

# ECS (Enhanced Conventional System) Dispatch Configuration Guide

---

Version: V1.5

**Revision record**

Edition	Date	Remarks
V1.5	2019.12.01	Manual is released for the first time

© 2020 Caltta Technologies Co.,Ltd. All rights reserved.

Copyright statement:

The copyright of this document belongs to Caltta Technologies Co.,Ltd. Text contains proprietary information owned by Caltta Technologies Co.,Ltd., without the written permission of Caltta Technologies Co.,Ltd., any unit or individual shall not use or leak any document and pictures, this document contains tables, picture, data and other information.

The information in this document contains the development progress of Caltta Technologies Co.,Ltd. products and technology will continue to update, Caltta Technologies Co.,Ltd. would not notice such information updates.

# INDEX

1 Overview.....	8
2 Configuration planning.....	8
2.1 IP planning.....	8
2.2 Repeater and radio planning.....	9
2.3 Port planning.....	9
2.4 Operating system planning.....	9
2.5 Base station authentication planning.....	10
2.6 Account planning.....	10
3 Configuration check.....	10
3.1 IP check.....	10
3.2 Frequency check.....	11
3.3 Port check.....	11
3.4 IE browser check.....	12
4 Base station configuration.....	12
4.1 CPS reading.....	12
4.2 Common setting.....	13
4.3 Network setting.....	14
4.3.1 Fixed IP setting.....	14
4.3.2 AIS setting.....	14
4.4 Enhanced conventional setting.....	15
4.4.1 Basic setting.....	15
4.4.2 Channel setting.....	16
4.5 CPS writing.....	16
5 Dispatcher setting.....	17
5.1 Dispatcher installation.....	17
5.1.1 Repeater version and ECS dispatcher version check.....	17
5.1.2 MySQL installation.....	17
5.1.3 Dipatcher server installation.....	19
5.1.4 Dispatcher client installation.....	24
5.2 Dispatcher client setting.....	26
5.2.1 Dispatcher client login.....	26
5.2.2 Add radio.....	28
5.2.3 Add group.....	29
5.2.4 Add base station and bind group.....	29
5.2.5 Modify "admin" password.....	30
5.2.6 Add dispatcher account.....	31
5.2.7 New dispatcher account login.....	33
6 Radio configuration.....	36
6.1 Radio CPS read.....	36
6.2 Radio positioning information report.....	37
6.3 Dialing configuration.....	38

---

6.4 Contact setting.....	38
6.5 Scan setting.....	39
6.6 Radio CPS write.....	40
7 Commissioning system.....	41
7.1 Radio registration.....	41
7.2 Radio de-registration.....	42
7.3 Voice call.....	43
7.4 Send message.....	45
7.5 GPS Location.....	45
7.6 Real-time GPS location.....	47

# Figure Index

Figure 2-1	Sample diagram of ECS single site configuration.....	8
Figure 3-1	Port check -1.....	11
Figure 3-2	Port check -2.....	12
Figure 3-3	IE browser check.....	12
Figure 4-1	Repeater CPS reading.....	12
Figure 4-2	CPS reading success.....	13
Figure 4-3	Repeater common setting.....	13
Figure 4-4	Network setting.....	14
Figure 4-5	AIS setting.....	15
Figure 4-6	Enhanced conventional basic setting.....	15
Figure 4-7	Channel setting.....	16
Figure 4-8	Repeater CPS writing.....	17
Figure 5-1	Right-click the installation package to run as administrator.....	18
Figure 5-2	MySQL installation.....	19
Figure 5-3	Command prompt during MySQL installation.....	19
Figure 5-4	Pop-up of MySQL is not installed when installing the dispatcher server.....	20
Figure 5-5	PD200 server installation - 1.....	20
Figure 5-6	PD200 server installation - 2.....	20
Figure 5-7	PD200 server shortcut.....	21
Figure 5-8	PD200 server IP setting.....	21
Figure 5-9	Firewall allows DPS process communication.....	22
Figure 5-10	Firewall allows LDS process communication.....	23
Figure 5-11	Server's processes displayed in task management.....	23
Figure 5-12	PD200 client installation - 1.....	24
Figure 5-13	PD200 client installation - 2.....	25
Figure 5-14	Dispatcher client IP address selection.....	26
Figure 5-15	Dispatcher client login.....	26
Figure 5-16	Firewall allows dispatcher client communication.....	27
Figure 5-17	Add radio.....	29
Figure 5-18	Add group.....	29
Figure 5-19	Add base station.....	29
Figure 5-20	Base station bind available groups.....	30
Figure 5-21	Modify "admin" password.....	30
Figure 5-22	Add dispatcher account.....	32
Figure 5-23	Dispatcher add available base station.....	32
Figure 5-24	"Dispatch" page resource display.....	32
Figure 5-25	New dispatcher account login.....	33
Figure 5-26	Base station login successful to dispatcher.....	34
Figure 5-27	Windows defender firewall setting -1 .....	35
Figure 5-28	Windows defender firewall setting -2.....	35
Figure 6-1	Radio CPS read.....	36

---

Figure 6-2	Radio reading successful.....	37
Figure 6-3	Radio positioning system setting.....	37
Figure 6-4	Dialing configuration.....	38
Figure 6-5	Radio group contact setting.....	38
Figure 6-6	Radio subgroup setting.....	39
Figure 6-7	Radio scan setting.....	39
Figure 6-8	Station TSCC list setting.....	40
Figure 6-9	Radio CPS write.....	40
Figure 7-1	Radio registration check.....	41
Figure 7-2	Radio de-registration check.....	43
Figure 7-3	Radio 1 initiates group call.....	44
Figure 7-4	Dispatcher initiates multiple calls.....	44
Figure 7-5	Message display on dispatcher interface.....	45
Figure 7-6	Map display on dispatcher interface - 1.....	46
Figure 7-7	Map display on dispatcher interface - 2.....	47
Figure 7-8	Real-time location display on dispatcher interface - 1.....	47
Figure 7-9	Real-time location display on dispatcher interface - 2.....	48

## Table Index

Table 2-1	IP planning.....	8
Table 2-2	Repeater planning.....	9
Table 2-3	Radio planning.....	9
Table 2-4	Port planning.....	9
Table 2-5	Operating system.....	9
Table 2-6	Base station authentication planning.....	10
Table 2-7	Account planning.....	10

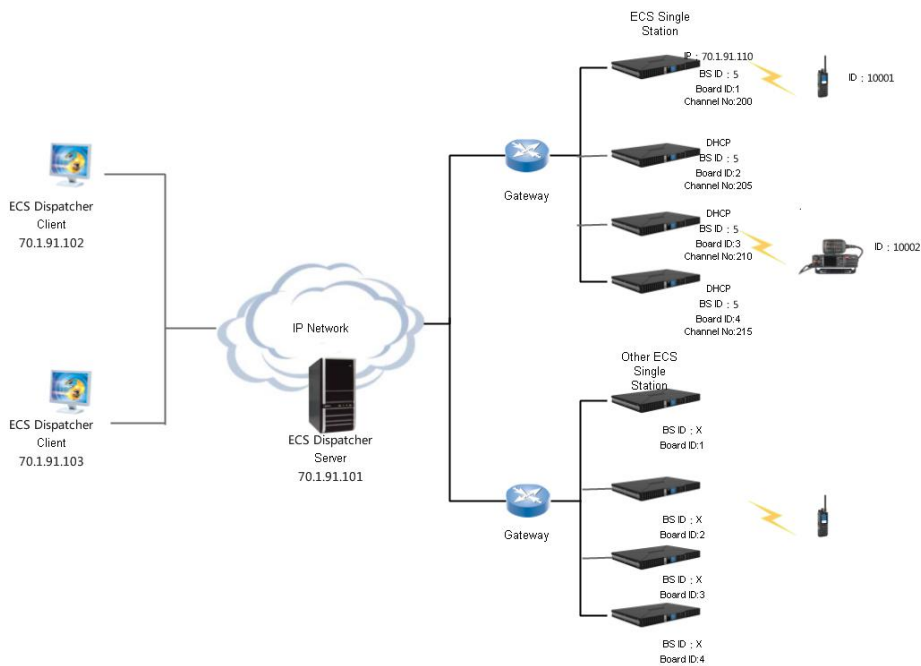
# 1 Overview

The ECS is to combine multiple repeaters working in the digital relay mode in the same area to form an enhanced conventional site. By sharing the logical channels of the repeaters on the site, the radio is allowed to use all the repeaters on the site to communicate, thereby improving the channel utilization.

# 2 Configuration planning

The following planning data is used as sample data. Please replace it with actual data during configuration.

Figure 2-1 Sample diagram of ECS single site configuration



## 2.1 IP planning

The following planning data is used as sample data. Please replace it with actual data during configuration.

Table 2-1 IP planning

Unit	IP	Subnet mask
Dispatcher sever	70.1.91.101	255.255.255.0
Dispatcher client	70.1.91.102	255.255.255.0
Repeater 1 (Board 1)	70.1.91.110	255.255.255.0
Repeater 2 (Board 2)	DHCP	DHCP



Repeater 3 (Board 3)	DHCP	DHCP
Repeater 4 (Board 4)	DHCP	DHCP

## 2.2 Repeater and radio planning

The following planning data is used as sample data. Please replace it with actual data during configuration (here we take UHF band as an example, please re-plan if you are using VHF band).

Table 2-2 Repeater planning

Unit	Site ID	Board ID	Rx base frequency (MHz)	Tx base frequency (MHz)	Channel number	Colour code	Dedicated GPS channel *
Repeater 1	5	1	400	410	200	1	Time slot 2
Repeater 2	5	2			205	1	Not set
Repeater 3	5	3			210	1	Time slot 1
Repeater 4	5	4			215	1	Not set

*Note: Dedicated GPS channel should be configured when radio needs to report location actively, it is an optional configuration item.*

Table 2-3 Radio planning

Unit	ID	Name	Rx base frequency (MHz)	Tx base frequency (MHz)	Channel number	Colour code
Radio 1	10001	P10001	410	400	200/205/210/215	1
Radio 2	10002	P10002	410	400	200/205/210/215	1

## 2.3 Port planning

The following planning data is used as the default data. It is generally **not recommended** to modify the ports.

Table 2-4 Port planning

Unit	inner-site transmission port	NMS TCP port	NMS UDP port	Service port	Voice service port (slot 1)	Voice service port (slot 2)
Repeater 1	50013	50011	50010	19888	30000	30001
Repeater 2	50013	50011	50010	19888	30000	30001
Repeater 3	50013	50011	50010	19888	30000	30001
Repeater 4	50013	50011	50010	19888	30000	30001

## 2.4 Operating system planning

Table 2-5 Operating system

Unit	System Requirement
Dispatcher server (MySQL)	Windows 64 bit OS
Dispatcher client	Windows 32/64 bit OS
Repeater CPS	Windows 32/64 bit OS
Radio CPS	Windows 32/64 bit OS
NMS server	Windows 32/64 bit OS
NMS client	Windows 32/64 bit OS

The above software supports Windows 7, Windows 10.

## 2.5 Base station authentication planning

The following planning data is used as sample data. Please replace it with actual data during configuration.

Table 2-6 Base station authentication planning

Unit	Password setting
Repeater 1	111111 (CPS configure default value)
Repeater 2	
Repeater 3	
Repeater 4	
Base station	111111 (dispatcher configure)

The password filled in AIS page of CPS should be the same as the password filled in when the dispatcher adds the base station.

## 2.6 Account planning

The following planning data is used as sample data. Please replace it with actual data during configuration.

Table 2-7 Account planning

Unit	ID	Account name	Password
Administrator (System default)	16775904	admin	111111
Dispatcher	16775905	shenzhen	07552019

The administrator account is set to "admin" and the password is set to "111111" as default.

# 3 Configuration check

## 3.1 IP check

According to the chapter 2.1 IP planning, run the PING command to check whether the IP addresses are occupied. If the IP address is already occupied, you need to re-plan the IP address.

## 3.2 Frequency check

According to chapter 2.2 Repeater and radio planning, check if the Rx frequency and the Tx frequency are already in use by other devices. If you have already used it, you need to re-plan the frequency.

## 3.3 Port check

According to chapter 2.3 Port planning, check whether the port of the dispatcher server PC is occupied. Enter the "netstat -ano|findstr port number" in the command window to check if there is any content. As shown in the following figure, the port 19888 has no content, indicating that the port is idle and can be used.

Figure 3-1 Port check -1

```
C:\Users\0216000637>netstat -ano|findstr 19888  
C:\Users\0216000637>
```

As shown in the following figure, there is a displayed content, indicating that port 4000 is already occupied, and the port number needs to be re-planned.

Figure 3-2 Port check -2

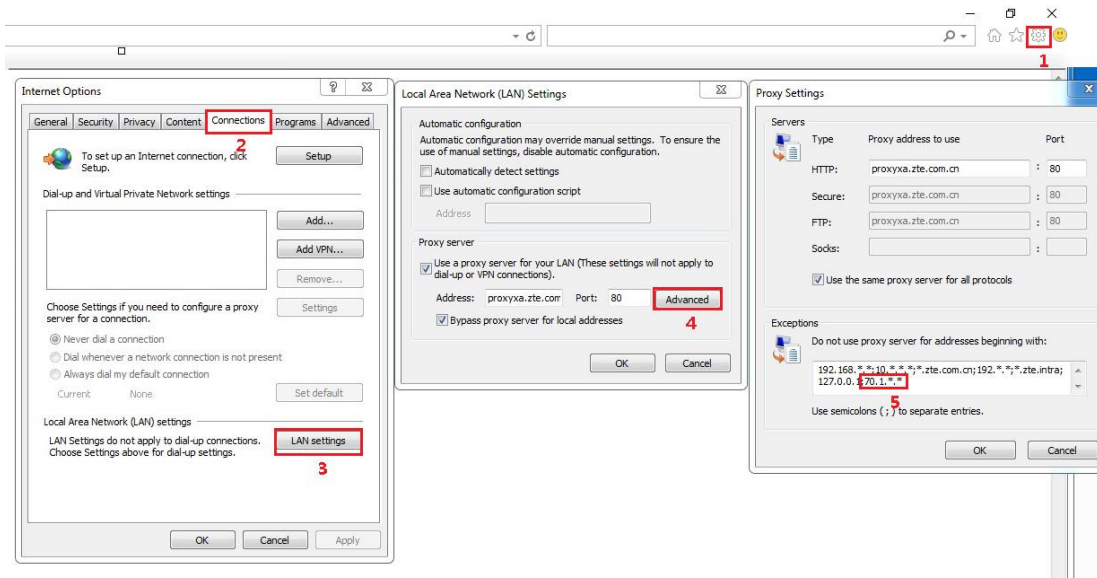
```
C:\Users\0216000637>netstat -ano | findstr 4000
TCP    127.0.0.1:4000    0.0.0.0:0        LISTENING      2216
UDP    127.0.0.1:4000    *:*              *:*            2644

C:\Users\0216000637>
```

### 3.4 IE browser check

If the PC where the dispatch server is installed uses a proxy server to connect internet, the IP segment where the dispatch server is located needs to be added to the unused proxy server. The specific setting is to open Internet Explorer, select "Internet Options" - "Connection" - "LAN settings" - "Advanced", and add an IP segment to the content of "Exceptions", such as "70.1.91.\*", as shown in the following figure. If your PC is not using a proxy server, you do not need to operate this chapter.

Figure 3-3 IE browser check



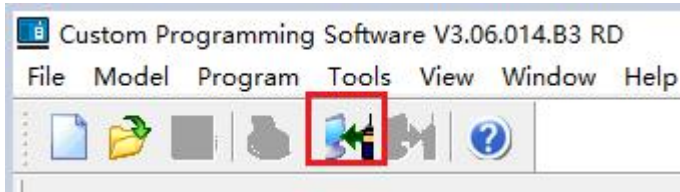
## 4 Base station configuration

The repeater enhanced conventional services need to be authorized for normal use, please refer to the related authorization document.

### 4.1 CPS reading

Connect the repeater with PC, open CPS software on the PC, as shown in the following figure.

Figure 4-1 Repeater CPS reading




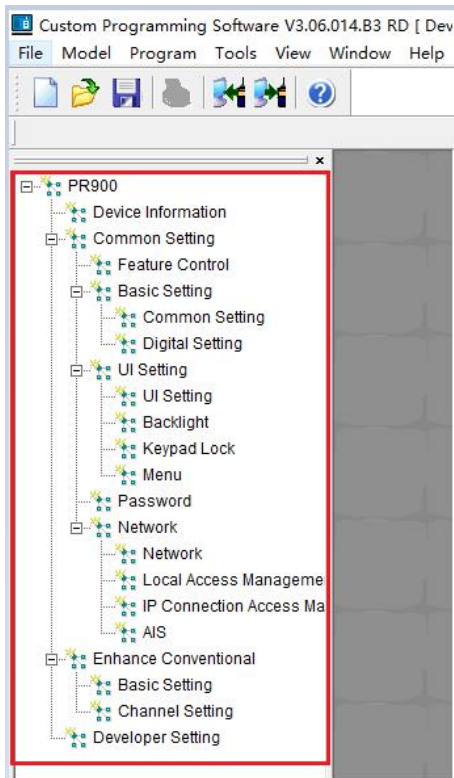
Click the "Read" icon  on the toolbar and click OK to read. After the reading is successful, the corresponding list is displayed on the left side of the CPS, as shown in the following figure.

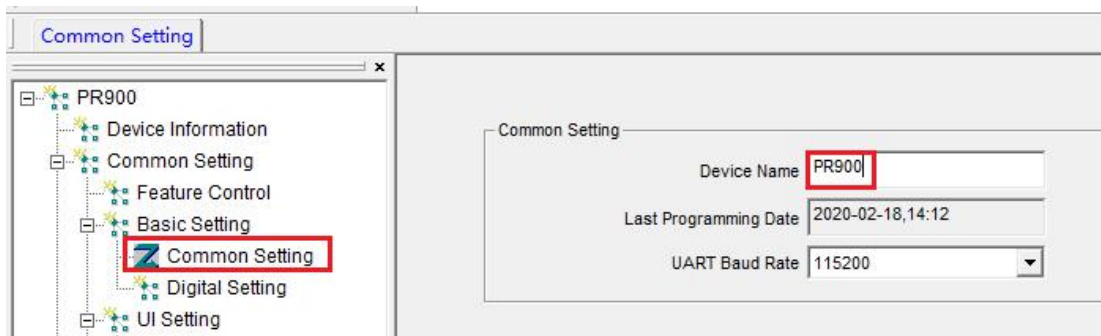
Figure 4-2 CPS reading success



## 4.2 Common setting

Double-click the "Common Setting" option under "Common Setting" - "Basic Setting". on the pop-up page "Device Name" option, you can modify the name of the repeater, such as "PR900", as shown in the following figure.

Figure 4-3 Repeater common setting

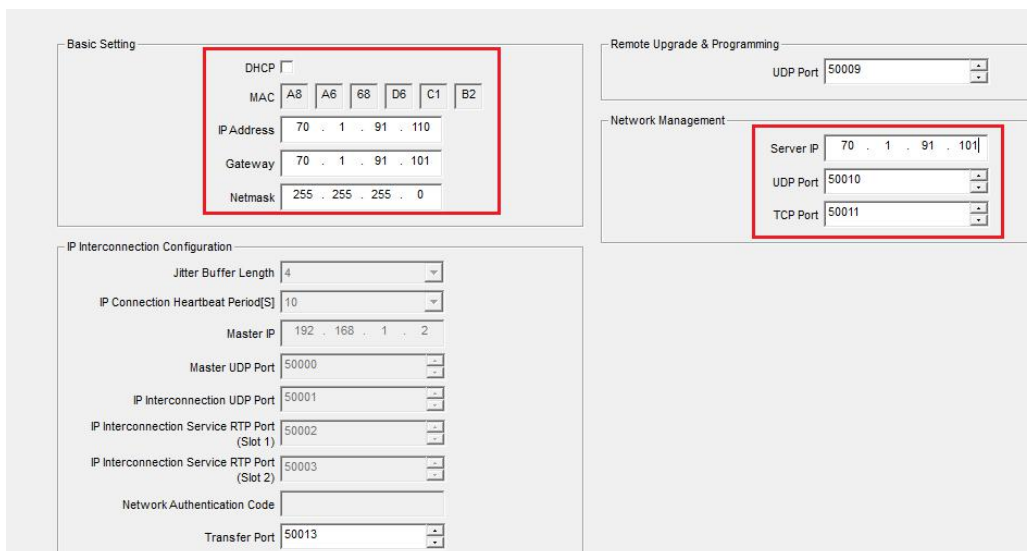


### 4.3 Network setting

#### 4.3.1 Fixed IP setting

Double-click the "Network" option under "Common Setting" - "Network". Under the "Basic Setting", "DHCP" is not checked. The IP address is set to "70.1.91.110" according to chapter 2.1 IP planning, and the netmask is set to "255.255.255.0". The "Gateway" is configured according to the actual router gateway. Under the "Network Management", the network management "Server IP" is filled with the IP address of the network management server, as shown in the following figure.

Figure 4-4 Network setting

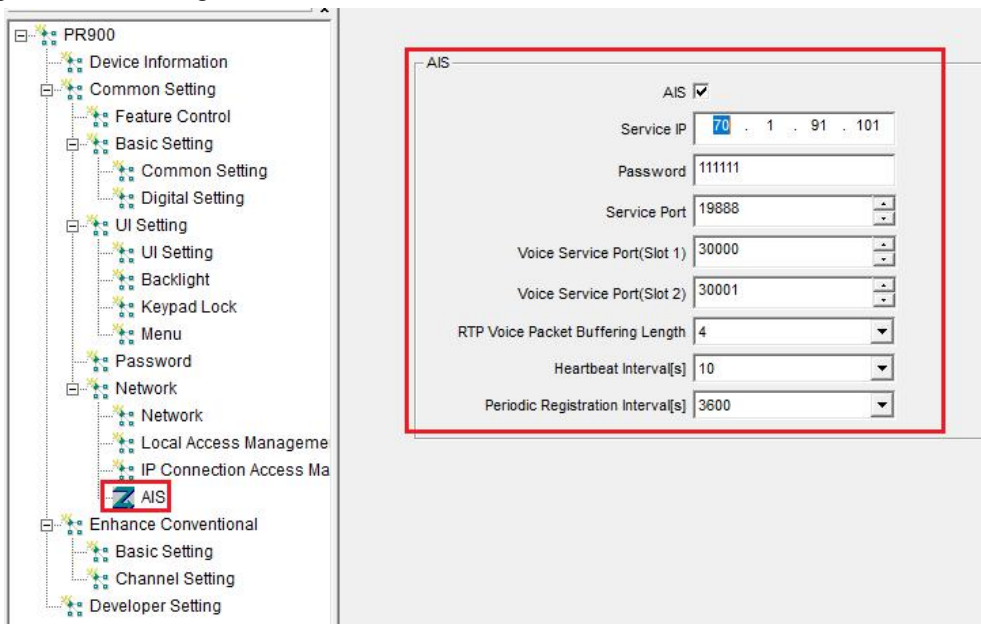


#### 4.3.2 AIS setting

Double-click the "AIS" option under "Common Setting" - "Network". Check "AIS" and fill in the IP "70.1.91.101" of the dispatcher server according to chapter 2.1 IP planning. According to chapter 2.5 Base station authentication planning, set the password registered from repeater 1,

repeater 2, repeater 3 and repeater 4 to the dispatcher server as "11111". The port is set according to chapter 2.3 Port planning, as shown in the following figure.

Figure 4-5 AIS setting

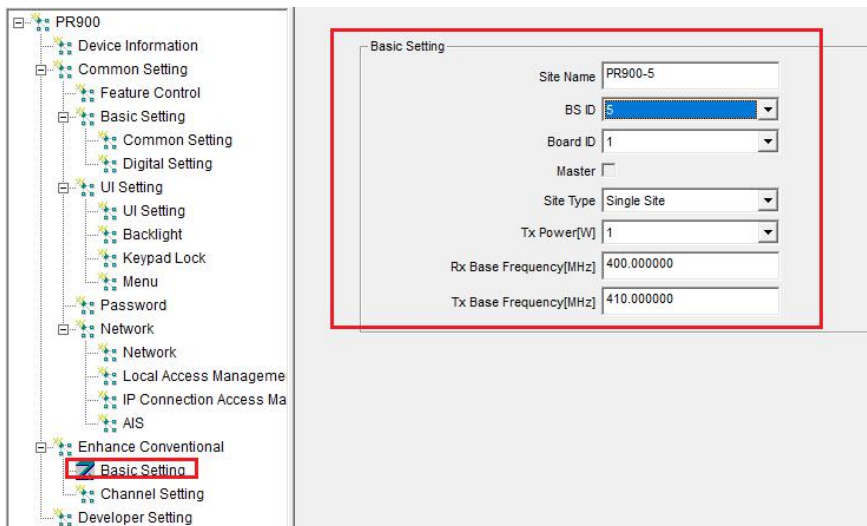


## 4.4 Enhanced conventional setting

### 4.4.1 Basic setting

Double-click the "Basic Setting" option under "Common Setting" - "Enhanced Conventional". Under the "Basic Setting", Fill in the "Site Name" on the page, such as "PR900-5"; set the "Site ID" to "5" according to chapter 2.2, and set the "Board ID" as "1", "2", "3", or "4" respectively for corresponding repeater; set the "Site Type" as "Single Site"; set "Tx Power"; fill in the "Rx Base Frequency" with "400MHz" and fill in the "Tx Base Frequency" with "410MHz", as shown in the following figure.

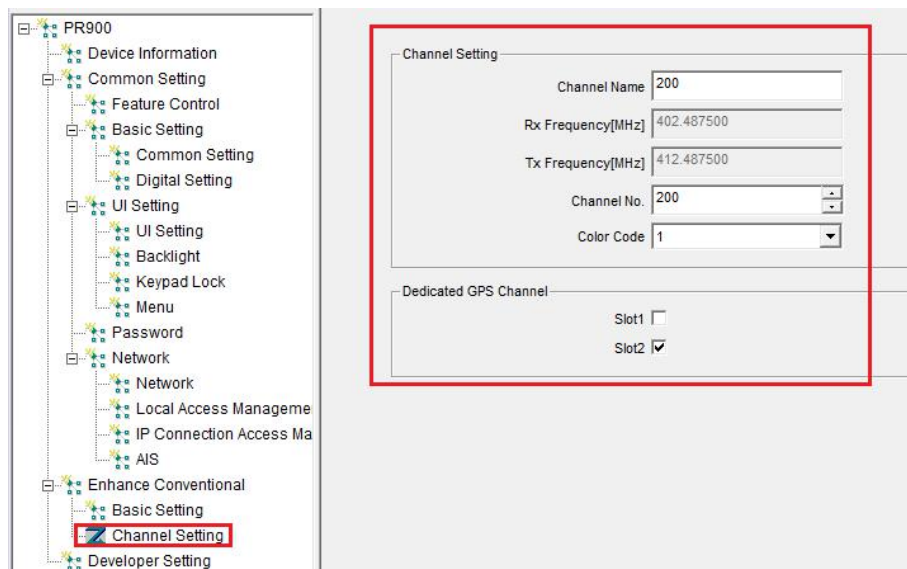
Figure 4-6 Enhanced conventional basic setting




### 4.4.2 Channel setting

Double-click the "Channel Setting" option under "Enhanced Conventional". Under the "Channel Setting", Fill in the corresponding "Channel Name" on the page, such as "200", "205", "210", "215"; set the "Channel ID" as "200", "205", "210" or "215" respectively for corresponding repeater; set the "Color Code" as "1"; set "Dedicated GPS Channel" of repeater 1 as "Slot 2", and set "Dedicated GPS channel" of repeater 3 as "Slot 1", There is no need to set the "Dedicated GPS channel" for repeater 2 and repeater 4, as shown in the following figure.

Figure 4-7 Channel setting



### 4.5 CPS writing

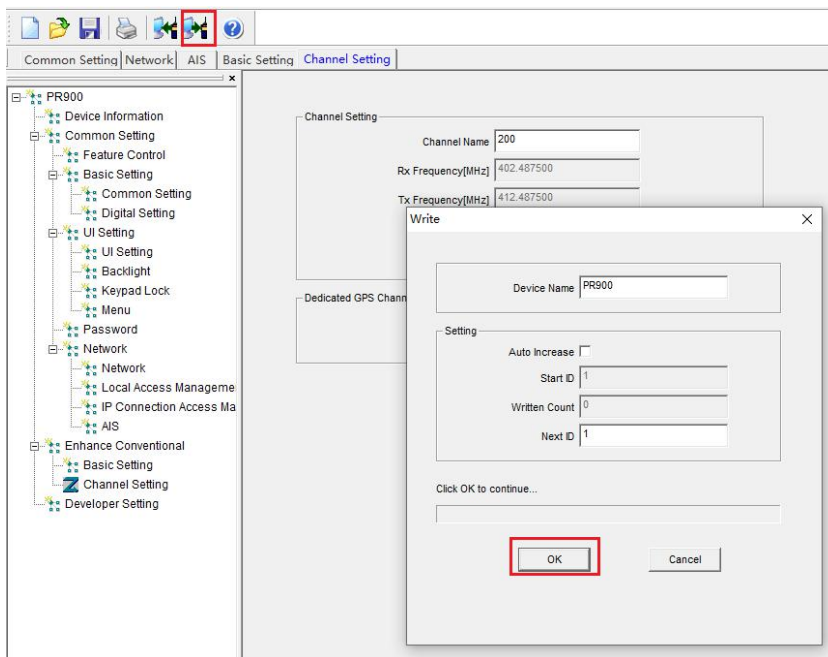
After performing the above steps, click the "Write" icon  on the toolbar, and click the



"OK" button on the pop-up page. After the writing is successful, the repeater will restart, as shown in the following figure.

Please perform CPS writing operation on repeater 1, repeater2, repeater 3 and repeater 4 according to chapter 2.

Figure 4-8 Repeater CPS writing



## 5 Dispatcher setting

### 5.1 Dispatcher installation

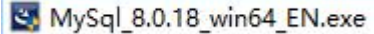
#### 5.1.1 Repeater version and ECS dispatcher version check

Check if repeater version matches ECS dispatcher version. The repeater version and dispatcher version must be matching. For the repeater, click the front panel menu—device information, and check the firmware version. For the dispatcher, check the suffix of installation package name.

- Repeater version: Repeater\_V\*.\*.\*
- Dispatcher server version: PD200Server\_E\_V\*.\*.\*
- Dispatcher client version: PD200Client\_E\_V\*.\*.\*

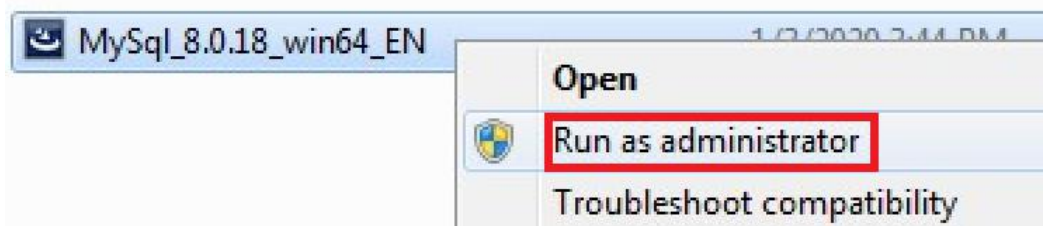
#### 5.1.2 MySQL installation

According to chapter 2.4 Operating system planning, MySQL and the dispatcher server are installed on the same PC with 64-bit operating system. First find the

"MySQL\_8.0.18\_win64\_EN.exe" installation package  (You need to use the installation package that comes with the version package for installation. If the version you downloaded doesn't come with the version package, you will not be able to connect), then right click on the installation package and select to **Run as administrator** to install, as shown in the following figure.

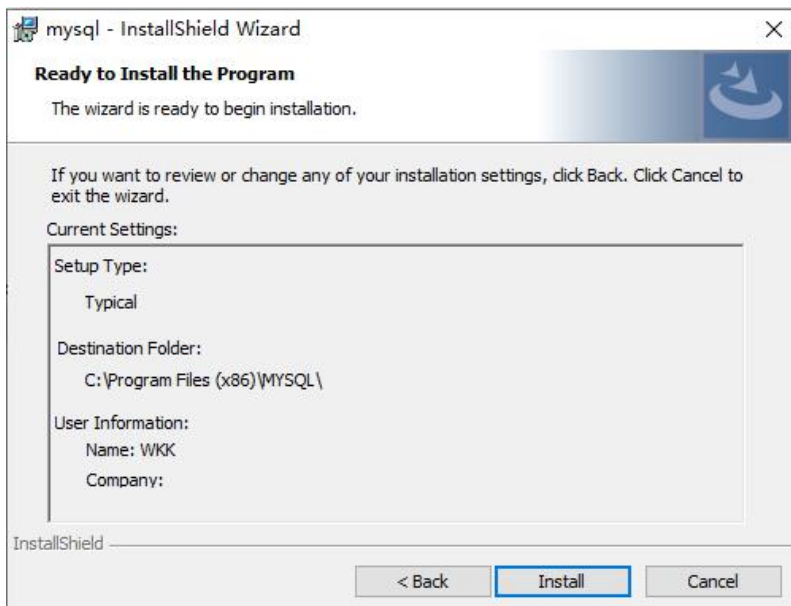
*Note: After MySQL is installed for the first time, there is no need to reinstall for the dispatcher upgrade afterwards without special instruction.*

Figure 5-1 Right-click the installation package to run as administrator



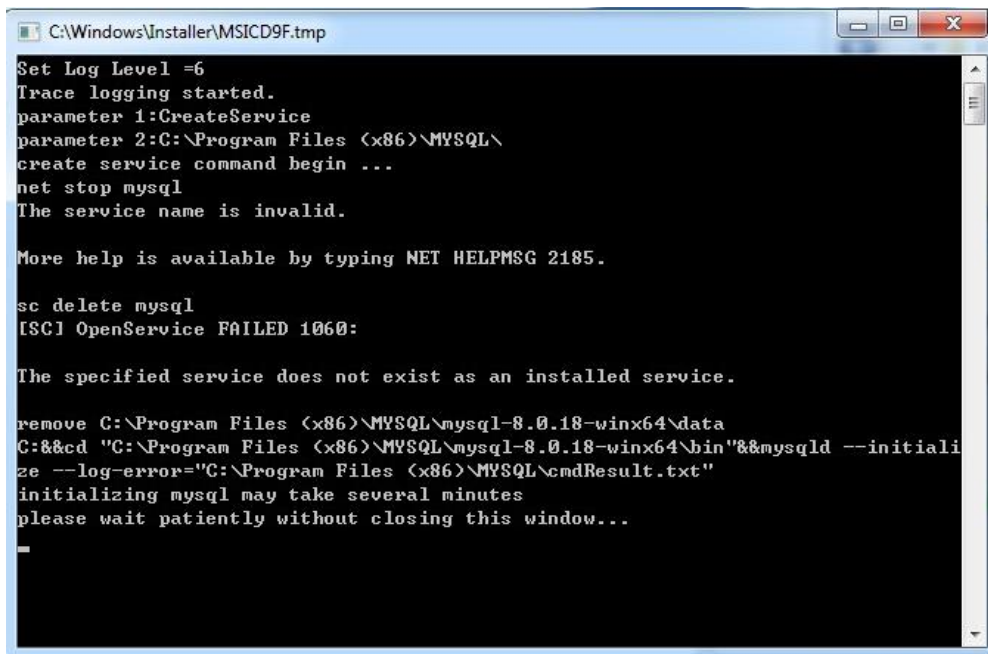
In the pop-up installation interface, click "Install" to select every option and perform installation, as shown in the following figure.

Figure 5-2 MySQL installation



After clicking the "Install" button, the command prompt will pop up during the installation process. Do not manually close the window, as shown in the following figure.

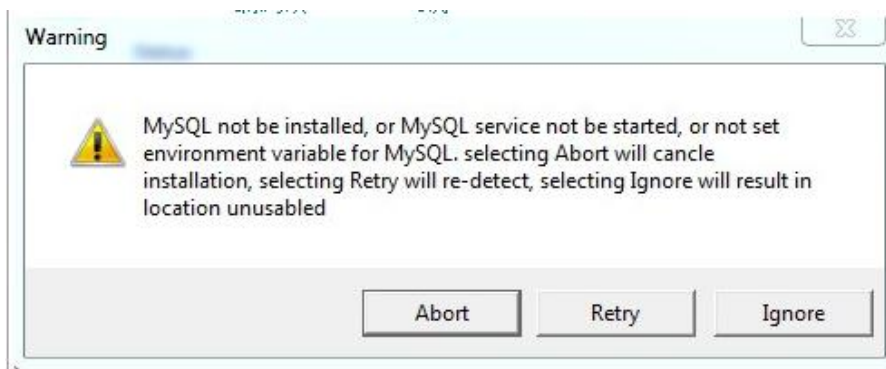
Figure 5-3 Command prompt during MySQL installation



### 5.1.3 Dipatcher server installation

If MySQL is not installed successfully, there will be a pop-up telling that MySQL is not installed. Please install MySQL first, as shown in the following figure.

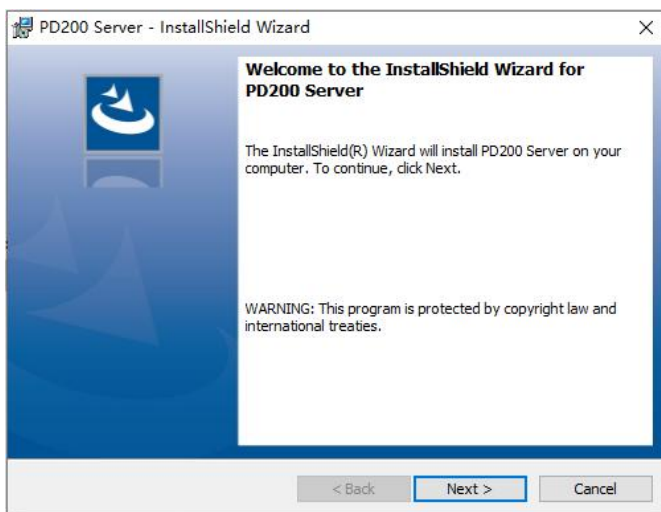
Figure 5-4 Pop-up of MySQL is not installed when installing the dispatcher server



Please select "Abort", and install MySQL before installing the dispatcher server.

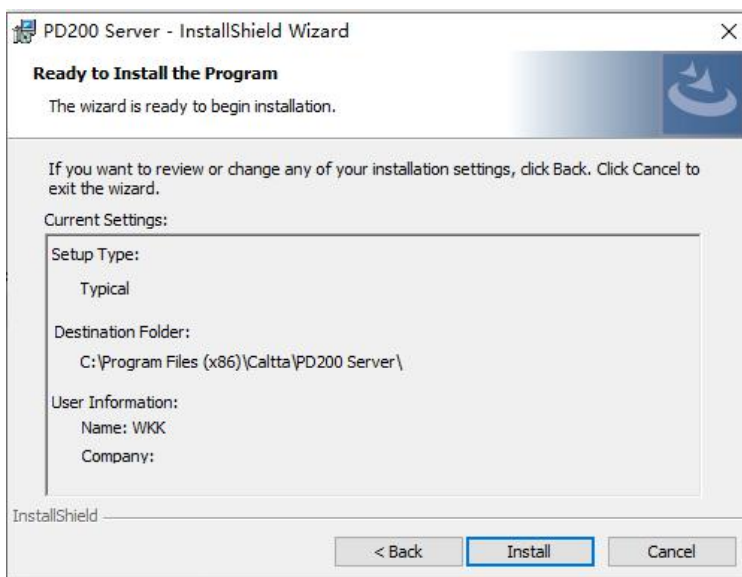
According to chapter 2.4 Operating system planning, the PD200 server and MySQL must be installed on the same PC. After the steps in chapter 5.1.3 are completed, unzip the server installation package, right click on the installation package PD200Server\_E\_V\*.\*.exe and select to **Run as the administrator** to install, then the following figure will be shown.

Figure 5-5 PD200 server installation - 1



In the pop-up window, click "Next" until the installation path appears, select corresponding installation path, for example, "D:\Program Files (x86)\Caltta\PD200 Server\", as shown in the following figure, click "Install" button. The appearance of black command prompt pop-up window is normal during the process, please do not manually close it.

Figure 5-6 PD200 server installation - 2



After the installation is complete, the PD200 Server shortcut appears on the desktop. Double-click the shortcut icon to start the software, as shown in the following figure.

*Note: The version upgrade of dispatcher server is overwrite installation, and retain the configuration file.*

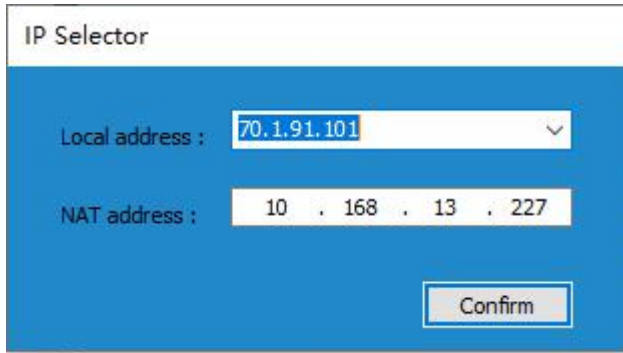
*Please choose to install by default after running the file.*

Figure 5-7 PD200 server shortcut



Double-click the desktop icon to start PD200 Server. Select the local address in the pop-up window that appears, select "70.1.91.101" according to Chapter 2.1 IP planning. Fill in the NAT address when the dispatcher server is on the local area network, and the dispatcher client and / or the repeater need to be traversed by the private network when they are on the external network. When all the repeater, server and clients are in the same network segment, the NAT address does not need to be configured. Then click OK to start, as shown in the following figure.

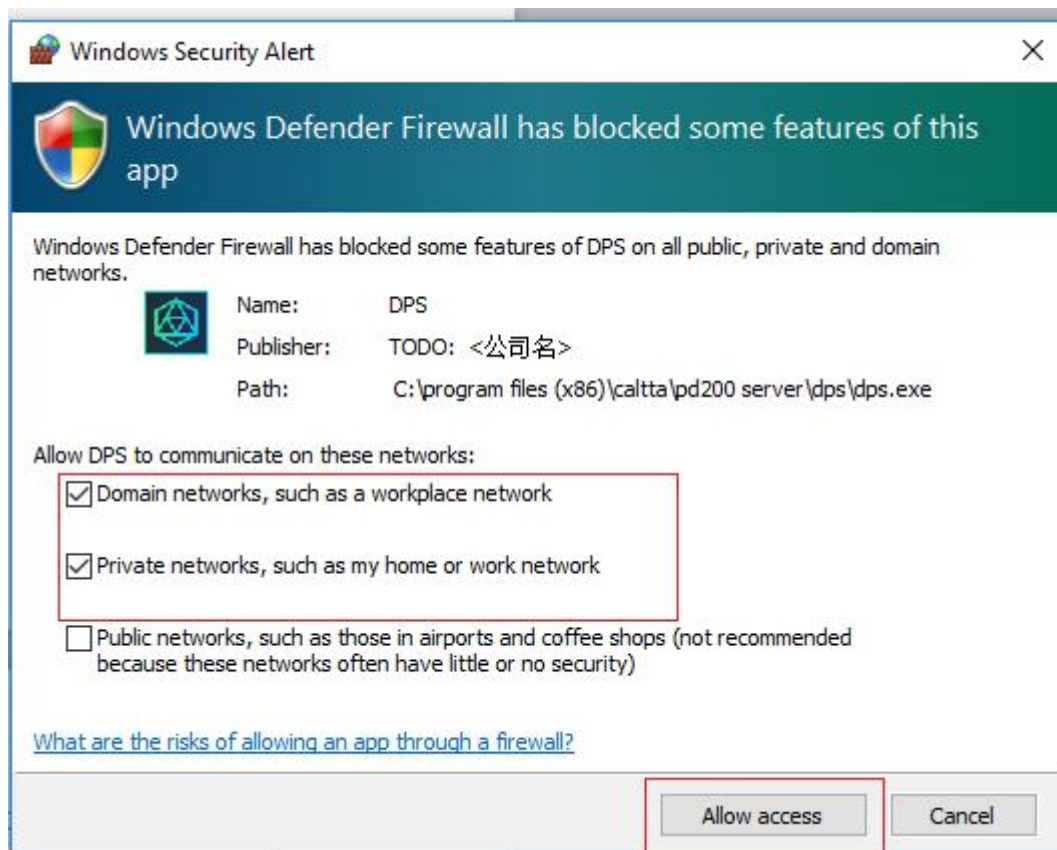
Figure 5-8 PD200 server IP setting



After startup, the firewall will pop up window to display the network that allows communication. Check the network option and click "Allow access" button.

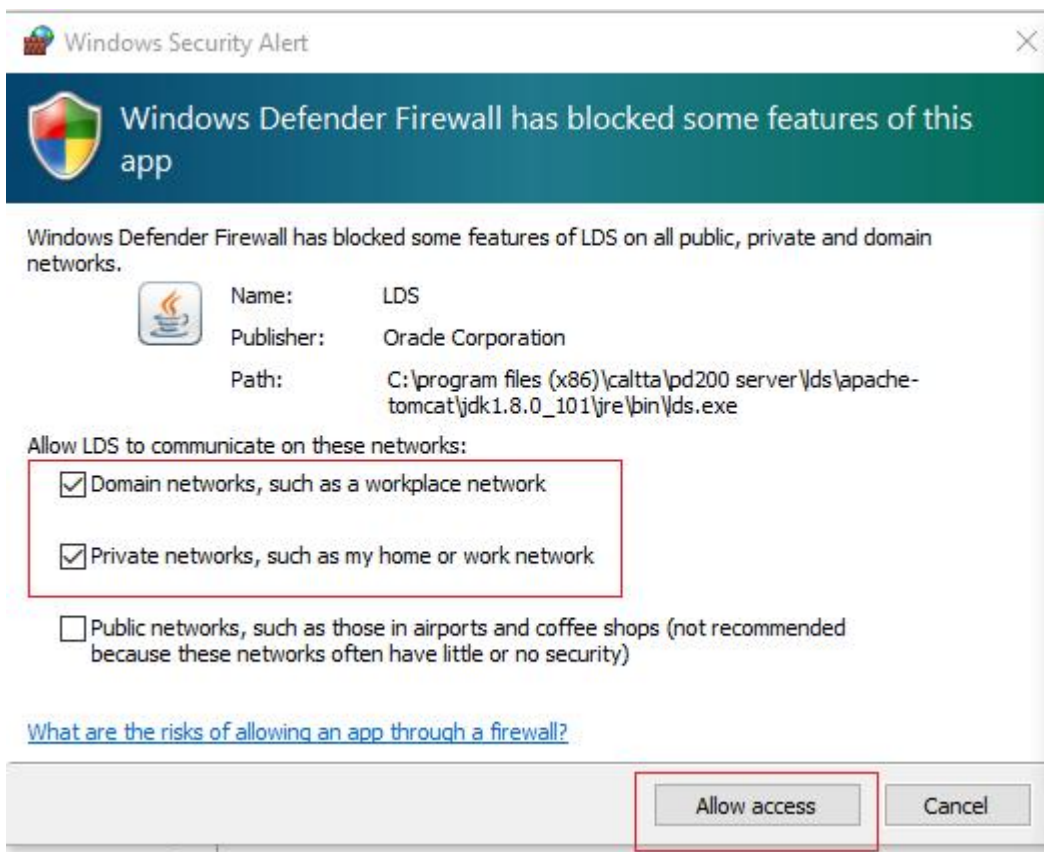
The following figure allows the DPS process to communicate.

Figure 5-9 Firewall allows DPS process communication



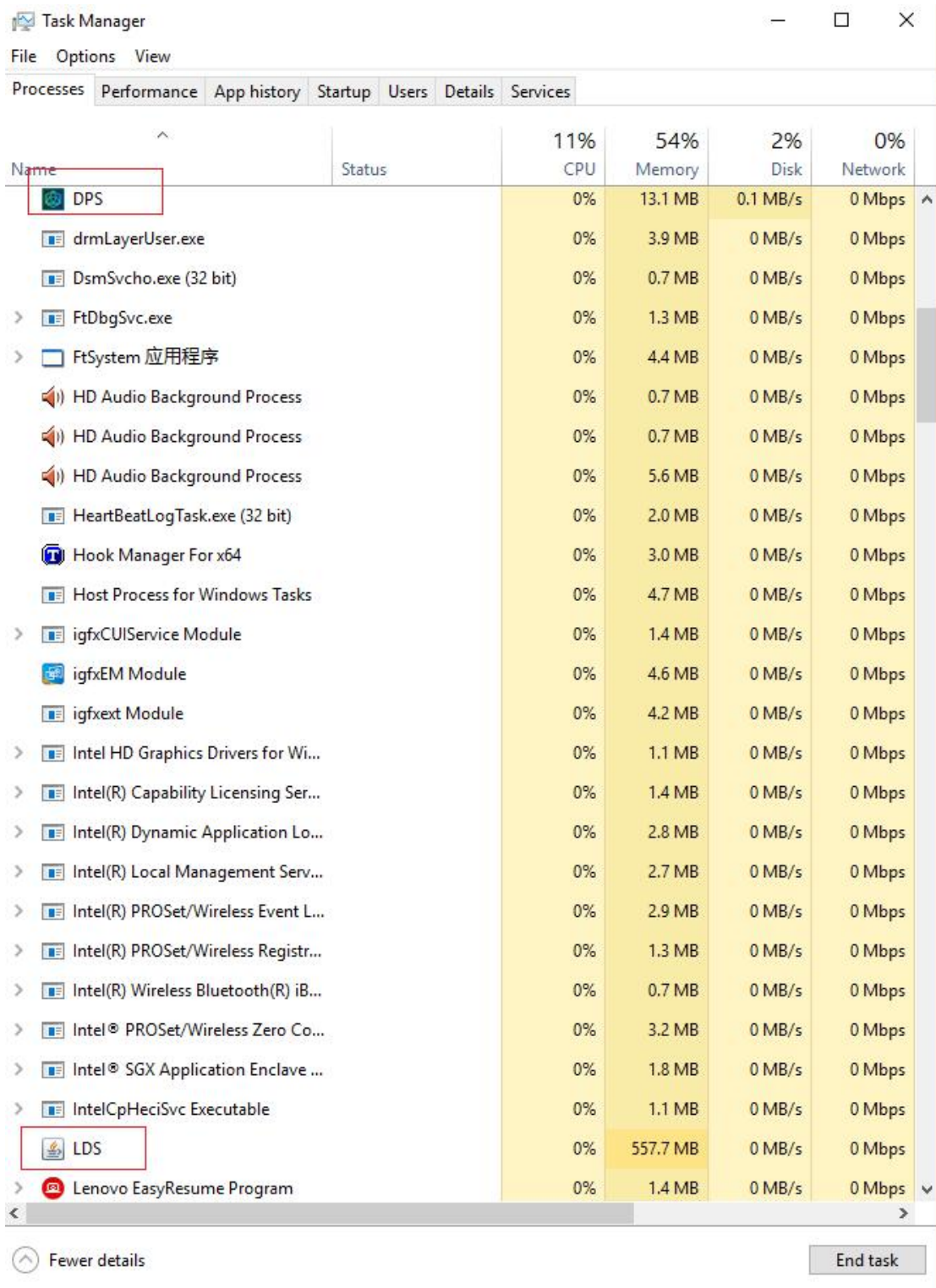
The following figure shows the LDS process is allowed (or displays "Java (TM) Platform SE). Binary" on Windows 10).

Figure 5-10 Firewall allows LDS process communication



After the startup is successful, check the "Processes" option in the task manager, if DPS and LDS (or display "Java (TM) Platform SE binary") processes are included, it indicates that the startup is successful, as shown in the following figure.

Figure 5-11 Server's processes displayed in task management

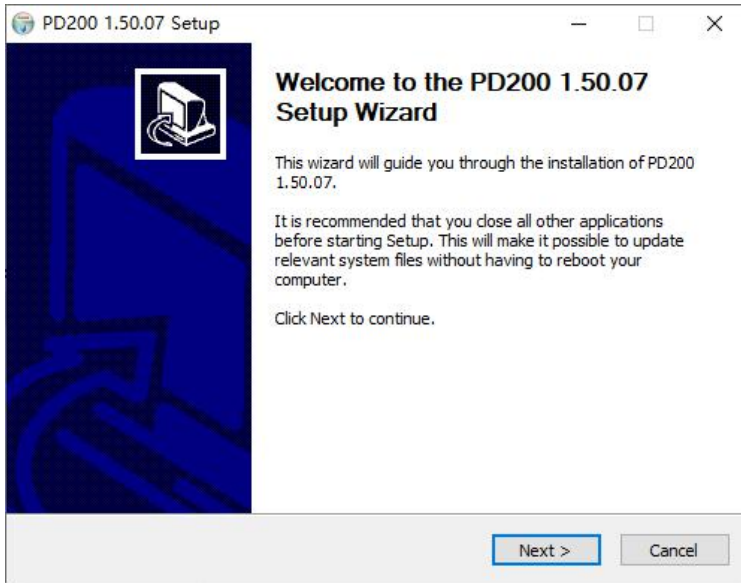


### 5.1.4 Dispatcher client installation

Double-click the PD200 client installation package "PD200Client\_E\_V\*.\*.exe" to install, as shown in the following figure.

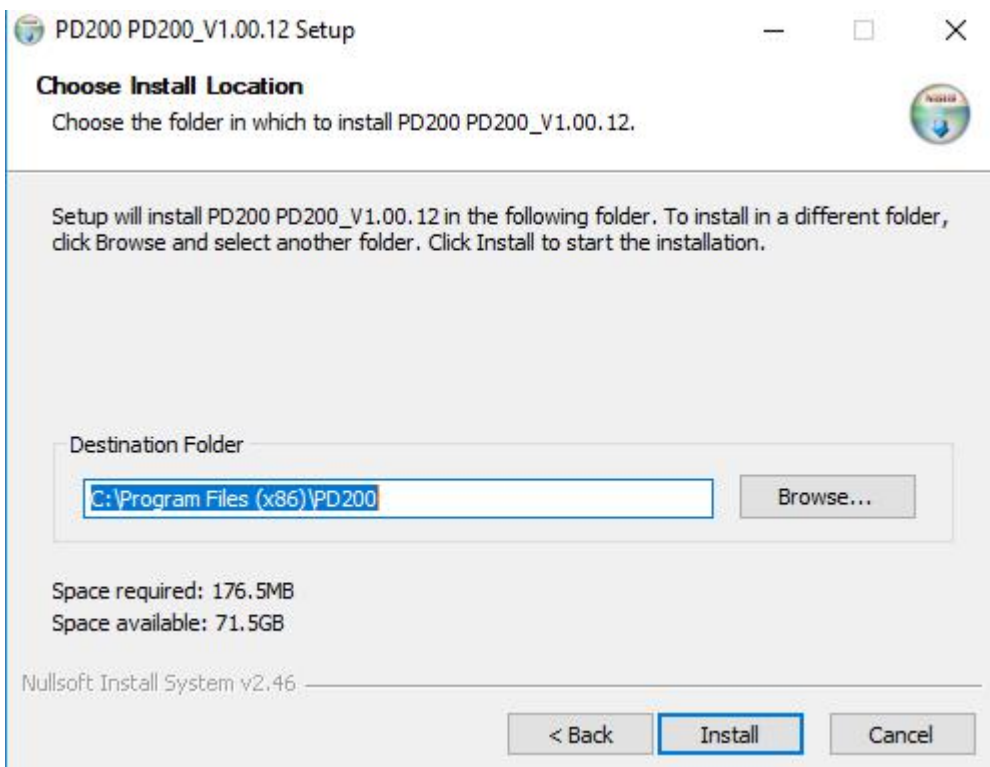
Figure 5-12 PD200 client installation - 1





Select the installation path and click the "Install" button to install PD200 client, as shown in the following figure.

Figure 5-13 PD200 client installation - 2



After the installation is complete, double-click the PD200 client shortcut on the desktop to start the client.

*Note: The version upgrade of dispatcher client is overwrite installation. Please choose to install by default*

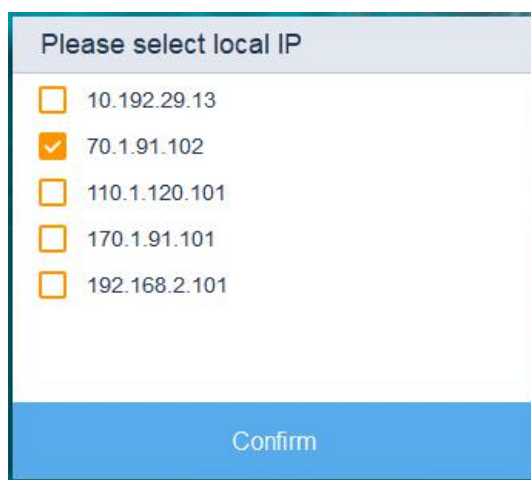
after running the file.

## 5.2 Dispatcher client setting

### 5.2.1 Dispatcher client login

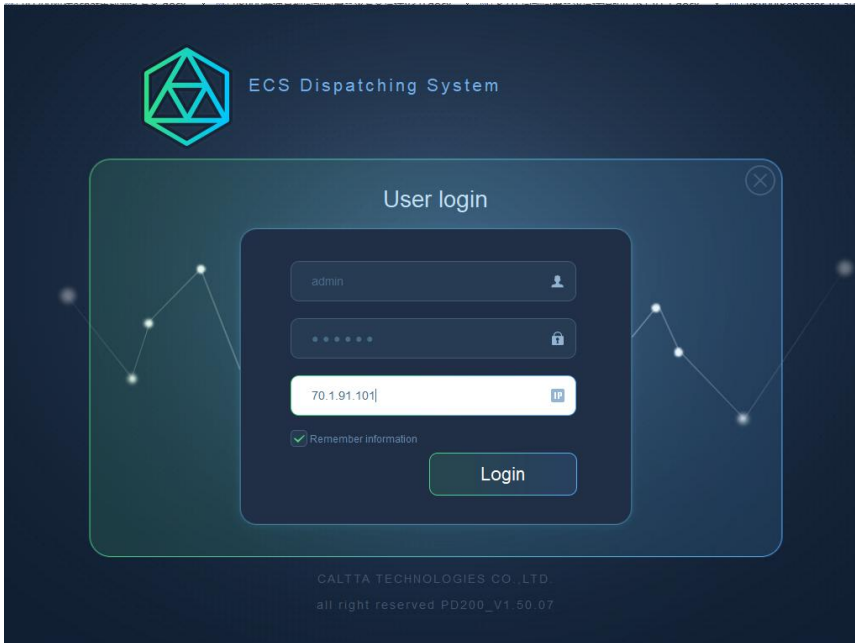
When you start the PD200 client by double-clicking the icon, you will be prompted to select an IP address when the PC is configured with multiple IP addresses. Select "70.1.91.102" according to chapter 2.1 IP planning and click "Confirm" to enter the login page, as shown in the following figure.

Figure 5-14 Dispatcher client IP address selection



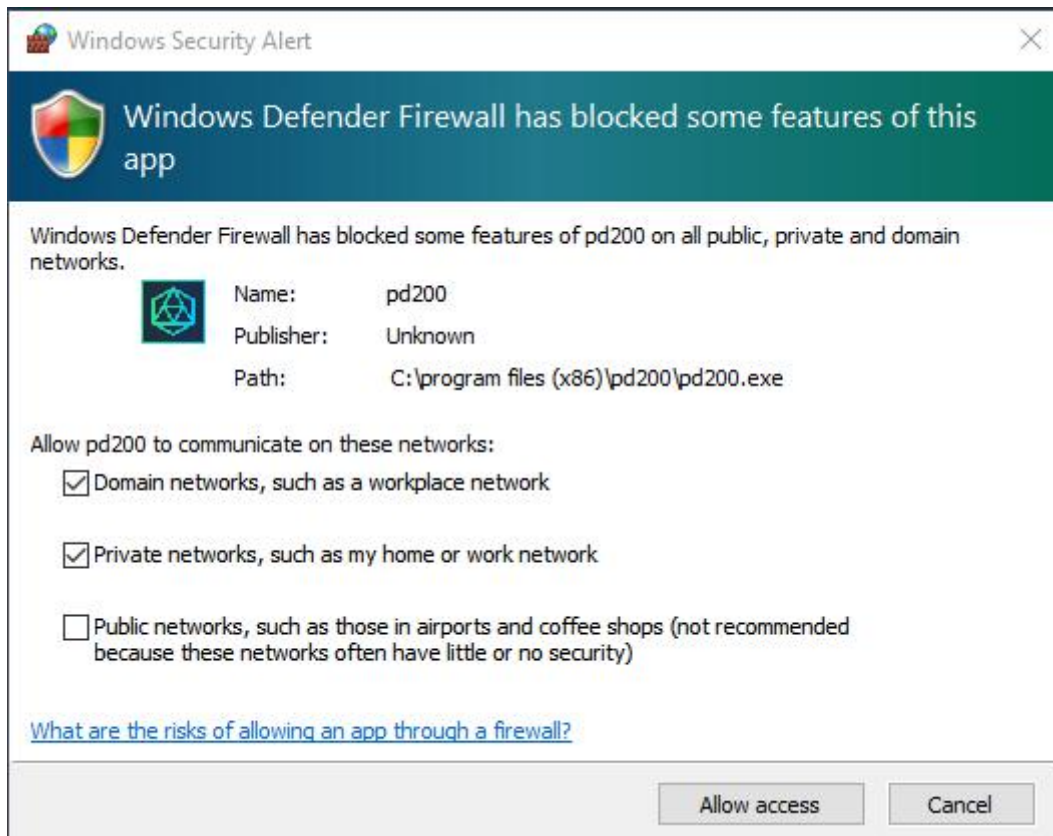
The login interface uses the "admin" account to log in. According to chapter 2.6 Account planning, the password is 111111, and the server IP is filled in "70.1.91.101", click the "Login" button to log in, as shown in the following figure.

Figure 5-15 Dispatcher client login



When logging in, the firewall pop-up window is displayed. Check the network option to allow the PD200 client to communicate. Click the "Allow access" button, as shown in the following figure.

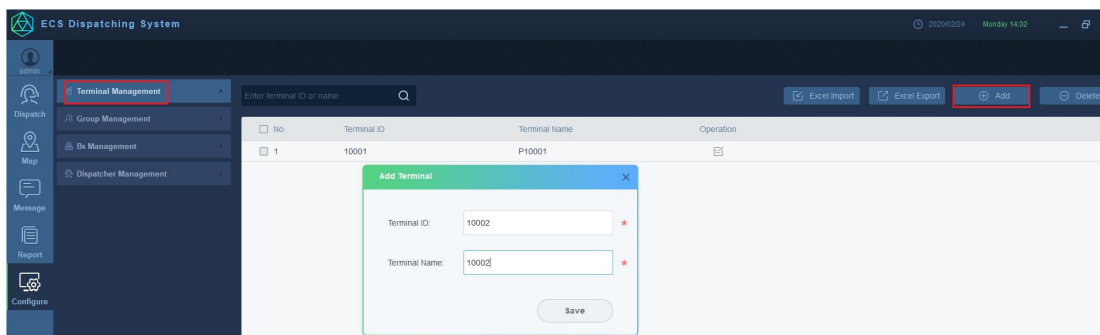
Figure 5-16 Firewall allows dispatcher client communication



### 5.2.2 Add radio

Select the "Configure" menu on the left, click "Radio Management" on the page that pops up on the right, click the "Add" button in the upper right corner, and fill in the "Radio ID" and "Radio Name" in the pop-up interface, as shown in the following figure. Add Radio 1, and Radio 2 according to chapter 2.2.

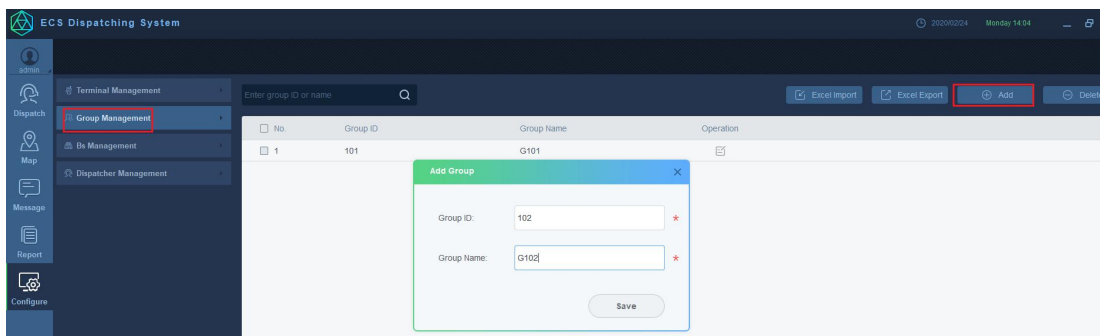
Figure 5-17 Add radio



### 5.2.3 Add group

Select the "Configure" menu on the left, click "Group Management" on the page that pops up on the right, click the "Add" button in the upper right corner, and fill in the "Group ID" and "Group Name" in the pop-up interface, as shown in the following figure. Add one group with "Group ID" as "101" and "Group Name" as "G101". Add another group with "Group ID" as "102" and "Group Name" as "G102".

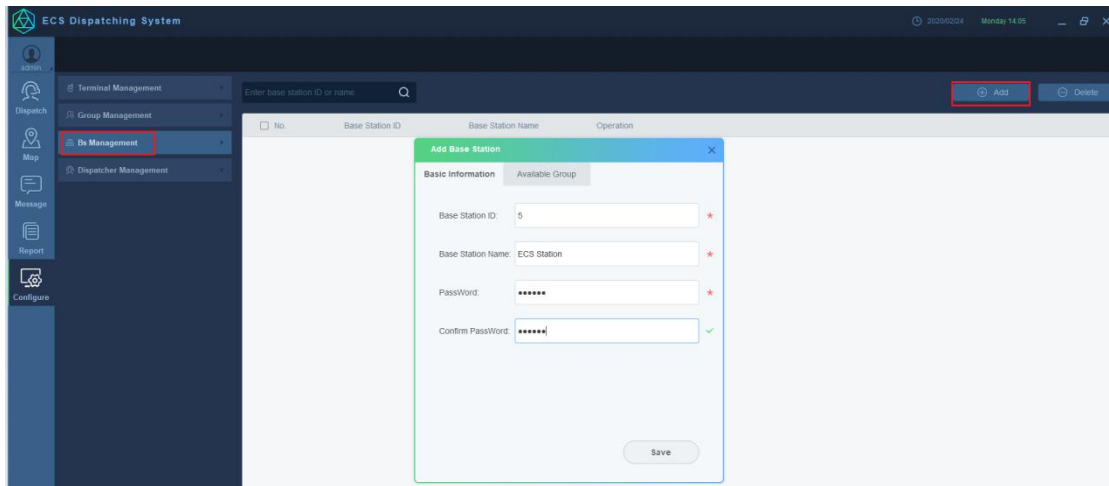
Figure 5-18 Add group



### 5.2.4 Add base station and bind group

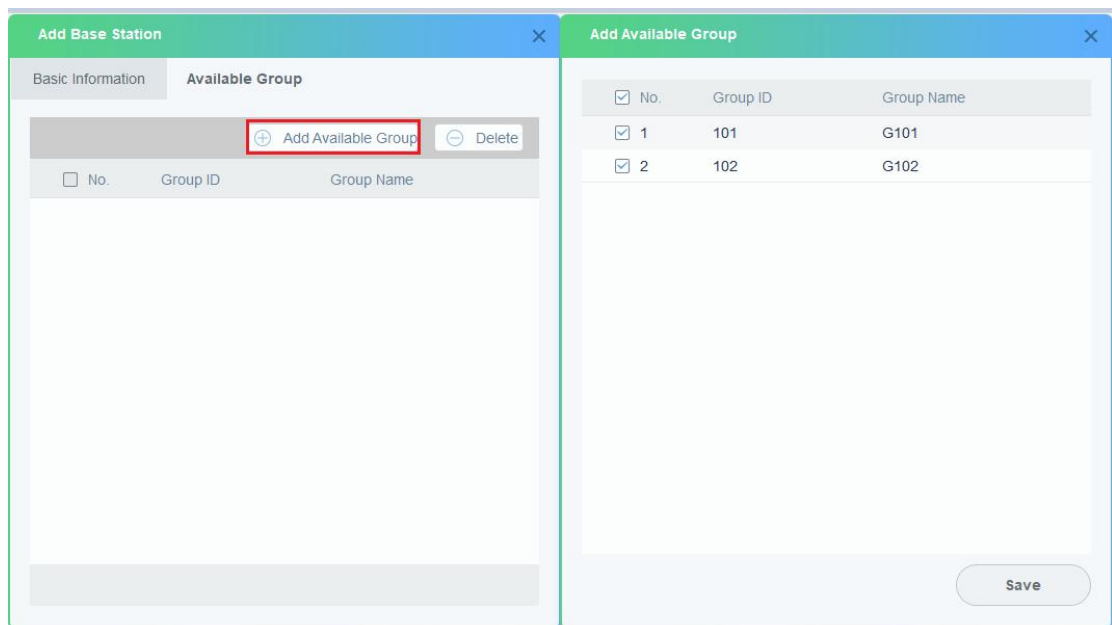
Select the "Configure" option on the left, click "Base Station Management" on the page that pops up on the right, click the "Add" button in the upper right corner, and fill in the "Base Station ID" with "5", "Base Station Name" with "ECS Station" in the pop-up interface according to chapter 2.2. Fill in the "Password" as "111111" according to chapter 2.5 Base station authentication planning, then click "Save" button, as shown in the following figure.

Figure 5-19 Add base station



Click on the "Available Group" page in the pop-up window, click the "Add Available Group" button, select group G101 and G102 in the pop-up window and click "Save", as shown in the following figure.

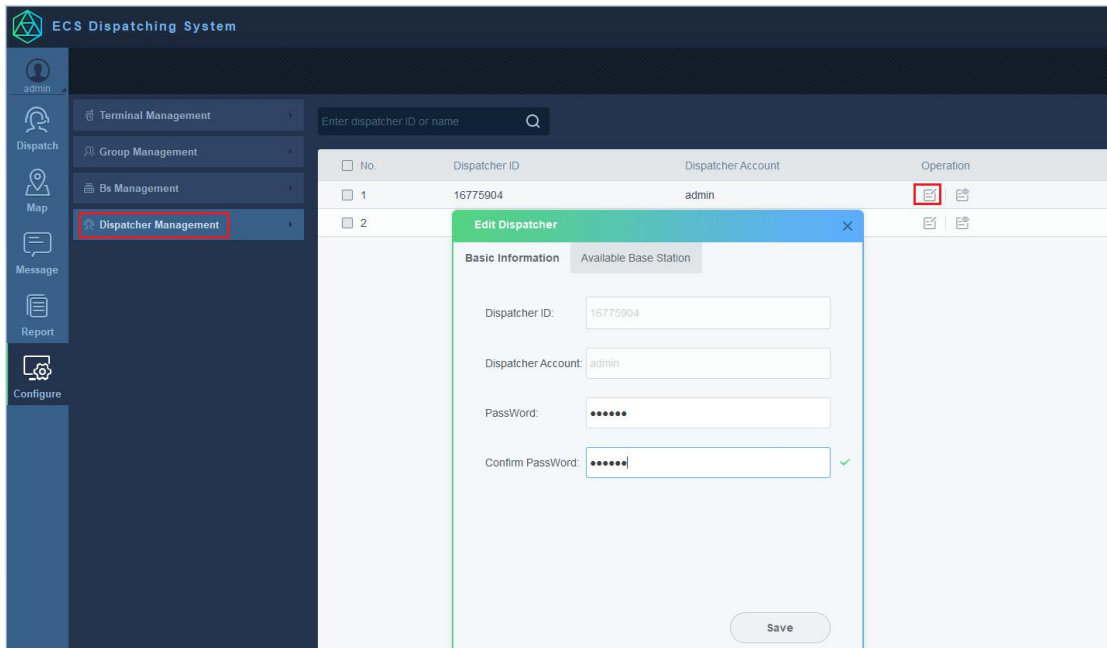
Figure 5-20 Base station bind available groups



### 5.2.5 Modify "admin" password

Select "Configure" - "Dispatcher Management" on the left. The currently logged "admin" account already exists on the pop-up page. Click the "Edit" button below the "Operation" column, you can set the new password in the pop-up window. The "Password" and the "Confirm Password" must be filled in as the same. Click the "Save" button, as shown in the following figure.

Figure 5-21 Modify "admin" password

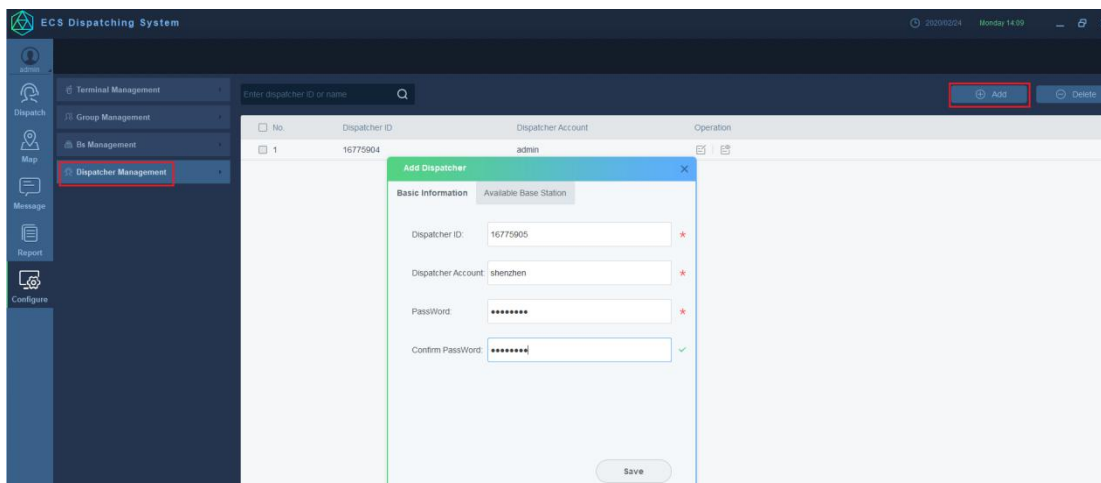


On the "Available Base Station" page, you can add or delete the base station that the account can manage.

### 5.2.6 Add dispatcher account

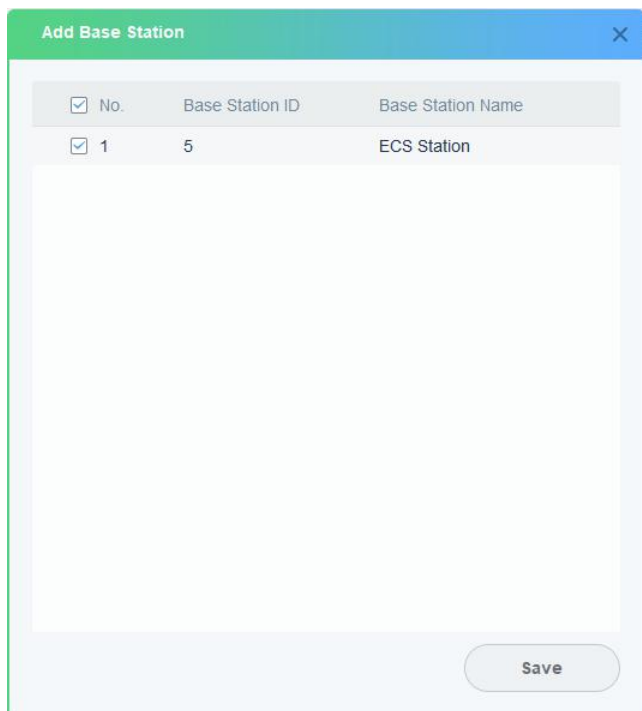
Select "Configure" - "Dispatcher Management" on the left, click the "Add" button in the upper right corner of the pop-up page, and fill in the "Dispatcher ID" as "16775905" in the pop-up window according to chapter 2.6 Account planning (ID range 16775904~16776159, where 16775904 is the "admin" account ID), fill in the "Dispatcher Account" as "shenzhen", fill in the dispatcher "Password" as "07552019", the "Password" and the "Confirm Password" must be filled in as the same, click the "Save" button, as shown in the following figure.

Figure 5-22 Add dispatcher account



On the "Available Base Station" page, you can add available base station that the account can manage. On the new page, select the base station with "Base Station ID" as 5 and save it, as shown in the following figure.

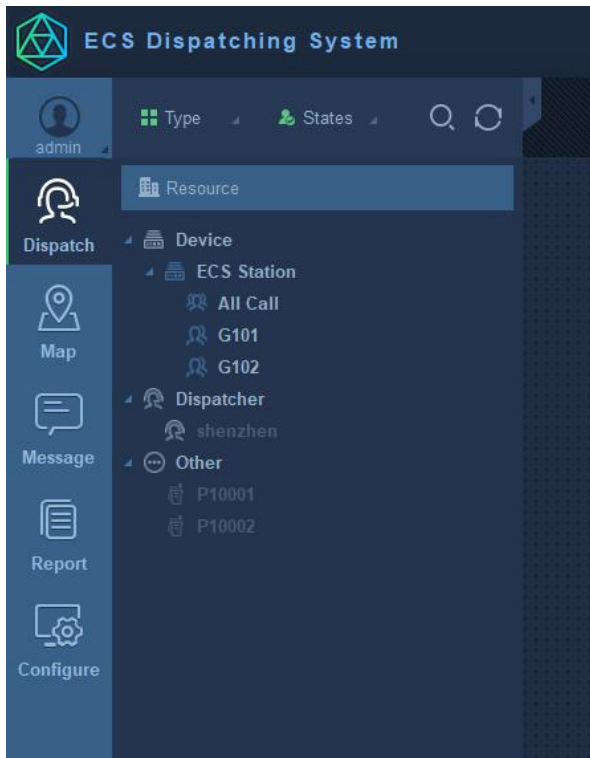
Figure 5-23 Dispatcher add available base station



After the addition is complete, click the "Dispatch" menu on the left, and click the "Refresh" icon in the upper right corner of the pop-up page, and we can view the latest data, as shown in the following figure. Click on directory "Device", "Dispatcher" and "Other", we can view the information of the added base station, bound group, dispatcher and radio.

Figure 5-24 "Dispatch" page resource display

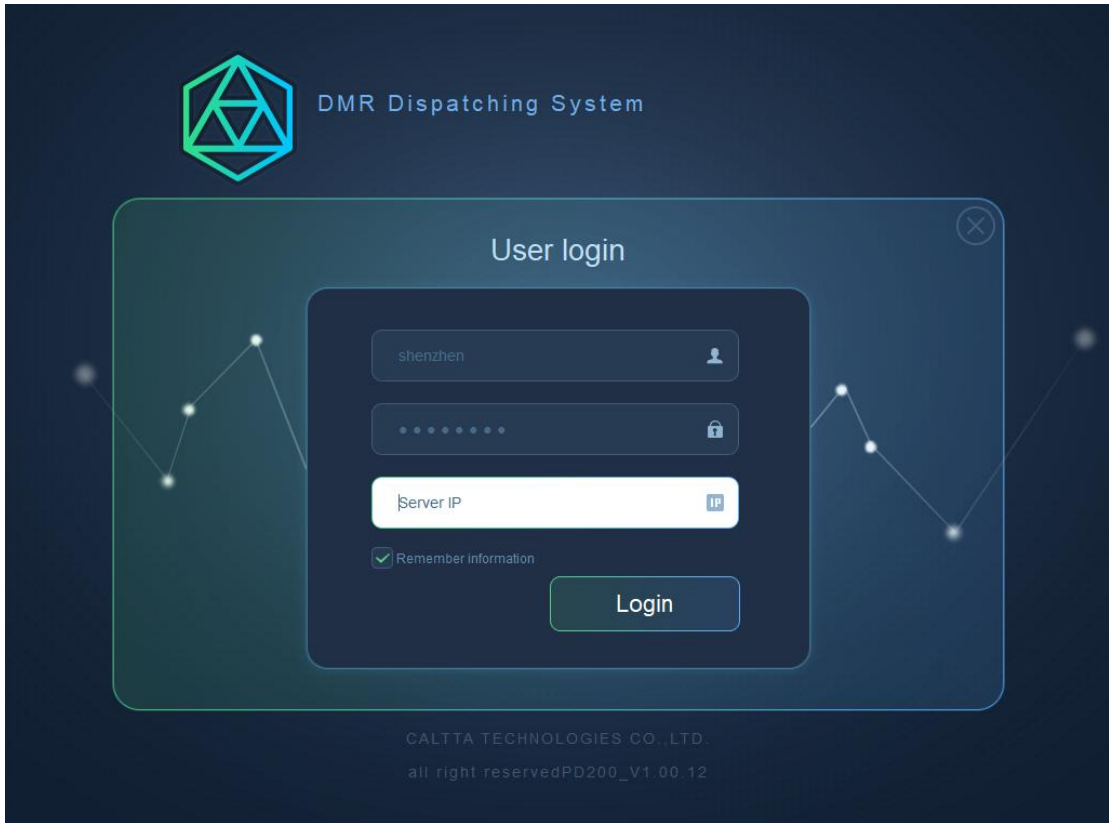




### 5.2.7 New dispatcher account login

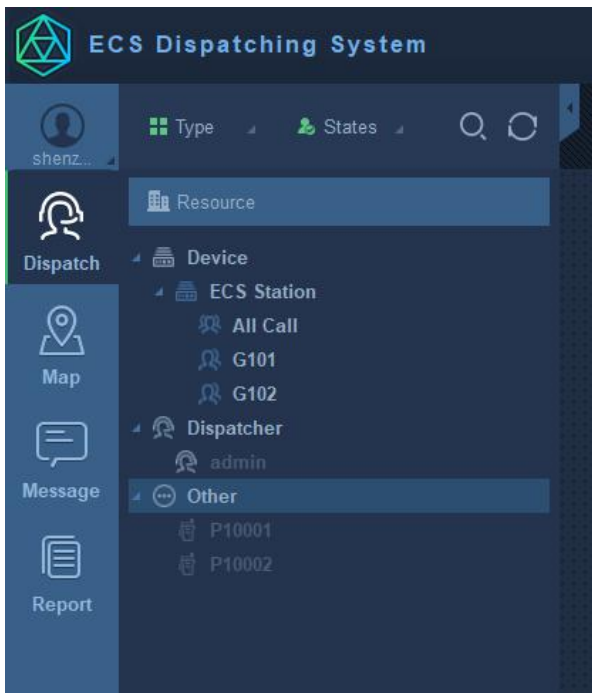
Exit the current admin account login interface, re-open the PD200 client, log in with dispatcher account "shenzhen", input password "07552019", and server IP address "70.1.91.101", as shown in the following figure.

Figure 5-25 New dispatcher account login



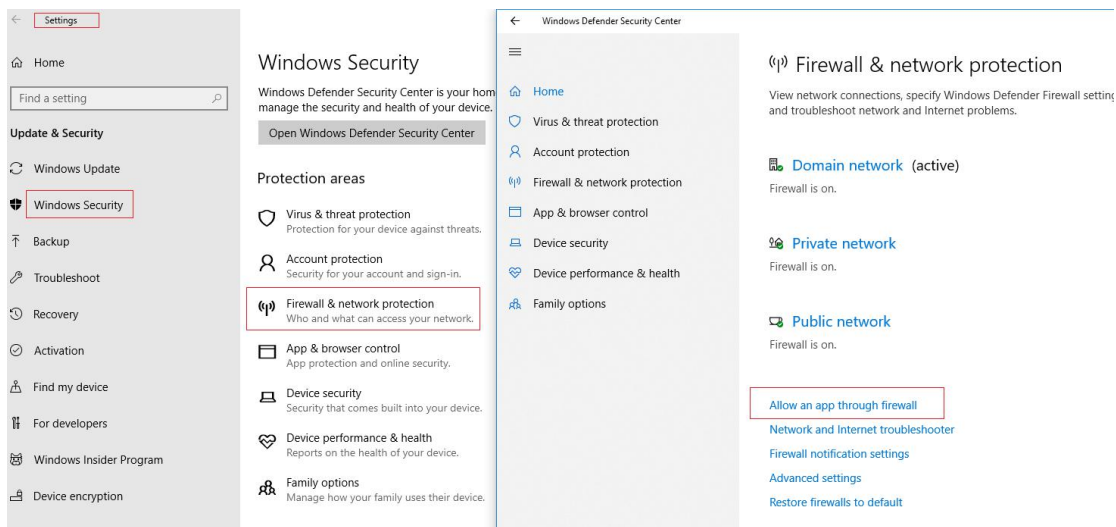
After the login is successful, select the left "Dispatch" menu, click on the "Device" list in the "Resource" tree, you can view the added base station. When the font of the base station is highlighted, it indicates that the base station has been registered successfully, as shown in the following figure.

Figure 5-26 Base station login successful to dispatcher



If the font of the base station is gray, it indicates that the base station is not registered successfully, please check if the configuration is correct, and check whether the PC firewall of the PD200 has added DPS, LDS (or displays "Java (TM) Platform SE). Binary"), PD200 to the list of "Allowed apps and features", as shown in the following figure.

Figure 5-27 Windows defender firewall setting -1



Make sure that DPS, LDS (or displays "Java (TM) Platform SE). Binary"), and PD200 have been added and checked in the list, as shown in the following figure.

Figure 5-28 Windows defender firewall setting -2

Allow apps to communicate through Windows Defender Firewall

To add, change, or remove allowed apps and ports, click Change settings.

What are the risks of allowing an app to communicate?

Change settings

For your security, some settings are managed by your system administrator.

Allowed apps and features:

Name	Domain	Private	Public	Group Policy
<input checked="" type="checkbox"/> DPS	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	No
<input checked="" type="checkbox"/> EasyConnect	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No
<input checked="" type="checkbox"/> Email and accounts	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	No
<input type="checkbox"/> File and Printer Sharing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No
<input type="checkbox"/> File and Printer Sharing over SMBDirect	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No
<input checked="" type="checkbox"/> Google Chrome	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	No
<input checked="" type="checkbox"/> Groove 音乐	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	No
<input type="checkbox"/> HomeGroup	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No
<input checked="" type="checkbox"/> I'M Instant Messenger Launcher	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No
<input type="checkbox"/> I'M Instant Messenger Launcher	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No
<input type="checkbox"/> iSCSI Service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No
<input type="checkbox"/> Key Management Service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No

Details... Remove

Allow another app...

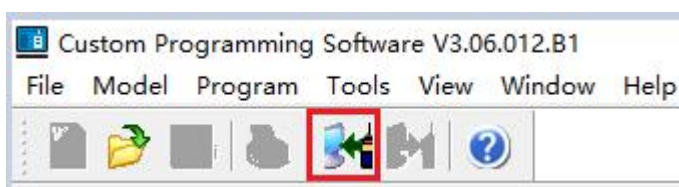
## 6 Radio configuration

The radio enhanced conventional services need to be authorized for normal use, please refer to the related radio guidance document.

### 6.1 Radio CPS read

The radio 1 connects to the PC through the programming cable and opens the corresponding radio CPS software (If it is an installation version, please install it first), as shown in the following figure.

Figure 6-1 Radio CPS read




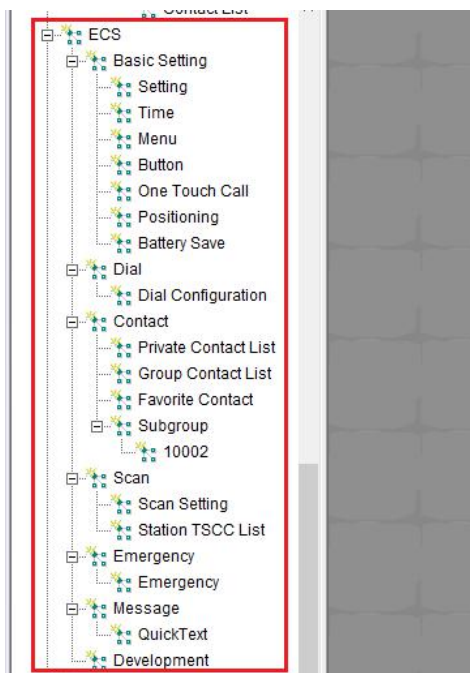
Click the "Read" icon  on the toolbar and click "OK" to read. After the successful reading, the list is displayed on the left side of the CPS, as shown in the following figure.

Figure 6-2 Radio reading successful



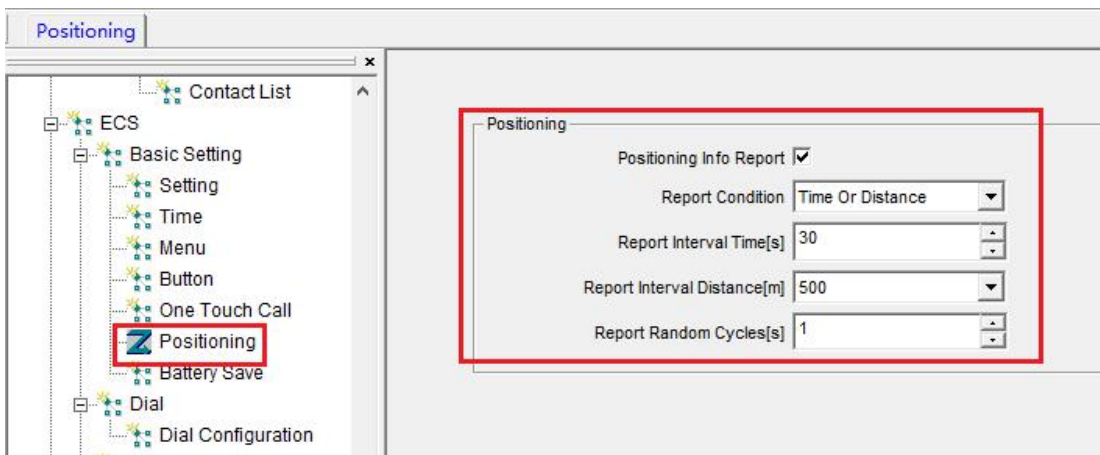
Note: Radio ECS enhanced conventional setting needs authorization, otherwise this item is not visible.

## 6.2 Radio positioning information report

This function is optional, please select when you need to use it.

Double-click "Positioning" under "ECS" - "Basic Setting", check the "Position Info Report" on the pop-up page, and configure "Report Condition", "Report Interval Time", "Report Interval Distance" and "Report Random Cycles". The radio will report the GPS information according to the corresponding period or distance, as shown in the following figure.

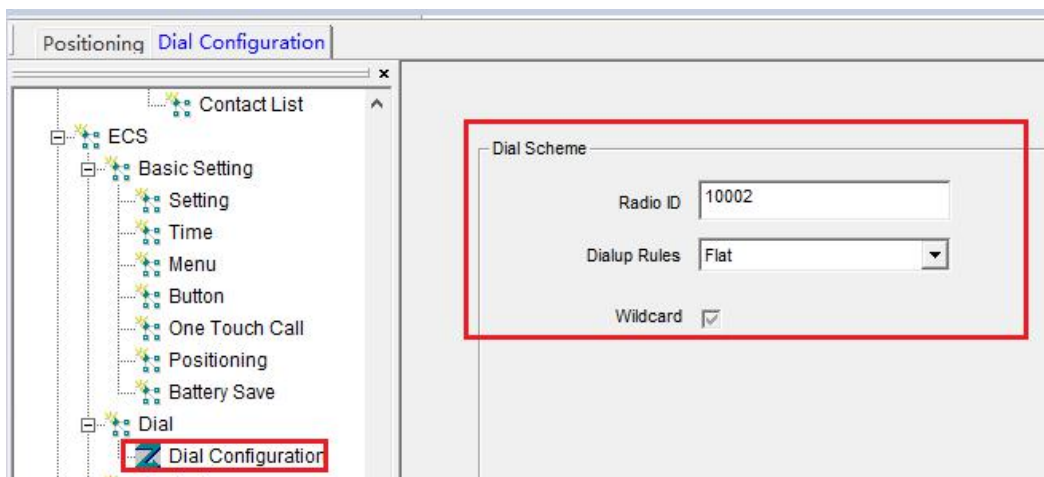
Figure 6-3 Radio positioning system setting



### 6.3 Dialing configuration

Double-click "Dial Configuration" under "ECS" - "Dial", set radio 1 with "Radio ID" as "10001", and set radio 2 with "Radio ID" as "10002". Set the "Dialup Rules" as "Flat" for both radios, as shown in the following figure.

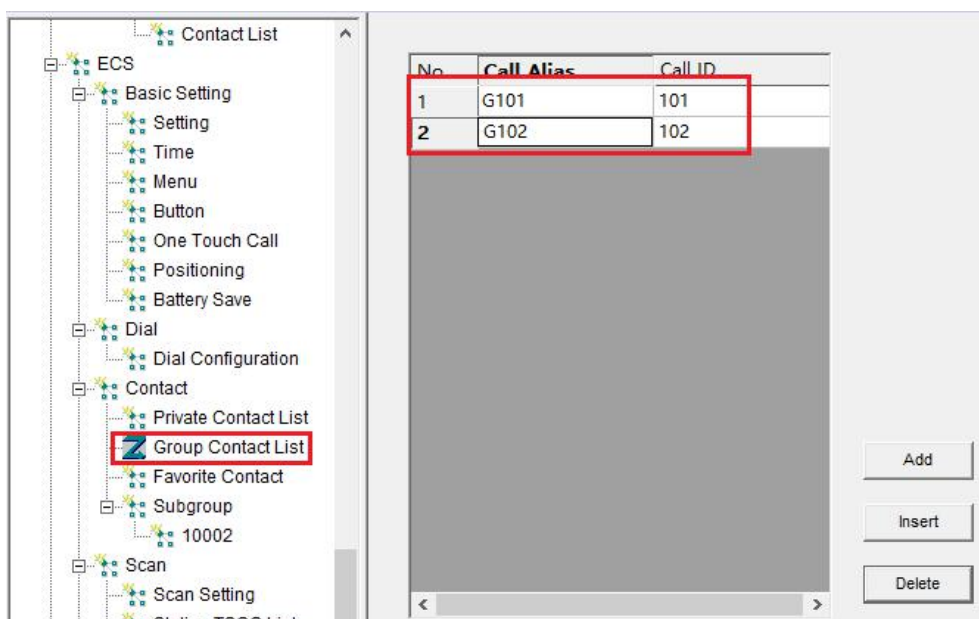
Figure 6-4 Dialing configuration



### 6.4 Contact setting

Double-click the "Group Contact List" option under "ECS" - "Contact". You can add Group G101 and group G102 on the pop-up page, as shown in the following figure.

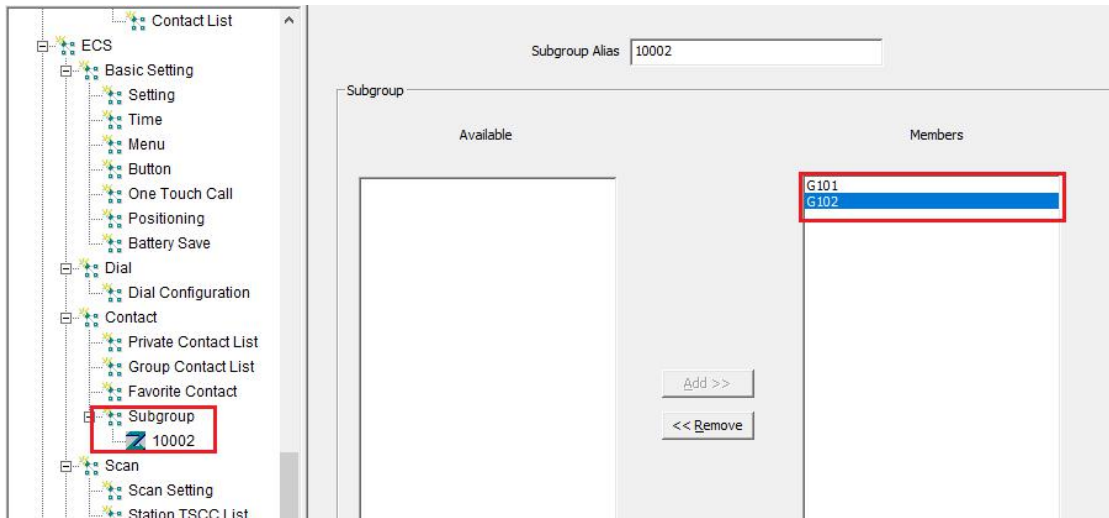
Figure 6-5 Radio group contact setting



Select the "Subgroup" option. On the pop-up page, select the groups available on the left and click the "Add >>" button to add them to the "Members" on the right, as shown in the following

figure.

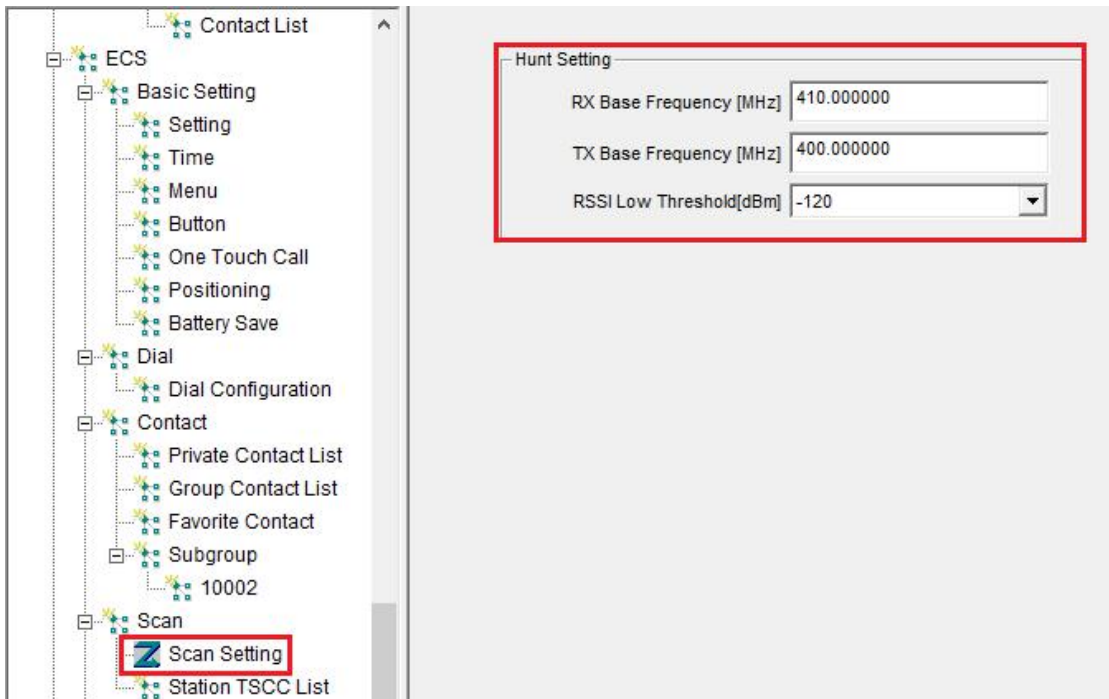
Figure 6-6 Radio subgroup setting



## 6.5 Scan setting

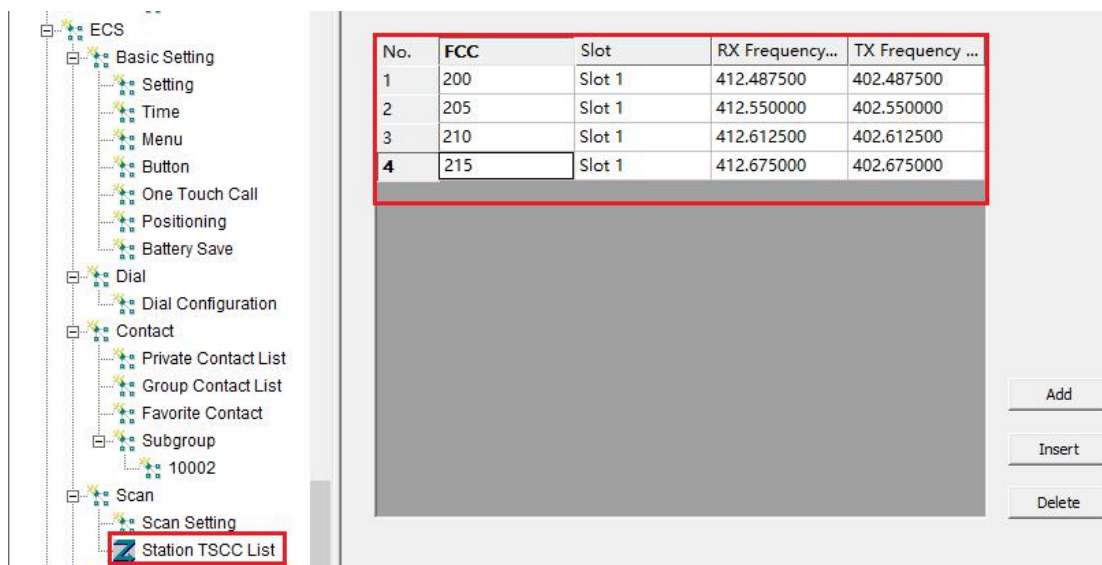
Double-click the "Scan Setting" option under "ECS" - "Scan". You can set the "Rx Base Frequency" as "410" MHz, and set "Tx Base Frequency" as "400" MHz according to chapter 2.2 on the pop-up page, as shown in the following figure.

Figure 6-7 Radio scan setting



Select the "Station TSCC List" option. On the pop-up page, set the channel information according to chapter 2.2, including channel 200, 205, 210 and 215, as shown in the following figure.

Figure 6-8 Station TSCC list setting



## 6.6 Radio CPS write


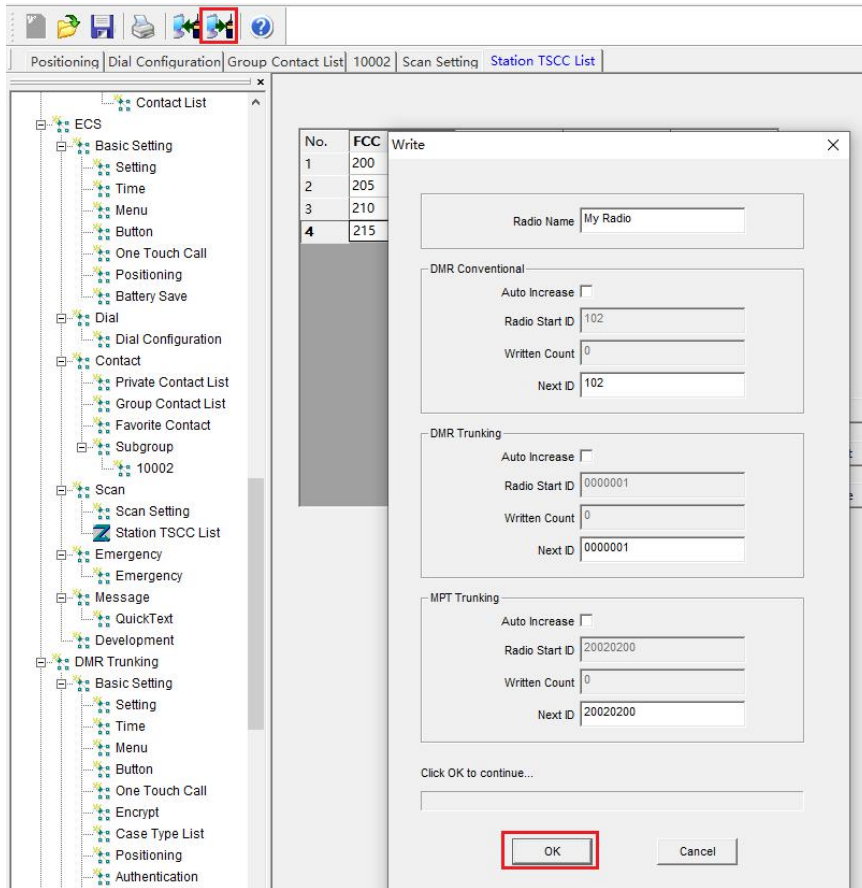
After setting the above steps, click the "Write" icon  on the toolbar, click "OK" button on the pop-up interface to write, the radio will restart after the successful writing, as shown in the following figure.

Figure 6-9 Radio CPS write





## 7 Commissioning system

### 7.1 Radio registration

➤ Precondition:

1. The base station is connected to the PD200 server and the PD200 client is logged in.

➤ Operation step:

1. Radio 1 and radio 2 power on

➤ Expected result:

1. P10001 (radio 1) and P10001 (radio 1) are displayed under "ECS Station", and the font is highlighted, as shown in the following figure.

Figure 7-1 Radio registration check



## 7.2 Radio de-registration

➤ Precondition:

1. The base station is connected to the PD200 server and the PD200 client is logged in.  
The radios have powered on and registered successfully.

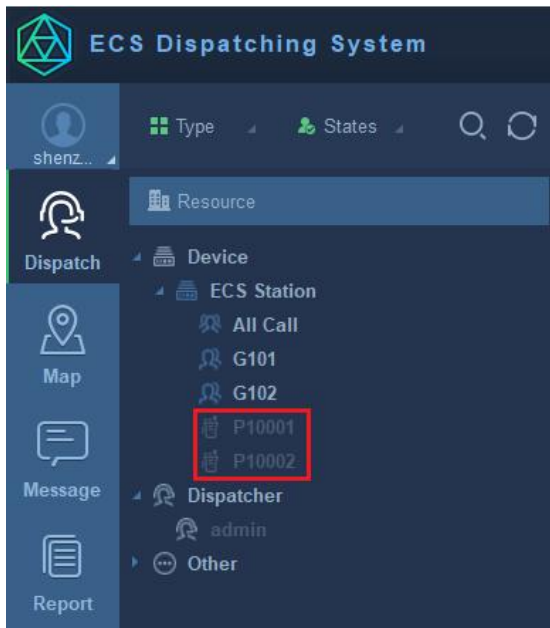
➤ Operation step:

1. Radio 1 and radio 2 power off respectively.

➤ Expected result:

1. P10001 (radio 1) and P10002 (radio 2) are offline, and the font is gray. As shown in the following figure.

Figure 7-2 Radio de-registration check



### 7.3 Voice call

➤ Precondition:

1. The base station is connected to the PD200 server successfully, the PD200 client is logged in. Radio 1 & 2 are registered successfully.

➤ Operation steps:

1. Radio 1 initiates group call G101.
2. After the radio 1 releases the PTT button, the PD200 client initiates voice call to radio 1, radio 2, group G101 and group G102 respectively.

➤ Expected result:

1. Radio 2 receives the G101 group call initiated by radio 1 and can hear radio 1 speaking. The PD200 client can receive the G101 group call initiated by radio 1 and can hear radio 1 speaking (PD200 client PC is connected with headset), the dispatching interface is shown in figure 7-3.
2. The voice call initiated by the PD200 client to radio 1, radio 2, group G101 and group G102 respectively can be established successfully. The dispatching interface is shown in figure 7-4.

Figure 7-3 Radio 1 initiates group call

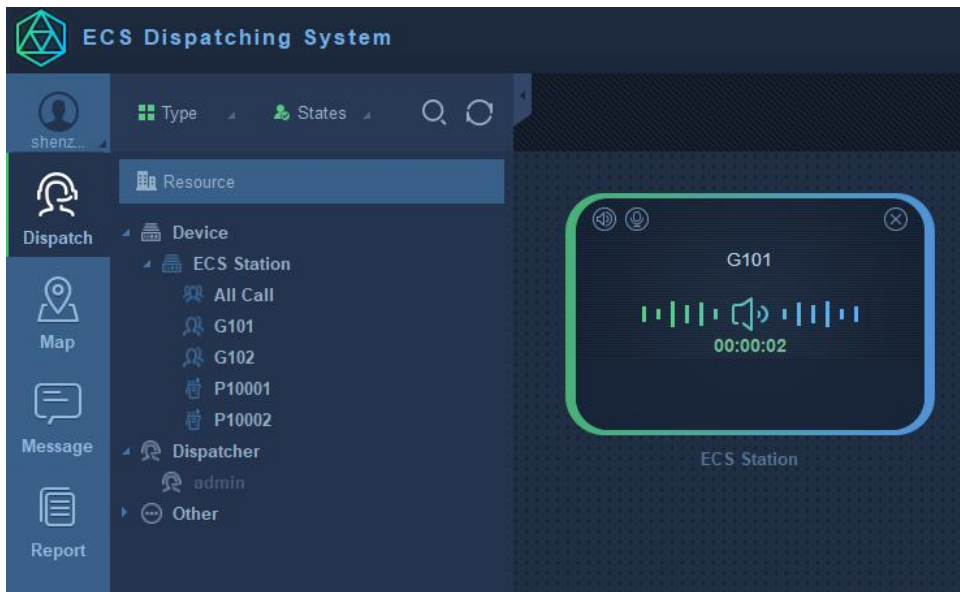
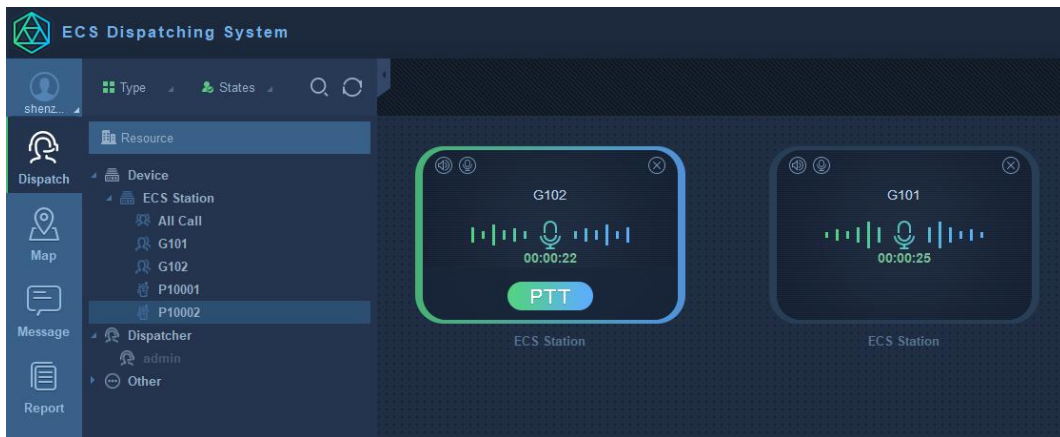


Figure 7-4 Dispatcher initiates multiple calls



## 7.4 Send message

➤ Precondition:

1. The base station is connected to the PD200 server successfully, the PD200 client is logged in. Radio 1 & 2 are powered on and registered successfully.

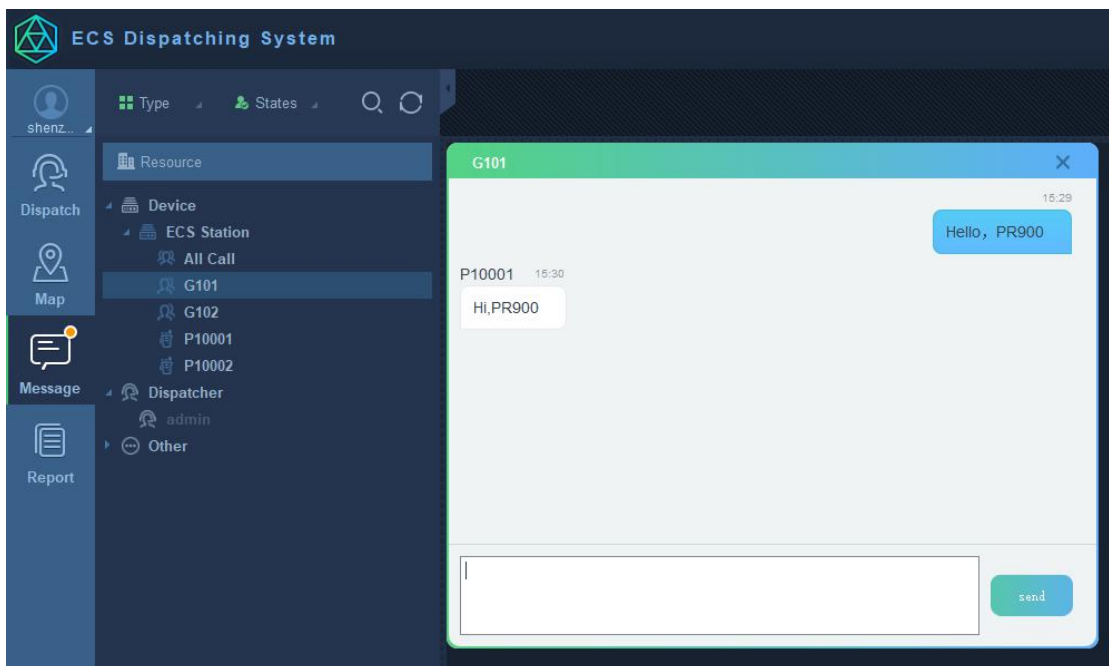
➤ Operation steps:

1. On PD200 client PC, select "Message" - "Resource" - "Device" - "ECS Station", right click group "G101", select "Send Message", enter "Hello, PR900" in the pop-up window, and click "Send".
2. Radio 1 sends a group message "Hello, PR900" to group G101.

➤ Expected result:

1. Radio 1 and radio 2 receive the message "Hello, PR900" sent from PD200 client.
2. Radio 2 and PD200 client receive the message "Hi, PR900" from radio 1, as shown in the following figure.

Figure 7-5 Message display on dispatcher interface



## 7.5 GPS Location

➤ Precondition:

1. The repeater is connected to the PD200 server and the PD200 client is logged in. Radio 1 is configured with positioning service on.

- Operation step:
  1. Select "Map" - "Resource", right click "P10001", select "Location", as shown in figure 7-6.
- Expected result:
  1. The PD200 interface switches to the map interface, and the location of radio 1 will be displayed on the map, which is consistent with the actual location, as shown in figure 7-7.

Figure 7-6 Map display on dispatcher interface - 1

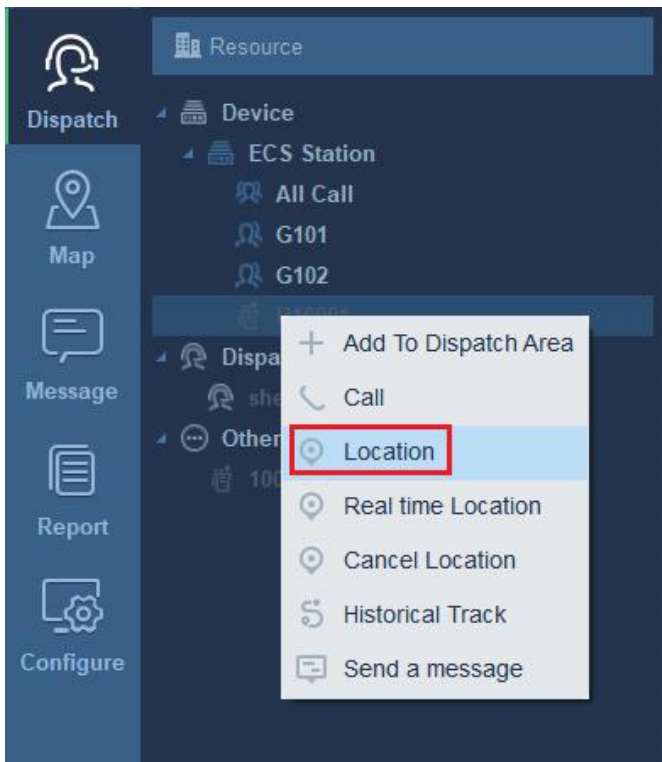
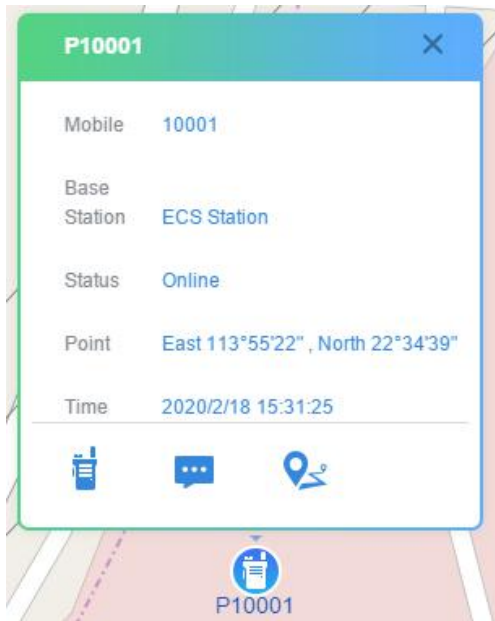


Figure 7-7 Map display on dispatcher interface - 2



## 7.6 Real-time GPS location

➤ Precondition:

1. The base station is connected to the PD200 server and the PD200 client is logged in. Radio 1 is configured with positioning service on, and the automatic report has been chosen and periodic report has been selected.

➤ Operation steps:

1. Select "Map" - "Resource", right click P10001, select "Real Time Location", as shown in figure 7-8.
2. Select "Map" - "Resource", right click P10001, select "Cancel Location", as shown in figure 7-8.

➤ Expected result:

1. The PD200 interface switches to the map interface. The icon of radio 1 is centered on the map interface, and there is a highlighted display around the icon. Radio 1 location can be automatically refreshed periodically, as shown in figure 7-9.
2. After "Cancel Location" operation, the highlighted display around the radio icon disappears.

Figure 7-8 Real-time location display on dispatcher interface - 1

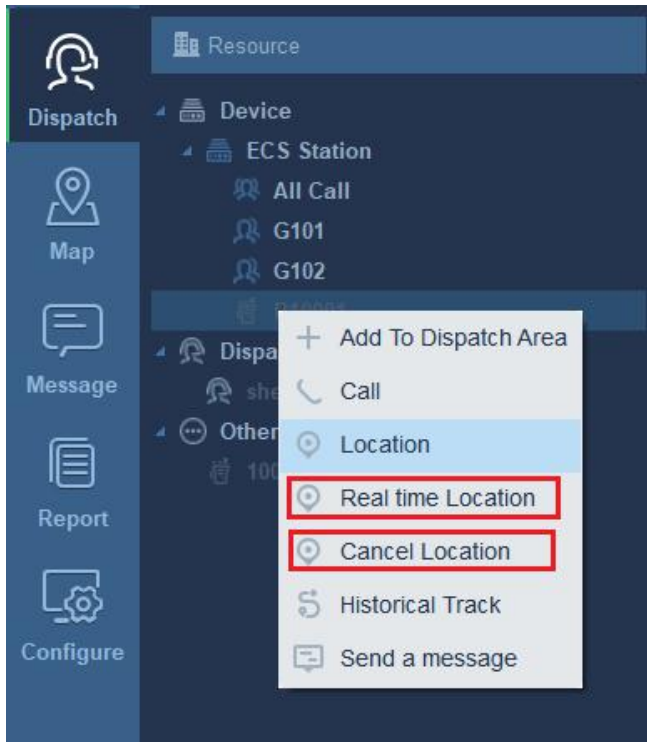


Figure 7-9 Real-time location display on dispatcher interface - 2

