terminal could support four modes: DMR conventional, DMR trunking, analogue conventional, and analogue MPT trunking. DMR repeater is compatible with both analogue and digital, and its intelligent switch function recognizes analogue and digital signal, and accomplish receiving and transmission, thereby realize seamless smooth transition from analogue to digital on conventional equipment.



Smooth transition from analog to digital of terminal

## 8 Enriched Dispatch Function

In addition to basic voice services such as individual call and group call, and basic data services such as SMS and status information, DMR has abundant dispatch functions which could meet dispatching requirements of public security, public utility, and many other industries, and set rules for various dispatching services:

- Interoperable Phone Call
- GPS Data Pull-up GPS
- Packet Data Service
- Voice Switch Over-area
- Call Priority
- Emergency Call
- Encryption and Authentication
- Dynamic Regroup
- Call Monitoring
- Environment Interception
- Including call

## 9 Scalable Data Applications for Increased ROI

Featured by full digitization and IP soft-switch, DMR equipment obtains excellent scalability. DMR provides not only digital talkback function from end to end, but also data services including positioning, text message, telemetry, data transmission, radio controlling, etc. Furthermore, it provides rich secondary development interfaces for customers by proper plan and design of system software and hardware infrastructure. Users could tailor the system according to specific needs, and explore more application services by secondary development.

With increasing demand on data and voice communication, the above functions and features would greatly enrich data applications of the system; therefore achieve higher return on investment (ROI).



DMR  
Products

PD882T, strictly compliant to IP57 requirements, works well after one-meter submersion up to 30 minutes.





# Portable Radio

## PD882T\*

Professional Digital Portable Two-way Radio

Featured with compact design, IP57 protection, 1.8-inch high resolution color display, superior voice, and rich applications, the DMR portable radio family refreshes your communications.










PD882T\*

### Innovative Design

- ① Large-size Color Display  
PD882T adopts a 1.8-inch high resolution color transfective LCD display, allowing good visibility even under outdoor strong light.
- ② Ergonomic Keypad  
The smart unit incorporates big keypad for ease of use.
- ③ Separated Knobs  
Separated by the antenna, the two knobs of portable radio stand apart from each other. This design can enhance the operation accuracy.
- ④ Integrated Antenna  
The radio antenna and GPS antenna are integrated to ensure more convenience and better performance.
- ⑤ Ruggedness and Reliability  
Compliant with MIL-STD-810 C/D/E/F and passing of HALT (Highly Accelerated Life Test)
- ⑥ IP57 Compliance  
All portable radios comply with IP57 requirements, withstanding submersion testing (1m for up to 30 minutes).

### Features

-  Higher Spectrum Efficiency  
Benefiting from the TDMA technology, PD882T allows twice the channel space from the same bandwidth. This is a big help to relieve the stress of increasing shortage in spectrum resource.
-  Versatile Services  
PD88xT features rich voice and data services and optional functions such as GPS, Encryption, Man Down, etc.
-  Quick & Seamless Communication  
PD882T allows quick access to DMR network and supports seamless roaming, providing a strong interoperability among base stations and terminals of different manufacturers.
-  Reliability  
PD882T is strictly compliant with the DMR standards of ETSI, MIL810F & IP57 requirements, ensuring outstanding performance even under harsh environments.
-  User-friendly Interface  
PD882T incorporates big keys for your comfort and convenience. Big TFT color display allows good visibility even under strong light. Over 20 programmable keys give you quick access to services and functions.
-  Durable Battery  
Compared with analog and FDMA technology, TDMA can increase the battery's duty time by about 40%.
-  Innovative Design  
PD882T adopts a patented antenna design. The antenna in the middle provides better signal coverage. The integrated radio and GPS antenna brings more convenience and better performance. Separating two knobs with the antenna can decrease misoperation.

# Mobile Radio

## MD882T\*

Professional Digital Mobile Two-way Radio

With superb performance, high reliability, and strong expandability, the DMR mobile radio family enriches your communications.



MD882T\*






### Ergonomic Design

- ① Large-size Color Display  
MD882T adopts a 2.0-inch 26K high resolution color LCD display (260,000 colors).
- ② 2-in-1 Knob  
Easy channel selection and volume control with one knob operation.
- ③ Rugged and Reliable  
Compliance with MIL-STD-810 C/D/E/F & IP54 requirements, and passing of HALT (Highly Accelerated Life Test), ensures outstanding performance even under harsh environments.
- ④ Innovative LED  
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 Built-in Powerful Speaker  
The built-in 7W speaker generates loud and clear voice.
- ⑦ 7 Programmable keys
- ⑧ Two-color Control Panel
- ⑨ Standard DB26 Secondary Development Port



Large-size color display

### Features

-  Versatile Service  
In addition to various voice and data services, MD882T also provides versatile selectable functions such as GPS, Encryption, Secondary Development etc.
-  User-friendly Interface  
MD882T incorporates big keys for your comfort and convenience. TFT big color display allows good visibility even under strong light.
-  Rugged and reliable  
MD882T is strictly compliant with MIL810F & IP54 requirements, and it passes HALT (Highly Accelerated Life Test). Outstanding performance even under harsh environments is ensured.
-  Higher Spectrum Efficiency  
Benefiting from the TDMA technology, MD882T allows twice the channel space based on the same bandwidth. This is a big help to relieve the stress of increasing shortage in spectrum resource.
-  Quick & Seamless Communication  
MD882T allows quick access to DMR network and supports seamless roaming, providing a strong interoperability among base stations and terminals of different manufacturers.

\* Mode number varies geographically

# Base Station

## DMR Digital Trunking Base Station



DMR digital trunking base station

### Base Station Components

- ① Channel Unit (CHU)
- ② Base Station Control Unit (BSCU)
- ③ Power Supply Unit (PSU)
- ④ Fan Unit (FAN)
- ⑤ Divider Unit (DIU)
- ⑥ Router
- ⑦ Combiner Unit (COM)

### Features

- Reliable Design**  
The system adopts a semi-centralized networking and modularized design for fail-soft and enhanced reliability.

The redundancy backup mechanism is employed to retain the integrity of some key devices, for example, base station controller redundancy and main control channel backup, as well as link backup for the network elements.
- Versatile Services**  
Mobile Management Services: Registration/ De-registration, Handover/ Roaming, Group Registration/ De-registration, Basic Authentication and Standard Authentication, etc.

Voice Calls: Private Call, Group Call, Emergency Call, Broadcast Call, All Call and Dispatcher Call, etc.

Data Services: Text Message Transfer, GPS Data Polling, Status Message and Emergency Alarm, etc.

Further Development Port: Allows users or any third party to further develop more helpful functions.

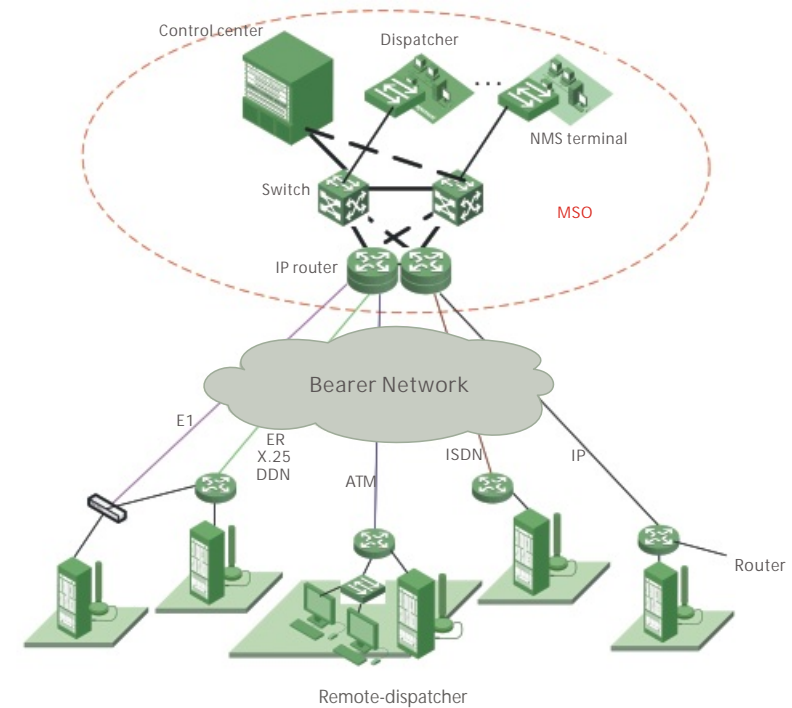
Supplementary Services: Late Entry, User Level, Ambience Listening, Discreet Listening, Talk Group Scan, Forced Disconnect/ Forced Insert, Stun/ Revive, Kill, Dynamic Group Number Assignment, Talk Group Patching, Record, Remote Monitor, End-to-end Encryption and Inclusive Call, etc.

Interoperability: Supports connection with PSTN/ PABX, MPT and DMR conventional, etc.

### Flexible Networking

The system runs on the basis of all IP network, with low requirement on the BS room. The devices can be easily moved anywhere in the network to suit new situations; moreover, the network nodes can also be managed freely.

The system supports multiple transmission carriers (IP and E1) and networking topologies (tree and star).

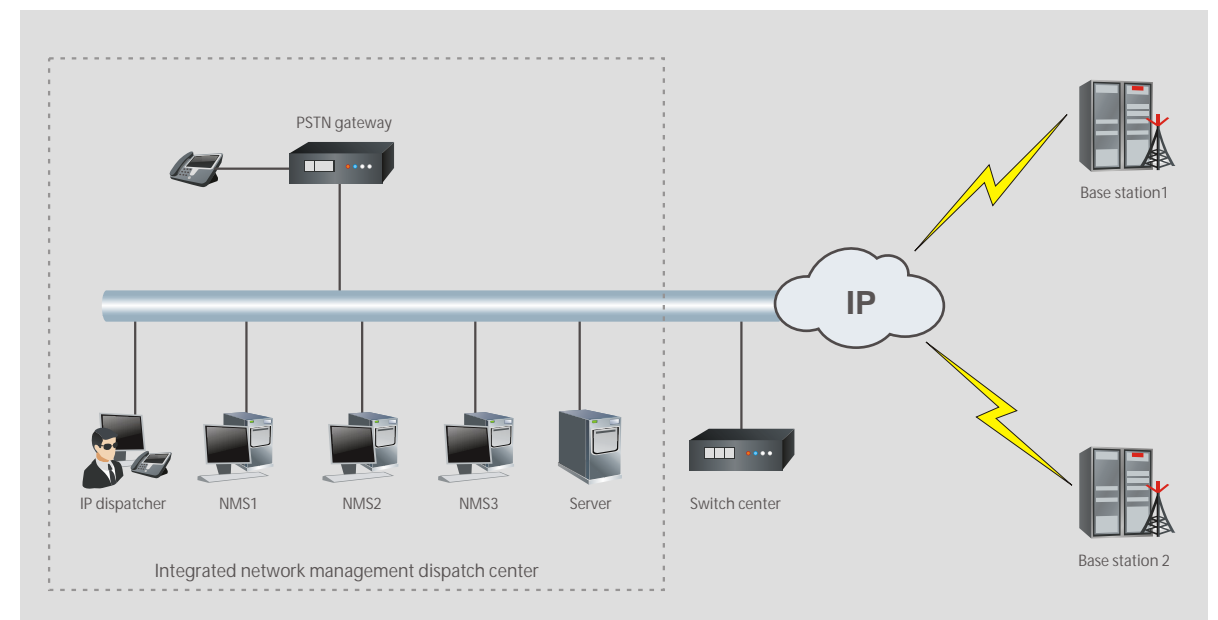


### Powerful Network Management

- The system supports SNMP remote network management and operation maintenance.

The network management system adopts C/S structure to ensure superior networking performance and expandability.

The network management system centralizes management over each network element, and provides a user-friendly UI and various functions for upgrade and expansion.







## Hytera DMR Solutions

With thorough understanding of difficulties and needs of different industries, Hytera proposed three DMR solution categories according to various working environments; they are DMR Trunking, IP Repeater Interconnection and DMR Simulcast. They can be applied by public security, public utility, industry and business.

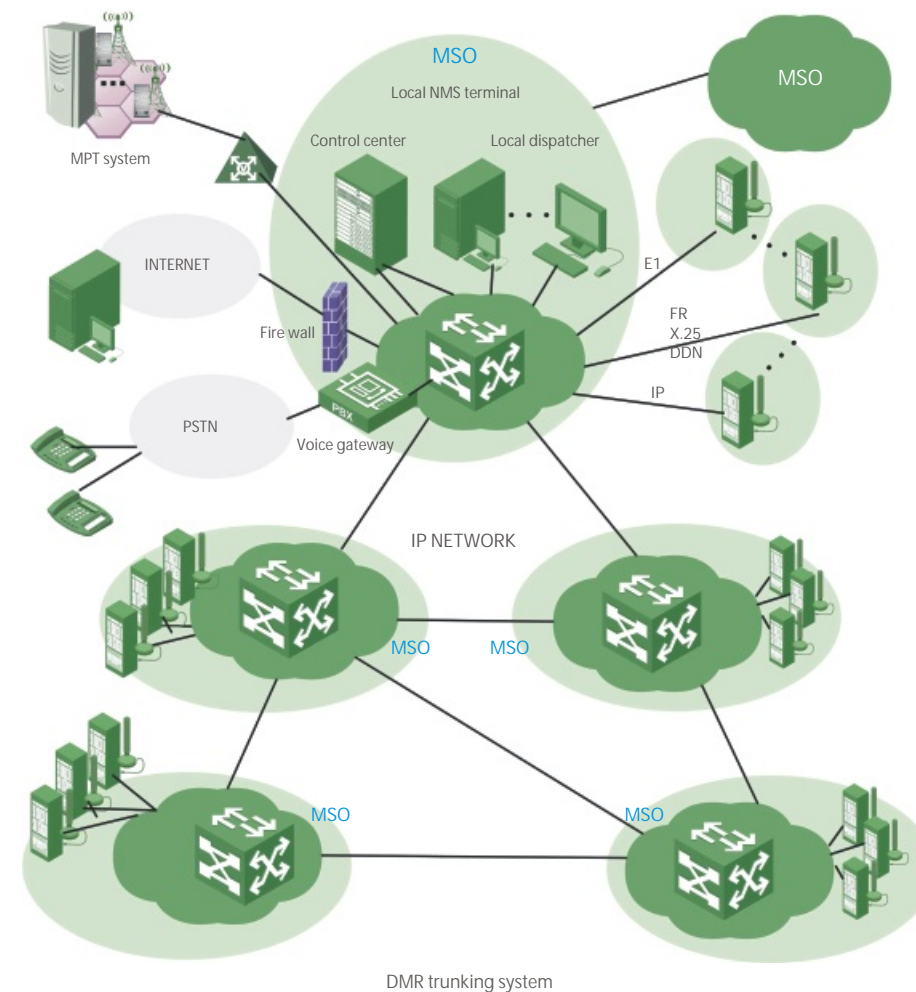


DMR portfolio

## 1 DMR Trunking System

### A. Large-scale Trunking Network

Incorporating a series of advanced conceptions such as large-area and semi-centralized networking, all-IP soft switch, and modularized design, the DMR trunking system brings benefits like frequency efficiency, quick access, wide coverage, network flexibility, cost-effectiveness, high reliability and scalability. It fully meets the requirements of professional users in public security, military, and transportation.



#### System Infrastructure

The system comprises multiple DMR subsystems, each of which contains 4 parts: Base Station, Bearer Network, Switching Control Center and Terminals. Of these parts, the switching control center is the core one, consisting of Central Controller, Service Exchange Device, Media Format Conversion Unit, Network Management Unit and Gateway. A gateway is required to connect multiple DMR systems for a larger coverage.

#### System Features

The radio terminals realize automatic roaming and call connection across the network.

The system supports smooth cross-area switch, ensuring consistent communications.

The solution is distinguished based on all IP network, with low requirement on the BS room. The devices can be easily moved anywhere in the network to suit new situations; moreover, the network can be expanded easily in the future.

The DMR system provides rich services, including Private Call, Group Call, Emergency Call, Late Entry, Short Message, GPS Data Polling, Registration, Roaming, Priority Level and Dynamic Group Number Assignment, etc.

The network management system centralizes management over each network element, and supports future upgrade.



## B. Small-scale Commercial Trunking Network

This optimum solution is tailored to users from small-scale port, oil & gas, and utility; it satisfies their requirements of low cost and simple operation.

### System Infrastructure

This system is composed of four parts: Base Station, IP Network, Network Management Center and Dispatching Center.

### System Features

Enabling the single base station to work independently and multiple base stations to interconnect with each other based on IP

Each base station with up to 16 carriers

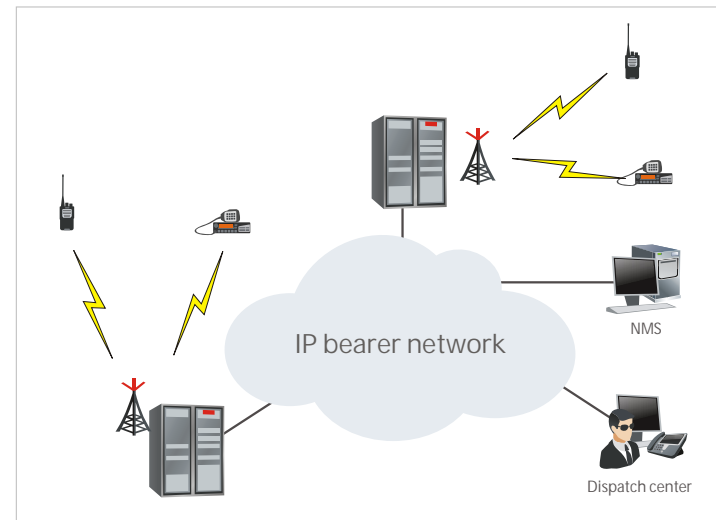
Containing up to 8 base stations

Capable of dispatching and limiting the quantity of the dispatcher

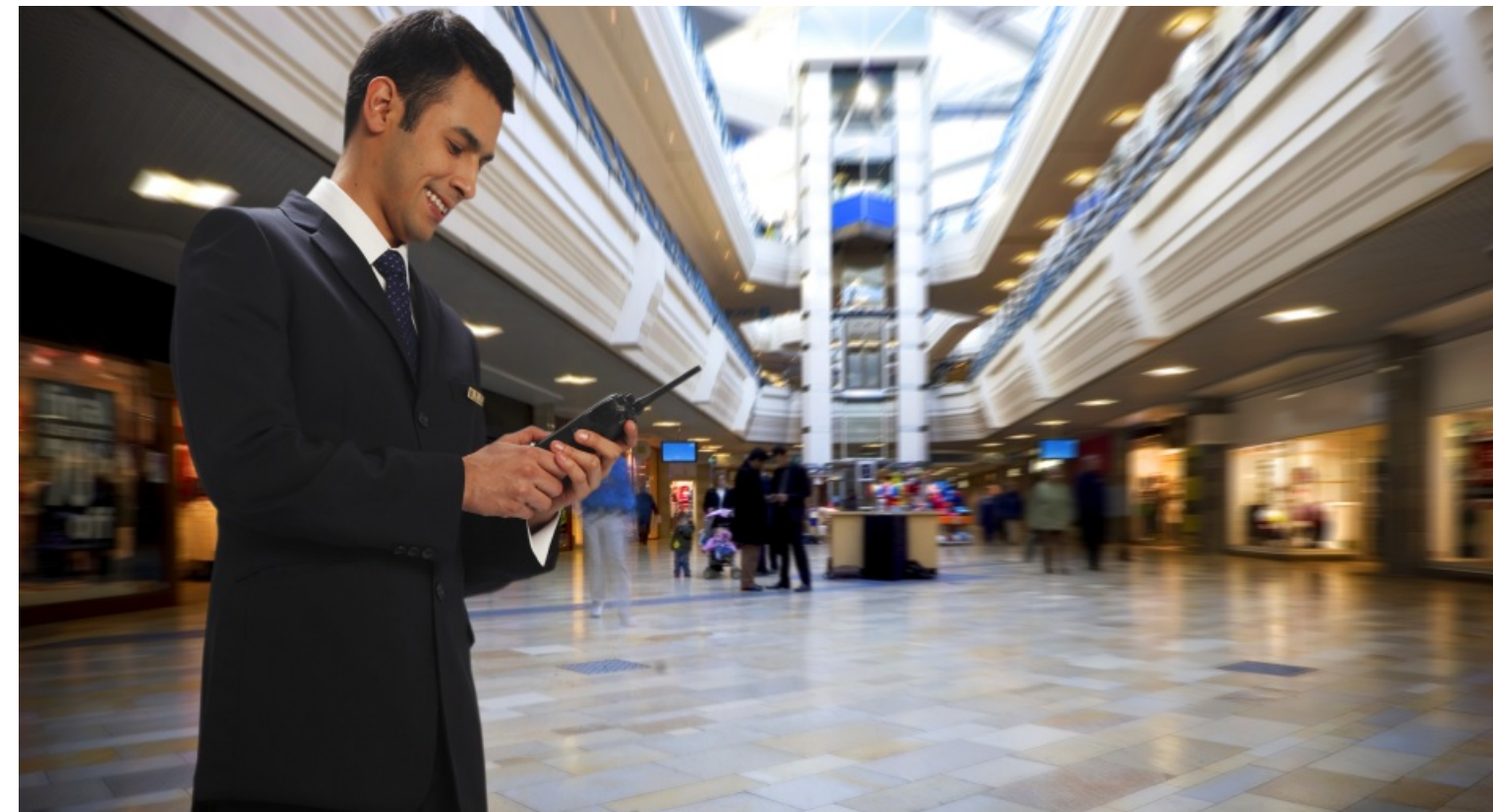
Available for PABX group call

Applying the same solution to terminals, large and small trunking system

Controlling system function by license



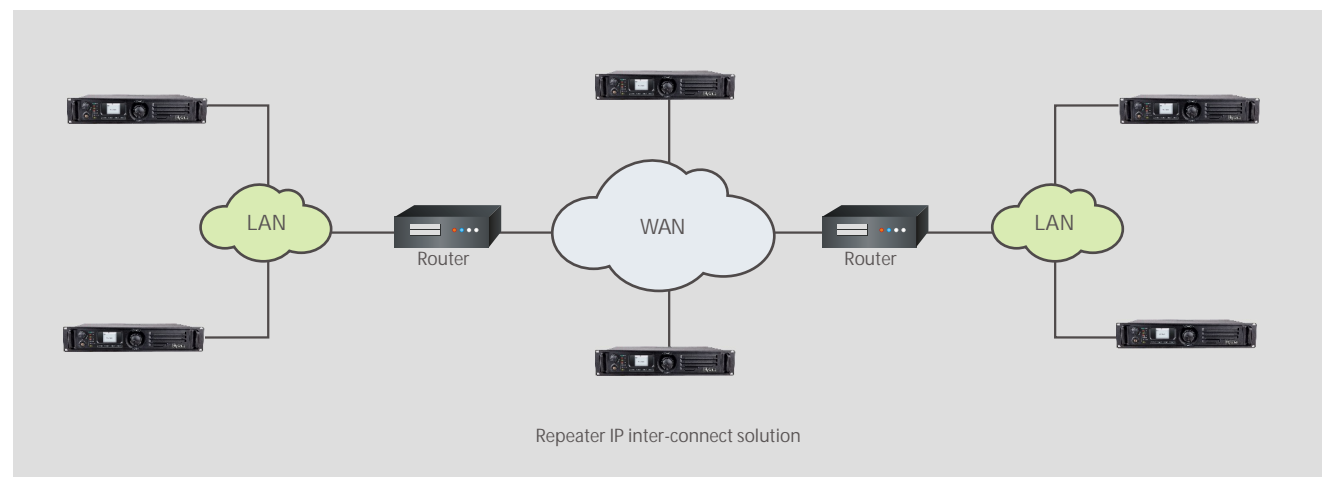
Small-scale trunking system



## 2 IP Repeater Interconnection Solution

The IP interconnection of Hytera repeaters is a low cost solution to effectively enlarge communication system; it achieves easy networking and stable communications. By connecting multiple repeaters of different places and frequencies through IP network, a wireless communication network without coverage limitation is built, and radio terminals roam automatically within this network, consequently enable voice and data communication.

Main purpose of repeater IP interconnection is to achieve interoperability among small working sections and vast area; the solution is broadly applicable in industries such as airport, port, railway, highway, forestry, oil & gas, law enforcement, police, and army.



### System Infrastructure

The system is composed of four parts: Antenna feed, Core router, Repeater and Terminal.

### System Features

Interconnecting 16 repeaters, with one as the host station and the others as slave stations

Employing different frequencies in the overlapping area, and same frequency in the dead area

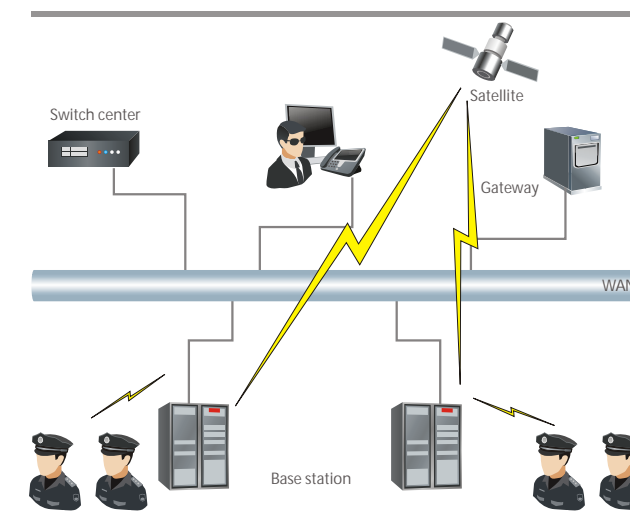
Offering voice and short data service

Flexible networking choice on basis of LAN and WAN

## 3 DMR Simulcast System

This system is tailored for professional users including police, firefighter, military, energy, utility and transportation.

It requires a single frequency pair and can eliminate the interference in overlapping area, greatly relieving the stress of increasing shortage in spectrum resource.



DMR simulcast solution

### System Infrastructure

DMR simulcast system is composed of three parts: Base Station Sub-system, Control Center and Gateway.

Base station sub-system consists of BS Controller, Transceiver, RF Distribution System and Power System. It features fail-soft capability by working as an independent unit.

Control center comprises six sub-systems: Switching Control, Database, Dispatching, Network Management, Recording and Networking (some sub-systems are optional).

Gateway involves various access equipments such as VOIP for PSTN and MPT network. Its role is to convert the format of voice and signaling for different networks.

### System Features

Automatic hand-over and roaming with no scanning and registration required on terminals

Saving frequency by requiring a single frequency pair

Offering rich services such as Individual Call, Group Call, Broadcast Call, Emergency Call, Radio Check, Monitor and Fail-soft. Supporting multiple transmission links (IP, E1 and wireless link) based on All-IP networking

Available for multi-level management

Capable of remote upgrade and maintenance for cost efficiency

Full interoperability with products of other manufacturers

Flexible networking choice (star, tree and linear)