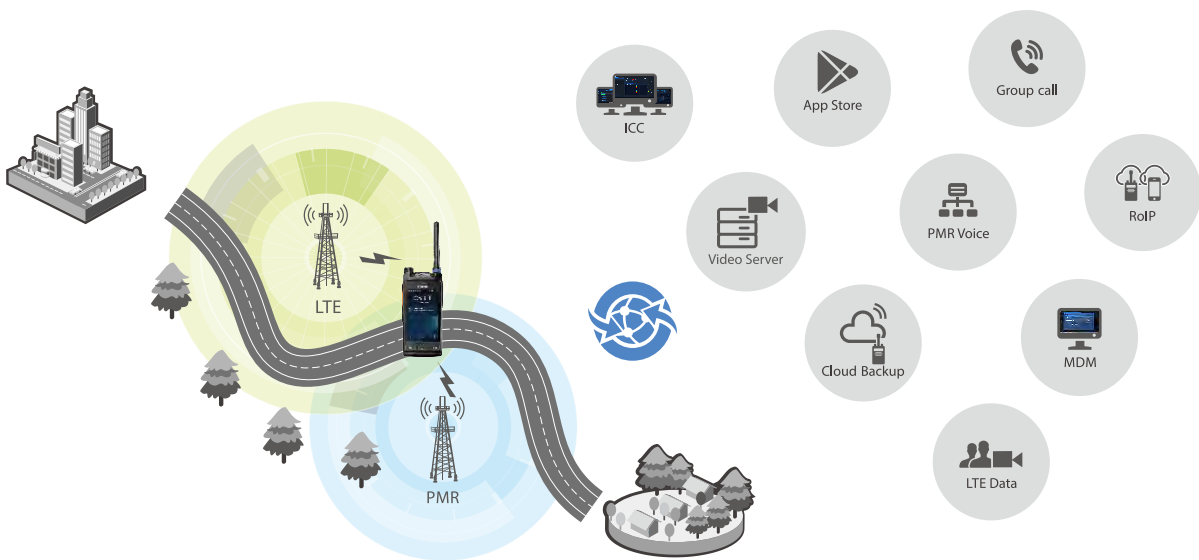# Hytera
Multi-mode
Advanced Radio

New Convergent Solution

The Hytera Multi-mode Advanced Radio is a revolutionary device in the private radio network industry. The first of its kind is 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 ensure the radio calmly handles any critical situation, and improve 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 to offer 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 radio 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 or 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 radio 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, customized favourites

Keys

Multi-functional control (press and rotate)
Switch between volume & channels
(in conventional mode)
Switch between volume & contacts
(in trunking mode)

Smart Key
Function varies depending on applications

PTT
Easy to use
Large button

Rugged and Durable

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

Identification

Interchangeable color circle
to quickly identify radio

Camera

Front & rear 13MP cameras
Rear 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, GLONASS
Wired connection: accessory pins; Wireless connection: WLAN, NFC and BT

Technical Features

Open Secondary Development Interface to Enrich Services and Applications

An Application Development Kit (ADK) is available to third parties to allow organizations to customize their own applications. Consequently, all mobile resources can be integrated into 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 analog, 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 triple 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 supports 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.
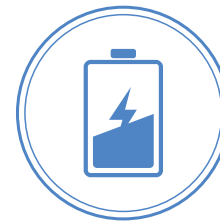
Quick Charging

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.

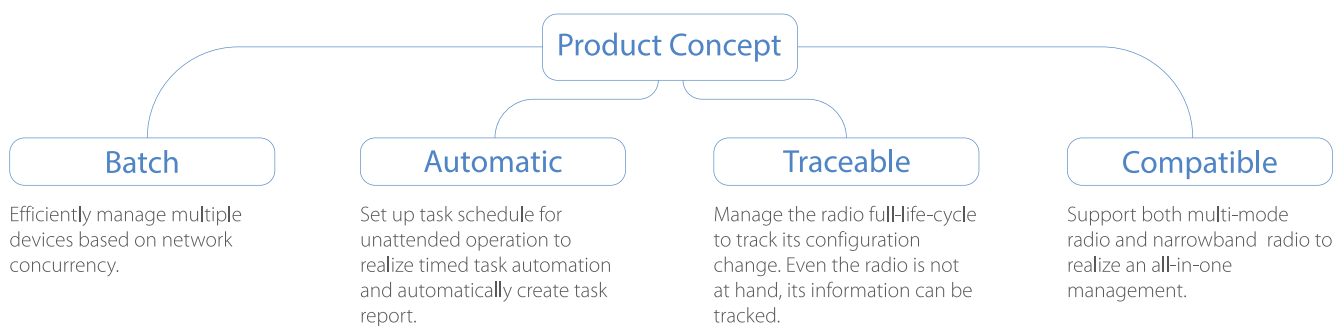# Hytera Smart MDM – Smart and Secure, With Total Control

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

By traversing a variety of broadband networks, WLAN, 4G and LTE, this solution conducts batch programming, upgrades, permission control and data backup. As well as device administration and control, the Hytera MDM also supports accessory management such as Remote Video Microphone(RVM) 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 Concept

Batch	Automatic	Traceable	Compatible
Efficiently manage multiple devices based on network concurrency.	Set up task schedule for unattended operation to realize timed task automation and automatically create task report.	Manage the radio full-life-cycle to track its configuration change. Even the radio is not at hand, its information can be tracked.	Support both multi-mode radio and narrowband radio to realize an all-in-one management.

Product Features

Efficient Batch Programming and Upgrade

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

Quick Configuration and OTAP Programming

Utilize the high-speed and reliable message channel between the radio and console to enable or disable multiple settings such as GPS, BT, WLAN and NFC, and conduct OTAP of the radio through broadband.
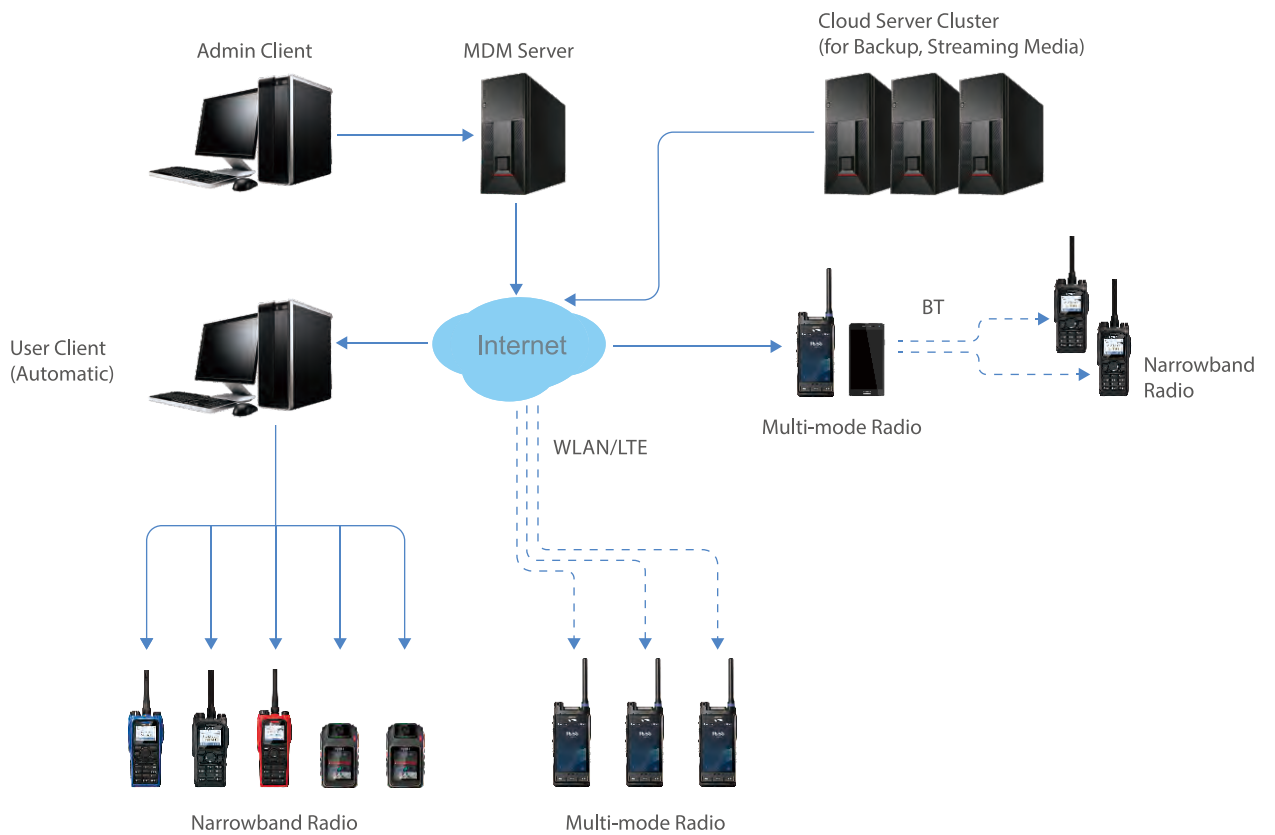
Effective Data Collection and Security Analysis

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

Multiple Group and Permission Control

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

Rich Third Party APIs

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

Diversified Services

Besides programming and upgrades, the system also controls application installation and uninstallation, license authorization, 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.
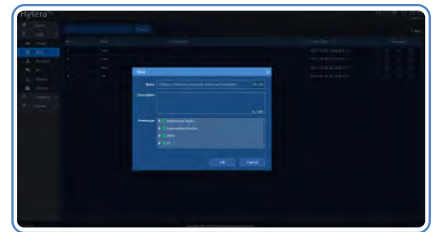
System Topology

Admin Client   MDM Server

Cloud Server Cluster
(for Backup, Streaming Media)

User Client
(Automatic)

Internet

BT

Narrowband
Radio

Multi-mode Radio

WLAN/LTE

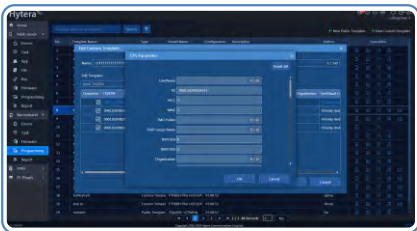Narrowband Radio   Multi-mode Radio

System Functions

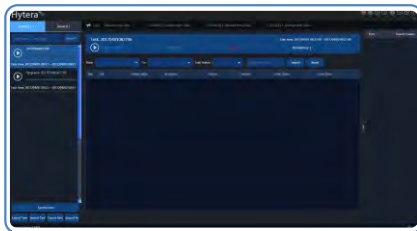• Asset

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.

• User Client

Unattended user client to process tasks and manage radios by batch, concurrently.

• Report

Generate reports for all-round tasks statistics and tracking.

Specifications

Standards and Frequencies

DMR Analog	ETSI DMR Tier Ⅱ, Ⅲ 350-527 MHZ
TETRA	350-470 MHz
LTE	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
WLAN	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)	≤378g
AP Processor	Qualcomm 8-core, 2.0GHz
Memory	**Broadband** RAM: 3GB ROM: 32GB eMMC Expandable to 128GB with Micro SD card **Narrowband** Expandable to 16GB with Micro SD card
Ports	USB 2.0 20PIN Accessory/Charging Port
Top Display	1.0" Color: black & white
Main Display	4.0" 800x480 Capacitive, Touch screen, Gloves Compatible
Front Camera	13MP Auto Focus
Rear Camera	13MP Auto Focus
Operating Voltage	7.6V(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	TETRA
Channel Spacing	25/20/12.5kHz	25kHz
TX Power	1W/4W	1W(class 4) & 1.8W(class 3L)
RX Sensitivity	≤-121dBm	Static: ≤-116dBm(-117dBm typ.) Dynamic: ≤-106dBm(-109dBm 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 G
Operating Temperature	-20°C- 60°C
Storage Temperature	-30°C - 80°C

Main Features(DMR/Analog/LTE)

Work Mode	Voice Service		Apps
Digital Conventional Analog 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	Contacts Messaging 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	Contacts Messaging Camera Gallery Sound Recorder File Manager
Data Service	**User Security**		**Others**
Text Message Status Message MMS	Emergency Alarm		Positioning

Optional Accessories

Remote Video Speaker Microphone(RVM)

Remote Video Speaker Microphone(RVM) with LCD

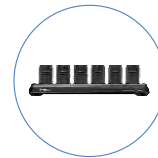Remote Speaker Microphone

Covert Camera

4000mAh Smart Battery

Fast Charger

BT Heart Rate Earpiece

MCU 6-unit Charger for RVM

Transparent Earpiece

Wired Earset

Standard Accessories

Smart Battery (2900mAh Li-polymer)
Belt Clip

Power Adapter
Antenna

Color Circle
Charger