

# Hytera Multi-mode Advanced Radio

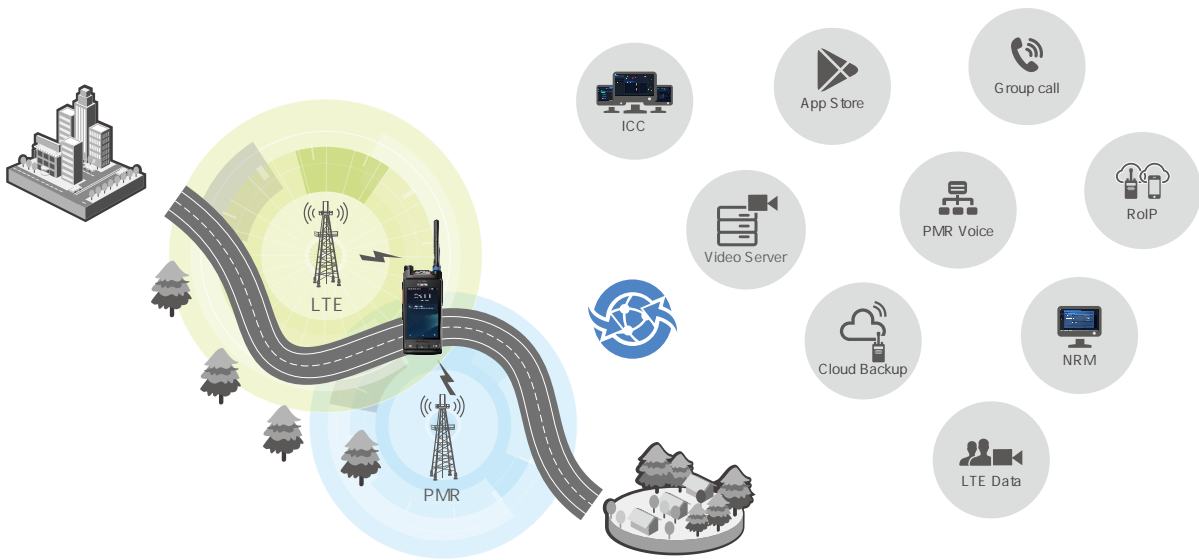


# New Convergent Solution

The Hytera Multi-mode Advanced Radio is a revolutionary device in the private radio network industry. The first of its kind to offer a truly convergent platform for critical voice and broadband data services, this innovative development is a significant milestone. The radio supports multi-mode communication in different scenarios, whether it's daily business operations or emergency response, broadband or narrowband, utilising the public or private network.

Offering the user a truly unified communication experience. The rich applications and high-level data security ensures the radio calmly handles any critical situation, improving co-operation and seamless communication.

The ergonomic design combined with the rugged chassis and touch-screen supports a new sensory experience to meet your diversified requirements. You can listen and see clearly, operate and transmit securely and utilise your improved situational awareness to respond and achieve quickly and effectively.



## Product Overview



### Sense

The Hytera Multi-mode Advanced Radio delivers excellent situational awareness, smartly detecting the surrounding environment, providing alerts and acquiring data in real time. Communicating continuously with back-end systems, you can improve your operational effectiveness with instant feedback and informed decision making. The device will become an extension of your senses, assuring your safety and enhancing your response with on-demand services.



### Seamless

Whenever and wherever you are operating, the Hytera Multi-mode Advanced Radio is by your side offering a great voice communication experience. Seamlessly switching between networks, the intelligent device manages multiple communication modes, presented in a dedicated, user-friendly interface, to ensure that you can enjoy a seamless communication experience while the handset takes care of network transitions.



### Supervision

Security of personnel and your voice or data transmissions is critical no matter the application. The Hytera Multi-mode Advanced Radio is designed to provide holistic secure control of your communications, adopting an effective link between the radio and back-end systems. There is no need to worry about data security, device loss, evidence management or command availability as the handset delivers a brand-new encrypted control system.

# Interactive Design Features

## Mission Critical UI Design

One hand operation

Quick press to view critical information

Rich information on the home page, customised favourites



### Keys

Multi-functional control (press and rotate)  
Switch between volume, channel and contacts

Smart Key  
Function varies depending on application

PTT  
Push to talk  
Easy to use  
Large button

### Rugged and Durable

IP67  
1.2 metre drop test  
MIL-STD-810 C,D,E,F,G

### Identification

Interchangeable colour bands  
to quickly identify handset

### Front & Rear Camera

Rear 13MP camera supports  
4K HD video

### Screen Design

Dual-screen for power saving  
Quick-view Top Screen  
Clear information at a glance from  
multiple angles

### Screen Reliability

Gorilla Glass III  
Scratch-resistance, anti-impact,  
anti-fingerprint and oil resistance

Industrial LCD  
Service life over 30,000h

### Diverse Connections

Sensors: 6-axis E-compass, barometer, gyroscope, accelerometer, proximity sensor, ambient light sensor

Positioning systems: GPS, BDS, GLONSS

Wired connection: accessory pins; Wireless connection: Wi-Fi, NFC and RFID

# Function & Technical Features

## Open Secondary Development Interface to Enrich Services and Applications

An Application Development Kit (ADK) is available to third parties to allow organisations to customise their own applications. Consequently, all mobile resources can be integrated in to this single work platform. Now it's more than just a radio, it's your smart mobile device.



Government and Public Security



Public Utilities



Airport



Port



Metro and Railway



## Broadband and Narrowband Converged

The narrowband switches between digital and analogue, the broadband supports all mobile networks, and the two systems collaborate to guarantee a smooth communication.



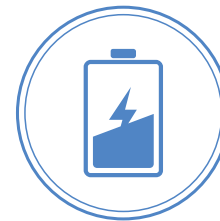
## Crystal Clear Critical Voice

The radio adopts advanced audio technology, such as multi-mic noise suppression, acoustic echo cancellation and wind noise suppression, to ensure the user can receive and transmit clear voice communications even in noisy environments.



## Multiple Security Assurances

The device support authentication and both software and hardware encryption to prevent voice and data theft. The management system monitors the radio in real-time and the device can be stunned, killed, or data erased if there is any user abnormality.



## Quick Charging

The latest smart battery technology delivers quick charging, 3 times faster than regular batteries. 80% of the capacity can be charged in just 30 minutes, while full charge can be achieved in 1 hour.

# Hytera Smart MDM – Smart and Secure, With Complete Control

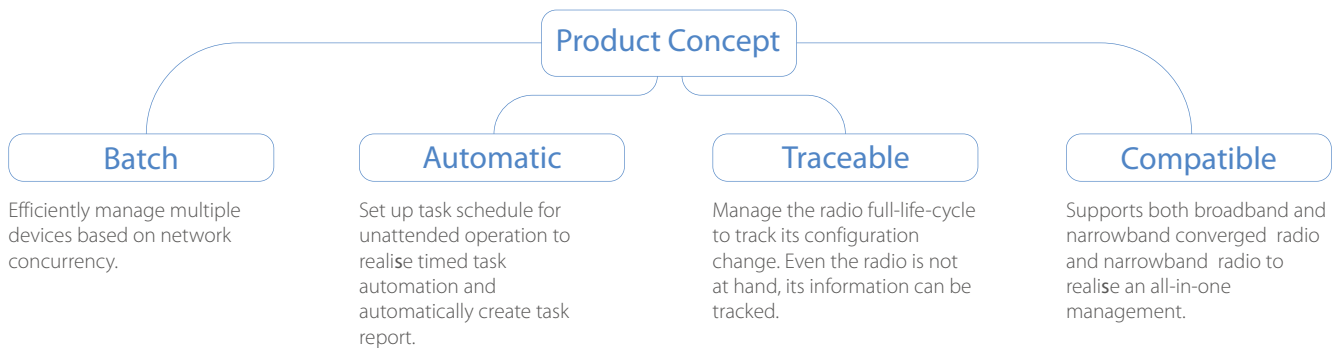


The Hytera Smart Mobile Device Management (MDM) fully utilises broadband capacity to facilitate your device management.

By traversing a variety of broadband networks, Wi-Fi, 4G and LTE, this solution conducts batch programming, upgrades, permission control and data backup. As well as device administration and control, the Hytera MDM can also support accessory management such as Remove Video Microphones whilst also being compatible with your Hytera narrowband radios, improving traditional device management.

As users lead with wireless devices and supplement with wired solutions, in an increasingly broadband based network architecture, the Hytera MDM solution delivers concurrent operation, flexible remote-site control and timed push actions to greatly save operational time and costs for device management.

The Hytera MDM provides a full-life-cycle asset management system. The administrator can track the working status of any device across the fleet, determining critical device and user information 24/7.



## Product Features

### Efficient Batch Programming and Upgrade

Manage large quantities of radios concurrently to improve programming and upgrade efficiency.

### Effective Data Collection and Security Analysis

Collect various radio data including parameters, configuration and diagnosis log to monitor radio and eliminate security threats.

### Rich Third Party APIs

Provide the third party APIs for various service extensions such as cloud storage, streaming media, and interfacing with other systems.

### Quick Configuration and OTAP Programming

Utilise the high-speed and reliable message channel between the radio and console to enable or disable multiple settings such as GPS, BT, Wi-Fi and NFC, and conduct OTAP of the radio through broadband.

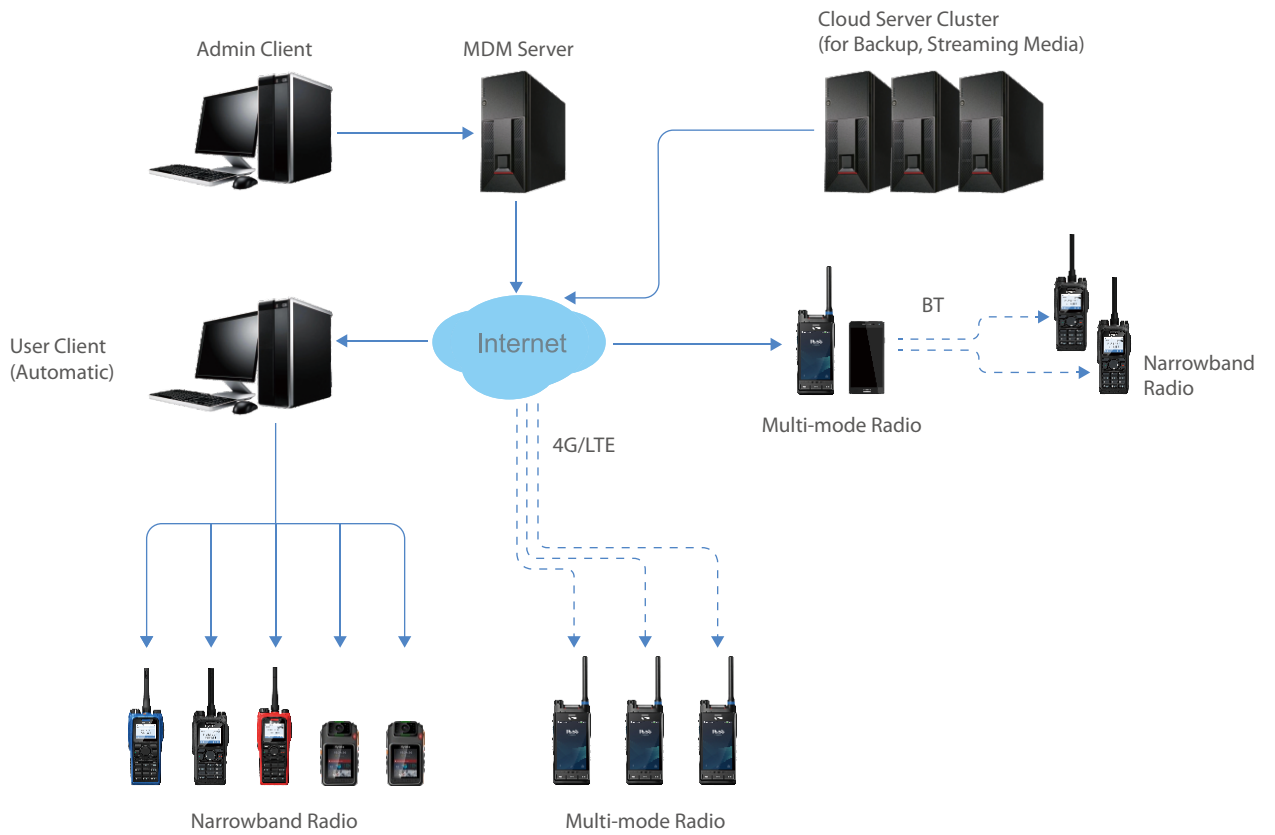
### Multiple Group and Permission Control

Support multiple roles and hierarchical group management to clearly classify the permission and work range for better collaboration.

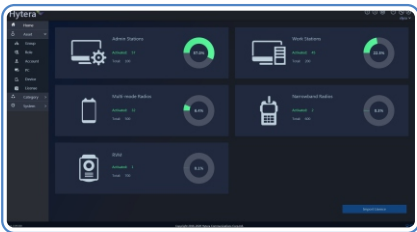
### Diversified Services

Besides programming and upgrades, the system also controls application installation and uninstallation, licence authorisation, remote notification to the radio and file transmission. If the radio is compromised, the system is able to remotely erase sensitive data to avoid information leakage.

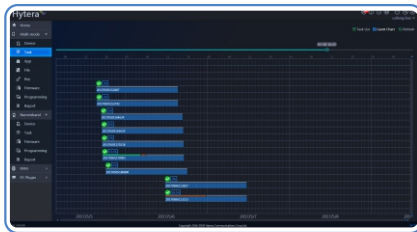
# System Topology



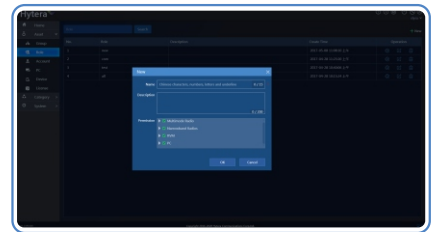
# System Function



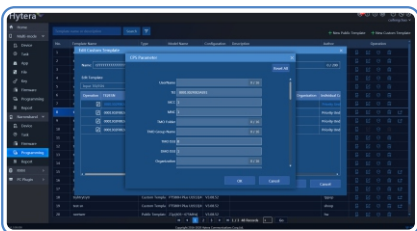
- Asset  
Asset management to set up archives for each radio.



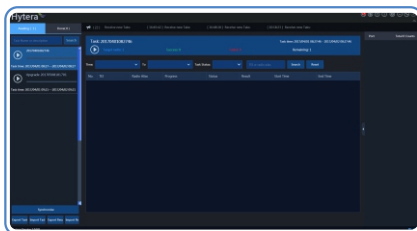
- Task Gantt Chart  
Visible Gantt chart to clearly display task progress.



- Role Permission  
Different roles for administrators to conduct different management services.



- Programming Template  
Programming template management to create parameter sets for radio configuration.



- Work Station  
Unattended work station to process tasks and manage radios by batch, concurrently.



- Report  
Generate reports for all-round tasks statistics and tracking.

# Specifications

## Standards and Frequencies

DMR Analogue FM	ETSI DMR Tier II, III 350-527 MHz
TETRA	350-470 MHz
LTE	3GPP LTE Rel 10 FDD-LTE: B1/B2/B3/B4/B5/B7/B8/B20/B26/B28 TDD-LTE: B38/B39/B40/B41
CDMA	CDMA 1xRTT BC0 CDMA2000 1xEV-DO BC0
WCDMA	B1/B8
TD-SCDMA	B34/B39
GSM	850/900/1800/1900MHz
Wi-Fi	802.11 b/g/n, 2.4GHz
NFC	13.56MHz
Dual BT	V4.2 LE+EDR
Positioning System	GPS, BDS, GLONASS
Sensors	Proximity Sensor Ambient Light Sensor 6-axis E-Compass Barometer Gyroscope Accelerometer

## General Specifications

Dimensions (H x W x D)	139.5 x 68 x 25.3mm
Weight (with antenna & battery)	≤375g
AP Processor	Qualcomm 8-core, 2.0GHz
Memory	<b>Broadband</b> RAM: 3GB ROM: 32GB eMMC Expandable to 128GB with Micro SD card <b>Narrowband</b> Expandable to 16GB with Micro SD card
Ports	USB 2.0 20PIN Accessory/Charging Port
Top Display	1.0" 128x96
Main Display	4.0" 800x480 Capacitive, Touch screen, Gloves Compatible
Front Camera	13MP Auto Focus
Rear Camera	13MP Auto Focus
Operating Voltage	7.4V(Rated)

## Battery

Standard	2900 mAh Li-polymer
Optional	4000 mAh
Battery Life	Standard Battery : 14h 12h voice(5:5:90)+2h video Optional Battery : 20h 18h voice(5:5:90)+2h video

## Transceiver

Item	DMR/Analog FM	TETRA
Channel Spacing	25/20/12.5kHz	25kHz
TX Power	1W/4W	1W(class 4) & 1.8W(class 3L)
RX Sensibility	≤-121 dBm	≤-112dBm(-116dBm typ.)
Inter-modulation	≥65dB	≥62dB
Blocking	≥84dB	50 kHz to 100 kHz ≥69 dB 100 kHz to 200 kHz ≥74 dB 200 kHz to 500 kHz ≥79 dB > 500 kHz ≥84 dB
Suppression of Spurious Response	≥70dB	≥64dB
Frequency Stability	±0.5ppm	±0.5ppm
Antenna Impedance	50Ω	50Ω
Audio Output	2W(Rated)	2W(Rated)
Audio Distortion	≤3%	≤3%
Microphone	NRR: 30dB(Static), 20dB(Non-static) AEC: > 60dB	NRR: 30dB(Static), 20dB(Non-static) AEC: > 60dB

## Video and Imaging

Video File Types	3GPP(.3gp), MPEG-4(.mp4), QuickTime(.mov), WEBM(.webm), Windows Media(.asf, .wmv), RealMedia(.rmvb, .rm), MPEG-PS(.mpg, .mpeg), MPEG-TS(.ts), AVI(.avi), Matroska(.mkv)
Image File Types	JPEG(.jpg), GIF(.gif), PNG(.png), BMP(.bmp)
Video Recording Quality	Front Camera: 1080P HD up to 30 frames per second(fps) Rear Camera: 4K HD
Watermark	Video and imaging

## Audio

File Types	MP3(.mp3), WAV(.wav), 3GPP(.3gp), MPEG-4(.mp4, .m4a), ATDS raw AAC(.aac), MPEG-TS(.ts), FLAC(.flac), MIDI(.midi, .xmf, .mxmf), RTTTL/RTX(.rtttl, .rtx), OTA(.ota), iMelody(.imy), Ogg(.ogg), Matroska(.mka), QCELP(.qcp), RealMedia(.ra), Windows Media(.wma), AC3(.ac3)
Input	Triple Mic Noise Suppression Wind Noise Suppression Echo Cancellation

## Environment Performance

Dust and Water Proof	IEC 60529-IP67
Shock and Vibration	MIL STD 810 C,D,E,F,G
Operating Temperature	-20°C - 60°C
Storage Temperature	-40°C - 85°C

## Main Features(DMR/Analog FM/LTE)

Work Mode	Voice Service	Apps
Digital Conventional Analogue Conventional Digital Trunking Public Network	Private Call Group Call All Call Broadcast Call Emergency Call Forced Insert/Clear Down	Call Queuing Call Priority Phone Call Camera Gallery Sound Recorder File Manager
Data Service	User Security	Others
Text Message Status Message MMS	Emergency Alarm	Positioning Scan and Roaming

## Main Features(TETRA/LTE)

Work Mode	Voice Service	Apps
DMO TMO Public Network	Private Call Group Call All Call Broadcast Call Emergency Call	Call Queuing Call Priority Phone Call Camera Gallery Sound Recorder File Manager
Data Service	User Security	Others
Text Message Status Message MMS	Emergency Alarm	Positioning

## Included Accessories

Smart Battery (2900mAh Li-polymer)  
Belt Clip  
Charger

Power Adapter  
Antenna  
Lanyard

Colour Circle

## Optional Accessories



Remote Video  
Microphone



Remote Video  
Microphone with LCD



Remote Speaker  
Microphone



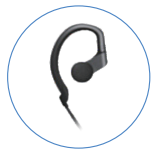
Covert Camera



4000mAh Smart  
Battery



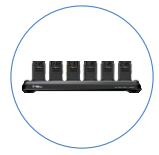
Fast Charger



Wired Earset



MCU 6-unit Charger for  
Multi-mode Radio



MCU 6-unit Charger  
for RVM



Transparent Earpiece



BT Heart Rate Earpiece



Carkit

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