IP Dispatch Software
User Manual
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-Free of charge
-Small and simple
-Easy to configure and use
-For basic use only
-Available online for download

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If you have any suggestions and requirements, it is greatly appreciated to submit up to the recommended email address. Comments on how the tools has helped you would be very much
welcomed. This will encourage us to provide more tools to help your business. Hytera retains the rights
to change the products based on the feedbacks received.

Email Address: appmanager@hytera.com.
Documentation Information

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

Documentation Conventions

Instructional Icons

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tip</td>
<td>Indicates information that can help you make better use of your product.</td>
</tr>
<tr>
<td>Note</td>
<td>Indicates references that can further describe the related topics.</td>
</tr>
<tr>
<td>Caution</td>
<td>Indicates situations that could cause data loss or equipment damage.</td>
</tr>
<tr>
<td>Warning</td>
<td>Indicates situations that could cause minor personal injury.</td>
</tr>
<tr>
<td>Danger</td>
<td>Indicates situations that could cause major personal injury or even death.</td>
</tr>
</tbody>
</table>

Notational Conventions

<table>
<thead>
<tr>
<th>Convention</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot; &quot;</td>
<td>The quotation marks enclose the name of a software interface element. For example, click &quot;OK&quot;.</td>
</tr>
<tr>
<td>Bold</td>
<td>The text in boldface denotes the name of a hardware button. For example, press the PTT key.</td>
</tr>
<tr>
<td>-&gt;</td>
<td>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 -&gt; New.</td>
</tr>
</tbody>
</table>

Revision History

<table>
<thead>
<tr>
<th>Version</th>
<th>Release Date</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1.0</td>
<td>05-2014</td>
<td>Initial release</td>
</tr>
<tr>
<td>V1.1</td>
<td>12-2014</td>
<td>1. Dispatch Station connects to PC via UART_to_IP/USB/IP.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Connection mode. ADK setting and log path are configurable in Configuration Window.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. UI update.</td>
</tr>
</tbody>
</table>
1. Brief Introduction

IP Dispatch is an application based on Hytera DMR API, which support text&voice messages with terminals. It mainly faces to customers that take orders as communication manner.

This application guarantees time and smooth of working communication, and at the same time, it keeps professional and effective working environment.

Only one free solution is allowed to connect with a Dispatch Station at the same time.

**Note:** For the IP Dispatch to work correctly, it is recommended to turn off the computer firewall. IP Dispatch only support digital channel, not analog channel.

1.1 Typical Application Scenarios

IP Dispatch supports both text and voice operation. For text, it supports both private and group text messaging. For voice, it supports private, group and all call. It takes command center as the core, processes work dispatching and reporting through sending and receiving text & voice messages with executives.

There are message logs for both the text and voice operation for later retrieval. Timing triggered message is also a feature embedded into this tool to enhance the usability.

1.1.1 Scenario One (USB)
Figures above illustrate one of the use cases for IP Dispatch.

IP Dispatch uses portable or mobile as a Dispatch Station via USB. You can send IP Dispatch messages to target terminals via radio network or UDP/IP network between Dispatch Station and target terminals. In this kind of scenario, you can send both text and voice messages.

### 1.1.2 Scenario Two (UART_to_IP)

**Description:** Mobile via UART_to_IP Module connects to PC.
1.1.3 Scenario Three (Repeater)

Figure above illustrates another use case for IP Dispatch.

IP Dispatch uses repeater as a Dispatch Station via IP network. You can send text messages to target terminals via radio network between Dispatch Station and target terminals.
## 2. Before Use

### 2.1 Prerequisite

Please prepare the resources in the following list.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
</table>
| PC                            | Operating System: Windows XP/ Windows 7 32/64 bit  
This guide takes Windows 7 as the example.  
As for the USB driver, please refer to the *Hytera USB Driver Installation User Guide* of V5.30.42.0.                                                                                                                                                                  |
| CPS                           | The IP Dispatch software is included in the program of CPS R5.5 or above.  
Please make sure the CPS is installed properly before using this software.  
In this guide, we take CPS V5.05.xx.xxx as the example.                                                                                                                                                                                                                           |
| Mobile                        | The IP Dispatch software is applicable to the mobile of R5.5 or above.                                                                                                                                                                                                                                                                     |
| Repeater                      | The IP Dispatch software is applicable to the repeater of R5.5/R6.5 (repeater R6.0 does not support).                                                                                                                                                                                                                                   |
| Programming Cable for Mobile  | The programming cable is used to configure the Terminal radio. The detail information, please refer to the mobile’s user manual. The Third Party can get the manual from Hytera local sales.                                                                                                                           |
| Dispatch Cable                | It is used to connect Dispatch Station and PC that has been installed Gateway software. There is audio input, audio output and USB port at the end that connect to the PC, and the other end is used to connect to Dispatch Station through the 26-PIN port.                                                                                 |
| PC71(UART_to_IP Module)       | If use UART_to_IP Module, mobile MD78X has to be converted the USB port to a UART one on the rear connector port (please refer to “MD78X USB to UART” document).  
The hardware version of Mobile MD65X must be the newest. If UART_to_IP function is not work, may be the hardware version is too low. The hardware must be modified (please refer to “MD65X USB to UART” document).  
Both of mobile’s firmware must above R6.0.  
If you have any question about this, please contact to Hytera.                                                                                                                |
2.2 Applicable Model

<table>
<thead>
<tr>
<th>Terminal</th>
<th>P3,P5,PD6XX,PD7XX,MD6XX,MD78X, X1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dispatch Station</td>
<td>MD78X, MD65X,RD98X,RD96X,RD62X</td>
</tr>
</tbody>
</table>
3. Software Installation

3.1 .Net Framework 4.0 Installation

**Step 1.** Find dotNetfx40.exe "third_party_tools" file in the archive directory. Double-click Net Framework 4.0 installation package.

**Step 2.** Click "Install".
Step 3. Click "Finish" to complete the Net Framework 4.0 installation.
3.2 vcredist_2010_x86 Installation

**Step 1.** Find the vcredist_2010_x86 file from “third_party_tools” directory and unzip it.

**Step 2.** Double-click the installation “vcredist_2010_x86.exe”. Install it by default.

Note: In Win XP, you need to install vcredist_2008_x86.exe and vcredist_2010_x86.exe. In Win 7, you just need to install vcredist_2010_x86.exe.

3.3 IP Dispatch Installation

**Step 1.** Find Setup.exe in the compressed package, double-click the installation Setup.exe.

**Step 2.** Click "Next".
Step 3. Choose consent statement, click "Next".

**License Agreement**

Please read the following license agreement carefully.

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If you have any suggestions and requirements, it is greatly appreciated to submit up to

- I accept the terms of the license agreement
- I do not accept the terms of the license agreement

Step 4. Enter the User Name and Company Name, click "Next".

**Customer Information**

Please enter your information.

Please enter your name and the name of the company for which you work.

User Name:  
Hytera-admin

Company Name:  
Hytera
Step 5. Select the installation path, click "Next".

![Image of InstallShield Wizard Select Destination Location]

Step 6. Click "Install".

![Image of InstallShield Wizard Ready to Install the Program]
Step 7. Click "Finish" to complete the installation.
4. Radio Setup Configuration

4.1 Dispatch Station - Mobile Configuration

Step 1. Run the CPS and enter its main interface.

Step 2. Select “Program -> Read From Radio” or click , you will see the pop-up “Communication Port” dialogue box.

Step 3. Select the corresponding USB port (e.g.: USB1) for the MD78X, and click “OK” to enter the “Read” dialogue box.
**Step 4.** If MD78X connects to PC via USB, Select "Conventional -> General Setting -> Network", check the box "Forward to PC" in the "Network" area, select "NCM" in "Radio's USB Network communication protocol".

If MD78X connects to PC via UART_to_IP, Select "Conventional -> General Setting -> Network", in the "Network" area check the box "Forward to PC", "Accessory Port Communication" select "UART To IP". Default value is suggested in Radio Control Station IP. It also can be set according to user's configuration, but the last digit must be 1.

**Step 5.** Select "Conventional -> DMR Service -> Basic", in the "Encode" area check the box "All Call Encode", "Private Call Encode", "Group Call Encode".
Step 6. Select “Program -> Write To Radio” or click ![icon], and the “Communication Port” box will pop up.

Step 7. Click “OK” to write the configure information into the MD78X. When the information is written, the MD78X will restart automatically to make the setting effective.

4.2 Dispatch Station - Repeater Configuration

Step 1. Run the CPS and enter its main interface.

Step 2. Select “Program -> Read From Radio” or click ![icon], you will see the pop-up “Communication Port” dialogue box.
Step 3. Select the corresponding USB port (e.g.: USB1) for the RD98X, and click “OK” to enter the “Read” dialogue box.

Step 4. Select "Conventional -> General Setting -> Network", Ethernet IP is the IP address of repeater. Gateway IP should be correct. Following figure shows normal IP settings.

Step 5. Select "Conventional -> General Setting -> Network". In the "Network" area, check the box "Forward to PC". The default value of “RTP Packet Buffer Length” is 1. If it is in Ethernet, you can set to 3 or above. “Third Party Server IP” is the IP address of PC.
Step 6. Select “Program -> Write To Radio” or click , and the “Communication Port” box will pop up.

Step 7. Click “OK” to write the configure information into the RD98X. When the information is written, the RD98X will restart automatically to make the setting effective.

4.3 Terminal Configuration

Step 1. Run the CPS and enter its main interface.

Step 2. Select “Program -> Read From Radio” or click , you will see the pop-up “Communication Port” dialogue box.
Step 3. Select the corresponding USB port (e.g.: USB1) for the PD78X, and click “OK” to enter the “Read” dialogue box.


Step 5. Select “Program -> Write To Radio” or click , and the “Communication Port” box will pop up.

Step 6. Click “OK” to write the configure information into the PD78X. When the information is written, the PD78X will restart automatically to make the setting effective.

### 4.4 UART_to_IP Module Configuration

#### 4.4.1 Serial Configuration

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baud Rate</td>
<td>460800</td>
</tr>
<tr>
<td>Data Bits</td>
<td>8</td>
</tr>
</tbody>
</table>
Stop Bits | 1  
---|---  
Port | 161  
Dest Port | 161  
Parity | None  
Flow control | None

### 4.4.2 IP Configuration

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source IP</td>
<td>UART_to_IP Module IP</td>
<td>192.168.20.146</td>
</tr>
<tr>
<td>Target IP</td>
<td>PC IP</td>
<td>192.168.20.145</td>
</tr>
<tr>
<td>Gateway</td>
<td>Gateway</td>
<td>192.168.20.1</td>
</tr>
</tbody>
</table>

All Configurations as follows:

<table>
<thead>
<tr>
<th>NETWORK</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>UART_to_IP</td>
<td>Target IP</td>
<td>192.168.20.145</td>
</tr>
<tr>
<td>Mode</td>
<td>UART</td>
<td>Back</td>
<td>192.168.20.146</td>
</tr>
<tr>
<td>Dest IP</td>
<td>192.168.20.145</td>
<td>Dest Port</td>
<td>161</td>
</tr>
<tr>
<td>HTTP Port</td>
<td>80</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:** The maximum payload length is recommended to be 1024, and the time delay for each UART interrupt is recommended to be 2ms, due to the UART feature, if multiple data messages are sent to this module through UART in very short time, it will cause different packets will be treated as one packet, so the console application shall be able to handle this situation according to the length and protocol header. Please refer to UART_to_IP Module manual for detailed configuration.
5. IP Dispatch Software

5.1 Main Interface of IP Dispatch

Default view layout introduction:

**Area 1: Title bar**

Click 🔄 to configure common configuration and alert mail.

Click 📌 to display information of software version.

Click 🔍 to get user manual.

**Area 2: Terminal List Area**

Click ✌️ to add new terminal.

Click 🟩 to modify configured terminal.

Click 🟠 to delete configured terminal.

Click 🗄️ to show all contacts.

Click 🗄️ to show common contacts.
Search terminal by Radio ID or Radio Alias.

**Area 3: Call Area**

Click to delete call log.

Click to export call log.

**Area 4: Message Area**

Click to delete message log.

Click to export message log.

### 5.2 Software Configuration

Click to enter the configuration window.

**Log Setting**

**Log save path:** E:\MyWorkspace\DMR\Solution\TMS\ibbranch\br_r1.0\build\bin\IP_Dispatch_Log.csv

**Shortcut key Setting**

Slot1 PTT F1

Slot2 PTT F2

**Dispatcher Setting**

<table>
<thead>
<tr>
<th>Port Type</th>
<th>Port Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>RRS Port 1</td>
<td>3002</td>
</tr>
<tr>
<td>LP Port 1</td>
<td>3003</td>
</tr>
<tr>
<td>TMP Port 1</td>
<td>5016</td>
</tr>
<tr>
<td>RCP Port 1</td>
<td>3005</td>
</tr>
<tr>
<td>TP Port 1</td>
<td>3006</td>
</tr>
<tr>
<td>DTP Port 1</td>
<td>3007</td>
</tr>
<tr>
<td>Self Define Data Port 1</td>
<td>3009</td>
</tr>
</tbody>
</table>

1) **Log Setting:** Saving path of Log (call log and message log).
2) Shortcut key Setting: Set Slot1/Slot2 PTT shortcut key.
3) Dispatch Station Setting: Port setting of Dispatch Station

- Dispatch Station connects to PC via USB.
- Dispatch Station connects to PC via UART_to_IP.
- Dispatch Station connects to PC via IP.

Note: If the connection setting of Dispatch Station changed, IP Dispatch software must restart.

5.3 Add/Modify Terminal

- Click + to add new terminal.

```
New Contact

Type

Private

Radio ID

Radio Alias

Cancel  OK
```

- Type:
  - Private: Private Call
  - Group: Group Call
  - All: All Call

- Radio ID: Range 1-167776415.
- Radio Alias: Range 1-16 characters.

Click “OK” to save configuration.
5.4 Check Status of Dispatch Station

“Waiting for device to connect” will be shown when Dispatch Station is offline.

When Dispatch Station is online, its ID will be shown in this area.

5.5 Voice dispatch

⚠️ Note: Before running this software, Please make sure that microphone is plugged in and work correctly.

5.5.1 Outgoing call

1. Select a contact (or select call log in Call List)
If Dispatch Station is repeater, it will show two slot panels.
2. Click “PTT” or press shortcut key.
3. Click “Hang up” to end the call.

1️⃣: Outgoing call through slot 1.
2️⃣: Outgoing call through slot 2.
5.5.2 Incoming call
When there is an incoming call, “PTT” will be disabled.
When **PTT** is released,"PTT" is enabled. Click “PTT” to call back.

1️⃣: Incoming call through slot 1.
2️⃣: Incoming call through slot 2.
5.6 Message dispatch
5.6.1 Real time messaging

1. Select a contact (or press Ctrl to select more contacts) and then edit message.
2. Click “Send” to send message immediately.

Click “Cancel” to cancel sending message.

<table>
<thead>
<tr>
<th>Message Status</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Received new message</td>
</tr>
<tr>
<td></td>
<td>Send message failed</td>
</tr>
<tr>
<td></td>
<td>Send message successfully</td>
</tr>
<tr>
<td></td>
<td>Schedule message</td>
</tr>
</tbody>
</table>

If send message successfully, it will show “Operation successful”.

If send message failed, it will show “Operation failed”. Click “Resend” to send the message again (Only
the failed message can be resend).

Click to send the message again.
5.6.2 Schedule message

1. Select a contact(or press Ctrl to select more contacts) and then edit message. Click ☑ to set schedule time to send message.

Click ☑ to cancel the schedule message.
6. FAQ

6.1 Opening the IP Dispatch failed

Phenomenon
At the left bottom of the PC, select “Start -> All Programs -> Hytera RCPs -> IP Dispatch -> IP Dispatch”, but the IP Dispatch cannot be opened.

Analysis
- Net Framework 4.0, vcredist_2008_x86 or vcredist_2010_x86 not installed correctly.

Solution
Need to be properly installed. Net Framework 4.0, vcredist_2008_x86 or vcredist_2010_x86.

Please refer to 3.1 and 3.2.

6.2 Dispatch Station is connected to PC, but display offline

Phenomenon
Dispatch Station is connected to PC, but display offline still (about 1 minute later).

Analysis
- USB connection: Dispatch Station connects to PC via USB
  1. Dispatch Station CPS setting is not correct. Make sure "Network/Forward To PC" is checked.
  2. USB Driver is not installed correctly.
  3. Radio’s Virtual IP is not available. The Virtual IP is invalid, such as “169.xxx.xxx.xxx”.

- Uart_to_IP connection: Dispatch Station connects to PC via Uart_to_IP
  1. The network between PC and Uart_to_IP module has problem.
  2. Uart_to_IP module setting is not correctly.
  3. PC’s IP is not the same as Uart_to_IP module IP setting.
  4. Radio’s hardware or firmware is too low.

- IP connection: Dispatch Station connects to PC via IP
  1. The network between PC and repeater has problem.
  2. PC’s IP is not the same as repeater’s setting.
  3. The port is not available.
Solution

USB connection: Dispatch Station connects to PC via USB
1. Install the USB Driver properly.
2. Check "Network/Forward To PC" in CPS. Please refer to 4.1 for detail.
3. Plug in the USB again or restart mobile.

Uart_to_IP connection: Dispatch Station connects to PC via Uart_to_IP
1. Change computer firewall setting.
2. Check mobile setting is correct. Please refer to 4.1 for detail.
3. Check Uart_to_IP module setting is correct. Please refer 4.4 for detail.
4. Check hardware and firmware version is available. Please refer to 2.1 for detail.

IP connection: Dispatch Station connects to PC via IP
1. Check repeater setting is correct. Please refer to 4.2 for detail.
2. Check whether other software conflict with IP Dispatch, such as “Smart Dispatch” software.

6.3 Window pop up, display “IP Dispatch is running”
Phenomenon
When open IP Dispatch.exe, there is a window display “IP Dispatch is running”
Analysis
1. IP Dispatch.exe is still running when close IP Dispatch.
Solution
1. Open Task Manager. Find IP Dispatch.exe in Process, close it.

6.4 Log cannot be exported
Phenomenon
Log cannot be exported.
Analysis
Software does not run as administrator in Win 7 or higher OS. Export directory has not written permission.
Solution
Software runs as administrator in Win 7 or higher OS. Export directory must have written permission.