

INTELLIGENT VIDEO RECORDER

IVR5.0

User Manual

2021.06

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CHAPTER 1 Product Introduction

1.1 Product Overview

This equipment is a digital video surveillance product specially designed for the security field. By using the embedded LINUX operating system to enable the system to operate more stably.; besides, with the standard H.265 video compression algorithm, to achieve a high quality, low bit rate, single frame play and other video functions.

This product comply with the national standard GB 20815-2006 "video security monitoring digital video equipment", which has many functions, such as record, play back, monitor at the same time, realize the synchronization of audio and video, has advanced control technology and strong network data transmission ability.

1.2 Product Function

Based on different software and hardware version, product's features are different.

- Real time surveillance
- Compression processing ability
- Recording function
- Recording playback and backup
- IP camera control
- Alarm management and control
- Communication port
- Network function

CHAPTER 2 INSTALLATION GUIDE

2.1 Check

When user receives product, please check all items according to list

2.2 Hard Disk Installation

Installation Preparation

Need to prepare a cross screwdriver. This series of IVR can be installed in the case with 1 to 24 hard disks, and the largest capacity of hard disk could reach to 8TB.

2.3 Installation Steps

Disconnect the power from the IVR before installing a hard disk drive(HDD). Factory recommended HDD should be used for this installation.



Step 1: Remove the cover from the IVR by unfastening the screws on the back and side.



Step 2: Install 4 screws on HDD.



Step 3: Install HDD in the HDD rack using the provided screws.

Step 4: Turn over the machine and fasten the screws on the button to fix the HDD.



Step 5: Fix the HDD.



Step 6: Connect the power cable and SATA cable.

CHAPTER 3 HOST OPERATION

3.1 Boot and Shutdown Operation

3.1.1 Boot

Insert the power line, press the power switch on backboard, and then press the switch button on the front panel to boot the recorder. The video output is the default for the multi- image output mode. If the boot time be in the time of recording which preset before, the system will automatically start the timing recording function.



Note: Please use the right power which matching the network digital video recorder, do not use the other type or brand of power instead of the original one.

3.1.2 Shutdown

◆ To press switch on front panel to shutdown device, ((the user should be authorized to Shutdown)

◆ Enter **【Menu】** → **【Shutdown】** → **【Yes】**. (Hints: Advise to use this method to shutdown to avoid to damage device)

Note: Need to turn off power before changing hard disk.

3.1.3 Power Off Recovery

If power supply of device is cut off or forced off when network video recorder is in working mode, the video recorder will automatically save recording before power off and automatically restore to the working state before power on to continue working

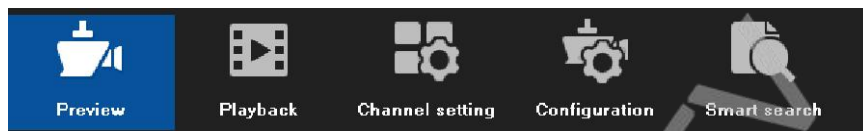
3.2 Login System

After finish guide operation, device will enter search device interface, after finish searching, user click "done" button, system will come back to preview interface, to click right key of mouse and quit full screen mode, then click

other function key, pop up user login interface, user input corrected user name and password to login system(default user name:admin, password:888888).

3.3 Menu Operation

After loginning, user can configure according to tool bar of interface



3.3.1 How to connect IPC to IVR


Before configuring IVR, user needs to know how to connect IPC to IVR.


The device support multi-version ONVIF protocol, is compatible with famous brand IP Camera, such as following brand.

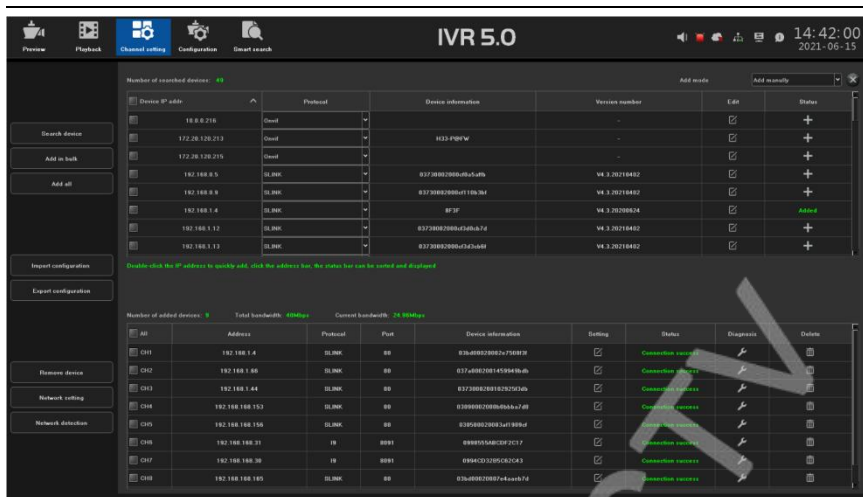


Before IPC (network camera) is connected to IVR, please ensure that IP address and IVR are the same network segment, and the main stream and sub stream need to be adjusted to the recommended value. Otherwise, maybe user can not search IPC, no image display, no image access, poor image quality, etc

Connect IVR to LAN switch through network cable, then boot it,

click  icon to enter into "network management" interface, user configure IP address, Subnet mask, gateway on basic parameter interface. The IP address of IVR can be pinged by running ping command from PC host

in LAN to detect whether IVR has been connected to LAN, then click  icon to enter channel connection interface, such as following picture:



IVR will search automatically all IPC connected to LAN, user can add them to relative channel according to requirement, moreover, under condition that user know IP address, port parameters, click **【+】** on address bar to input relative parameters, then save it, it also add channel. (refer to step 3.3.4)

To take real time preview, video recording playback, channel connection and advanced configuration for example to introduce IVR main function.

3.3.2 Real Time Preview

After the device starts up normally, like following picture: they are function shortcut key marked in red rectangle, there are relative characters displayed when user use mouse to point there.





3.3.2.1Interface Shortcut Function Introduction

There are many tool bars on preview interface,user can hide tool bars manually from upside, rightside and downside, there is different shortcut function on each bar,moreover,there are some hided shortcut function, now introduce them one by one.

◆Upside Tool Bar


All configuration interface exist on this tool bar under it is not hided


1.Channel audio volume switch  , user can adjust volume through slider

2.Real time alarm light  , when alarm occurs, light would be flash, after click indicator, it will display detailed alarm information, refer to following picture.

A screenshot of a software interface titled "Alarm information" with a close button (X) in the top right corner. It contains a table with four columns: "Channel", "Describe information", "Alarm type", and "Occur time". The table lists four alarm events: LAN2 (Network disconnected alarm), HDD1 (Hard Disk lost alarm), HDD3 (Hard Disk lost alarm), and HDD4 (Hard Disk lost alarm), all occurring at 2020-10-09 10:44:40. Below the table are three buttons: "Arming", "Disarming", and "Confirm".

Channel	Describe information	Alarm type	Occur time
LAN2	-	Network disconnected alarm	2020-10-09 10:44:40
HDD1	-	Hard Disk lost alarm	2020-10-09 10:44:45
HDD3	-	Hard Disk lost alarm	2020-10-09 10:44:45
HDD4	-	Hard Disk lost alarm	2020-10-09 10:44:45


In order to avoid alarm influence in usage,user can click “disarm”  button to shield alarm information on interface(alarm still occurs, inquiry it on logs),if user need to inquiry realtime alarm information, just click”disarm” button.

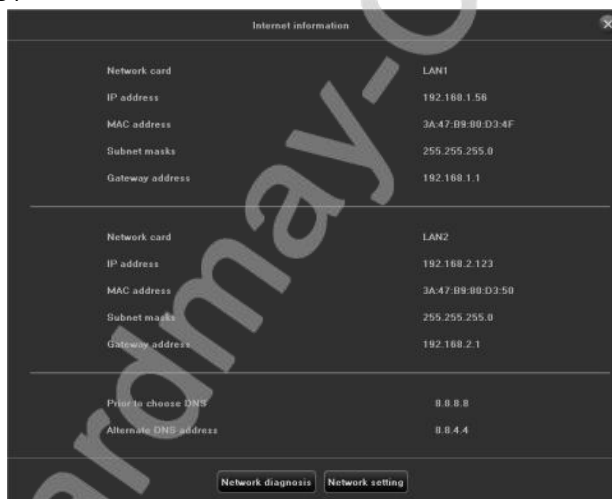
3.P2P cloud service  , it will display P2P APP download QR code and device ID QR code, device online situation, device series, refer to following picture.




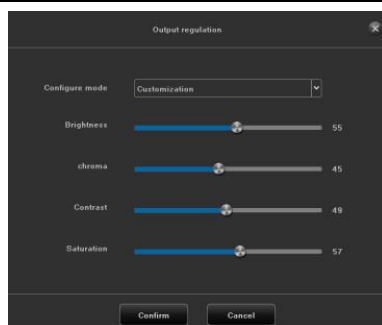
After clicking detailed information on interface, it would be switched to


AI cloud video interface, user can inquiry relative detailed information.

4. Network Information , the device network relative information would be displayed after clicking it, and diagnose and configure network, refer to following picture:



5. Output adjust  icon, output mode would be displayed after clicking it, will display brightness, chroma, contrast, saturability, user can configure it by self-defined.



6. System information  icon, system information, hard disk information and recording information would be displayed after clicking it, refer to following picture.



7. Device time display, after clicking “click”, it displays system Time and modify it quickly



◆ Rightside Tool Bar

1. Image play mode

There are three kinds of play mode, preview picture would be displayed according to requirements such as "device list", "origination chart" and "channel tour", default mode is "device list", however user needs to configure "origination chart" and "channel tour" firstly, then it works

2. P/T/Preset/Tour/Track

Operation method is almost the same, please refer to pan and tile control function introduction on 3.3.3.7

◆ Downside Tool Bar

1. Preview split mode



, select preview split mode by yourself.

2. Tour switch and internal time



, tour internal time would be 1second, 2second, 5 second, 10 second and self-define time

3. Linkage preview switch



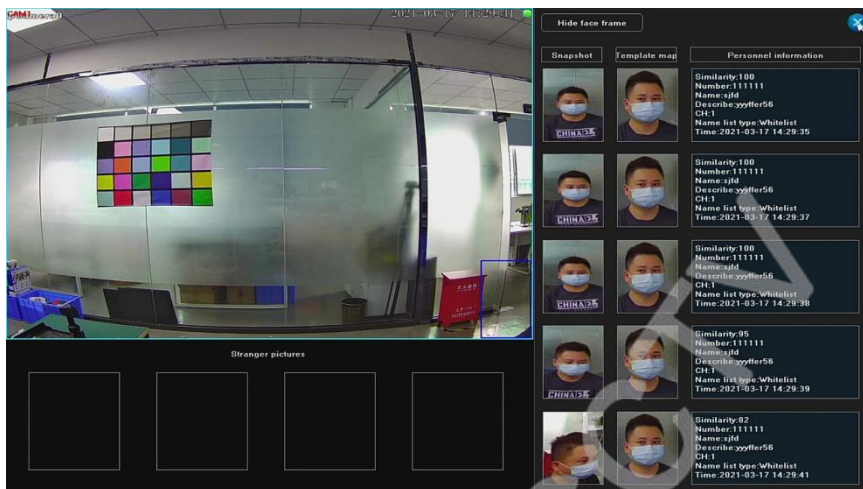
, if enable linkage preview switch, and trigger alarm, preview picture of alarm channel would be pushed to current preview interface.







4. Face recognition



, to click face recognition button to enter face

real time comparison interface, user can see real time captured picture, namely compared face pictures, refer to following picture:



- 5.Smart search , enter into face search interface
- 6.Local backup , enter into local backup interface
- 7.Full screen mode , it would be displayed full screen on preview interface
- 8.Hide OSD , hide OSD of preview interface
- 9.Flip over , flip over current preview interface
- 10.Full screen capture picture and recording switch , to capture picture and recording for all channels on preview interface.

◆ Pan/Tilt Control Interface

Before operating P/T, please confirm relative parameters, after configuring parameters, to choose channel in preview interface, then control lens' direction in P/T interface: focus, zoom and Iris aperture, P/T speed setting. now let take example for methods of set preset, cruise and trail.



◆ Preset setting and call

- 1) First choose channel, second turn camera to appointed place through controlling electronic Pan/Tilt, third choose one preset in the list of preset, finally click "setting"
- 2) To choose one preset from list of preset, then click "call"

◆ Configure/call/delete cruise

- 1) Choose one cruise number in the "cruise" list, to click "set" to enter "cruise setting" interface, then choose preset, cruise time, cruise speed, to click "add" icon, preset of cruise would be added successfully (add multi-presets);
- 2) Choose one cruise number in the cruise list, to click "call" icon, will call it;
- 3) Choose one cruise number in the cruise list, to click "delete" icon, it will delete this cruise number;

◆ Configure trail and call

- 1) Choose one trail number in the trail list, to click "set" icon to start to record, then carry out a series of direction operation, to click "set" again to stop recording trail, the trail would be recorded successfully.
- 2) Choose one trail number in trail list, to click "call", will call it

◆ Swap channel









To choose one channel and drag it to another channel, system will push tooltip, there are three kinds of exchanging channel mode.

1. Swap channel connection, all configuration exchange
2. Swap channel sequence, exchanged preview position, device list information would be changed.
3. Swap window position, exchanged preview position, device list information would be not changed.

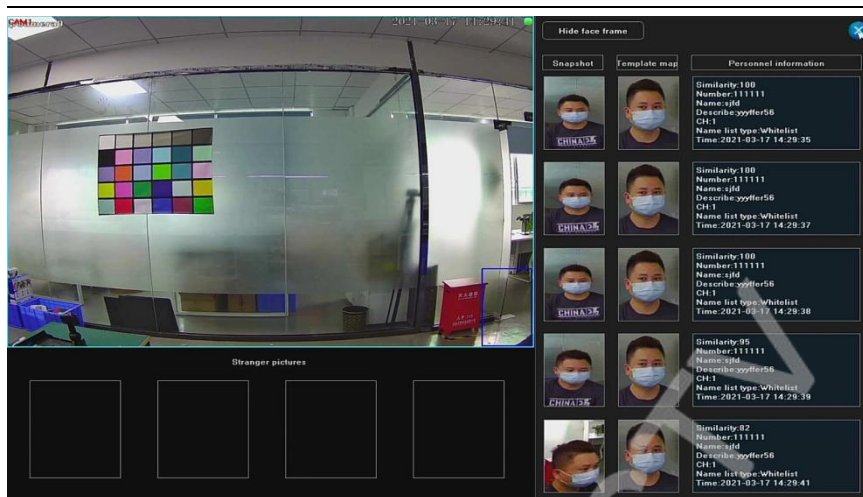
◆ Channel Downside Suspending Tool Bar

When user use mouse to point to below of channel, suspending tool bar would be appeared, refer to following picture




1. 3D position 
2. Display smart detection switch 
3. Current channel capture picture 
4. Intercom switch for same channel IP camera 
5. Audio switch of current channel 
6. Manual recording switch for current channel 
7. Real time playback switch 
8. Video parameter setting 

◆ Menu




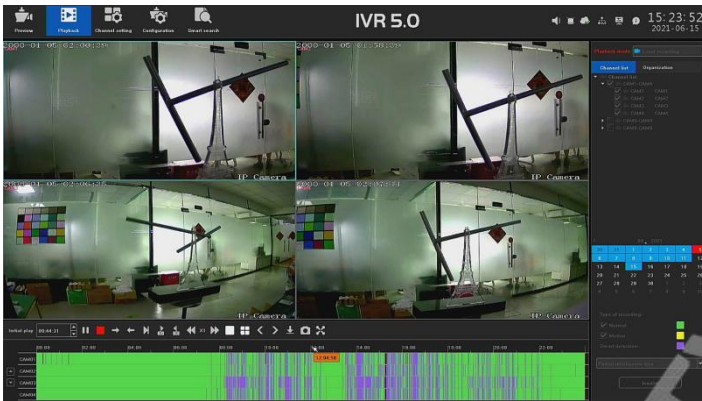
3.3.2.2 Realtime Playback

There is hidden tool bar at the downside of each channel, it would appear when mouse slide to downside, click  button, progress bar would be appeared,

The channel screen will rewind the video recording for 5 minutes from the current time, user can choose play, backward, pause or stop playing recording for 5 minutes, picture would come back to realtime surveillance picture after stopping playing it

3.3.2.3 Recording Playback

Click  icon to enter recording playback interface, there are local recording, local capture picture, external file in playback mode, default mode is local recording interface(like following picture)




3.3.2.4Local Recording

◆Channel choice

System already chose CH1-CH16 on channel list by default, user can choose inquiring recording channel according to “origination chart”.

























◆File search

Default time is date of the day, user can choose date,search style and method, then click inquiry  button on interface to find relative recording, recording situation would be displayed on blank area of downside bar(note:different style recording corresponds to

different color) ◆Play recording

User can drag it through mouse for searched recording bar, also slowly enlarge it through mouse roller to adjust time axis scale in 24 hours,time unit scale is 1h,0.5h,15 min,5min, 2min,1min; when mouse cursor move to time axis of colored column, it will display exact time hint, accuracy is second. Double click time axis to playback recording quickly, system will adjust recording scale according to playback accuracy, playback time position would be accurate.

◆ Shortcut function

Name	Icon	Function
Pause/Play	 	Pause or play recording
Stop		Stop playing recording,
Forward/Backward	 	Forward/backward recording according to time
Single frame play		Play recording in frame
Forward/backward 30S	 	Forward/backward recording 30S
Slow/Fast	  	Play recording by the speed of 1X/2X/4X/8X/16X
Split mode	    	Switch playback split mode
Pre/Next	 	Turn page function
Backup		Push file backup interface
Capture		Capture picture for selected channel
Hide/Progress bar		Display/ hide recording bar area
Full screen		display image in full screen
Add face template		Add face template quickly
Research face info		Capture channel's face and search it

3.3.2.5 Display Mode

◆ Rightside Tool Bar

Default display mode is “local recording”, to choose relative channel , time and recording style, then click “inquiry” to get recording file

3.3.2.6 External File

◆ This module is to visit the files in the USB external storage device inserted into the IVR, and all the backup files can be searched in this

module.

◆Click the “Refresh” button at the under right corner, then the files in the USB external storage device can be retrieved, operate the controls on the toolbar underside the interface, you can do a series of operations to the selected files to play/pause、stop、fast play、audio adjustment. Otherwise, click the “Delete” button at the under right corner can delete the selected files.

3.3.3 Channel Connection

1. After entering into channel connection interface, IVR will search IPC automatically in LAN, after finish searching, user can add channel according to requirements,please refer to following picture.



- 2. Search device: to search through selecting relative protocol, IVR will finish searching all devices in LAN within 10 seconds
- 3.Add device in batches: IVR will sequence IP address of camera searched by system, to select many ip cameras to add them in batches,
- 4.Add all: add all searched IP cameras to IVR

- 5.Export configuration, export system configuration to external storage device connected to IVR by USB
- 6.Import configuration: import system configuration file in external device into IVR, it would be valid after restarting device.
- 7.Plug and play: Enable or disable this function
- 8.Delete device: to delete IPC through selecting one or many IP cameras.
- 9.Network configuration: enter network management-basic parameters interface
10. Network test: user can make PING test through choosing relative network card or destination address.

3.3.4 Advanced Configuration

3.3.4.1 AI Setting

3.3.4.1.1Video Analysis

◆ Target Count

The function of this page is to configure the relevant parameters, when the moving objects, which is larger than the proportion,cross the set detection line , and number of which is more than quantity of set detection rule,the target count alarm will occur. The following describes how to set parameters on the page:

Channel: CAM1

Detect mode: (Need IPC support) Local

☒ Enable ☒ Display in preview

Detection line: 1 Erase

A->B (enter) ☒ Increase count Swap AB

B->A (leave) ☒ Increase count ☐ Decrease count ☐ Ignore

☒ Enable traffic statistics

Statistical Interval: 120 Second

Alarm threshold: 3

☐ Enable total statistics

Statistical period: 00:00 00:00

Alarm threshold: 0

Target percentage (ten thousand points): 20 Details

Target type: People

☒ IPC voice alarm ☒ IPC light alarm

Please leave alert area

Arming time Setting

Linkage processing Setting

-
1. Display on preview: After enabling it, user can see the detection line and statistical results on the preview interface;
 2. Detection line: user can set maximum 4 detection lines, drag mouse left key to draw the line directly on the screen, release the left key, and click the right key to finish drawing line. Two sides of the detection line are respectively AB area, The statistical results will be displayed on the upper side;
 3. Erase: One key to clear drawing line on the screen.
 4. A->B: The default count is from area A to area B, and the position of area A/B is exchanged;
 5. B->A: "Increase count number" means "flow statistics result='A->B number'+ 'B->A number'", "decrease count number" means "flow statistics result='A->B count number'-'B->A count number'", "ignore" namely "traffic statistics result='A->B' count number";
 6. Proportion: Only when the proportion of the moving object in the screen exceeds the set size, the moving object would be regarded as "target". When setting, a yellow dotted rectangle as a size reference will appear in the center of the screen ;
 7. Traffic statistics: After enabling, user can set the "traffic statistics interval and alarm threshold";
 8. Total statistics: After enabling, user can set the "statistical time period and total alarm threshold";
 9. Arming schedule: set the arming time, the default is all day arming;
 10. Linkage processing: user can enter the linkage configuration page to perform linkage configuration operations when the alarm is triggered



According to the above settings, the Occupation ratio of moving objects (vehicles) on No.1 channel is more than 150, when it cross the detection line, and the number of cross-line vehicles is 2 every 60s, and it does not trigger alarm, but the number of cross-line vehicles is 201 between at 10:00-15:30, which exceeded the threshold of 200 and triggered the target count alarm. The above picture is real-time picture when the alarm occurs.

◆ Object left/loss

The function of this page is to configure relevant parameters, if time of objects left or loss is more than set detection time for the objects which are larger than the proportion, alarm will occur. The following describes how to

set the main parameters on the page

1. Detection area: user can set maximum 4 detection areas on each picture, dragleft key of mouse directly on the screen to draw a line, release the left key, movethe mouse and click the left key again to form second lines, The area would be formed automatically after click right key of mouse, that is detection area (a qualified area must be formed by two lines drawn manually);
- 2.Detection type: "Object loss", "object left behind", "object loss or object left behind";
- 3.Proportion: Only when the proportion of moving objects on the screen exceeds the set size,the moving objects would be regarded object
- 4.Detection time: When time of object loss/left behind exceeds set time, system will trigger alarm

According to the above settings,the Proportionof moving objects on the channel is more than 150, when the moving objects disappear more than 30s in the detection area, system will trigger alarm, following picture is real-time picture in preview mode when alarm occur before and after (the blue rectangular frame is area of object loss).

Before alarm ↓ When alarm ↓



◆ Electric Fence

The setting interface as follow



1. Enable: Enable or disable Electronic Fence detection function.
2. Display in Preview: User can set rules and detection result whether are displayed in realtime preview, as above picture.
3. Detection Area: user can set maximum 4 detection areas which comply with setting rules.

Detection Style:

1. Intrusion Detection: When object enter detection area, alarm would be triggered until Object leave monitoring area.
2. Object Enter: When object enter into monitoring area from other areas.
3. Object Leave: When object leave from monitoring area.
4. Object Enter or Leave: Object enter into monitoring area or leave from relative area.
5. Object wander: Object wander in the setting area.
6. Proportion: Check object proportion on picture.

-
7. Detection Time: detection time is valid only for wander detection, when wandering time of object is beyond set time, it would be triggered alarm. Detection time column would be gray for detection time of other detection type.
 8. Set detection area: use mouse to click area which need to be line, press mouse left key to draw line, mouse left key will draw one turning line for every click, use mouse right key to end to draw line, it will form a polygon area automatically, like above picture(red area is detection area,blue imaginary line frame is object proportion size) .
 - 9.Erase drawing Line: click “erase Line” to clear area.
 10. Schedule time and Linkage processing setting are same with face detection setting
 11. Object type: human,vehicle,all(human and vehicle), after choose type, system will count types.
 - 12.Audio linkage: choose audio linkage, trigger electronic fence, detect alarm, will link to alarm and broadcast relative hint sound.
 - 13.Alarm light: Choose alarm light, after triggering electronic fence, detect alarm information, it will link to alarm light output.
 - 14.After finish setting parameters, click”save” button, it would be valid.

◆ Cross-line detection

Enable ☒ Display in preview ☐

Detection line 1 Swap A/B

Detection type A->BAlarm

Proportion(1/10000) 0

The function of this page is to configure the relevant parameters, when the moving objects, which is larger than the proportion, cross the set detection line, cross line detection alarm will occur. The following describes how to set parameters on the page:

- 1.Detection line: user mouse to draw detection line on picture,switch from A to B by one key
- 2.Detection type:“A->B alarm”、“A<->B alarm”two types
- 3.Proportion:filter moving object which its proportion is less than set proportion

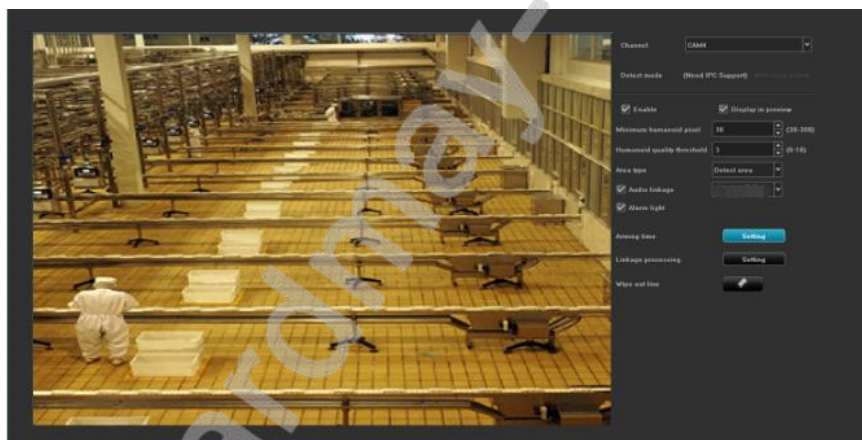


According to the above settings, the Proportion of moving objects on the channel is more than 30, cross line from A area to B area and trigger area detection alarm, following picture is real-time picture in preview mode when alarm occurs (detection line would flash alternately in red or blue, blue frame would track moving object after moving object cross detection line)

3.3.4.1.2 Vehicle and Humanoid Detection

◆ Humanoid Detection

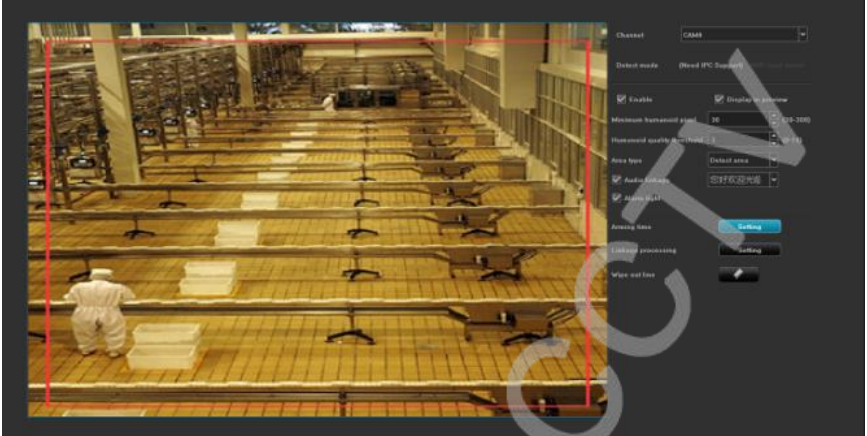
1. Only IP camera support this function
 2. Support to detect static and dynamical human shape of monitoring area.
 3. Advise to set accurate humanoid size range according to different usage scene, it will make detection faster and reduce wrong detection.
- Humanoid detection configuration as follows:



1. Detection Mode: only support IP camera with humanoid detection function.
2. Enable: Make humanoid detection enable or disable.
3. Min humanoid pixel: range from 30 to 300, will detect human shape of

humanoid pixel more than or equal to minimum pixel(blue frame).

4. Humanoid quality grade threshold value: capture humanoid of threshold value is more than or equal to humanoid quality grade threshold value.

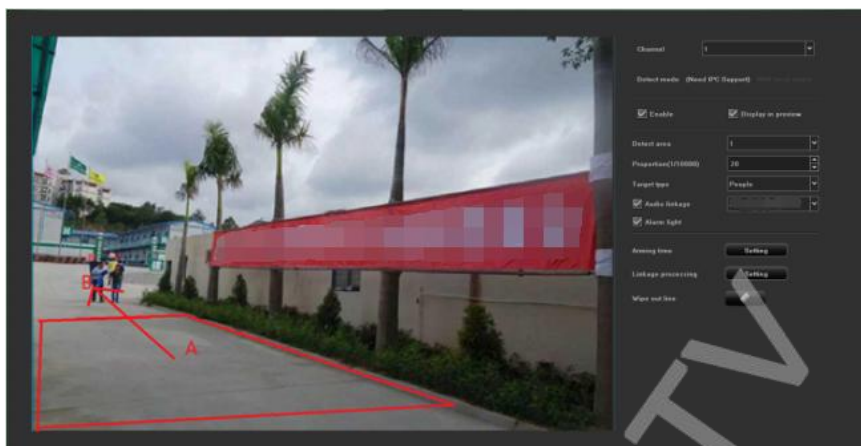


5. Set Detection Area: Press mouse key to click area which would be drawn on picture of channel,whatever direction user hold mouse right key to move to, it will create red frame,if setting is not good, user can erase it and reset it, shielding area setting is same with this.(Note: if shielding area is overlapped on detection area, it would be priority, please refer to following picture.

6.Arming time and Linkage processing operation are same with face detection.

◆Retrograde detection

Retrograde detection setting interface as follows:



Advise to set accurate detection area according to different usage scene, it will make detection faster and reduce wrong detection.

- 1.Enable: enable or disable this function.
- 2.Detection Mode:IP camera must support this function.
- 3.Display in Preview:User can set rules and detection result whether are displayed in real time preview, as above picture.
- 4.Set Area: click" start drawing", then click mouse left key to draw turning line in the area, click mouse right key to end to draw line, it will create a polygon area automatically, max support 10 polygon, min support triangle,after drawing area, it will extend one arrow, can turn 360 degree to choose direction, after confirm direction, then loose mouse key, then click"save", if client draw wrong line, can clear it, then restart again. The center point of area is default A point, another side is B point, when people walk from A to B point, it will trigger retrograde alarm.
- 5.Erase draw-line: click "erase" to clear all lines.
- 6.Detection Area: Max support 4 detection area setting.
7. Proportion: To check object proportion percentage on picture, it will filter object which is less than this proportion.
- 8.Arming time and Linkage processing operation are same with face detection.
- 9.Object type: human,vehicle,all(human and vehicle), after choose type, will count types.

- 10.Audio linkage: choose audio linkage, system will link to alarm and broadcast relative hint sound after triggering retrograde detect alarm.
- 11.Alarm light: Choose alarm light, after triggering retrograde detection alarm, it will link to alarm light output.
- 12.After finish setting parameters, click"save" button, it would be valid.

◆ Absent Alarm

Setting interface for leave position as follows:



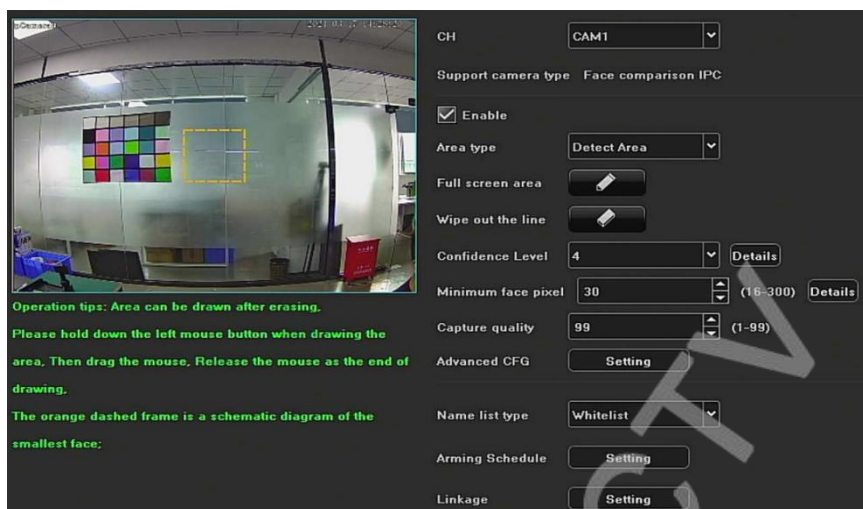
-
- 1.Enable: set enable or disable this function.
 - 2.Detection Mode: IP camera must support this function.
 - 3.Display in Preview: User can set rules and detection result whether are displayed in real time preview, as above picture.
 - 4.Setting Area: To use mouse to click area which would be drawn on channel's picture, press mouse left key to extend to draw line, it will create one pcs turning line for each click, mouse right key end to draw, it will create a closed area,, like above picture, blue imaginary line is object proportion size.
 5. Erase draw-line: click "erase" to clear all lines.
 - 6.Leave position time:User can set absent time for people between 0-3600s.
 7. Proportion: To check object proportion size on picture, it will filter object which is less than this proportion.
 - 8.Detection Area: 4 detection areas can be set.
 9. Arming time and linkage processing are the same with face detection.
 - 10.Motion detection: Select this option to detect dynamic human figures in the area.
 - 11.Audio linkage: choose audio linkage, to trigger leave position detection alarmwill link to alarm and broadcast relative hint sound.
 - 12.Alarm light: Select alarm light, after triggering leave position detection alarm, system will link to alarm light output.
 - 13.After finishing setting parameters, click the [Save] button, the setting will be valid

3.3.4.1.3 Face Recognition

◆Parameters Configuration

Support detect static and dynamic face on picture

User try to configure exact face size range according to usage scene, it will avoid wrong detection and speed up detection



1. Input style: system supports face capture IP camera and face comparison IP camera, user can set to whether enable face detection function
2. Area type: The frame area is the detection area or shielding area
3. Confidence level: the more confidence level, the higher accuracy, it is more difficult to detect face.
4. The pixel of minimum face: system will detect face's pixel which is more than or equal to the minimum pixel, ranges from 16 to 300 pixel
5. Quality of captured picture: ranges from 1 to 99, the bigger the number, the better the quality of saved picture.

◆ Advanced configuration

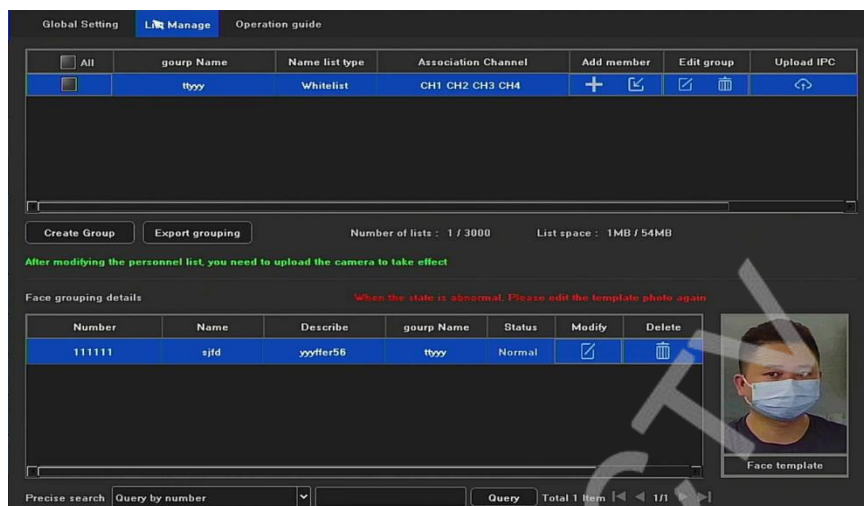
1. Enable face capture: set whether to enable face capture function
2. Enable FTP: enable or disable it
3. Only detect maximum size face: larger size face picture in the output picture,
4. Limit size of cutout face picture: The largest size of face from captured picture.
5. Maximum width of cutout face: face size ranges from 32 to 1920 for captured picture.
6. Limit the size of the cutout picture: the maximum size of captured image, it is not selected by default.

-
7. Maximum width of cutout picture: size range of captured picture 32-1920
 8. Face expansion coefficient (width): The size of the captured image generated by the extending outwardwidth based on the face. The default is 40.
 9. Face expansion coefficient (height): The size of the captured image generated by the extending outwardheight on the basis of the face, the default is 85.
 10. Scene image upload: Set whether to enable the function of uploading the scene image, it is not selected by default.
 11. Scene Image Quality: 1~99, the larger the number, the better the quality of the saved image.
 12. Detection mode: user can set face detection mode; there are 4 kinds of detection modes: interval, enter, leave, enter or leave mode, interval time of push picture can be set for interval mode, the longest interval time can be set to 10 seconds, the entry time would be set for entry mode, the longest time is 5 seconds, the maximum number of capturing picture is 5 pieces, it is same for leave mode
 13. Interval time: checkface interval time
 14. Name type: white name list, black name list and stranger
 15. Arming time: Click button of the arming, and user can set arming time on configuration interface,user can use the copy function to set the arming time to be the entire week or time period of one day ofone week. After finishing setting, user click OK to save.
 16. Linkage Setting: 1) system linkage: mail linkage, voice alert, monitor alert, upload center, buzzer alert.
 - A) Mail linkage: user needs to input valid email address in the email parameters of the device, and fill in a valid mail server and port number. Under this condition, if an alarm is triggered, real time alarm information would be sent to mailbox

-
- B) Voice alert :select it, Speaker will broadcast alert voice when alarm is triggered;
- C) Monitor alert: the alarm information will be realtime displayed in the alarm information column of the local device.
- D) Upload center: The alarm information will be realtime displayed in the device's Web terminal or platform alarm information bar
2. Alarm output: After the device is connected to alarm output device, if the alarm is triggered, the alarm information will be feedback to the alarm output device;
3. Local preview linkage: user can select one channel, several channels or all channels to link. After the preview linkage is turned on on the preview interface, if an alarm is triggered, the selected channel pictures will automatically pop up
4. Local recording linkage: user can select one channel, several channels or all channels to link, if an alarm is triggered, the selected channel will real time record ;
5. Local snapshot linkage: user can select one channel, several channels or all channels to link. if alarm is triggered, Camera will capture picture automatically on selected channel;
6. PTZ linkage: connect PTZ to device. After the alarm is triggered, device would be linked to preset of the PTZ device, cruise or track to alarm, or click cancel to cancel all linkages.
7. Buzzer alarm: select it, buzzer will alarm when alarm is triggered.

◆ Name List Management

Face template would be managed by groups, user can create face groups and manage groups' information.



1. Create groups: to click "create groups" and name them, user can configure groups to be black name list and white name list, make relative groups link to relative channel or all channels.
2. Export groups: The packet information in the device can be exported to the current selected group or all created groups
3. Modify groups: modify groups' name, name list style and linked channel
4. Delete groups: delete created groups.
5. Add signal face picture or Export face pictures in batches into face template.

A) Add signal face picture: User can use USB flash disk to add face template image or capture front-end picture to extract face template image
 Note: 1) Imported picture pixel not more than 1080P; 2) number of face template is unique;

B) Import face picture in batches: before importing face, user can choose to recover same ID face or skip to import ID face compulsively

- 1) Recover same ID: imported face template picture ID is conflict to template's ID in device, it will replace pictures in device.
- 2) Skip importing face with the same ID: if there is a face template

image with the same ID, the image will be skipped and is not imported

Notes: the max number of importing face number (including all groups) is decided by product's model no, it also relative to picture's quality, the clearer the picture, the less the importing number.

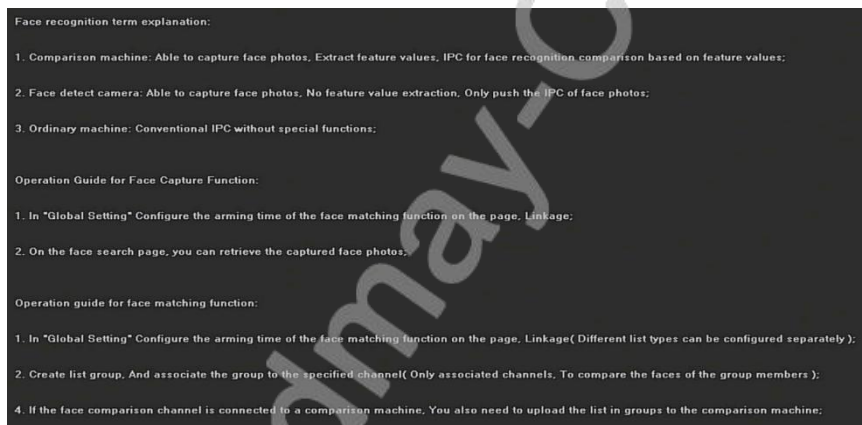
6. Upload name list: Differential upload and upload after clearing

A) Differential upload: Compare front IPC and local name information, will upload synchronously the differentiated name list

B) Upload after clearing: delete sub-group information of front IPC, then upload synchronously local relative group.

◆ Operation Guide

Explain how to configure face parameters, refer to following picture.



3.3.4.1.4 Voice Broadcast

The following smarts alert support voice broadcast function, refer to following picture.

Broadcast content			
Target count	Please note that personnel intrusion	Views: 1	Application Audition
Object left/last	Please note that personnel intrusion	Views: 1	Application Audition
Electronic fence	Please note that personnel intrusion	Views: 1	Application Audition
Cross border	Please note that personnel intrusion	Views: 1	Application Audition
Humanoid detection	Please note that personnel intrusion	Views: 1	Application Audition
Retrograde detection	Please note that personnel intrusion	Views: 1	Application Audition
Leave position	Please note that personnel intrusion	Views: 1	Application Audition
Electrobike detect	Please note that personnel intrusion	Views: 1	Application Audition

Voice broadcast content is only broadcast on the video record!

1. Play times: 1-10 times option
2. Application: the voice is applied to this smart alert, when alarm happens, the device will have voice broadcast
3. Audition: to click it and listen voice broadcast

3.3.4.2 Channel Configuration

3.3.4.2.1 Channel Parameter

◆ Display Setting

User can configure parameters for "local channel name, channel name, time and date format, image settings and lens parameters"...etc.

1. Local Channel Name: name in red typeface would be displayed on left corner of picture and is modified.
2. Channel Name: name channel as marks and synchronize with IP camera
3. Time/Date format: can choose different time/date format on appointed channel
4. Image Setting: can set brightness, contrast, saturation, chrome for appointed channel;
5. OSD Setting: the names of channels and dates are marked as yellow rectangular frame on the picture, and their positions can be dragged randomly by mouse.
6. Lens Parameters: set basic parameters of IP camera lens
7. Copy To: copy the setting parameters of current channel to other

channels

Notice: The above configurations are only for the front-end IPC, it is only take effect that IP camera support this function

◆ Video Encoding

1. Stream Type: Composite Stream and Video Stream are optional, when audio is needed, please choose Composite Stream,
2. Resolution: user can choose different resolution according to sub-stream and main stream (different types IP camera has different resolution option),
3. Bit-rates' Type: variable bit rate and constant bit rate,
4. Bit-rates' Upper Limit: user can choose different value from list, also can define it
5. Frame Rate: select different values in the drop-down list, the default is "full frame rate";
6. Image quality: When the bit rate type is variable bit rate, different image quality can be selected according to requirement;
7. I frame interval": The usual I frame interval is 25.

3.3.4.2 Channel Grouping

◆ Structure

The function of setting the organizational structure is to preview channels in group, which user can divide groups according to a certain standard. The following picture is divided into groups by area. The same channel can be divided into different groups (such as ch4) as required.



The function buttons in the middle of the above figure are the functions of "create group, delete group, modify group name, move right to add channel into group, move left to delete channel in group, move group up, and move group down".

◆ Preview Tour

The settings of preview tour are similar to the above organizational structure settings, and they are also divided into groups according to a certain standard to facilitate preview tour operations.

3.3.4.3 RecordingCapture

3.3.4.3.1 ScheduleSetting

◆ Recording Plan

There are 4 types recording modes, the default is "timing recording + alarm recording", the mode can be switched:

- 1)Timing recording + alarm recording: during setting timing recording period, or alarm triggering recording, the current channel system will only perform recording operations;
- 2)Timing recording: it is only during the setting timing recording period that the current channel system will perform recording operations;
- 3)Alarm recording: it is only when the alarm recording function is triggered that the current channel system will perform recording operations;
- 4)Stop recording: the current channel stops recording immediately, unless the manual recording function is turned on on the preview interface;
- 5)Supplementary recording after disconnection: Whether to enable supplementary recording after disconnection;
- 6)Recording time period:can set time for each day
- 7)Pre-recording and delay: Whether to enable the pre-recording and delay function, and different time can be set;

Note: The setting of recording time period is for "timing recording", and the pre-recording time and recording delay are for "alarm recording", otherwise it is not settable.

◆ TimingCapture

Turn on the timing capture function and set the capture time period.

3.3.4.3.2 Manual Operation

◆ Manual Recording

- 1) Manual recording of single or multiple channels can be turned on;

2) User can choose to turn off recording, turn on timing recording, turn on alarm recording, turn on timing and alarm recording functions.

◆ Manual Capture

- 1) Manual capture of single or multiple channels can be turned on
- 2) Can turn on or off the timing capture function

3.3.4.3 Capture Picture Parameters


The resolution of local snapshot pictures and the interval time of snapshots can be set for each channel of the device.


3.3.4.3.4 Local Backup


Click File Backup to enter the file backup interface. The main interface of default backup settings is shown in the following picture:

The screenshot displays the 'File Backup' configuration window. At the top, there's a 'Select Chant' section with checkboxes for channels 1 through 9, with 'CAM1 - 9' highlighted. Below this, the 'Search type' section includes radio buttons for 'All', 'Smart detec', 'Motion', 'Normal' (which is selected), and 'Offline colle'. The 'Starting time' and 'End time' are set to '2021-06-15' with time pickers showing '00:00:00' and '23:59:59' respectively. The 'Backup content' section has radio buttons for 'Video file' and 'Take a pict'. The 'Backup format' is set to 'AVI'. There are input fields for 'File size' (in MB) and 'Storage location' (with a 'Browse' button). A 'Calculate file size' button is also present. At the bottom, it shows 'Total memory disk capacity' and 'Memory-disk remaining capacity' in GB and MB, along with a 'Backup progress' bar at 0%.

This product supports the backup download of recording and picture files. The following describes the backup conditions:

- 1) Channel selection: No channel is selected by default, user can select needed backup channel
- 2) Search type: "General" is selected by default, and single/multiple selection is available as required
- 3) File time: The default is the day's time of the device, user can modify it as needed
- 4) File type: the default is "recording file", user can change it into "picture" as needed
- 5) File format: The default format is AVI for format of the recording file, user can choose I8 as needed
- 6) File Volume: Click the button  to calculate the volume of the backup file that meets the above conditions.

After the IVR is inserted into the USB external storage device, click the button  to detect whether the USB device is recognized normally. If it is recognized normally, the corresponding information will be automatically displayed in "Storage Location", "U Disk Total Capacity" and "U Disk Remaining Space".

After all the above conditions are met, click the button  in the lower right corner of the file backup interface to view the backup status from the changes in the "Backup Progress" bar. The backup is completed when the progress reaches 100%.

3.3.4.4 Alarm Management

3.3.4.4.1 Channel Events

◆ Motion Detection

- 1) Detection mode: the default is "front-end detection", when the "device capability" supports smart (smart detection), the mode can be switched to "IVR local detection";
- 2) Sensitivity/Proportion: after reasonable setting, the trigger accuracy of motion detection would be increased;
- 3) Area setting: directly hold the left mouse button on the screen and drag it to the area of motion detection, the red grid area is the selected motion detection area;
- 4) Arming time: select time period of arming
- 5) Linkage mode: select linkage mode
- 6) Full-screen frame: one key to set the entire screen area to be the area of motion detection;
- 7) Full screen clearance: one key to clear motion detection area on the screen

◆ Video Loss

The configuration page of video loss is enabled all day by default, and "monitor alarm" is turned on by default

◆ Video Occlusion

The setting method is similar to the motion detection's setting. The drawn area will form a black block on the screen. Please note that the channel connected by the onvif protocol does not support the occlusion alarm function.

◆ Privacy Mask

The setting method is similar to the motion detection's setting. When the painted area is blocked, an alarm will be triggered. Please note that the channel connected by the onvif protocol does not support the blocking alarm function.

3.3.4.4.2 Alarm Input

- 1) Alarm Input: choose local or remote
- 2) Name of alarm input: it is filled name only when user choose local alarm, otherwise it would be grey.
- 3) Burglar alarm status: ON or OFF, OFF would be trigger alarm
- 4) Enable the "alarm processing" function (default is enabled);
- 5) Arming time & linkage mode: select the time period of arming and linkage mode
- 6) Copy to: Copy the above configuration to other channels.

3.3.4.4.3 Alarm Output

- 1) Choose local alarm output
- 2) Customize alarm output name
- 3) Set arming time
- 4) Delay time of customizing alarm output

3.3.4.4.4 System Abnormal

- 1) Abnormal type: There are 6 types to choose; HDD full, HDD disconnection, HDD offline, HDD SMART error, network disconnection, IP address conflict
- 2) Trigger mode: All types of trigger modes enables "Alarm on Monitor" and "Upload Center" by default, and "Hard Disk Error" also turns on "Sound Alarm" by default.
- 3) Alarm Output: Enable, would link to alarm output when alarm occurs

3.3.4.4.5 Linkage Overview

User can query/add/modify/delete all alarm types and linkage configuration information of all channels on this page.

3.3.4.4.6 Manual Alarm

Trigger one or all local alarm output by manual

3.3.4.5Disk Management

3.3.4.5.1Storage Management

The information on the page explains in detail the current situation of the hard disk connected to the IVR,as shown in the following picture, the device is connected to a hard disk, which is in a normal state and space saturated state. The hard disk with physical number 0-2-0 is recording.



The screenshot shows a web interface for disk management. At the top, there are two dropdown menus: 'Process if after disk is full' set to 'Auto overwrite' and 'SMART processing' set to 'Ignore error and continue recording'. Below these is a checkbox for 'Recording keeping time(Unit / hour):' which is currently unchecked. The main part of the interface is a table with the following columns: Number, Name, Type, Capacity, Remaining space, Status, Information, Record?, Delete, and Power supply. There are two rows of data for HDD1 and HDD2, both showing 'Normal' status and 'No' for recording.

Number	Name	Type	Capacity	Remaining space	Status	Information	Record ?	Delete	Power supply
HDD1	-	Normal disk	74520B	13190B	Normal		No	-	-
HDD2	-	Normal disk	10830B	576B	Normal		No	-	-

1) Processing after the recording is full: There are two types:"automatic coverage" and "stop recording", the default is "automatic coverage";


2) SMART processing: There are two types:"ignore the error and continue recording" and "stop recording when error occurs";

3) Recording Keep Time: Max up to 36 hours

4) SMART information: Click the icon  to pop up the SMART information list of the current hard disk;

5) Lost alarm: If the current sata port is not connected to the hard disk, missed hard disk alarm information would be displayed in the "alarm information";

6) Format: Select the hard disk that needs to be formatted, and then

click the button  (Note: if status is “need to format” , user needs to format hard disk firstly, then continue to record, when hard disk is in the process of format, do not operate other functions)

3.3.4.5.2 Hard Disk Grouping

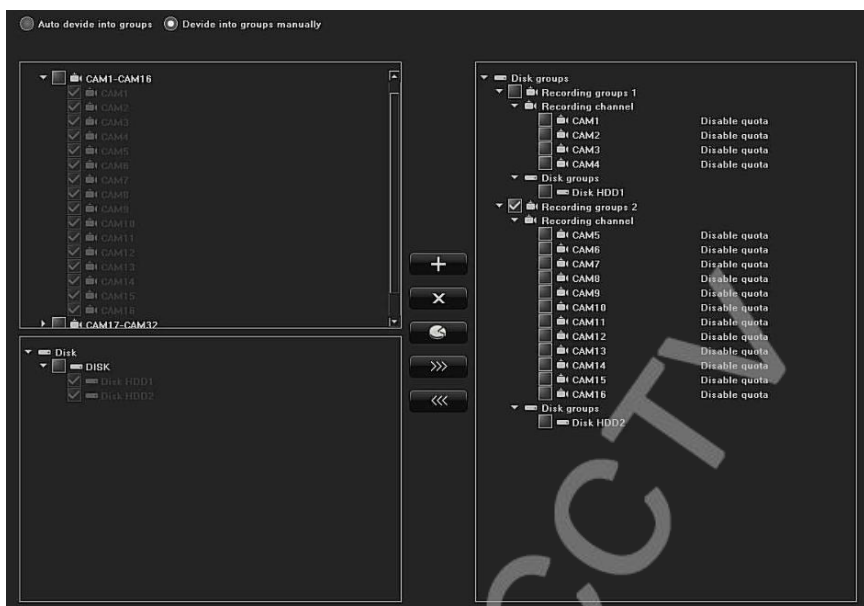
◆ Automatic grouping



The system record according to "automatic grouping" by default, that is, the default of all channels is to write recording data to one hard disk, and switch to the next hard disk when the recording is full. If only one hard disk is connected to the IVR, follow the storage management page The selection method of "Recording post-processing" in is to overwrite historical recording or stop recording.

It should be noted that when the recording channel of the device exceeds 32 channels and the device is connected to multiple hard disks, in order to ensure the efficiency and performance of the hard disk, it will record to 2 hard disks by default, and record to one hard disk in the first 32 channels of the recording channel. , The remaining channel will record to another hard disk. (Currently the maximum number of channels of the product is 64 channels)

◆ Manual grouping

The manual grouping function is to group the channels. The channels of different groups can be recorded in different hard disks, and each channel can also be set for quota. As shown in the figure below, there are 2 groups, among which ch1-ch6 are in No.1 group, ch10- ch15 is in No.2 group , where No.1 group has quota settings for channels, and all channels are recorded in Disk0-2-0, and No.2 group is not enabled, and all channels are recorded in Disk1-4-0.

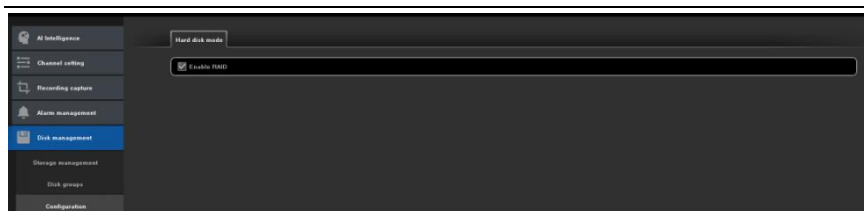


The function buttons in the middle column of the above figure are respectively "create group, delete group, quota setting, add camera to group by click , "delete camera to group by click ". Please note that the preview of channels that have not been added to the group has a picture Recording will not be performed at the time (ch7-ch9, ch16-ch64), the ungrouped hard disk is a free hard disk, and no data will be saved (Disk1-0-0).

Important note: When performing manual grouping operations, the historical video data in the hard disk may be cleared. Please be cautious when operating to avoid irreversible losses!

3.3.4.5.3 Advanced Configuration

◆ Selectenable RAID, click Save, user needs to restart the device, and the array configuration menu will appear on the interface after restarting;

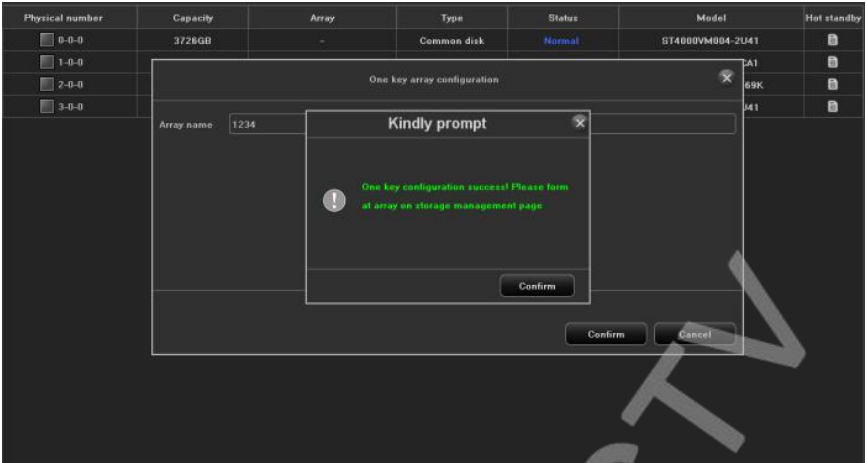


◆ Click to enter the array configuration, physical disk interface, display the status of the hard disk connected to the device, in this interface, you can set up hot spare hard disks, create various types of arrays or configure arrays with one click, etc.;

Physical disk						
Physical number	Capacity	Array	Type	Status	Model	Hot stand
0-0-0	3728GB	-	Common disk	Normal	ST4800PM004-2U41	<input type="checkbox"/>
1-0-0	931GB	-	Common disk	Normal	TOSHIBA U1011ACA1	<input type="checkbox"/>
2-0-0	931GB	-	Common disk	Normal	WDC WD10HJRX-69K	<input type="checkbox"/>
3-0-0	3728GB	-	Common disk	Normal	ST4800PM004-2U41	<input type="checkbox"/>

1) One-key configuration

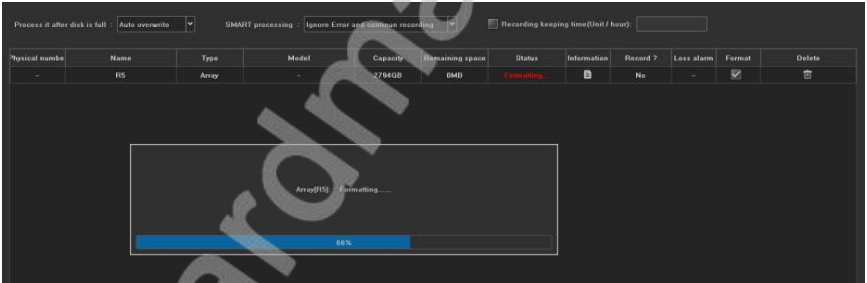
The RAID5 type array is created by default, and the array is named. After clicking OK, all the hard disks connected to the device will be created as a RAID5 array by default, and the hot spare disk will be automatically allocated according to the number of hard disks connected. Up to two disks can be allocated as Hot Standby;



After the configuration is completed, the hard disk needs to be formatted. At this time, a prompt to format the array appears on the storage management page



After selecting the array that needs to be formatted, click the format button, interface as shown below;



After the formatting is completed, the one-click configuration of the array is completed, and there are automatically created arrays and hot spare displays on the physical disk and array interfaces;

Physical disk						
Physical number	Capacity	Array	Type	Status	Model	Hot standby
0-0-0	3726GB	-	Common disk	Normal	ST4800VM004-2U41	
1-0-0	931GB	-	Common disk	Normal	TOSHIBA DT01ACA1	
2-0-0	931GB	-	Common disk	Normal	WDC WD18PURX 69K	
3-0-0	3726GB	-	Common disk	Normal	ST4800VM004-2U41	

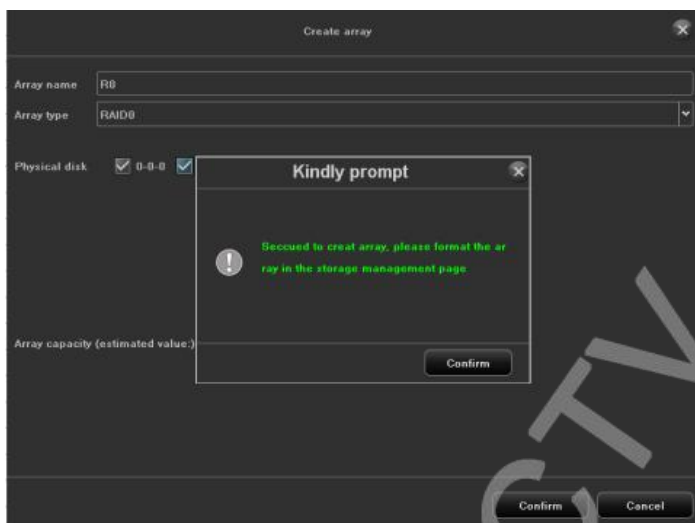
Physical disk						
Physical number	Capacity	Array	Type	Status	Model	Hot standby
0-0-0	3726GB	Whole situation	Hot-backup disk	Normal	ST4800VM004-2U41	
1-0-0	931GB	-	Common disk	Normal	TOSHIBA DT01ACA1	
2-0-0	931GB	-	Common disk	Normal	WDC WD18PURX 69K	
3-0-0	3726GB	-	Common disk	Normal	ST4800VM004-2U41	

2) Create array

Five array types can be created: RAID0, RAID1, RAID5, RAID6 and RAID10;

◆ RAID0: At least two hard disks are required to be created, and the array capacity is the sum of the two hard disk capacities;

Click Create Array, name the array, select RAID0 type, select at least two hard disks, and click OK;



After the creation is completed, the hard disk needs to be formatted; in the storage management interface, check the array to be formatted. After the format is completed, you can see that an array has been created in the array interface;

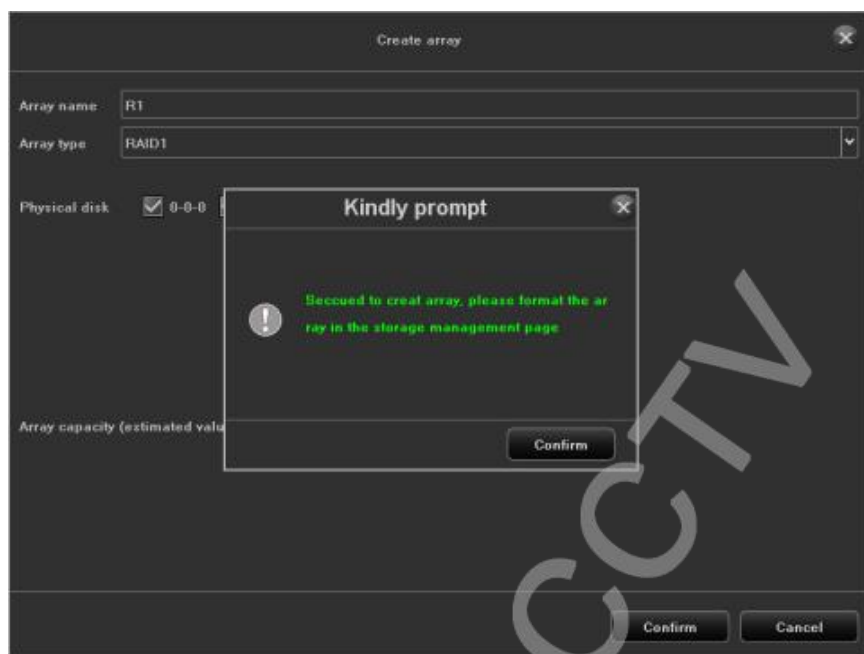
No.	Name	Capacity	Physical disk	Hot standby	Status	Type	Rebuild	Delete	Task
1	R0	1387GB/398GB	0-0-0 2-0-0		Normal	RAID0			-

The created array is displayed on the physical interface, and hot spare settings can be performed. Select the hard disk that needs to be used as a hot spare. After clicking the hot spare button, the hard disk type becomes a hot spare disk. When the hard disk in the array fails, the hot spare The spare disk can replace the failed hard disk to back up data to avoid data loss; click Delete to cancel the hot backup function of the hard disk;

Physical number	Capacity	Array	Type	Status	Model	Hot stand
0-0-0	931GB	R0	Array	Normal	TOSHIBA DT01ACA1	-
2-0-0	465GB	R0	Array	Normal	WDC WD5000LPVX-2	-
3-0-0	931GB	-	Common disk	Normal	ST1000VM002-1SD1	

◆ RAID1: At least two hard disks are required to be created, and the array capacity is only equal to the capacity of one hard disk;

Click Create Array, name the array, select RAID1 type, select at least two hard disks, and click OK;

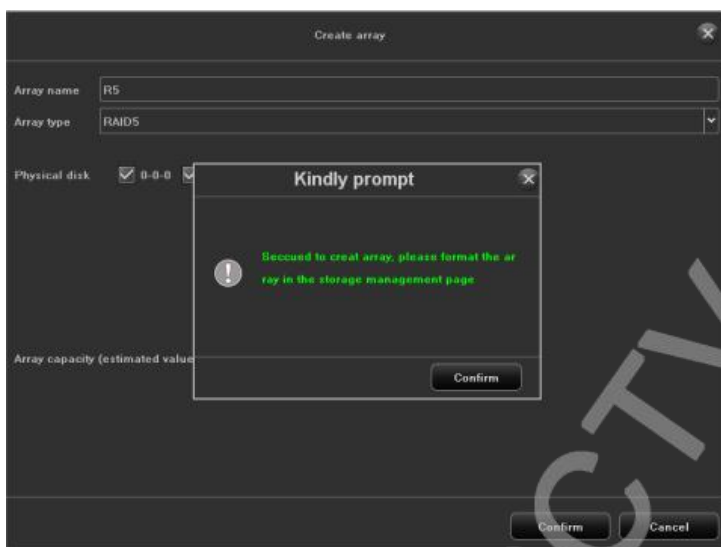


It is also necessary to format the hard disk. After formatting, the created array can be seen on the array interface, as shown in the figure below;

No.	Name	Capacity	Physical disk	Used capacity	Status	Type	Rebuild	Delete	Task
1	R1	1287680/128608	0-0-0 2-0-0		Normal	RAID1			-

◆RAID5: Create at least three hard disks (or more), and the array capacity is the number of hard disks $n-1$;

Click Create Array, name the array, select RAID5 type, select at least three hard drives, and click OK;

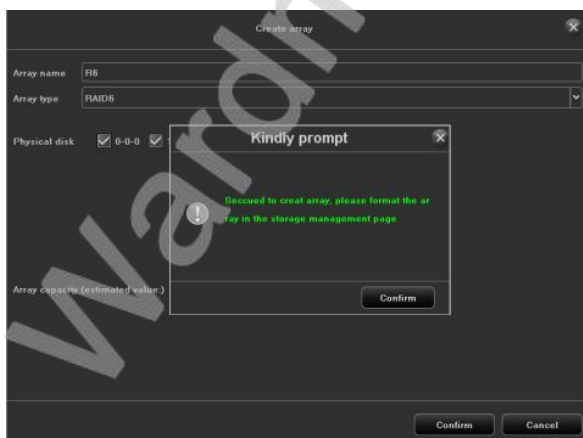


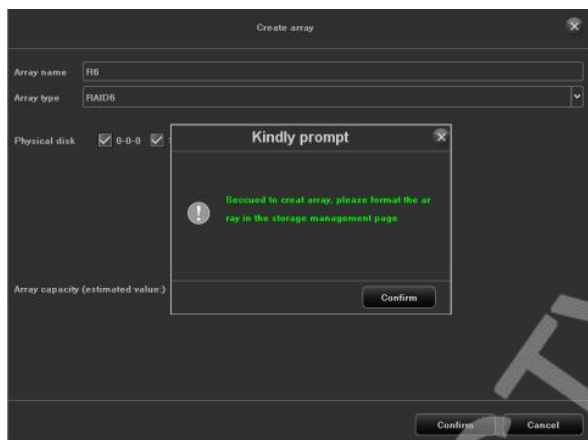
It is also necessary to format the hard disk. After formatting, the created array can be seen on the array interface, as shown in the figure below;

No.	Name	Capacity	Physical disk	Hot spare	Status	Type	Rebuild	Delete	Task
1	R5	1.267GB/1.288GB	0-0-0-0-0		Normal	RAID5			

◆ RAID6: At least four hard disks are required to create, and the array capacity is (n-1) minimum capacity*2

Click Create Array, name the array, select RAID6 type, select at least four hard disks, and click OK;



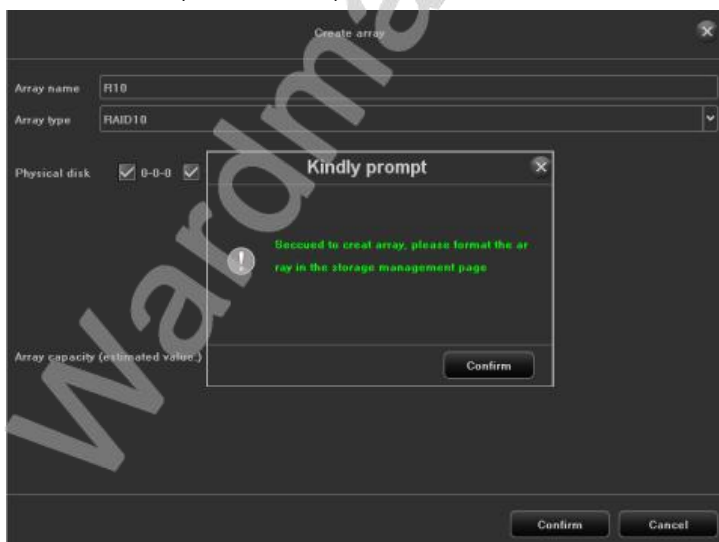


It is also necessary to format the hard disk. After formatting, the created array can be seen on the array interface, as shown in the figure below;

No.	Name	Capacity	Physical disk	Hot standby	Status	Type	Rebuild	Delete	Task
1	R5	1.28/5001.28GB	0 0 0 2 0 0		Normal	RAID5			-

◆ RAID10: At least $4+2*n$ disks are required to be created the array ($n \geq 0$), and the array capacity can only use half of the disk capacity or less;

Click Create Array, name the array, select RAID10 type, select at least four hard drives, and click OK;



It is also necessary to format the hard disk. After formatting, the created array can be seen on the array interface, as shown in the figure below;

No.	Name	Capacity	Physical disk	Hot standby	Status	Type	Rebuild	Delete	Task
1	R0	1287GB/1386GB	0-0-0 2-0-0		Normal	RAID0			-

◆ **Array interface:**

Can delete and rebuild the created array;

No.	Name	Capacity	Physical disk	Hot standby	Status	Type	Rebuild	Delete	Task
1	R0	1287GB/1386GB	0-0-0 2-0-0		Normal	RAID0			-

Delete: The created array can be deleted, the interface will no longer display the array after deletion, the physical disk interface, the hard disk status will be restored to ordinary disk;

Physical number	Capacity	Array	Type	Status	Model	Hot stand
0-0-0	3726GB	-	Common disk	Normal	ST4000VMB04-2U41	
1-0-0	931GB	-	Common disk	Normal	TOSHIBA DT01ACA1	
2-0-0	931GB	-	Common disk	Normal	WDC WD10PURX-69K	
3-0-0	3726GB	-	Common disk	Normal	ST4000VMB04-2U41	

Rebuild: After clicking Rebuild, the interface will display the name and type of the current array and the disks in the array. Choose one of the ordinary disks of the device as a supplementary hard disk. Do not unplug the hard disk during the reconstruction process to avoid data loss;

If the hard disk in the array is damaged and then refill the hard disk, the data can be backed up by rebuilding;

Rebuild Array

Array name

R0

Array type

RAID0

Array disk

0-0-0 2-0-0

Physical disk

Confirm

Cancel

◆ **Firmware:** display the related information of the array and the background task speed setting;

Physical disk Array **Firmware**

Version

2.1.0 2020-07-28

Physical disk number

16

Array number

16

Virtual Disk Number

0

RAID type

0 1 5 6 10

Hot standby type

Whole situation hot backup

Support rebuild

Yes

Background task speed

High speed

Version: Display the current software version information of the device;

Number of physical disks: the maximum number of hard disks that the device can access;

Number of arrays: the maximum number of RAID arrays created;

RAID type: RAID type currently supported by the device, RAID0, RAID1, RAID5, RAID6, RAID10, etc.;

Hot spare type: global hot spare, that is, the hot spare disk is for all arrays of the device. If there is a hard disk failure in the array, it will be used as a replacement disk to back up data;

Support for reconstruction: After the hard disk in the array is damaged, the additional hard disk can be rebuilt and restored in the array;

Background task speed: refers to the recovery speed of data reconstruction or hot backup when the array fails. Different speeds can be set, including high speed, medium speed, and low speed;

◆Downgrade:

When the hard disk in the array fails, the array will be automatically degraded. At this time, if there is a hot spare disk in the array, the reconstruction and recovery will start automatically. The reconstruction time will depend on the amount of data;

No.	Name	Capacity	Physical disk	Hot standby	Status	Type	Rebuild	Delete	Task
1	R5	1862GB (1862GB)	1-0-0-2-0-0-3-0-0		Degraded	RAID5			Rebuild(Processing)0%

If the hot spare disk is not set, you need to click the rebuild button to rebuild manually. After clicking OK, the rebuild will start, and the rebuild time will depend on the amount of data;

note:

Currently, only 3536 devices with 10 bays or more support the RAID function;

It is recommended to use professional-grade video hard disk for the hard disk of the connected equipment, and the hard disk model and capacity should be consistent;

It is recommended that the input data for each array be around 100M;

3.3.4.6 Network Management

3.3.4.6.1 Local Network

◆ Basic Parameters:

1. Network card: choose different network card types according to needs;
2. Physical address: display the physical address of the current network interface, which is not modified;
3. Automatically obtain IP address: the DHCP function. When it is turned on, the IP/mask/gateway cannot be set. If the current DHCP takes effect, it will obtain the new IP/mask/gateway assigned by the router (a new IP is required for remote login Address), if it does not take effect, the IP/mask/gateway will display the previous address (you can use the old IP address to remotely log in to the device);
4. IP address: Enter the corresponding number to change the default IP address;
5. Subnet mask: Enter the subnet mask of the corresponding IP;
6. Gateway address: input the corresponding gateway address.

◆ Advanced Parameters:

1. Enable PPPoE

fill in the correct PPPoE user name and password. If the network is connected, the dynamic address of the device can be obtained.

2. Enable UPnP

The default RTSP, RTMP, and HTTP port numbers are 554, 1935, and 80 respectively. The port numbers is modified (modification of the internal port requires restarting the device to take effect). The UPnP state is inactive by default, and the external IP address will be obtained after taking effect.

3.3.4.6.2 Dynamic Domain Name


The default is the "Disable Domain Name Resolution" status, and all setting fields cannot be set. You need to switch to the "Enable Domain Name Resolution" status. It should be noted that the device must be able to access the Internet normally when using this function.

- 1.Server type: There are 14 types in the default list;
- 2.Server domain name: each server type corresponds to the existing default server domain name;
- 3.Port: Each server type corresponds to the default port;
- 4.User name & password: manually enter the correct user name and password;
- 5.Device domain name: manually enter the correct domain name (after the function is OK, the domain name can be used to remotely access the device);
- 6.Update interval:


3.3.4.6.3Email Setting

The settings on this page are used in conjunction with the "Email linkage" function in "Linkage Configuration". The sender's email address and password, recipient's email address, SMTP server address and port and other information must be correct in the corresponding fields according to the format requirements Input, there are other additional functions on the page:

- 1.Fill in multiple recipient mailboxes, the sender mailbox will send mails to multiple recipient mailboxes at the same time;

2. Select  the function, the mail received by the recipient's

mailbox will have an attachment, and the content of the attachment is the linked screenshot file of the corresponding channel (compressed package format);

3. Click  the icon in the corresponding column of "Test Mail" to send the mail from the sending mailbox to the recipient's mailbox, and a relevant prompt will pop up if it is successful

It should be noted that the use of the Email linkage function requires a good network environment and the equipment can access the external network smoothly.

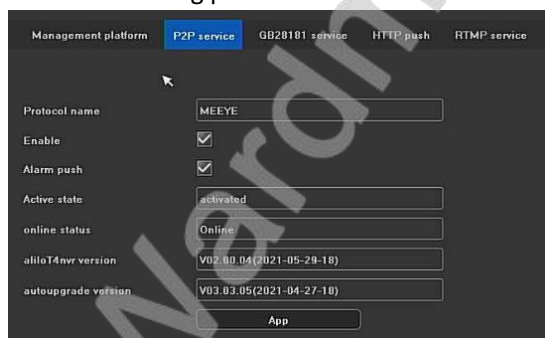
3.3.4.6.4 Management Platform

◆ Management Platform:

This page is the activation interface of the platform protocol. The WebServer protocol is enabled by default (supporting the remote login of the device), and other services are enabled as needed. Note that enabling/disabling some services requires restarting the device.

◆ P2P service:

This page is P2P service configure interface, enable or disable P2P, refer to following picture



- 1) Protocol Name: P2P protocol name
- 2) Enable: Device would be connected to APP after enabling it
- 3) Alarm push: Enable it, alarm information would be pushed to APP
- 4) Online: it displays device situation
- 5) AliLot4 NVR version: Built-in AliLot4 version
- 6) Auto upgrade version: Built-in auto P2P upgrade version
- 7) APP QR address: APP download QR code or ID QR code

◆ GB28181 Service

The following picture is GB28181 configure interface.

Management platform P2P service **GB28181 service** HTTP push RTMP service

SIP server ID 3... 2

SIP server DNS 3... 00

SIP server Realm 2... 00

SIP server password 1... 00

SIP server port 5...

After finishing configuring all setting parameters. User can use GB28181 service

◆ HTTP Push

This module supports HTTP face push function, the interface is as shown below

- 1.Enable: Whether to enable HTTP push function;
 - 2.Server address: the address of the server to be pushed to, the address format is http://ip address: port number;
 - 3.Heartbeat interval: push interval time;
- After finishing setting, save it.

◆ RTMP service



This mode supports RTMP service to push audio and video stream, interface as follows:

Channel	Enable	Push stream address	Stream	Whether to enable audio	Status
CAM1	<input checked="" type="checkbox"/>		Main stream	<input checked="" type="checkbox"/>	-
CAM1	<input checked="" type="checkbox"/>		Main stream	<input checked="" type="checkbox"/>	-
CAM1	<input checked="" type="checkbox"/>		Main stream	<input checked="" type="checkbox"/>	-
CAM1	<input checked="" type="checkbox"/>		Main stream	<input checked="" type="checkbox"/>	-
CAM1	<input checked="" type="checkbox"/>		Main stream	<input checked="" type="checkbox"/>	-
CAM1	<input checked="" type="checkbox"/>		Main stream	<input checked="" type="checkbox"/>	-
CAM1	<input checked="" type="checkbox"/>		Main stream	<input checked="" type="checkbox"/>	-
CAM1	<input checked="" type="checkbox"/>		Main stream	<input checked="" type="checkbox"/>	-

- 1) Choose channel, main stream or sub-stream, enable audio function, user can push audio and video stream to server.
- 2) Push stream address: rtmp:// server IP address: 1935//live/home

3.3.4.6.5 IP Address Filtering

After adding the IP address of the PC, it is restricted to log in on the web of this PC, user can not login WEB service through PC of which ip address is 192.168.168.128, the interface is as shown below.

IP filter			
No.	IP address	Modify	Delete
1	192.168.1.233		

3.3.4.7 System Configuration

3.3.4.7.1 Time Setting

◆ Equipment Time

1. Device time: IVR time can be modified manually;
2. Date format: There are three date formats to choose;
3. Time zone: switch the time zone, the page will pop up the new date and time, and some time zones have the summer time function;
4. NTP time calibration: After the function is enabled, user needs to click **Check time** the button to synchronize the network time (the device needs to access the external network).

◆ IPC Calibrate Time

1. Manual time adjustment: manually click the time adjustment button to perform time adjustment operation inside;
2. Automatic time adjustment: whether to enable the automatic time adjustment function;
3. Reconnect when disconnected: whether to enable the function of disconnected reconnect;
4. Scheduled time: enable the timed time, and fill in the timed time;

3.3.4.7.2 User Management

- 1.Modify user: modify the user name, password and user type of the selected user;
2. Add user: add a new user;
- 3.Delete user: you can delete the selected user (except admin and default users);
4. User authority: set authority for the selected user.
5. Recover password: user can recover password through APP scanning QR code or mailbox.

3.3.4.7.3 Device Parameters

◆ Basic Settings

- 1.Equipment name: the name can be set for the IVR device
- 2.Language selection: the system language of IVR can be modified, and it needs to be restarted to take effect;
- 3.Main display resolution: The local display resolution of the IVR can be modified (display support is required), and it will take effect immediately after modification;
- 4.Auto logout time: You can choose the auto logout time, the default is 0 minutes;

◆ Advanced Settings

- 1.Channel information display: There are 4 display modes, the preview interface device list is refreshed in time after the modification is successful;
- 2.Real-time playback time: There are 5 time options, which will take effect immediately after modification;
- 3.Video stream mode: There are two stream modes, after modification, it needs to restart to take effect.
- 4.Auxiliary user: function enable/disable, the default is disabled state, enable the device to restart;
- 5.Start-up wizard: function enable/disable, the default is disabled state;

-
- 6.Display mode: The maximum number of preview channels supported by the device on the same screen and the maximum number of intelligent detection channels (different models have different IVR capabilities), which need to be restarted to take effect;
 - 7.Face access mode: There are two types: digital + comparisondevice; digital + capture device;
 - 8.Mouse speed: adjust the movement speed of the mouse to take effect in time.

◆ RS485 device

There are four working modes: Non, P/T control, 485 keyboard, 485-Pelco DJ keyboard, default mode is NON

3.3.4.7.4Zero Channel Setting

◆ Parameters Configure

- 1) Set channel resolution, Bit type & volume,video frame

◆ Channel Configure

- 1) One split: to choose one channel to add
- 2) Four splits: to choose any channels to add

Login device through Web, user can see pictures from zero channel which would be one split preview or preview of any 4 split

3.3.4.8 System Maintenance

3.3.4.8.1 System Information

1. Device information: the software version and hard disk version currently used by the IVR;
2. Online users: user information, it will display user name, login time, IP and login method

3.3.4.8.2 Log Information

On this page, user can query different types of logs according to different types and time. The main types of logs include "operation", "abnormal", and "alarm". Each type corresponds to multiple sub-types (the system defaults to query All types of logs), login time can be cross-day query as required.

3.3.4.8.3 Upgrade Maintenance

◆ NVR upgrade

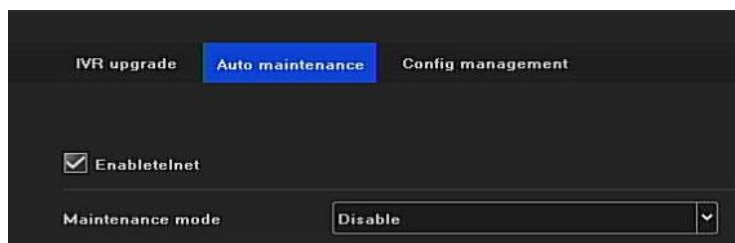
- 1) Upgrade online: to click "testing" button to upgrade if there is new version
- 2) USB upgrade: to upgrade ivr on this page, user need to use memory flash to insert usb port of IVR, to choose correct file, then click upgrade, after finish upgrade, device will restart.

Note: Do not operate locally or remotely during upgrade to avoid irreparable errors!

◆ Automatic Maintenance

- 1) Telnet: it is convenient to adjust for engineer
- 2) Maintenance mode: default mode is "forbid" status, user can switch to "one time" "daily" or "weekly". After the maintenance time is set, the system time reaches the time before the maintenance time. A prompt box will pop up in 10s (see the picture on the right), the system

will automatically restart after 10s when the maintenance time is reached.



◆ Configure Management

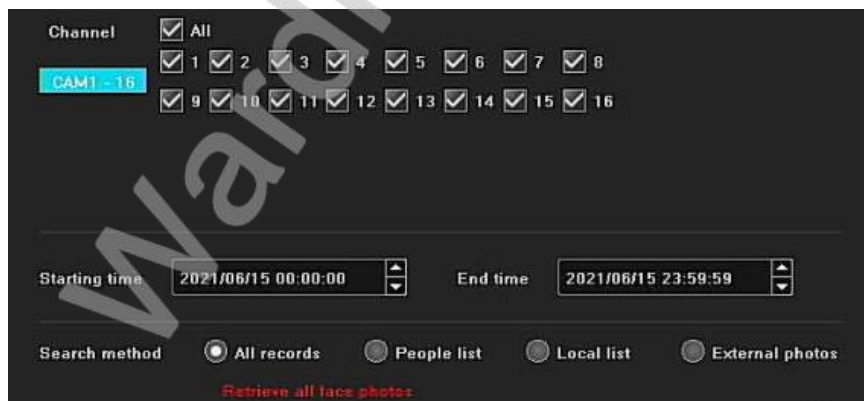
There are three function buttons, each button has different function:

- 1). Export configuration: Export the system configuration to the memory flash external storage device inserted in the IVR;
- 2). Import configuration: Import the system configuration file in the memory flash external storage device inserted in the IVR into the system, and the imported configuration will take effect after restarting the device;
- 3). Restore the default: select single/multiple configurations as required, and restore the parameters to the factory default values, which can take effect after restarting the device.

3.3. 5 Smart Search

3.3.5.1 Face Search

- 1) User can search face through choosing channel, time and other search type, refer to following picture



2) Search method: all recordings, name list, local name list and external pictures

3) All recordings: search all person's face picture

4) Name list: user can search face picture according to white name list, black name list and strangers, refer to following picture:

The screenshot shows a search interface with the following elements:

- Channel:** A dropdown menu set to 'CAM1 - 16'. Below it, a grid of checkboxes for channels 1 through 16, all of which are checked.
- Starting time:** A date and time selector set to '2021/06/15 00:00:00'.
- End time:** A date and time selector set to '2021/06/15 23:59:59'.
- Search method:** Four radio buttons: 'All records' (selected), 'People list', 'Local list', and 'External photos'.
- Name list type:** Three checkboxes: 'Whitelist' (checked), 'Blacklist', and 'Stranger'.

A red text prompt 'Retrieve face recognition records of a specific type' is visible below the search method options.

5) Local name list: to choose similarity, there are several methods to enquiry name list : groups enquiry, number enquiry, name enquiry, refer to following picture

The screenshot shows a search interface with the following elements:

- Channel:** A dropdown menu set to 'CAM1 - 16'. Below it, a grid of checkboxes for channels 1 through 16, all of which are checked.
- Starting time:** A date and time selector set to '2021/06/15 00:00:00'.
- End time:** A date and time selector set to '2021/06/15 23:59:59'.
- Search method:** Four radio buttons: 'All records', 'People list', 'Local list' (selected), and 'External photos'.
- Similarity:** A dropdown menu set to '80'. Below it, a red text prompt 'This higher the similarity, the more likely to miss the detection of similar records. The smaller it is to the threshold, the more accurate the detection results are.'.
- List query method:** A dropdown menu set to 'Query by group'.
- Table:** A table with three columns: 'Number', 'Name', and 'Describe'. The table is currently empty.
- Face template:** A section on the right side of the table, currently empty.

A red text prompt 'Retrieve face recognition records of a specific type' is visible below the search method options.

6) External pictures: choose similarity, connect memory flash to import pictures and extract face template, then search, refer to following picture

Channel ☒ All
☒ 1 ☒ 2 ☒ 3 ☒ 4 ☒ 5 ☒ 6 ☒ 7 ☒ 8
☒ 9 ☒ 10 ☒ 11 ☒ 12 ☒ 13 ☒ 14 ☒ 15 ☒ 16
CAM1 - 16

Starting time 2021/06/15 00:00:00 End time 2021/06/15 23:59:59

Search method ☐ All records ☐ People list ☐ Local list ☒ External photos
 Retrieve recognition records with high similarity between faces extracted from imported photos

Similarity 80 The higher the similarity, the easier it is to miss the detection, the lower the similarity, the easier it is to miss the detection, the recommended value is 80

Import pictures Extract face template

3.3.5.2 Smart Capture

1) User can set search conditions for captured picture, refer to following picture

☒ All
☒ 1 ☒ 2 ☒ 3 ☒ 4 ☒ 5 ☒ 6 ☒ 7 ☒ 8
☒ 9 ☒ 10 ☒ 11 ☒ 12 ☒ 13 ☒ 14 ☒ 15 ☒ 16
☒ 17 ☒ 18 ☒ 19 ☒ 20 ☒ 21 ☒ 22 ☒ 23 ☒ 24
☒ 25 ☒ 26 ☒ 27 ☒ 28 ☒ 29 ☒ 30 ☒ 31 ☒ 32
CAM1 - 32
CAM33 - 36

Inquiry mode ☒ Search by date ☐ Time search

06, 2021

30	31	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	1	2	3
4	5	6	7	8	9	10

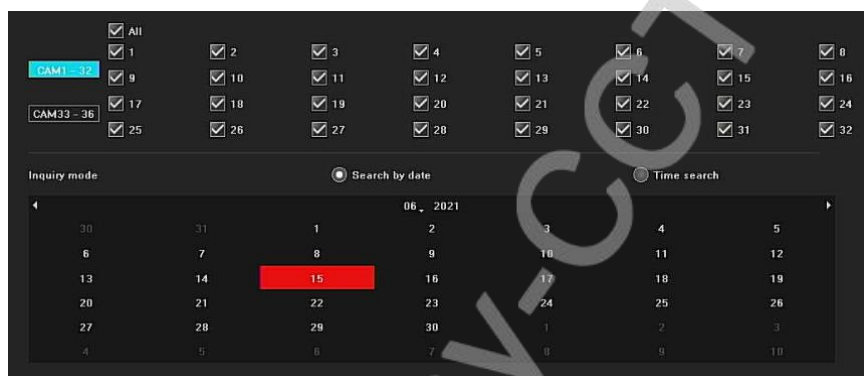
Picture type ☒ All type ☒ Normal ☒ Alarm ☒ Motion
☒ Target count alarm ☒ Cross border detection alarm ☒ Electronic fence alarm
☒ Object leftlost alarm ☒ Blacklist alarm ☒ Whitelist alarm
☒ Stranger alarm ☒ Humanoid detection alarm ☒ Retrograde detection alarm
☒ Leave Position detection alarm ☒ Electribike detect alarm

2) Enquiry Method: search it according to day or time slot

3) Search condition:meet any selected picture type or all selected picture types

4) Picture types: normal, alarm detection, motion detection, target count alarm,cross-line detection alarm, electronic-fence alarm, object left or loss alarm, black name list alarm, white name list alarm, stranger alarm, humanoid detection alarm, retrograde motion alarm,absent alarm

3.3.5.3 Playback Captured Picture



Enquiry method: user can search face picture according day or time slot

3.3.5.4 Events Search

User can search different alarm events according search condition, refer to following picture

Event type:	All event types	Channel:	All channels	
Starting time:	2021/06/15 00:00:00	End time:	2021/06/15 23:59:59	Inquiry
No.	Alarm time	Type	Channel	Play
1	2021-06-15 16:51:36	Video loss alarm occurred	CAM5	⏮
2	2021-06-15 16:51:28	Video loss alarm occurred	CAM6	⏮
3	2021-06-15 16:51:28	Video loss alarm occurred	CAM3	⏮
4	2021-06-15 16:51:28	Video loss alarm occurred	CAM2	⏮
5	2021-06-15 16:51:28	Video loss alarm occurred	CAM1	⏮
6	2021-06-15 15:25:08	Video loss alarm occurred	CAM6	⏮
7	2021-06-15 15:25:08	Video loss alarm occurred	CAM3	⏮
8	2021-06-15 15:25:08	Video loss alarm occurred	CAM2	⏮
9	2021-06-15 15:25:08	Video loss alarm occurred	CAM1	⏮
10	2021-06-15 15:24:58	Motion detection alarm disappear	CAM6	⏮
11	2021-06-15 15:24:58	Motion detection alarm disappear	CAM3	⏮
12	2021-06-15 15:24:58	Motion detection alarm disappear	CAM2	⏮
13	2021-06-15 15:24:58	Motion detection alarm disappear	CAM1	⏮
14	2021-06-15 15:24:15	Humanoid detection alarm disappeared	CAM3	⏮

- 1) Events type: all alarm, single or multi-alarm type
- 2) Channel: single channel or multi-channel, all channels
- 3) Time: choose start time and end time, end time must exceed start time
- 4) After selecting condition, user can search relative alarm event information.

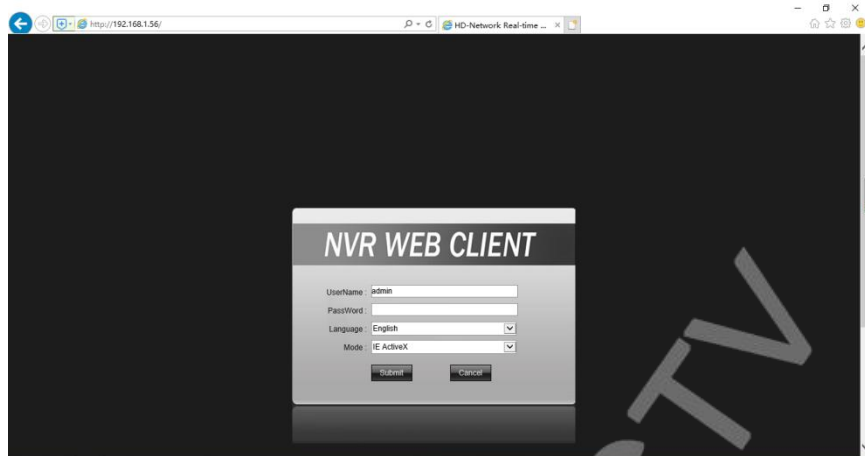
4.1 WEB Browser Operation Guide

4.1.1 Internet Connection

1. Confirm that the network digital video recorder is correctly connected to the network;
2. Set the IP address, subnet mask and gateway for the host computer and IVR respectively. If there is no routing device in the network, please assign an IP address in the same network segment. If there is a routing device in the network, you need to set the corresponding gateway and subnet mask. Please refer to [System Settings]>[Network Parameters] for the network settings of the network digital video recorder;
3. Please make sure that the IP address is set correctly. After the IP address is set, you can use the ping tool that comes with the system to check whether the network digital video recorder is correctly connected to the network.

4.1.2 Plug-in Installation and User Login and Logout

1. After the network digital video recorder is correctly connected to the network, you can log in and access the NVR through the IE browser;
2. User can download and install the IE plug-in from IVR via the network. After running plug-in, enter the IP address, user name, and password of the network digital video recorder in the IE browser, and the following interface will pop up after the connection is successful:



After logging in correctly, user can enter the network preview interface. For details on the operation method of the network terminal, please refer to the host terminal.

Chapter 5 Mobile Phone Operation Guide

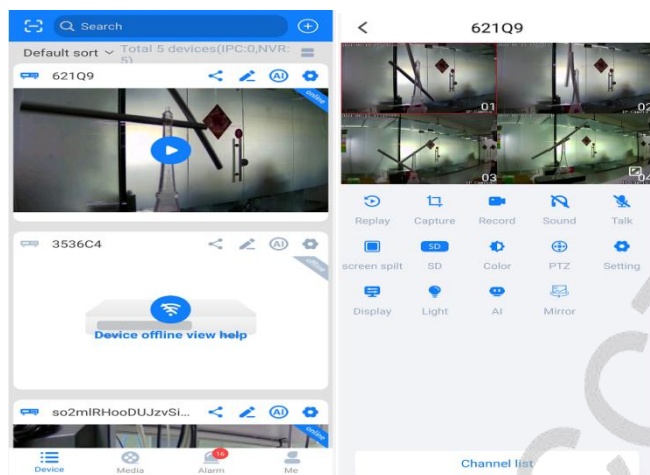
This operation guide is an instruction on how to install and use the mobile client on Android and iOS mobile phones. The mobile client APP commonly used for using our products is [Cloud Eye AI]

The mobile client software supports Android 4.0 and above system versions (mobile phones include commonly used brands on the market, such as Huawei, Xiaomi, Oppo, etc.), and iOS 11.0 and above system versions.

◆ Installation and operation instructions

1. Download the current latest version [MEEYE] installation file from the Android market;
2. Perform online installation;
3. After the installation is complete, click the corresponding program icon to open the APP, see the right picture.

Note: In actual use, mobile phone performance and network conditions will affect the preview effect. If the network condition is poor, you can appropriately reduce the frame rate to ensure smooth preview images.



Chapter 6 Common Troubleshooting

◆ Reasons for The device cannot start or keeps restarting

- 1.The NVR has upgraded the wrong firmware and caused the system software to be damaged;
- 2.The main board of the NVR is faulty, please contact the supplier for repair;
- 3.If the hard disk fails, please replace the hard disk;
- 4.The panel program selection is wrong, [Advanced Configuration]→[Device Maintenance]→[Device Information]→Panel version. For aluminum profile panels, please choose MINI. For other plastic panels, please choose 01, 02, 05, etc.;
- 5.IVR IP address conflict.

◆ Reasons for unable to be controlled by remote control

- 1.Please check whether the battery in the remote control has been installed correctly, especially the positive and negative polarity;

-
2. Please check if the battery in the remote control is still charged;
 3. Check whether the remote control window is covered;
 4. Please check whether the remote control address of the NVR matches the remote control address.

◆ Reasons for The PTZ cannot be controlled

1. The RS-485 interface cable is incorrectly connected, and the A and B ports are reversely connected;
2. The type, protocol, baud rate and address bits of the PTZ decoder are not set correctly;
3. The RS-485 bus is connected to a large number of PTZ and there is signal reflection, so a 120Ω resistor must be connected in parallel at the remote end;
4. The RS-485 interface of the main board is broken.

◆ Reasons for Network digital video recorder preview image blurry

The video input format does not match. If the camera is NTSC format and the network digital video recorder uses PAL format, the preview image will appear blurred.

◆ Reasons for NVR replays the image on the screen or cannot find the video

1. The firmware read error, please try to restart the NVR
2. The hard disk data has errors due to bad sectors and bad clusters, please check the hard disk, if the hard disk is damaged, please replace the hard disk;
3. NVR hardware failure, please contact the supplier.

◆ Reasons for does not connect to the network digital video recorder through the network:

1. Please check whether the network physical connection is normal;
2. Please check the network parameter configuration of the network digital video recorder;
3. Please check whether there is an IP conflict in the network.

◆ Reasons for the downloaded or backup video cannot be played normally:

1. The player is not installed correctly;
2. The file system of the U disk or mobile hard disk used for backup is

wrong;

3.The graphics acceleration software of DX9.0 or above is not installed.

◆ Attached IVR FAQ

1. My settings of "motion detection alarm", "occlusion alarm", and "video blocking" are correct, but why not?

Because your IPC uses the ONVIF protocol, these functions are currently not supported.

2.I can't find the IPC, what's the matter?

It may be that your IVR or IPC is not correctly connected to the network. Try to use the ping command to check whether the device is correctly connected to the network, and also check whether there is an IP conflict.

3.It takes a long time to produce the image

Different brands and models of IPC will have a different time from storage to the appearance of the image, generally no more than one minute, but there are also very few models that take longer

4.There is no image after saving

It may be that the user name and password are wrong, or it may be that some of the camera guns used have a private protocol which causes compatibility problems. It is recommended to use a web camera gun that supports the company's i8 protocol and the international ONVIF protocol.

5. There is a video prompt for an image, and there is an image after double-clicking, but there is no image in the multi-channel preview

Right-click on that channel, click "Remote Configuration" in the menu that comes out, there is a mode drop-down menu option in the middle, try to adjust the main stream to the sub stream, and then save. If there is still no image in the split-screen preview, then the sub-stream may be adjusted too high, and it is recommended to adjust it below 1m

6.There is an image in the multi-channel preview of an image and it is

normal. When you double-click the single image, the screen is black or the image is stuck, and the video cannot be played back.

Please check whether your IPC is 1080P, if it is, click [Settings] → [Device Parameters] → [Mode] to check whether you have selected the 1080P mode. When 1080P video is connected to 720P channel mode, only sub-stream can be displayed. Please connect the 1080P IPC to the designated channel. Select the correct mode to restart OK.

Wardmay-CCTV