Hytera

SmartDispatch

Feature Book

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Documentation Information

This section describes the conventions and revision history of this document.

Documentation Conventions

Icon Conventions

Icon	Description
 **Tip**	Indicates information that can help you make better use of your product.
 **Remarks**	Indicates references that can further describe the related topics.
 **Caution**	Indicates situations that could cause data loss or equipment damage.
 **Warning**	Indicates situations that could cause minor personal injury.
 **Danger**	Indicates situations that could cause major personal injury or even death.

Notation Conventions

Item	Description
“ ”	The quotation marks enclose the name of a software interface element. For example, click “OK”.
Bold	The text in boldface denotes the name of a hardware button. For example, press the **PTT** key.
->	The symbol directs you to access a multi-level menu. For example, to select “New” from the “File” menu, we will describe it as follows: “File -> New”.

Revision History

Version	Release Date	Description
07 (V4.2)	07-2014	Modified the description of “16 Over Speed Alarm”; Minor changes to wording.
06（V4.0）	11-2013	Added new features, including Over the Air Programming (OTAP), Time Message, Telemetry, Over Speed Alarm and Voice Encryption. Updated Message and Disable/Enable.
05 (V3.6)	01-2013	Added new functions, including Batch Export and Import, and Database Backup and Recovery.
04 (V3.5)	11-2012	Added new functions, including Call Alert, AVL, WAN Application and Repeater Access.
03 (V3.0)	10-2012	Added new functions, including Hierarchical Dispatch, Audio Link, Phone Interconnect, Dispatcher Intercom, Email Access and Remote Monitor. Updated Authority Management.
02 (V01)	02-2012	Added functions such as History Track, Channel Access for Mobile Radio, Multi-site Dispatch, Record, Kill/Revive, Emergency Alarm, Geofencing Alarm, Dynamic Group, and Passive Transfer.
01 (V00)	05-2011	Initial Release

1. Online/Offline Presence

Description

- The SmartDispatch Client displays all dispatchable radios by groups, and denotes their statuses by icons with different colors. Via these icons, the dispatcher can identify online and offline radios easily, facilitating dispatching arrangement.
- The SmartDispatch Client also displays the statuses of the dispatch stations in the call panel and status bar.

Note

One or two dispatch stations can be deployed in a group. If only one dispatch station is available, it will be responsible for transmitting both the audio signal and GPS data. In case of two dispatch stations, one is used to transmit the audio signal while the other to transmit the GPS data. The GPS dispatch station is not displayed in the SmartDispatch Client.

Scenario

- Problem: The dispatcher has received a call about the dispute in the department store.
- Solution: To save time and effort, the dispatcher can first apply this feature to check whether the patrol man in the area is accessible. If yes, the dispatcher will direct him to deal with it.

2. Call Control

Description

In the command center, you can allocate resources for the radios directly via the SmartDispatch Client, for the purpose of voice communication (including Private Call, Group Call and All Call).

Each call and its recording can be enriched by audio mixing effect. You can select the left or right (default) track during playback.

Note

The All Call indicates that the dispatch station can initiate a call to all radios including portable or mobile radio.

Scenario

- Problem: The dispatcher needs to inform all members in Group X of speeding up the work rhythm, in order to meet the deadline.
- Solution: The dispatcher initiates a group call to Group X, to give the notice to all members.

3. Over the Air Programming (OTAP)

Description

OTAP is a mechanism to read and write radio configuration over the air. With this feature, you can change some of the radio's settings including adding/deleting a contact, adding a group contact, adding/deleting RX group list, modifying radio alias and ID, setting the Rx and Tx frequency, slot and color code.

Scenario

- Problem: As a team can not handle an incident alone, more patrol men should be deployed to the site for assistance.
- Solution: The dispatcher can apply this feature to add two patrol men to this team for support. To be specific, the dispatcher can add the group call number to the contact lists of the new members' radios, and then add this group call number to the Rx group lists of these radios (so they become the group members). Afterwards, the dispatcher can make a call to this team and inform the two patrol men to handle the incident.

4. GPS Positioning

Description

The location of a radio with GPS enabled can be found in the electronic map easily. This feature provides dispatchers with an intuitive method to view the radio distribution, achieving visualized and efficient dispatch.

The supported electronic map types include Google Earth, Google Map, OpenStreetMap and Mapinfo (coordinate system WGS-84).

Scenario

- Problem: The dispatcher wants to know whether the patrol man is carrying out the given mission in the right place.
- Solution: The dispatcher can apply this feature to position the patrol man, to check whether he/she is in the right place.

5. Real-time Track/History Track

Description

If the radio with the GPS module is online and has searched out the GPS signal, the GPS data during its operation will be displayed in the electronic map in real time and stored in the database. In this way, you can fully know the radio subscriber's movement route, and enquire and play it in accordance with the

radio ID and time period.

Scenario

- Problem: The patrol man did not patrol along the specified route, and did not admit it.
- Solution: The dispatcher can show his moving track to prove his disobedience.

6. Message

Description

You can enjoy these message services: receiving or sending the message from/to a radio, new coming message alert, and more.

You can also send the message to the offline radio, which will receive the message as long as it gets online within the preset time (10 days by default).

Scenario

- Problem: The dispatcher needs to notify all subscribers of coming back to the company for a meeting after off-duty. But it is irksome for him to call them one by one.
- Solution: The dispatcher can send a text message to all subscribers, directing them to come back to the company.

7. Time Message

Description

The message can be sent to the radio automatically by day, week or month. This feature makes it easier to inform the radio subscriber(s) of some important event at proper time.

Scenario

- Problem: It is necessary to remind the patrol man to sign his/her patrol book at 11:30am every day.
- Solution: The dispatcher applies this feature to customize the timed message to be sent at 11:20am by day. Thus, the message will be automatically sent to the policeman at the preset time.

8. Report Enquiry

Description

The SmartDispatch Client supports generation of various reports regarding call, message, online/offline status, geofencing alarm, overspeed alarm and emergency alarm. These reports can be enquired through keyword such as time period and ID, or be exported in Excel format.

Scenario

- Problem: The dispatcher needs to know the performance of the patrol man at the end of a month.

- Solution: The dispatcher can apply this feature to get a report regarding the online/offline status, geofencing alarm, emergency alarm, call logs and message logs via the ID of the patrol man, to make an objective statistics and assessment.

9. Split Display

Description

To facilitate monitoring and operating services, the SmartDispatch Client provides the split display capability, allowing all related information to be displayed simultaneously. The dispatch, map, message, report and history track windows are active, and can be displayed via different monitors if the split display card is attached.

Scenario

- Problem: The dispatcher needs to view the dispatching information and the map simultaneously.
- Solution: The dispatcher can set the display properties to achieve this effect, after installing the hardware.

10. Mobile Radio Channel Access

Description

The SmartDispatch system is composed of the SmartDispatch Server, SmartDispatch Gateway, and SmartDispatch Client, dispatch station and radio. The SmartDispatch Gateway is responsible for information exchange among the dispatch station, GPS dispatch station and SmartDispatch Server. One SmartDispatch Gateway can support simultaneous access by multiple channels, allowing transmission of audio signals on voice channels and GPS signal. The number of access channels is subject to the number of dispatch stations and GPS dispatch stations connected with the SmartDispatch Gateway.

The SmartDispatch system supports both digital voice channel and analog voice channel. On the analog channel, only All Call can be made. You cannot make Private Call, Group Call or calls with signaling on such channel.

Scenario

- Problem: The dispatcher wants to dispatch analog radios in the area E, which does not belong to the existing system.
- Solution: The system administrator can apply this feature to add all analog radios in the area E to the system.

11. Record

Description

SmartDispatch will automatically record all communications across the network. You can also retrieve or play back the call recordings.

Scenario

- Problem: As a team has suffered heavy causality, the supervisor wants to know who should be responsible for it.
- Solution: The investigation team invokes the voice recording to reconstruct the scene and dig out the root causes.

12. Disable/Enable

Description

You can disable or enable a radio remotely via the SmartDispatch Client. The disabled radio will not be capable of any operations until you send the Enable command to it successfully, so as to ensure communication safety. For a radio which is already added into the list in “Radio Management” of the SmartDispatch, if it is offline, the server will save the Disable or Enable command and will not execute it until the radio is online again.

During a call, you can disable the radios which are not added into the SmartDispatch, so as to avoid their interference to the communication.

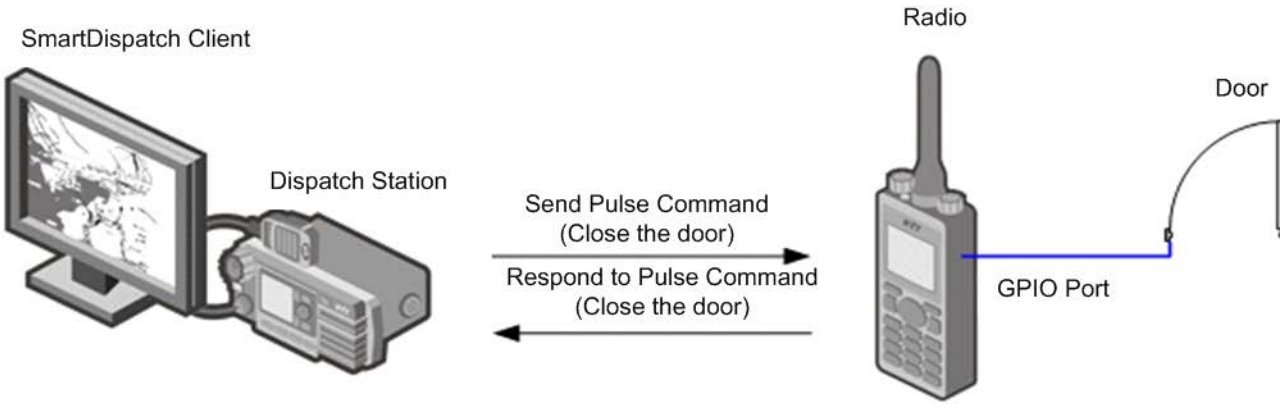
Scenario

- Problem: The criminal looted a portable radio of the patrol man, and he may get the commands from the police.
- Solution: The dispatcher can remotely disable that lost portable radio, to ensure secure communication.

13. Telemetry

Description

Via the SmartDispatch Client, you can remotely monitor the status of the external device connected to the radio, as well as controlling it.



Scenario

- Problem: The dispatcher of the electricity board needs to remotely check if the door is closed when the machine room is not in use.
- Solution: First, the dispatcher needs to connect the external device on the door to the radio's GPIO port, and then he/she can check the door status (open or closed) by sending telemetry command and receiving the response message via the SmartDispatch. If the door is still open when not in use, the dispatcher can send the telemetry command to radio, and the radio will send a corresponding signal to the external device to close the door.

14. Emergency Alarm

Description

If this feature is activated in a radio, appropriate emergency alerts will be displayed on the SmartDispatch Client immediately. The emergency call enjoys priority over normal calls, and must be handled by the dispatcher before the radio can restore to normal operation. The emergency call can be assigned with the following alerts.

- Pop-up tip: the icon turns red and a pop-up tip will appear automatically.
- Center the radio subscriber on the map: if the radio has GPS signal, it will be displayed in the center of the map.
- Alarm sound muted: if the radio triggers an emergency call, you can not hear any alert tone on the SmartDispatch client.

Scenario

- Problem: The patrol man has found a man is starting an arson attack on the government building.
- Solution: The patrol man makes an emergency call to the dispatcher, who first handles this call and deals with this emergency.

15. Geofencing Alarm

Description

You can define the boundary around a location on the map for a subscriber. Once he/she enters or exits this region, the SmartDispatch Client will send the alert message to him/her.

Scenario

- Problem: The dispatcher needs to know whether the patrol man deviates from the specified route during patrolling.
- Solution: The dispatcher can receive the geofencing alarm, once the patrol man turns aside the course.

16. Over Speed Alarm

Description

With this feature, you can set the speed limit and preset time for the radio. When the radio subscriber drives at or faster than the preset speed for the preset duration, the alarm will be displayed on the SmartDispatch Client and a text message will be sent to him/her automatically via the SmartDispatch Server so as to notify him/her of slowing down. When the radio subscriber drives under the speed limit, he/she will receive the message from the SmartDispatch Server that the alarm is cancelled.

Scenario

- Problem: The dispatcher needs to prevent the patrol man from driving over-speed.
- Solution: The dispatcher first needs to set the speed limit of the patrol man's radio via the SmartDispatch Server. Then, once the patrol man is driving over speed, the alarm will be displayed on the SmartDispatch Client. The SmartDispatch Server will then send a warning message to the patrol man.

17. Voice Encryption

Description

Voice communication between SmartDispatch and the radio can be encrypted when a repeater is used as the dispatch station. The voice encryption can prevent calls from being eavesdropped. During an encrypted call, as long as the encrypt key of the calling party matches that of the called party, they can communicate with each other.

Scenario

- Problem: The dispatcher hopes to prevent the calls from being eavesdropped during the underplay.

- Solution: The dispatcher enables the Encrypt feature of the radio and use a repeater as the dispatch station.

18. Authority Management

Description

To streamline dispatch tasks, the administrator can assign dispatchers with specific authority, which falls into the following categories.

- Dispatching mobile radio/repeater: The dispatcher can only dispatch the specified mobile radios or repeaters displayed in SmartDispatch Client.
- Dispatching work group: The dispatcher can only dispatch the work group displayed in SmartDispatch client.
- Accessible function: There are 6 functions: Dispatch, GPS, Message, Report, History Track and Configuration, all of which are accessible to the dispatcher by default. However, the administrator can limit their access based on actual needs.
- Operational task: during creating a new dispatcher account, the administrator can specify which tasks can be implemented by the dispatcher, including, Intercom Call, Phone Interconnect, Recording Playback, Channel Switch, Enable/Disable, Remote Monitor, Audio Link, Geofencing Alarm and Real-time Track.

Note

The administrator can modify the authority for the dispatcher.

Scenario

- Problem: The dispatcher dispatches the radio randomly, leading to the chaos.
- Solution: The administrator can assign the jurisdiction to the dispatcher for dispatching the designated radios.

19. Hierarchical Dispatch

Description

A number of servers can access the same gateway. The server accessing the largest number of gateways acts as an administrative server to enjoy the highest privileges to dispatch all radios within its jurisdiction.

Scenario

- Problem: As there is an outbreak of terrorist activities in a province, the Provincial Public Security Bureau needs to directly dispatch all police forces to suppress criminals.

- Solution: The director general with Provincial Public Security Bureau can command the police officers at all levels for collaboration to finish the task.

20. Audio Link

Description

You can tie the different dispatch stations together for a temporary intercommunication purpose.

Scenario 1

- Problem: The Emergency Center receives a call that a massive forest fire has broken out on the border of two counties. And all emergency communication vehicles from two counties are concentrated at the fire site waiting for further operations.
- Solution: The dispatcher temporarily groups all emergency communication vehicles, which can report to the center rather than communicate with each other. Finally, the dispatcher commands them simultaneously to put out the fire.

Scenario 2

- Problem: The local police usually do not communicate with each other. As The Provincial Public Security Bureau organizes the large-scale training to cultivate collaborative ability in the battle, it is required to realize intercommunication between local polices.
- Solution: The dispatcher can apply this feature to temporarily assign the local police to the same group for intercommunication purpose.

21. Phone Access

Description

The SmartDispatch or radio subscriber can make a simplex call to the phone (including telephone and mobile phone).

- The SmartDispatch can make, receive or forward a phone call.
- The SmartDispatch can forward a phone call to the radio.
- When the radio subscriber intends to initiate a call to a telephone subscriber, he/she should send a text message including the telephone number to SmartDispatch, which then establishes a call with the telephone.

  During the call, the telephone subscriber should press the pound key (#) to indicate that he/she has finished talking. Then the radio subscriber is allowed to press and hold the **PTT** to talk. For example, during the ongoing call between radio subscriber A and telephone subscriber B, when subscriber B finishes talking, he/she needs to press the pound key (#). Then subscriber A can press and hold **PTT**

to talk. If subscriber A fails to talk within the preset time, subscriber B will get back the right to talk again.

Note

To enable this feature, it is mandatory to set the IP-PBX device. Here, IPPBX, an abbreviation for Internet Protocol Private Branch Exchange, is a dedicated IP-based exchange.

Scenario

- Problem: The police have received a call about the unknown bomb in the station. As the field situation is complicated, the police officer needs assistance from the specialist in another city to dispose of this bomb securely and quickly.
- Solution: The dispatcher directly makes a call to the specialist, and then forwards this call to the police officer, so as to realize smooth intercommunication between them. Finally, the police officer disposes of this bomb successfully under the guidance of the specialist.

22. Dispatcher Intercom

Description

All online dispatchers can make a simplex call or send a short message to each other.

Scenario

- Problem: The Provincial Public Security Bureau plans to carry out an anti-drug campaign, which requires all dispatchers under its jurisdiction to cooperate closely.
- Solution: Dispatchers at all levels use this feature to communicate with each other, easily keeping a close eye on the campaign information.

23. Email Access

Description

With SmartDispatch, you can send or receive emails to/from the radio subscriber in a specified format.

- The email format for radio to SmartDispatch is described below:

  From:

  Subject: Sender type: + Sender ID (group ID or radio ID)

  Date:

  Content:

- The email format for SmartDispatch to radio is described below:

  To:

Subject:

From:

Content:

Scenario

- Problem: The important email need to be forwarded to the radio subscriber.
- Solution: The dispatcher can forward this email to the radio subscriber by means of short message.

24. Remote Monitor

Description

You can turn on the microphone of a radio, to monitor any audible activity surrounding that radio. When you use this feature, no audible or visual indication is given to the radio.

There are two working modes with the feature: Conventional and Emergency. The latter mode must be enabled via the Customer Programming Software. Otherwise, this feature would not be available when the radio is in emergency mode.

All communication activities during monitoring would be recorded automatically. You can analyze them and generate a report if necessary.

Scenario

- Problem: The patrol chases an armed robbery suspect while he sends emergency call to the dispatcher. Unfortunately, this patrol is attacked by another robber and his radio drops to the ground.
- Solution: The dispatcher can apply this feature to hear the background noise and know the location of this incident reported by the patrol via the radio. And then he/she commands other patrols to rush to the site for help.

25. Call Alert

Description

If you fail to call a radio subscriber, you can send a Call Alert to remind him/her to call you back.

Scenario

- Problem: The dispatcher fails to call the patrol man, since he is busy.
- Solution: The dispatcher can send the Call Alert to the patrol man, to notify him of calling back later.

26. AVL

Description

On the map, you can directly make a call to the radio subscriber, and measure the distance or area. In addition, you can save a certain area of the map. When you open the map next time, it will appear automatically.

Scenario

- Problem: The dispatcher finds that the patrol man deviates from the designated route on the map.
- Solution: The dispatcher can directly call the patrol man on the map, and warn him to go back right now.

27. WAN Application

Description

You can connect the SmartDispatch Server, SmartDispatch Client and SmartDispatch Gateway via the WAN. Thus, no matter where you are, you can access the SmartDispatch system via the WAN.

Scenario

- Problem: As there is an outbreak of terrorist activities in the city A, commanders from the surrounding cities need to know the real-time conditions on the spot and collobarate with the commander in the city A to fight terrorism.
- Solution: The commanders from various geographical areas can directly access the SmartDispatch system in the city A via the WAN, to get the real-time information and work together to curtail the terrorist activities.

28. Repeater Access

Description

The repeater can be deployed in the SmartDispatch system, to extend the communication coverage.

Scenario

- Problem: From casinos and resorts to hotels and cruise ships, the service personnel, security, and other support teams must keep in constant contact to ensure the greatest customer experience, safety and security. However, distance and buildings obstruct radio communication.
- Solution: The repeater can be placed wherever your staff needs to communicate, to secure the stable communication.

29. Batch Export or Import

Description

The Batch Import feature provides you a fast and efficient way to add a large number of radios or work groups in batches, while the Batch Export feature provides you a way to export the existing radio or work group information to the Excel file.

Scenario

- Problem: As the system administrator needs to add all radios and work groups from different regions to the SmartDispatch system, it is time-consuming to add them one by one.
- Solution: The system administrator can find the Excel template and send it to the responsible person in different regions, and then ask them to add radios and work groups to this Excel and send it back. Afterwards this administrator can import this Excel to the SmartDispatch system at a time.

30. Database Backup and Recovery

Description

The Database Backup feature protects your database and recordings against data loss, while the Database Recovery feature allows you to reconstruct the database after any kind of data loss.

There are two database backup mechanisms: manual backup and automatic backup.

- Manual Backup:

You should manually back up the database and recordings. The backup file is saved as a .zip file in the designated directory using this format: Hytera_RDS_BAKyyymmdd_X.zip" (for example: Hytera_RDS_BAK20121224_0.zip).

- Automatic Backup:

The database and recordings can be automatically backed up by month or week (customized).The backup file is saved as a .zip file in the designated directory using this format: Hytera_RDS_BAKyyymmdd_X.zip" (for example: Hytera_RDS_BAK20121224_0.zip).

Scenario

- Problem: The power outrage occurs in the device room, interrupting the system operation and causing data loss.
- Solution: The system administrator can search out the database by the backup file name to reconstruct the database.

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