

### 3-5-2.Preset Setting

The CMS can support Max to 128 preset points.

[Preset setting] Choose the device that need to set preset, then select preset number, click “set” button, preset point set successfully.

[Goto preset] Choose the window that need to call preset, then select the preset number, click “Goto” button, before “goto” you must set preset firstly.

[delete preset] Choose the window that need to delete preset, then select the preset, click “delete” button, thus preset deleted successfully.

| PRESET |            |              |
|--------|------------|--------------|
| NO.    | PresetName |              |
| 001    | Preset001  |              |
| 002    | Preset002  |              |
| 003    | Preset003  |              |
| 004    | Preset004  |              |
| 005    | Preset005  |              |
| 006    | Preset006  |              |
| 007    | Preset007  |              |
|        |            | Goto Set Del |

#### ①Preset Patrols

Preset point 1, point 2....point 8, then “Goto” preset number 65 to start the patrol.(patrol require 2 preset points at least)

#### ② The setting of two points patrol

First preset point is 92, second is 93, then call the preset point 87 to start slow-speed patrol, call the preset point 88 to start the medium-speed patrol, and call the preset point 89 to launch the rapid scanning.

#### ③ preset point back to number 1 after power outage.

Serial Preset number 1,66,68 in order can make the preset back to number 1 after power outage.

#### ④ back to preset patrol after power outage.

After the patrol set successful, then continue preset 66,and preset 69. “goto” 65 to start the patrol.Above setting will make the preset back to the patrol after power outage.

#### ⑤two point patrol after power outage.

After set two point patrol, then continue preset 66, preset 70, “Goto” preset 87 to start the two point patrol.

## 3-6. Record Management

### 3-6-1. plan of record

In the tab bar to choose “setting”-- “record management”—“Enable the plan of record”, as shown in above:SUN – SAT means one week,based on the count of day ; 0 – 23 means one day, based on the unit of half an hour.



[Enable the plan of record] Choose channel, then click the left mouse to drag a green blocks in the schedule, as above shown; green area is the time bucket that enabled plan of record. After setting time bucket, click save.

[Close the plan of record] Cancel the tick in enable plan of record, click save; or cancel green block in schedule and click save.

The method of canceling green block: only need to click left mouse and drag mouse,the green block can be cancelled.

**Note: If the “plan of record” time for all devices are the same, you only need to set one device, then click copy and save, then all devices enabled plan of record.**



[General Record Length] The system default record length is 5 minutes for a single recording file. The file can set 1-30minutes(Please refer to the left picture).

[Maining disk begins recovery control]The scope is 1G-50G optional, when disk space is less than set range, it will skip to another disk or delete earliest record file(default recycling is 10GB).

[Record format] 264 and AVI record formats. If record format is 264, you must use manufacturer’s player to playback record.

[No hard disk space coverage] Select “Yes”, when all disk space is less than the set of disk space, it will delete the earliest record. Select “No”, when all space is less than the set of disk space , it will stop recording.

|                                     | Disk | Total size(GB) | Available size... | Path        |
|-------------------------------------|------|----------------|-------------------|-------------|
| <input type="checkbox"/>            | C:\  | 80.000         | 56.370            | C:\TRecord\ |
| <input checked="" type="checkbox"/> | D:\  | 20.000         | 16.849            | D:\TRecord\ |
| <input type="checkbox"/>            | E:\  | 11.784         | 8.145             | E:\TRecord\ |
|                                     |      |                |                   |             |
|                                     |      |                |                   |             |
|                                     |      |                |                   |             |
|                                     |      |                |                   |             |

[Record path] After installed CMS, CMS will test the hard disk in device automatically, and display in the list, default to D disk.

## 3-6-2. Manual Record

Firstly select window, then click  button or right-click window to choose recording. Please check plan of record to see record length and path setting.

Note:

- 1.The CMS can support Max 24 drives, namely memory storage can connect Max 24 hard disk.
2. Display screen show , means the channel is in “ plan of record”, if show  means the channel is in “manual recording”.

## 3-7.Local playback

### 3-7-1.playback by time searching

 “Play” button. when recording playback finished, click it continue to play.

 “Stop” button. when play recording, click it to stop playing.

 “Frame” button, when play recording, click it to single frame play, click one time, it play one frame image.

 “Image capture” button, choose play window, click it to capture images to disk.

 “Electronic zoom” button, click the button in the process of play recording , then draw the magnified image region in the window.

 “Full screen” button, choose this button, the window area will display on full screen, if need to display a single window on full screen, double click the window.

 When playback record, please select play speed through drop-down box, default is normal speed.

 “Voice” button, you can choose open or close voice during playing record, default is closed.

## [record playback retrieval]

Step 1: choose the Record file format and time

Step 2: select the windows that need to playback, and select channel in list tree.

Step 3: If there are files matched the condition in time scope ,it will display on timeline panel.

Step 4: double-click the device channel to playback record.



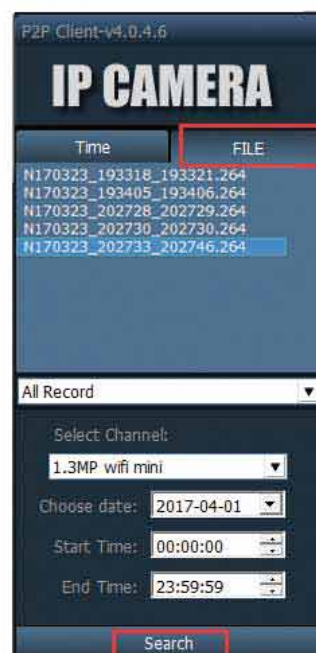
## 3-7-2. playback by searching file

Step 1: Choose the record file format and device channel

Step 2: Select the search time and click "search" button, the system will display the eligible record file in the device tree.

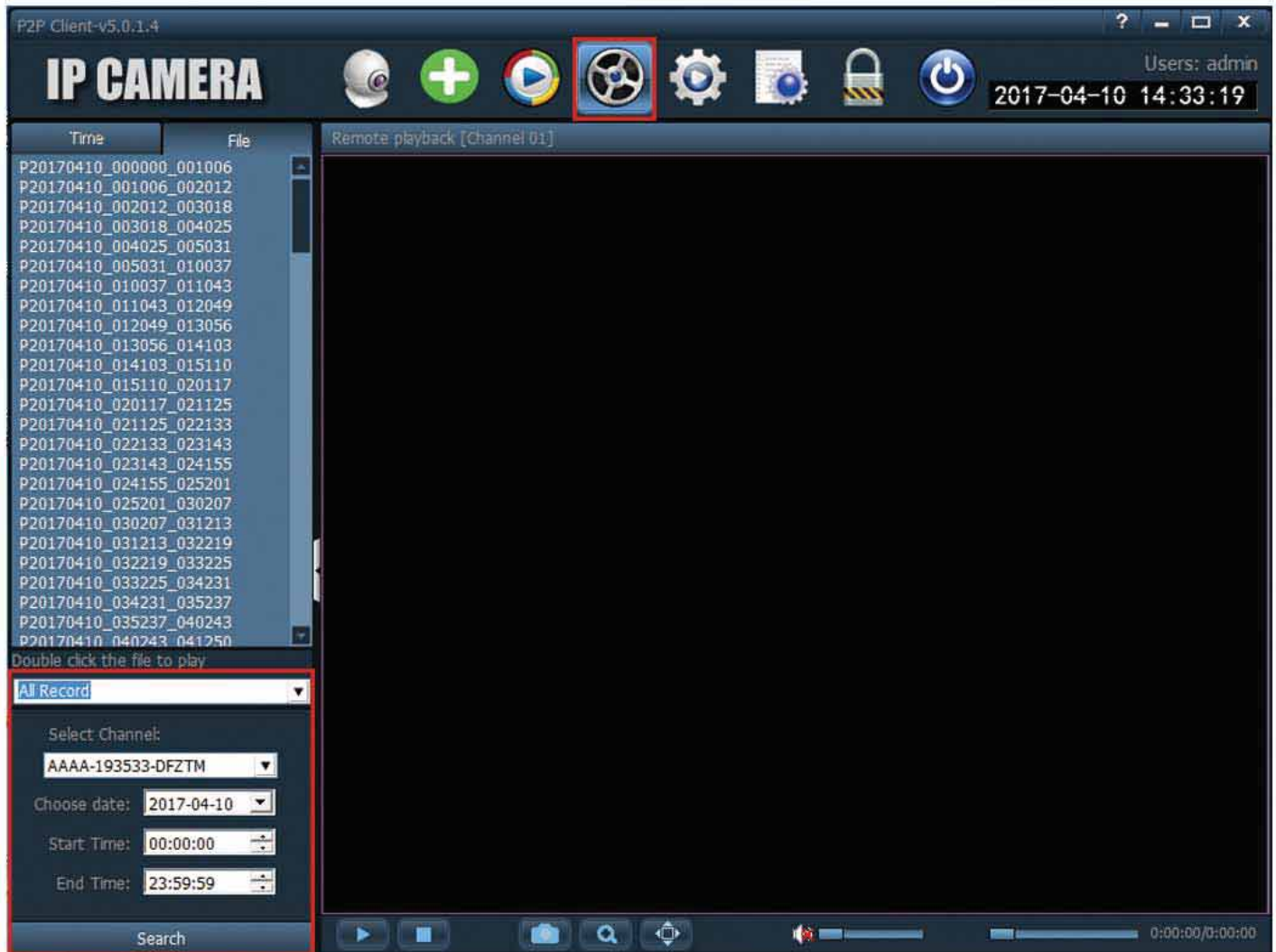
Step 3: Select playback window and double click record file to playback record.

File playback support the same record file playback in four windows at the same time.



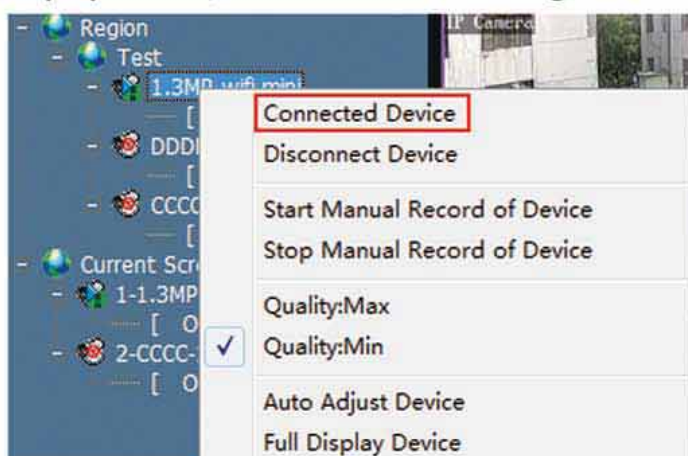
### 3-8. Remote playback

Remote playback the timing video or alarm video stored in the SD card, select the channel, date, start and end time; Then click “search” to playback the videos which stored in the SD card (remote playback just can be successful as the device connected ).



### 3-9. Parameter Setting

Before modifying the equipment parameters, please connect the related equipment, as shown in the figure below: Connected device.



### 3-9-1. Video



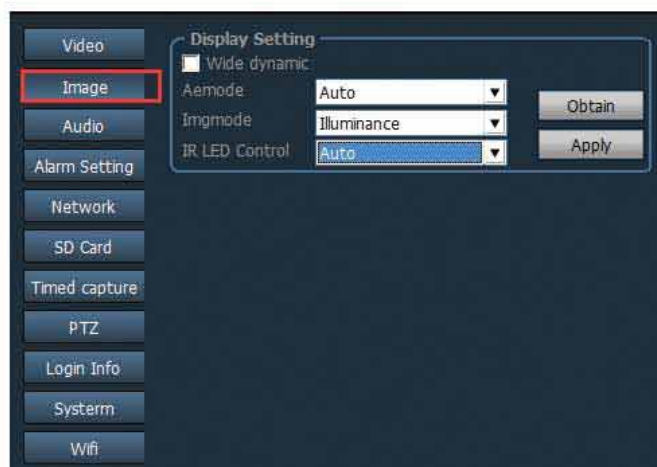
Video code: can set the Frequency and Video coding.

Video Param: Here can set the resolution, stream type, Bit rate, Frame Rate, Key frame interval, Bit rate control, Image quality of video.

OSD Setting: Set the device name and display time.

Note: if the device connection is hd, the resolution is the main stream, if the connection is the standard definition ,the resolution is the sub stream.

### 3-9-2. Image Setting



Wide Dynamic: As tick the box in front of “Wide dynamic”, it means the function open. Default is close.

AEmode: Exposure mode. Auto, indoor, outdoor optional. Default is Auto.

Imgmode: Image quality priority mode. Illuminance and Frame rate optional.

IR LED Control: Auto, on, off optional. If open, it will enter into black and white mode. Otherwise will go to color mode.

### 3-9-3. Audio

Stream type: Main stream and sub stream optional.

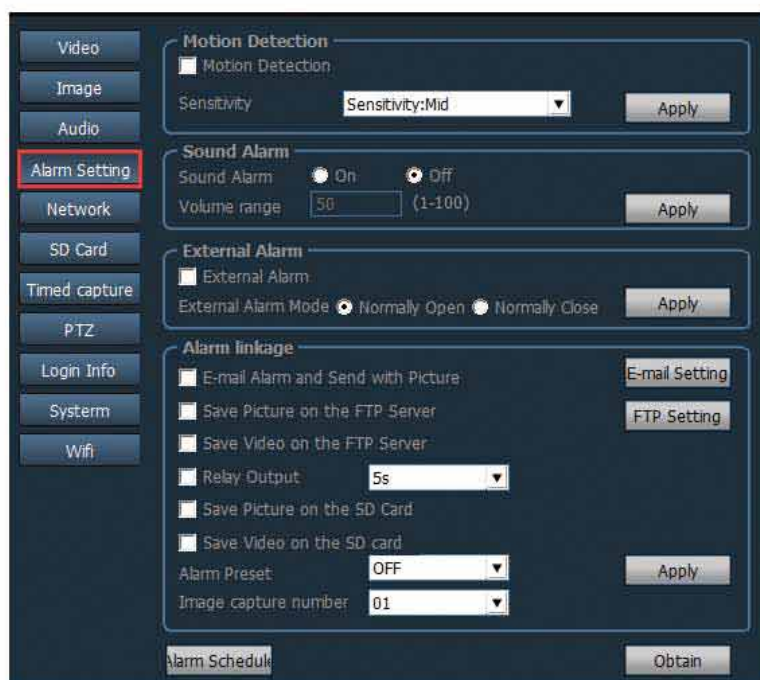
Audio capture : ON/OFF optional. Default is off.

Audio type: G.711 and G.726 optional.



Input mode: Line in, MIC optional.  
If choose "Line in", the input/out volume is 15/95. If choose "MIC", the input/out volume is 80/95.

### 3-9-4. Alarm Setting



#### Motion Detection

Tick the box in front of Motion detection to open and close it.

Sensitivity: Low, Middle, High optional. Correspondent sensitivity is 25, 50, 75.

#### Sound Alarm

Sound Alarm: ON/OFF optional.

Volume range: 1~100 optional. Default is 50.

External Alarm: Open/close optional. (Note: just can use for the camera which support alarm function)

## Alarm linkage

E-Mail Alarm and send with picture;

Save picture on the FTP Server;

Save video on the FTP Server;

Save picture on the SD Card;

Save video on the SD Card;

## Email Setting

Take QQ email for example as follow:

SMTP Server: smtp.qq.com

server Port:465

Encrypt Type: SSL

Username: fill the blank with your email address

password: the password of your email address

Sent To: fill this blank with the email address to receive the alarm snapshots.

Sender: Fill this blank with the Email address which send the pictures.

**Warm Prompt: All the email "username", "Send to", "Sender" can be the same Email Address. Please ensure the server of IMAP/SMTP&POP/SMTP is ON.**

Subject and Message: anything content is ok.

After completed, click "Test" to check the Email setting, if it is successful, click "Apply".

## FTP Setting :

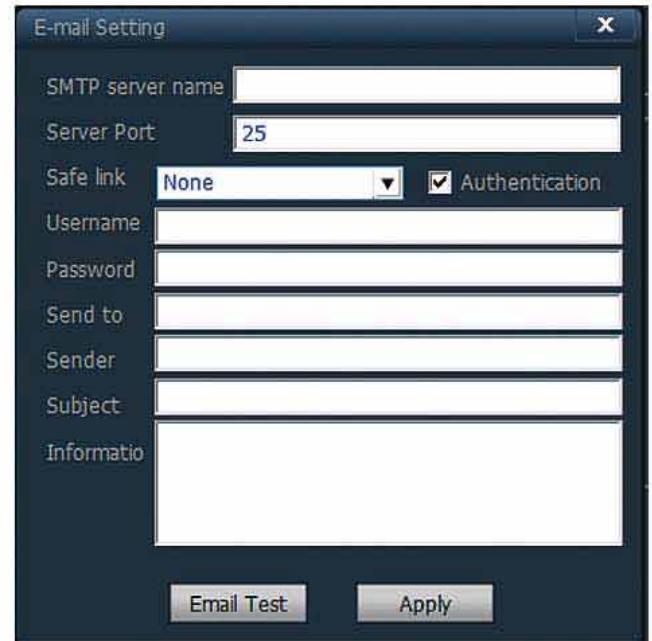
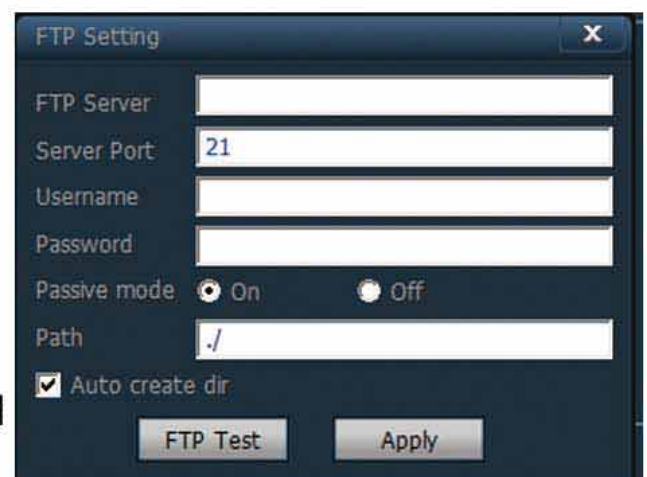
Server Address: Fill in the blank with the FTP address.

Server Port: Fill in the blank with the FTP port.

User Name: Fill the blank with the username of the FTP server.

Password: Fill the blank with the password of the FTP server

Auto Create Dir: If tick it, it will create directory automatically. The name of directory is the date time.

The 'Alarm linkage' window contains several checkboxes and dropdown menus. The checkboxes are: 'E-mail Alarm and Send with Picture', 'Save Picture on the FTP Server', 'Save Video on the FTP Server', 'Relay Output', 'Save Picture on the SD Card', and 'Save Video on the SD Card'. The 'Relay Output' dropdown is set to '5s'. The 'Alarm Preset' dropdown is set to 'OFF'. There are buttons for 'E-mail Setting', 'FTP Setting', 'Apply', and 'Obtain'.The 'E-mail Setting' window has fields for 'SMTP server name', 'Server Port' (set to 25), 'Safe link' (set to None), 'Authentication' (checked), 'Username', 'Password', 'Send to', 'Sender', 'Subject', and 'Info'. There are 'Email Test' and 'Apply' buttons at the bottom.The 'FTP Setting' window has fields for 'FTP Server', 'Server Port' (set to 21), 'Username', 'Password', 'Passive mode' (radio buttons for On and Off, with On selected), 'Path' (set to /), and a checked 'Auto create dir' checkbox. There are 'FTP Test' and 'Apply' buttons at the bottom.

## Alarm Schedule

|     | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|-----|---|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| SUN |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| MON |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| TUE |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| WED |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| THU |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| FRI |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| SAT |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

SUN~SAT show one week from Saturday to Sunday. Half an hour as for the unit.

## 3-9-5. Network Setting

Network Setting: network Parameter configuration. DHCP Auto/DNS Auto optional to get IP Address.

RTSP Port: can set RTSP port and RTSP Permission check.

ONVIF Setting: ONVIF ON/OFF, Server port, time zone setting, image setting etc.

Video  
Image  
Audio  
Alarm Setting  
**Network**  
SD Card  
Timed capture  
PTZ  
Login Info  
System  
Wifi

**Network Setting**  
☐ DHCP Auto ☐ DNS Auto  
IP Address: 192 . 168 . 1 . 91  
Subnet mask: 255 . 255 . 255 . 0  
Gateway: 192 . 168 . 1 . 1  
Primary DNS: 192 . 168 . 1 . 1  
Second DNS: . . .  
Http Port: 80 (80 or 1024~49151) **Apply**

**RTSP Port**  
RTSP Port: 554 (554 or 1024~49151) **Apply**  
☐ RTSP Permission check

**ONVIF**  
onvif: ☒ On ☐ Off  
Server Port: 8080  
Preview: ☒ Check type ☐ No check  
Time zone Settings: ☒ Allow ☐ Prohibit  
Image Settings: ☒ Allow ☐ Prohibit **Apply**  
**Obtain**

## 3-9-6. SD Card

Enable the plan of record: tick it to start the plan of record.

Stream Type: Main Stream/Sub Stream/Third stream optional.

Record Length: 15~900sec optional . default is 600sec.

Format SD: click it to format SD card.

Record time setting: right green area is the recording time.

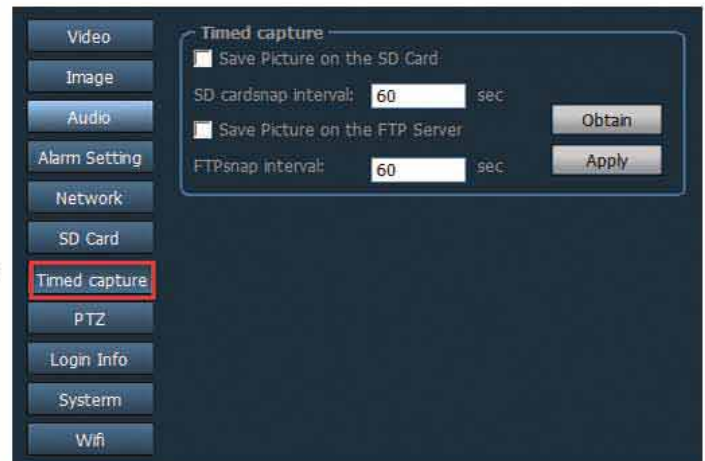
Video ☒ Enable the plan of record  
Image Stream Type: Main Stream Record 600 Sec (15~900)  
Audio SD card all space 0 MB  
Alarm Setting SD card available space 0 MB **Format SD**  
**SD Card**  
Timed capture  
PTZ  
Login Info  
System  
Wifi

|     | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|-----|---|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| SUN |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| MON |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| TUE |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| WED |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| THU |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| FRI |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| SAT |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

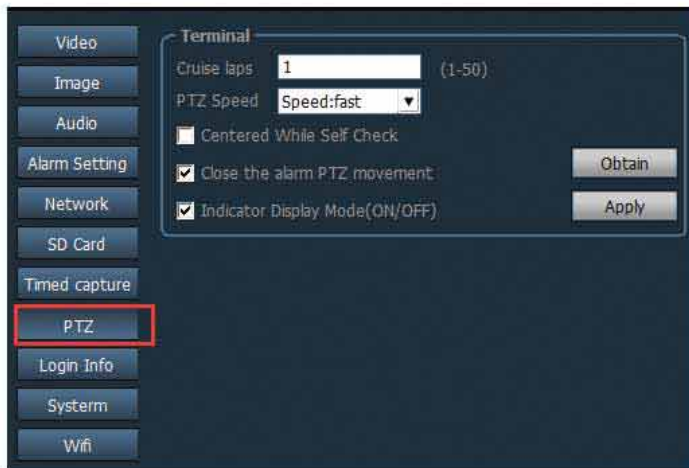
### 3-9-7. Timed Capture

If tick “Save picture on the SD Card”, the camera will capture a picture each 60s and storage it to the SD card.

If tick “Save picture on the FTP Server”, the camera will capture a picture each 60s and send it to the FTP server.



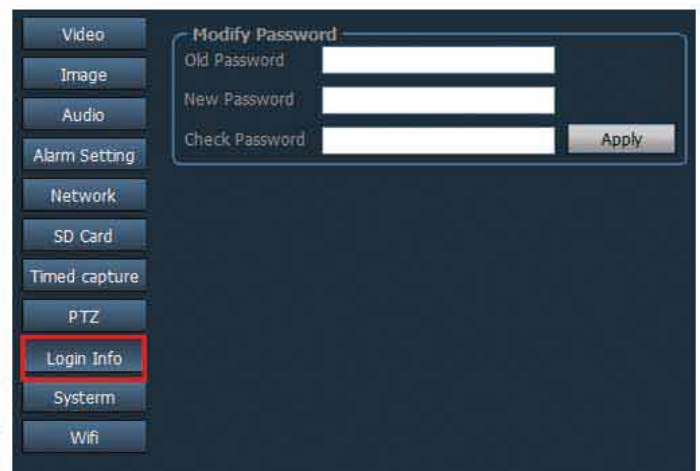
### 3-9-8. PTZ



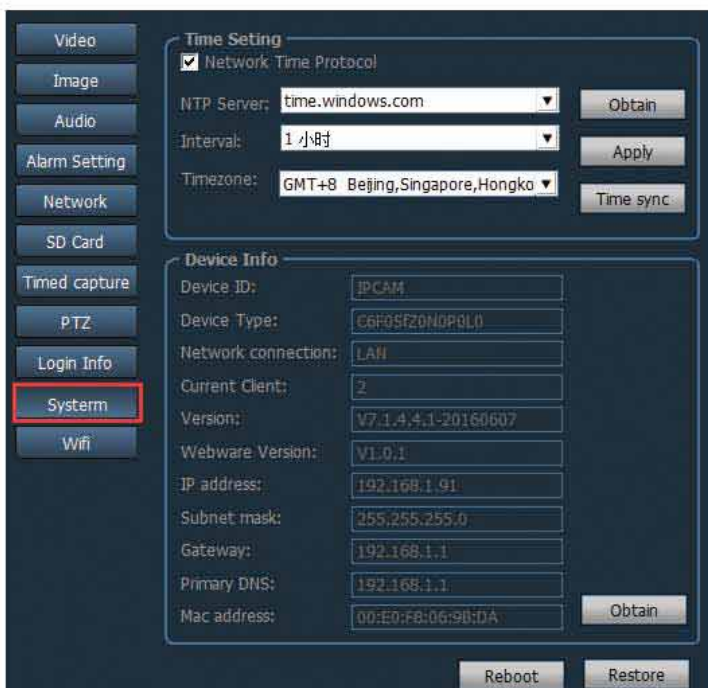
The setting come with Cruise laps, PTZ speed, Centered while self check, close the alarm PTZ movement, Indicator Display Mode ect.

### 3-9-9. Login Info

Can modify the password of the device.



### 3-9-10.System

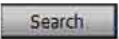


Network Time protocol: include the NTP Server, time interval, time zone setting.

Device Info: from here can get the information like Device ID, software version, IP address, MAC address. Reboot and restore the device.

### 3-9-11. WIFI

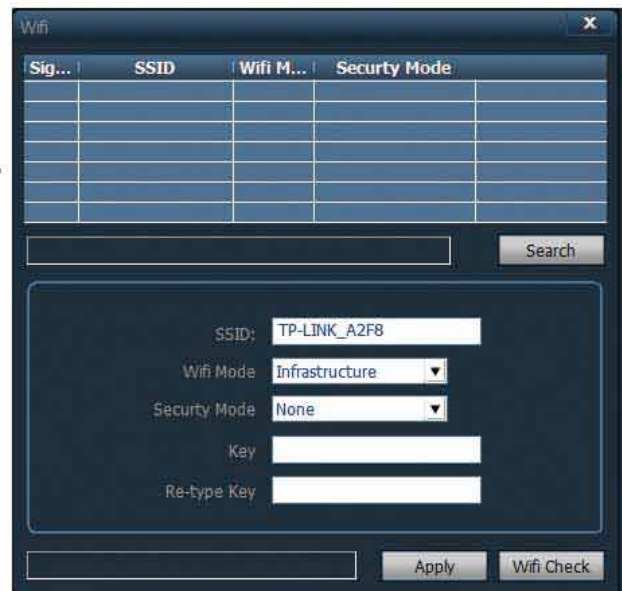
Steps of WIFI setting

Step 1. Click , then click .

Step 2. Double click SSID of WIFI.

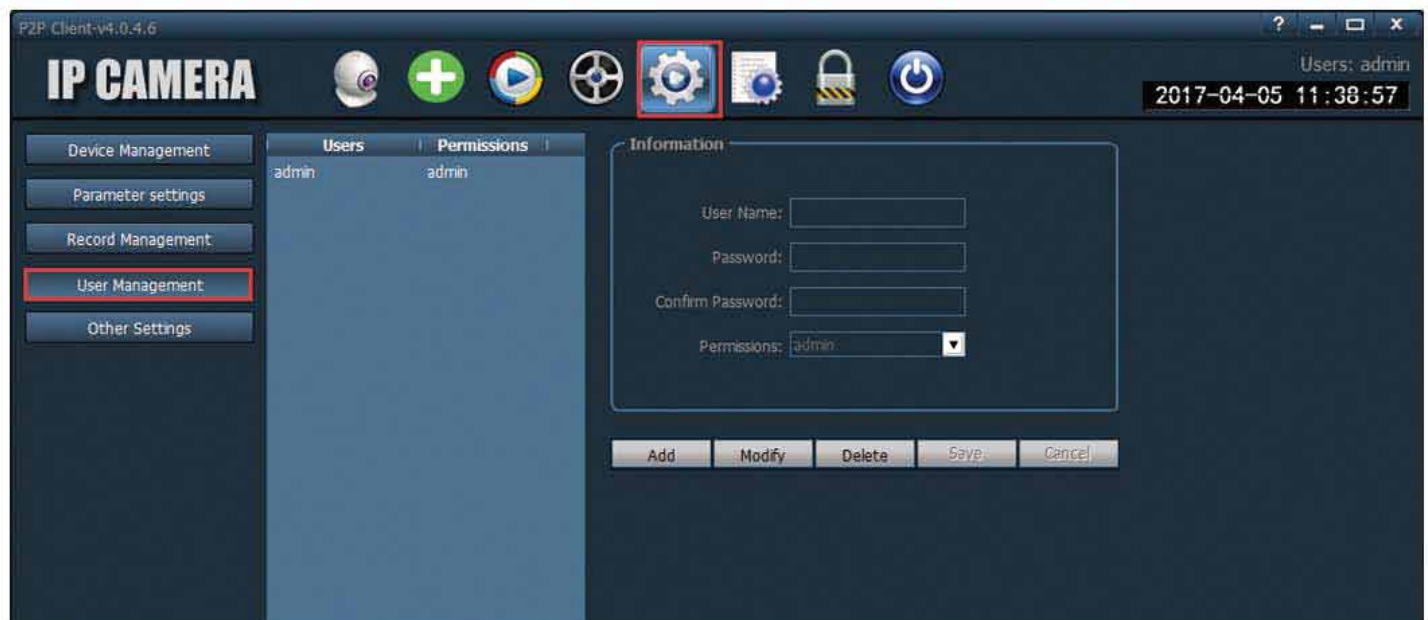
Step 3. Input the WIFI password.

Step 4. Click Apply, after it notify successful, click WIFI check.



The image shows a 'Wifi' configuration window. At the top, there is a table with columns: 'Sig...', 'SSID', 'Wifi M...', and 'Security Mode'. Below the table is a 'Search' button. Underneath, there are input fields for 'SSID:' (containing 'TP-LINK\_A2F8'), 'Wifi Mode:' (a dropdown menu set to 'Infrastructure'), 'Security Mode:' (a dropdown menu set to 'None'), 'Key:' (an empty text field), and 'Re-type Key:' (an empty text field). At the bottom, there are 'Apply' and 'Wifi Check' buttons.

### 3-10. User Management



The image shows the 'IP CAMERA' software interface. The title bar says 'P2P Client-v4.0.4.6'. The main menu on the left includes 'Device Management', 'Parameter settings', 'Record Management', 'User Management' (highlighted with a red box), and 'Other Settings'. The top right shows 'Users: admin' and the date/time '2017-04-05 11:38:57'. The 'User Management' section is active, showing a table with columns 'Users' and 'Permissions', containing one entry: 'admin' with 'admin' permissions. To the right, the 'Information' panel has fields for 'User Name:', 'Password:', 'Confirm Password:', and 'Permissions:' (a dropdown menu set to 'admin'). At the bottom of the 'Information' panel are buttons for 'Add', 'Modify', 'Delete', 'Save', and 'Cancel'.

The default username is “admin”, password is empty. After log in by administrator, he can add and delete user, set user permission.

User permission has three types: admin, user, guest.

Admin permission: can undertake device management, user management, video surveillance, record playback, map Settings, log query, switch users and exit from the client;

User permission: can undertake video surveillance, video playback, map Settings, log view, switch users and modify password.

Guest permission: can undertake video surveillance, switch user and modify password.

### **3-10-1. Steps of Adding User**

Step 1: After log in by admin permission, select "Settings" in the TAB bar - "usermanagement".

Step 2: Click "Add" to input the user name and password, and choose the permission.

Step 3: Click "save", user added successful.

### **3-10-2. Delete user**

Step 1: After log in by admin permission, select "Settings" in the TAB bar -- "usermanagement"

Step 2: Choose user want to delete, and click "delete" button.

### **3-10-3. modify user permissions**

Step 1: After log in by admin permission, select "Settings" in the TAB bar - "user management"

Step 2: Select the user and click "edit" button

Step 3: Select the user permission and click "save" button.

### **3-10-4. modify user password**

Step 1: In the TAB bar, select the "Settings" -- "user management"

Step 2: Select the user and click "edit" button

Step 3: Enter a new password and click "save" button

## **3-11. Other settings**

Connect timeout: 5~60sec optional.

Log retention time: 1/ 2/ 3/ 6 month optional. Clients log won't delete during the setting time.

Capture format: the format of the capture image. There are JPG and BMP format.

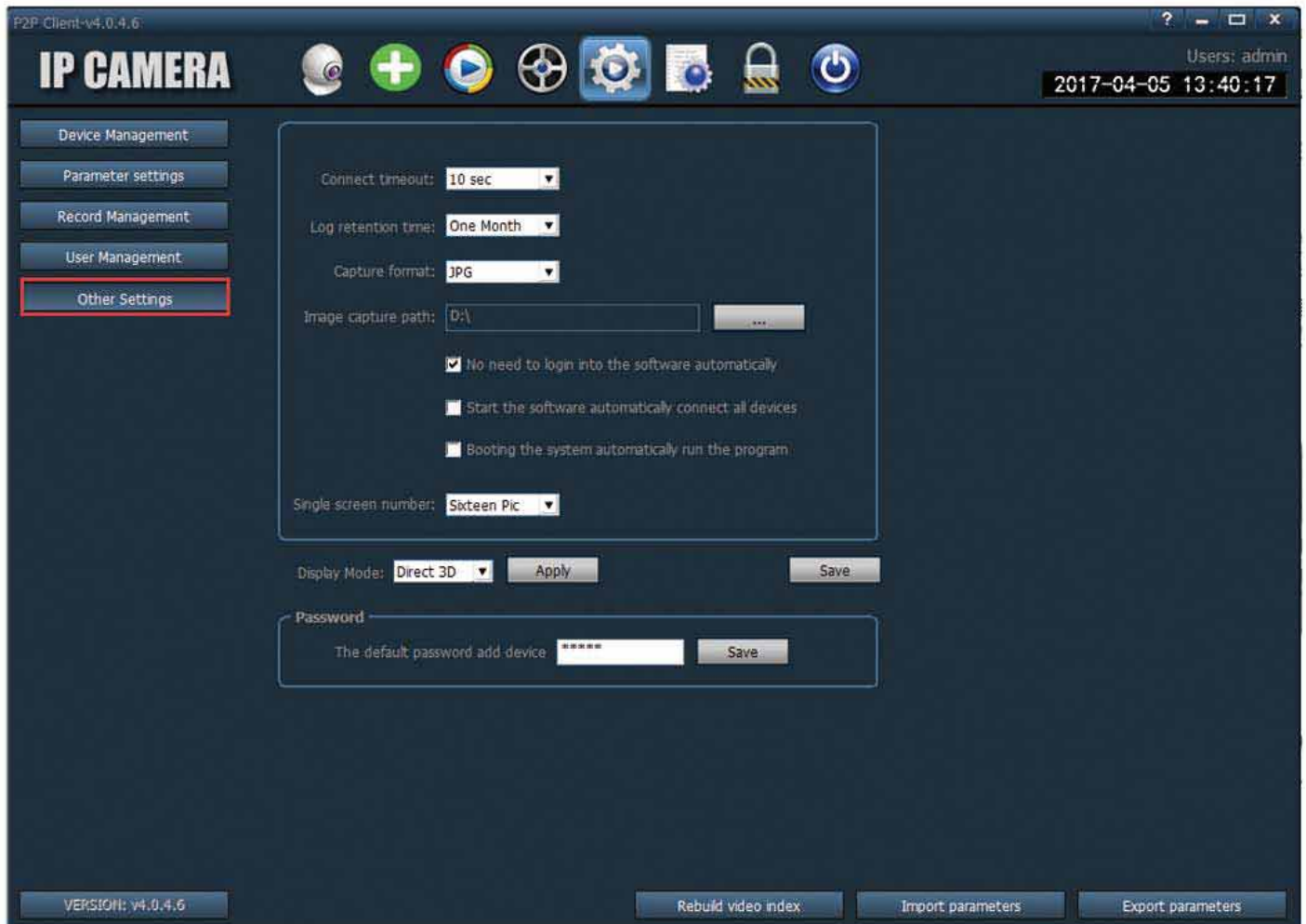
Image capture path: the storage path for the captured images.

Start the software automatically connect all devices: As the windows start, the CMS software automatically load .

Single Screen number: 16/25/36 pictures optional.

Display Mode: Direct 3D/Direct Draw optional.

Password: set the default password when add the device.



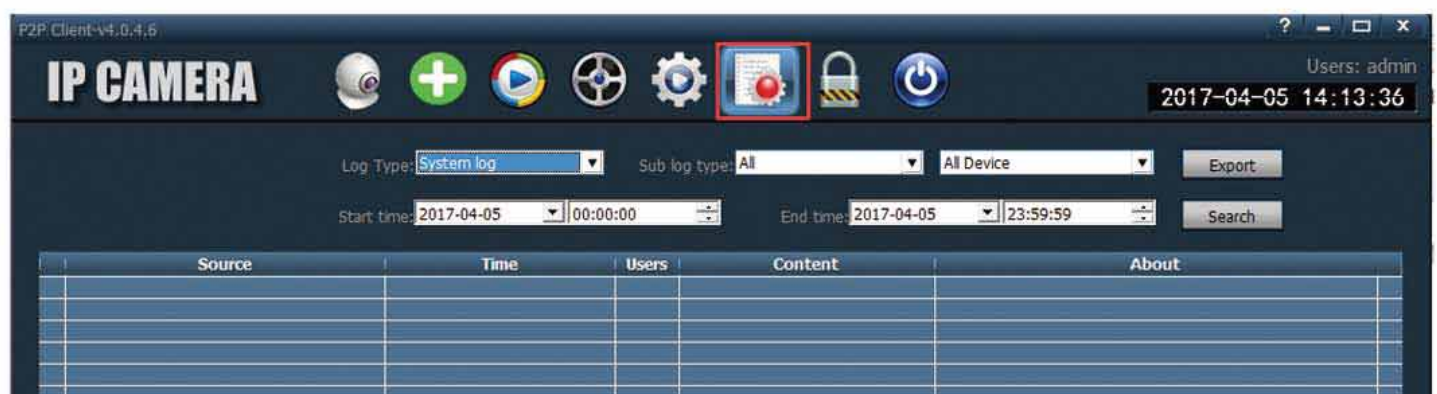
save: after modify the parameters, click the “save” to confirm it.

Export parameters: import all setting parameters of the CMS (back up the configuration).

Import parameters: Import and recovery the back up configuration from other CMS(It require the version is same for the two CMS, otherwise it will bring some errors)

Rebuild video index: Delete the video index and rebuild it.

### 3-12.Logs



## log type

All logs: record all information of system.

System Log: record the user login, exit, and user configuration etc.

Operation log: Record all operation information from users.

Recording device alarm information.

### 3-12-1.Log retention time

Step 1: In the tab bar, select the “setting”-“other settings”.

Step 2: Select “log retention time” ,There are 1/2/3/6 month optional.  
Click save.

### 3-12-2. Log query

step 1: Select a log type and sub log type.

Step 2: Choose the device to view log, default is “all devices”.

Step 3: Choose the start time and end time of querying log and click "search" button

### 3-12-3. Log backup

Step1: Select a log type and sub log type

Step 2: Choose the device to view log, default is all devices

Step 3: Choose the start time and end time of querying log and click "search" button

Step 4: Click the "export" button, and choose the path of backup

Note:

1. When backup log, you must search log firstly, then backup.

2. The export log format is Excel format.

3. Each excel table only can save 5000 pieces log, if the quantity exceed 5000, the left log will form another excel table.

# Quick connection for Internet explorer viewing

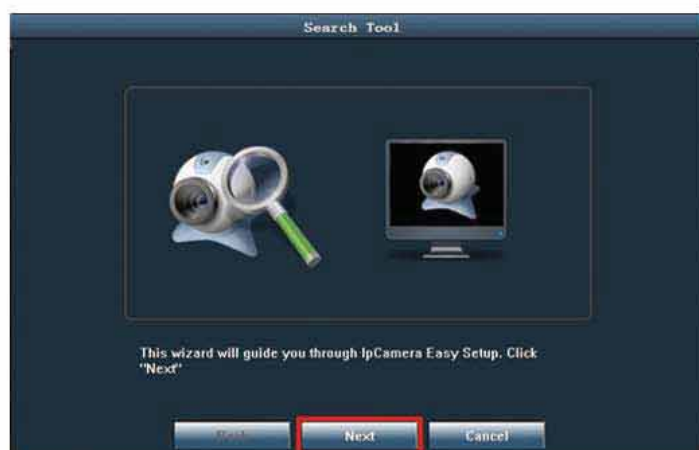
## 1.To find the IP Address of the camera

① Ensure the camera connected to Internet, then find the IP from the phone APP (refer to page 14: Device information), or from the PC client (refer to page 30: network Settings)

② Or you can search and change the IP through the search tool.

Pls find the "Search Tool" from the CD or contact our after-sales.

As the camera in the coverage of internet. Open the software search tool , it will pop-up a interface as picture 1-1, click "Next", All the IP address in the LAN will come out(As the picture 1-2), click the IP Address which you want to modify, then click"next".



(picture 1-1)

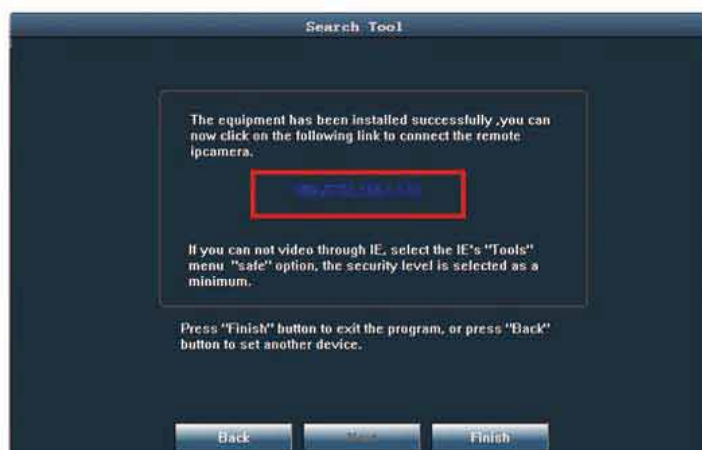


(picture 1-2)

Then come to the next interface (as shown in figure 1-3) software will automatically change the IP address of the camera, no need manual changes, click "next", then come the windows as picture 1-4. And click "Finish".



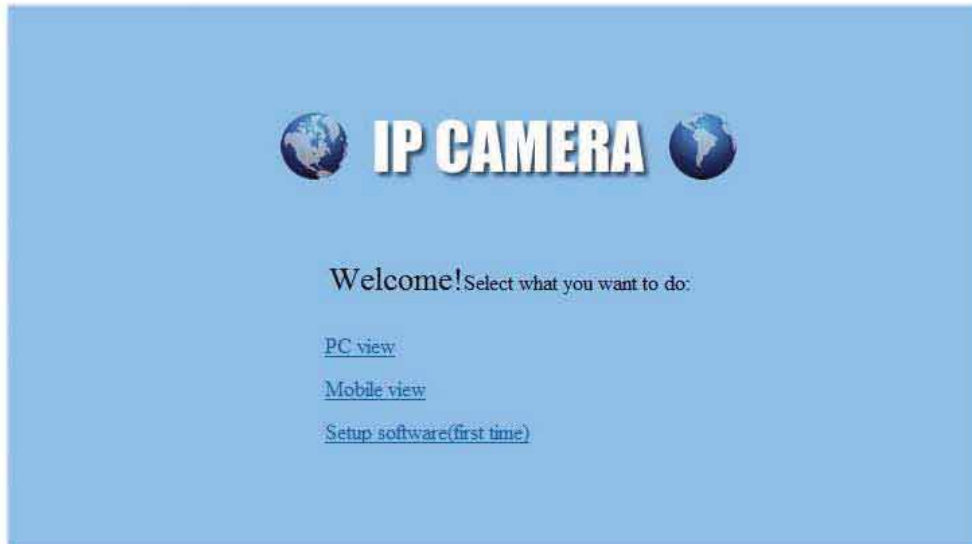
(picture 1-3)



(picture 1-4)

## 2.View from the Internet Explorer

Open the IE browser and input the Modified IP address of camera, Then come out the interface as picture 1-5, Input the user name and password (the default user name: admin, the default password: admin), and click “ok” Into the next interface (as shown in figure 1-5), click "PC View" into the main interface (as picture 1-6).



(picture 1-5)



(picture 1-6)

Note: Initial IE browser use need to download the Active-X control .Active-X MsgBox will popup as the camera IP address running in IE browser. After install the Active-X, need to refresh the webpage.

## 3. IE View Setting

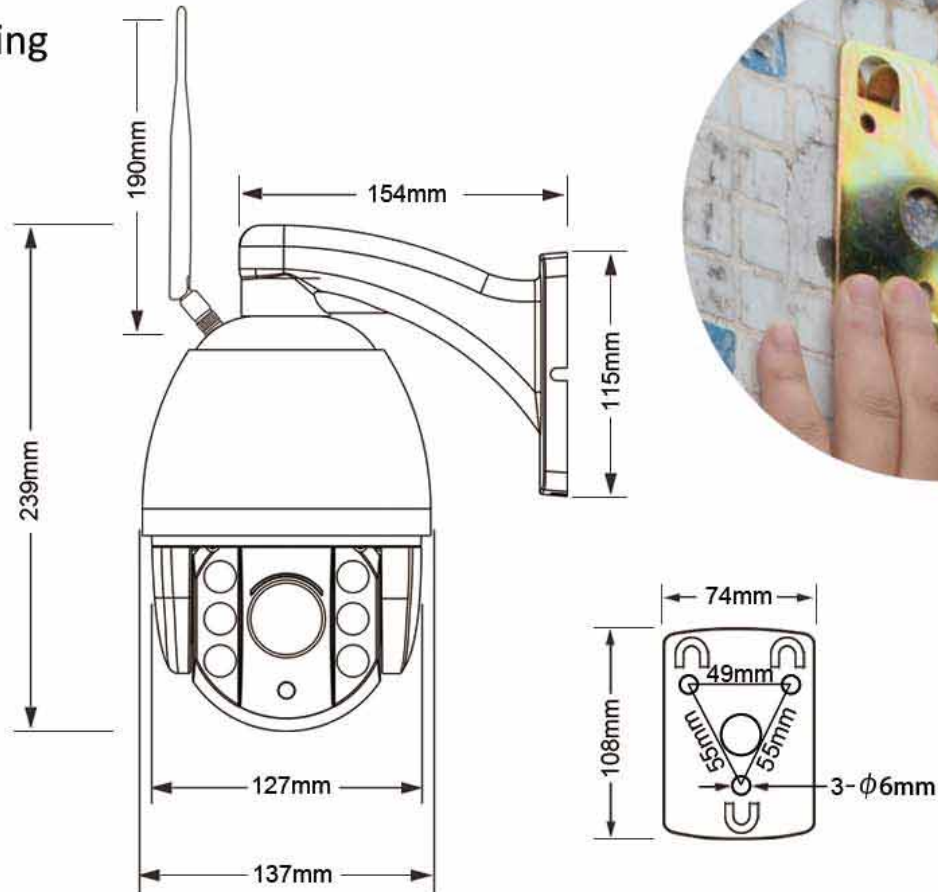
Please refer to the setting of PC CMS. Most of the function are similar.

## Others

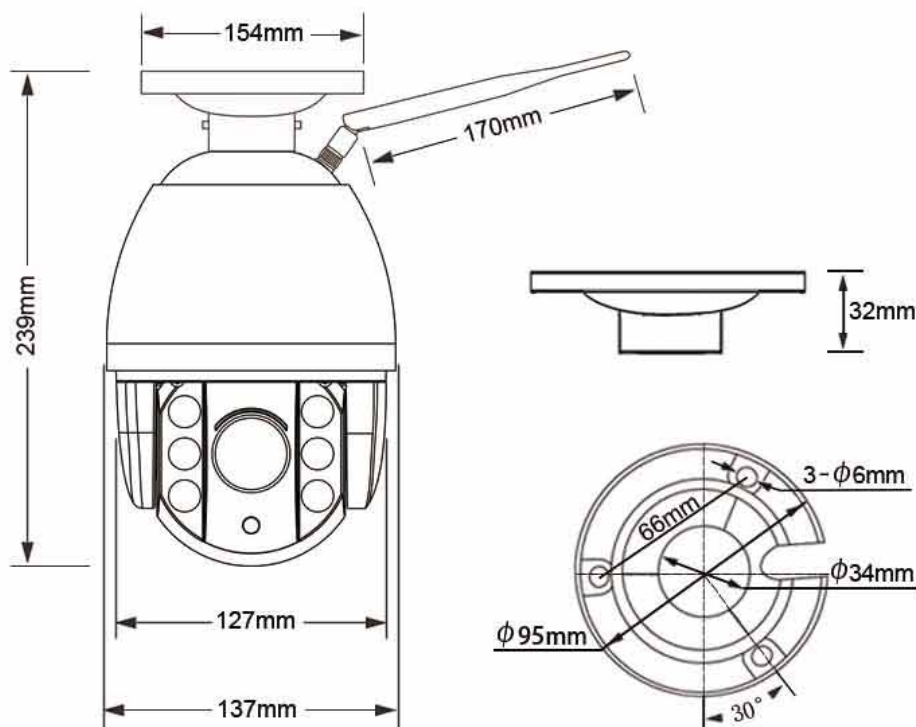
### 1. Installation Instructions for wall mounting

Separate the iron plate from the bracket, and install it to the wall. Then cross the cable of the camera through the bracket and make the 0 degree point in the same level of the bracket. Then fix the screw between the bracket and camera. And hung up the bracket to the fixed iron plate, then fix the screw between the plate and bracket.

Wall mounting  
drawing :



Ceiling  
drawing:



## 2.The position of TF card

This device is built in TF card, it is forbidden to dismount by non-professionals. If have to dismount, please do it like as this: Unscrew the 4 screws of the face cover firstly, then unscrew the screws of the chipset to find the TF card.

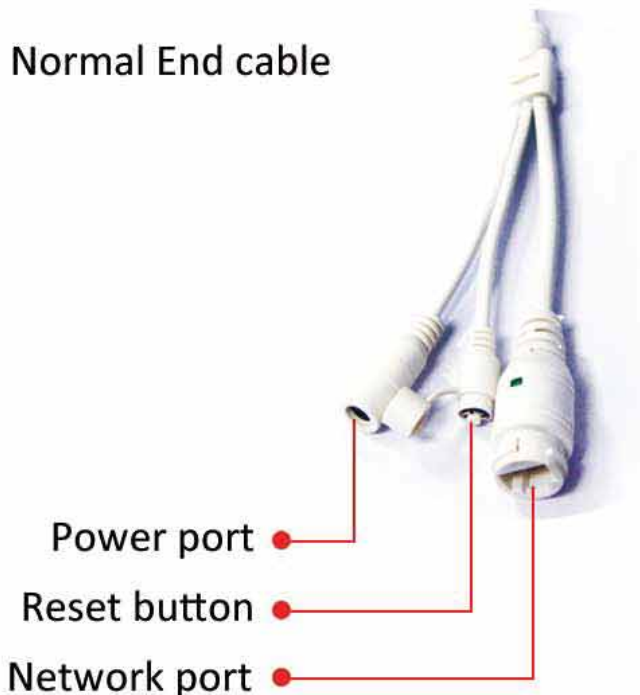


the position of TF Card

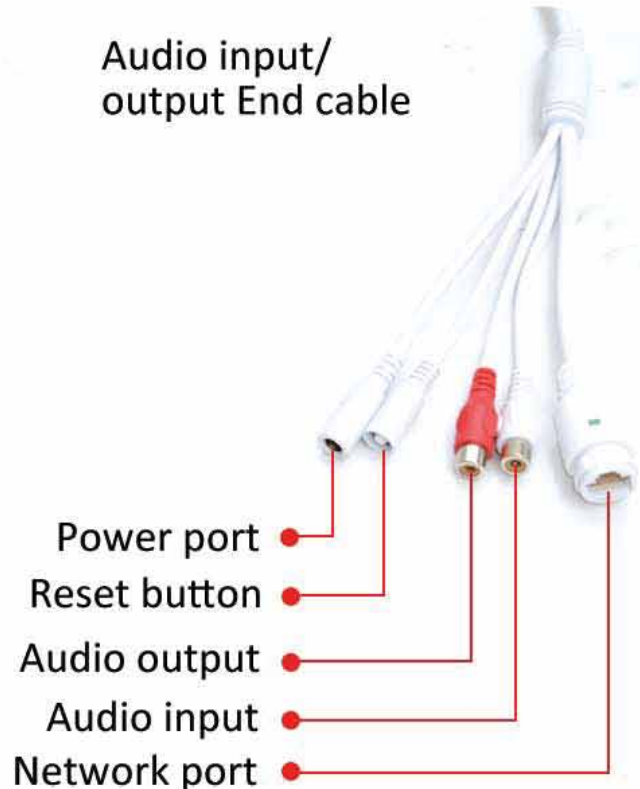


## 3.Comparison for different functional cameras

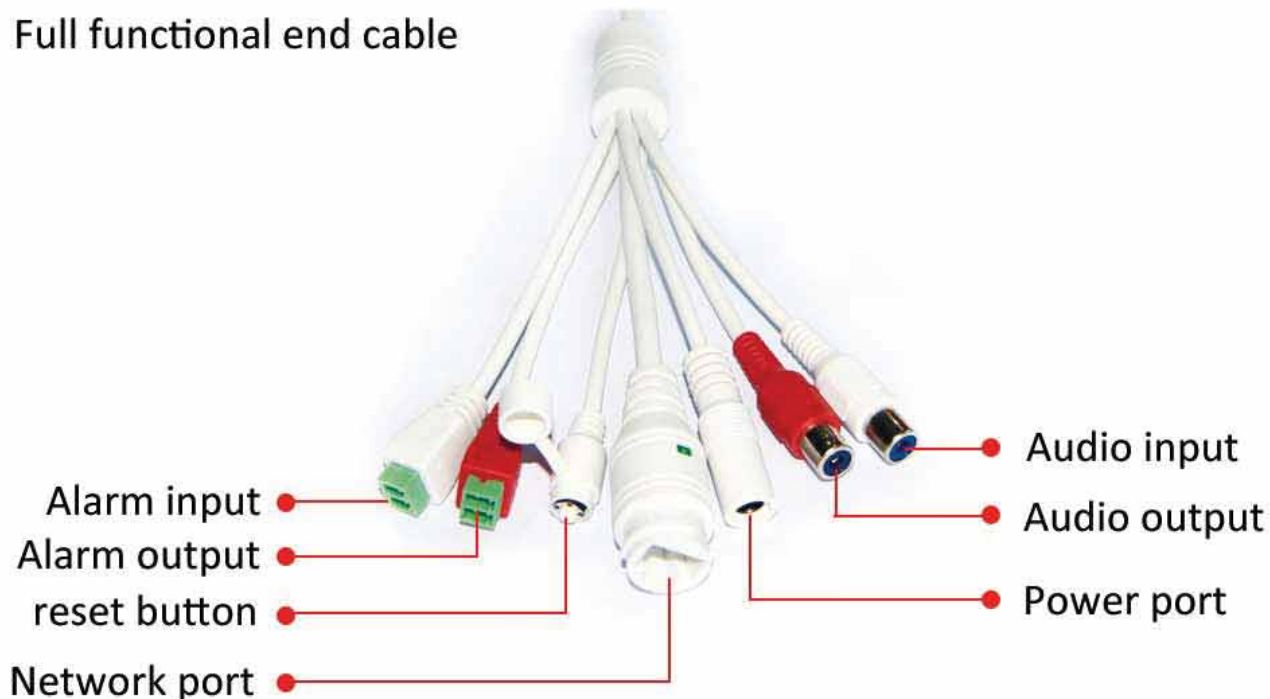
Normal End cable



Audio input/  
output End cable



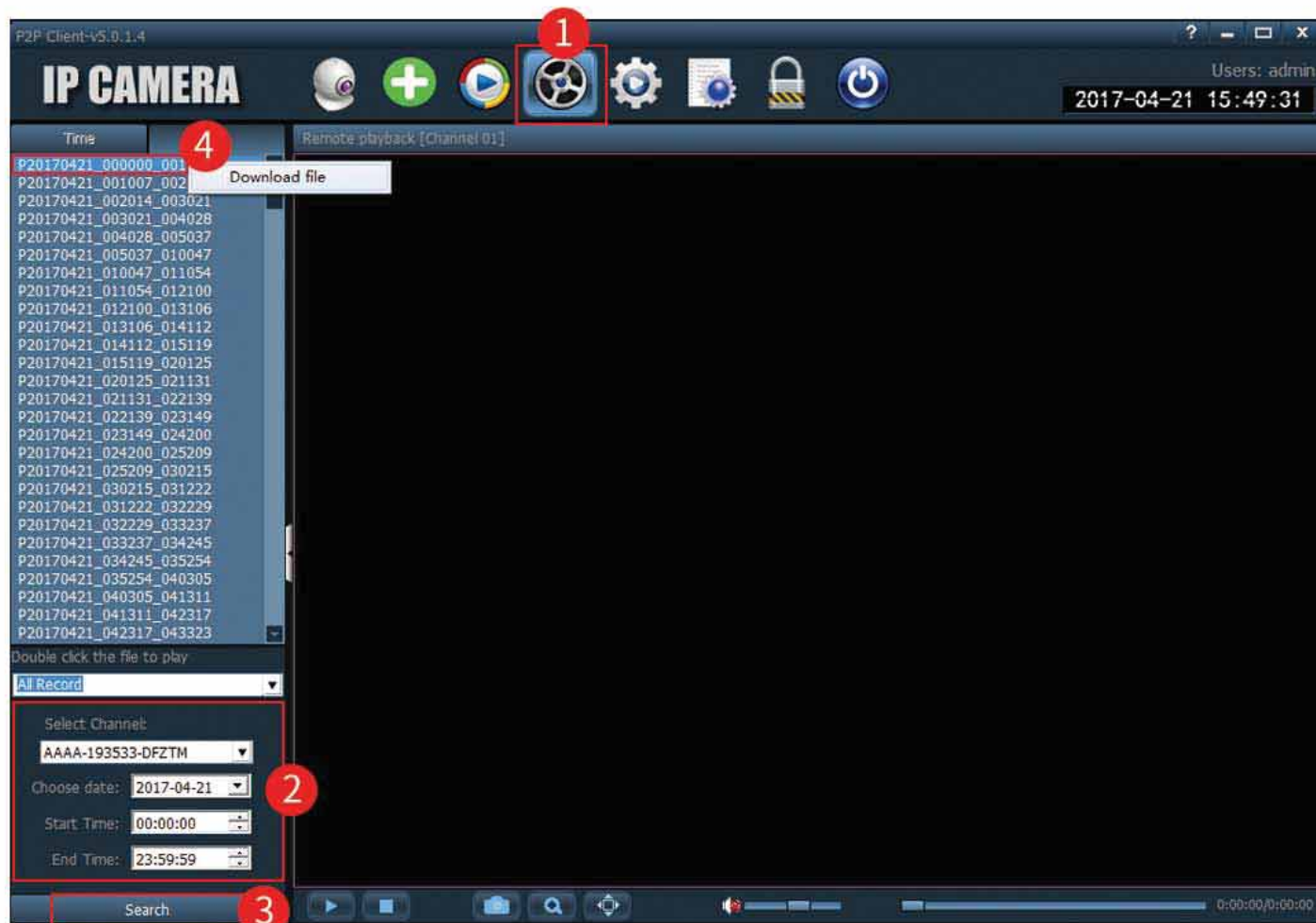
## Full functional end cable



## 4.How to export the videos which stored in the TF card

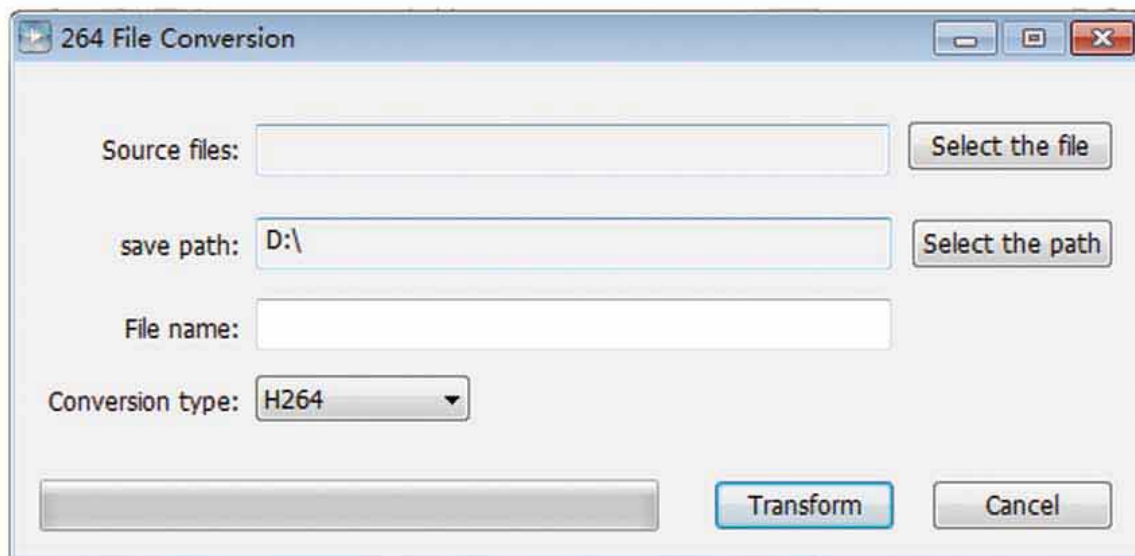
### 4-1.the steps to export the videos from TF card.

Enter into the PC CMS-remote playback-search recorder-right mouse click-choose “download file”



## 4-2.The conversion of video format

Back to Application Bar, and open “264 converter”, as below screenshot show:



### Operation steps:

Select the file: select the video file which need to convert.

Select the path : select the save path for the converted videos.

File name: the file name of the converted videos.

Conversion type: the type of the converted videos file( there are H.264, AVI, ASF), After all the setting is ready, then click “Transform” to covert it.

## 5.Restore the factory Settings

In current state, press the reset button to 20s, the camera will back to factory Settings. Also you can enter the mobile phone APP,PC client, or Internet explorer to restore factory Settings. Do not interrupt the power during the recovery process, after 5 minutes, power can be restarted. The videos stored in TF card still exist after restore, but all the setting are same as the factory setting. if you want to delete the videos of the TF card, please enter into the related APP or IE to format it.

## 6.upgrade

If the program has the new version and you want to update it. after receiving the specified program, Entering into the main video main interface through IE browser , choose parameter Settings-system Settings-initial setup-select file to upgrade.

## 7.The functions for 4G camera

FDD:B1,B3,B7,B8,B20 TD:B38,B40,B41  
3G WCDMA:B1/B8 GSM:900/1800



SIM card slot



check the device serial ID

**Comment:** The 4G camera can work as giving the power and was inserted the SIM card. Although RJ45 internet cable is exist, but it can't connect to the internet.

Option 1 for connection:

Supply power to the camera and insert the SIM card.

Find the device ID from the sticker, then add the camera through APP (refer to page 3) or add the camera through PC App (refer to page 19 "method 3").

Option 2 for connection:

Supply power to the camera, but haven't insert the SIM card.

Find the AP from phone setting(as follow picture show). The connect way please refer to the Access point connection as previous instruction.



## 8.Access point

As the camera connect to the WIFI successful, the AP Model will disappear. Then if changed the router, or reset the wifi password, the camera will fail to connect to internet and the Access point also can't find. in this case, press the reset button to 20s to restore to factory setting, after 2 minutes, you can find the access point by phone again. first connect the camera under AP model, then set WIFI to make camera normal work again.(note: Don't interrupt the power as the restore in progress, otherwise it will damage the camera)

## **FCC Statement**

**Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.**

**This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:**

- Reorient or relocate the receiving antenna.**
- Increase the separation between the equipment and receiver.**
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.**
- Consult the dealer or an experienced radio/TV technician for help**

**This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.**

**This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body**

