



IP Dispatch Software

User Manual

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Release Date: 12-2014

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Disclaimer

As a leading supplier of professional wireless communications equipment and solutions, Hytera provides a series of software for the worldwide customers to help customers to further understand our DMR products. This software is:

- Free of charge
- Small and simple
- Easy to configure and use
- For basic use only
- Available online for download

These softwares are meant for demo purposes and does not contain any time limitation on using it. Hytera currently does not provide any customer support via the Sales, Marketing and Customer Service departments with regards to the use of these softwares. Usage and setup guides are available for each of the software to assist you in evaluating them. Hytera endeavors to achieve the usability and completeness of free software, but no warranty of accuracy or reliability is given. All the specifications and designs are subject to change without notice due to continuous products developments. We do however take in comments about improvements as well as new tool ideas but will not provide any commitment to its release. We do not guarantee, for any particular purposes, the accuracy, validity, timeliness, legitimacy or completeness of the free software.

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.

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Documentation Information

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

Documentation Conventions

Instructional Icons

Icon	Description
 Tip	Indicates information that can help you make better use of your product.
 Note	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.

Notational Conventions

Convention	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
V1.0	05-2014	Initial release
V1.1	12-2014	<ol style="list-style-type: none"> 1. Dispatch Station connects to PC via UART_to_IP/USB/IP. 2. Connection mode, ADK setting and log path are configurable in Configuration Window. 3. UI update.

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.



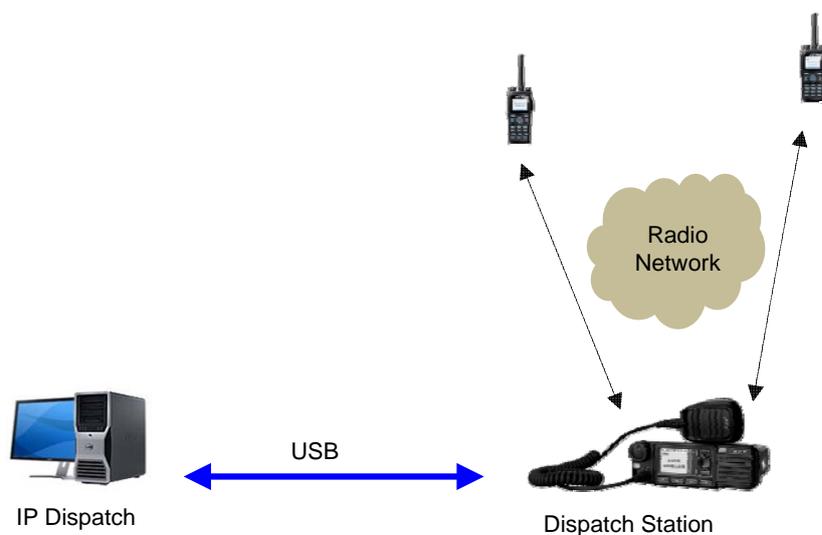
Note: For the IP Dispatch to work correctly, it is recommended to turn off the computer firewall. IP Dispatch only support digital channel, not analog channel.

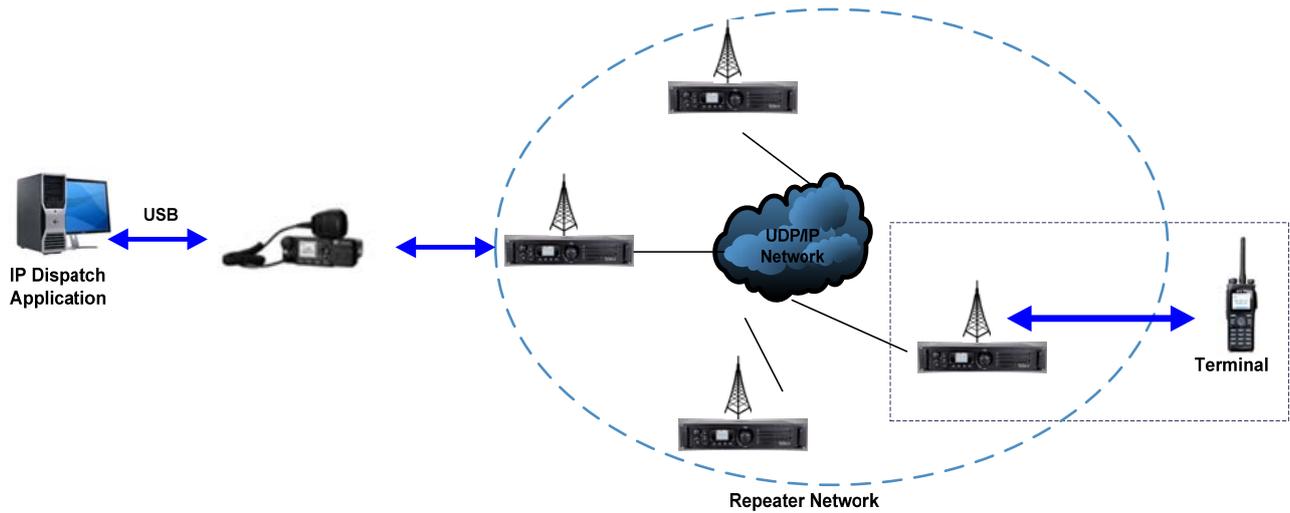
1.1 Typical Application Scenarios

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)

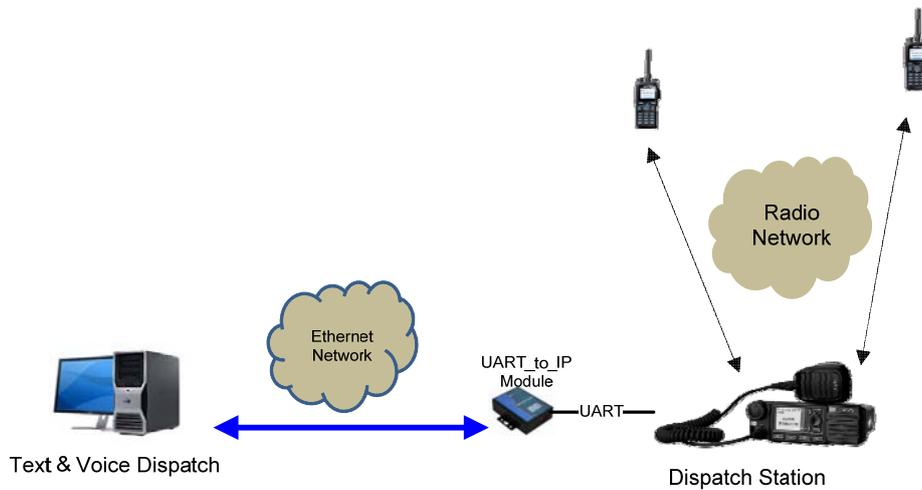




Figures above illustrate one of the use cases for IP Dispatch.

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)

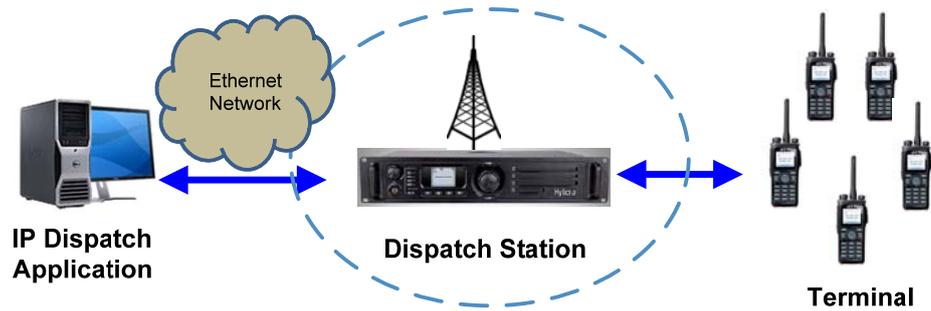


Figure above illustrates another use case for IP Dispatch.

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.

Item	Description
PC	<p>Operating System: Windows XP/ Windows 7 32/64 bit This guide takes Windows 7 as the example.</p> <p>As for the USB driver, please refer to the Hytera USB Driver Installation User Guide of V5.30.42.0.</p>
CPS	<p>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.</p>
Mobile	<p>The IP Dispatch software is applicable to the mobile of R5.5 or above.</p>
Repeater	<p>The IP Dispatch software is applicable to the repeater of R5.5/R6.5 (repeater R6.0 does not support).</p>
Programming Cable for Mobile	<p>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.</p>
Dispatch Cable	<p>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.</p>
PC71(UART_to_IP Module)	<p>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).</p> <p>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).</p> <p>Both of mobile's firmware must above R6.0.</p> <p>If you have any question about this, please contact to Hytera.</p>

2.2 Applicable Model

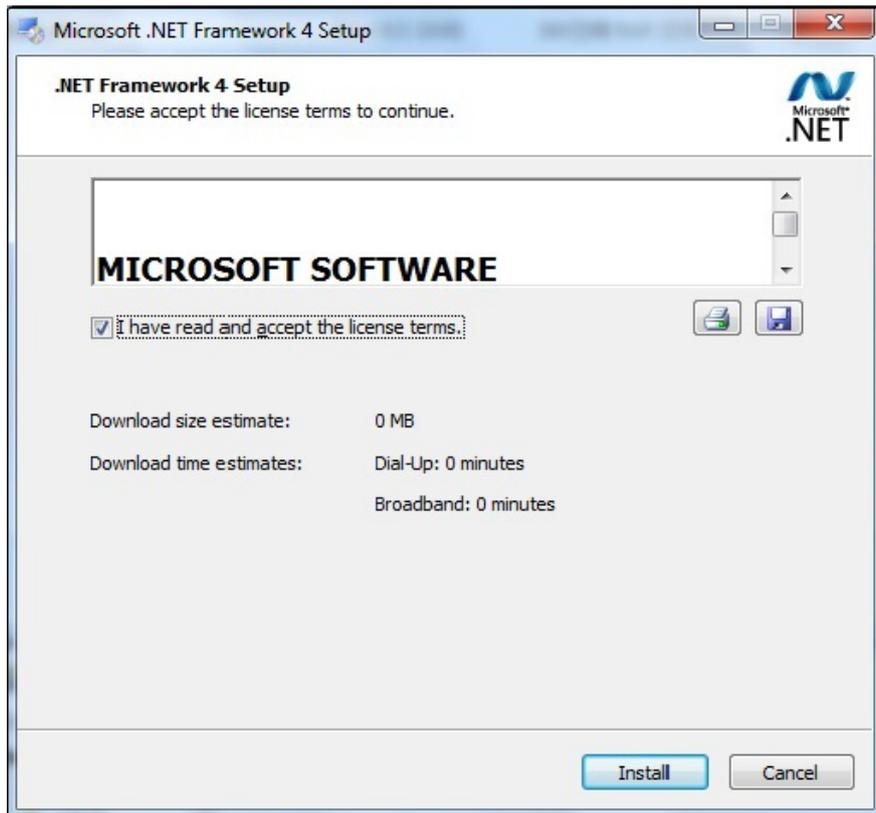
Terminal	P3,P5,PD6XX,PD7XX,MD6XX,MD78X, X1
Dispatch Station	MD78X, MD65X,RD98X,RD96X,RD62X

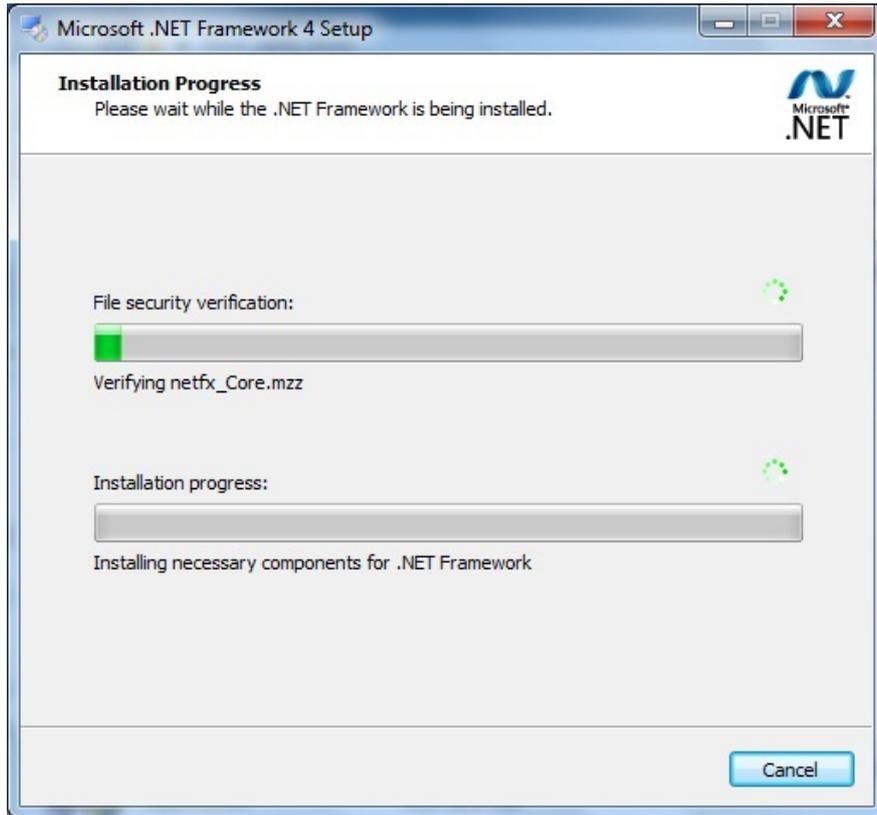
3. Software Installation

3.1 .Net Framework 4.0 Installation

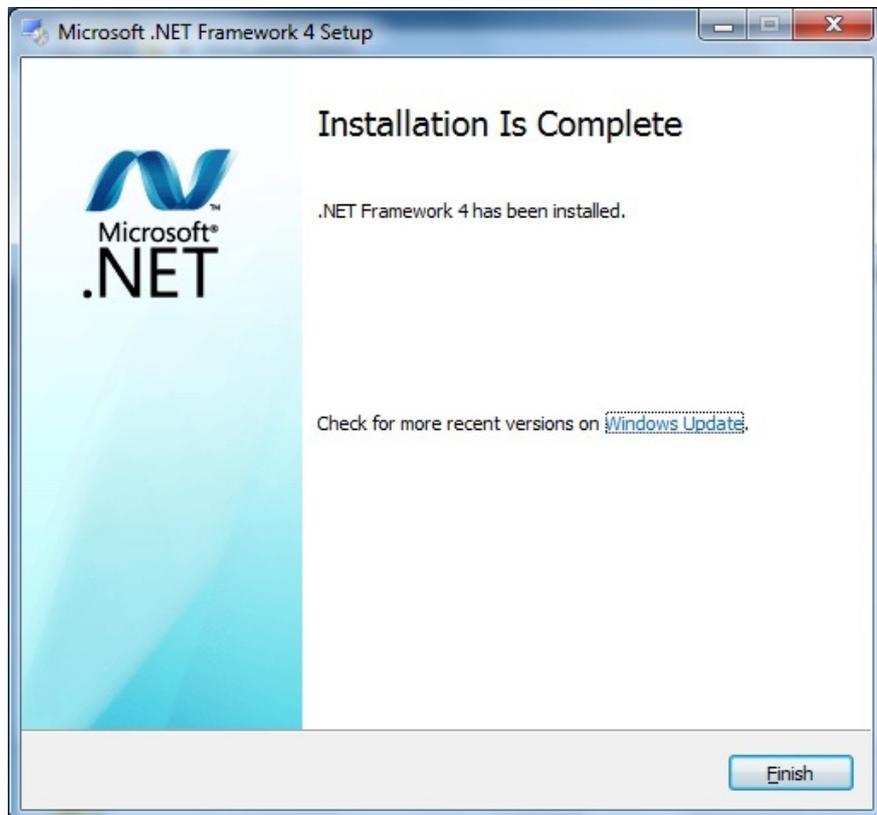
Step 1. Find dotNetfx40.exe “third_party_tools” file in the archive directory. Double-click Net Framework 4.0 installation package.  dotNetfx40.exe .

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.

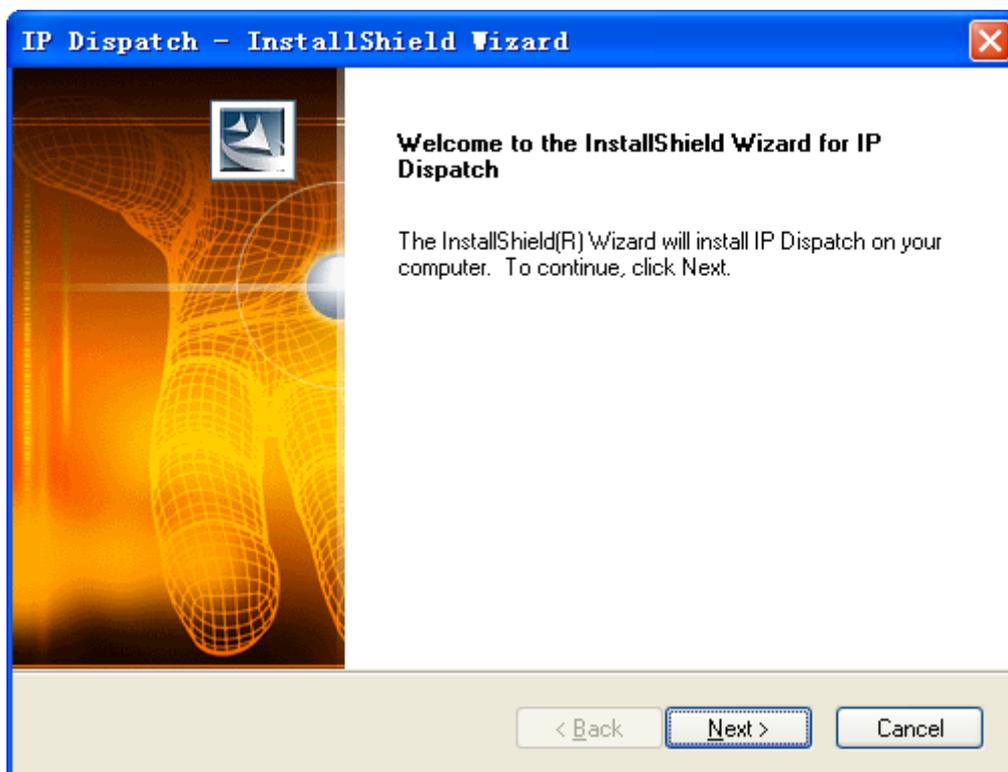
Step 2. Double-click the installation “vcredist_2010_x86.exe”. Install it by default.

 **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.

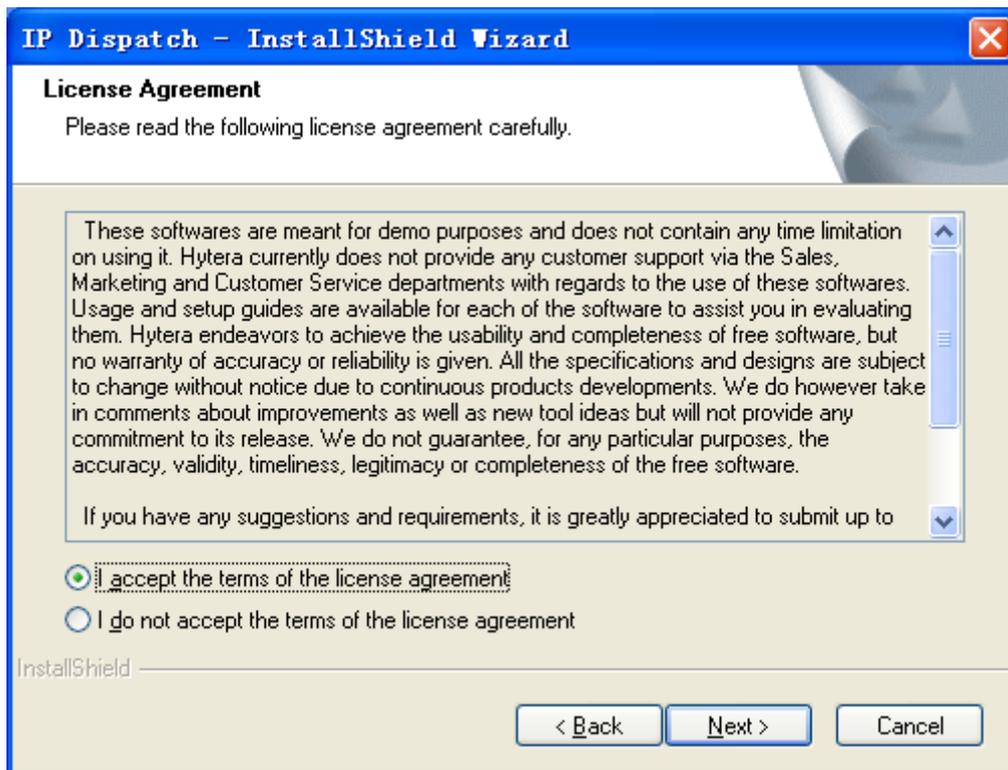
3.3 IP Dispatch Installation

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

Step 2. Click "Next".

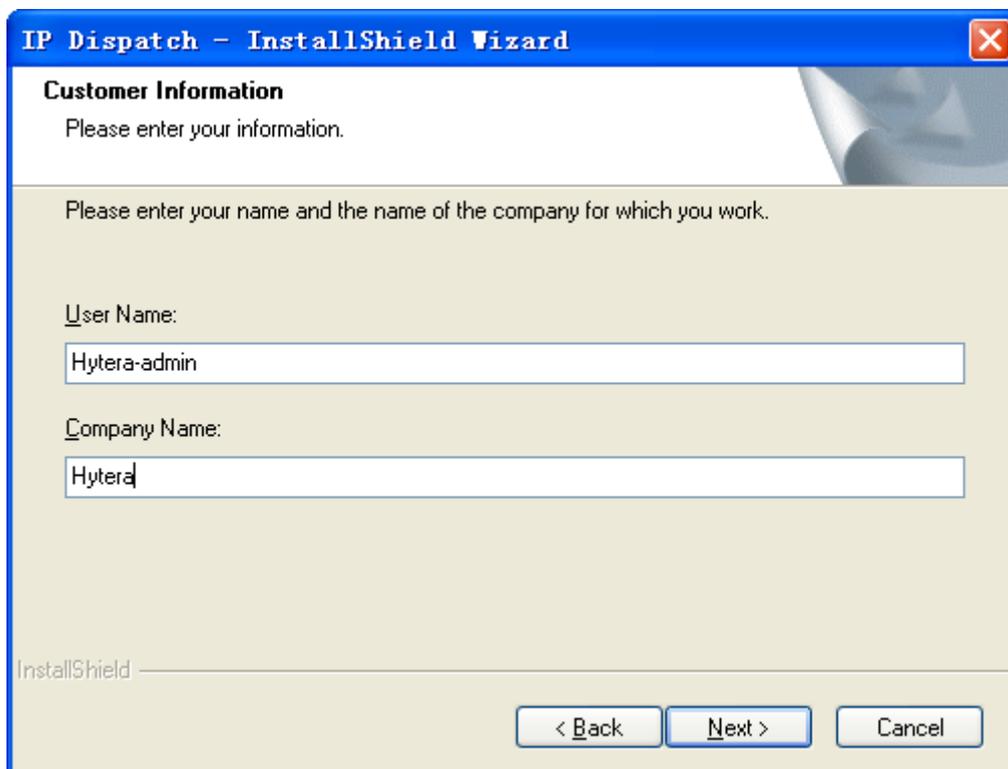


Step 3. Choose consent statement, click "Next".



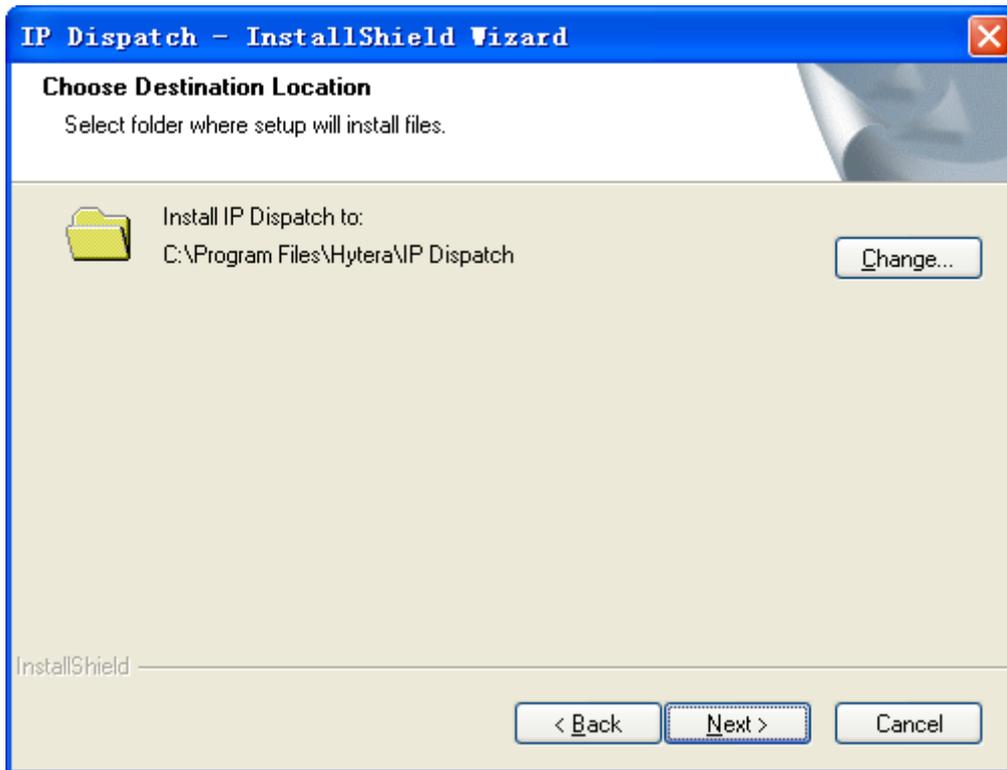
The screenshot shows a dialog box titled "IP Dispatch - InstallShield Wizard" with a close button (X) in the top right corner. The main heading is "License Agreement". Below the heading, it says "Please read the following license agreement carefully." A scrollable text area contains the following text: "These softwares are meant for demo purposes and does not contain any time limitation on using it. Hytera currently does not provide any customer support via the Sales, Marketing and Customer Service departments with regards to the use of these softwares. Usage and setup guides are available for each of the software to assist you in evaluating them. Hytera endeavors to achieve the usability and completeness of free software, but no warranty of accuracy or reliability is given. All the specifications and designs are subject to change without notice due to continuous products developments. We do however take in comments about improvements as well as new tool ideas but will not provide any commitment to its release. We do not guarantee, for any particular purposes, the accuracy, validity, timeliness, legitimacy or completeness of the free software." Below the text area, there is a line of text: "If you have any suggestions and requirements, it is greatly appreciated to submit up to". There are two radio buttons: the first is selected and labeled "I accept the terms of the license agreement"; the second is unselected and labeled "I do not accept the terms of the license agreement". At the bottom left, it says "InstallShield". At the bottom right, there are three buttons: "< Back", "Next >", and "Cancel".

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

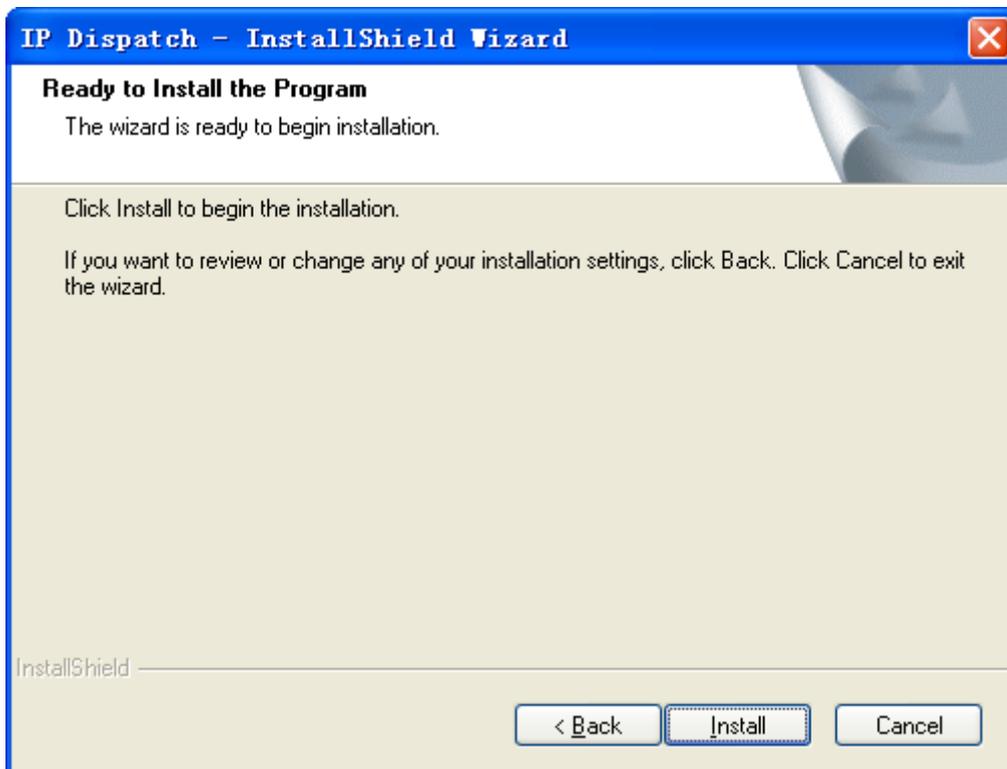


The screenshot shows a dialog box titled "IP Dispatch - InstallShield Wizard" with a close button (X) in the top right corner. The main heading is "Customer Information". Below the heading, it says "Please enter your information." A line of text says "Please enter your name and the name of the company for which you work." There are two text input fields: the first is labeled "User Name:" and contains the text "Hytera-admin"; the second is labeled "Company Name:" and contains the text "Hytera". At the bottom left, it says "InstallShield". At the bottom right, there are three buttons: "< Back", "Next >", and "Cancel".

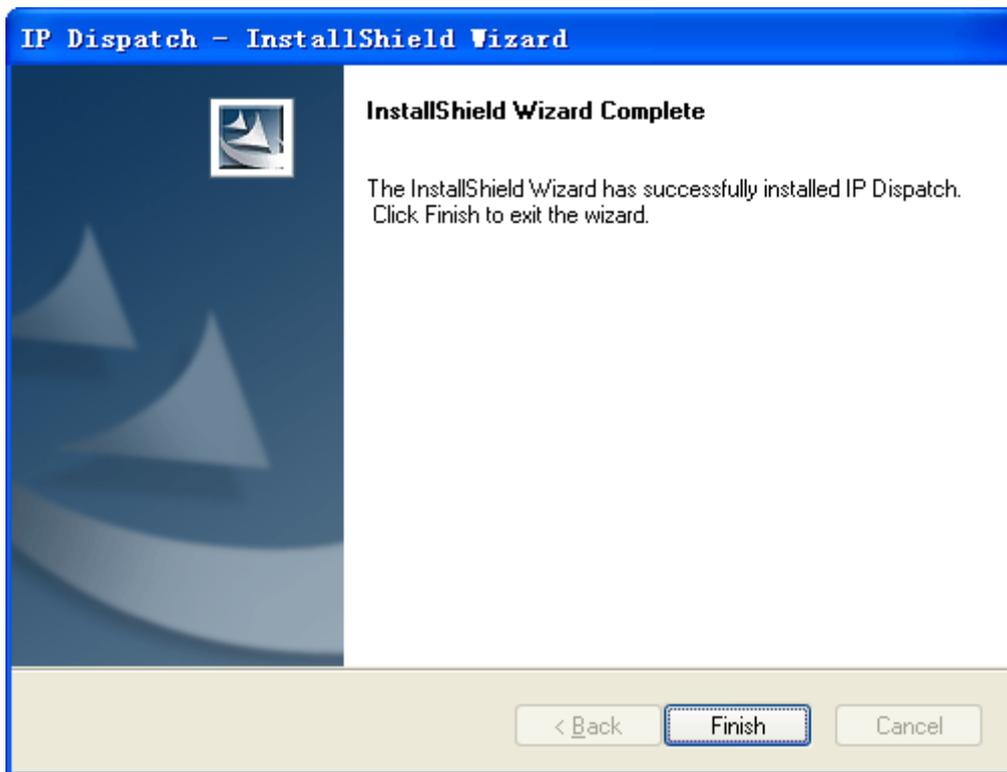
Step 5. Select the installation path, click "Next".



Step 6. Click "Install".



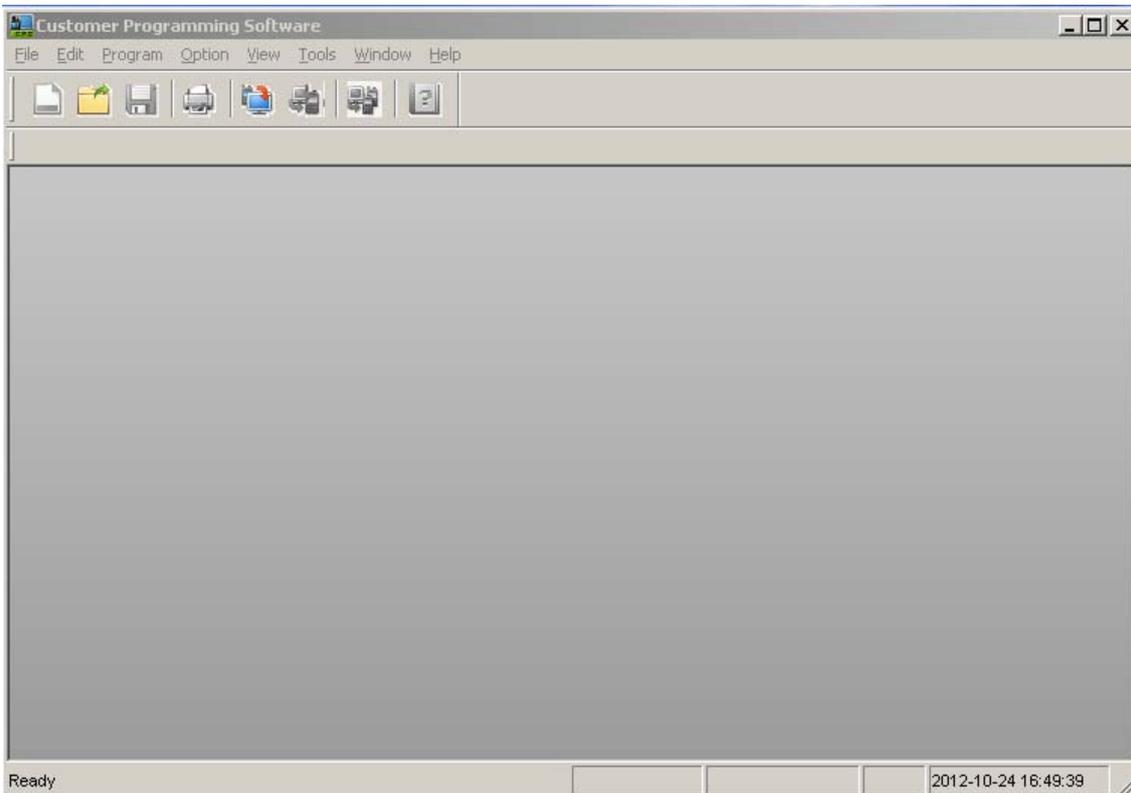
Step 7. Click "Finish" to complete the installation.



4. Radio Setup Configuration

4.1 Dispatch Station - Mobile Configuration

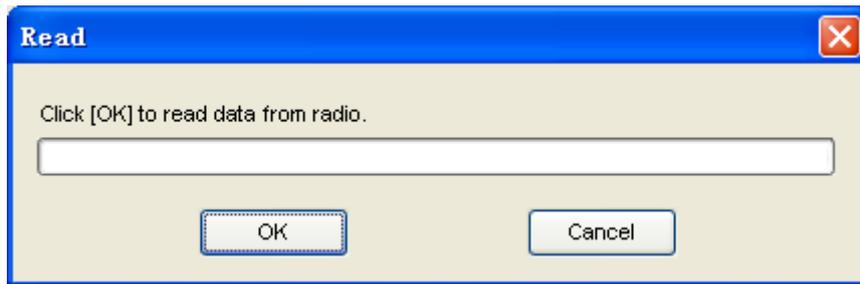
Step 1. Run the CPS and enter its main interface.



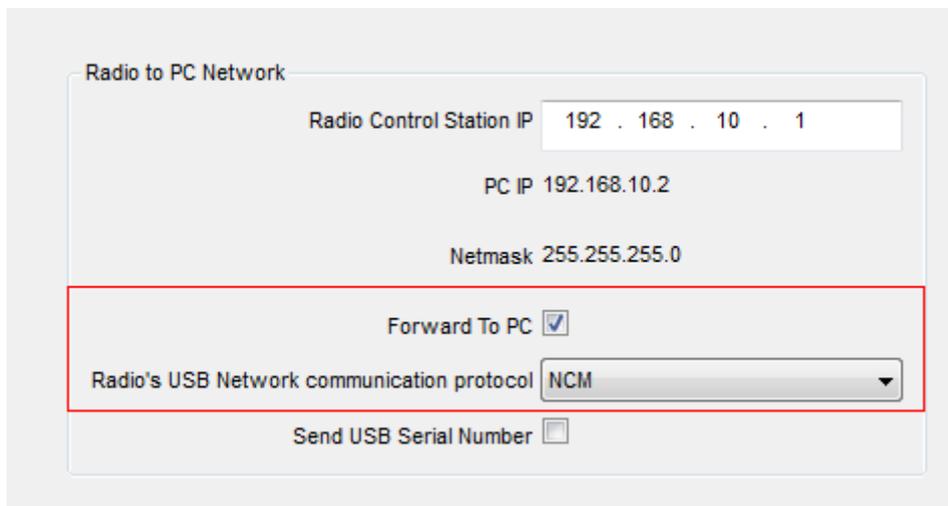
Step 2. Select "Program -> Read From Radio" or click , you will see the pop-up "Communication Port" dialogue box.



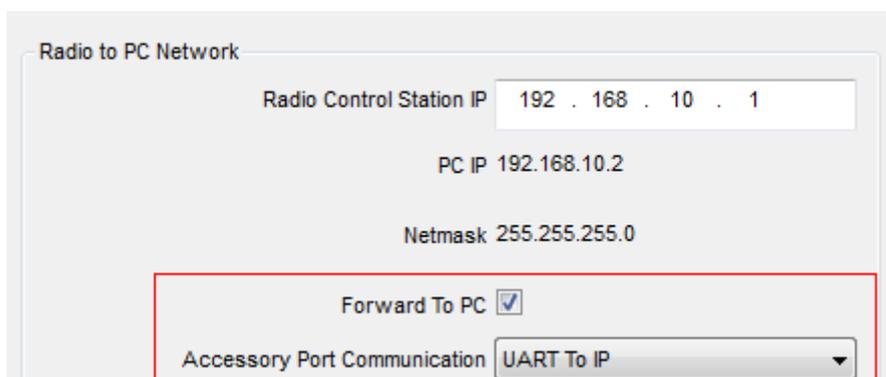
Step 3. Select the corresponding USB port (e.g.: USB1) for the MD78X, and click "OK" to enter the "Read" dialogue box.



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".

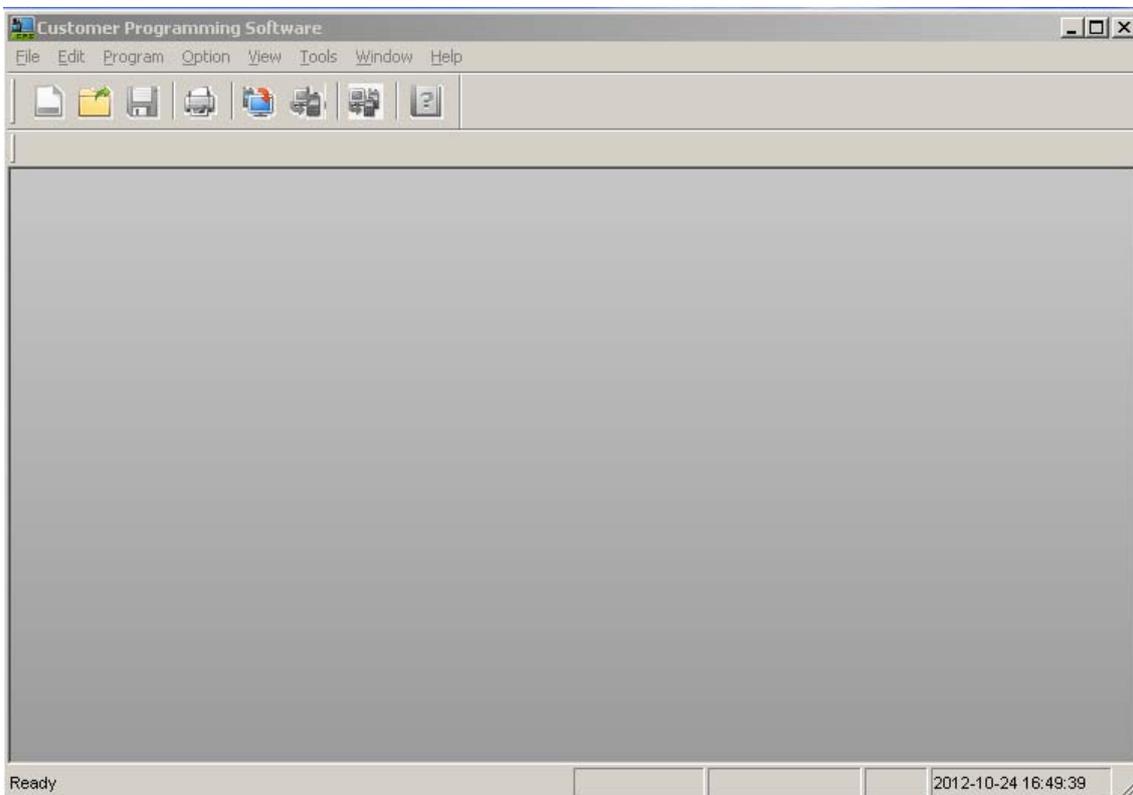


Step 6. Select “Program -> Write To Radio” or click , and the “Communication Port” box will pop up.

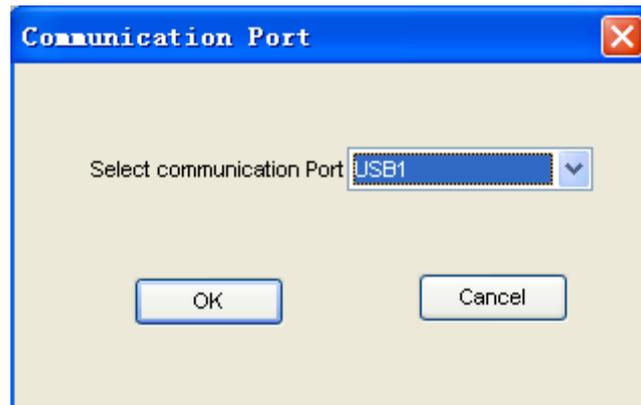
Step 7. Click “OK” to write the configure information into the MD78X. When the information is written, the MD78X will restart automatically to make the setting effective.

4.2 Dispatch Station - Repeater Configuration

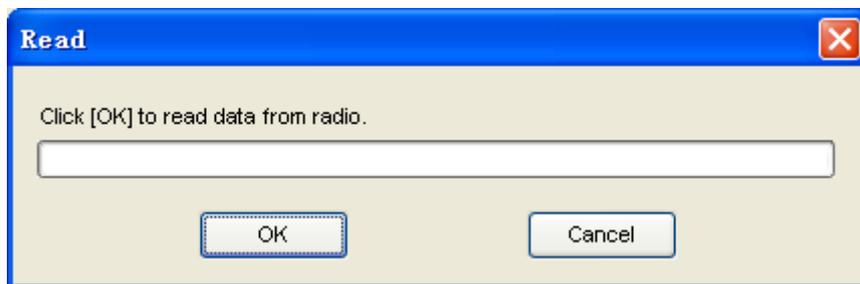
Step 1. Run the CPS and enter its main interface.



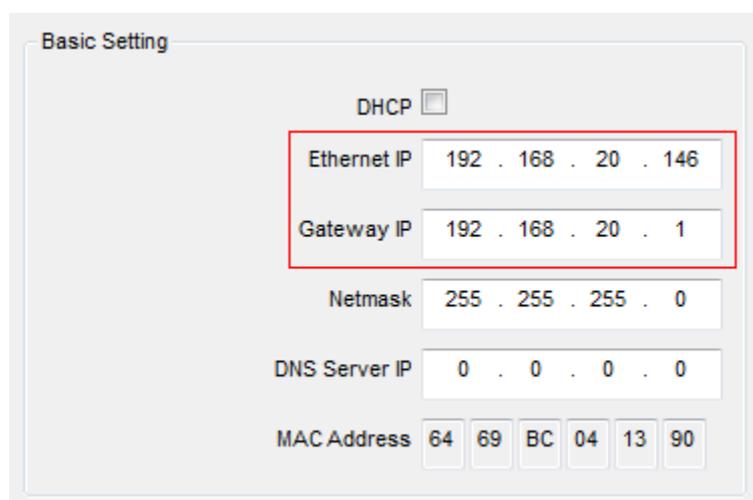
Step 2. Select “Program -> Read From Radio” or click , you will see the pop-up “Communication Port” dialogue box.



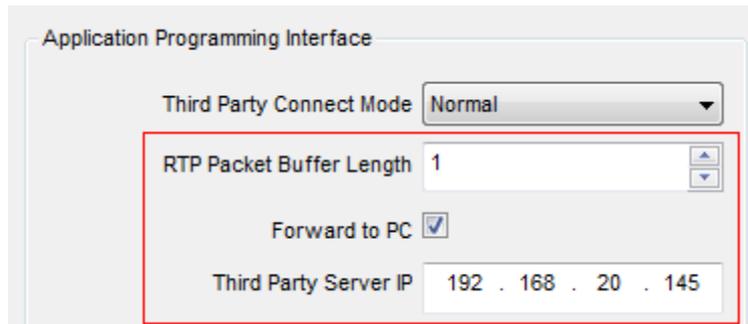
Step 3. Select the corresponding USB port (e.g.: USB1) for the RD98X, and click “OK” to enter the “Read” dialogue box.



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.

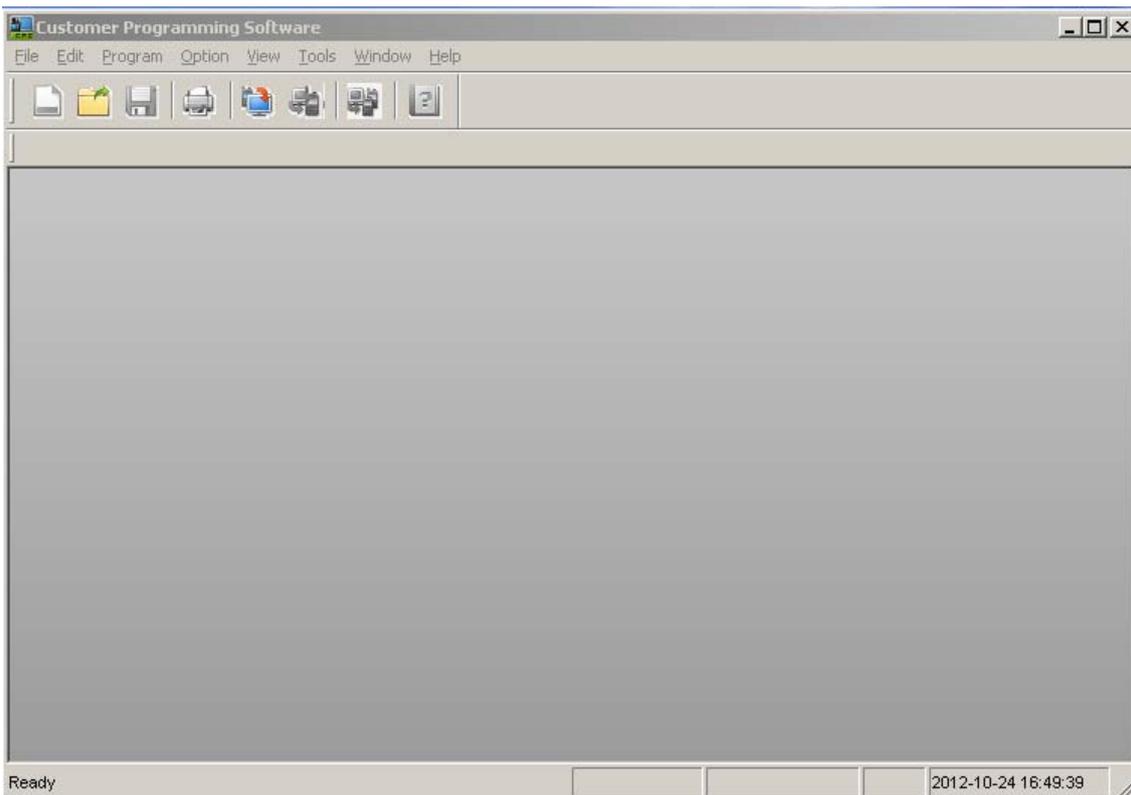


Step 6. Select “Program -> Write To Radio” or click , and the “Communication Port” box will pop up.

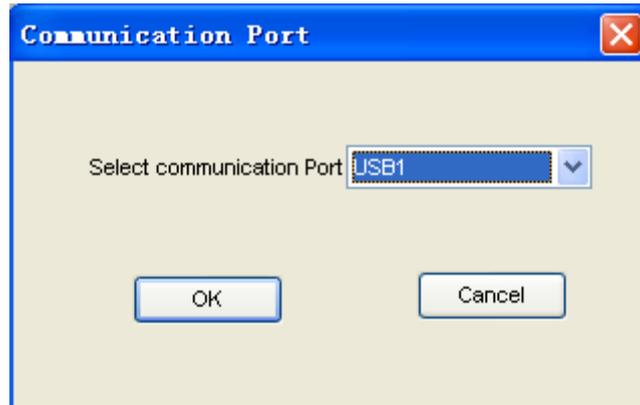
Step 7. Click “OK” to write the configure information into the RD98X. When the information is written, the RD98X will restart automatically to make the setting effective.

4.3 Terminal Configuration

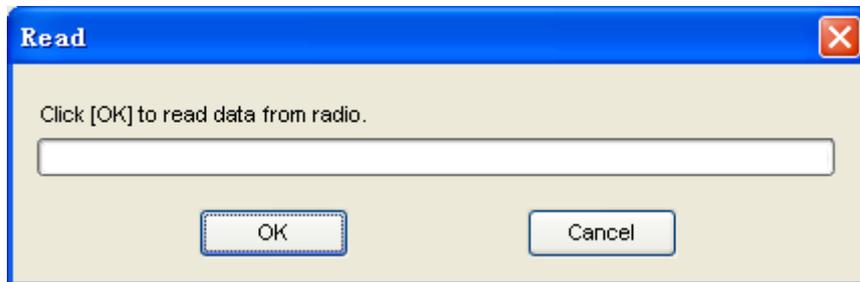
Step 1. Run the CPS and enter its main interface.



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 4. Select "Conventional -> DMR Service -> Basic". Check the box "All Call Encode", "Private Call Encode", "Group Call Encode" in the "Encode" area.



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

Parameter	Value
Baud Rate	460800
Data Bits	8

Stop Bits	1
Port	161
Dest Port	161
Parity	None
Flow control	None

4.4.2 IP Configuration

Parameter	Value	Example
Source IP	UART_to_IP Module IP	192.168.20.146
Target IP	PC IP	192.168.20.145
Gateway	Gateway	192.168.20.1

All Configurations as follows:

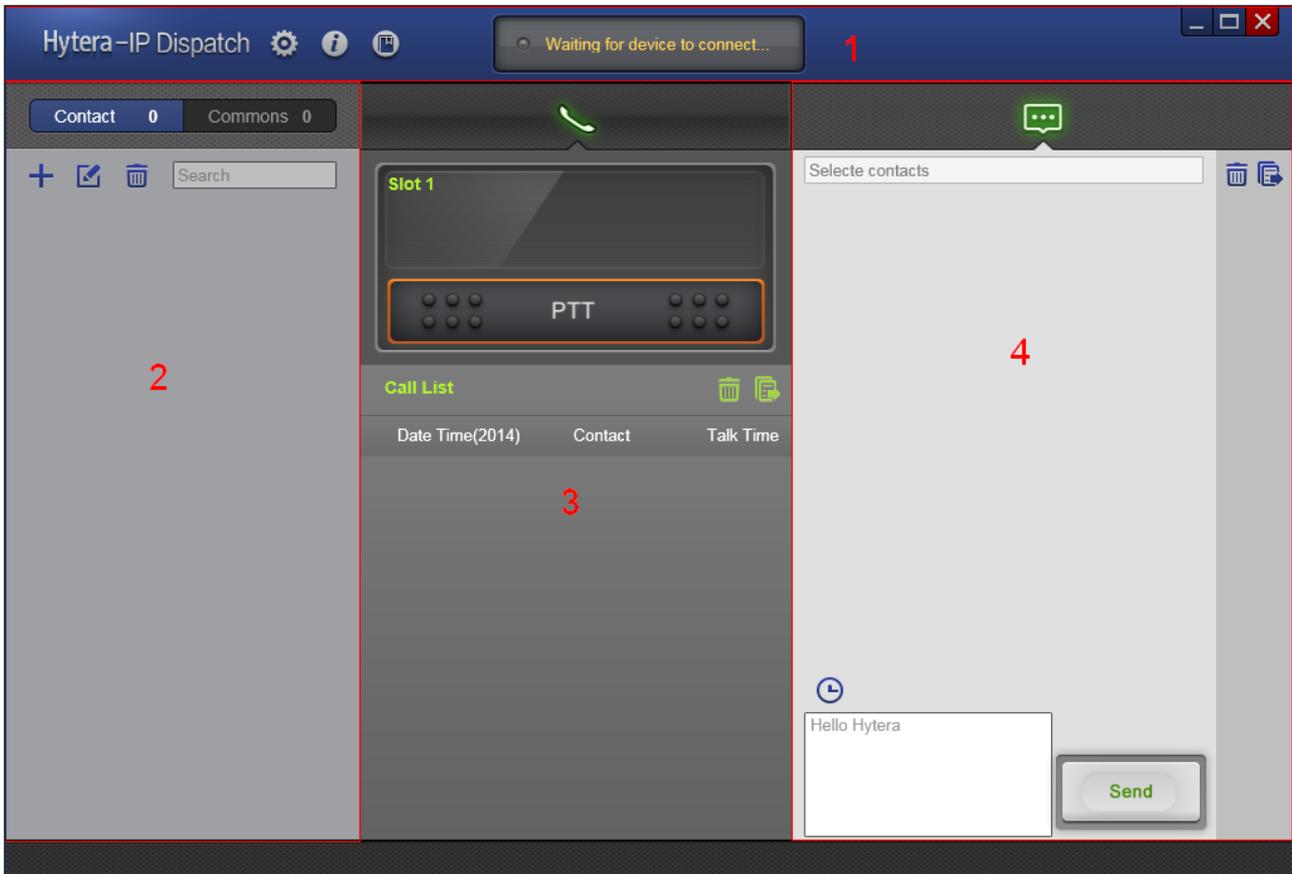
NETWORK					
Name	ZLDEV0001	IP	192.168.21.146	Port	161
Mode	UDP	Mask	255.255.255.0	Gateway	192.168.21.1
Dest IP	192.168.21.145	Dest Port	161	Http Port	80
SERIAL					
Baud rate	460800	Data bits	8	Parity	None
KEY					
New Key	*****	Retype	*****		
<input type="button" value="Submit"/>					



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.

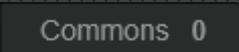
Area 2: Terminal List Area

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.

Common Configuration ✕

Log Setting

Log save path 📁

Shortcut key Setting

Slot1 PTT Slot2 PTT

Dispatcher Setting

USB
 Uart2
 

RRS Port 1	<input type="text" value="3002"/>
LP Port 1	<input type="text" value="3003"/>
TMP Port 1	<input type="text" value="5016"/>
RCP Port 1	<input type="text" value="3005"/>
TP Port 1	<input type="text" value="3006"/>
DTP Port 1	<input type="text" value="3007"/>
Self Define Data Port 1	<input type="text" value="3009"/>

- 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.

The image shows a 'New Contact' dialog box with a title bar containing a close button (X). The dialog has three main sections: 'Type' with a dropdown menu currently set to 'Private', 'Radio ID' with an empty text input field, and 'Radio Alias' with an empty text input field. At the bottom, there are two buttons: 'Cancel' and 'OK'.

- **Type:**
 - Private** : Private Call
 - Group** : Group Call
 - All** : All Call
- **Radio ID:** Range 1-16776415.
- **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.



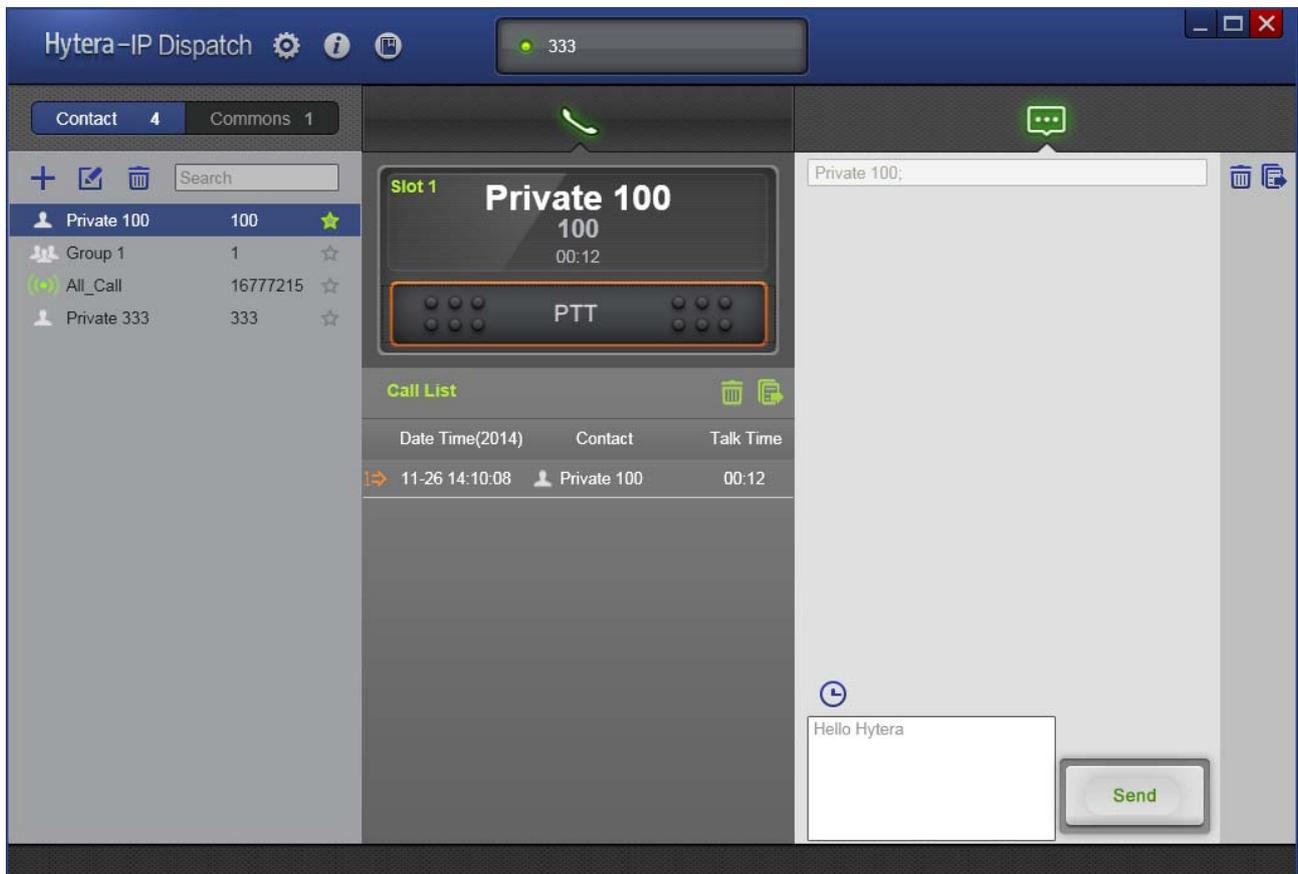
5.5 Voice dispatch



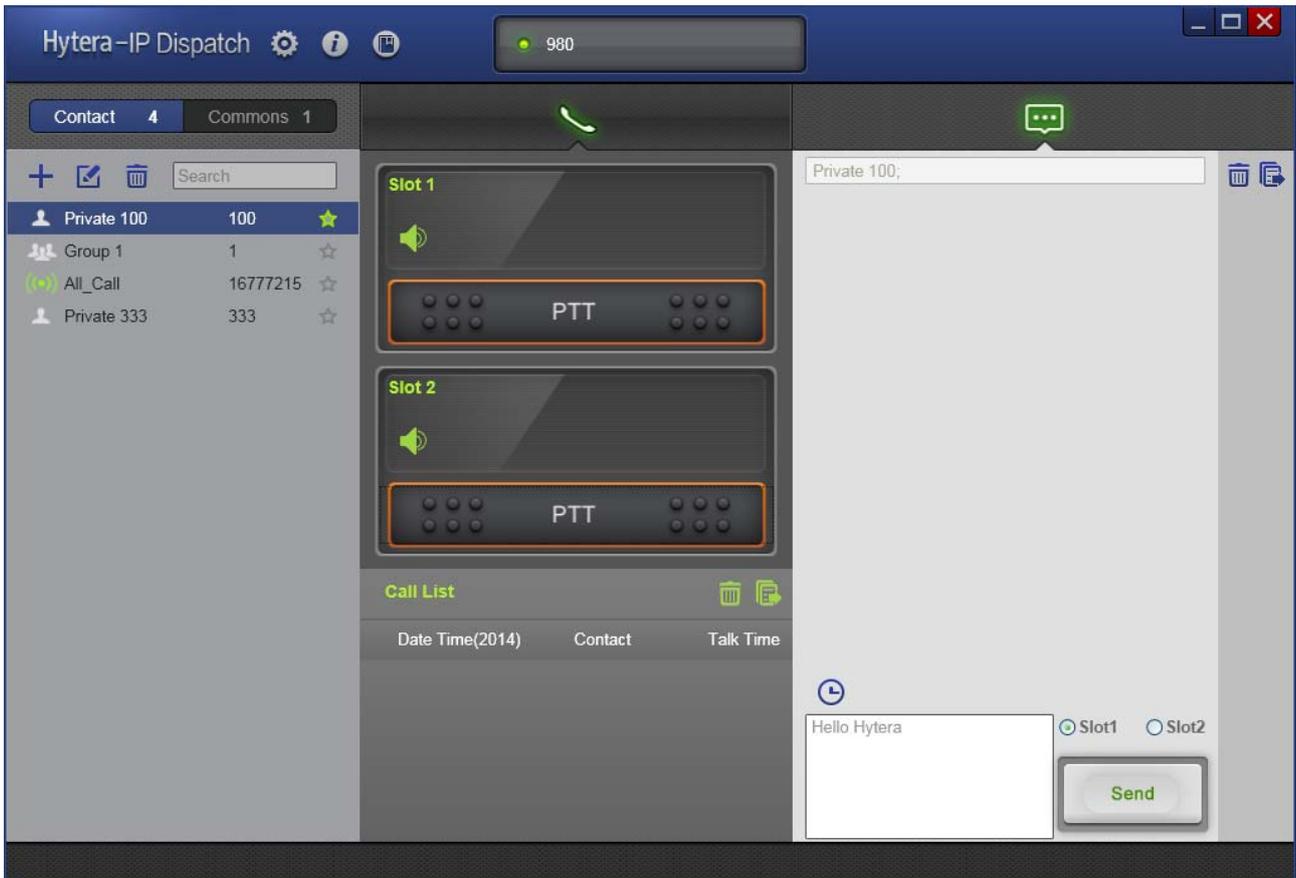
Note: Before running this software, Please make sure that microphone is plugged in and work correctly.

5.5.1 Outgoing call

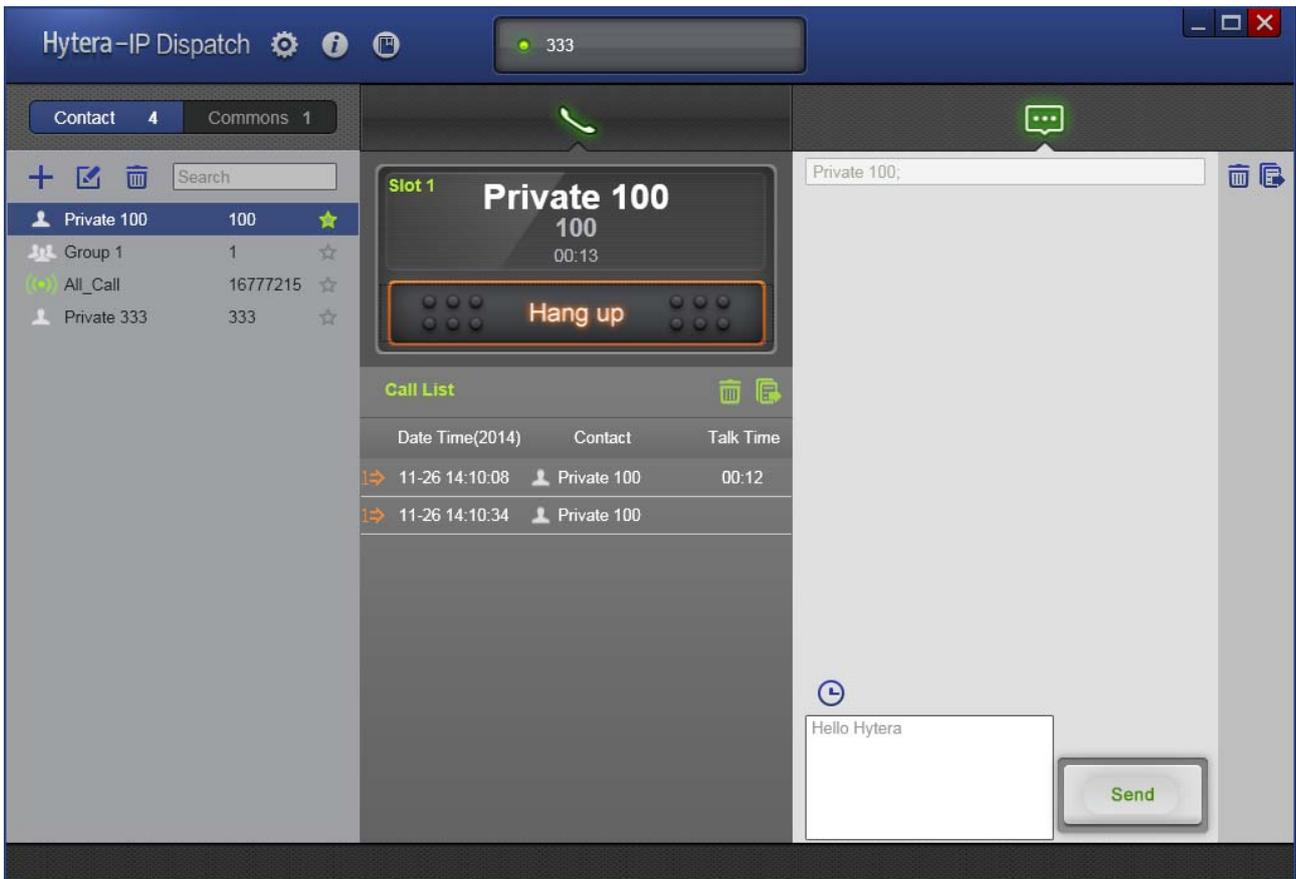
1. Select a contact (or select call log in Call List)



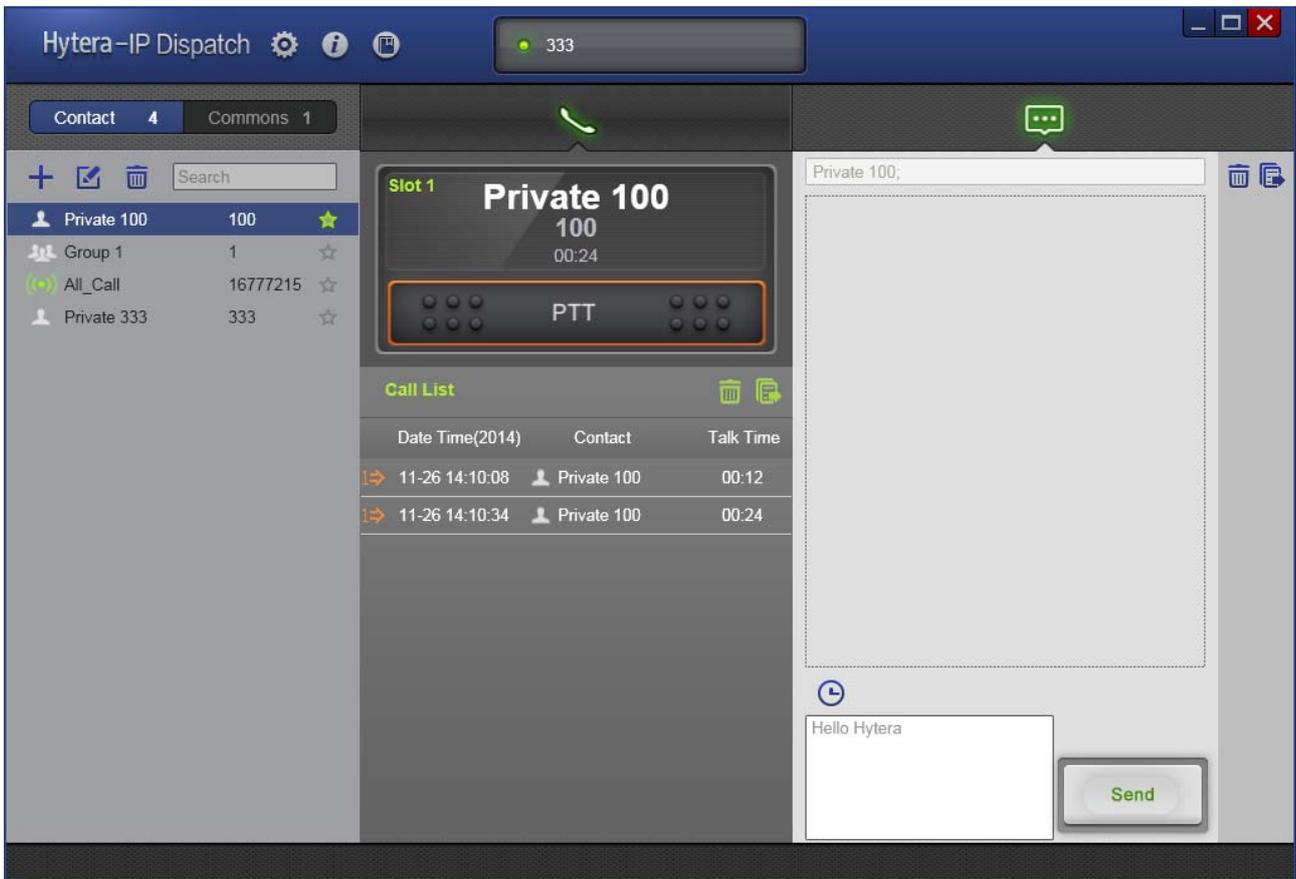
If Dispatch Station is repeater, it will show two slot panels.



2. Click "PTT" or press shortcut key.



3. Click “Hang up” to end the call.

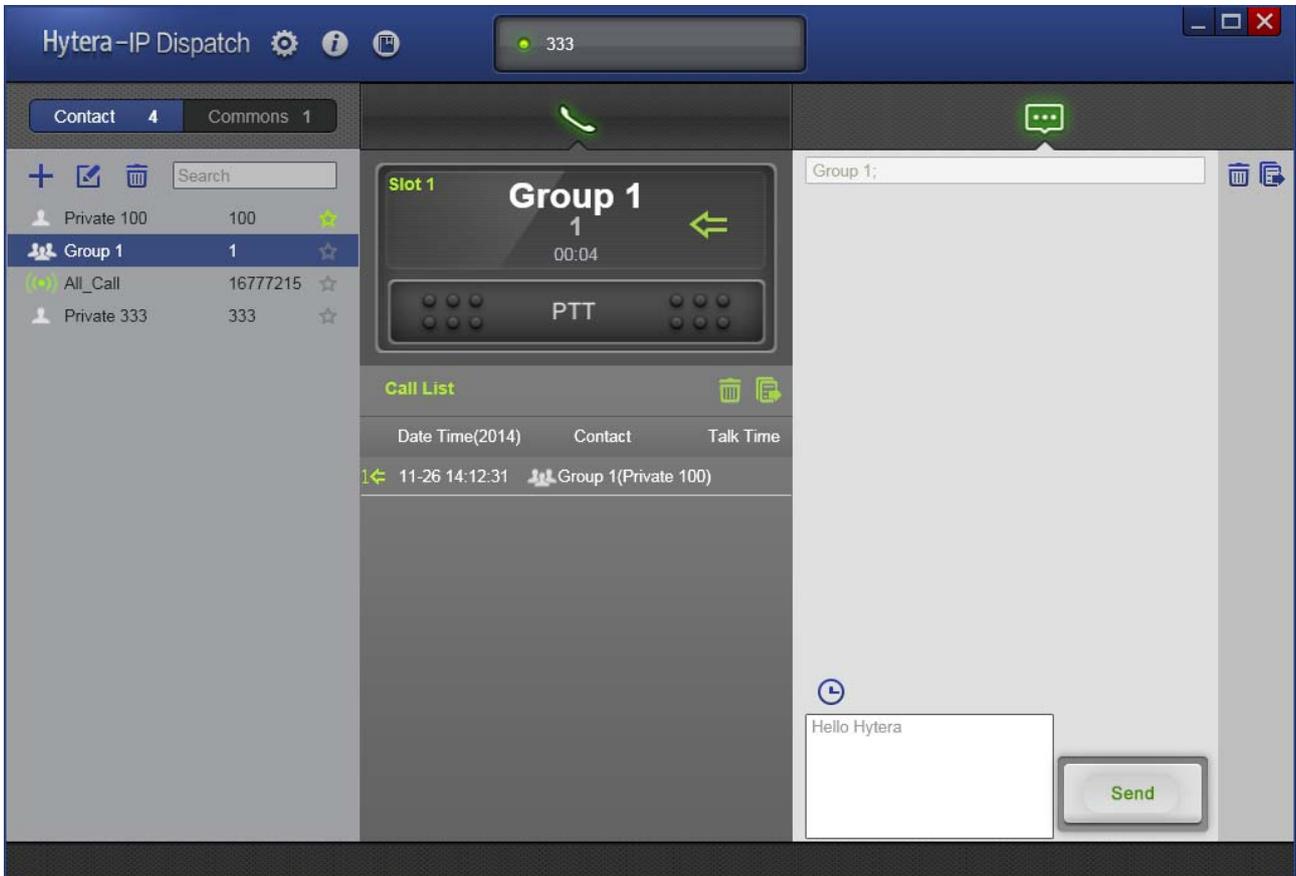


➡: Outgoing call through slot 1.

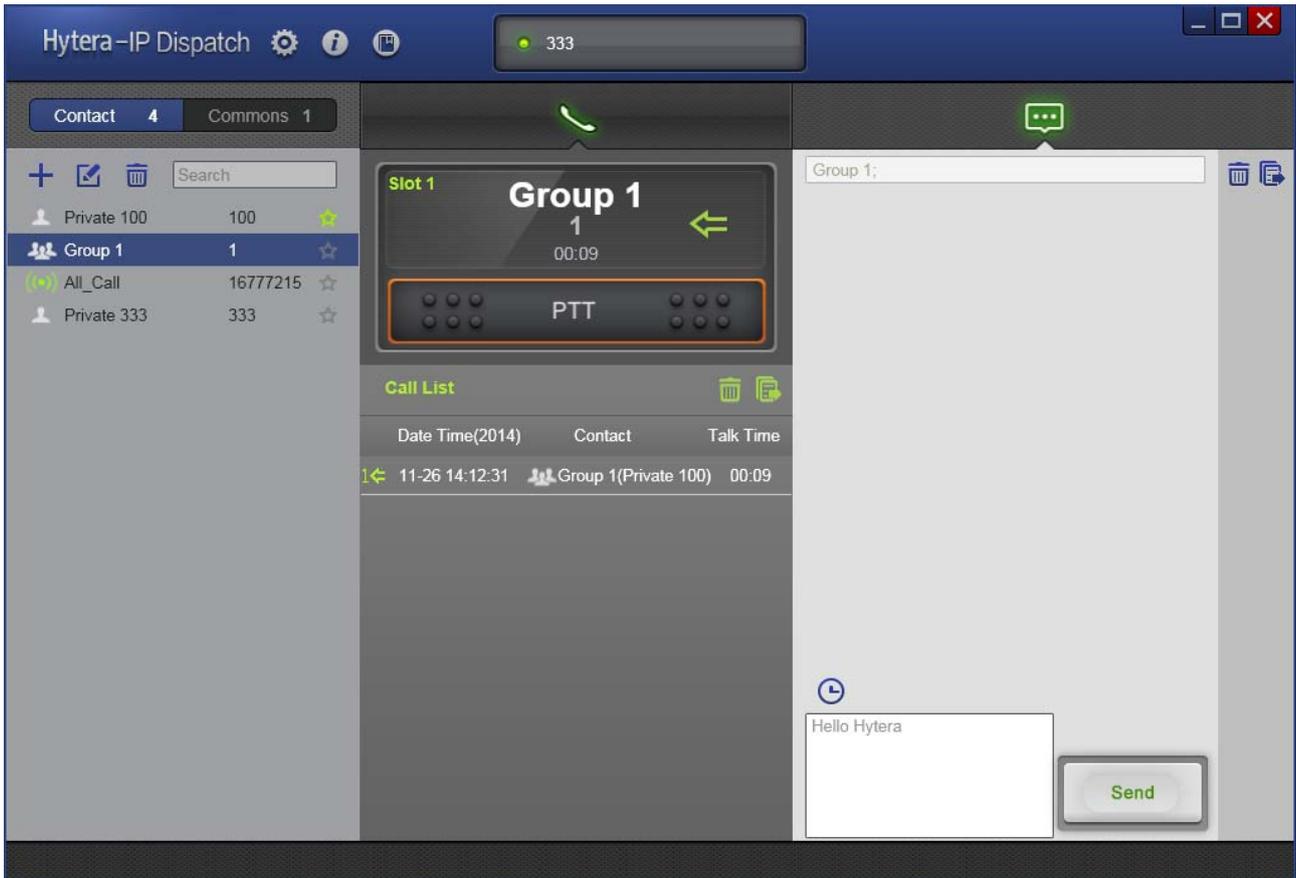
➡: Outgoing call through slot 2.

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.



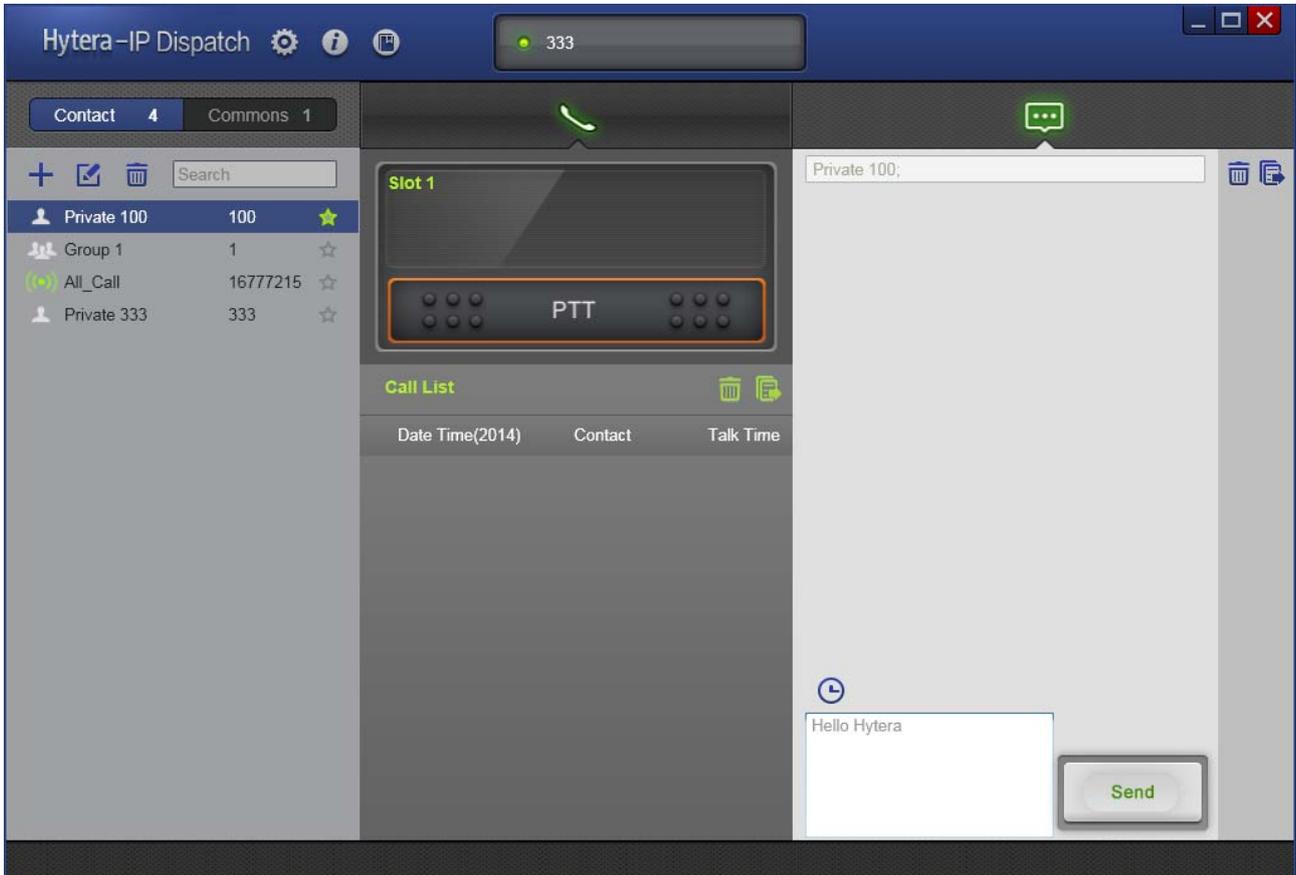
1☎: Incoming call through slot 1.

2☎: Incoming call through slot 2.

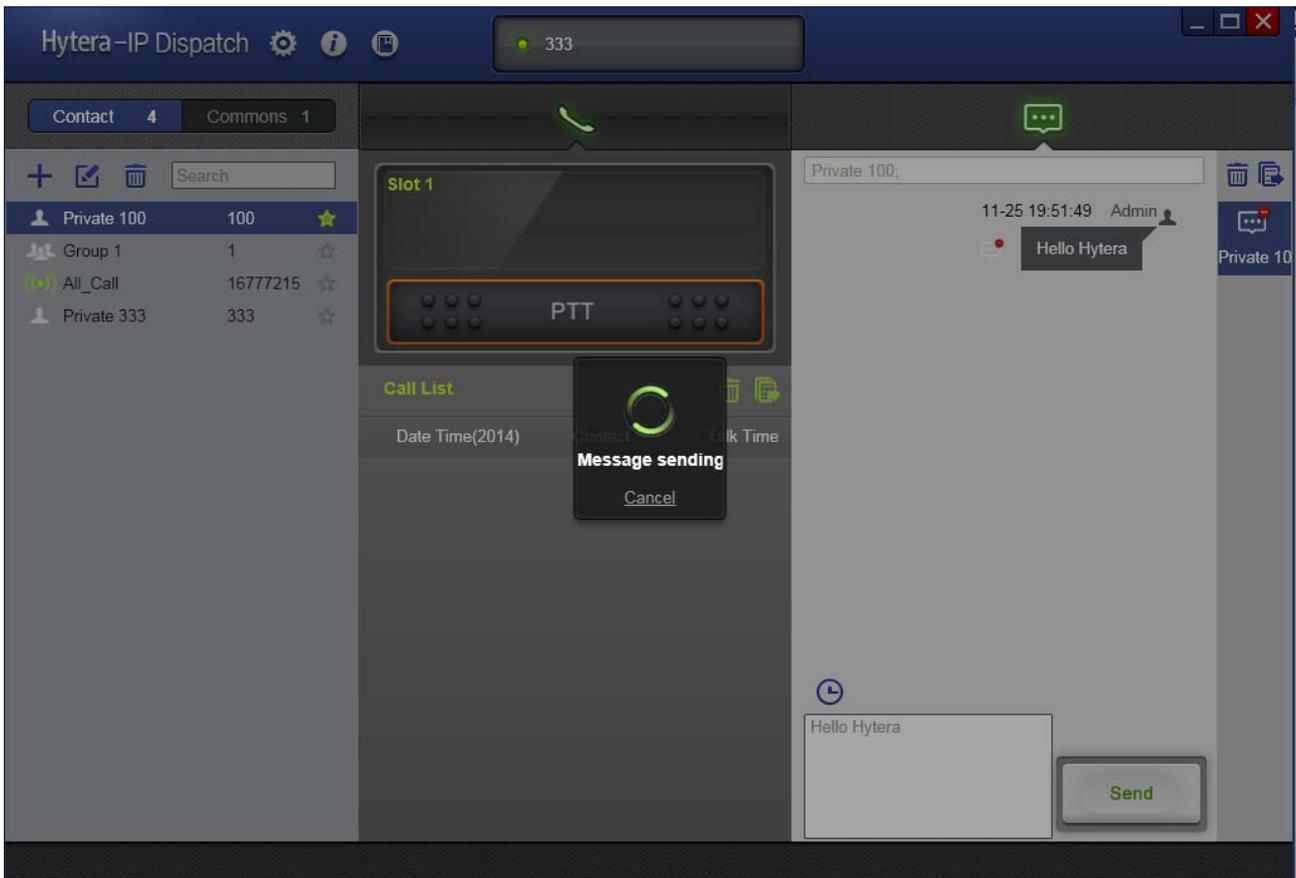
5.6 Message dispatch

5.6.1 Real time messaging

1. Select a contact(or press Ctrl to select more contacts) and then edit message.



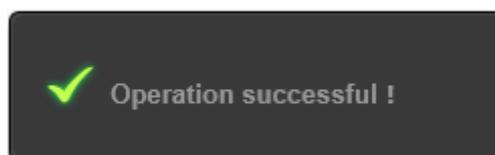
2. Click “Send” to send message immediately.



Click “Cancel” to cancel sending message.

Message Status	Comment
	Received new message
	Send message failed
	Send message successfully
	Schedule message

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

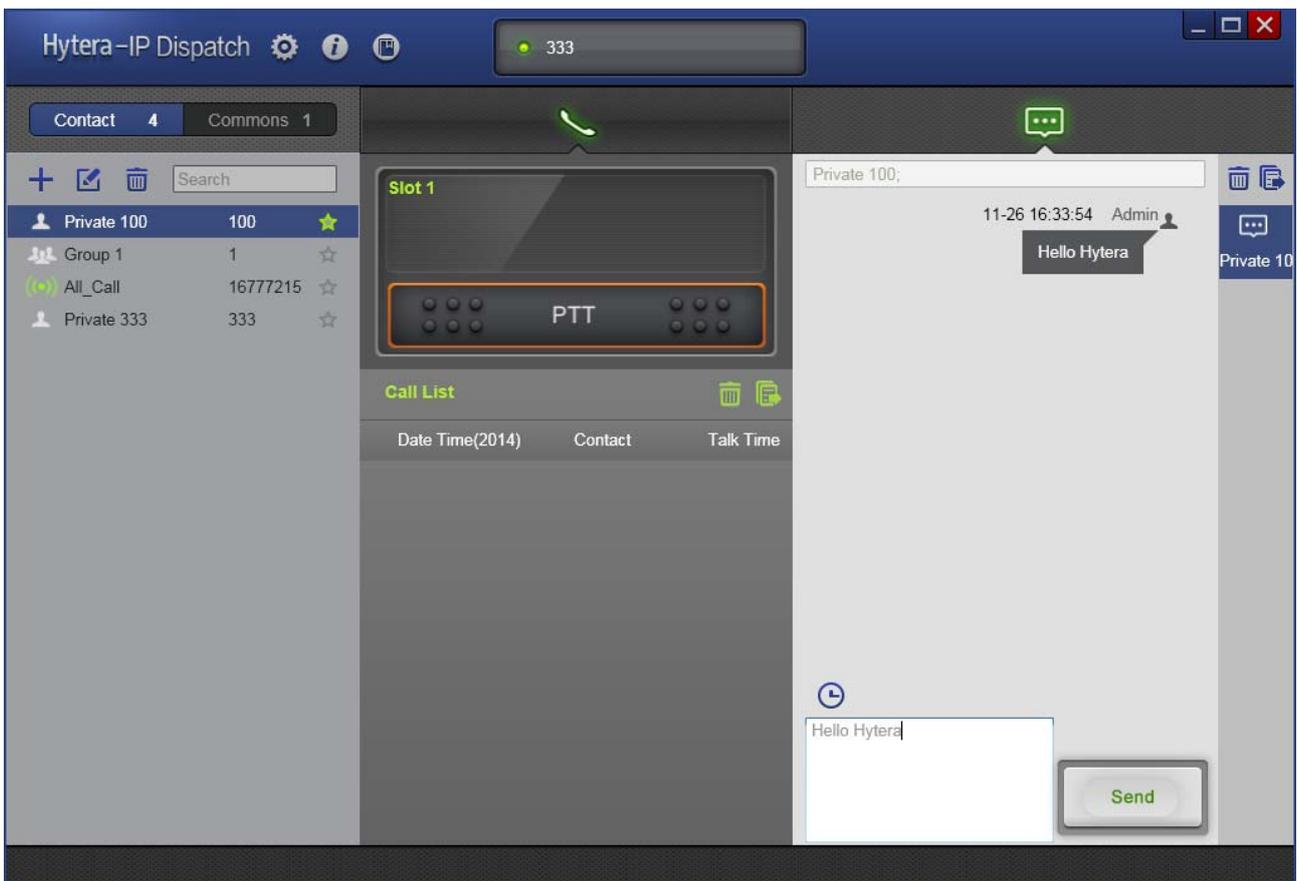
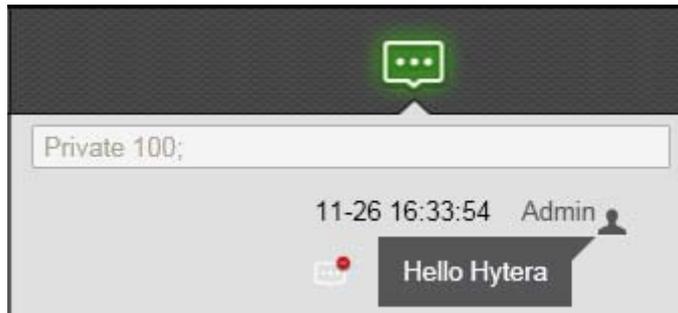


If send message failed, it will show “Operation failed”. Click “Resend” to send the message again(Only

the failed message can be resend).



Click  to send the message again.

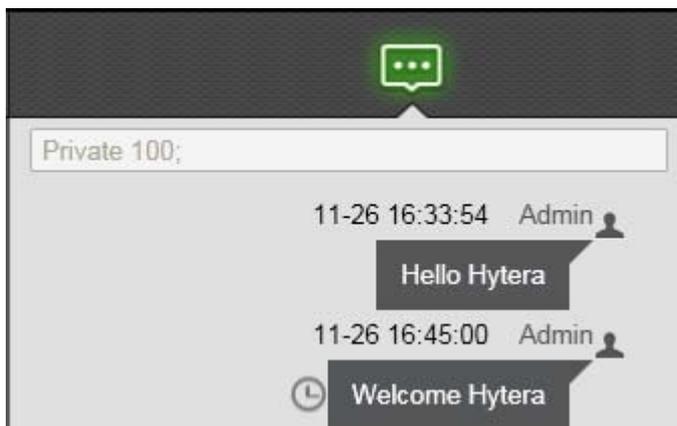


5.6.2 Schedule message

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.