VT-TNR Series
Transcendent Series 4, 8, 16, 32, 64, and 128 Channel 8 MegaPixel H.265 Real Time Network Video Recorders with 4K HDMI Output

For models: VT-TNR414P(2), VT-TNR818P(2), VT-TNR818PF, VT-TNR1646PF, VT-TNR3216PF, VT-TNR6480E1, VT-TNV128E1

FEATURES:

- 4, 8, 16, 32, 64 and 128 Channel Stand-alone Real-time IP Network Video Recorders
- Full 8 Megapixel Real-time recording & playback
- 4K HDMI & VGA Video Outputs
- H.265 / H.264 Video Compression
- Plug and Play & Auto configuration for many leading ONVIF compliant IP Camera models
- Internal PoE Switch VT-TNR414P(2), VT-TNR818P(2), VT-TNR818PF, VT-TNR1646PF, VT-TNR3216PF
- Pentaplex: Live Display / Record / Playback / Backup / Remote Access
- Supports SATA2/SATA3 HDD
- Applications for iOS® & Android®
- Remote Viewing over the Internet via Web Browser or LAN
- Mac OS® Client & CMS Central Management Software Included
- Supports both Dynamic and Static IP Addresses
- Web-based remote configuration
- Control locally via Front Panel Controls (Except VT-TNV128E1), USB Mouse, or with the Included IR Remote control

Notes

• Please read this user manual carefully to ensure correct and safe usage of the device.

• Any technical or production errors in this manual will be updated in newer versions of this manual. The contents of this manual are subject to change without notice.

• This device should be operated only from the type of power source indicated on the marking label. The voltage of the power must be verified before use. Remove the cables from the power source if the device is not to be used for a long period of time.

• Do not install this device near heat sources such as radiators, heat registers, stoves or other devices that produce heat.

• Do not install this device near water. Clean only with a dry cloth.

• Do not block any ventilation openings and ensure proper ventilation around the machine.

• Do not power off the device during normal its recording condition.

• This machine is for indoor use only. Do not expose the machine to rain or a moist environment. In case any solid or liquid get inside the machine's case, please turn off the device immediately and get it checked by a qualified technician.

• Do not try to repair the device by yourself without technical aid or approval.

• When this product is in use, the relevant contents of Microsoft, Apple and Google will be involved. The pictures and screenshots in this manual are only used to explain the usage of the product. The ownerships of trademarks, logos and other intellectual property related to Microsoft, Apple and Google belong to the above-mentioned companies.

• It is recommended to back up and clear the personal data stored in the device before the device is returned to us for repair or replacement except those data that are essential for purposes of repair or replacement. The device will be restored to the default factory settings and all personal data will be cleared after repair or replacement. Our company ensures that the customer's data is not made available to third parties if the device is exchanged.

• This manual is suitable for several models. All examples and pictures used in the manual are from one of the models for reference purpose.

• The local language versions of this manual will be provided to users in the corresponding regions and countries.

Disclaimer

• Regarding products with internet access, the use of the product is done wholly at your own risk. Vitek IVP Inc. is not responsible for abnormal operation, privacy leakage or other damages resulting from cyber attack, hacking, virus inspection, or other internet security risks; however, our company will

VITEK does not take the responsibility for any consequences resulting from illegal or improper operation. and what was accessed. In the event of any conflicts between this manual and the applicable law, the law prevails.

• The storage period of personal data depends on the capacity of the storage devices and all data stored in the device shall be handled by the use. Vitek is not responsible for data loss.

Cybersecurity Recommendations

• Change the default password and use a strong password. At least 8 characters or a combination of characters, numbers, and upper and lower case letters should be used.

• Regularly change the passwords of your devices to ensure that only authorized users can access systems.

• The system will automatically check the latest firmware version once a day. Once the latest version is checked, update it to ensure the system is current with the latest security patches and fixes.

• Change default ports (like HTTP, data port) to reduce the risk of outsiders being able to gain access.

• It is recommended to set the firewall of your router. Note that some important ports cannot be closed (such as 80, 443, 6036).

• If SNMP is not used, we strongly recommend disabling this function.

• In order to enhance the security of WEB client access, please create an SSL certificate to enable HTTPS.

• Use black and white lists to filter IP address. This will prevent access, except by those specified IP addresses.

• If you add multiple users, limit functions of guest accounts.

• If you enable UPnP, it will automatically try to forward ports in your router or modem. It is convenient for users, but this will increase the risk of data leakage when the system automatically forwards ports. Disabling UPnP is recommended when the function is not used in real applications.

• Check the log. If you want to know whether your device has been accessed by unauthorized users, you can check the log. The system log will show you which IP addresses were used to log in your system and what was accessed.

Regulatory Information

FCC Marking

The products have been tested and found in compliance with the council FCC rules and regulations part 15 subpart B. Operation of this product is subject the following two conditions: (1) this device may not cause harmful interface, and (2) this device must accept any interference received, including interference that may cause undesired operation.

CE Marking

The products have been manufactured to comply with the following directives. EMC Directive 2014/30/EU

RoHS Marking

The products have designed and manufactured in accordance with Directive EU RoHS Directive 2011/65/EU and its amendment Directive EU 2015/863 on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

Table of Contents

1   Introduction

1.1   Features

⬇ Basic Functions

● Supports network device access including IP camera/dome and ONVIF IP cameras

● Some NVRs support H.265S/H.265+/ H.265 and H.264S/H.264+/ H.264 IP cameras

● Supports standard ONVIF protocol

● Supports dual stream recording of each camera

● Supports IP cameras to be added quickly or manually

● Supports collective or individual configuration of the cameras' OSD, video parameters, mask, motion etc.

● Supports IPC's multiple smart detection access and linkage, such as scene change, video color cast detection, video blur detection, intrusion detection (region entrance/exiting detection), line crossing counting, abandoned object detection, missing object detection, crowd density detection, face detection, and license plate detection.

● Supports playback and backup

● Supports a maximum of 8 user permission groups including Administrator, Advanced and Ordinary which are the default permission groups of the system

● Supports a maximum of 16 users to be created, multiple web clients login by using one username at the same time and the user's permission control to be enabled or disabled

● Supports a maximum of 10 web clients login at the same time

⬇ Live View

● Supports 4K×2K/1920×1080/1280×1024 HDMI and 1920×1080/1280×1024 VGA high definition synchronous display

● Supports multi-screen modes such as 1/4/6/8/9/13/16/25/36

● Some models support face capture view, face match view, license plate recognition view, human/motor vehicle /non-motor vehicle view

● Supports auto adjustment of the camera's image display proportion

● Supports audio monitoring of the camera to be enabled or disabled

● Supports manual snapshot of the preview camera

● Supports the sequence of the preview cameras to be adjusted

● Supports display mode to be added and saved and the saved modes can be called directly

● Supports quick tool bar operation of the preview window

● Supports camera group view and scheme view in sequence, quick sequence view and dwell time setting

● Supports motion detection and video mask

● Supports multiple popular P.T.Z. control protocol and setup of the preset and cruise

● Supports direct mouse control of the IP dome including rotating, zoom, focusing and so on

● Supports single camera image to be zoomed by sliding the scroll wheel of the mouse

● Supports any area of the image to be zoomed in to a maximum of 16 times of the current size

- Supports image and lens adjustment (only available for some cameras)
- Supports quick camera adding in the camera window of the live preview interface
- The live camera sequence of the web client will keep consistent with that of the NVR after adjusting the live camera sequence of the NVR, but the live camera sequence of the NVR will not be changed if that of the web client is changed

Disk Management

- The NVRs with the 3U case can add a maximum of 16 SATA HDDs; a maximum of 8 SATA HDDs with the 2U case, a maximum of 4 SATA HDDs with the 1.5U case, a maximum of 2 SATA HDDs with the 1U case and a maximum of 1 SATA HDD with the small 1U case
- Each SATA interface of the NVR supports the HDDs with max 10TB storage capacity. Some models may support max 12TB storage capacity per HDD
- Some of the NVRs support recording to be backed up by e-SATA HDD
- Supports disk group configuration and management and each camera can be added into different disk groups with different storage capacity
- Supports disk information and disk working status viewing
- Supports batch formatting of the disks

Record Configuration

- Supports mainstream and sub stream recording at the same time and batch or single configuration of the record stream
- Supports customization and auto record modes
- Supports schedule recording, sensor alarm recording and motion detection recording, etc.
- Supports smart playback by drawing line, quadrilateral and rectangle.
- Supports schedule recording and event recording setting with different record streams
- Supports recording schedule setting and recycle recording
- Supports prerecording and delay recording configuration of the event recording

Record Playback

- Supports time scale operation in quick playback, and playback date and time can be set randomly by scrolling through the time interval of the time scale can be zoomed
- Supports record searching by time slice/time/event/tag
- Supports smart playback by drawing grid, line or quadrilateral and vehicle smart playback (some models also support smart playback by face)
- Supports time view and camera view in searching by time slice mode
- Supports time slice searching by month, by day, by hour and by minute and time slice to be displayed with camera thumbnail
- Supports a maximum of 16 cameras to be searched by time
- Supports event searching by manual/motion/sensor/intelligent events
- Supports tag searching by manually added tags
- Supports instant playback of selected camera in the live preview interface
- Support a maximum of 16 synchronous playback cameras
- Support Fast forward (maximum 32 x normal speed), slow (minimum 1/32 x normal speed) and 30 second addition or reduction to current playing time

♣ Record Backup

- Supports recording to be backed up through USB (U disk, mobile HDD) or e-SATA interface
- Supports recording to be backed up by time/event/image searching
- Supports record cutting for backing up when playing back
- Supports a maximum of 10 backup tasks in background and backup status viewing

♣ Event Management

- Supports alarm schedule setting
- Supports enabling or disabling of the motion detection, external sensor alarm input, combination alarm, intelligence alarm and exception alarms including IP address conflict alarm, disk IO error alarm, disk full alarm, no disk alarm, illegal access alarm, network disconnection alarm, IPC offline alarm and so on, alarm linkage configuration supportable
- Supports IPC offline alarm linkage configuration of PTZ, snap, pop-up video, etc.
- Supports event notification modes of alarm-out, pop-up video, pop-up message box, buzzer, e-mail and so on
- The snapshot images can be attached into the e-mail when alarm linkage is triggered
- Supports alarm status view of alarm-in, alarm-out, motion detection and exception alarm
- Supports alarm to be triggered and cleared manually
- Supports system auto reboot when exception happens
- Supports alarm linkage based on face detection, vehicle detection and license plate recognition
- Some models support face match alarm

♣ Face Function (available for some models)

- Supports adding 5000 face pictures to the face database (some models support adding 10,000 face pictures to the face database)
- Supports face capture and face match
- Supports image search by image, track playback and database management
- Supports face attendance and face check in
- Supports face information statistics
- Supports face match alarm

♣ LPR Function

- Supports 50,000 license plate registration
- Supports license plate detection, match and search
- Supports vehicle information statistics
- Supports license plate match alarm

♣ Network Functions

- Supports TCP/IP and PPPoE, DHCP, DNS, DDNS, UPnP, NTP, SMTP protocol and so on
- Supports black and white list function and the IP address/IP segment/MAC address can be allowed or blocked.
- Supports multiple browsers including IE8/9/10/11, Firefox, Opera, Chrome (available only for the versions lower than 45) and Safari in MAC system
- Supports remote achievement, configuration, import and export of the NVR parameters and other system maintenance operations including remote upgrading and system restart

- Supports remote camera configuration of the NVR including video parameters and image quality.
- Supports remote searching, playback and backup of the NVR
- Supports manual alarm to be triggered and cleared remotely
- An auto-focusing camera can be adjusted through web client (support zoom in/out, but one key focus is not currently supported)
- Supports NVMS or other platform management software to access the NVR and manage it
- Supports NAT function and QRCode scanning by mobile phones and tablets
- Supports mobile surveillance by phones or tablets with iOS or Android OS
- Supports NVR to be accessed remotely through telnet and the telnet function can be enabled or disabled
- If one camera recording is enabled or disabled manually through web client, it will be simultaneously enabled or disabled in the NVR

Other Functions

- The NVR can be controlled and operated by the buttons on the front panel, the remote controller and the mouse
- Setting interfaces can be switched to one another conveniently by clicking the main menus on the top of the setting interfaces
- Supports NVR information viewing including basic, camera status, alarm status, record status, network status, disk and backup status
- Supports factory restoring, import and export of the system configuration, log view and export and local upgrading by USB mobile device
- Supports auto recognition of the display's resolution
- You can click the right mouse button at any interface to go back to the upper interface
- You can click the middle mouse button at any interface to go to the live view interface
- The display language and video format of the NVR will not be changed, and the system logs will be reserved if you reset the NVR to factory default
- Press and hold the right mouse button for 5 seconds in any interface to switch the output to VGA and the NVR will display the video at the lowest resolution which the NVR supports

1.2   Front Panel Descriptions

The following descriptions are for reference only.

Type I:

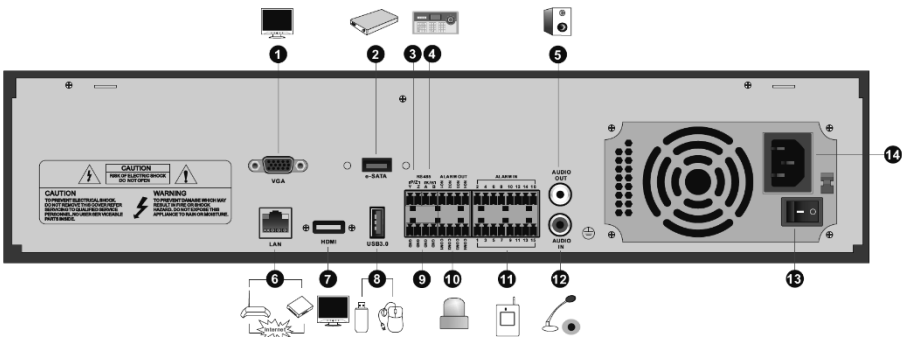| Name	Descriptions
REC	When recording, the light is blue
Net	When accessing a network , the light is blue
Power	Power indicator, when connected, the light is blue
Fn	No function temporarily

Type II:

Name	Descriptions
Power	Power Indicator, when connected, the light is blue
HDD	The light turns blue when reading/writing HDD
Net	The light turns blue when it is able to access the network
Backup	The light turns blue when backing up files and data
Play	The light turns blue when playing video
REC	Power Indicator, when connected, the light is blue
AUDIO /+	1. Adjust audio 2. Increase the value in setup
P.T.Z / -	1. Enter PTZ mode 2. Decrease the value in setup
MENU	Enter Menu in live
INFO	Check the information of the device
BACKUP	Enter backup mode in live
SEARCH	Enter search mode in live
Exit	Exit the current interface
●	Manually record
►‖	Play/Pause
◄◄	Speed down
►►	Speed up
1-9	Input digital number and select camera
0/--	Input number 0, the number above 10
Direction Key	Change direction
Multi-Screen Switch	Change the screen mode
Enter	Confirm selection
USB	To connect external USB device like USB mouse or USB flash

1.3   Rear Panel Descriptions

Here we only use panels for example to introduce their interfaces and connections. The interfaces and locations of the interfaces are only for reference. Please take the real object as the standard.
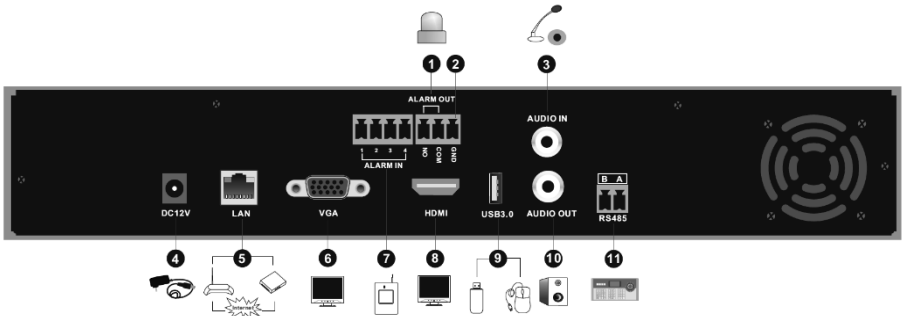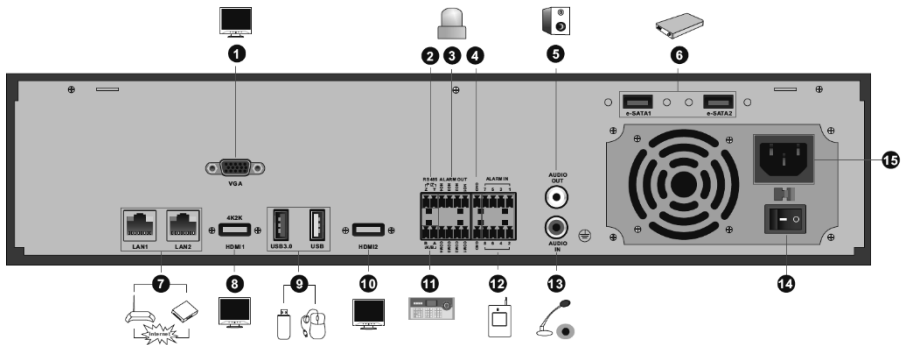

No.	Name	Descriptions
1	ALARM OUT	Relay output; connect to external alarm
2	GND	Grounding
3	AUDIO IN	Audio input; connect to audio input device, like microphone, pickup, etc
4	DC12V	DC12V power input
5	LAN	Network port
6	VGA	Connect to monitor
7	ALARM IN	Alarm inputs for connecting sensors
8	HDMI	Connect to high definition display device
9	USB	Connect USB storage device or USB mouse
10	AUDIO OUT	Audio output; connect to sound box
11	RS485	Connect to keyboard. A is TX+; B is TX-

No.	Name	Descriptions
1	VGA	Connect to monitor
2	e-SATA	Connect to HDD with e-SATA interface

No.	Name	Descriptions
3	RS485 Y/Z interface	Connectors for speed dome. Y is TX+, Z is TX- (This interface of some models is unavailable.)
4	RS485 A/B interface	Connect to a keyboard. A is TX+; B is TX-
5	AUDIO OUT	Audio output; connect to sound box
6	LAN	Network port
7	HDMI	Connect to high definition display device
8	USB	Connect USB storage device or USB mouse
9	GND	Grounding
10	ALARM OUT	Relay output; connect to external alarm
11	ALARM IN	Alarm inputs for connecting sensors
12	AUDIO IN	Audio input; connect to audio input device, like microphone, pickup, etc
13	Power Switch	Press the switch to turn on/off the NVR
14	Power Supply	Power supply interface

No.	Name	Descriptions
1	VGA	Connect to monitor
2	RS485 Y/Z interface	Connect to speed dome. Y is TX+, Z is TX- (This interface of some models is unavailable.)
3	ALARM OUT	Relay output; connect to external alarm
4	GND	Grounding
5	AUDIO OUT	Audio output
6	e-SATA1/ e-SATA2	Connect to HDD with e-SATA interface
7	LAN1/LAN2	Network port
8	HDMI1	Connect to 4K×2K high definition display device
9	USB3.0/USB	USB3.0 and USB 2.0 interface, connect USB storage device or USB mouse
10	HDMI2	Connect to 1920×1080 high definition display device. Connect to monitor as an AUX output channel by channel. Only video display, no menu show
11	RS485 A/B interface	Connect to a keyboard. A is TX+; B is TX-
12	ALARM IN	Alarm inputs for connecting sensors

No.	Name	Descriptions
13	AUDIO IN	Audio input
14	Power Switch	Press the switch to turn on/off the NVR
15	Power Supply	Power supply interface
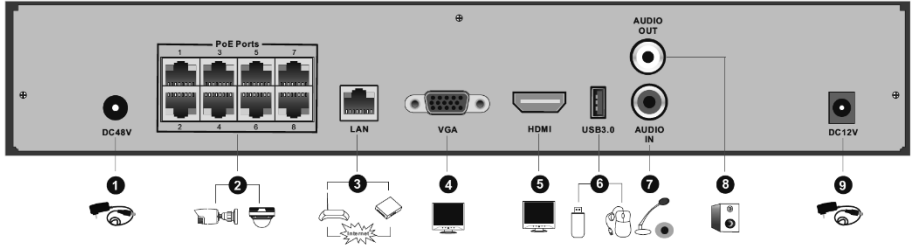
No.	Name	Descriptions
1	Power Supply	DC48V power supply interface
2	PoE port	8 PoE network ports; connect to 8 PoE IP cameras
3	LAN	Network port
4	VGA	Connect to monitor
5	HDMI	Connect to 1920×1080 high definition display device
6	USB3.0	USB3.0 interface, connect USB storage device or USB mouse
7	AUDIO IN	Audio input; connect to audio input device, like microphone, pickup, etc
8	AUDIO OUT	Audio output; connect to sound box
9	Power Supply	DC12V power supply interface
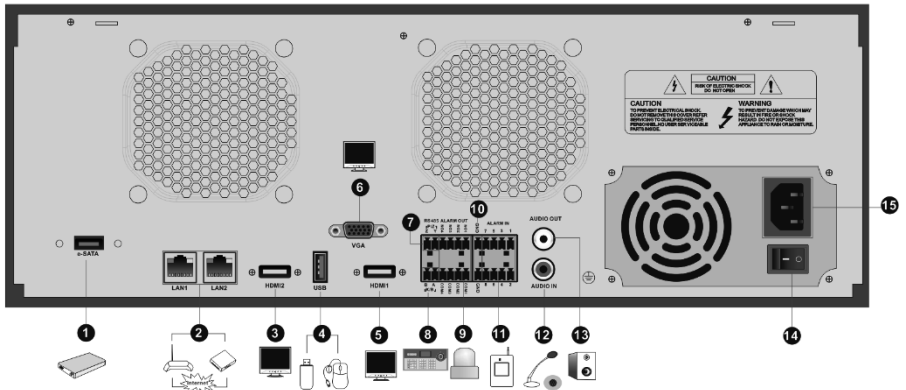
No.	Name	Descriptions
1	e-SATA	Connect to HDD with e-SATA interface

No.	Name	Descriptions
2	LAN1/LAN2	Network port
3	HDMI2	Connect to 1920×1080 high definition display device. Connect to monitor as an AUX output channel by channel. Only video display, no menu show
4	USB	USB interface, connect USB storage device or USB mouse
5	HDMI1	Connect to 4K×2K high definition display device
6	VGA	Connect to monitor
7	RS485 Y/Z interface	Connect to speed dome. Y is TX+, Z is TX- (This interface of some models is unavailable.)
8	RS485 A/B interface	Connect to keyboard. A is TX+; B is TX-
9	ALARM OUT	Relay output; connect to external alarm
10	GND	Grounding
11	ALARM IN	Alarm inputs for connecting sensors
12	AUDIO IN	Audio input; connect to audio input device, like microphone, pickup, etc
13	AUDIO OUT	Audio output; connect to sound box
14	Power Switch	Press the switch to turn on/off the NVR
15	Power Supply	Power supply interface

1.4 Connections

- **Video Connections**

Video Output: Supports VGA/HDMI video output. You can connect to monitor through these video output interfaces simultaneously or independently.

- **Audio Connections**

Audio Input: Connect to microphone, pickup, etc.
Audio Output: Connect to headphone, sound box or other audio output devices.

- **Alarm Connections**

Some models may not support this function. Take 16 CH alarm inputs and 1 CH alarm output for example.
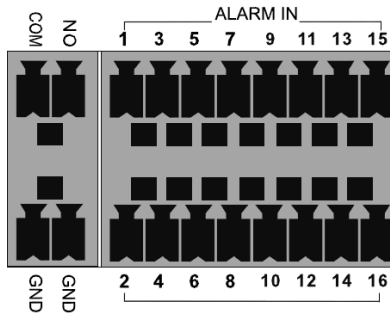
Alarm Input:

Alarm IN 1~16 are 16 CH alarm input interfaces. There are no type requirements for sensors. NO type and NC type are both available.

The way to connect sensor and the device is as shown below:
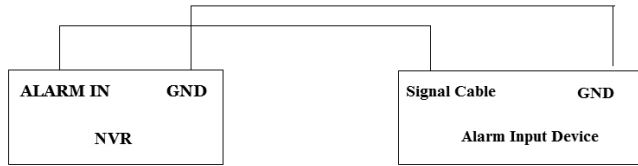
The alarm input is an open/closed relay. If the input is not an open/closed relay, please refer to the following connection diagram:
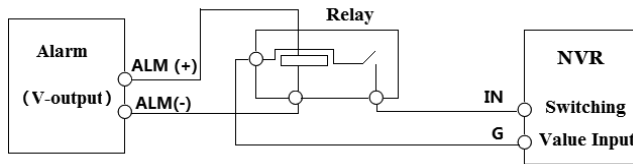
Alarm Output:

To connect alarm output device:

Pull out the green terminal blocks and loosen the screws in the alarm-out port. Then insert the signal wires of the alarm output devices into the port of NO and COM separately. Finally, tighten the screws. Provided that the external alarm output devices need power supply, you can connect the power supply as per the following figures.
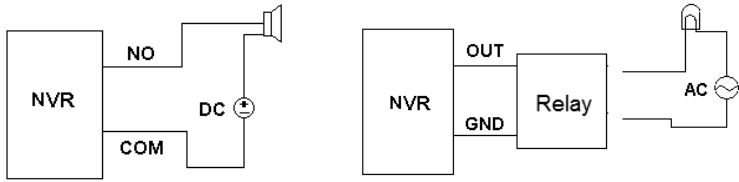
● **RS485 Connection**

There are two types of RS485 interfaces:
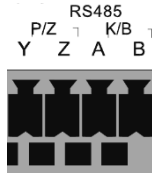
（Type 1）　　　　（Type 2）

Type 1: The P/Z interfaces are unavailable. K/B interfaces are used to connect keyboard.
ype 2: The RS485 interfaces are used to connect keyboard. A is TX+; B is TX-.

2 Basic Operation Guide

2.1 Startup & Shutdown

Please make sure all the connections are done properly before you apply power to the unit. Proper startup and shutdown are crucial to extending the life of your device.

2.1.1 Startup

① Connect the output display device to the VGA/HDMI interface of the NVR.
② Connect the mouse and power. The device will boot-up and the power LED will turn blue.
③ After you read the privacy statement, a WIZARD window will pop up (you should select the display language the first time you use the NVR). Refer to 3.1 Startup Wizard for details.

2.1.2 Shutdown

You can power off the device by using remote controller or mouse.

By remote controller:

① Press the Power button. This will take you to a shutdown window. The unit will power off after clicking the "OK" button.
② Disconnect the power.

By mouse:

① Click Start→Shutdown to pop up the Shutdown window. Select "Shutdown" in the window. The unit will power off after clicking the "OK" button.
② Disconnect the power.

2.2 Remote Controller

① Uses two AAA size batteries.
② Open the battery cover of the remote controller.
③ Place batteries. Please observe the polarity (+ and -).
④ Replace the battery cover.

Key points to check in case the remote doesn't work.
1. Check batteries polarity.
2. Check the remaining charge in the batteries.
3. Check IR controller sensor for any masking.

If it still doesn't work, please change to a new remote controller, or contact your dealer. You can turn the IR sensor of the remote controller toward the IR receiver of the NVR to control it when you are controlling multiple devices by remote controller.
There are two kinds of remote controller. The interface of remote controller is shown as below.

Button	Function
⏻ Power Button	Switch off—to stop the device
Record Button	To start recording
-/-- /0-9	Input number or choose camera
Fn1 Button	Unavailable
Multi Button	To choose multi screen display mode
Next Button	To switch the live image
SEQ	To go to sequence view mode
Audio	To enable audio output in live mode
Switch	No function temporarily
Direction button	To move cursor in setup or pan/title PTZ
Enter Button	To confirm the choice or setup
Menu Button	To go to menu
Exit Button	To exit the current interface
Focus/IRIS/Zoom/PTZ	To control PTZ camera
Preset Button	To enter into preset setting in PTZ mode
Cruise Button	To go to cruise setting in PTZ mode
Track Button	No track function temporarily
Wiper Button	No function temporarily
Light Button	No function temporarily
Clear Button	No function temporarily
Fn2 Button	No function temporarily
Info Button	Get information about the device
⏸▶ ⏹ ⏮ ⏭ ⏪ ⏩	To control playback. Play(Pause)/Stop/Previous Frame/Next Frame/Speed Down/Speed Up
Snap Button	To take snapshots manually
Search Button	To go to search mode
Cut Button	No function temporarily
Backup Button	To go to backup mode
Zoom Button	To zoom in the images
PIP Button	No function temporarily

Note:
Press P.T.Z. button to enter PTZ setting mode, choose a channel and press P.T.Z. button again to hide the P.T.Z. control panel. You can press preset, cruise, track, wiper or light button to enable the relevant function.

Button	Function
REC	Record manually
Search	To enter search mode
MEUN	To enter menu
Exit	To exit the current interface
ENTER	To confirm the choice or setup
Direction button	To move cursor in setup
ZOOM	To zoom in
PIP	No function temporarily
▶❙ ▶▶❙ ▶▶ ■ ❙◀◀ ◀◀	To control playback. Play(Pause)/Next Frame/Speed Up/Stop/Previous Frame/Speed Down
Multi	To choose multi screen display mode
Next	To switch the live image
SEQ	To go to sequence view mode
INFO	Get information about the device

2.3 Mouse Control

➢ **Mouse control in Live Display & Playback interface**

In the live display & playback interface, double click on any camera window to show the window in single screen mode; double click the window again to restore it to the previous size.

In the live display & playback interface, if the interfaces display in full screen, move the mouse to the bottom of the interface to pop up a tool bar. The tool bar will disappear automatically after you move the mouse away from it, move the mouse to the right side of the interface to pop up a panel and the panel will disappear automatically after you move the mouse away from it.

➢ **Mouse control in text-input**

Move the mouse to the text-input box and then click the box. The input keyboard will pop up automatically.

Note: Mouse is the default tool for all operations unless an exception as indicated.

2.4 Text-input Instruction
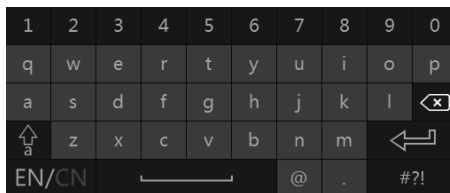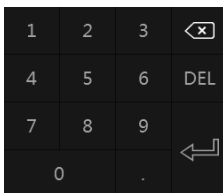
The system includes two input boxes. Refer to the above pictures. The left box is the number input box and the right box is the input box which provides inputs of numbers, letters and punctuation characters. The introductions of keys on the input boxes are shown below.

Button	Meaning	Button	Meaning
⌫	Backspace key	#?!	Switch key of punctuation character
DEL	Delete Key	↵	Enter key
⇧	Switch key between upper and lower letter	⎵	Space key
EN/CN	Switch key of language		

2.5 Common Button Operation

Button	Meaning
∨	Click it to show the menu list.
↓ ↑	Click it to change the sequence of the list.
🖼 ▦ ▤ ▤	Click it to change the camera displaying mode.
✕	Click it to close the current interface.
Earliest	Click it to go to the earliest date of camera recording.
Latest	Click it to go to the latest date of camera recording.

3 Wizard & Main Interface

3.1 Startup Wizard

The disk icons will be shown on the top of the startup interface. You can view the number and status of each disk quickly and conveniently through these icons (⬤: no disk; ⬤: unavailable disk; ⬤: RW available disk).

You can quickly configure the DVR by the wizard setup to make the DVR work normally. You must configure the wizard if you start the DVR for the first time (or click "Skip" to cancel the wizard next time). Different versions have different wizard steps. The following wizard steps are for reference only.

① Choose the language and locality as needed if it is the first time you use the wizard and then read the privacy statement, checkmark "I have read and agree" and click "OK".

② *Date and Time Configuration*. The date and time of the system needs to be set up if you use the wizard for the first time. Refer to the following figure. Set the time zone, system time, date format, time format and video format. The DST will be enabled by default if the time zone selected includes DST. Click "Next" to continue.

③ *System Login*. Set your own password or use the default when you use the wizard for the first time (the default username of the system is *admin* and the default password of admin is *123456*); select the login username and enter the corresponding password next time.
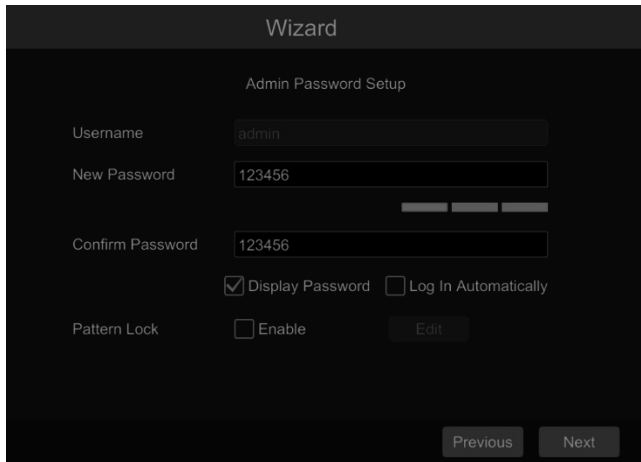
Enable pattern lock and click "Edit" to set the pattern lock.
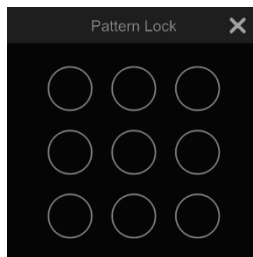
Click "Next" to set questions and answers for password security of admin. If you forget the password, please refer to Q4 in <u>Appendix A FAQ</u> for details.
Click "Next" to continue.

④ **Disk Settings.** You can view the disk number, disk capacity of the NVR and serial number, R&W status of the disk. Click "Format" to format the disk. Click "Next" to continue. Then click "Wizard Setup".
⑤ **Network Settings**. Check "Obtain an IP address automatically" and "Obtain DNS automatically" to get the IP address and DNS automatically (the DHCP function of the router in the same LAN should also be enabled), or manually enter them. Enter the HTTP port, RTSP port and Server port (please see <u>13.1.2 Port Configuration</u> for details). Click "Next" to continue.
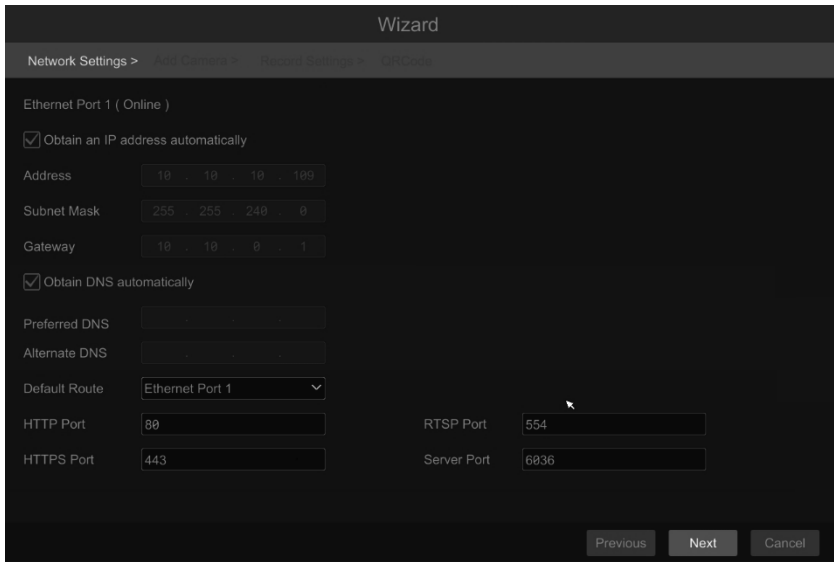
Note:

➢ If you use the NVR with the PoE network ports, the online state of the internal Ethernet port will be shown on the interface. Refer to the picture below. Please refer to <u>13.1.1 TCP/IP Configuration</u> for detail introduction of the internal Ethernet port.
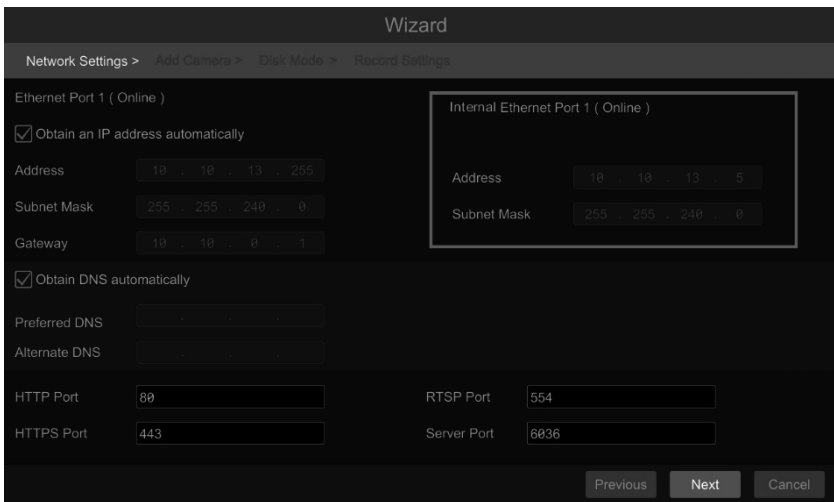
➢ If the NVR has two network ports or above, you can select the network work pattern as required. Network Fault Tolerance and Multiple Address Setting are available. Refer to the pictures below. Please refer to <u>13.1.1 TCP/IP Configuration</u> for more detailed information.

⑥ **Add Camera**. Click "Refresh" to refresh the list of online IP cameras which are in the same local network with NVR and then click ![plus] to add the searched camera. Click "Add All" to add all the cameras in the list. Click ![delete] to delete the added camera. Click "Delete All" to delete all the added cameras.
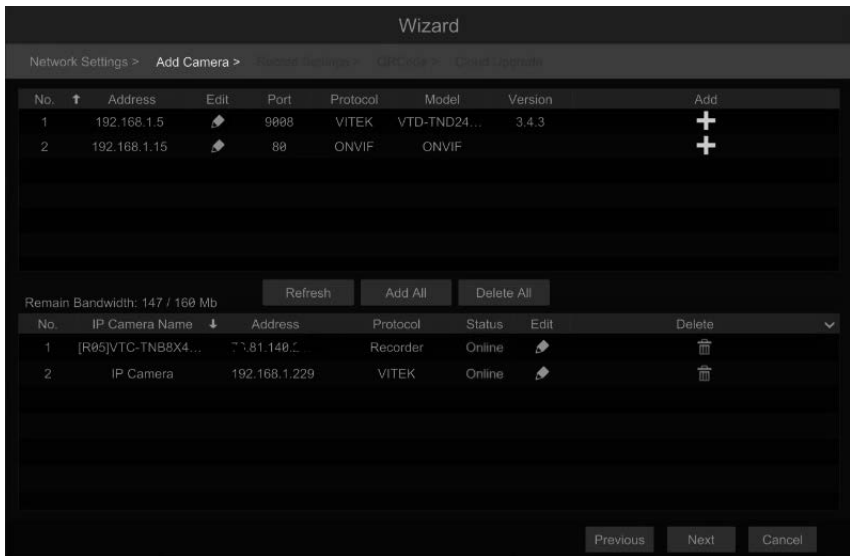
Click ![edit icon] to edit the searched IP camera as shown on the below left. Enter the new IP address, subnet mask, gateway, username and the password of the camera. Click "OK" to save the settings.
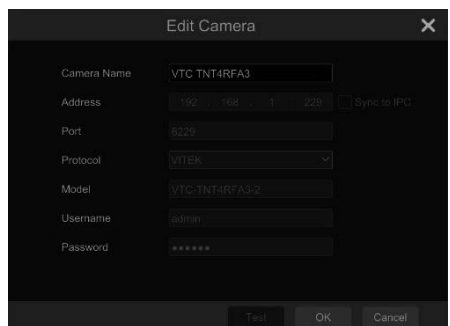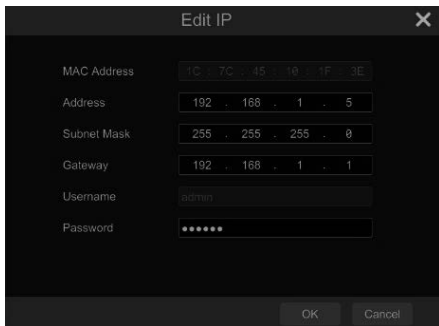
Click ![edit icon] to edit the added camera as shown on the above right. Enter the new camera name, IP address, port, username and the password of the camera. You can check "Sync to IPC" to modify the IP address of the IPC via different network segments for being in the same network segment with the NVR. Then click "Test" to test the connection. Click "OK" to save the settings. You can change the IP camera name only when the added camera is online. Click "Next" to continue.

Tips：Please skip Step ⑦ and ⑧ if the NVR does not support RAID function.

⑦ **Disk Mode.** Click "Enable RAID" to enable the RAID function. Click "Next" to continue.

⑧ **Create an array.** Set the array name and select array type which including RAID0, RAID1, RAID5, RAID6 and RAID10. The global hot spares and array capacity can also be viewed here.

See 7.4 Disk for details. Click "Next" to continue.

⑨ **Record Settings**. Two record modes are available: auto and customization.
Auto: Select one auto mode in the interface as shown below and then click the "Next" to save the settings. Click "Advanced" to self-define record mode. See 7.1.1 Mode Configuration for details.
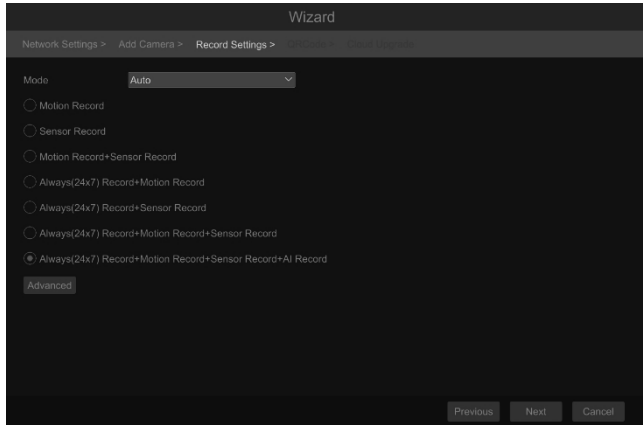
Customization: Set the "Sensor Record", "Motion Record", "AI Record", "POS Record" and "Schedule Record" of each camera. Click "OK" to save the settings. See 7.1.1 Mode Configuration for details.
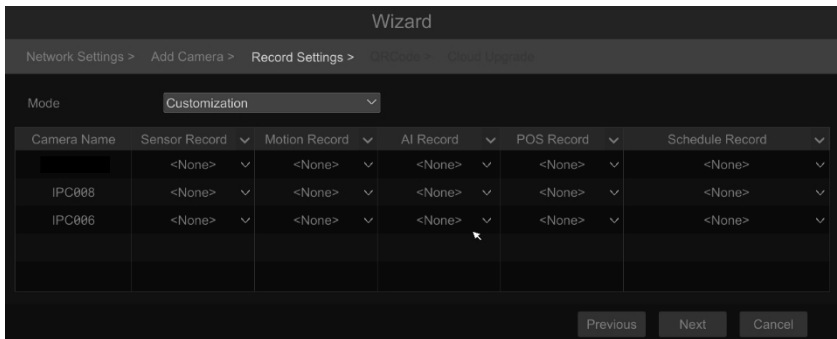
⑩ **QRCode.** Enable the NAT or NAT2.0 function in the interface or set it in the network configuration after exiting the wizard (please refer to 13.1.8 NAT Configuration for details). You can scan the QRCode through the mobile client which is installed in the mobile phone or tablet to log into the mobile client. Please refer to 14.1 Mobile Client Surveillance for details. Click "OK" to save the settings.

⑪ **Cloud Upgrade.** Enable "Cloud Upgrade" and then click "OK" to save. If this function is enabled, you can get the latest version from the cloud server. Please refer to 13.1.12 Cloud

<u>Upgrade</u> for details.
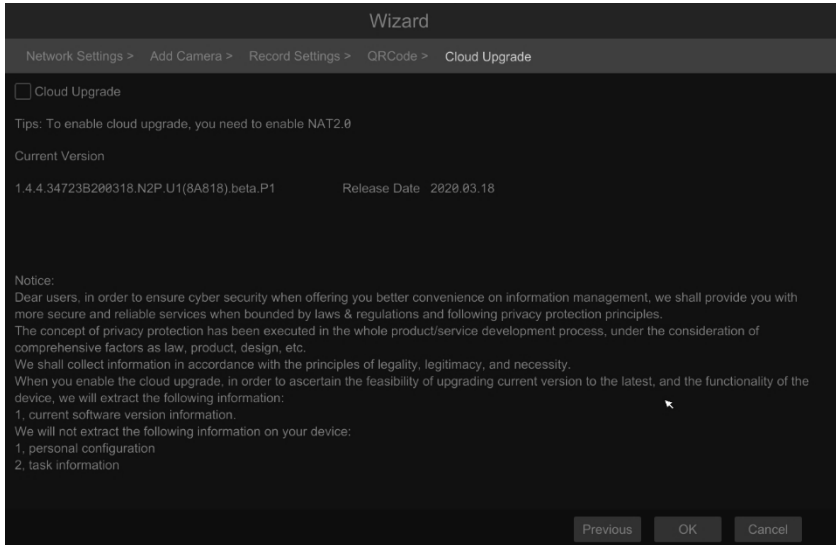
3.2   Main Interface

3.2.1   Main Interface Introduction
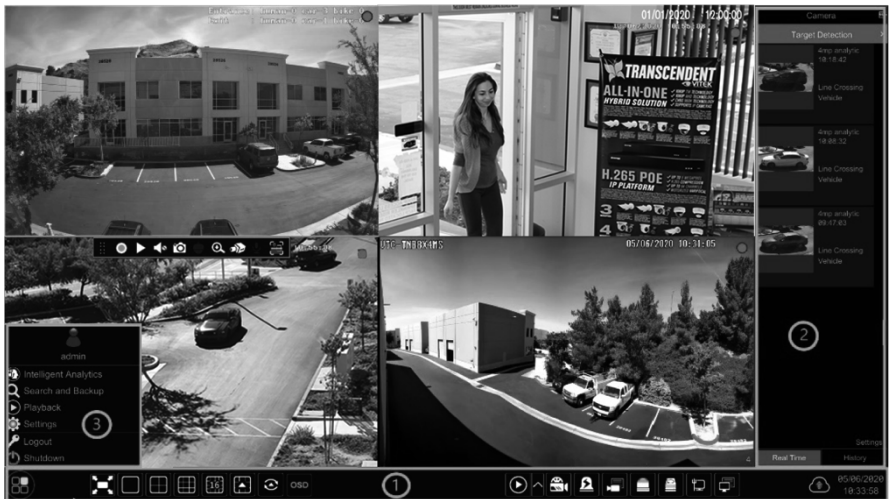
The buttons in area ① are introduced in the table below.

Button	Meaning
88	Start button. Click it to pop up area ③.
⤢	Full screen button. Click it to show full screen; click it again to exit the full screen.
▢ ⊞ ⊞ 16 ⛶	Screen mode button.
⟳	Dwell button (see <u>5.2.2 Quick Sequence View</u> and <u>5.2.4 Scheme View In Sequence</u> for details).
OSD	Click it to enable OSD; click again to disable OSD.
▶|∧	Click ∧ to set the default playback time before starting instant playback (<u>8.1 Instant Playback</u>) or going to the playback interface for playback operations (<u>8.2 Playback Interface Introduction</u>); click ▶ to go to the playback interface. For instance, if you choose "5 minutes ago" as the default playback time, you can playback the record from the past five minutes.
📹	Manual record button. Click it to enable/disable record.
🔔	Manual alarm button. Click it to trigger or clear the alarm-out manually in the popup window.
▤	Record status button. Click it to view the record status.
▣	Alarm status button. Click it to view the alarm status.
▣ 🔲	Disk status button. Click it to view the disk status and RAID status.
🖥 ⛁	Network status button. Click it to view the network status.
▣	Information button. Click it to view system information.
☁	Click this button to enable cloud upgrade.

Note: Different models may have different buttons on the live view interface. See the following picture. All pictures in this manual are for reference only; the real product takes precedent.
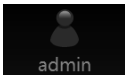
Introduction of area ②:

Area ② is hidden by default. Move the cursor to the right to reveal this area. Click "Camera" to view all the added cameras in the camera list. Select one camera window on the left side of the interface and then double click one camera in the list to preview the camera image in the selected window.

Click [icon] on the top right corner and then select "Single Channel Sequences" to view all the added groups in the group list; click one group in the list to view all the added cameras in the group (refer to 4.2 Add/Edit Camera Group for detail configuration of the camera group). Select one camera window on the left side of the interface and then double click one group in the group list to preview the cameras' images one by one in the selected window.

Click [icon] on the top right corner and then select "Customize Display Modes" to view all the display modes in the display mode list (refer to 5.2.1 Preview By Display Mode for detail configuration of the display mode). Double click one display mode in the list to switch to the display mode for previewing.

Click [icon] on the top right corner and then select "Target Detection" to go to target detection interface. This tab will show the captured human, vehicles, license plates and face images. (This function is only available for some models).

Introduction of area ③:

Icon / Button	Meaning
[admin icon] admin	Shows the current login user.

| Icon / Button	Meaning
Intelligent Analytics	Click to go to the intelligent analytics interface.
Search and Backup	Click to go to record search and backup interface, see 8.4 Record Search, Playback & Backup for details.
Playback	Click to go to playback interface (click ∧ on the tool bar at the bottom of the live preview interface to set the default playback time), see 8.2 Playback Interface Introduction for details.
Settings	Click to enter the setup panel, see 3.2.2 Setup Panel for details.
Logout	Click to log out the system.
Shutdown	Click and then select "Logout", "Reboot" or "Shutdown" in the popup window.

3.2.2 Setup Panel

Click Start→Settings to bring up the setup panel as shown below.
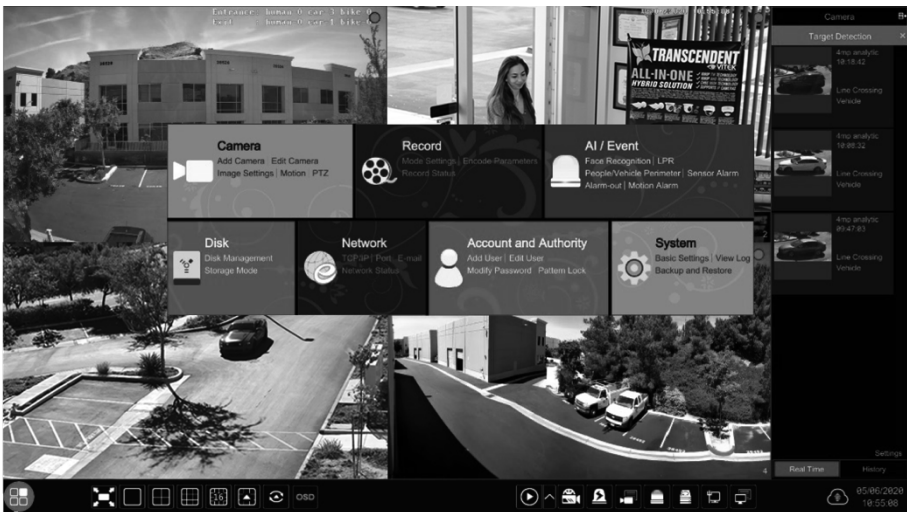
The setup panel includes seven modules. Each module provides some function entries with links for convenient operation.

Take *Camera* module as an example. The *Camera* module provides convenient links such as "Add Camera", "Edit Camera", "Image Settings", "Motion" and "PTZ". Click *Camera* to go to the camera management interface as shown below.
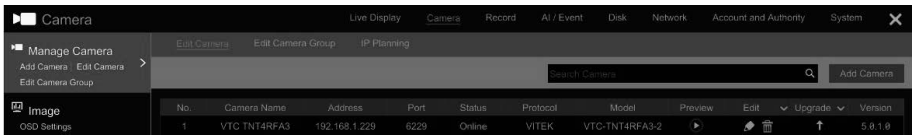
There are some function items on the left side of the camera management interface. Click each item to go to corresponding interface or window. For instance, click "Add Camera" to pop up the window as shown below.
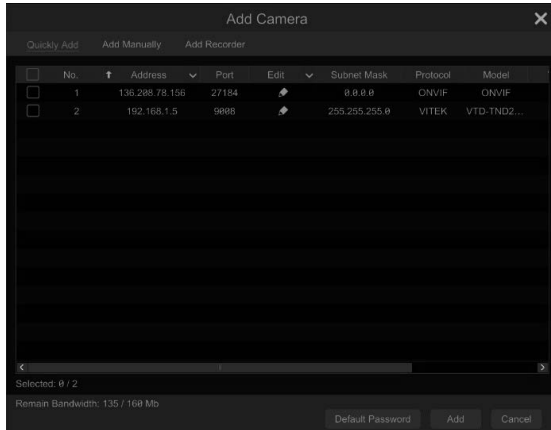
Click the main menus on the top of the camera management interface to go to corresponding interfaces. Refer to the picture below. For instance, you can go to system setup interface by clicking "System" tag.

3.2.3 Main Functions

➢ **Camera**

This module covers the functions such as ***Camera Management*** (see <u>Chapter 4 Camera Management</u> for details), ***Image Settings*** (see <u>5.4 Preview Image Configuration</u> for details), ***Motion*** (see <u>11.2 Motion Alarm</u> for details), and ***PTZ*** (see <u>Chapter 6 PTZ</u> for details) and so on.

➢ **Record**

This module covers the functions such as ***Encode Parameters*** and ***Record Schedule***. Please see <u>Chapter 7 Record & Disk Management</u> for details.

➢ **AI/Event**

This module covers the functions ***Smart Event, Combination Alarm, Exception, Sensor and***

Motion Alarm Handling and *Alarm Out Settings*. Please see Chapter 9 AI Event Management and Chapter 11 General Event Management for details.

➢ **Disk**

This module covers *Disk Management*, *Storage Mode* and *Disk Information*. Please see Chapter 7 Record & Disk Management for details.

➢ **Network**

This module covers the functions *TCP/IP*, *DDNS*, *Port*, *E-mail* and *Network Status*. Please see 13.1 Network Configuration for details.

➢ **Account and Authority**

This module covers the functions *Account Management* (see 12.1 Account Management for details) and *Permission Management* (see 12.3 Permission Management for details).

➢ **System**

This module covers *Basic Configuration* (see 13.2 Basic Configuration for details), *Device Information* (see 13.8 View System Information for details), *Log Information* (see 13.7 View Log for details) and *Configuration File Import&Export* (see 13.5 Backup and Restore for details)
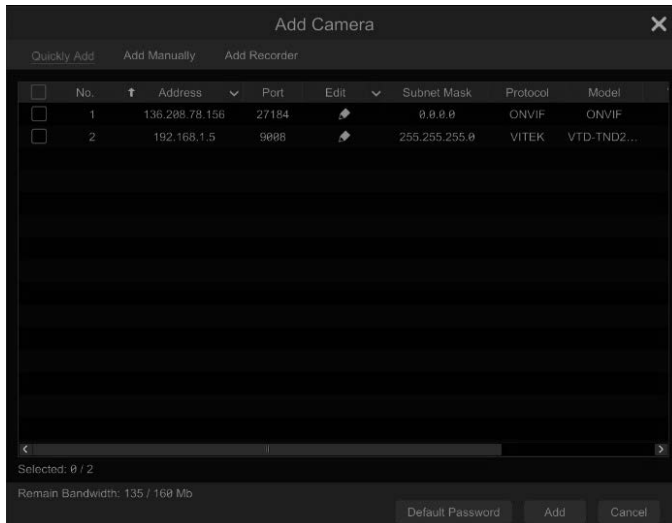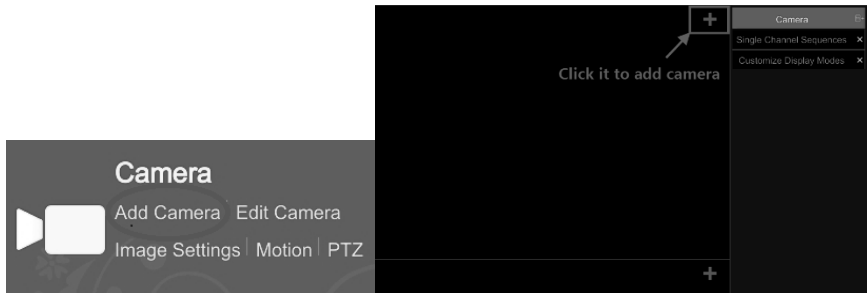
# 4 Camera Management

4.1 Add/Edit Camera

4.1.1 Add Camera

The network of the NVR should be set before adding IP camera (see 13.1.1 TCP/IP Configuration for details).

Refer to the pictures below. Click *Add Camera* in the setup panel or [+] in the top right corner of the preview window to pop up the "Add Camera" window as shown below. You can quickly add or add the IP camera manually.

> ➢ **Quickly Add**

Check the cameras and then click "Add" to add cameras. Click [✎] to edit the camera's IP address, username and password. Click "Default Password" to set the default username and password of each camera.
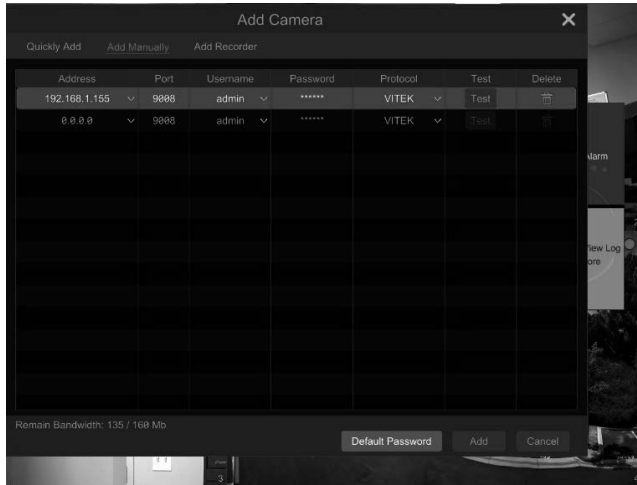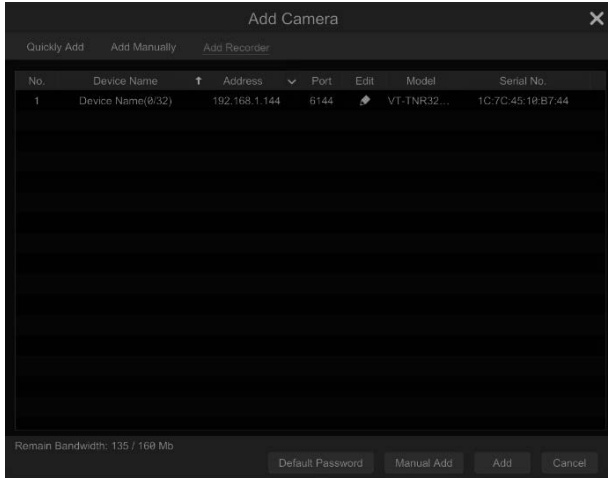
> **Add Manually**

Enter the IP address or domain name (click [icon] in the IP address column to pop up the domain name input window, enter the domain name of the IPC in the window and then click "OK"), port, username and password of the camera and then select the protocol. Click "Test" and then click the "Add" button (you can input camera's information or above such as IP address, username and password before clicking the "Add" button). Click [icon] to delete the camera. Click "Default Password" to set the default username and password of each camera.

Note: Some models may not support this function.
Click Start→Settings→System→Basic→General Settings to check "Enable Add IPC by Zero Operation". If the NVR has unoccupied channels, it can add IPC without any operation by restarting.

➢ **Add Recorder**

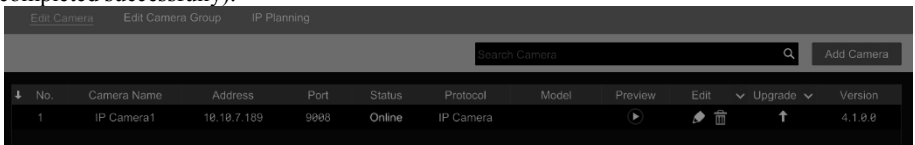
● Quickly Add：Select the searched NVR/DVR and then click "Add" to add NVR in the same local network.

● Manually Add：Click "Manual Add" and then enter the IP address or domain name, port, username and password of the NVR/DVR. Check the added remote channel number and click "Test". Then click "OK" to return to the previous interface.
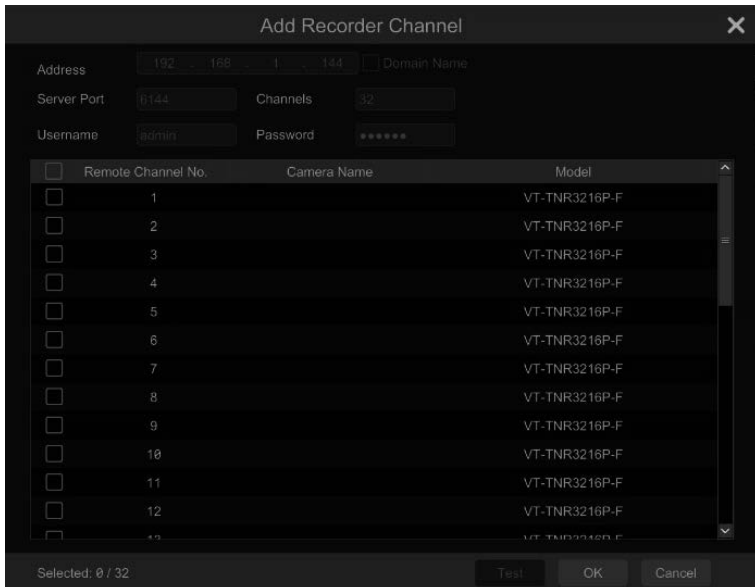
Note: Only the local NVR has unoccupied channels, may the IPC of other NVR/DVR in the same local network be added. And the added IPC supports previewing and recording.
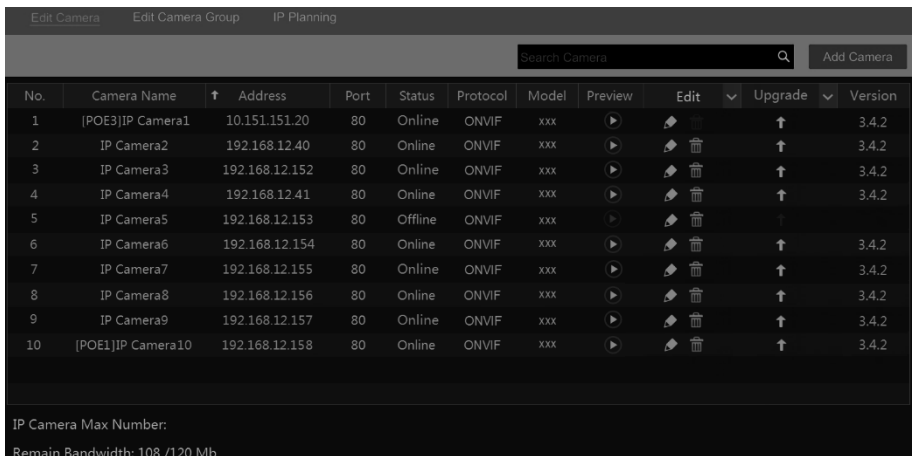
4.1.2 Edit Camera

Click "Edit Camera" in the setup panel to go to the interface as shown below. Click ▶ to view the live image of the camera in a pop-up window. Click ✎ to edit the camera (see ***Add camera*** in 3.1 Startup Wizard for details). Click 🗑 to delete the camera. Click ⌄ in the "Operation" header line and then click "Modify IPC Password" to pop-up a window(check the IPCs in the window, set the new password and then click "OK"; only the online IPCs' passwords can be modified and a batch of IPCs' passwords can be modified at the same time). Click ⬆ to upgrade an online IPC (or click ⌄ in the "Upgrade" header line and then click "IPC Batch Upgrade" to upgrade a batch of IPCs), select the device which stores the upgrade file in the "Device Name" item of the pop-up window and the upgrade file in the list(you should select the upgrade IPC model in the window if a batch of IPCs' passwords need to be modified) and then click "Upgrade" to start upgrading(the IPC will restart automatically after the upgrade is completed successfully).

No.	Camera Name	Address	Port	Status	Protocol	Model	Preview	Edit	⌄ Upgrade ⌄	Version
1	IP Camera1	10.10.7.189	9008	Online	IP Camera		▶	✎ 🗑	⬆	4.1.0.0

Note:

If you use the NVR with the PoE network ports, the IP cameras (with PoE function) which are directly connected to the PoE port of the NVR will be displayed automatically in the camera list. Refer to the picture below. The IP camera which occupies the PoE resource has a prefix shown before its camera name. The prefix consists of PoE port number. The IP camera which connects to the PoE port cannot be deleted from the camera list manually.

No.	Camera Name	↑ Address	Port	Status	Protocol	Model	Preview	Edit	⌄ Upgrade ⌄	Version
1	[POE3]IP Camera1	10.151.151.20	80	Online	ONVIF	xxx	▶	✎	⬆	3.4.2
2	IP Camera2	192.168.12.40	80	Online	ONVIF	xxx	▶	✎ 🗑	⬆	3.4.2
3	IP Camera3	192.168.12.152	80	Online	ONVIF	xxx	▶	✎ 🗑	⬆	3.4.2
4	IP Camera4	192.168.12.41	80	Online	ONVIF	xxx	▶	✎ 🗑	⬆	3.4.2
5	IP Camera5	192.168.12.153	80	Offline	ONVIF	xxx	▶	✎ 🗑	⬆	
6	IP Camera6	192.168.12.154	80	Online	ONVIF	xxx	▶	✎ 🗑	⬆	3.4.2
7	IP Camera7	192.168.12.155	80	Online	ONVIF	xxx	▶	✎ 🗑	⬆	3.4.2
8	IP Camera8	192.168.12.156	80	Online	ONVIF	xxx	▶	✎ 🗑	⬆	3.4.2
9	IP Camera9	192.168.12.157	80	Online	ONVIF	xxx	▶	✎ 🗑	⬆	3.4.2
10	[POE1]IP Camera10	192.168.12.158	80	Online	ONVIF	xxx	▶	✎ 🗑	⬆	3.4.2

IP Camera Max Number:

Remain Bandwidth: 108 /120 Mb

● The IP camera directly connected to the PoE port of the NVR through private protocol will be shown automatically in the camera list.

● One of the two conditions must be met if the IP camera which is directly connected to the PoE port of the NVR through ONVIF protocol should be shown automatically in the camera list.

✓ The IP camera which is directly connected to the PoE port is in the same network segment with the internal Ethernet port.

✓ The DHCP (obtain an IP address automatically) of the IP camera which is directly connected to the PoE port is enabled.

If the IP camera which is connected to the PoE port cannot be displayed automatically in the camera list, please refer to Q6 in Appendix A FAQ for details.

4.2 Add/Edit Camera Group

4.2.1 Add Camera Group

Click "Edit Camera Group" in the above interface to go to the interface as shown below.

Click "Add Group" to pop-up the window as shown below. Set the group name and dwell time (the dwell time of the camera group sequence view) in the window. Check the cameras and then click "Add" to add group. Click [image] to view the cameras in the group after adding group.

4.2.2   Edit Camera Group
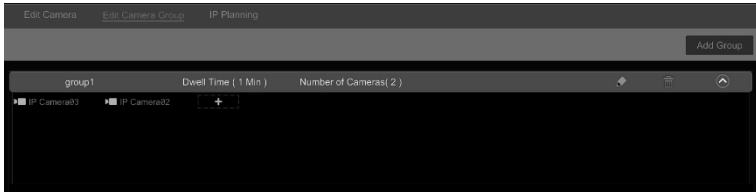
Click ![icon] to modify the group information such as group name and dwell time. Click ![icon] to delete the group. Click ![icon] to add cameras to the group.

4.2.3 IP Planning

Some models may not support this function.

Click "IP Planning" to go to the interface as shown below. This function supports searching other NVRs/DVRs that is in the same local network as the local NVR. The user may add the IPC of other NVRs/DVRs into the unoccupied channels of the local NVR.
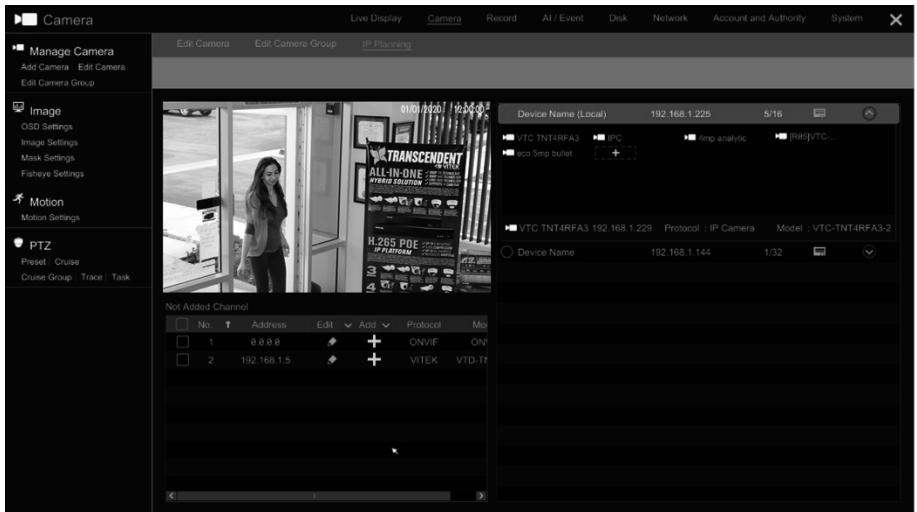

Click ![icon] to edit the IP address, user name or password and other information of the NVRs.

Click ![icon] behind the "Add" button to add the IPC selected and the user may edit the IP address, user name or password by clicking ![icon] behind the "Edit" button.

5   Live View Introduction

5.1   Live View Interface Introduction

First, you should add a camera after logging on to the system (see <u>4.1.1 Add Camera</u> for details). Refer to the interface shown below, drag one camera in the preview window to another window for camera window exchanging. Click OSD button and then you can view the record symbols. The record symbols with different colors in the live preview window refer to different record types when recording: green stands for manual record, red stands for sensor based record, yellow stands for motion based record, blue stands for schedule record and cyan stands for intelligence record.
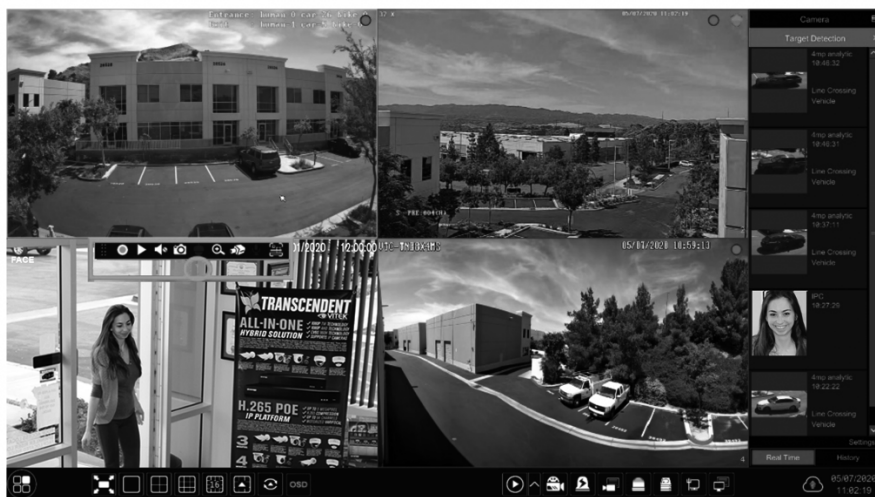
Click the preview window to show the tool bar as shown in area ①; right click the preview window to show the menu list. The tool bar and menu list are introduced in the table below.

Button	Menu List	Meaning
⣿	--	Move tool. Click it to move the tool bar anywhere.
⏺	**Manually Record On**	Click it to start recording.
▶	**Instant Playback**	Click ▶ to playback the recording; click "Instant Playback" to select or self-define the instant playback time. See <u>8.1 Instant Playback</u> for details.
◀♦	**Enable Audio**	Click to enable audio. You can listen to the camera audio by enabling audio.
--	**Original Proportions/ Overspread window**	Click to select the display proportion of the window.

Button	Menu List	Meaning
📷	**Snapshot**	Click to pop-up the snapshot window. Click "Save" in the window to save the image. Click "Export" to export the image.
⬜	**PTZ Control**	Click to go to PTZ control interface. See <u>Chapter 6 PTZ</u> for details.
🔍	**Zoom In**	Click to go to single channel Zoom interface.
🐟	--	Click to go to image adjustment interface. Refer to <u>5.4.5 Image Adjustment</u> for details.
🎤	**Start/Close Talk**	Click to start talk.
🎯	**Target detection**	Click to go to single channel target detection interface; the target includes faces, human bodies and vehicles. (**only applicable to some models**)
--	**Camera Info**	Click it to view the camera information.

The single channel Zoom interface is as shown below. Press and drag the blue box to select the zoom area. Click 🔍 / 🔍 to zoom into / out of the image. Click the camera selection box to select other cameras for Zooming. Click "Back" to return to the live preview interface.

5.2 View Mode

5.2.1 Preview By Display Mode

Set different screen modes and cameras' display sequences as required and then save the display modes classified by surveillance areas, priorities etc. Refer to the picture below. Double click one display mode in the display mode list to view the live images in this mode.

> ➢ **Add Display Mode**

Method One:

① Click "Customize Display Modes" in the above interface

② Click ⊕ to add a display mode name and then set the screen mode.

③ Add the cameras and adjust the cameras' display sequence as required.

④ Click ▣ under the display mode list.

Method Two:

① Click Start→Settings→System→Basic→Output Settings to go to the interface and then set the screen mode.

② Double click the camera or camera group in the list to add them to the selected window.

③ Click ⭐ to save the current display mode (refer to 5.2.4 Scheme View In Sequence for detail configurations). The display mode will be saved and displayed in the display mode list in the live preview interface.

> ➢ **Edit Display Mode**

Click "Customize Display Modes" tab in the live preview interface and then select one display mode in the list. Click 🖿 to edit the display mode name; click 🗑 to delete the display mode.

> ➢ **Corridor Pattern**

Some models may not support this function.

Select corridor pattern in display mode. You can change the direction of the video image by using this function. Please refer to User Manual of relevant camera.

> ➤ **Fisheye Mode**

Some models may not support this function.
In the live preview, select the view mode according to the installation mode and display mode of the fisheye camera. Please refer to User Manual of relevant camera.
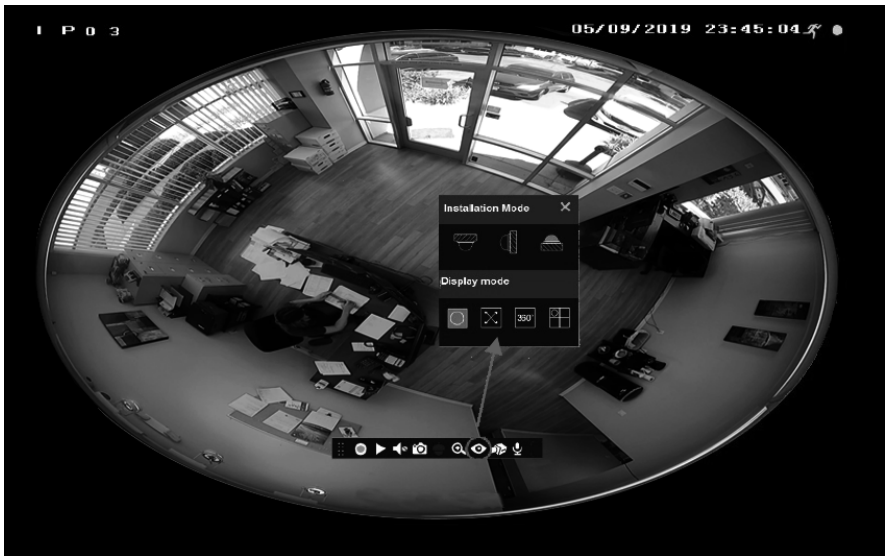
5.2.2 Quick Sequence View

You can start quick sequence view if the scheme has not been created. If the scheme has been created, please refer to 5.2.4 Scheme View in Sequence for details.

Go to the live preview interface and then click to pop up a little window. Set the dwell time in the window and then click to view the live group by group according to the camera number of the current screen mode. Double click the sequence view interface to pause the view; double click again to restore the view. Click to stop the view.

5.2.3 Camera Group View In Sequence

You can start camera group view in sequence if camera group has been created (see 4.2.1 Add Camera Group for details).

① Go to the live preview interface and then select a camera window.

② Double click one camera group on the right side of the interface. The cameras in the group will start camera group view one by one in the selected camera window.

You can also drag the group directly to any preview window. Right click on the group view window and then click "Close Dwell" to stop the view.

Click ⊕ to add camera group. Select a group and click ✎ to modify the group name and dwell time; Select a group and click 🗑 to delete the group.

5.2.4 Scheme View In Sequence

Click Start→Settings→System→Basic→Output Settings to go to the interface as shown below. Area ① displays all the dwell schemes; area ② shows the detailed information of the scheme; area ③ displays all the cameras and groups; area ④ is the tool bar (🗑: clear button;⭐: favorite button, click it to pop-up a window, enter the display mode name in the window and then click "OK" to save the current display mode; other buttons are screen mode buttons).
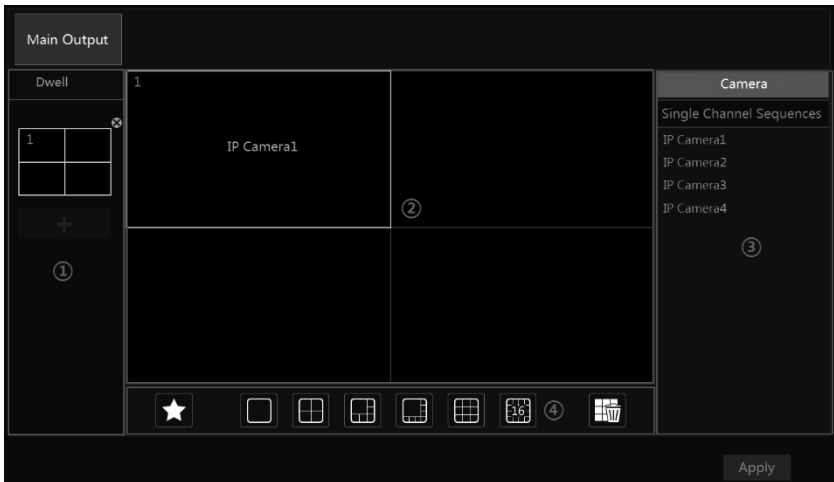
> **Add Scheme**

Click ➕ in area ① to create a new scheme. Click ✖ on the top right corner of the scheme to delete it.

> **Configure Scheme**

a) Select a scheme in area ① and then click the screen mode button on the tool bar to set the screen mode of the scheme.

b) Select a camera window in area ② and then double click the camera or group in area ③. The camera or group will be added into the selected window. One camera in the same scheme cannot repeat. You can click the right-click menu "Clear" in area ② to remove a single camera or click 🗑 to remove all the cameras.

c) Click "Apply" to save the settings.

➢ **Start Sequence View**

Go to live preview interface and then click 🔘 to pop up a window. Set the dwell time in the window and then click 🔘 to start scheme view in sequence. Double click the sequence view interface to pause the view; double click again to restore the view. Click 🔘 to stop the view.

Note:
You can set the secondary output preview if the NVR has dual outputs. Refer to the interface as shown below.
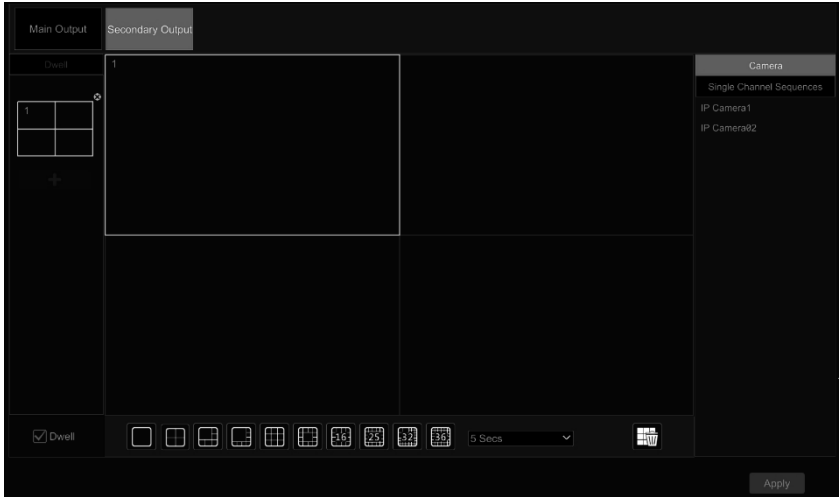
Check "Dwell" and then set scheme view in sequence of the secondary output. The setting steps are similar to that of the main output.
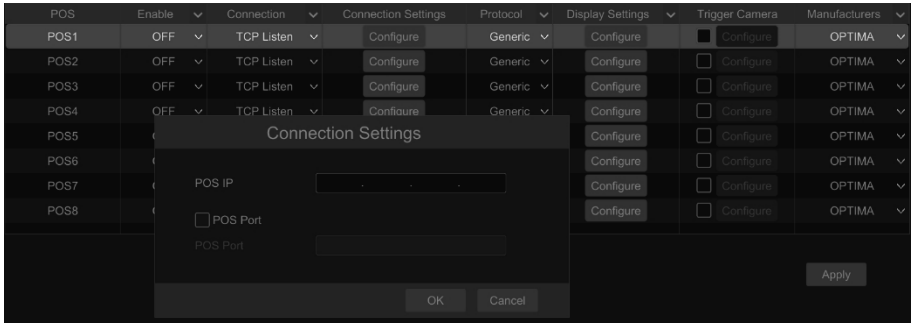Set quick sequence view if "Dwell" is not checked. The setting steps are as follows:
① Set screen mode by clicking the relevant buttons on the tool bar.
② Select one window and then double click one camera or group in the list.
③ Click "Apply" to save the settings after adding cameras or groups to the windows.
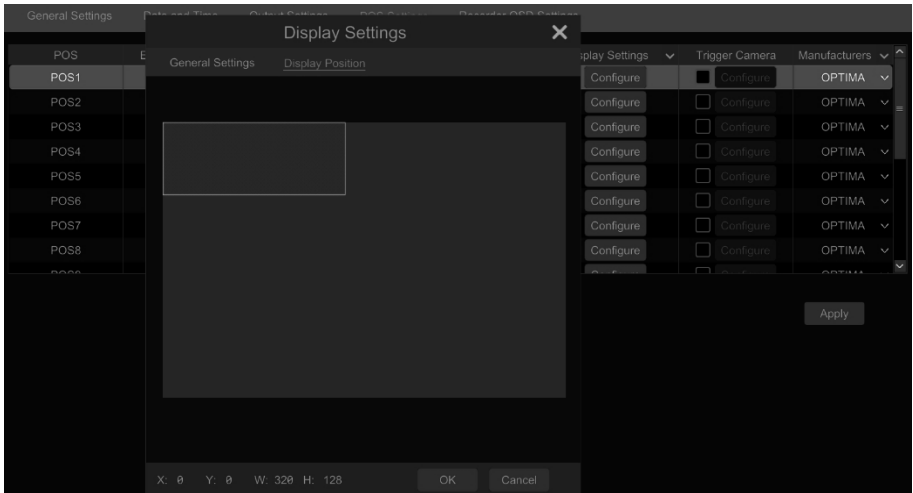
5.3 POS Settings

This function is only available for some models. If your NVR doesn't support such function, please skip the following instructions.
① Click Start→Settings→Basic→POS Settings to go to the interface.
② Enable POS and click "Configure" under "Connection Settings" to go to the following interface.
③ Enter IP address of the POS you want to add.
④ Check "POS port" and then enter POS port.

POS	Enable	⌄	Connection	⌄	Connection Settings	Protocol	⌄	Display Settings	⌄	Trigger Camera	Manufacturers	⌄
POS1	OFF	⌄	TCP Listen	⌄	Configure	Generic	⌄	Configure		■ Configure	OPTIMA	⌄
POS2	OFF	⌄	TCP Listen	⌄	Configure	Generic	⌄	Configure		☐ Configure	OPTIMA	⌄
POS3	OFF	⌄	TCP Listen	⌄	Configure	Generic	⌄	Configure		☐ Configure	OPTIMA	⌄
POS4	OFF	⌄	TCP Listen	⌄	Configure	Generic	⌄	Configure		☐ Configure	OPTIMA	⌄
POS5					**Connection Settings**			Configure		☐ Configure	OPTIMA	⌄
POS6								Configure		☐ Configure	OPTIMA	⌄
POS7			POS IP		· · ·			Configure		☐ Configure	OPTIMA	⌄
POS8								Configure		☐ Configure	OPTIMA	⌄
			☐ POS Port									
			POS Port								Apply	
					OK	Cancel						

⑤ Click "Configure" under "Display Settings" to set the general settings and the position of the POS information. Set the start character and the end character and display time-out period in the general settings interface. Drag your mouse to set the position of the POS information in the display position interface. Then click "OK" to confirm your settings.

		Display Settings	✕			
General Settings	Display Position			play Settings ⌄	Trigger Camera	Manufacturers ⌄
POS				Configure	■ Configure	OPTIMA ⌄
POS1				Configure	☐ Configure	OPTIMA ⌄
POS2				Configure	☐ Configure	OPTIMA ⌄
POS3				Configure	☐ Configure	OPTIMA ⌄
POS4				Configure	☐ Configure	OPTIMA ⌄
POS5				Configure	☐ Configure	OPTIMA ⌄
POS6				Configure	☐ Configure	OPTIMA ⌄
POS7				Configure	☐ Configure	OPTIMA ⌄
POS8				Configure	☐ Configure	OPTIMA ⌄
						Apply
X: 0 Y: 0 W: 320 H: 128		OK	Cancel			

⑥ Check "Trigger Camera" and click "Configure" under it to bind POS to the camera. One POS can be bound to multiple channels, but one channel can only be bound to one POS.
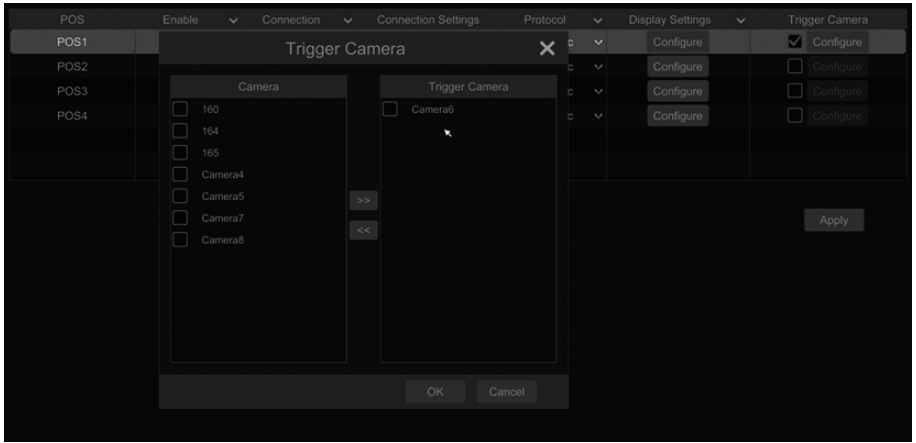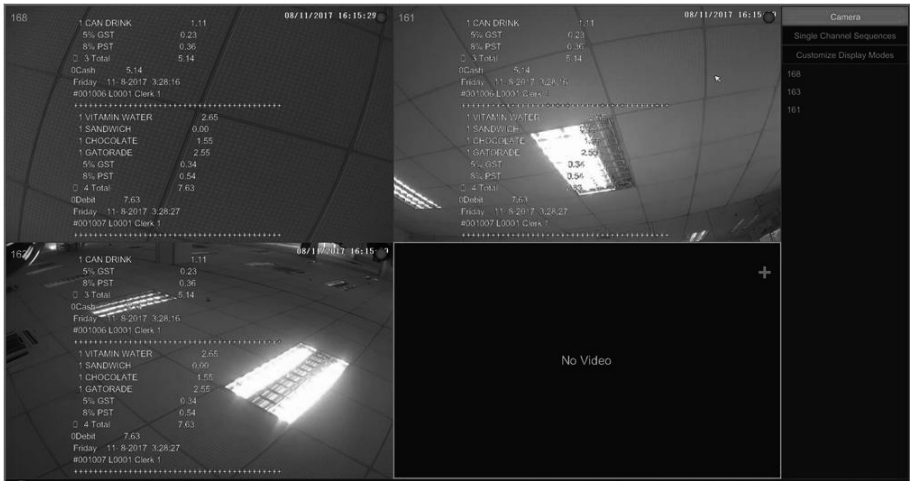
⑦ Choose the manufacturer of the POS device.

⑧ Click "Apply" to save the settings and then the transaction information will be displayed on the preview image in real-time.

One POS is bound to one camera:
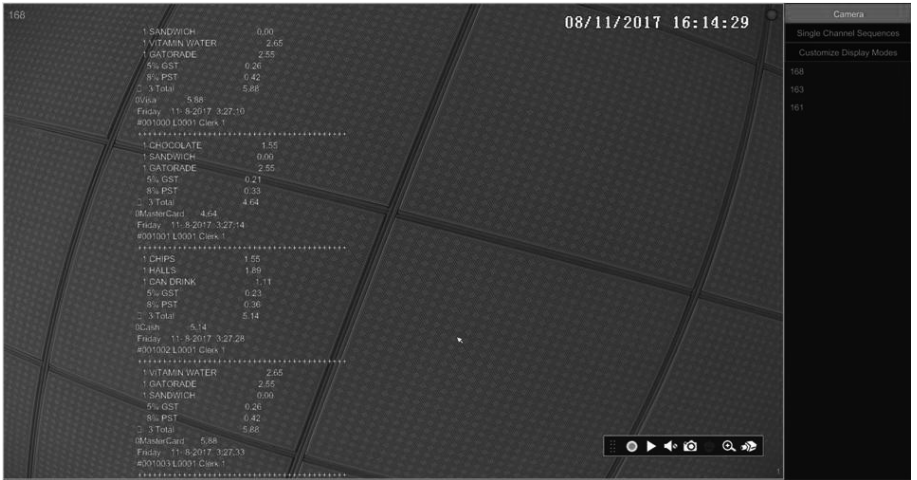
One POS is bound to multiple cameras:

## 5.4 Preview Image Configuration

5.4.1 OSD Settings

Click Start→Settings→Camera→Image→OSD Settings to go to the interface as shown below. Select the camera, enter the camera name (or double click the camera name in the camera list to change the camera name), enable or disable the name and time OSDs (if enabled, drag the red name and time OSDs directly in the image view area to change the OSDs' display position) and select the date and time formats. Additionally, water mark can be enabled or disabled here. Having enabled the water mark function, you can enter the information of the water mark as needed. Finally, click "Apply" to save the settings.
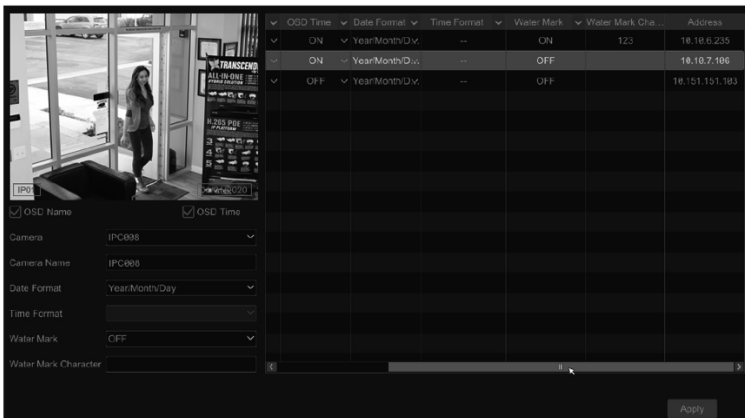
5.4.2 Image Settings

Click Start→Settings→Camera→Image→Image Settings to go to the following interface. Select the camera and then set the brightness, contrast, saturation and hue of the camera. Click the "Advanced" button or [⌄] in the camera list on the right side of the interface to pop up the "Image Adjust" interface and then set the relevant setting items. Please refer to 5.4.5 Image Adjustment for detailed introductions of these items.

You can click "Default" to restore the image settings to the default factory settings.
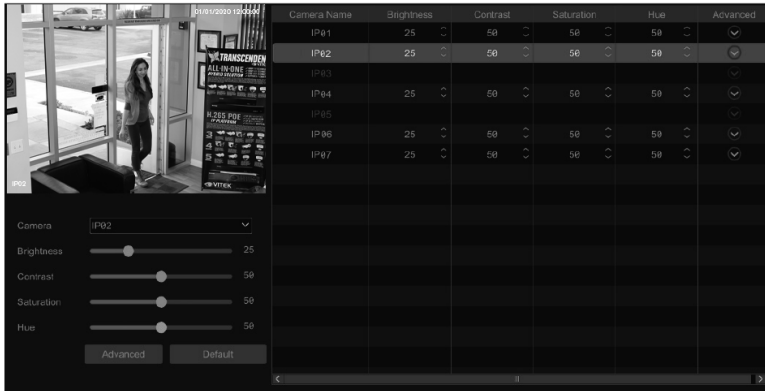
5.4.3 Mask Settings

Some areas of the image can be masked for privacy. Up to four mask areas can be set for each camera. Click Start→Settings→Camera→Image→Mask Settings to go to the interface as shown below.
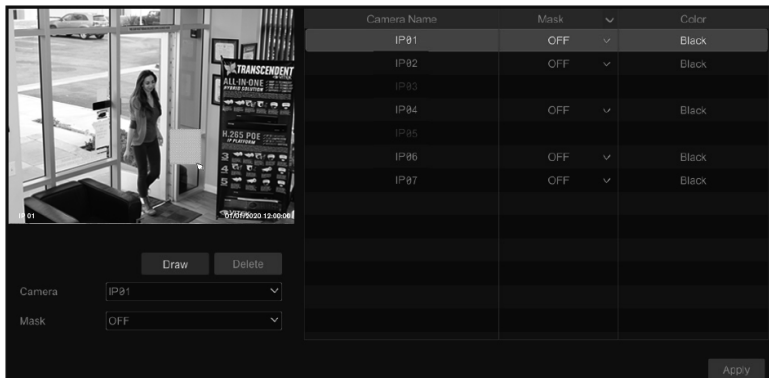
Select the camera and enable the mask. Click the "Draw" button and then drag the mouse on the image area to set the mask area; click the "Delete" button to delete the mask areas; click "Apply" to save the settings.

5.4.4 Fisheye Settings

Some models may not support this function.
Click Start→Settings→Camera→Image→Fisheye Settings to go to the interface as shown below. Select the camera and the mode of fisheye and installation.
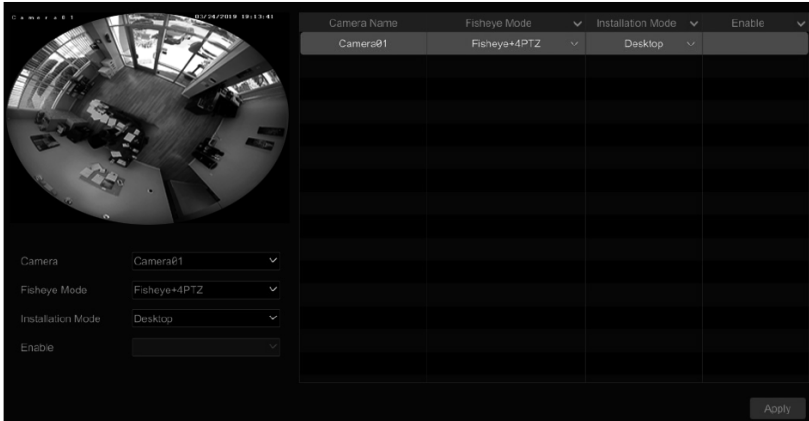
5.4.5 Image Adjustment

Go to live preview interface and then click [icon] button on the tool bar under the camera window to go to the image adjustment interface.
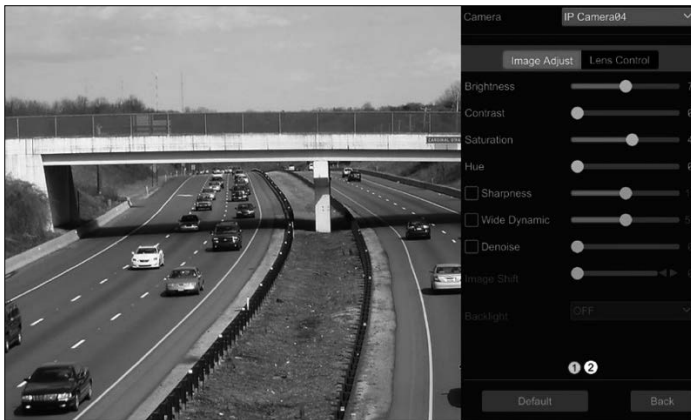
➤ **Image Adjustment**

Select the camera and then click "Image Adjustment" to go to image adjustment tab. Refer to the above picture. Drag the slider to set the camera's brightness, contrast, saturation and hue value. Check sharpen, wide dynamic and denoise and then drag the slider to set the value. Click "Default" to set these parameters to default values. The introductions of these parameters are as follows:

Parameter	Meaning
Brightness	Brightness level of the camera's image.
Contrast	Color difference between the brightest and darkest parts.
Saturation	Degree of color purity. The color is purer, the image is brighter.
Hue	Color degree of the image.
Sharpen	Resolution level of the image plane and the sharpness level of the image edge.
Wide Dynamic	Wide Dynamic Range (WDR) function helps the camera provide clear images even under backlight circumstances. When there are both very bright and very dark areas simultaneously in the field of view, WDR balances the brightness level of the whole image and provide clear images with details.
Denoise	Decrease the noise and make the image more thorough. Increasing the value will make the noise reduction effect better but it will reduce the image resolution.
White Balance	Adjust the color temperature according to the environment automatically.
BLC	HLC: lowers the brightness of the entire image by suppressing the brightness of the image's bright area and reducing the size of the halo area. BLC: If enabled, the auto exposure will activate according to the scene so that the object of the image in the darkest area will be seen more clearly.
Corridor Pattern	0°, 90°, 180° or 270° can be selected. (Only some cameras support this pattern)
Image Mirror	Turn the current video image horizontally.
Image Flip	Turn the current video image vertically.
High FPS Mode	High frame rate mode, if is it enabled, the frame rate of the camera's main stream can be set to 1080P/720P @60fps/50fps. (Only some cameras support this mode)

Note: The above-mentioned descriptions of the image parameters are for reference only. The cameras made by different manufacturers may have different parameter settings.

➢ **Lens Control**

Select the camera and then click "Lens Control" to go to lens control tab. Click ▬ or ➕ to adjust the zoom and focus parameters of the camera's lens. Click "Save" to save the settings.

The introductions of these parameters and buttons are as follows.

Button/Parameter	Meaning
— ◄--Zoom--► +	Click + / — to zoom in/out the image.
Focus Mode	If manual mode is selected, focus button & "One Key Focus" & "Day/night mode switch autofocus" will be available; if auto mode is selected, the time interval setup will be available.
— ◄--Focus--► +	Click + / — to increase/decrease the focal length.
One key Focus	Click it to focus instantly.
Day/night mode switch autofocus	If checked, the lens will focus automatically when the camera is switching day/night mode.
Time Interval	It is the time interval when camera lens is auto-focusing. The interval can be set in the drop-down list.

Note: if the lens of the camera connected to the NVR is fixed, the lens control function is unavailable.

6 PTZ

6.1 PTZ Control Interface

You can control the IP dome or PTZ which connects to the IP camera for PTZ control.
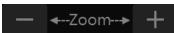
Click ⬛ on the tool bar at the bottom of the live preview window to go to the PTZ control interface as shown below.

The direction, zoom, focus, iris and speed can be controlled in the small PTZ control window.
Right click the PTZ/speed dome camera window and select "PTZ Control" to go to the PTZ control panel as shown below.

Introductions of the buttons on the bottom right of the interface:

| Button	Meaning
▼ ▲ ◀ ◀ ■ ▶ ▲ ▼ ◀	Click ▲ / ▼ / ◀ / ▼ / ◀ / ▶ / ◀ / ▶ to rotate the dome. Click ■ to stop rotating the dome.
— ◀---Zoom---▶ +	Click + / — to zoom in / out the camera image.
— ◀---Focus---▶ +	Click + / — to increase / decrease the focal length.
— ◀--- Iris ---▶ +	Click + / — to increase / decrease the iris of the dome.
●━━━━━━━━	Drag the slider to adjust the rotating speed of the dome.
◉ / ◉	Click ◉ / ◉ to start / stop recording.
⊕ / ⊕	Click ⊕ / ⊕ to hide / show the analog joystick.
↪	Click to return to the live preview interface.

➢ **Analog Joystick Control**

The analog joystick on the left side of the interface provides quick PTZ control. The dome or PTZ will rotate when you drag the analog joystick. The farther you drag the analog joystick from the middle of the image, the faster the PTZ rotates. The PTZ will stop rotating when you stop dragging the analog joystick.

➢ **3D Control**

Click the camera image on any area and then the image will be centered on the clicked point. Refer to the picture as shown below. Drag the mouse from A to B to get a green rectangle and the rectangle area will be zoomed in.

Refer to the picture as shown below. Drag the mouse from C to D to get a green rectangle and the rectangle area will be zoomed out.


➢ **Advanced 3D Control**

Double click the left button of the mouse on any area of the camera image and then the image size will be doubled and centered on the clicked point.

Press and hold the left button of the mouse on any area of the camera image to zoom in the image; press and hold the right button to zoom out the image.

Move the cursor of the mouse to the camera image and then slide the scroll wheel of the mouse forward to zoom in the image, slide the scroll wheel of the mouse backward to zoom out the image.

➢ **Preset Settings**

Click "Preset" to go to preset operation tab and then click "Add" to pop up a window as shown below. Select the preset and then enter the preset name in the window; finally click "OK" to save the settings. You can add 255 presets for each dome.
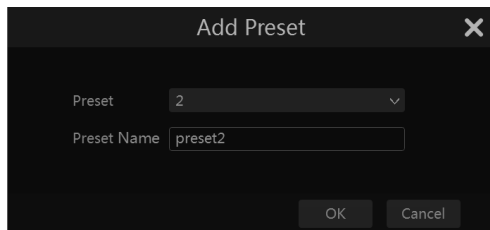

Adjust the dome's direction and then click "Save Position" to save the current preset position (you can also click another preset in the preset list and then save the preset position after adjusting the dome's direction); click 🔼 in the preset list to call the preset; click "Delete" to delete the

selected preset.

You can also go to preset setting interface for preset setting, see <u>6.2 Preset Setting</u> for details.

➢ **Cruise Settings**

On the right panel, click ▶ to go to cruise operation tab and then click "Add" to pop up a window as shown below left. You can add 8 cruises for each dome at most.
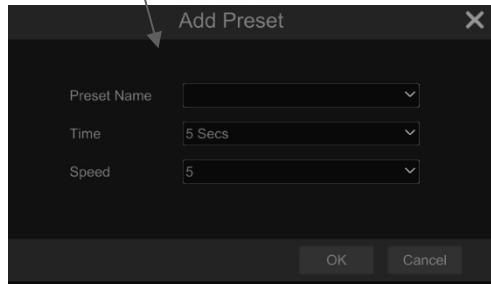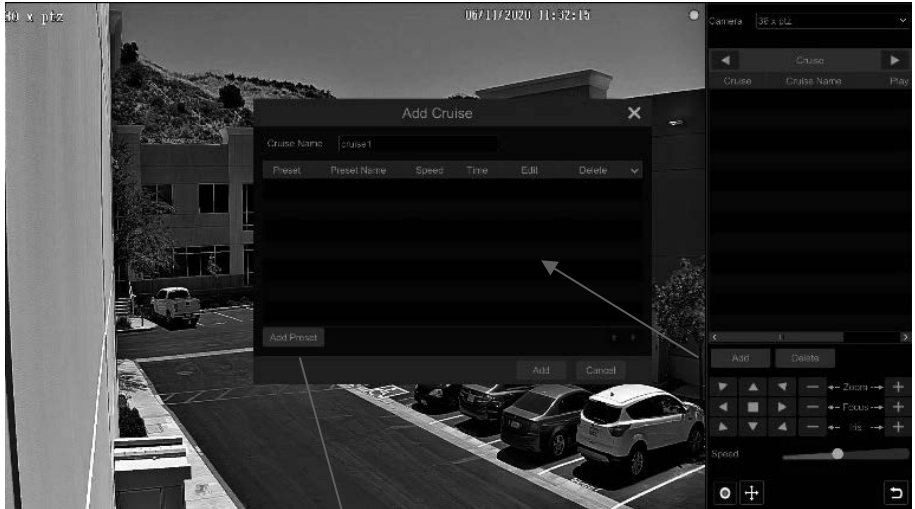
① Enter the cruise name in the "Add Cruise" window and then click "Add preset" to pop up the "Add Preset" window (Before adding preset to the cruise, please add preset to the dome first).
② In the "Add Preset" window, select the preset name, preset time and preset speed and then click "OK".
③ In the "Add Cruise" window, you can click ✎ to edit the preset, then change the preset time and speed. Click 🗑 to delete the preset. Click "Add" to save the cruise.

Click ▶ to start the cruise and click ⏹ to stop the cruise in the cruise list of the cruise operation tab; click "Delete" to delete the selected cruise.

You can also go to cruise setting interface for cruise setting, see <u>6.3 Cruise Setting</u> for details.

> **Cruise Group Settings**

On the right panel, click [▶] to go to the cruise group setting tab. Click "Add" to add a cruise group as shown below.

In the "Add Cruise" window, select the cruise line name. After that, click "Play" to play the cruise lines in sequence.

> **Trace Settings**

On the right panel, click [▶] to go to the trace setting tab. Click "Add" to add the trace name. Then click "OK" to save this name. Please refer to the following picture.
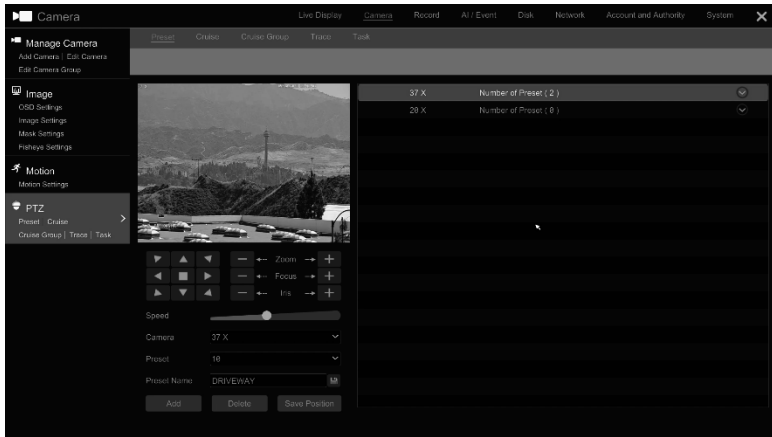

After that, click "Start Record" to record the trace. Then click "Stop Record" to finish recording. Click [▶] to play the recorded trace. Click [🗑] to delete the trace.

6.2 Preset Settings

Click Start→Settings→Camera→PTZ→Preset to go to the interface as shown below.

> ➢ **Add preset**

Select camera and then click "Add" to add preset; or click [▾] in the camera list on the right side of the interface to display the preset information of the dome and then click [+] to add preset. The operations of the "Add Preset" window are similar to that of the PTZ control interface; please see 6.1 PTZ Control Interface Introduction for details.

> ➢ **Edit preset**

Select camera and preset. You can enter a new name of the preset and then click [💾] to save the new preset name. Adjust the rotating speed, position, zoom, focus and iris of the preset and then click "Save Position" to save the preset.

> ➢ **Delete Preset**

Select camera and preset and then click "Delete" to delete the preset.

6.3 Cruise Settings

Click Start→Settings→Camera→PTZ→Cruise to go to the interface as shown below.

➢ **Add Cruise**

Click [icon] in the camera list on the right side of the interface to display the cruise information of the dome and then click [icon] to add cruise. The operations of the "Add Cruise" window are similar to that of the PTZ control interface; please see 6.1 PTZ Control Interface Introduction for details.
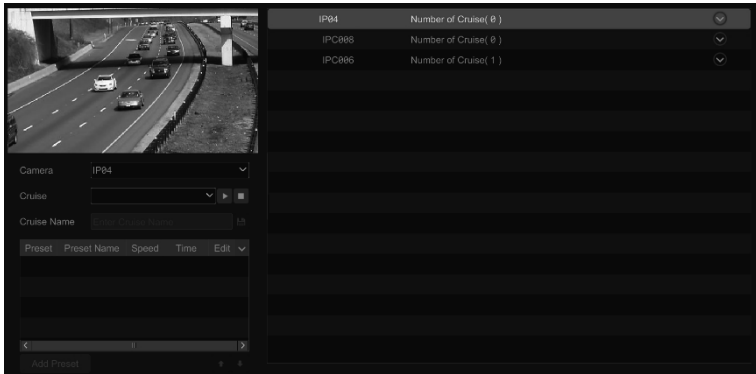
➢ **Edit Cruise**

Select the camera and cruise in the "Cruise" interface. Enter the new cruise name and then click [icon] to save the cruise name. Click "Add Preset" to add preset to the cruise. Click [icon] to edit the preset. Click [icon] to delete the preset from the cruise. Click one preset in the preset list and then click [icon] to move down the preset and click [icon] to move up the preset. Click [icon] to start the cruise and click [icon] to stop it.

➢ **Delete Cruise**

Click [icon] in the camera list on the right side of the interface to display the cruise information of the dome and then click [icon] on the top right corner of the cruise to delete the cruise.

6.4 Cruise Group Settings

Click Start→Settings→Camera→PTZ→Cruise Group to go to the interface as shown below.
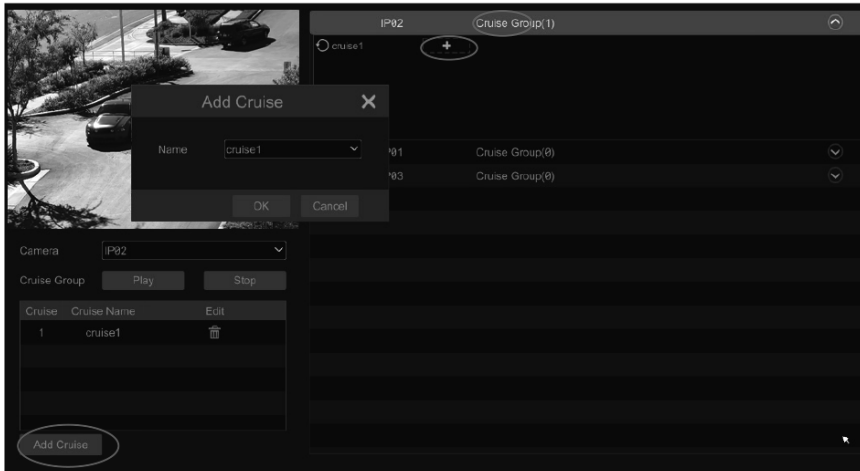
➢ **Add Cruise Group**

Click "Add Cruise" to add the cruise, or click [⌄] to extend the cruise list and then click [+] to add the cruise. After that, click "Play" on the left panel as shown to play the cruise lines in sequence.

➢ **Delete Cruise**

In the cruise list, click [🗑] to delete the cruise.

6.5 Trace Settings

Click Start→Settings→Camera→PTZ→Trace to go to the interface as shown below.

➢ **Trace Record**

Select the PTZ camera and then click "Add" or extend the IPC information by clicking [⌄] and then click [+] to add a trace name. After that, click "Start Record" and move the speed dome to change its position and set its trace. Then click "Stop Record" to complete the trace record.
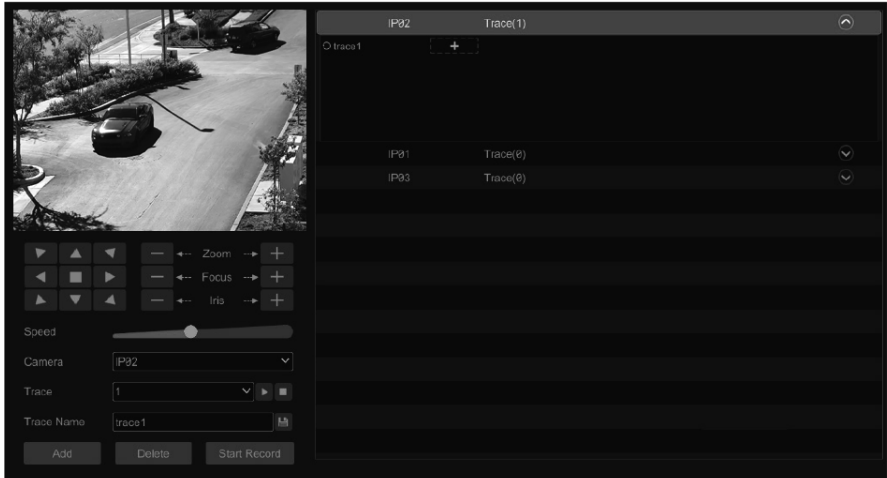
➢ **Play or Stop Trace**

Select the trace and click ▶ to play the trace; click ■ to stop the trace.

➢ **Modify the Trace Name**

On the left panel, enter new trace name and click 💾 to modify and save the trace name.

➢ **Delete the Trace**

Click 🗑 to delete the trace. Or put the cursor on the trace name (right panel) and then ❌ will appear on the right corner of the trace name; click to delete this trace.

6.6 Task Settings

Click Start→Settings→Camera→PTZ→Task to go to the interface as shown below.
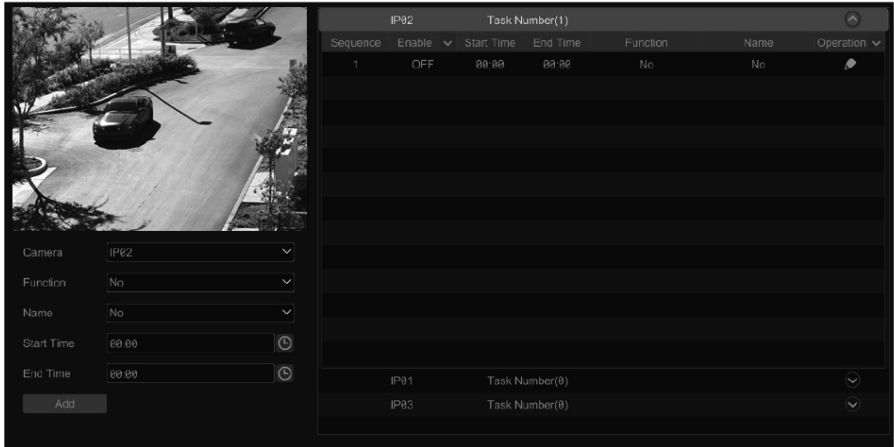
① Select a PTZ camera.
② Select function, such as preset, cruise, trace, random scanning, etc.
③ Select a name, such as preset name, cruise name, etc.
④ Select the start and end time.
⑤ Click "Add" to add the task.
⑥ Click [image] to extend the tasks of the PTZ camera. Click [image] beside "Enable" to enable the task. After the task is enabled, the PTZ camera will start the specific task at the specified time.

7 Record & Disk Management

7.1 Record Configuration

7.1.1 Mode Configuration

Please format the HDDs before recording (refer to 7.5 Disk Management for details). Click Start→Settings→Record→Mode Settings to go to the mode settings interface. You can set the record time under the "Manual Record Settings" and then click "Apply" to save the settings. There are two record modes: auto mode and manual mode.
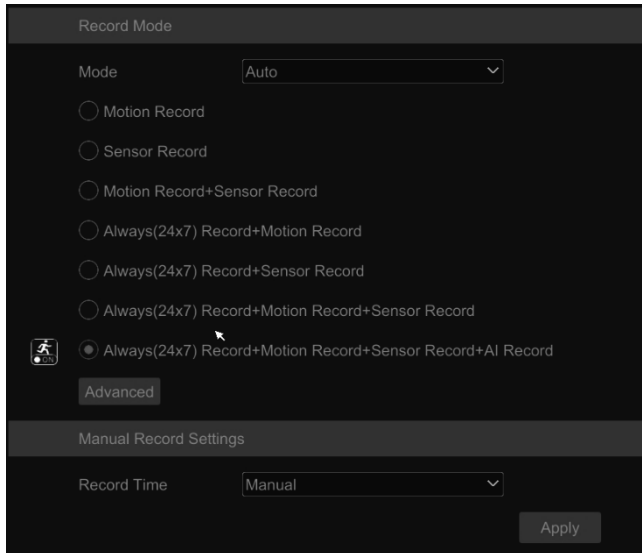
> ➢ **Auto Mode**

Motion Record: Motion alarm record will be enabled when motion is detected.

Sensor Record: Sensor alarm record will be enabled when sensor alarm trips.

Motion Record+Sensor Record: Motion/sensor alarm record will be enabled when motion/sensor alarm occurs.

Always(24 x 7) Record+Motion Record: Normal record is enabled all the time; motion alarm record will be started when motion is detected.

Always(24 x 7) Record+Sensor Record: Normal record is enabled all the time; sensor alarm record will be started when sensor alarm trips.

Always(24 x 7) Record+Motion Record+Sensor Record: Normal record is enabled all the time; motion/sensor alarm record will be enabled when motion/sensor alarm occurs.

Always(24 x 7) Record+ Motion Record + Sensor Record + AI Record: Normal record is enabled all the time; AI record will be enabled when AI event happens.

You can add more auto modes on analytics record. Click "Advanced" to pop up a window as shown below. Check the modes in the window and then click "Add" to show the modes in the

record mode list (in the window, the checked modes can be shown in the record mode list while the unchecked modes cannot.
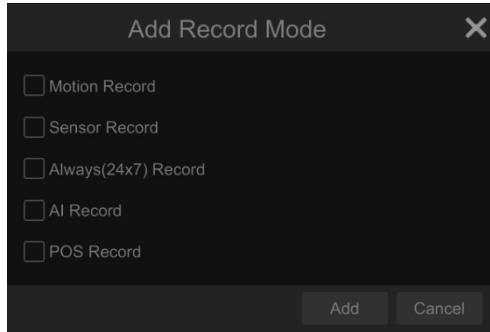
Select one auto mode to pop up the corresponding window. Set the encode, GOP, resolution, FPS, bitrate type, quality, max bitrate and audio of each camera and then click "OK" to save the settings. Please adjust the parameters according to the actual condition.
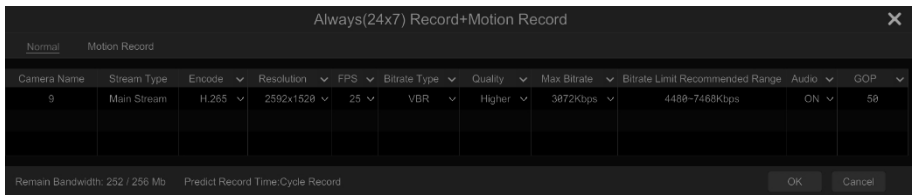
Video Encode: the available options will be H.265S, H.265+, H.265, H.264S, H.264+ and H.264. If the connected IP camera doesn't support H.265s, H.265+, H.264S, H.264+, the corresponding options will not be shown.

Resolution: the higher the resolution is, the clearer the image is.

FPS: the higher the frame rate is, the more fluid the video is. However, more storage will be used.

Bitrate Type: CBR and VBR are options. CBR means that no matter how much change is seen in the video scene, the compression bitrate will be kept constant. VBR means that the compression bitrate will be adjusted according to scene changes. For example, for scenes that do not have much movement, the bitrate will be kept at a lower value. This will help to optimize the network bandwidth.

Quality: When VBR is selected, you need to choose image quality. The higher the image quality you choose, the more bitrate will be required.

Max Bitrate: 32Kbps ~10240Kbps are options.

GOP: group of pictures.

➢ **Customization Mode**

If the customization mode is selected, you need to set the record schedules of each camera. See 7.1.2 Schedule Settings for details.
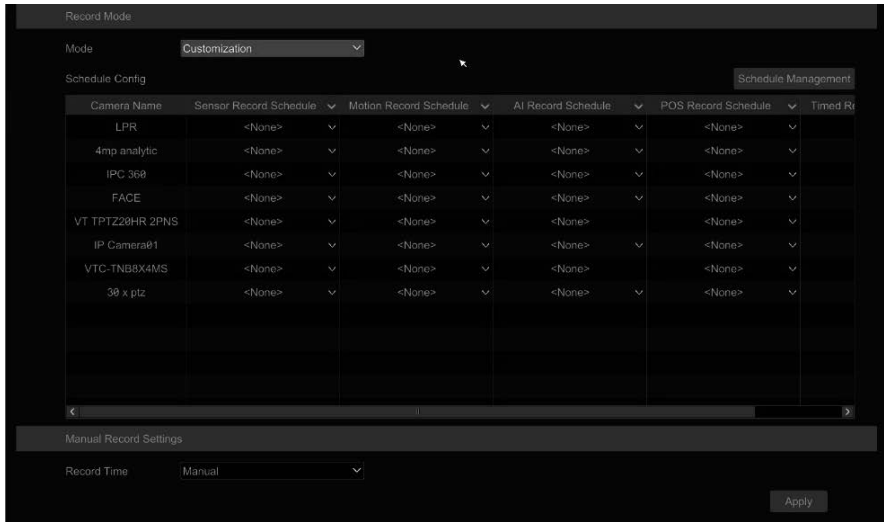
In this interface, you can also set the record period of the manual record in the live view interface.

7.1.2 Schedule Settings

➢ **Add Schedule**

Click Start→Settings→Record→Mode Setting to go to the mode setting interface. Then select "Customization" mode and click "Schedule Management" to set the schedule as shown below. "24 x 7", "24 x 5" and "24 x 2" are the default schedules; you cannot edit or delete "24 x 7" while "24 x 5" and "24 x 2" can be edited and deleted. Click the schedule name to display the detailed schedule information on the left side of the interface. The seven rows stand for the seven days in a week and each row stands for 24 hours in a day. Blue stands for the selected time and gray stands for unselected time.
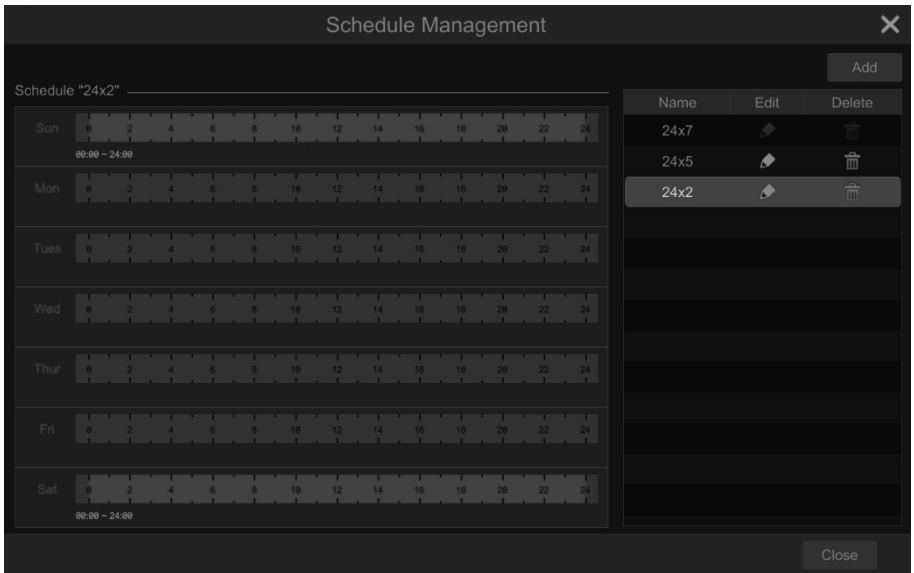
Click "Add" to add a new schedule. Refer to the picture below.
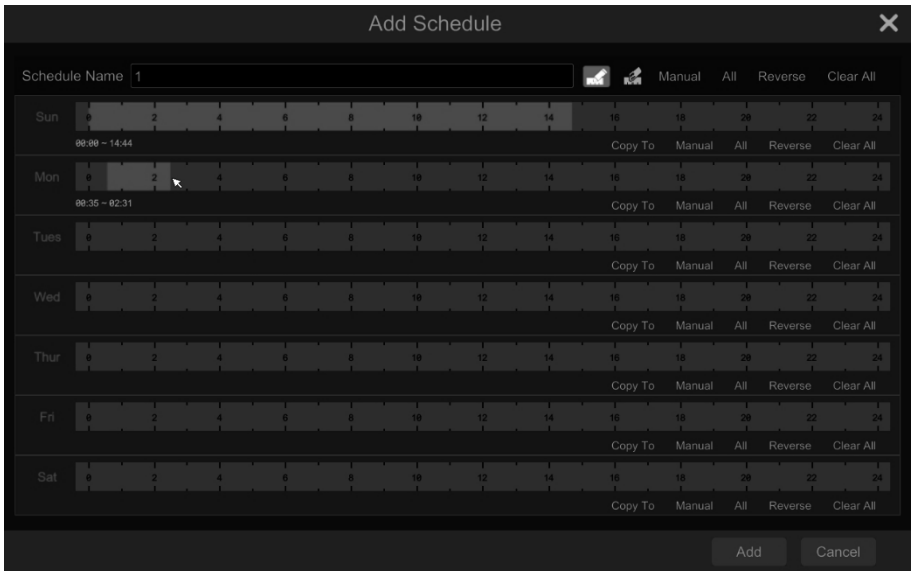
Set the schedule name and schedule time and then click "Add" to save the schedule. You can set day schedule or week schedule. : add button; : delete button.

➤ **Set Day Schedule**

Click ![icon] and then drag the cursor on the time scale to set record time; click ![icon] and then drag the cursor on the time scale to delete the selected area.

You can manually set the record start time and end time. Click ![icon] or ![icon] and then click "Manual" on each day to pop up a window as shown below. Set the start and end time in the window and then click "OK" to save the settings.
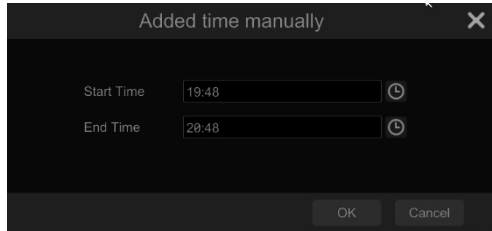
Click "All" to set all day recording; click "Reverse" to swap the selected and unselected time in a day; click "Clear All" to clear all the selected area in a day.

Click "Copy To" to copy the schedule of the day to other days. Refer to the picture below. Check the days in the window and then click "OK" to save the settings.
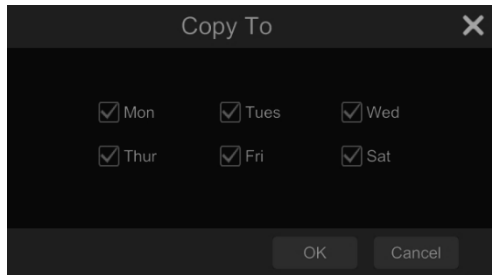
➢ **Set Week Schedule**

Click ![icon] or ![icon] and then click "Manual" beside ![icon] to set the week schedule. Refer to the picture below. Set the start and end time, check the days in the window and then click "OK" to save the settings.
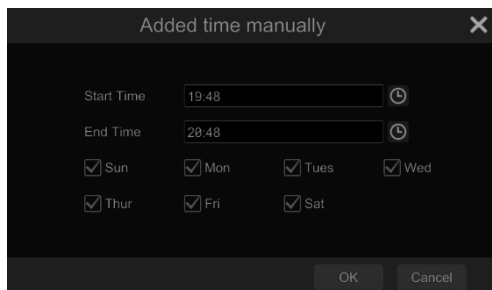
Click "All" to set all week recording; click "Reverse" to swap the selected and unselected time in a week; click "Clear All" to clear all the selected area in a week.

7.1.3 Advanced Configuration

Click Start→Settings→Record→Advanced to go to the following interface. Enable or disable cycle record (cycle record: the earliest recorded data will be replaced by the newest when the disks are full). Choose the record stream. Set the pre-alarm record time, post-alarm record time and expiration time of each camera and then click "Apply" to save the settings.

Mode Settings	Advanced			
Advanced Record Settings				
☑ Cycle Record (Check this to overwrite the oldest recordings when storage is full)				
Dual Stream Record ▼				
Camera's Record Parameters				
Camera Name ▼	Pre-alarm Record Time ▼	Post-alarm Record Time ▼	Expiration Time ▼	
IP Camera1	5 Secs ▼	10 Secs ▼	Never Expire ▼	
IP Camera02	5 Secs ▼	10 Secs ▼	Never Expire ▼	
name109	5 Secs ▼	10 Secs ▼	Never Expire ▼	
IPC	5 Secs ▼	10 Secs ▼	Never Expire ▼	
				Apply
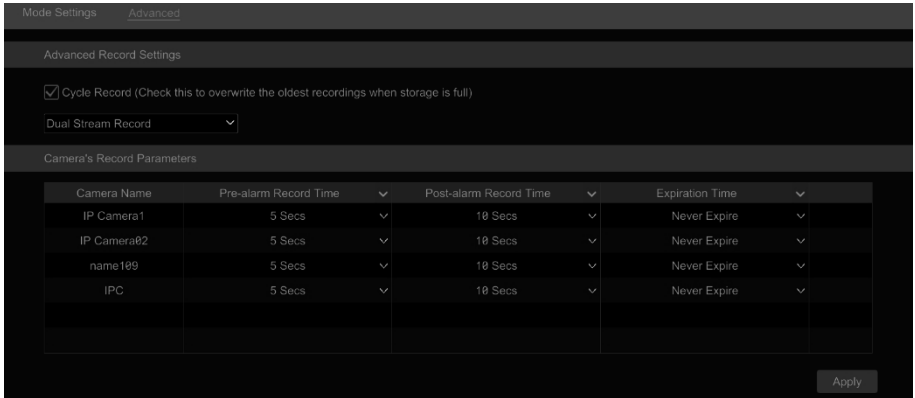
Pre-alarm Record Time: set the time to record before the actual recording begins.
Post-alarm Record Time: set the time to record after the actual recording is finished.
Expiration Time: set the expiration time for recorded video. If the set date is overdue, the recorded data will be deleted automatically.

7.2 Encode Parameters Settings

Click Start→Settings→Record→Encode Parameters to go to the interface as shown below. Set the encode, resolution, FPS, GOP, bitrate type, quality, max bitrate and audio of main stream for each camera in "Event Recording Settings" and "Schedule Recording Settings" interfaces. Click "Apply" to save the settings. You can set the record stream of each camera one by one or set them in bulk for all cameras.

Event Recording Settings	Schedule Recording Settings							
Camera Name	Stream Type	Encode ▼	Resolution ▼	FPS ▼	Bitrate Type ▼	Quality ▼	Max Bitrate ▼	Bitrate Limit Recommended
IP Camera1	Main Stream	H.265 ▼	3840x2160 ▼	30 ▼	VBR ▼	Higher ▼	5120Kbps ▼	5632~19338Kbps
IP Camera02	Main Stream	H.265 ▼	2160x2160 ▼	30 ▼	VBR ▼	Higher ▼	3072Kbps ▼	5632~10848Kbps
Remain Bandwidth: 246 / 256 Mb Predict Record Time:0 Day								Apply

7.3   Record Mode

7.3.1 Manual Recording

Method One: Click 🔳 on the tool bar at the bottom of the live preview interface to enable recording of the camera.

Method Two: Go to live preview interface and then right-click camera image to pop-up a menu and click "Manually Record On" in the camera window or click 🔘 on the tool bar under the camera window to start recording.

> *Note: Click Start→Settings→Record→Mode Settings and then set the manual record time in the interface. Click "Apply" to save the settings.*

7.3.2 Timing Recording

Timing Recording: the system will record automatically according to the schedule.

Set the timing record schedule of each camera. See 7.1.2 Schedule Settings for details.

7.3.3 Motion Based Recording

Motion Based Recording: the system will start motion based recording when motion occurs in the field of view. The setup steps are as follows:

① Set the motion based recording schedule of each camera. See 7.1.2 Schedule Settings for details.

② Enable motion and set the motion area of each camera. See 11.2 Motion Alarm for details.

The camera will start motion based recording once you finish the above settings.

7.3.4 Sensor Based Recording

① Set the sensor based recording schedule of each camera. See 7.1.2 Schedule Settings for details.

② Set the NO/NC type of the sensor, enable the sensor alarm and then check and configure the "Record". See 11.1 Sensor Alarm for details.

7.3.5 AI Event Recording

① Set the intelligence recording schedule of each IP camera. See 7.1.2 Schedule Settings for details.

② Enable the intelligence detection (object detection, exception, tripwire, intrusion or face detection) and draw alert surface or warning area of each IP camera. See 9 AI Event Management for details.
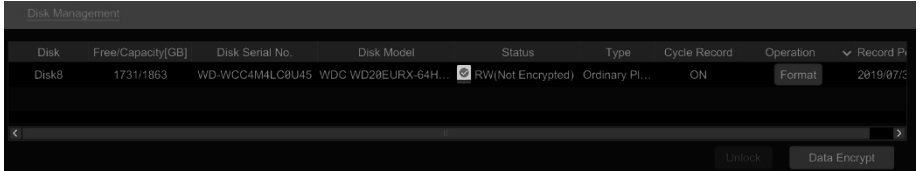
The camera will start AI recording once you finish the above settings. This function is only available for some IPCs.

7.4   Disk

7.4.1 Disk Management

➢   Disk Management

Click Start→Settings→Disk→Disk Management to go to disk management interface. You can view the NVR's disk number and disk status and so on in the interface. Click "Format" to format the HDD.

Data Encryption:

① Click "Data Encrypt".

② Enter the username and password used to log in the NVR. This username and password should have the permission of disk management.

③ Check the disk you want to encrypt and then enter the password.

After you encrypt the data of a disk, this disk cannot be read by other NVRs unless it is unlocked.

Data Decryption:

① Click "Change Encrypt".

② Enter the username and password used to log in the NVR. This user should have the permission of disk management.

③ Check the disk you want to decrypt and then empty the password.

③   Click "Close Encrypt".

Unlock the disk: when one encrypted disk is transferred from another NVR to this NVR, it will be in locked status. Then you can select this locked disk and click "Unlock". After you enter the password of its data encryption, its status will be "Read Only". Now you can read the data of this disk but it cannot be written too.

Some models may not support RAID function. The settings of RAID are as followings. Please skip the settings of physical disk, array and disk mode if the NVR doesn't support this function.

➢   RAID

① Enable RAID

(Go to Start→Settings→Disk→Disk Mode)
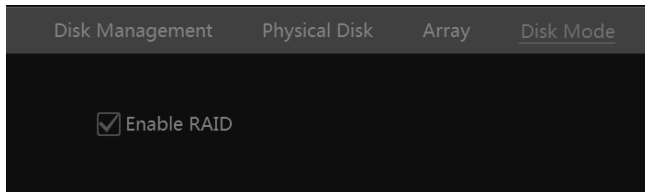
② Create an array. (Go to Start→Settings→Disk→Physical Disk)

a. Click "Physical Disk" tab and then click "Create an array".

b. Enter the user name and password which has the authority of Disk Management. If you don't have one, you can use the user name and password that you login with (the default username: admin; the default password:123456).

c. Enter array name and select array type (like RAID5).
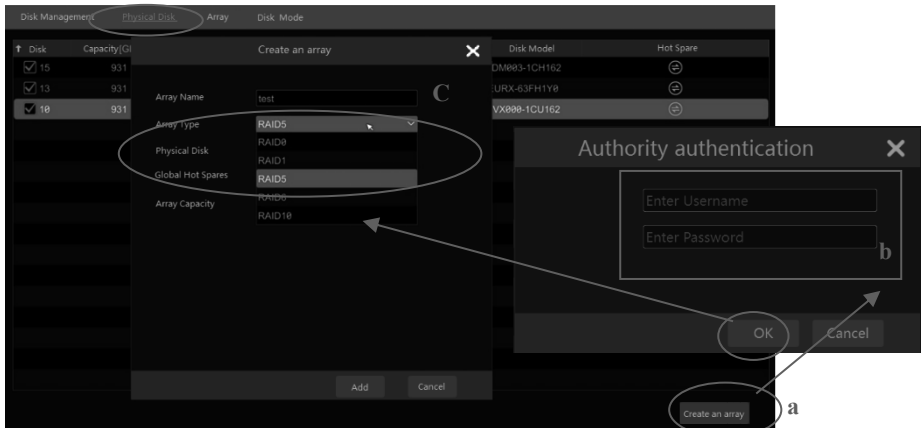
d. Select physical disk.

If you have 16 disks, please check 15 disks. The remaining one should be set to a hot spare.

If higher data security is needed, you can decrease physic disks and increase hot spare disks. Please set them as needed.
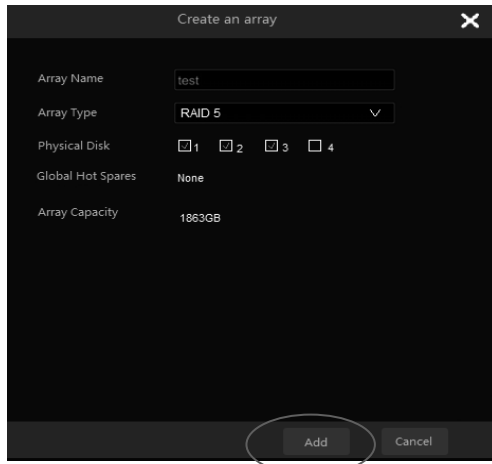
e. Select a hot spare.   In the physical disk interface, select the disk that is not in the array and click ⊜ as shown in the following pictures.

Disk	Capacity[GB]	Array	Type	Status	Disk Model	Hot Spare
1	931	test	Array disk	Normal	XXXXX	
2	931	test	Array disk	Normal	XXXXX	
3	931	test	Array disk	Normal	XXXXX	
4	931		Ordinary plate	Normal	XXXXX	⊜
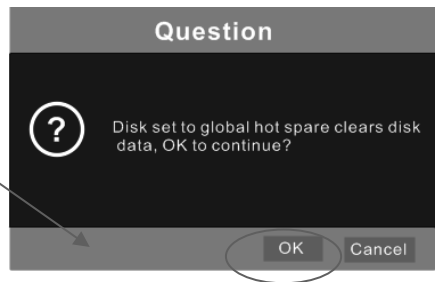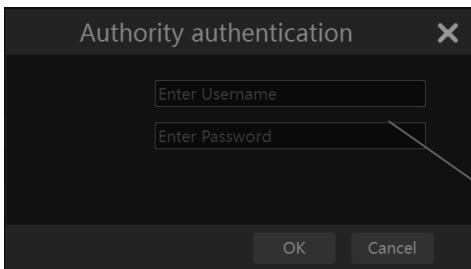
● RAID Rebuilding

If one of your disks is broken, the disk indicator on the front panel will turn red. Of course, a warning tip will pop up if the relevant HDD exception alarm is set. You need to rebuild the RAID after you replace the broken disk with a new one.

Disk Management		Physical Disk	Array	Disk Mode			
No.	Name	Capacity[GB]	Physical Disk	Hot Spare Position	Status	Type	Rebuild
1	test	1862	2 3	4	Downgrade	RAID5	◎

Click the above circled icon and then select the physical disk to rebuild.

7.4.2 Storage Mode Configuration

Click Start→Settings→Disk→Storage Mode to go to the interface as shown below.
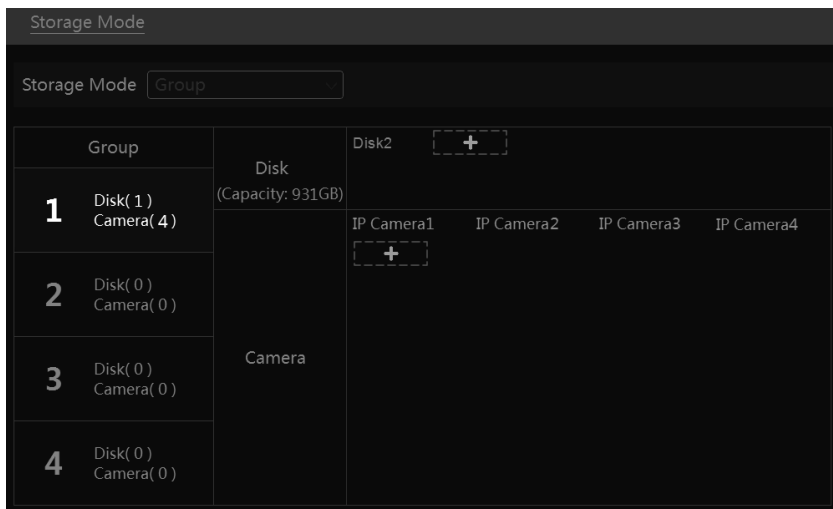
For example, there are four disk groups. By using disk group, you can correspond the camera to disk (the record data of the camera in the group will be stored into the disks in the same group). The NVR with e-SATA interface supports e-SATA recording.

The added disks and cameras will be added into group one automatically. The disks and cameras in the groups can be deleted except group one (select a disk group and then click [icon] on the top right corner of the added disk or camera to delete it from the group). The deleted disks and cameras will be moved into group one automatically.

Each group can add the disks and cameras from other groups. Each disk and camera can only be added into one group. Select a disk group and then click [+] in the disk or camera row to pop up a window. Check the disks or cameras in the window and then click "Add".

 For the model with 2 or 4 HDD slots, BK group can be added as shown below.
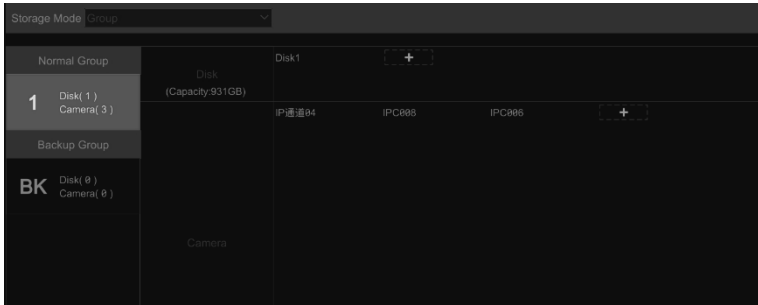
Click ![+] to add the backup HDD. After account verification, select a HDD and then this HDD will be removed from the normal group to the backup group. Simultaneously, it will be formatted. Please back up all data of this HDD in advance when you want to move it to the backup group.

You can add cameras to this HDD. The added cameras can exist and be recorded both in one HDD of the normal group and the backup group.

Note: Each HDD only can exist in one group.

7.4.3 View Disk and S.M.A.R.T. Information

Click Start→Settings→Disk→View Disk Information to view the HDD information; click "S.M.A.R.T. Information" to view the working status of the HDD. Refer to the picture below.
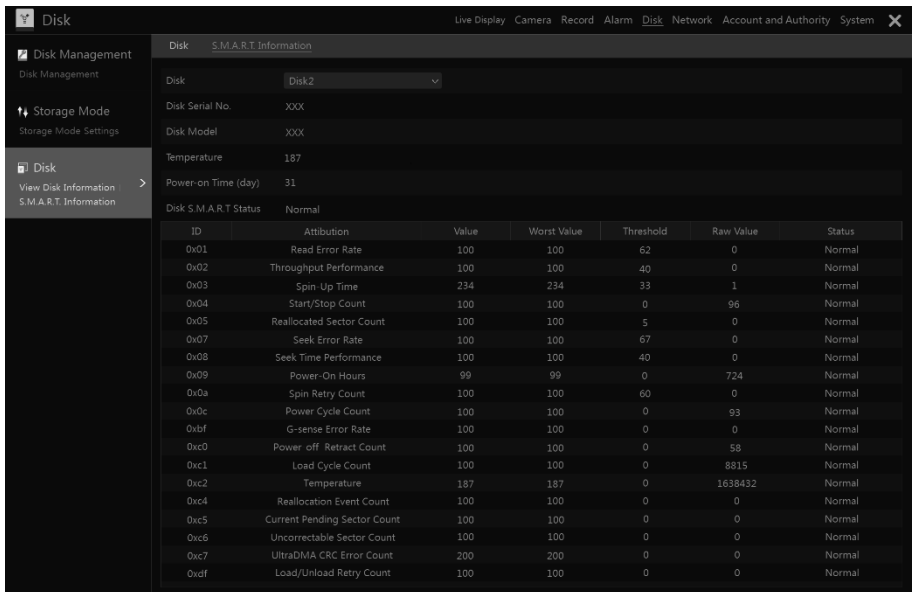
8   Playback & Backup

8.1   Instant Playback

Click ▶️ on the tool bar at the bottom of the preview camera window to play back the recording (click ⌃ on the tool bar at the bottom of the live preview interface to set the default playback time). Refer to the picture below. Drag the playback progress bar to change the playback time. You can also right-click menu "Instant Playback" in the camera window and then set the instant playback time to play back the recording.
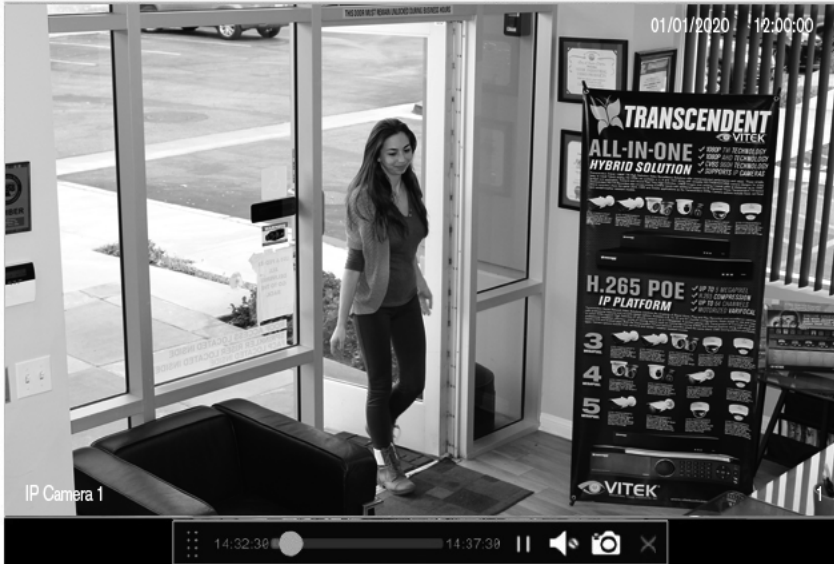
8.2   Playback Interface Introduction

Click ⊙ on the tool bar at the bottom of the live preview interface or click Start➔Playback to go to the playback interface as shown below (click ⌃ on the tool bar at the bottom of the live preview interface to set the default playback time).
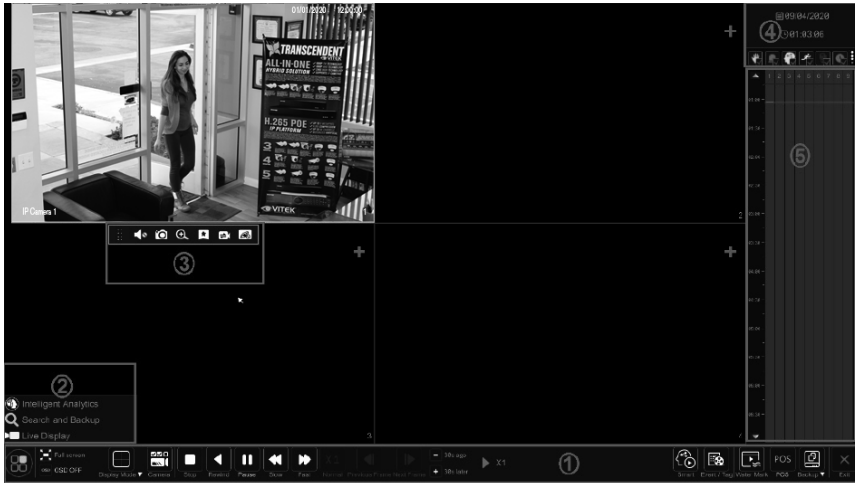
On the panel on the right you will see the channel number and the recorded data coded by color. The bar that runs across them represents the playback time being viewed. You can move this bar around to export, highlight a section of the desired recording, click export and follow the prompts. You can export single or multiple channels at the same time.

The added cameras will playback their recordings in the playback interface automatically. You can also add the playback camera manually. Click ➕ in the playback window to pop up the "Add Camera" window. Check the cameras in the window and then click "Add" to add playback camera. The system supports a maximum of 16 playback cameras.

The buttons on the tool bar (area ①) at the bottom of the playback interface are introduced in the table below.

Button	Meaning
🔲	Start button. Click it to pop up area ②.
⛶	Full screen button. Click it to show full screen; click it again to exit the full screen.
⊞	Screen display mode button.
OSD	OSD ON button. Click it to enable OSD; click it again to disable OSD.
🔲	Quick channel selection button
⬛	Stop button.
◀	Rewind button. Click it to play video backward.
▶	Play button. Click it to play video forward.
⏸	Pause button.
⏪	Slow Play button. Click it to decrease the playing speed.

Button	Meaning
⏩	Fast Play button. Click it to increase the playing speed.
◀	Previous frame button. It works only when the forward playing is paused in single screen mode.
▶	Next frame button. It works only when the forward playing is paused in single screen mode.
− 30s ago + 30s later	Click ▬ to step backward 30s and click ➕ to step forward 30s.
🔄	Click it to enter the smart playback interface
📋	Event list/tag button. Click it to view the event record of manual/schedule/sensor/ motion and the tag information.
🖼	Watermark button. Click it to enable watermark; click it again to disable watermark.
POS	Open/close POS information.
🕐 / 📋	🕐 Backup button. Drag the mouse on the time scale to select the time periods and cameras, and then click the button to back up the record. 📋: Backup status button. Click it to view the backup status.
✕	Back button. Click it to return.

Note: Some models may not support face search and face smart playback.

Introduction of area ②:

Button	Meaning
👋 Intelligent Analytics	Click it to go to the intelligent analytics interface.
🔍 Search and Backup	Click it to go to record search and backup interface; see 8.4 Record Search, Playback & Backup for details.
▶■ Live Display	Click it to go to live preview interface; see Chapter 5 Live View Introduction for details.

Click on the playback window to show the tool bar as shown in area ③; right click on the window to show the menu list. The tool bar and menu list are introduced in the table below.

Button	Menu List	Meaning
⋮⋮	--	Move tool. Click it to move the tool bar anywhere.
🔊	**Enable Audio**	Click it to enable audio. You can listen to the camera audio by enabling audio.
📷	**Snap**	Click it to snap.

⊕	**Zoom In**	Click to go to the zoom in interface. The zoom in interface is similar to that of the camera window in the live preview interface. Click ▮▮ to pause the record playing; click ▶ to play the record. When the record is paused in forward playing mode, you can click ◀ to view the previous frame and click ▶ to view the next frame.
★	**Add Tag**	Click to add tag. You can play back the recording by searching the added tag. Click it and then enter the tag name in the popup window. Click "Add" to add tag.
◄	**Switch Camera**	Click to switch the playback camera. Click it and then check the camera in the popup window. Click "OK" to change the camera.
◄	**Close Camera**	Click to close the playback camera.

Introduction of area ④:

Click 🗒 to set the date; click 🕒 to set the time and then the playback camera will play the recording from the time you set. You can check the recording type as required for recording playback; first you should click ■ on the tool bar at the bottom of the interface to clear all the playback cameras, then check the recording type (✋: manual recording; ▣: sensor based recording; ⚡: motion based recording; ▣: schedule recording; ▣: AI recording; ▣: POS recording, if you want view the detailed smart playback icons, click ⁝ to switch). Finally, click ✚ in the playback window to add cameras for playback (the recording time scale will show the record data of the checked recording type only after the above operations).

Introduction of the recording time scale (area ⑤):

A tool bar will appear after moving the mouse to the recording time scale. Click ⊕ / ⊖ to zoom the timeline; click ㉔ to recover the timeline to 24 hours' ratio. Drag the timeline or slide the scroll wheel of the mouse on the time scale to show the hidden time on the top or bottom of the timeline. You can also click ▲ to show the hidden time on the top of the timeline or click ▼ to show the hidden time on the bottom of the timeline. Drag the slider at the bottom of the time scale to show the hidden playback cameras.

The recording time scale shows different recording types with different colors. The green block stands for manual recording, red block stands for sensor based recording, yellow block stands for motion based recording, blue block stands for schedule recording and cyan block stands for intelligence recording. Click the recording block to set the time and then the playback cameras will play the recording from the time you set.

Backup Introduction:

Insert the storage device into the device. Drag the color block on the time scale to select the backup area and then right click the area or click 🔘 to pop up a backup information window. Click the "Backup" button in the window to pop up the backup window. Select the device, backup path and backup format and then click the "Backup" button.
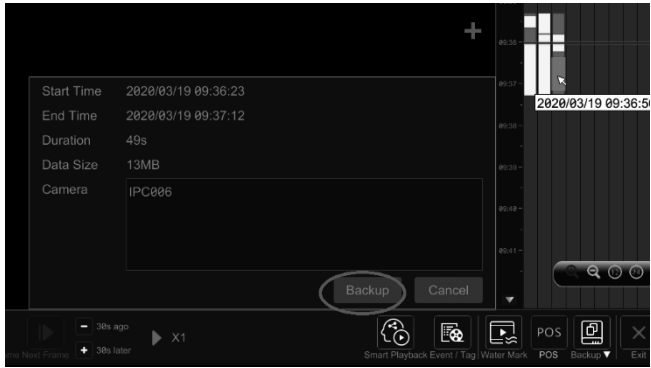
In the backup window, you can select backup path and format. Then click "Backup". Please select "Encryption" or "No Encryption" as needed. After that, click "OK" to start backup.
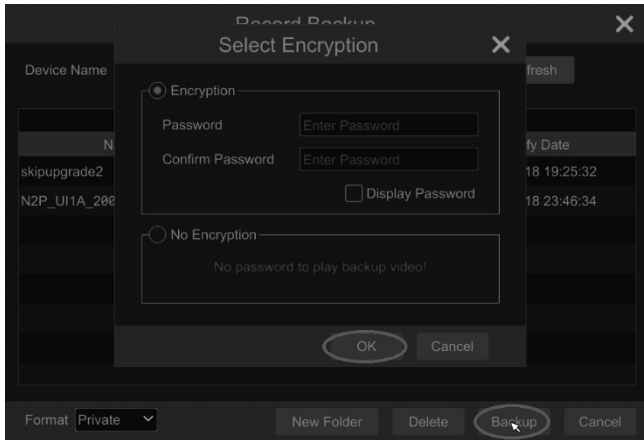
8.3 Smart Playback

In the playback interface, click to go to the smart playback interface as shown below.
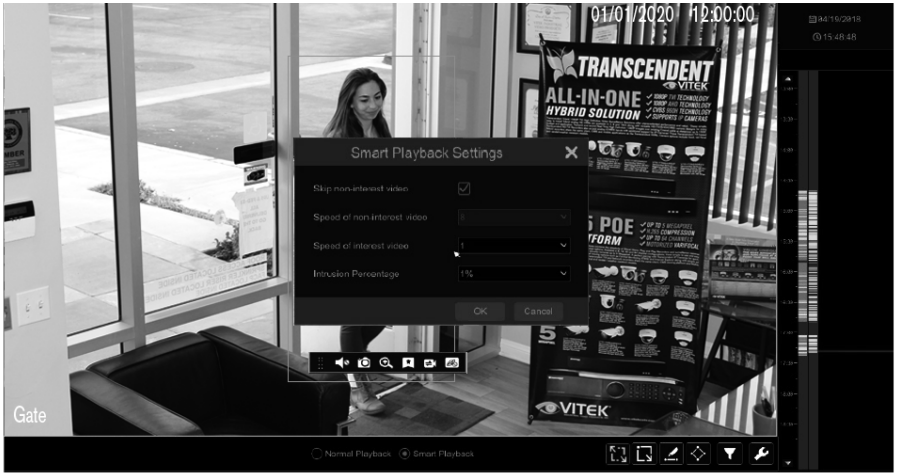
The descriptions of buttons in the smart playback interface

Button		Description
Motion ▼	⛶	Full screen motion button.
	⬚	Draw grid. You can search the record of motion detection in the pre-defined area.
	✎	Draw line. You can search the record of crossing the line after drawing the line.
	◇	Draw quadrilateral. You can search the record in this quadrilateral after drawing it.
Face		Search by face
Vehicle		Search by license plate number
⚙		Playback settings button
⤶		Return button. Click to return to the previous interface.

8.3.1 Smart Playback Settings

Click ⚙ to set the speed of non-interest video (Please skip this one if you click "Skip non-interest video"), "Speed of interest video" and "Intrusion percentage".

You can disable "Non-Focus" to view the video you interest in the right corner of the smart playback interface.
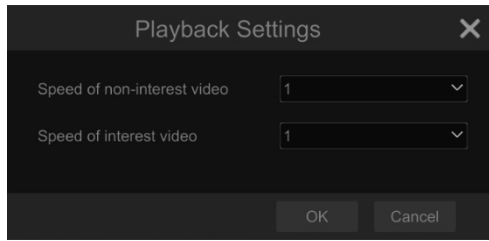
8.3.2 Smart Playback Based on Motion Detection

- **Smart Playback by Drawing Grid**

Click ⬛ and draw a rectangle in the desired area. Then the system will automatically search the recorded files of this area. The cyan blocks indicate that there are intelligent recording files. Move the cursor to such block and click to play the record.

- **Smart Playback by Drawing Line**

Click ✏ and draw a line in the desired area. Then the system will automatically search the recorded files about crossing this line. The cyan blocks indicate that there are intelligent recording files. Move the cursor to such block and click to play the recording.

- **Smart Playback by Drawing Quadrilateral**

Click ◈ and draw a quadrangle in the desired area. Then the system will automatically search the record files of this area. The cyan blocks indicate that there are intelligent recording files. Move the cursor to such block and click to play the recording.
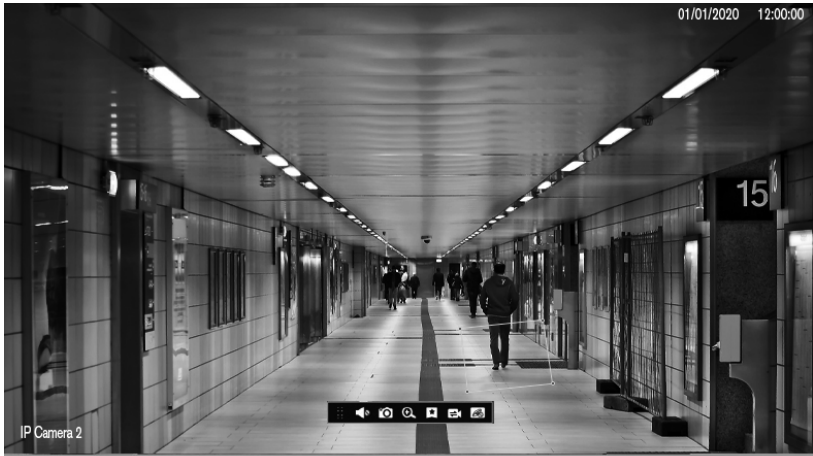
8.3.3 Smart Playback by Face Search

Before starting this function, the face recognition function should be enabled. Please see Face Recognition for details. If your device doesn't support such function, please skip the following instructions.

① In the smart playback interface, click [icon] to pop up the following window.
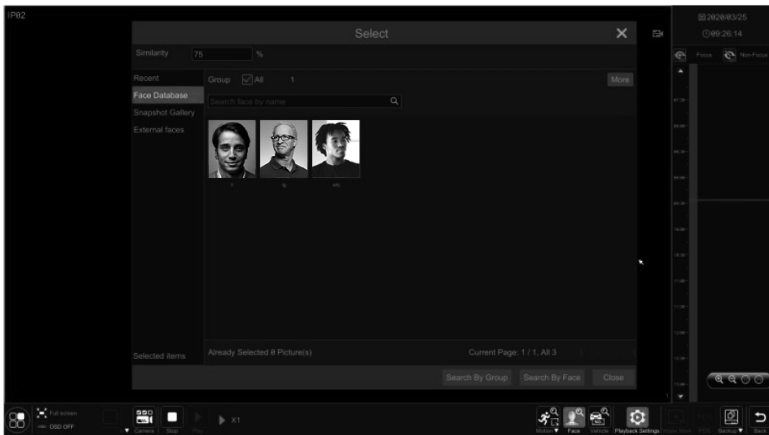
① Set similarity. The higher the sensitivity value is, the lower the searching accuracy is, and vice versa.
② Select targets. You can select targets from recent, face database, snapshot gallery or external faces.
③ Select search mode. There are two search modes: search by group and search by face.

Search by group: Choose "Face Database" and then click "More" to choose one or more groups.

Move the cursor to the time block where the record exists and click to play those records.

8.3.4 Smart Search by License Plate

Before starting smart search by plates, please add LPR cameras first and enable the LPR function. Please refer to License Plate Recognition for details.

Click ![icon] button to go to the following interface.
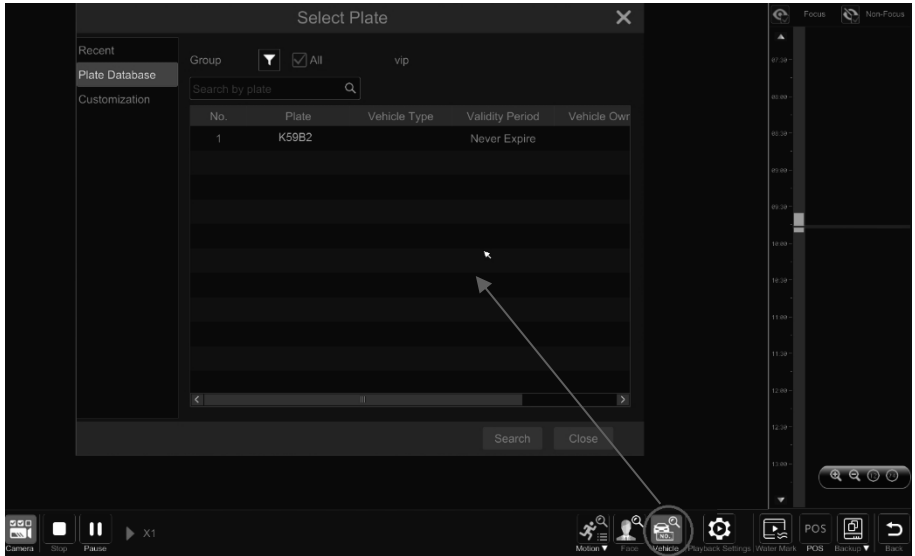
Select the plate from "Recent", "Plate Database" or "Customization" and then click "Search" to search recorded files and play. Here we take an example of search plate from "Plate Database".

Click ![icon] to choose a group. Then plates will be listed in the table automaticaly. Click "Search" to play.
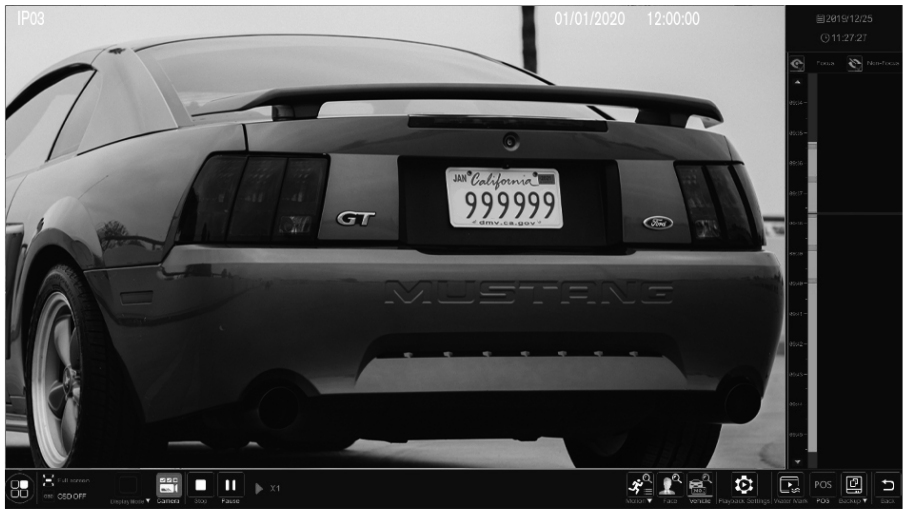
8.4   Record Search, Playback & Backup

The recorded data and the snapped pictures can be backed up through network, USB (U disk or USB mobile HDD) or e-SATA (only available for some models). The file system of the backup devices should be FAT32 format.

8.4.1   Search, Playback & Backup by Time-sliced Image

①   Click Start→Search and Backup→By Time-sliced Image to go to "By Time-sliced Image" tab. There are two view modes: by time and by camera. In the time view mode, a maximum of 64 camera thumbnails can be shown. If the camera thumbnail number is more than 64, the cameras will be listed directly by their camera name, not the thumbnail. A maximum of 196 camera names can be listed. If the camera name number is more than 196, the time view mode will be disabled and the camera view mode will be available only.
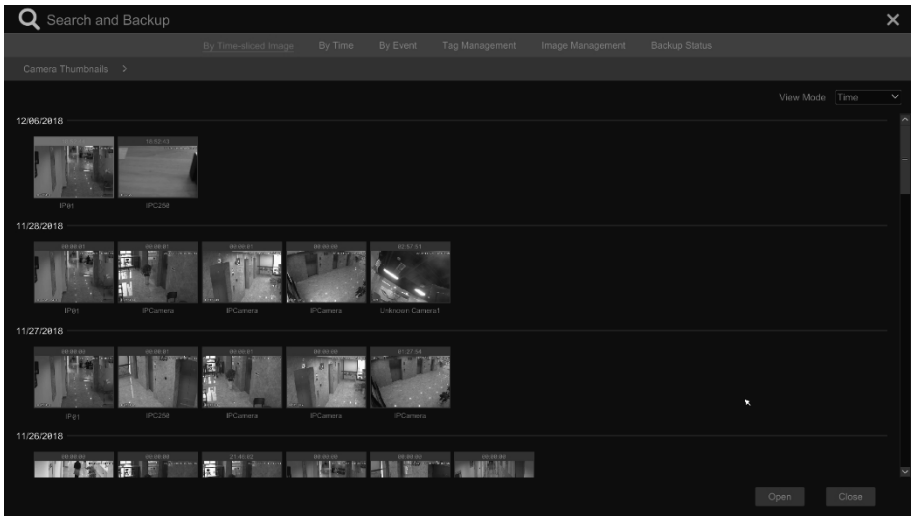
② Select one camera in the interface and then click the "Open" button.

③ Click the image box to play the recording in a small playback box on the left side of the interface (the box which has image inside indicates that the recording data exist).

④ Refer to the picture below. Drag the color blocks on the time scale to select the recording data and then click "Backup" button to pop up the "Record Backup" window as shown below. Select the device name, backup format and path and then click "Backup" button to start the backup.
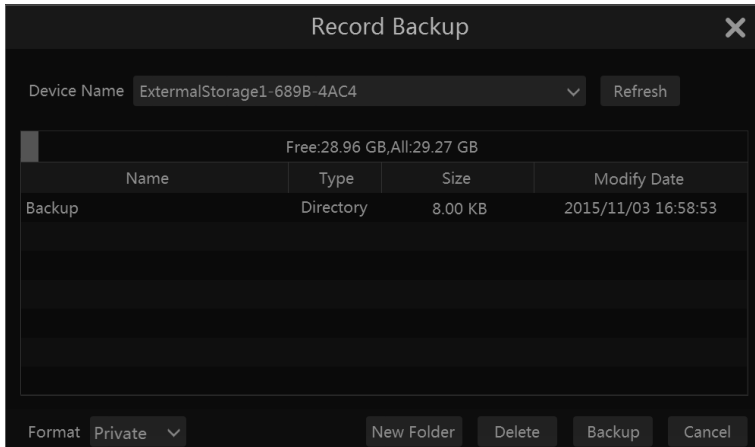
Note: If you back up the recording in private format, the system will back up the RPAS player to USB device automatically. The private format recording can be played by RPAS player only.

⑤ Click "Playback" to play the recording in the playback interface (refer to <u>8.2 Playback Interface Introduction</u> for details). Click "Close" to close the interface.
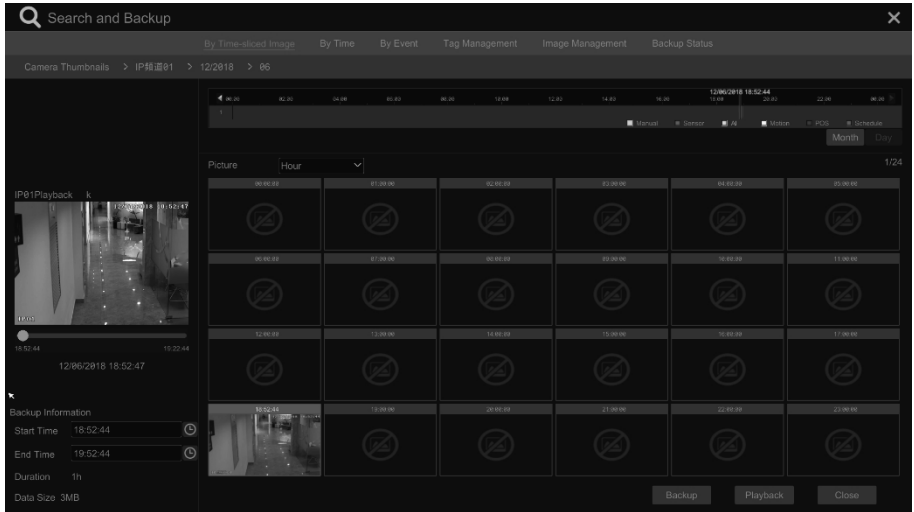
Time Slice Mode Selecting:

Method One: Click "Year", "Month" or "Day" button under the recording time scale to select the time slice mode. In "Day" mode, click ◀ / ▶ on the left/right side of the time scale to view the recording of the last/next day; click "Minute" in the "Picture" option under the time scale to select "Minute" mode (in "Minute" mode, click the time scale to change the time of the 60 display windows) and click "Hour" to select "Hour" mode.

Method Two: Click ▶ beside "Camera Thumbnail" on the left top corner of the interface to select the time slice mode.

Method Three: Right-click the mouse on any area of the time-sliced interface to go back to the upper interface.

8.4.2 Search, Playback & Backup by Time

① Click Start→Search and Backup→By Time to go to "By Time" tab as shown below.

② Click ➕ on the bottom of the interface to add playback camera. A maximum of 16 cameras can be added for playback. Click "Modify" on the top right corner of the camera window to change the camera and click "Clear" to remove the camera.

③ Click the camera window to play the recording in a small playback box on the left side of the interface. You can set the date on the top left of the interface, check the event type as required and click the time scale or click 🕒 under the time scale to set the time. The camera window will play the recording according to the time and event type you set.

④ Drag the color blocks on the time scale to select the recording data (or click "Set Backup Time" on the bottom left corner of the interface to set the backup start time and end time) and then click "Backup" for recording backup. Click "Playback" to play the recording in the playback
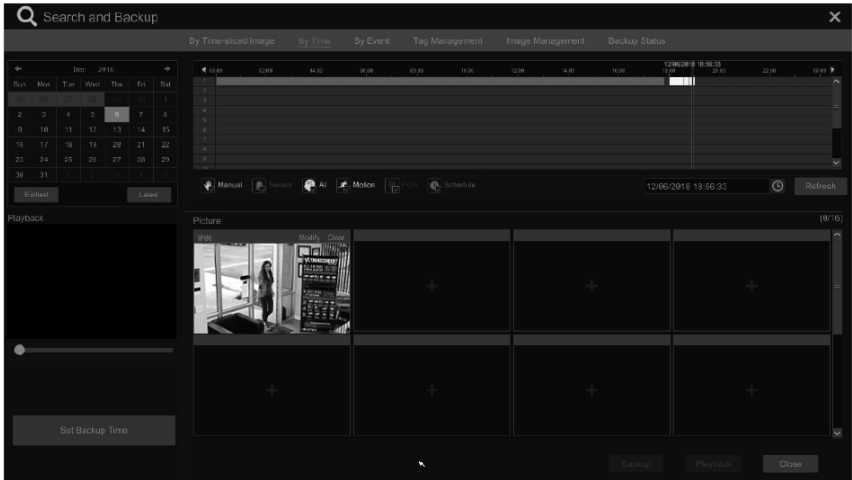
interface.

8.4.3 Search, Playback & Backup by Event

Some models may support searching POS event.

① Click Start→Search and Backup→By Event to go to "By Event" tab as shown below.
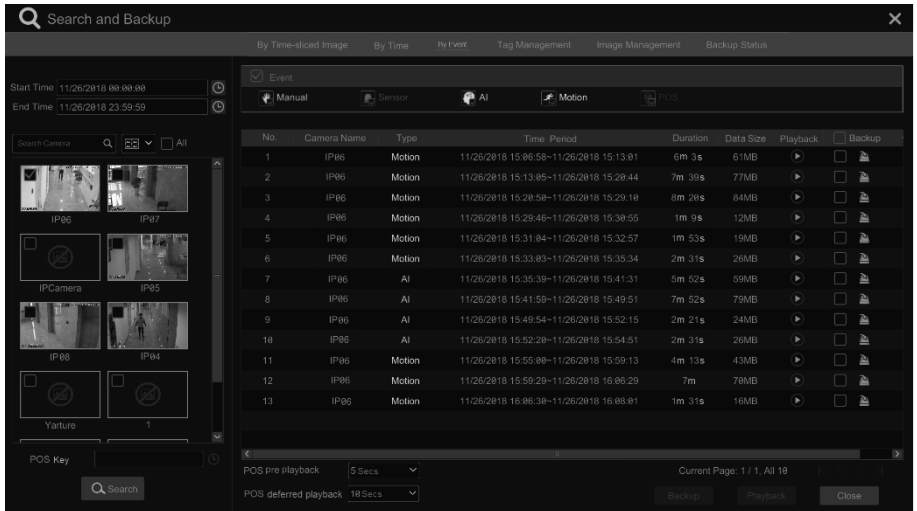
② Check the event type in the interface as required.

③ Click ⏱ to set the start time and end time on the top left of the interface.

④ Check cameras on the left side of the interface or check "All" to select all the cameras and then click <img> to search the recording. The searched recording will be displayed in the list.

⑤ Click <img> in the list to play back the recording in the popup window. Click <img> to back up one recording data or check multiple recording data in the list and then click "Backup" for recording batch backup.

⑥ Select one record data in the list and then click "Playback" to play the record in the playback interface.

8.4.4 Search & Playback by Tag

Only if you add the tags can you play the recording by tag search. Click Start→Playback to go to the playback interface and then click <img> on the bottom of the camera window to add tag when you want to mark the playback time point of the selected camera.

Click Start→Search and Backup→Tag Management to go to "Tag Management" tab.

No.	Name	Camera Name	Time	Playback	Edit	Delete
1	IP06_20181126160423	IP01	11/26/2018 00:04:23	►	✎	🗑
2	IP07_20181126160430	IPC250	11/26/2018 00:04:30	►	✎	🗑
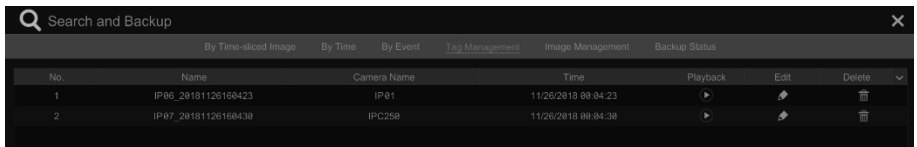
Click <img> in the interface to play the recording. Click <img> to edit the tag name. Click <img> to delete the tag.

8.4.5 Image Management

Click Start→Search and Backup→Image Management to go to "Image Management" tab. The system will display all the snapped images automatically in the list.

No.	Camera Name	Snapshot Mode	Snapshot Time	Creator	Browse	Export	Delete
1	IP01	Alarm	12/06/2018 19:00:58	IP01	🔍	🖼	🗑
2	IP01	Alarm	12/06/2018 18:53:30	IP01	🔍	🖼	🗑
3	IP01	Alarm	11/28/2018 03:51:42	IP01	🔍	🖼	🗑
4	IP01	Alarm	11/28/2018 03:51:14	IP01	🔍	🖼	🗑
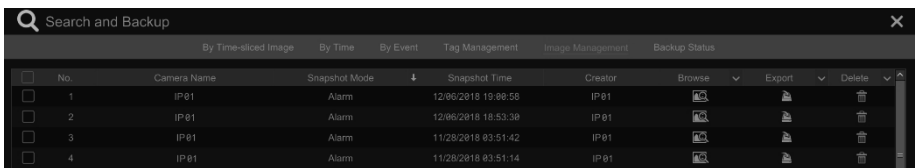
Click <img> to delete the image. Click <img> to pop up the "Export" window. Select the device name and save path in the window and then click the "Save" button.

Click <img> to pop up the "View Image" window. Click <img> to export the image. Click <img> to view the previous image; click <img> to view the next image; click <img> to delete the image; click <img> to play all the images.
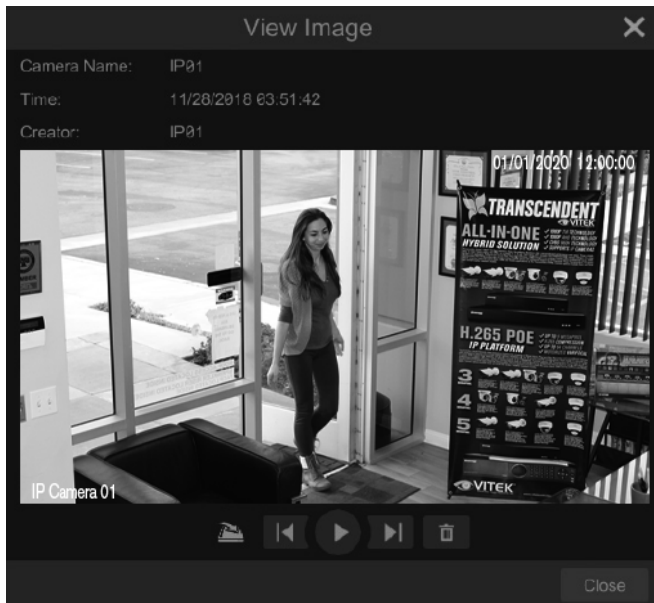
8.4.6 View Backup Status

Click Start→Search and Backup→Backup Status or click on the tool bar at the bottom of the playback interface to view the backup status.

9   AI Event Management

9.1 Face Recognition

Only some models support alarm based on face match. If your device does not support face recognition function, please skip the face database, and face recognition instructions.

Please set face recognition function according to the following procedures for the first time.

Set face detection and alarm linkage → *Add face group* → *Add faces to the face group* → *Enable*

and set successful recognition (or stranger) → *Set successful recognition (or stranger) alarm*

linkage

9.1.1 Face Detection Settings

Face Detection: Alarms will be triggered if someone intrudes into the pre-defined alarm areas.
①   Click Start→Settings→AI/Event→AI Event→Face Recognition→ Detection to go to the following interface.
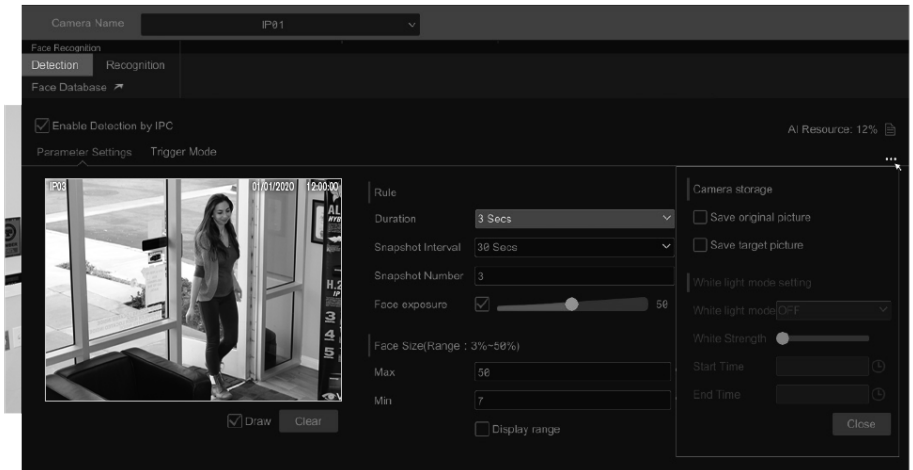
②   Select the camera, check "Enable Detection by IPC" and set the duration.
Note: Some models may support face detection by NVR. For these models, the camera without

AI function also can be added and used to detect faces through NVR. But if face detection by NVR is enabled for one camera (without AI), the people/vehicle perimeter detection cannot be enabled simultaneously, and vice-versa.

③   Set the snapshot interval and snapshot number. The snapshot interval refers to the time interval that the camera captures the same face during its continuous tracking period. The snapshot number refers to the picture number of the same face captured during its continuous tracking period (For example: the snapshot interval is set to "30 seconds" and the snapshot number is set to "3"; then the camera will capture the same face once every 30 seconds and it will capture this face 3 times at most during its continuous tracking period).

④   Enable face match exposure as need. When the brightness of the captured face is not enough, it can be enabled. (Only some IPCs support this function)

⑤   Set the alarm area. Click "Draw" and then drag the mouse to draw a detection area. Click "Clear" to delete the alarm area. Then set the detectable face size by defining the maximum value and the minimum value (The default size range of a single face image occupies from 3% to 50% of the entire image).
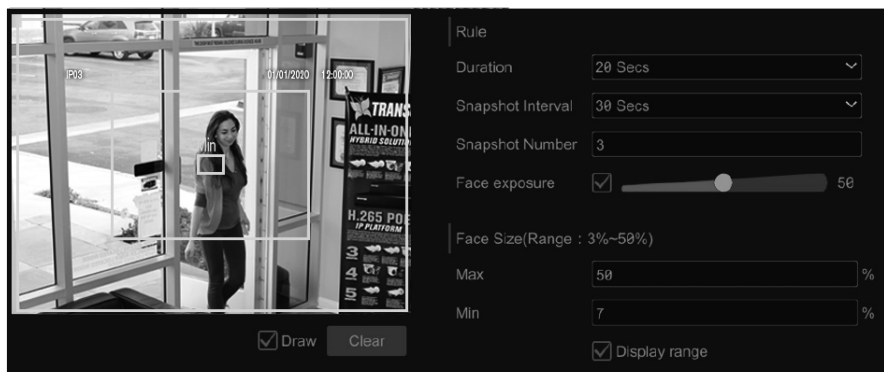
⑥   Enable "Save Source Information" or/and "Save Face Information" as needed. If enabled, the system will automatically save the corresponding images on the SD card. For the models with LED light, white light mode also can be set.

⑦   Click "Apply" to save the settings.

⑧   Click "Trigger Mode" to go to face detection alarm linkage setting interface:

Parameter Settings	Trigger Mode						
☐ Trigger General	Record	Configure	Alarm-out	Configure	Camera Name	Preset Name	
☑ Snapshot	IP01				IP02	None	∨
☐ Push					IP01	None	∨
☐ Buzzer					IP03	None	∨
☐ Pop-up Video							
☐ E-mail							

Apply

Face Detection Alarm Linkage Configuration:

● Trigger "Record", "Snapshot", "Push", "Alarm-out", "Preset", "Buzzer", "Pop-up Video" and "E-mail" as needed.

Record: Click the "Configure" button to pop up the window. Select camera on the left side and then click [>>] to set the camera as the trigger camera. Select trigger camera on the right side and then click [<<] to cancel the trigger camera. Click "OK" to save the settings. The trigger cameras will record automatically when faces are detected.

Alarm-out: Click the "Configure" button to pop up the window. Then the "Trigger Alarm-out" window will pop up automatically. Configure the trigger alarm-out in the window. The system will trigger the alarm-out automatically when faces are detected. You need to set the delay time and the schedule of the alarm outputs. See 11.5.1 Alarm-out for details.

Preset: Click [∨] and then select the preset for each camera. To add presets, please see 6.2 Preset Setting for details.

Snapshot: check it. The current camera will capture images automatically when faces are detected.

Push: If it is enabled, the system will send messages when faces are detected.

Buzzer: if it is enabled, the system will begin to buzz when faces are detected. To set the delay time of the buzzer, please see 11.5.4 Buzzer for details.

Pop-up Video: if it is enabled, the system will pop up the corresponding video automatically when faces are detected. To set the duration time of the video, please see 11.5.3 Display for details.

E-mail: if it is enabled, the system will send an e-mail when faces are detected. Before you enable the email, please configure the recipient's e-mail address first (see 13.1.5 E-mail Configuration for details).

⑨ Click "Apply" to save the settings.

9.1.2 Face Database Management

① Click Start→Settings→AI/Event→AI Event→Face Recognition→Face Database to go to the following interface as shown below.
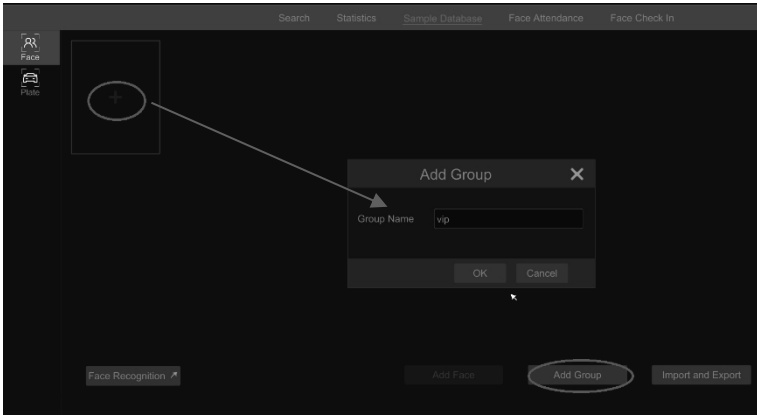
For the first time, you can click "+" or "Add Group" to add groups.

② To add targets for each group.

● Select a list and then click ![down arrow] to expand the list as shown below.
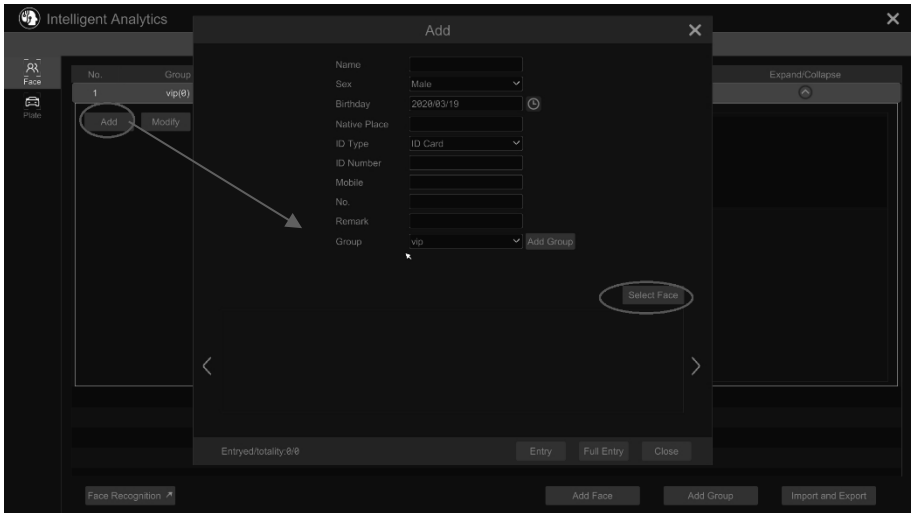
● Click "Add" and then click "Select Face" to add face images. You can add faces from snapshot gallery or external faces.

Adding faces from snapshot gallery: Select search time or self-define the search time and then click "Search" to search target faces. Then select the desired faces and click "Select".
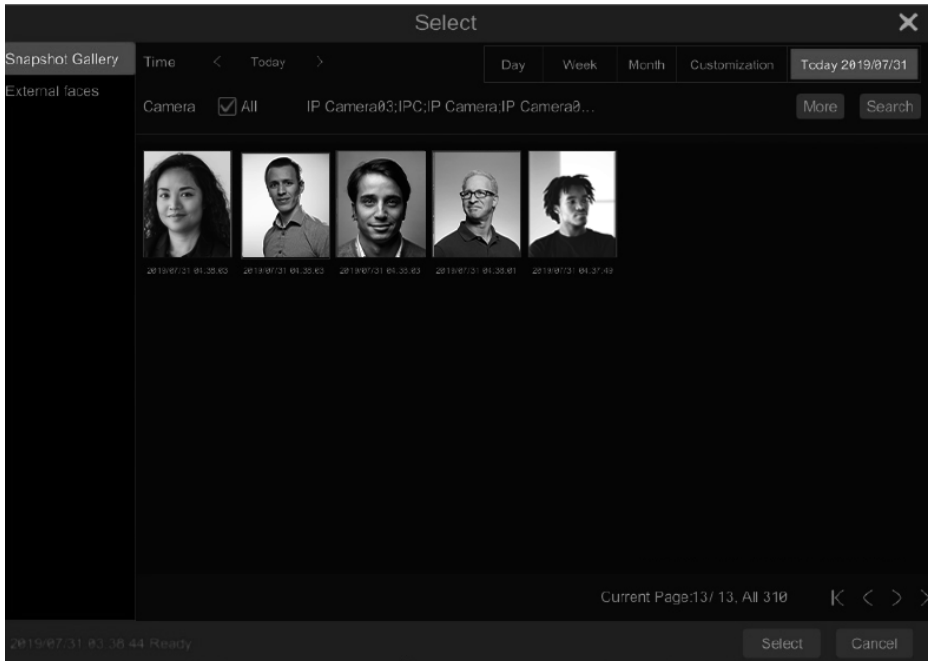
Add external faces

Save the face pictures in your USB storage device and then insert the USB storage device into the USB port of the NVR.

Go to the face database interface. Click [icon] to expand the group and then click "Add".   Select "External faces" to select face pictures. You can select one face to add or multiple faces to add.

To add multiple faces: a. put face pictures and the description file (.csv or .txt) to one specific folder (please edit the detailed descriptions of these pictures according to the personal information description); b. click "All" to select all face pictures; c. click "Full Entry".

Note: the added image must be less than 70KB and the image format should be ".jpg" and ".jpeg".

● After that, add the corresponding information, like name, gender, birthday, ID number, phone number and so on.

Having saved the target image, click the image and then the detailed information will be listed on the right.
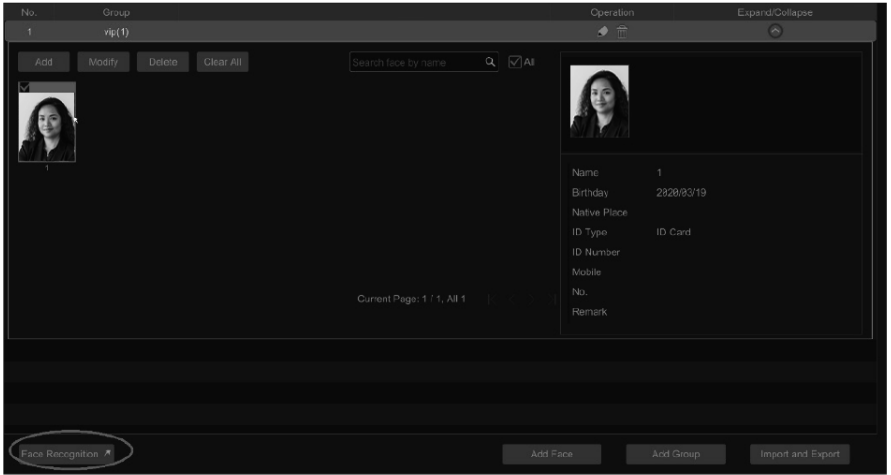
● Import and Export Face database
Insert your mobile storage device into the USB interface of the NVR and then click "Import and Export" to import or export the face database settings.

9.1.3 Face Recognition Settings

After the face database and face pictures are added, click "Face Recognition" to return to the face recognition setting interface. Click the "Recognition" tab to go to the following interface.
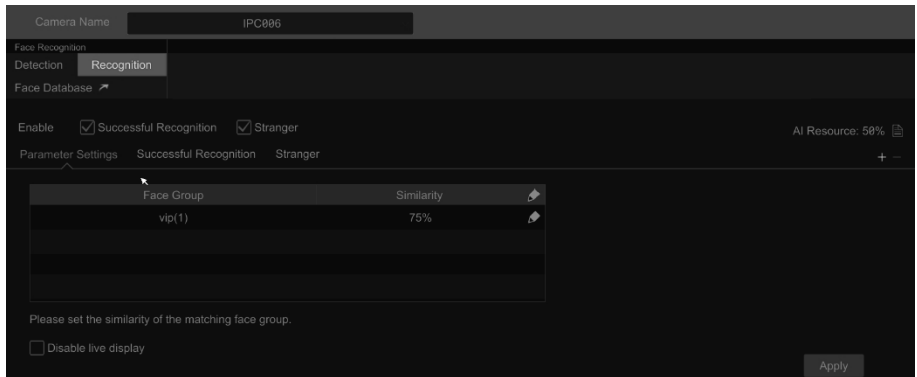
① Enable "Successful Recognition" or "Stranger". Click "Parameter Settings" to set the similarity of the matching face group.
Disable live display: if checked, the live view interface (target detection tab) will not display captured faces in real time.

②   Set the alarm linkage items of successful recognition.
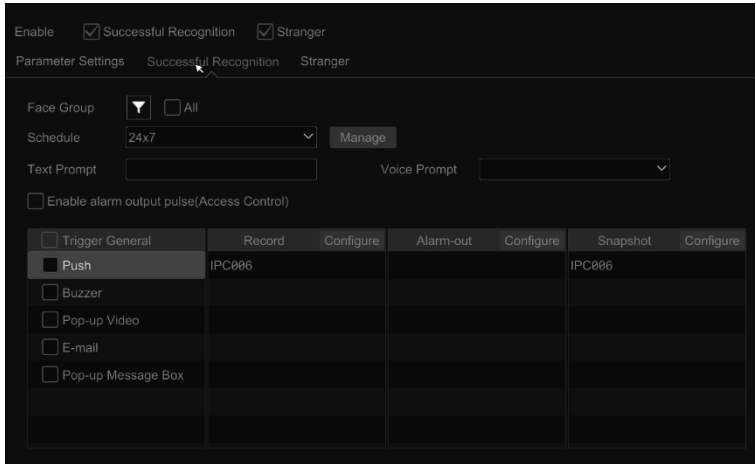
- Select one or more face groups and then choose the schedule. Click "Manage" to set the schedule.
- Set the text prompt and voice prompt. When the captured face is matched successfully, the text will appear on the right of the live view interface and broadcast the audio.
- Enable alarm output pulse (access control).
- Trigger record, snapshot, alarm-out, buzzer, push, pop-up video, E-mail and pop-up message box as needed. The alarm linkage settings are similar to the face detection alarm (see 9.1.1 Face Detection Settings for details).
- Click "Apply" to save the settings.

③ Set the stranger alarm linkage items. When the captured face picture doesn't match the face pictures in the face database or their similarity is lower than the set value, the captured person will be regarded as a stranger.
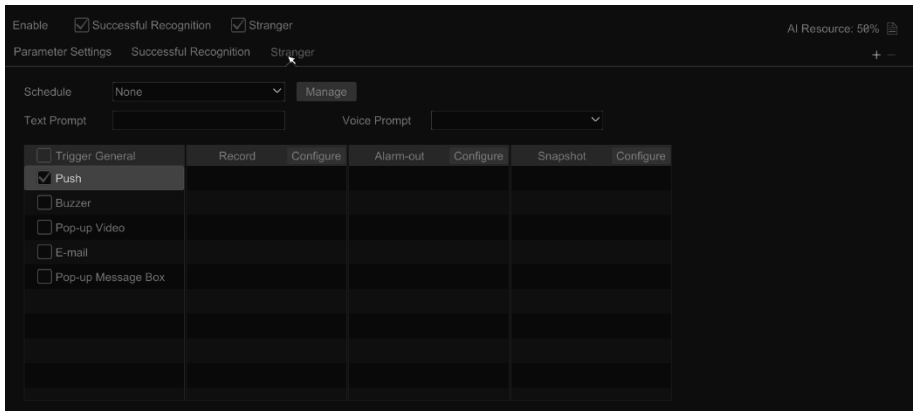
- Configure the schedule
- Set the text prompt and voice prompt. The text will show on the captured picture and the voice will be broadcasted when detecting a stranger.
- Trigger record, snapshot, alarm-out, buzzer, push, pop-up video, E-mail and pop-up message box as needed. The alarm linkage settings are similar to the face detection alarm (See 9.1.1 Face Detection Settings for details).
- Click "Apply" to save the settings.

④ Click "+" to add more successful recognition tasks. Select the added task and then click "–" to delete it.

9.2 License Plate Recognition

Please add the LPR camera before you using this function. If your camera doesn't support this function, please skip the following instruction.

Please set plate recognition function according to the following procedures for the first time.

Enable and set plate detection → Add plate group → Add plates to the plate group →

Enable license plate recognition → Set successful recognition (or strange plate) alarm linkage
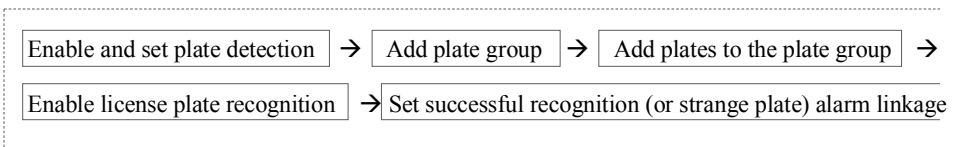
9.2.1 License Plate Detection Settings

Click Start→AI/Event→AI Event→LPR to go to the following interface. Select an LPR camera and click the "Detection" tab as shown below.

Set the plate size by defining the maximum value and the minimum value (The default size range of a single plate occupies from 5% to 50% of the entire image).

Display range: if enabled, the set maximum detection box and the minimum detection box can be displayed on the left window.

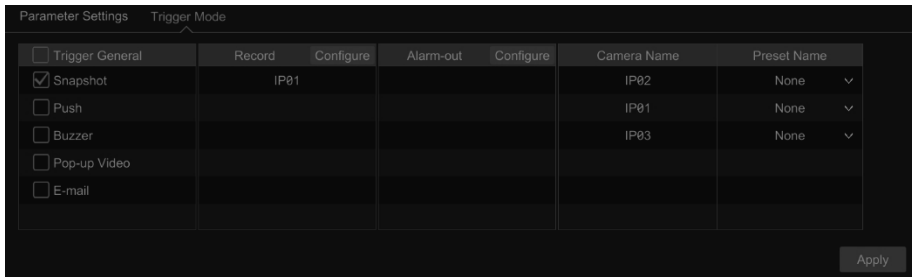Please select the entrance and exit according to the actual scene.
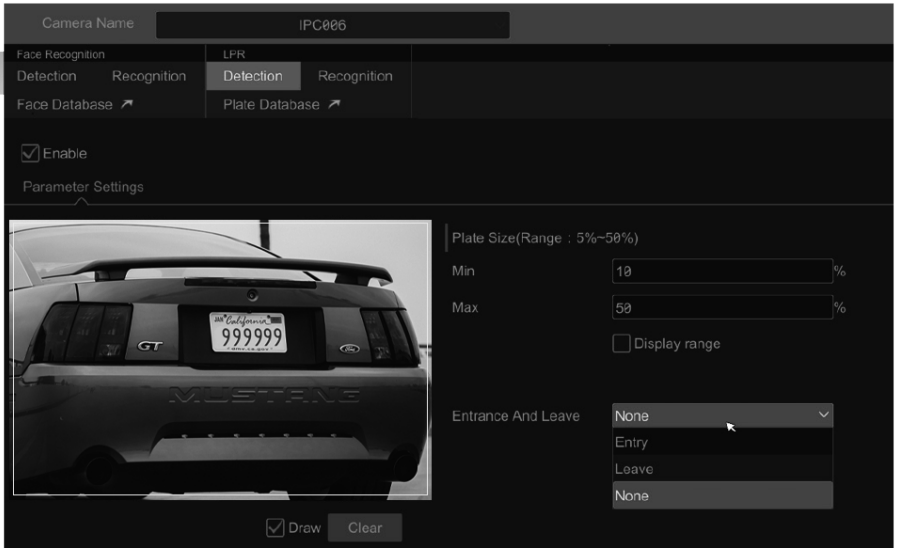
Set the alarm area. Click "Draw" and then drag the mouse to draw a detection area. Click "Clear" to delete the alarm area.

9.2.2 Plate Database Management

In the LPR interface, click the "Plate Database" tab to go to the plate database management interface as shown below.

For the first time, you can click "+" or "Add Group" to add groups.
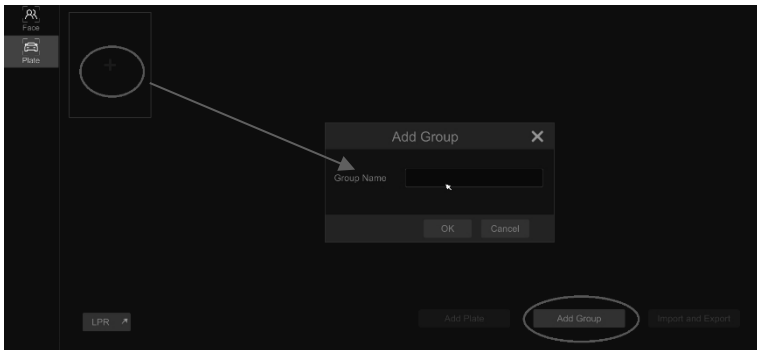
Add plates to each group:

① Click to extend the group. Click "Add Plate" to pop up the following window.
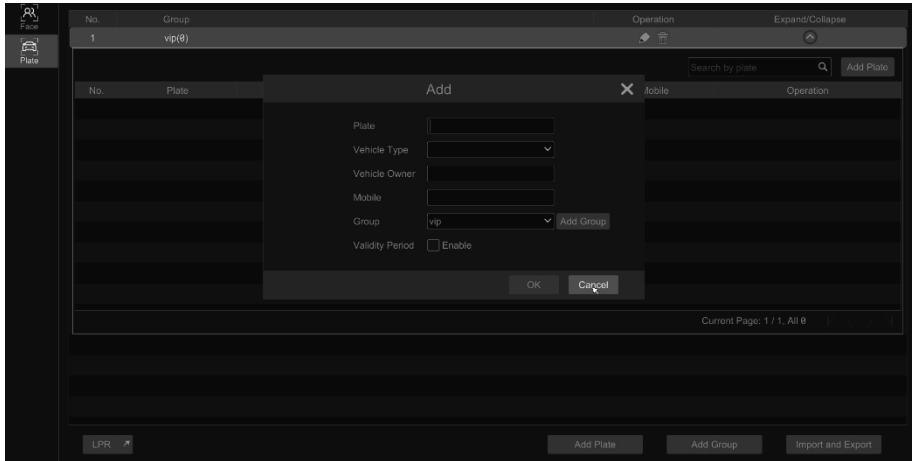
② Enter the plate, vehicle owner and mobile phone number.
③ Select the vehicle type and group.
④ Enable validity period to set the start and end time
⑤ Finally click "OK" to complete.

Select the added plate and then click to modify its information; click to delete this plate. The plates can be imported and exported in bulk by clicking "Import and Export". You can click "Plate Information Description" to view the detailed information about how to import or export the plate list.

9.2.3 License Plate Recognition Settings

① In the LPR interface, click the "Recognition" tab. Then enable "Successful Recognition" or "Strange Plate".
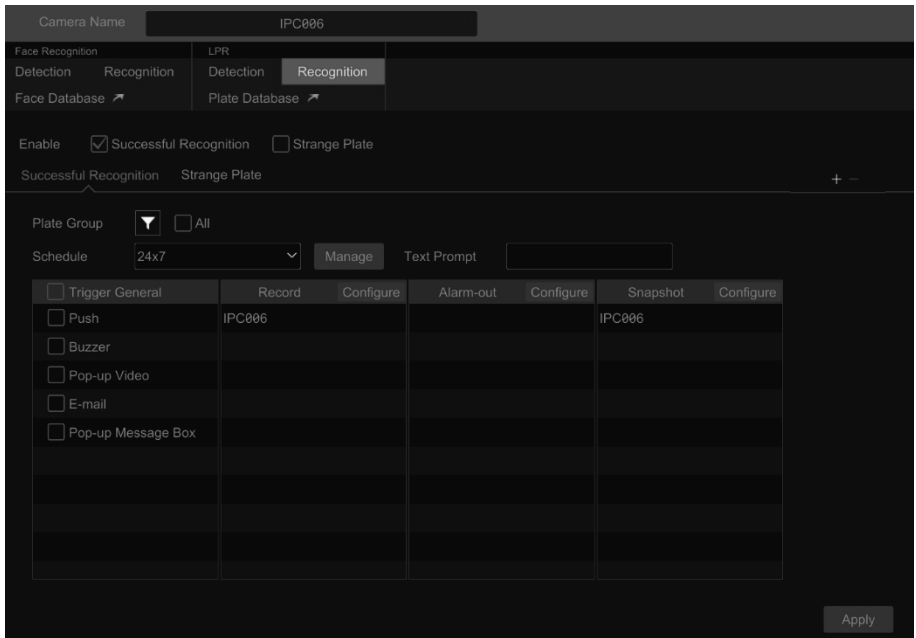
② Set the successful recognition alarm linkage.
- Select one or more plate groups and then choose the schedule. Click "Manage" to set the schedule.
- Set the text prompt. When the captured plate is matched successfully, the text will appear on the right of the live view interface.
- Enable alarm output pulse (access control).
- Trigger record, snapshot, alarm-out, buzzer, push, pop-up video, E-mail and pop-up message box as needed. The alarm linkage settings are similar to the face detection alarm (See 9.1.1 Face Detection Settings for details).

③ Set the strange plate alarm linkage. When the captured plate picture doesn't match the plates in the plate database or their similarity is lower than the set value, the captured plate will be regarded as a strange plate.

9.3 Tripwire

Tripwire/Line Crossing Configuration:

Alarms will be triggered if the people or vehicles cross the pre-defined alarm line.

① Click Start→Settings→AI/Event→AI Event →Tripwire to go to the following interface.
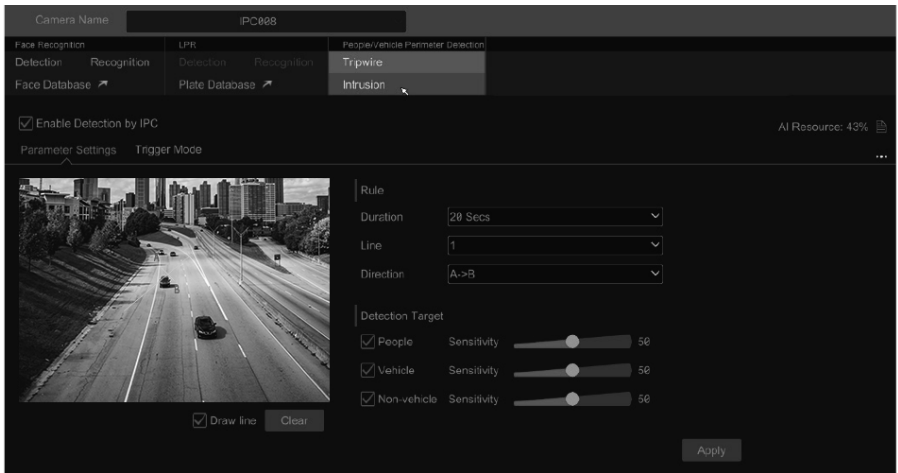
② Select the camera, enable tripwire detection by IPC and set the duration.
Note: Some models may support tripwire detection by NVR.

③ Select the direction.
Direction: A<->B, A->B and A<-B optional. It is the crossing direction of the target that crosses over the alert line.
A<->B: the alarm triggers when the target crosses over the alert line from B to A or from A to B.
A->B: the alarm triggers when the target crosses over the alert line from A to B.
A<-B: the alarm triggers when the target crosses over the alert line from B to A.
④ Draw line. Refer to the interface as shown above. Check "Draw line" and then drag the mouse in the image to draw an alert line. Uncheck the "Draw line" if you finish the drawing. Click the "Clear" to delete the alert line.
⑤ Click "Detection Target" to choose the detection target and the sensitivity. The detection target includes people, vehicle, and non-vehicle. Only some IPCs can detect human or vehicle separately. If the camera does not support this function, please skip this step.
⑥ Click "…" to choose "Save original picture" or "Save target picture" on the SD card of the camera. (If your camera does not support this function, please skip this step).
⑦ Click "Trigger Mode" to configure tripwire alarm linkage items.
● Enable or disable "Record", "Snapshot", "Push", "Alarm-out", "Preset", "Buzzer", "Pop-up Video" and "E-mail". The alarm linkage settings are the same as the face detection alarm (see 9.1.1 Face Detection Settings for details).
● Enable "IPC Audio" or "IPC Light" as needed (only some IPCs support these two functions). To set the IPC voice and its times and volume, please refer to 11.5.6 Audio for details. To set the light flashing time and frequency of the IPC, please refer to 11.5.7 Light for details.
⑧ Click "Apply" to save the settings.

9.4 Intrusion Detection

Intrusion Detection Configuration:

Alarms will be triggered if the people or vehicles intrude into the pre-defined area.

① Click Start→Settings→AI/Event →AI Event→Intrusion to go to the following interface.

② Select the camera, enable the intrusion detection by IPC and set the duration.

Note: Some models may support tripwire detection by NVR.

③ Select regional activities. "Appear" or "Cross" can be selected (if your camera doesn't support region entrance/exiting detection, "Cross" will not be enabled). If "Cross" is selected, you can choose the crossing direction.

④ Select the alarm area. Up to 4 alarm areas can be set up.

⑤ Draw the alarm area of the intrusion detection. Refer to the interface as shown below. Check "Draw Area" and then click around the area where you want to set as the alarm area in the image (the alarm area should be a closed area). Uncheck the "Draw Area" if you finish the drawing. Click the "Clear" to delete the alarm area.
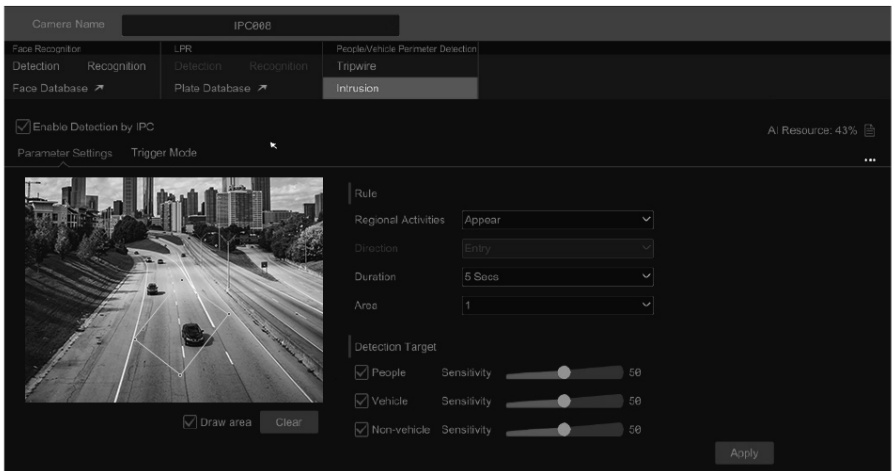
⑥ Click "Detection Target" to choose the detection target and the sensitivity. The detection target includes people, vehicle and non-vehicle.

⑦ Click "Trigger Mode" to configure intrusion detection alarm linkage items.

● Enable or disable "Record", "Snapshot", "Push", "Alarm-out", "Preset", "Buzzer", "Pop-up Video" and "E-mail". The alarm linkage settings are the same as the face detection alarm (see 9.1.1 Face Detection Settings for details).

● Enable "IPC Audio" or "IPC Light" as needed. (only some IPCs support these two functions). To set the IPC voice and its times and volume, please refer to 11.5.6 Audio for details. To set the light flashing time and frequency of the IPC, please refer to 11.5.7 Light for details.

⑧ Click "Copy To" to copy all settings to other cameras.

⑨   Click "Apply" to save the settings.

9.5 Abandoned/Missing Object Detection

①   Click Start→Settings→AI/Event→AI Event→Object Abandoned/Missing to go to the following interface.

②   Select the camera, enable the object detection, and set the duration and detect type. There are two detection types: Abandoned object and missing object.

Abandoned object: Alarms will be triggered if there are articles left in the pre-defined detection area.

Missing object: Alarms will be triggered if there are articles missing in the detection area drawn by the users.

③   Select the alarm area and area name. A maximum of 4 alarm areas can be set.

④   Draw the alarm area of the object detection. Refer to the interface as shown above. Check "Draw Area" and then click around the area where you want to set as the alarm area in the image (the alarm area should be a closed area). Uncheck the "Draw Area" when you finish drawing. Click "Clear" to delete the detection area.
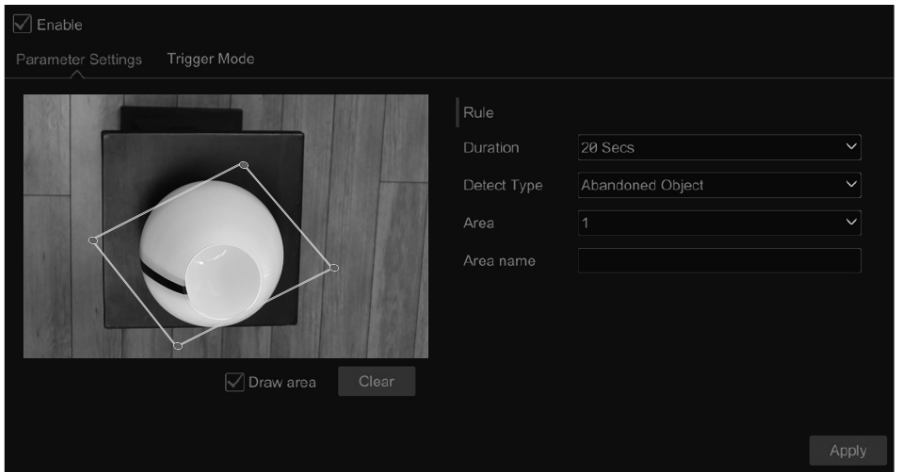
⑤   Click "Trigger Mode" to configure abandoned/missing object detection alarm linkage items. Enable or disable "Record", "Snapshot", "Push", "Alarm-out", "Preset", "Buzzer", "Pop-up Video" and "E-mail". The alarm linkage settings are the same as the face detection alarm (see 9.1.1 Face Detection Settings for details).

⑥   Click "Apply" to save the settings.

9.6 Crowd Density Detection

Only some IPCs may support this function.

Crowd Density Configuration:
Alarms will be triggered if the crowd density exceeds the set threshold value in the pre-defined area.

① Click Start→Settings→AI/Event→AI Event→Crowd Density to go to the following interface.
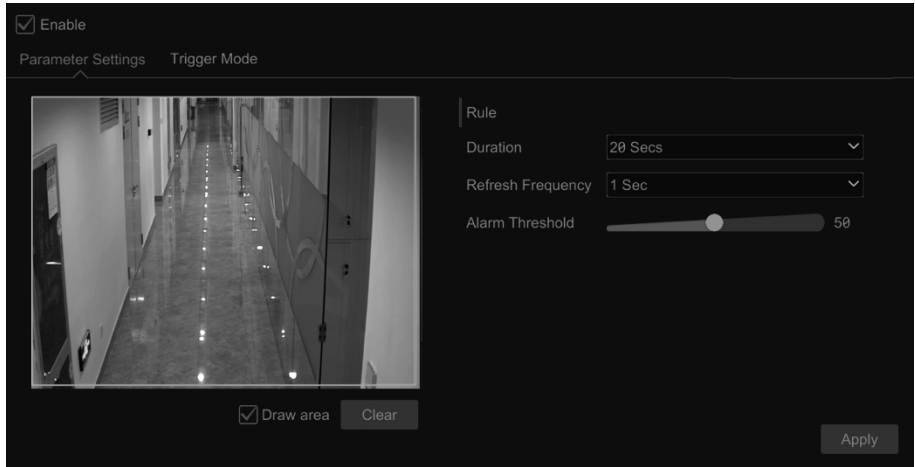
② Select the camera, enable the crowd density detection and set the duration, refresh frequency and alarm threshold.
Refresh Frequency: It refers to the refresh time of the detection result report.
Alarm Threshold: Alarms will be triggered once the percentage of the crowd density in a specified area exceeds the pre-defined threshold value.
④   Select the alarm area. Draw the alarm area of the crowd density detection. Refer to the interface as shown below. Check "Draw Area" and then drag the mouse to draw a rectangle area. Uncheck the "Draw Area" when you finish drawing. Click the "Clear" to delete the detection area.
⑤ Click 🖉 to configure crowd density detection alarm linkage items. Enable or disable "Record", "Snapshot", "Push", "Alarm-out", "Preset", "Buzzer", "Pop-up Video" and "E-mail". The alarm linkage settings are the same as the face detection alarm (see 9.1.1 Face Detection Settings for details).
⑥ Click "Apply" to save the settings.

9.7 Line Crossing Counting

Only some IPCs may support this function.

● **People counting in the pre-defined area**:
This function is to calculate the number of people entering or exiting in the detected area on the

video by detecting, tracking, and counting the head shapes of people.
Note: Only some specific IPCs may support this function.

① Click Start→Settings→AI/Event→AI Event→Line Crossing Counting to go to the following interface.

② Select the camera, enable the line crossing people counting detection and set the duration, sensitivity, statistic cycle, enter threshold, departure threshold and retention threshold.

Statistic cycle: Always, daily, weekly and monthly are optional.

Manual Reset: The current number of people counting will be cleared and the statistic cycle will restart by clicking "Manual Reset" button.

③   Set the alarm area and entrance direction. Click "Draw Area" and drag the mouse to draw a rectangle area. Drag the rectangle to change its position. Uncheck the "Draw Area" when you finish drawing. Click "Clear" to clear the area. Click and drag the arrow or the other end of the arrow line to change the people entrance direction.
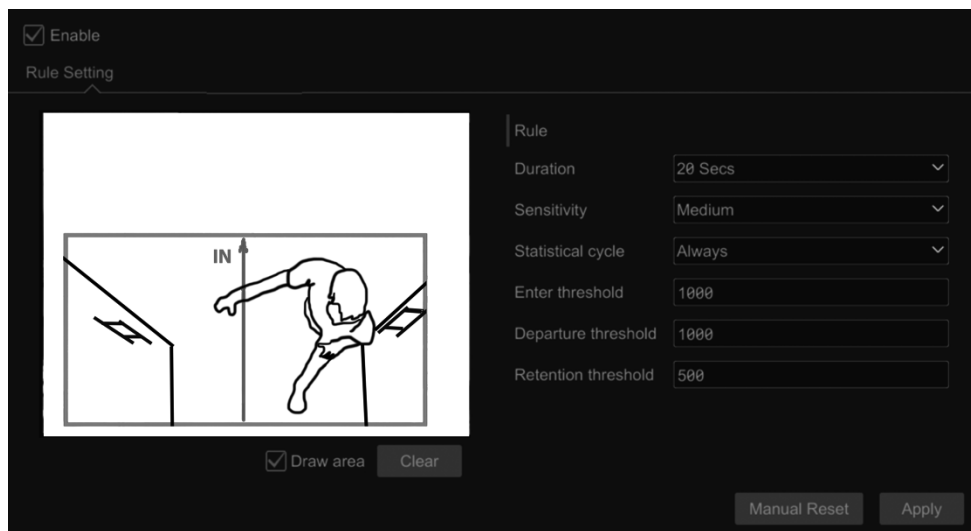
⑥   Click "Apply" to save the settings.

● **Line Crossing People/Vehicle/Non-Vehicle Counting**

Only some IPCs support this function. If your camera does not support this function, please skip the following instructions.

① Click Start→Setings→AI/Event→AI Event→Line Crossing Counting to go to the following interface.
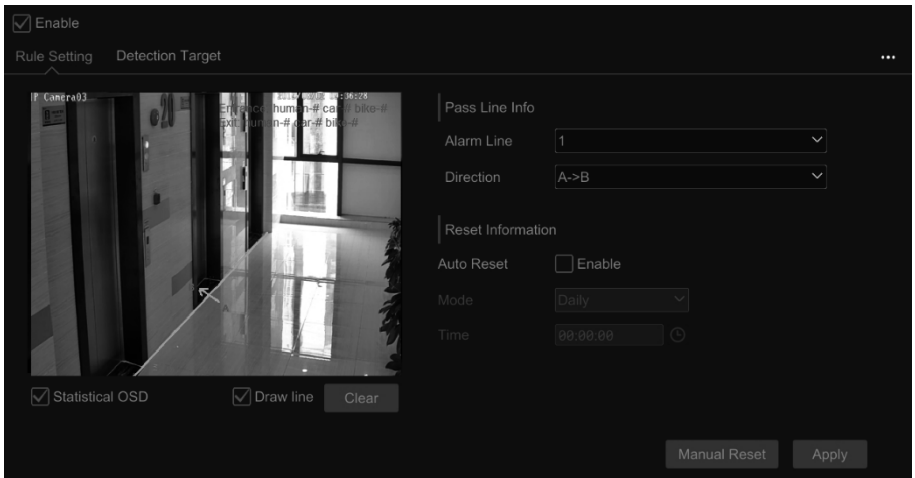
② Enable line crossing counting.

③ Check "Draw line" and then drag the mouse on the small window to draw the crossing line. Uncheck "Draw line" to finish the drawing. Click "Clear" to delete the alert line.

Direction: A->B and A<-B are optional. It is the crossing direction of the target that crosses over the alert line.

④ Check "Statistical OSD", the statistical information will be displayed on the live view interface.

⑤ Set the reset information. You can set reset information manually or enable "Auto Reset" as needed.

⑥ Click the "Detection Target" tab to set the detection target, including people, vehicle and non-vehicle.

⑦ Click "Apply" to save the settings.

9.8 Exception Detection

Exception Detection Configuration:

① Click Start→Settings→AI/Event→AI Event→Exception Detection to go to the following interface.
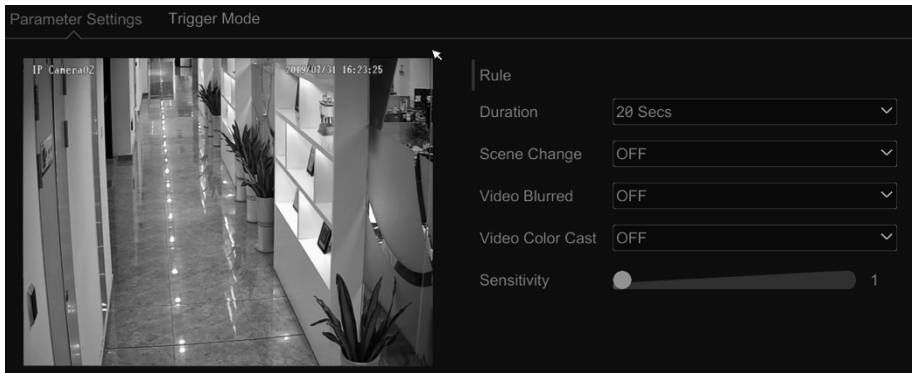
② Select the camera and detection duration and then enable the relevant detection as needed.

Scene Change: Alarms will be triggered if the scene of the monitor video has changed.

Video Blurred: Alarms will be triggered if the video becomes blurry.

Video Color Cast: Alarms will be triggered if the video becomes obscured.

③ Set the sensitivity of the exception detection.

④ Click "Trigger Mode" to configure exception alarm linkage items. Enable or disable "Record", "Snapshot", "Push", "Alarm-out", "Preset", "Buzzer", "Pop-up Video" and "E-mail". The alarm linkage settings are the same as the face detection alarm (see 9.1.1 Face Detection Settings for details).

⑤ Click "Apply" to save the settings.

10 Intelligent Analytics

10.1 Target Detection View

Only some models support target detection view. If your device does not support it, please skip the following instructions.

10.1.1 Human Body/Vehicle Detection View

Only when the camera supports human body/vehicle detection, can you view the real-time captured people or vehicle pictures. The setting steps are as follow:

① Enable the Tripwire/Intrusion function of IPCs/NVR, draw the line or area and choose the detection target (see 9.3 Tripwire and 9.4 Intrusion Detection for details).

② Go to live view interface and then click 🖥️ to go to the target detection interface of this channel. In this interface, you can switch the channel on the top right. You can also click 🗔 on the top right corner of the live view interface and then choose the target detection tab to go to the target detection interface of multi-channel as shown below. Click the captured picture on the right of the live interface to see the snapshot detailed information, such as snapshot time, camera, event type and target type.
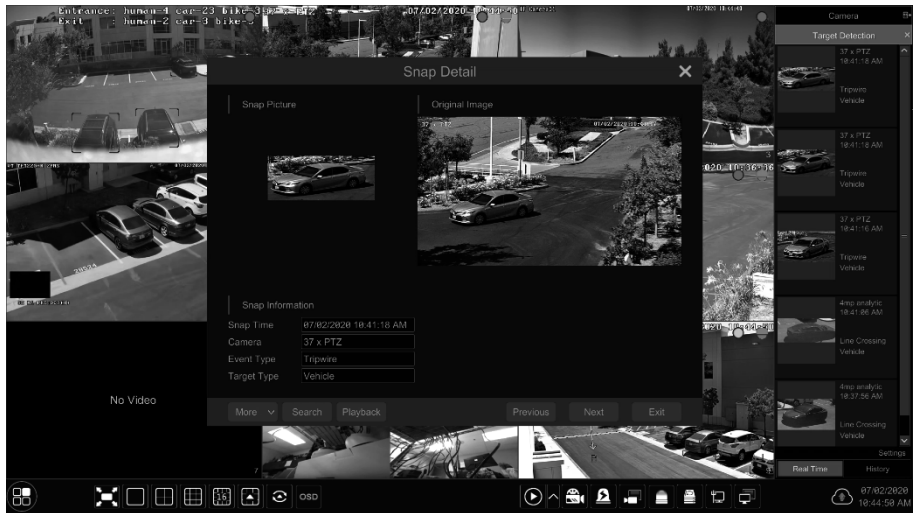
Click "More" to bring up a dropdown list. You can export the captured pictures by clicking "Export" or view the target ID by clicking "Information". Click "Search" to go to smart human body/vehicle search interface. The system will automatically search captured people/vehicles. Click "Playback" to go to the playback interface.

10.1.2 Face Detection/Match View

Only the face recognition NVR supports the following functions. If your NVR does not support

them, please skip the following instructions.

The setting steps are as follow:

① Enable face detection function (see <u>9.1.1 Face Detection Settings</u> for details).

②Enable face recognition function and set the alarm linkage items (see <u>9.1.3 Face Recognition Settings</u> for details).

③ Go to live view interface and click on a face detection channel. This will bring a toolbar under the channel. Then click 🖼 to go to the target detection interface of this channel. In this interface, you can switch the channel on the top right. You can also click ▦ on the top right corner of the live view interface and then choose the target detection tab to go to the target detection interface of multi-channel as shown below.
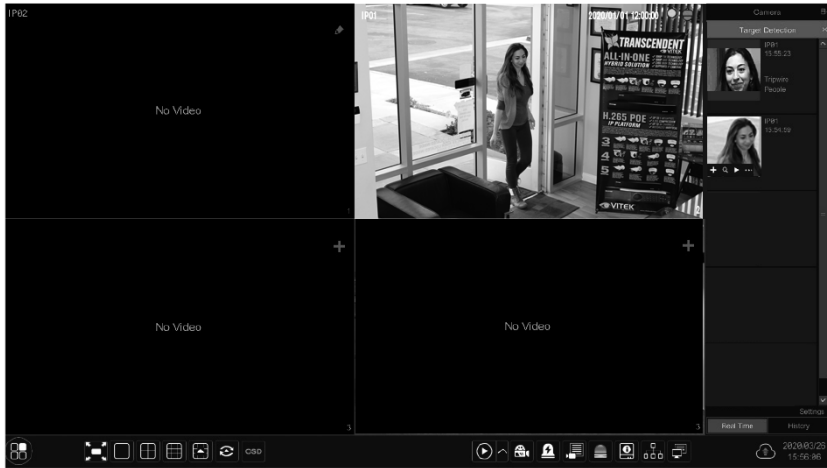
For unknown faces, you can select the face and click ➕ under the captured face to register this face (see the following picture); click 🔍 to quickly go to the smart face search interface where you can search the matching face information; click ▶ to quickly go to the smart face playback interface; click ••• to view snapshot details.

Before registering target face pictures, please add groups for them in advance (see 9.1.2 Face Database Management for details).

After the face pictures are registered, the system will compare them automatically once the corresponding faces are captured next time. Refer to the following picture.
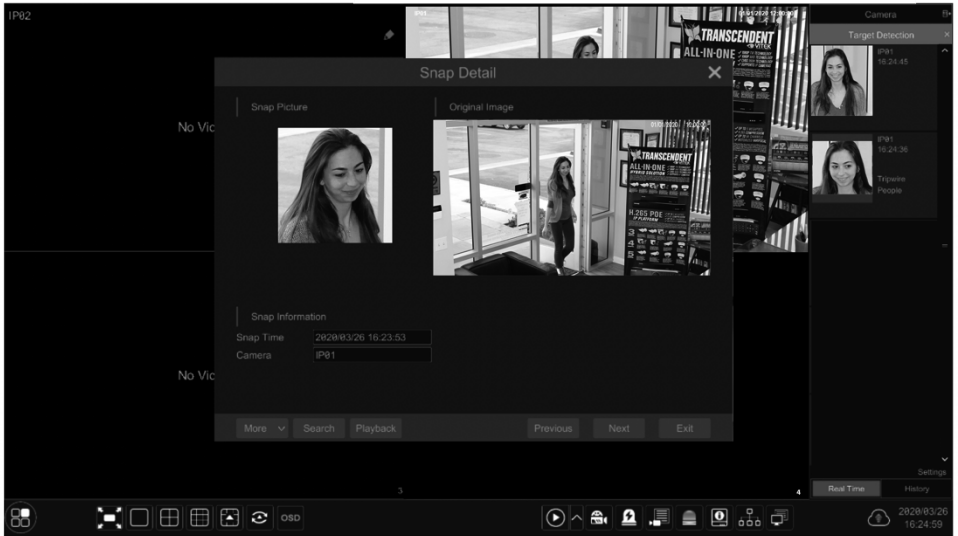
Double click the face picture to see the snapshot details, such as snapshot picture, original image, snapshot time and camera. Click "more" and then a dropdown list will display. Click "Register" to register the current snapshot. Click "Search" to go to face search interface. Click "Playback" to go to the playback interface. Click "Export" to export this snapshot details. Click "Information" to view face ID.

In the face match interface, click "Settings" to pop up the following window.
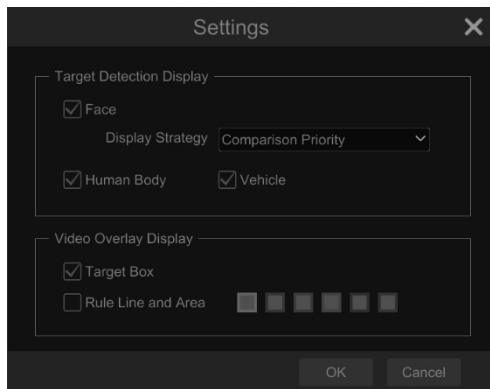
Target Detection Display: Face, human body and vehicle can be enabled. If disabled, the captured target picture will not be displayed under the target detection tab in the live view interface.

Display Strategy: Two options-Comparison priority and only comparison

Video Overlay Display:

If "Target box" is clicked, you will see the target traced by a little red box.

If "Rule Line and Area" is checked, you will see the rule line of tripwire detection and detection area of intrusion detection displayed on the screen. You can select the color of the rule lien and area as needed.
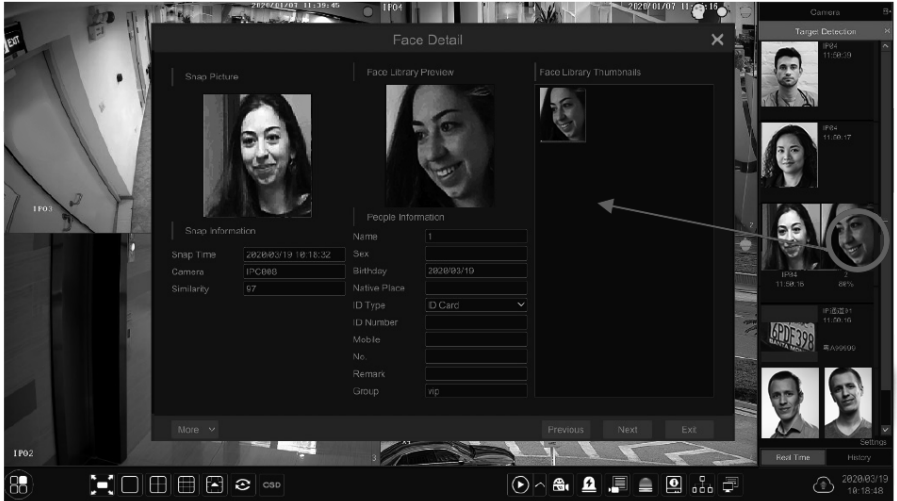
When the captured face pictures are successfully recognized, click the picture on the right to pop up a face detail window as shown. In this window, you can see the captured face picture, the matched picture of face library and the relevant information. You also can view the original image, search image by snapshot, play back by snapshot and export the face details by clicking "More" button.

Additionally, you can view the historical captured face pictures and face match information in the face match interface by clicking "History" tab. Besides registering face pictures in the live view interface, you can also add target face pictures in the face database interface.

10.1.3 License Plate Detection/Recognition View

Only when the LPR camera is added and enabled, can license plates be captured and matched. The setting steps are as follows

① Enable the plate detection function (See 9.2.1 License Plate Detection Settings for details). Then you can see the captured plates displayed in the live view interface as shown below.
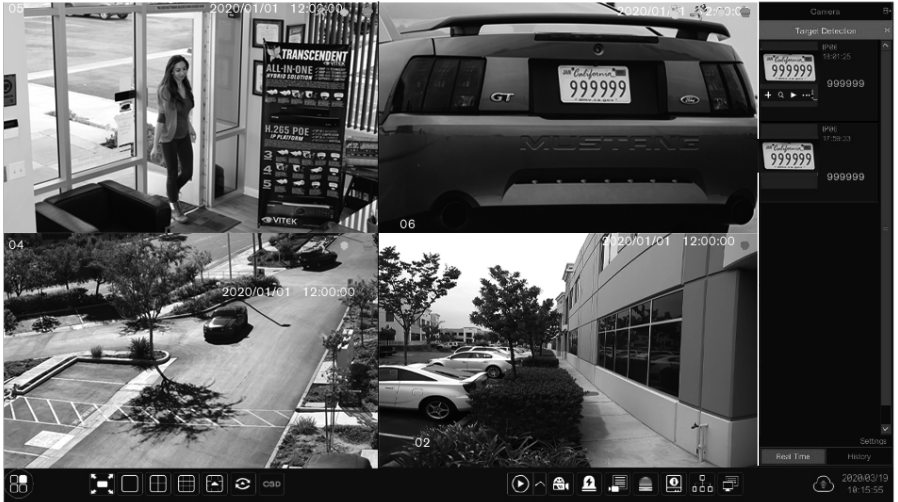
Put the cursor on the captured plate picture and then click ➕ to register this plate as shown below.
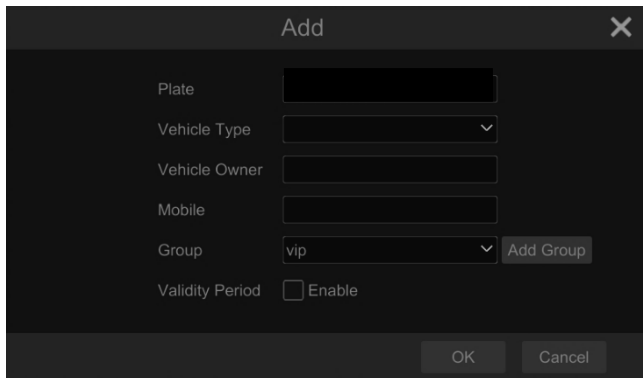
Click ••• to view the captured detail information. Click 🔍 to quickly enter the vehicle

search interface. You can search the matched plate information in this interface. Click ▶ to go to the smart playback interface.

② Enable license plate recognition function and set the alarm linkage items (see 9.2.3 License Plate Recognition Settings for details).
③ Go to live view interface and click 🗗 on the top right corner of the live view interface and then choose the target detection tab to go to the target detection interface of multi-channel

as shown below. When the plate is captured, it will be displayed on the right panel. If this plate is successfully matched, it will show "successful" beside the plate picture. The strange plate will show "Strange plate" beside the plate picture.
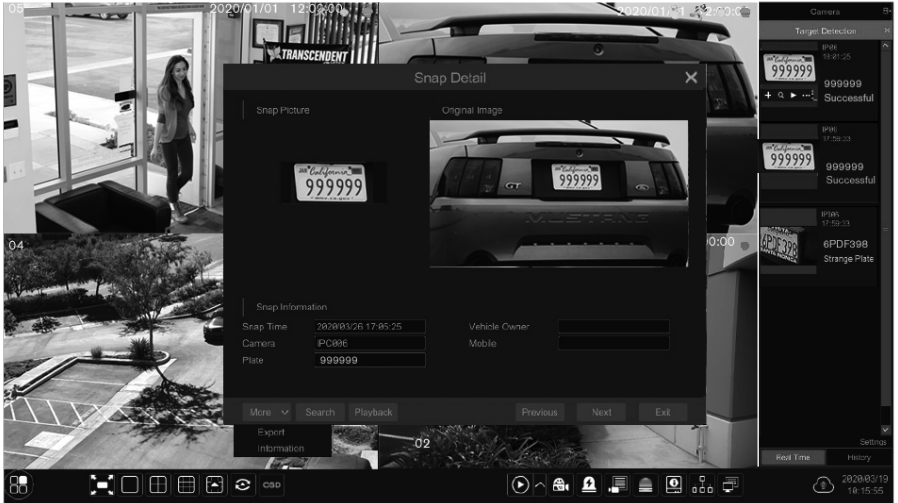
Click the captured plate picture and then it will pop up the detailed information window. You can view the snapshot picture, original picture, snapshot time, camera, etc. Click "More" to view the ID information of the target and export the captured picture. Click "Search" to go to the vehicle search interface. Click "Playback" to go to the playback interface.

10.2 Smart Search

10.2.1 Face Search

Only some models support this function. If your device does not support it, please skip the following instructions.

➢ **Face Search by Event**

① Click Start→ Intelligent Analytics → Search→Face to go to the following interface.
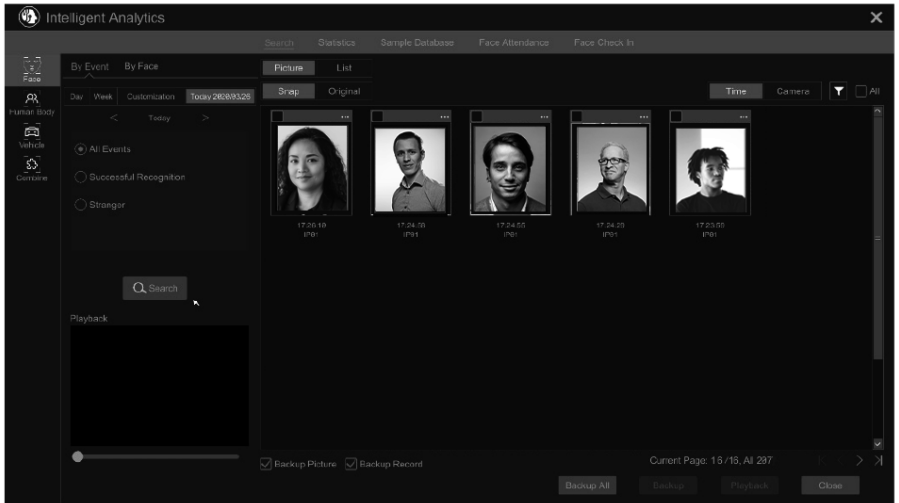
② Click 🔽 to choose face detection cameras.

③ Select all events, successful recognition, or stranger.

④ Click "Search" to search face pictures. You can view face pictures by time or by camera.

⑤ Click the searched face picture to play in the small playback window; select a face picture and click "Backup" to export it.

Click "Original" to see the original image as shown below.
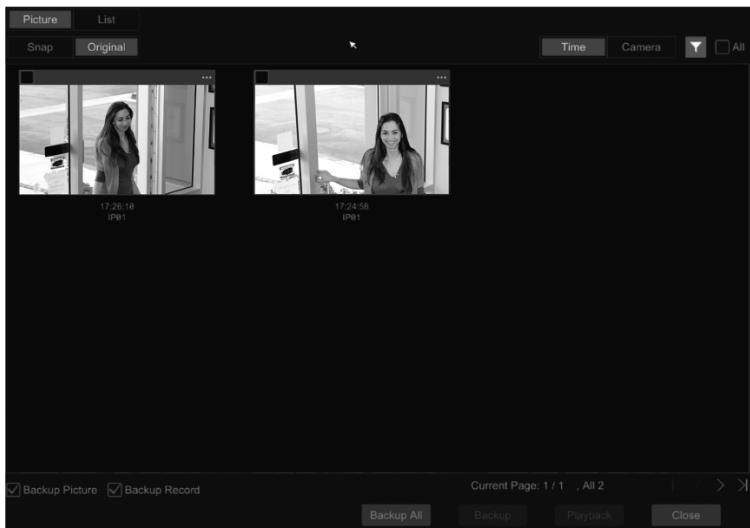
Click "List" to view the snapshot information list. Click ▤ to view the detail information; click 🖻 to back up the image.
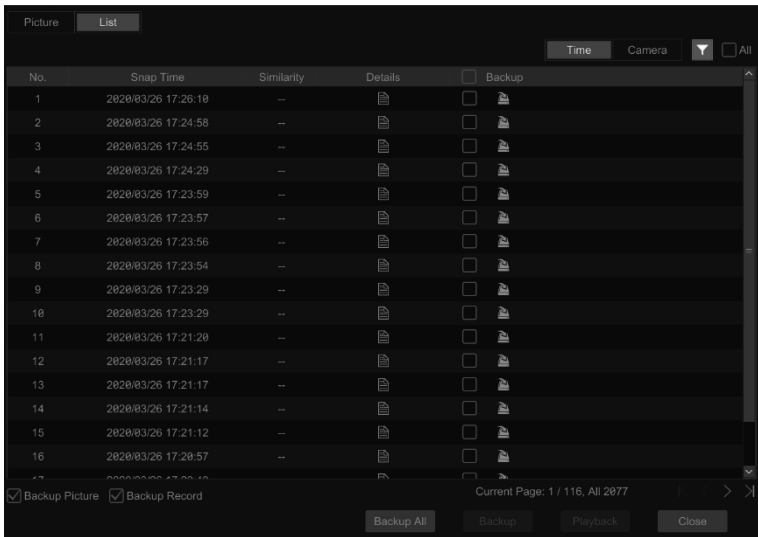
> ➢ **Face Search by Face**

In the face picture search interface, click "By Face" to go to the following interface.

① Click ➕ to add the target face which can be searched and added from recent, face database, snapshot gallery and external faces. A single face picture or multiple face pictures can be added and searched. (Take a single face picture for example)
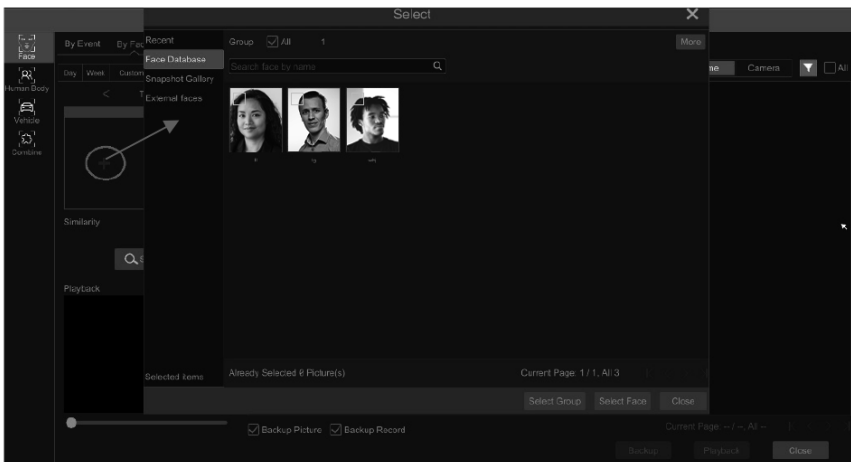
To add target face from recent
a. Choose the face.
b. Click "Select Face".

To add target face from face database:
a. Click "More" to choose groups.
b. Select a target face and click "Select Face".

To add target face from snapshot gallery:
a.   Select time and click "More" to choose cameras.
b.   Click "Search".
c.   Check a face and click "Select Face".

To add target face from external face:
a.   Save the target face to a USB storage device and then insert this device into the USB
interface of NVR.
b.   Select "External Face" to import the face in this interface.

④   Set similarity and then click "Search".
⑤   Click the searched image to play recording in the small window.
③   Select the searched image and click "Backup Picture" or "Backup Record". Then click
       "Backup" to build backups for pictures or recordings.
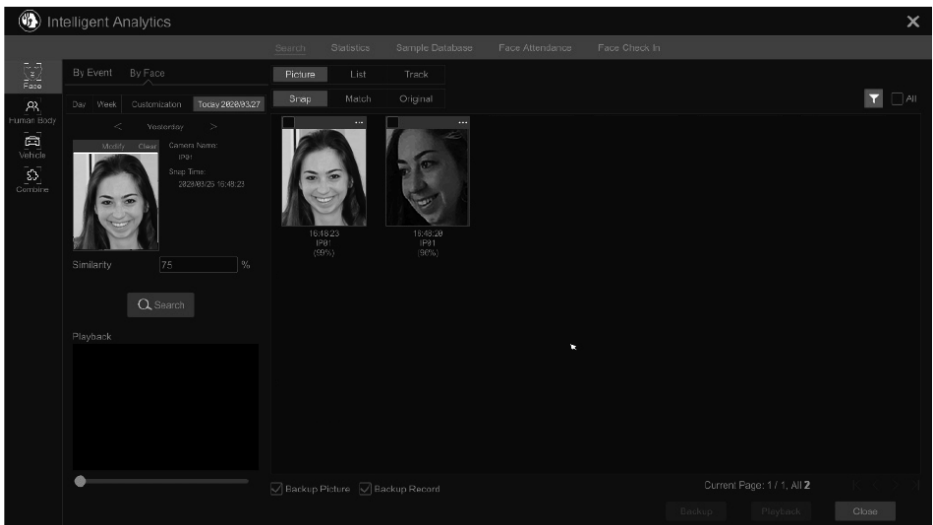
● **View Image by List**

Click "List" tab to view images by time as shown below.
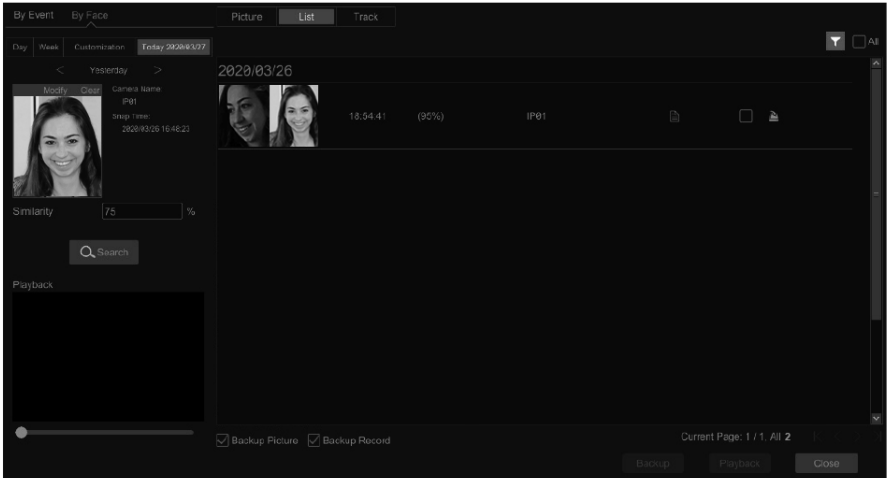
Click the searched image to play. Click to view the detail information of the compared target face.

● **View Match Images**

Click "Match" tab to view match images as shown below.
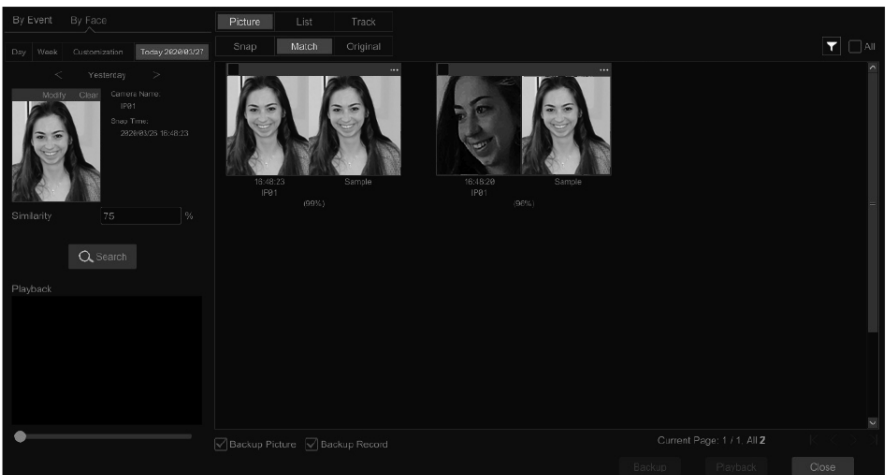
10.2.2 Track Playback

Select "Track" to go to the following interface.
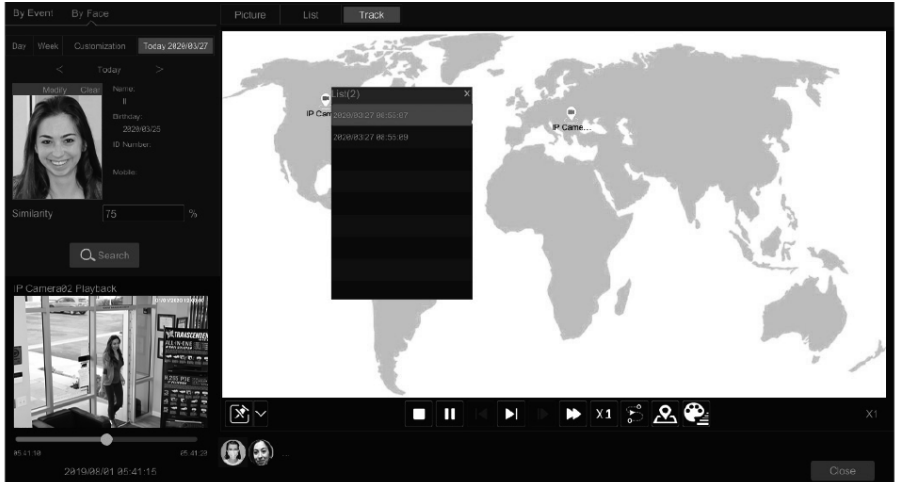
Note: Only when two or more cameras detect this person, can his/her track can be viewed here.

Descriptions of buttons on the track interface

	Fixed Window			Frame
	Followed Window			Fast Forward (x2; x4)
	Exchange Window		X1	Normal Speed
	Stop			Start/Stop Track
	Play			Edit Map
	Previous			Edit Color
	Next			

Click on the camera name and then an event list appears. Click one item to play the recording.

Click ∨ button beside the fixed window icon to show "Followed Window" and "Exchange Window" icons. The small playback window will float on the map window by clicking "Followed Window" as shown below.
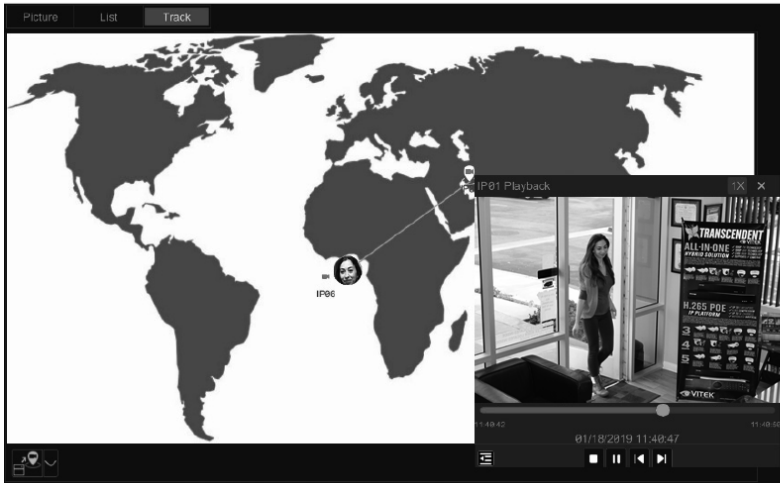
Click 1X to switch play speed. 1x and 2x can be switched. Click ⊟ to view event list. Click one item to play this event.

Click "Exchange Window" to switch the position of the map window and the playback window.
Click 🗺 button to go to the following interface.

Click "Load Map" to add a map. Then drag the camera names on the map to change their locations. Choose a color on the left color list to set your favorite color for camera names.

Load Map: ① Save the map to the USB storage device and then insert the USB storage device into the NVR. ② Click "Load Map" button to upload the map.

Click 🗺 button to modify the colors of camera name and track line and set the line width.

10.2.3 Face Search by Snapshot

In the live or playback interface, click on a face detection camera and then select 📷 on the toolbar. This will bring the following window.
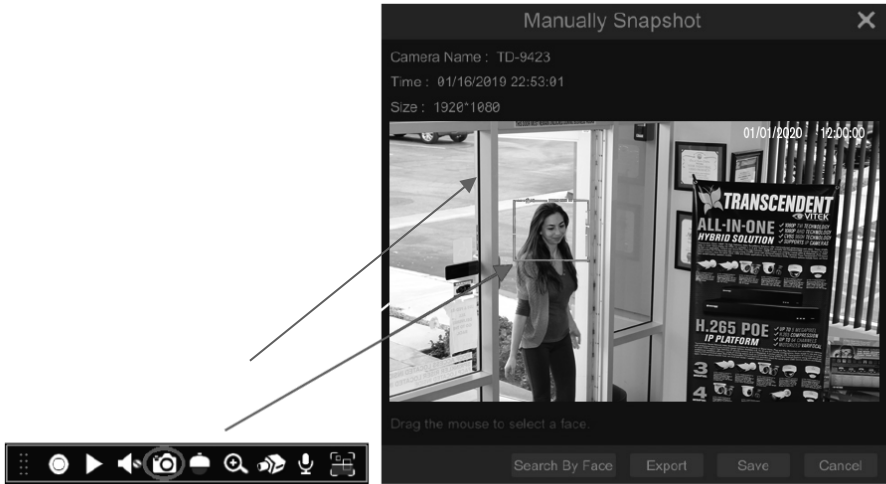
Drag the mouse to select a face and then click "Search by Face" to go to the face search by face interface. You can see its snapshot pictures, match pictures, original pictures and so on by clicking the corresponding tab.

10.2.4 Human Body Search

Click Start→ Intelligent Analytics→Smart Search→Human Body to go to the human body search interface.
Select the search time, camera and event and then click "Search" to view the searched pictures.
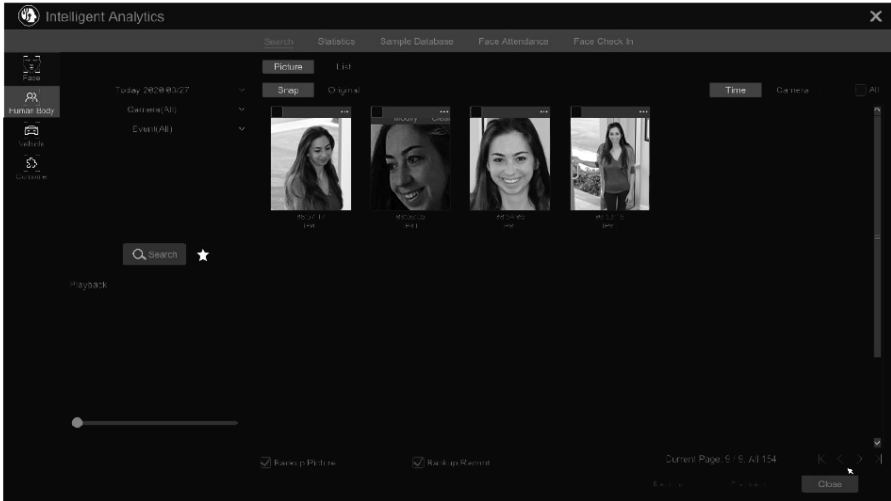
Click the searched picture to play the recording in the small window. Select pictures and check "Backup Picture" and/or "Backup Record" and then click "Backup" to back up the pictures and /or records. Click "Original" to view the captured original pictures. Click "List" to view the file list of the captured pictures.

Click ⭐ and select "Add to favorite" to add a favorite group and save the current searched pictures to the favorite group. Then you can quickly view these figure pictures by clicking ⭐ and choosing the group name.
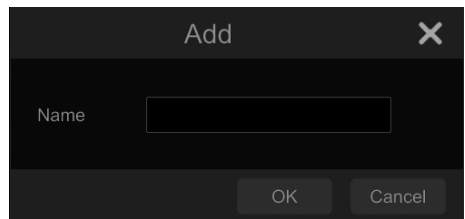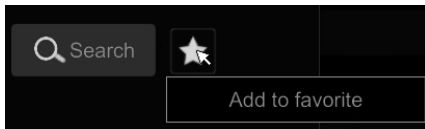
10.2.5 Vehicle Search

① Click Start→ Intelligent Analytics→Smart Search→Vehicle to go to the vehicle search interface.

② Select the time, camera, event, and vehicle type. Then click "Search" to search vehicles.

Event: Intrusion, Tripwire, Line Crossing Counting, Plate Detection, Plate Match-Successful Recognition and Plate Match-Strange Plate can be selected.

Attribution: Vehicle or non-vehicle can be selected.

You can view face pictures by time or by camera.
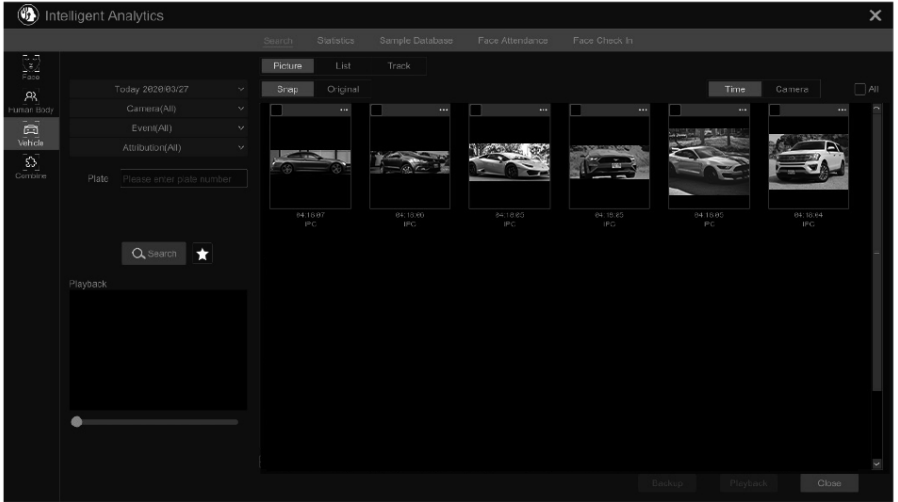
Click a searched vehicle picture to play it in the small window. Select vehicle pictures and check "Backup Picture" and/or "Backup Record" and then click "Backup" to back up the pictures and /or records.

③ Click "Original" to see the original pictures; click "List" to view the snapshot information list. Click 🗎 to view the detail information; click 📥 to back up the image.

Select "Plate Detection" or "Plate Match" to view plate image. You can also enter the plate number to search the plate pictures. Then you can view the track of this vehicle.
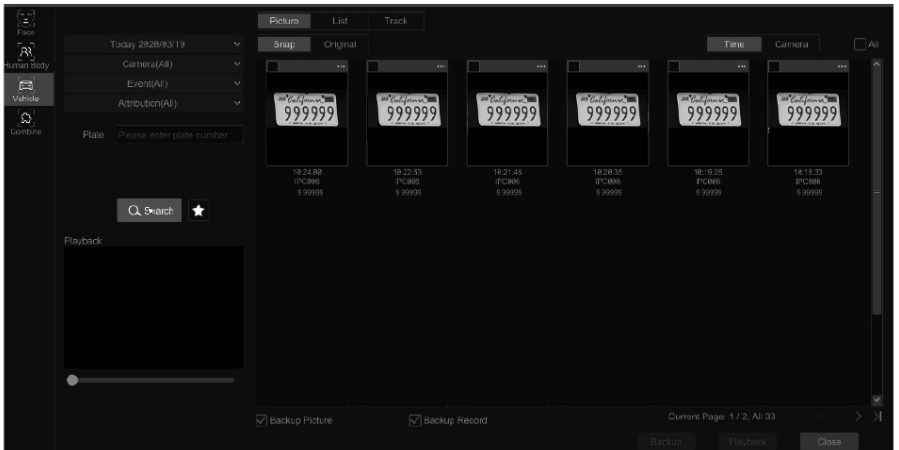
Click "Track" to view the track of the vehicle.

Note: Only one plate can be traced at a time and there must be two or more LPR cameras detect this vehicle, thus, you can view the track of this vehicle.

The track setting steps are similar to the face track settings. Please refer to face track settings for details.

Click ⭐ to add a favorite group and save the current searched pictures to the favorite group.

Then you can quickly view these vehicle pictures by clicking ⭐ and choosing the group name.

10.2.6 Combination Search

If you want to view the human body, vehicle, or face pictures simultaneously, you can choose combination search.

① Click "Combine".

② Select the search time, camera, event, and vehicle as needed.

Click a searched picture to play it in the small window. Select pictures and check "Backup Picture" and/or "Backup Record" and then click "Backup" to back up the pictures and /or records.

Click ⭐ to add a favorite group and save the current searched pictures to the favorite group.

Then you can quickly view these pictures by clicking ⭐ and choosing the group name.

10.3 View Statistical Information

Click Start→ Intelligent Analytics→Statistics to go to the following interface. In this interface, you can view the people and vehicle statistical information, or you can customize the statistical information.
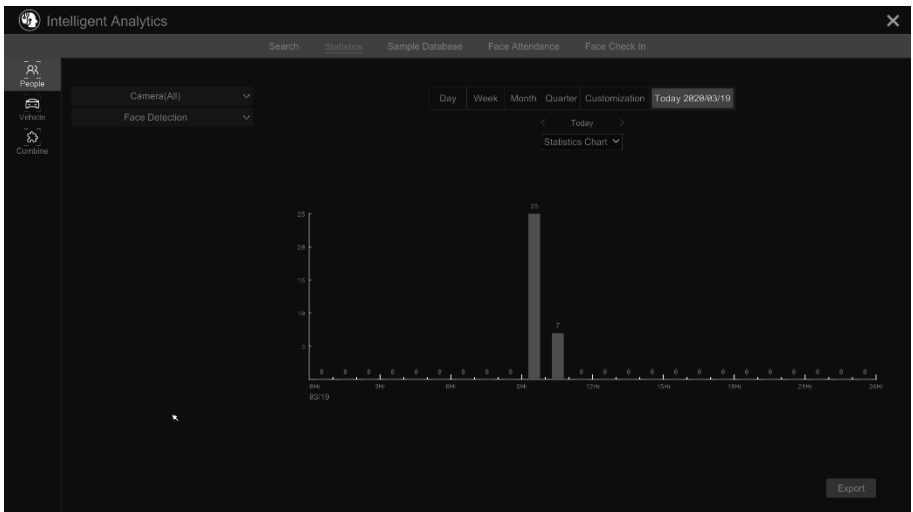
View People Information:

Note: The person information includes face information and figure information.

① Select the time.

② Select cameras.

③ Select events as needed, such as face detection, face match, intrusion, and tripwire.

Note: Face match events (successful recognition & stranger) are available for some models. If Face Match-Successful Recognition event is selected, you can choose "Detail Chart" to view.

View Vehicle Information:

● Click "Vehicle"

● Select the time and cameras.

● Select events as needed.

● Select the vehicle attribution.

To customize statistical information:

Click "Combine" and then select events, people and vehicle as needed.

10.4 Face Attendance

This function is only available for some models. If your device does not support it, please skip the following instructions.

Click Start→Intelligent Analytics→Face Attendance to go to the following interface.
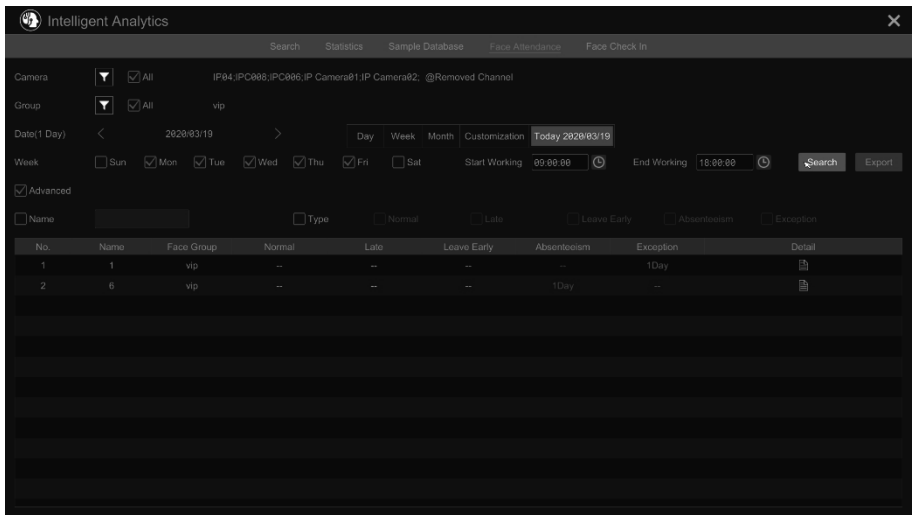
To search attendance information

① Click ▼ behind camera and group to choose the desired cameras and groups.

② Set the attendance date. You can choose day, week, month and today or customize the time.

③ Set the start time and the end time of working.

④   Click "Search" to view the attendance state.

If some specific person's attendance state needs to be known, you can click "Advanced" and then enter the name and choose the type.
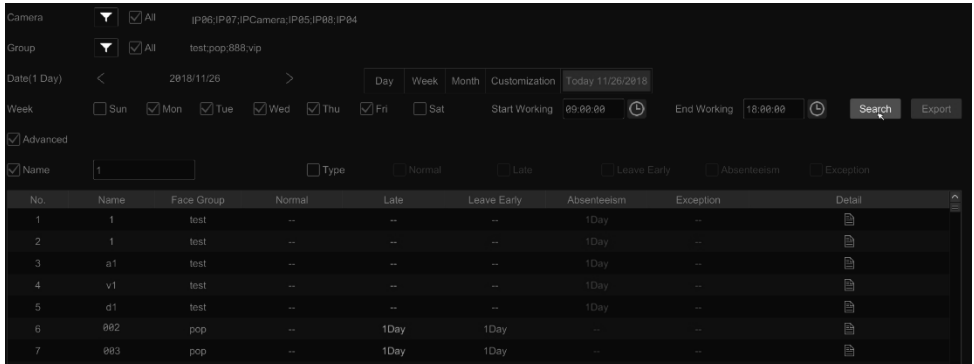
Click "Export" to export the searched attendance information.

Click to view the detailed information of attendance. In this interface, click to go to the face search interface.
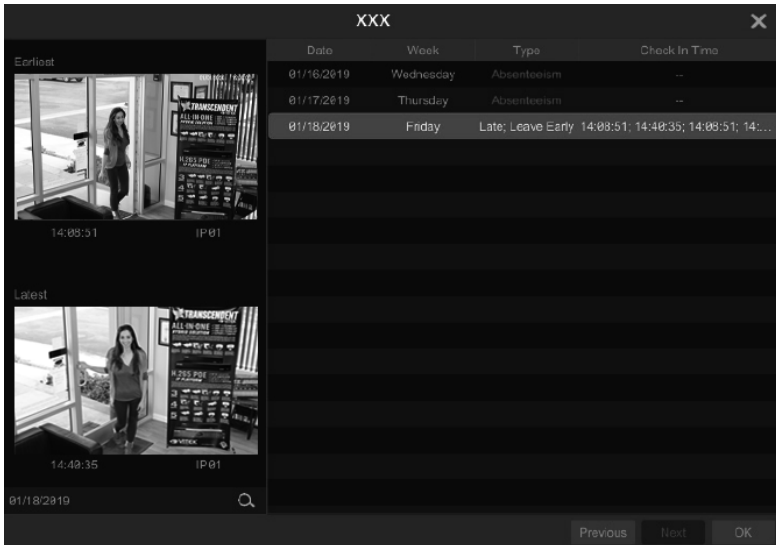
10.5 Face Check-In

Click Start→Intelligent Analytics→Face Attendance to go to the following interface. The search steps of face check-in are as follows.

① Click ▼ behind camera and group to choose the desired cameras and groups.

② Set the check-in date. You can choose day, week, month and today or customize the time period.

③ Set the start time and the end time of face check-in.

④ Click "Search" to view the check-in state.
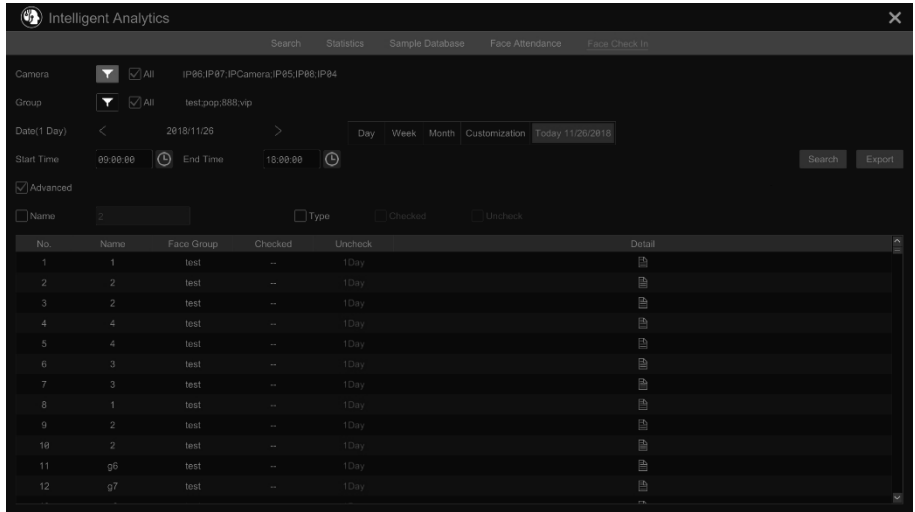
If you want to know the detailed check-in information of someone, please click "Advanced" and then enter the name and choose the type to search.

Click 📄 to view the detailed information. In this interface, the checked image can be viewed.

Click 🔍 to view the registered face picture of this person.
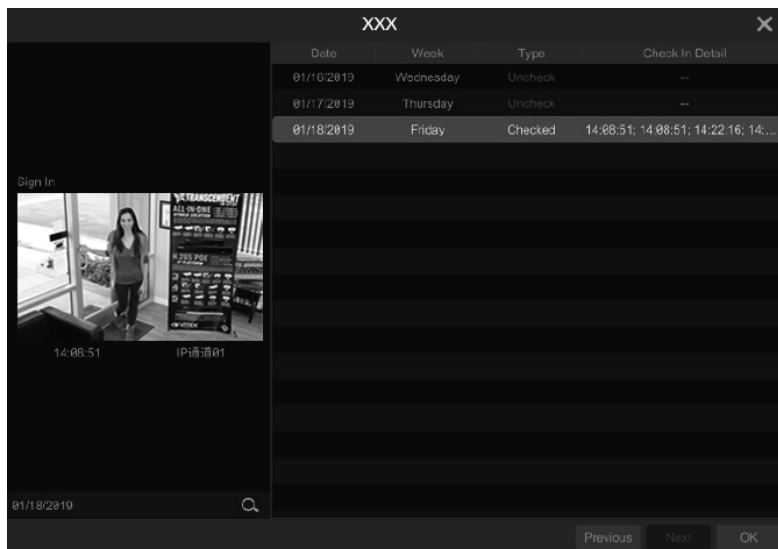
11 General Event Management

11.1 Sensor Alarm

To complete the entire sensor alarm settings, you should enable the sensor alarm of each camera and then set up the alarm handling of each camera.

① Click Start→Settings→Alarm→Sensor to go to the following interface.
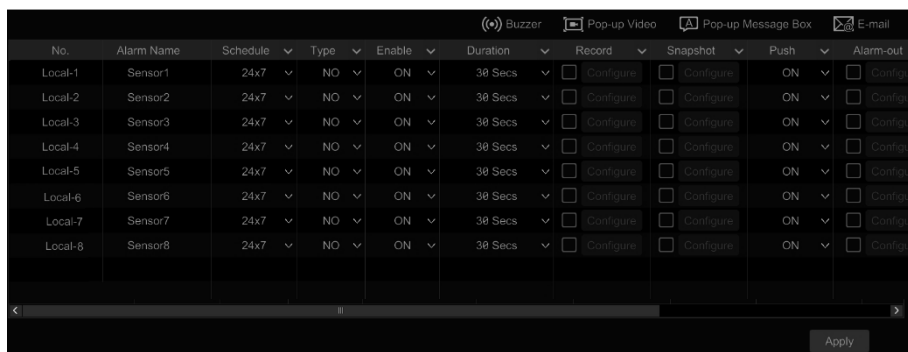
② Select the alarm type (NO or NC) according to trigger type of the sensor.
③ Enable the sensor alarm of each camera and select the schedule.
④ Check the "Duration", "Record", "Snapshot", "Push", "Alarm-out" and "Preset" and enable or disable the "Buzzer", "Pop-up Video", "Pop-up Message Box" and "E-mail" as required.
⑤ Click "Apply" to save the settings.

The configuration steps of the above-mentioned alarm linkages are as follows.

Duration: Refers to the interval time between the adjacent motion detections. For instance, if the duration time is set to 10 seconds, once the system detects motion, it will go to alarm and would not detect any other motion (specific to camera) for 10 seconds. If there is another motion detected during this period, it will be considered as continuous movement; otherwise it will be considered as a single motion.

Record: Check it and then the "Trigger Record" window will pop up automatically (you can also click the "Configure" button to pop up the window). Select camera on the left side and then click [>>] to set the camera as the trigger camera. Select trigger camera on the right side and then click [<<] to cancel the trigger camera. Click "OK" to save the settings. The trigger cameras will record automatically when the sensor alarm is triggered.

Snapshot: Check it and then the "Trigger Snapshot" window will pop up automatically. Configure the trigger camera in the window. The trigger cameras will capture images automatically when the sensor alarm is triggered.

Push: Check it and choose ON or OFF. If it is ON, the system will send messages when the sensor alarm is triggered.

Alarm-out: Check it and then the "Trigger Alarm-out" window will pop up automatically. Configure the trigger alarm-out in the window. The system will trigger the alarm-out automatically when the sensor alarm is triggered. You need to set the delay time and the schedule of the alarm outputs. See 11.5.1 Alarm-out for details.

Preset: Check it and then the "Trigger Preset" window will pop up automatically. Configure the trigger preset of each camera. To add presets, please see 6.2 Preset Setting for details.

Buzzer: If enabled, the system will begin to buzz when the sensor alarm is triggered. To set the delay time of the buzzer, please see 11.5.4 Buzzer for details.

Pop-up Video: After camera setting, the system will pop up the corresponding video automatically when the sensor alarm is triggered. To set the duration time of the video, please see 11.5.3 Display for details.

Pop-up Message Box: If enabled, the system will pop up the corresponding alarm message box automatically when the sensor alarm is triggered. To set the duration time of the message box, please see 11.5.3 Display for details.

E-mail: If enabled, the system will send an e-mail when the sensor alarm is triggered. Before you enable the email, please configure the recipient's e-mail address first (see 13.1.5 E-mail Configuration for details).

11.2   Motion Alarm

Motion Alarm: When motion appears in the specified area, it will trigger the alarm. You should enable the motion of each camera first and then set the alarm handling of the camera to complete the whole configuration of motion alarm.

11.2.1   Motion Configuration

① Click Start→Settings→Camera→Motion Settings to go to the following interface.

② Select the camera, enable the motion, and set the sensitivity and duration of the camera.
Sensitivity: The higher the value is, the more sensitive it is to motion. You should adjust the value according to the practical conditions since the sensitivity is influenced by color and time (day or night).
Duration: Refers to the interval time between the adjacent motion detections. For instance, if the duration time is set to 10 seconds, once the system detects motion, it will go to alarm and would not detect any other motion (specific to camera) for 10 seconds. If there is another motion detected during this period, it will be considered as continuous movement; otherwise it will be considered as a single motion.

③ Drag the camera image to set the motion area. You can set more than one motion area. Click "All" to set the whole camera image as the motion area. Click "Reverse" to swap the motion area and the non-motion area. Click "Clear" to clear all the motion areas.

④ Click "Apply" to save the settings. Click "Processing Mode" to go to the alarm handling configuration interface of the motion alarm.

11.2.2 Motion Alarm Handling Configuration

① Click Start→Settings→Alarm→Motion Alarm to go to the following interface.
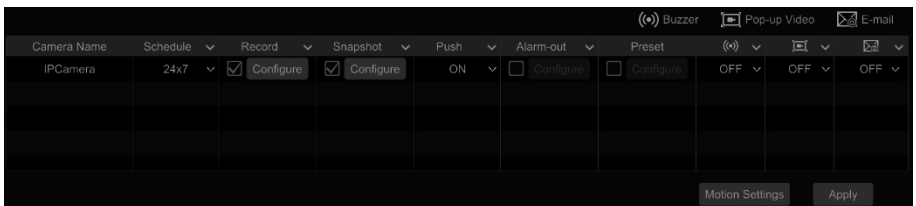
② Enable or disable "Record", "Snapshot", "Push", "Alarm-out", "Preset", "Buzzer", "Pop-up Video" and "E-mail". The alarm handling setting of motion alarm is similar to that of the sensor alarm (see 11.1 Sensor Alarm for details).

③ Click "Apply" to save the settings. You can click "Motion Settings" to go to the motion configuration interface.

11.3 Combination Alarm

① Click Start→Settings→Alarm →Combination Alarm to go to the following interface.

② Customize combination alarm. Set alarm name and click "Configure" under the Combined Alarm Configuration item. Then select alarm type and alarm source. Finally, click "OK" to save the settings.

③ Enable or disable "Record", "Snapshot", "Push", "Alarm-out", "Preset", "Buzzer", "Pop-up Video" and "E-mail". The alarm handling setting of combination alarm is similar to that of the sensor alarm (see 11.1 Sensor Alarm for details).

④ Click "Apply" to save the settings.
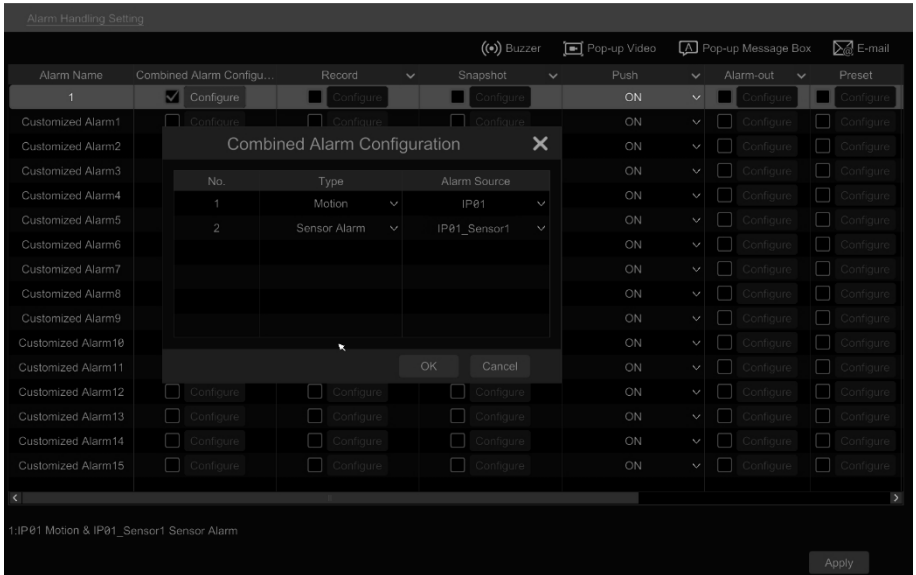
11.4　Exception Alarm

11.4.1　IPC Offline Settings

① Click Start→Settings→AI/Event→IPC Offline Settings to go to the interface as shown below.

② Enable or disable "Snapshot", "Push", "Alarm-out", "Preset", "Buzzer", "Pop-up Video", "Pop-up Message Box" and "E-mail". The IPC Offline Settings are similar to that of the sensor alarm (see 11.1 Sensor Alarm for details).

③ Click "Apply" to save the settings.

Camera Name	Snapshot ∨	Push ∨	Alarm-out ∨	Preset	((•)) ∨	▣ ∨	Ⓐ
IP Camera1	☐ Configure	ON ∨	☐ Configure	☐ Configure	OFF ∨	OFF ∨	ON
IP Camera02	☐ Configure	ON ∨	☐ Configure	☐ Configure	OFF ∨	OFF ∨	ON

((•)) Buzzer   ▣ Pop-up Video   Ⓐ Pop-up Message Box   ✉ E-mail

Apply

11.4.2 Exception Alarm Settings

① Click Start→Settings→AI/Event→Exception Alarm to go to the interface as shown below.

Event Type	Push ∨	Alarm-out ∨	((•)) ∨	Ⓐ ∨	✉ ∨
IP Address Conflict	ON ∨	☐ Configure	ON ∨	ON ∨	OFF ∨
Disk IO Error	ON ∨	☐ Configure	ON ∨	ON ∨	OFF ∨
Disk Full	ON ∨	☐ Configure	ON ∨	ON ∨	OFF ∨
No Disk	ON ∨	☐ Configure	ON ∨	ON ∨	OFF ∨
Illegal Access	ON ∨	☐ Configure	ON ∨	ON ∨	OFF ∨
Network Disconnection	ON ∨	☐ Configure	ON ∨	ON ∨	OFF
HDD is pulled out	ON ∨	☐ Configure	ON ∨	ON ∨	OFF ∨
Alarm Server Offline	ON ∨	☐ Configure	ON ∨	ON ∨	OFF ∨

((•)) Buzzer   Ⓐ Pop-up Message Box   ✉ E-mail
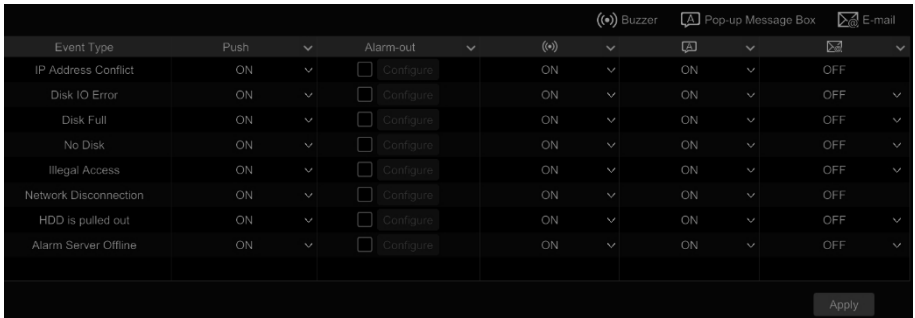
Apply

② Enable or disable "Push", "Alarm-out", "Buzzer", "Pop-up Message Box" and "E-mail". The exception handling settings are similar to that of the sensor alarm (see <u>11.1 Sensor Alarm</u> for details).

③ Click "Apply" to save the settings.

11.5 Alarm Event Notification

11.5.1 Alarm-out

① Click Start→Settings→Al/Event→Event Notification to go to the following interface.

No.	Name	Delay ∨	Schedule ∨	Test
Local-1	AlarmOut1	10 Secs ∨	24x7 ∨	Test
Local-2	AlarmOut2	10 Secs ∨	24x7 ∨	Test
Local-3	AlarmOut3	10 Secs ∨	24x7 ∨	Test
Local-4	AlarmOut4	10 Secs ∨	24x7 ∨	Test
IP Camera03-1	AlarmOut1	10 Secs ∨	24x7 ∨	Test
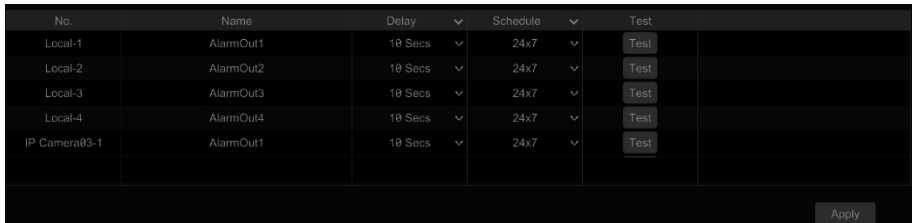
Apply

② Set the delay time and the schedule of each alarm-out. You can click "Edit Schedules" to edit the schedules (see <u>7.1.2 Schedule Settings</u> for details).

③ Click "Apply" to save the settings. You can click "Test" to test the alarm output.

11.5.2 E-mail

Click Start→Settings→AI/Event→Event Notification→E-mail to go to the e-mail configuration interface. Set the e-mail address of the recipients. See 13.1.5 E-mail Configuration for details.

11.5.3 Display

Click Start→Settings→AI/Event→Event Notification→Display to go to the display configuration interface. Set the duration time of the pop-up video and the pop-up message box. If your device support two outputs, please set the output of the pop-up video as needed. After that, click "Apply" to save the settings.
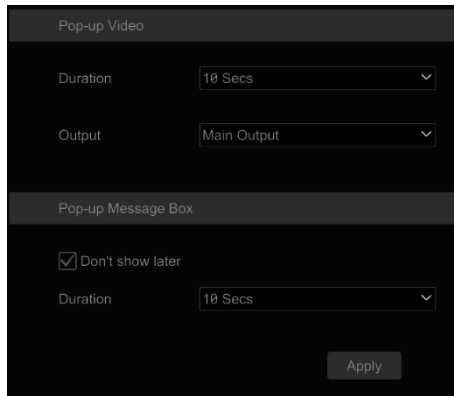
11.5.4 Buzzer

Click Start→Settings→AI/Event→Event Notification→Buzzer to go to the buzzer configuration interface. Set the delay time of the buzzer and then click "Apply" to save the setting. You can click "Test" to test the buzzer.
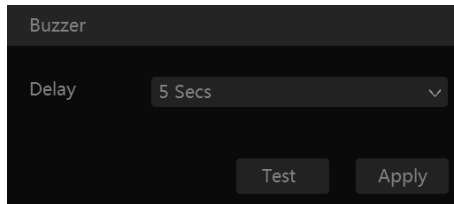
11.5.5 Push Message

Click Start→Settings→ AI/Event →Event Notification→Push Message to go to the interface as shown below. Check "Enable" and then click "Apply" to save the settings. If Push Server is online, it will push messages to the mobile clients.
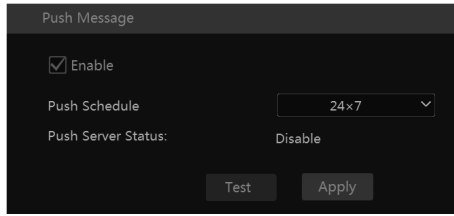
11.5.6 Audio

Click Start→Settings→ AI/Event →Event Notification→Audio to go to the interface as shown below.
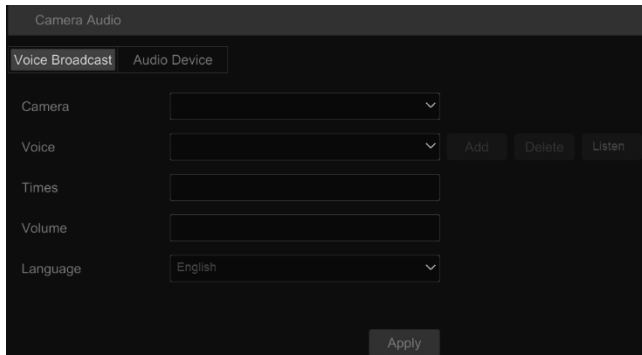
Camera audio settings:

For perimeter alert cameras, voice broadcast can be set up. Select the camera, voice, broadcast times, volume, and language. Then click "Apply" to save the settings. When an alarm is triggered, camera will broadcast the voice you set.

Voice: Click "Add" to add the alarm voice in wav. format. Click "Listen" to listen to the uploaded audio.

Click "Audio Device" to set the audio of the camera.
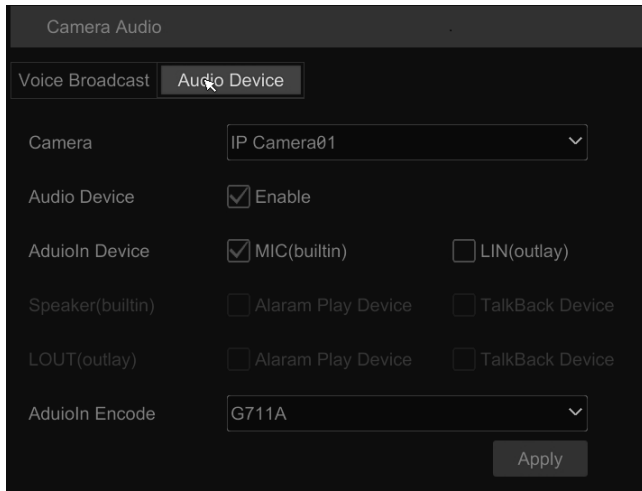
Select the camera and then enable audio device.

Audio In Device: Please select it according to the actual device configuration.

Speaker (built-in): Please select its function as needed.

LOUT: External audio output device, please select its function as needed.

Audio Input Encode: G711A/G711U

Local Audio Alarm

Set the audio alarm of local NVR.
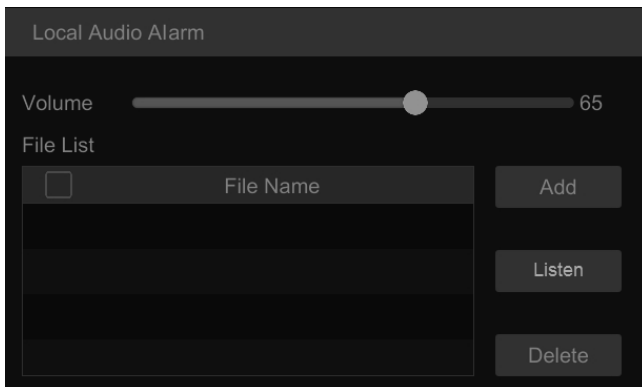
In this interface, you can set the volume of local audio. Click "Add" to upload the audio file. Choose the uploaded audio file and then click "Listen" to listen to it; click "Delete" to delete this file.

11.5.7 Light

Click Start→Settings→Alarm→Event Notification→Light to go to the interface as shown below. In this interface, you can set the light flashing time and frequency when an alarm is triggered.

Camera	Flashing Time	Flashing Frequency
IPC	20	Low ∨
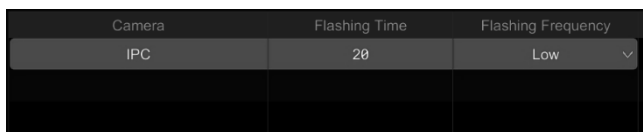
11.5.8 Alarm Server

Go to Alarm→Alarm Server interface as shown below.
Enable the alarm server and enter server address and port of the alarm server. Then select protocol. If "Send Heartbeat" is enabled, set the interval times. After that, test the effectiveness of the alarm server. Having tested successfully, please click "Apply". When an alarm occurs, the device will transfer the alarm event to the alarm server. If an alarm server is not needed, there is no need to configure this section.

Alarm Server	
☑ Enable	
Server Address	Enter Address
Port	Enter Port
Protocol	XML ∨
☐ Send Heartbeat	
Interval Time[s]:	10
	Test Apply
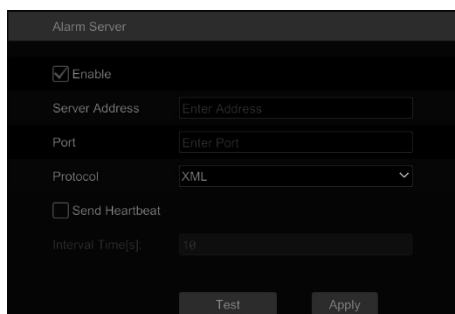
11.6   Manual Alarm

Click 🚨 on the tool bar at the bottom of the live preview interface to pop up a window. Click "Trigger" to start alarm. Click "Clear" to stop alarm.

Alarm-out Name	Status	Trigger	Clear ∨
AlarmOut1	Normal	Trigger	Clear
AlarmOut2	Normal	Trigger	Clear
AlarmOut3	Normal	Trigger	Clear
AlarmOut4	Normal	Trigger	Clear
IP Camera1_AlarmOut1	Normal	Trigger	Clear
IP Camera02_AlarmOut1	Normal	Trigger	Clear
		Close	
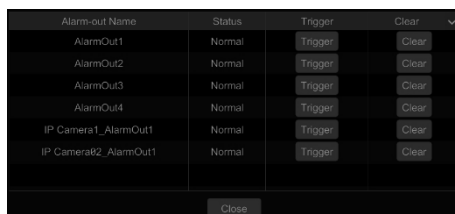
11.7   View Alarm Status

Click Start→Settings→Alarm→Alarm Status or click 🔔 on the tool bar at the bottom of the

live preview interface to view the alarm status.
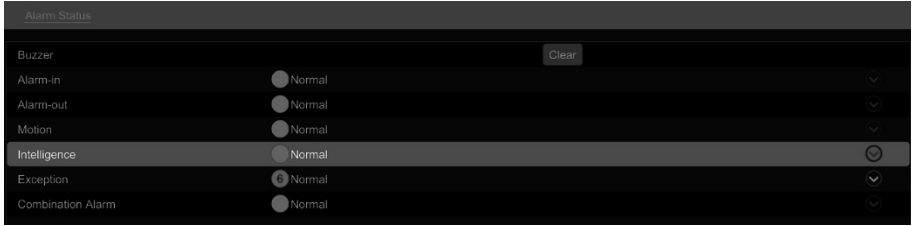
Click "Clear" to stop the buzzer when the buzzer alarm happens. Click [⌄] to view the detail information as shown below.
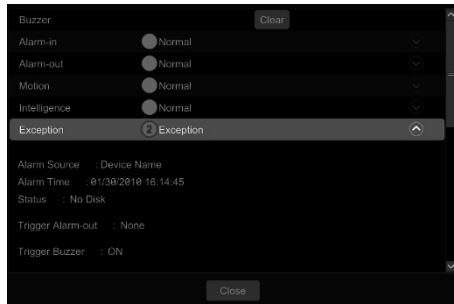
If the exception information is more than one page, you can enter the number in the box and then click [⟩] to jump to the specified page. Click [⟨] / [⟩] to view the exception alarm information in the previous/next page.

12   Account & Permission Management

12.1   Account Management

Click Start→Settings→Account and Authority→Account→Edit User to go to the interface as shown below.
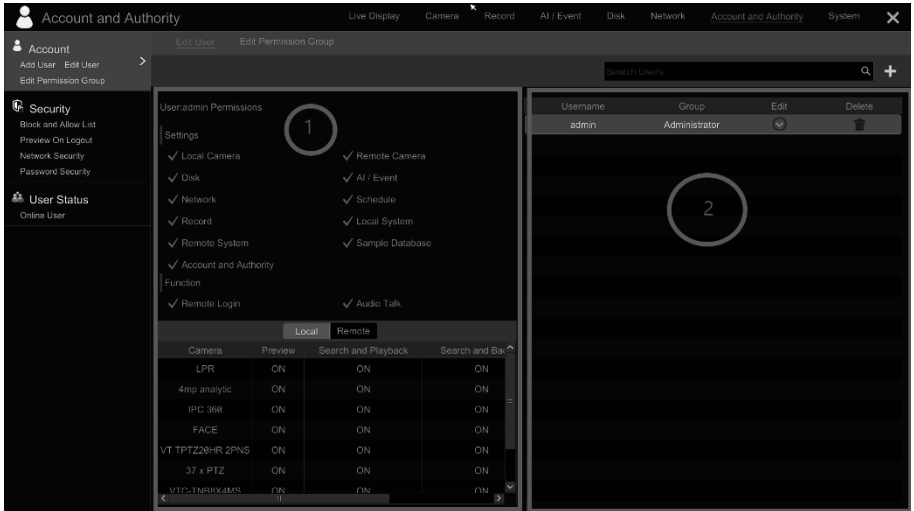
Area ① displays the user permissions. Area ② displays the user list. Click the user in the list to display its user permissions in area ①.

There are three default permission groups ("Administrator", "Advanced" and "Common") available when adding accounts. You can manually add new permission group (see 12.3.1 Add Permission Group for details).

Only *admin* and the users that have the "Account and Authority" permission can manage the system's accounts. Group "Administrator" owns all the permissions displayed in area ① except "Account and Authority" and its permissions cannot be changed while the permissions of "Advanced" and "Common" can be changed.

12.1.1   Add User

① Click Start→Settings→Account and Authority→Account→Add User or click **+** beside the search box to pop up the window as shown below.
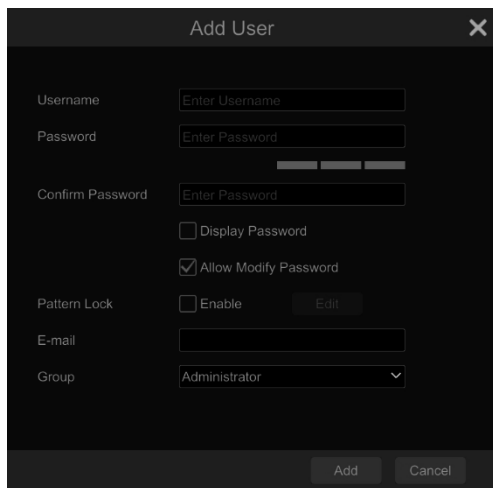
② Set the username, password, and group. User can also set the pattern lock here. The e-mail address and MAC address are optional (enter the MAC address after you check it). Click "Add" to add the user.

12.1.2 Edit User

Click Start→Settings→Account and Authority→Account→Edit User and then click [⌄] in the user list or double click the user to edit the user information. Click [🗑] to delete the user (the user *admin* cannot be deleted).
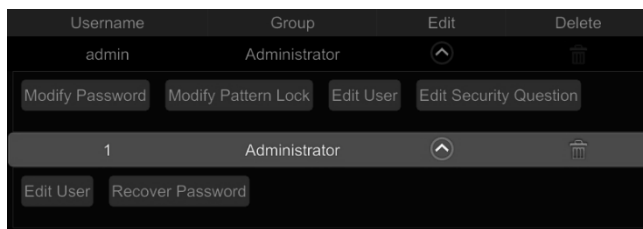
> ➢ **Edit Security Question**

You can set password security only for *admin*. Click "Edit Security Question" and then set questions and answers in the popup window. If you forget the password for *admin*, please refer to Q4 in Appendix A FAQ for details. The passwords of other users can be recovered by *admin* or the users that have the "Account and Authority" permission.

> ➢ **Modify Password**

Only the password of *admin* can be modified. Click "Modify Password" to pop up a window. Enter the current password and then set new password. Click "OK" to save the settings.

> ➢ **Modify Pattern Lock**

Some models may not support this function.
Click "Modify Pattern Lock" to pop up a window.
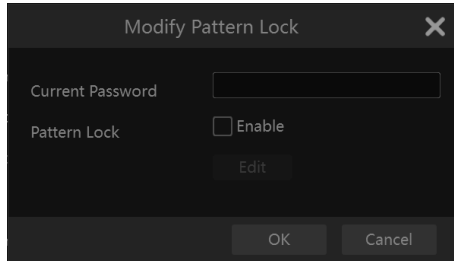
Input current password and then check "Enable" to set pattern lock.
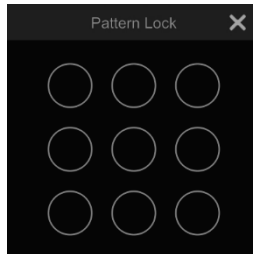
➢ **Recover Password**

Click "Recover Password" to reset the password to *123456*.

➢ **Edit User**

Click "Edit User" to pop up the window as shown below. The *admin* is enabled, its permission control is closed, and permission group cannot be changed by default. You can enable or disable other users (if disabled, the user will be invalid), open or close their permission control (if closed, the user will get all the permissions which *admin* has) and set their permission groups. Click "OK" to save the settings.
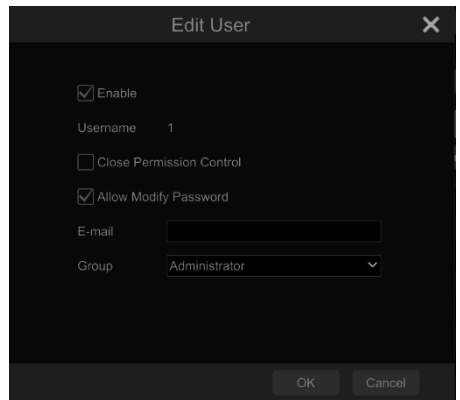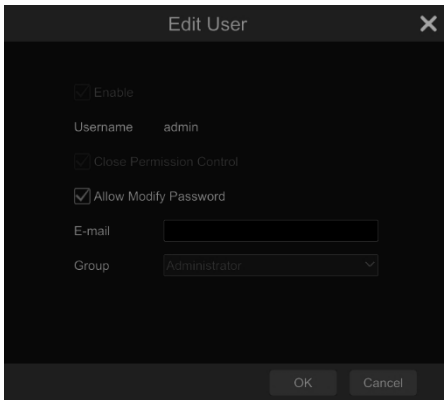
12.2   User Login & Logout

Login: Click Start→Login or directly click the preview interface and then select username and enter the password in the popup window. Click the "Login" button to log into the system.

Logout: Click Start→Logout or click Start→Shutdown to pop up the "Shutdown" window. Select "Logout" in the window and then click "OK" to log out of the system.

12.3   Permission Management

12.3.1   Add Permission Group

Click Start→Settings→Account and Authority→Account→Edit Permission Group to go to the interface as shown below.
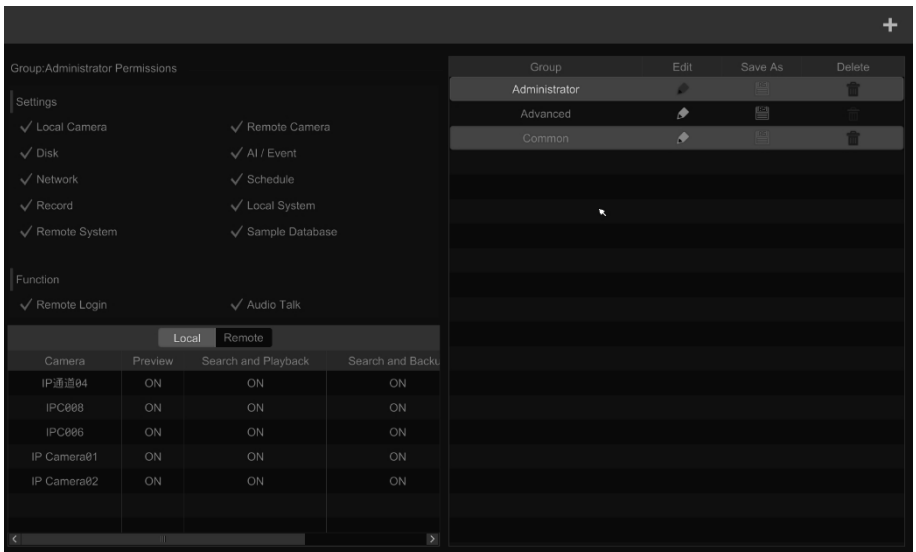
Click ✚ to add permission group. Set the group name, check the permissions as required and then set the "Local" and "Remote" permissions. Click "Add" to save the settings.
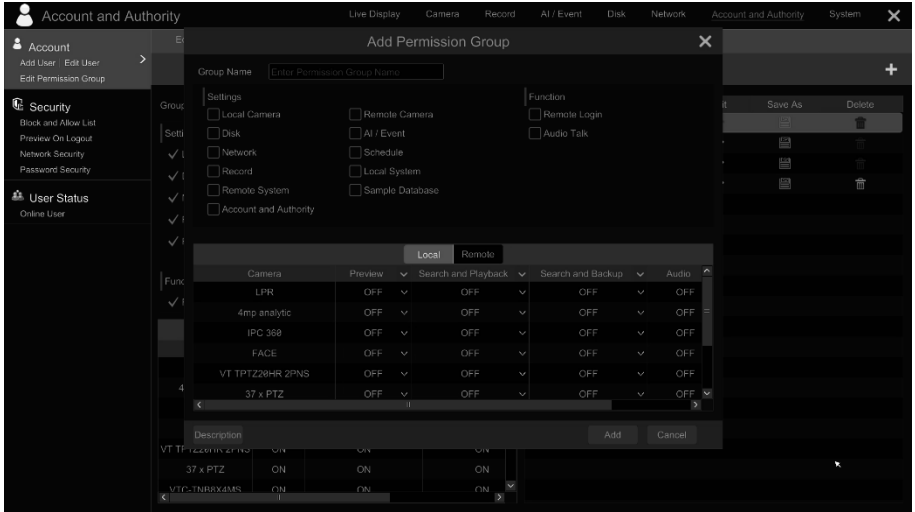
12.3.2 Edit Permission Group

Go to "Edit Permission Group" interface and then click ✎ in the group list to edit the permission group (the operations of the "Edit Permission Group" are similar to that of the "Add Permission Group", please see 12.3.1 Add Permission Group for details). Click 📰 to save the group as another group. Click 🗑 to delete the permission group. The three default permission groups ("Administrator", "Advanced" and "Common") cannot be deleted.

12.4 Black and White List

① Click Start→Settings→Account and Authority→Security to go to the following interface.
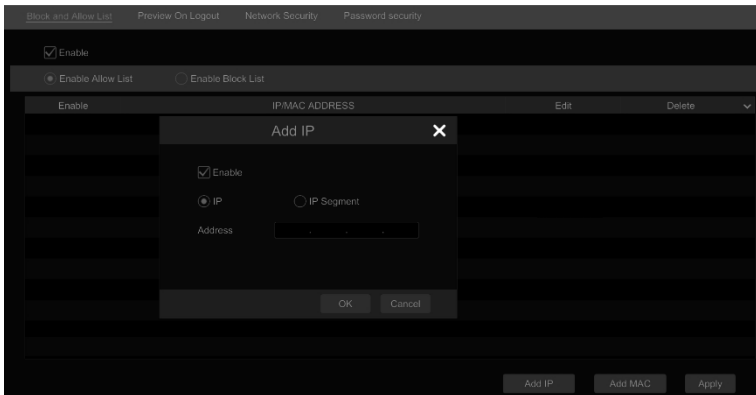
② Check "Enable" and then choose "Enable Allow List (white list)" or "Enable Block List (the PC client of which the IP address is in the white list can access NVR remotely while the PC client in the block list cannot).

③ Add IP/IP segment/MAC. Click "Add IP" or "Add MAC" and then check "Enable" in the popup window (only if you check it can the IP/IP segment/MAC you add be effective). Enter the IP/IP segment/MAC and then click "OK". In the above interface, click 🖊 to edit IP/IP segment/MAC, click 🗑 to delete it. Click "Apply" to save the settings.

12.5 Preview On Logout

Click Start→Settings→Account and Authority→Security→Preview on Logout to go to the following interface.

Set a camera and then enable or disable the preview permission on logout as required. If a camera's preview permission on logout is "ON", you can view the live image of the camera when the system is logged out, or the live image of the camera cannot be seen when logged out.
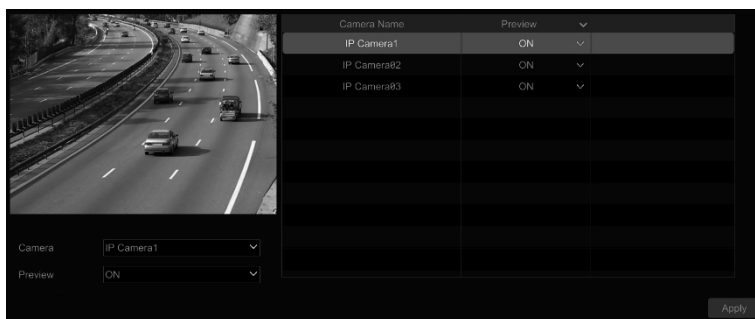
12.6 Network Security

Click Start→Settings→Account and Authority→Security→Network Security to go to the following interface. You can enable APR Guard.

ARP Guard: Address Resolution Protocol Guard. This function can protect the LAN from APR attack and make the network run stable. If it is enabled, you can enable auto gateway MAC or manually set gateway MAC. Additionally, detection defense also can be enabled as needed.

12.7 Password Security

Click Start→Settings→Account and Authority→Security→Password Security to go to the following interface.
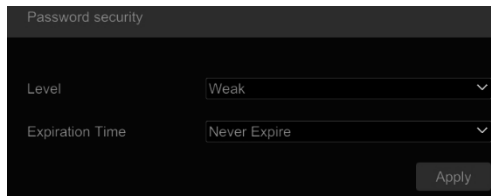
In this interface, you can set the level and expiration time of the password.

12.8 View Online User

Click Start→Settings→Account and Authority→User Status to view the online user information (you can view the online user name, login type, IP address and login time; click 📄 to pop up a window showing the preview occupied channel number and playback occupied channel number).

13 Device Management

13.1 Network Configuration

13.1.1 TCP/IP Configuration

Click Start→Settings→Network→TCP/IP to go to the following interface. Check "Obtain an IPv4 address automatically", "Obtain an IPv6 address automatically" and "Obtain DNS automatically" to get the network addresses automatically, or manually enter the network addresses. You can modify the MTU value according to the network condition (MTU, Maximum Transmission Unit, can be modified according to network condition for higher network transmission efficiency). Click "Apply" to save the settings.

Note:

- **Internal Ethernet Port**

If you use the NVR with the PoE network ports, click "Internal Ethernet Port" to go to the following interface.

The internal Ethernet port is the port which is used to connect all the PoE ports with the NVR system. The PoE ports are available if the internal Ethernet port is online; if it is offline, all the PoE ports will be unavailable, may be the internal Ethernet port is broken. The network addresses of the internal Ethernet port can be changed to make the port in the same network segment with the IP cameras which are directly connected to the PoE ports of the NVR (it is **not** recommended to change the network addresses of the internal Ethernet port).

Mode: Non-long line mode or long line mode can be selectable. The non-line mode is the default setting. If the transmission performance of your network cables connected the PoE ports and IPC are not so good or these network cables are very long, you can choose long line mode.
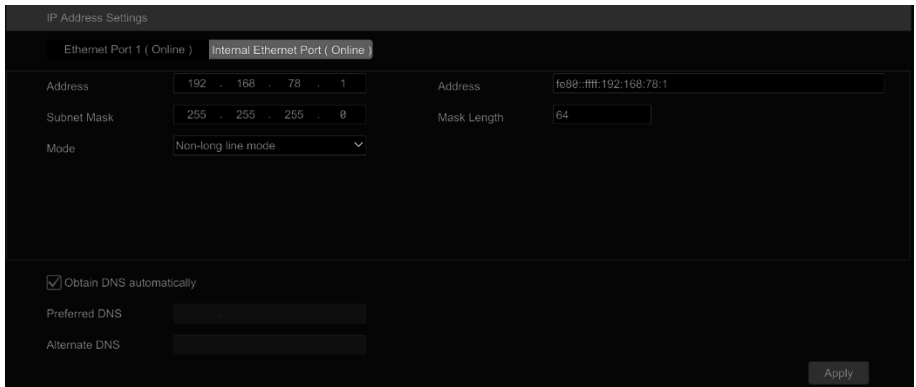
● **Multiple Ethernet Ports Setting**

If the NVR has two network ports or above, you can select the network work pattern as required.

TOE: A technology for improving network transmission speed. Please enable it according to the actual network situation. If TOE is enabled, it will be in high speed mode. Then multiple address settings or network fault tolerance can be chosen and configured. If TOE is not enabled, it will be in compatible mode. Then the network fault tolerance cannot be selected and set up.

Network Fault Tolerance:

The two network ports will be bound to one IP address if you select the "Network Fault Tolerance" pattern. There are many advantages of this work pattern: 1. increase the bandwidth; 2. form a network redundant array to share the load. When a failure happens to one network port, the other port will take over the entire load immediately. The takeover process is seamless, and the network service will not be broken off.

Refer to the figure as shown below. If "Network Fault Tolerance" is selected, check "Obtain an IPv4 address automatically", "Obtain an IPv6 address automatically" and "Obtain DNS automatically" to get the network addresses automatically, or manually enter the network addresses; select one Ethernet port as the primary card and then click "Apply" to save the settings.

Multiple Address Setting:

If "Multiple Address Setting" is selected, the IP addresses of the two Ethernet ports should be set respectively. Refer to the picture as shown below.

Check "Obtain an IPv4 address automatically", "Obtain an IPv6 address automatically" and "Obtain DNS automatically" to get the network addresses automatically, or manually enter the network addresses; select one Ethernet port as the default route and then click "Apply" to save the settings.

13.1.2 Port Configuration

Click Start→Settings→Network→Port to go to the interface as shown below. Enter the HTTP port, HTTPS port, server port and POS port of the NVR, and then click "Apply" to save the settings. You can also enable and set RTSP port (please check "Anonymous" as required).

HTTP Port: the default HTTP port of the NVR is 80. The port number can be changed to others like 81. The port is mainly used to web client access. If you want to access the NVR through a web browser, you should enter IP address plus HTTP port in the address bar of the web browser like http://192.168.11.61:81.

HTTPS Port: the default HTTPs port of the NVR is 443.

HTTPs provides authentication of the web site and protects user privacy. How to use it?

① Enter IP address plus HTTP port in the address bar of the web browser. Then enter username and password to log in. Click Functional Panel→Network→HTTPS to go to the following interface.

② Install a certificate.

* You can create a private certificate here. Click the "Create" button to create a private certificate. Enter the country (only two letters available), domain (NVR's IP address/domain), validity date, password, province/state, region and so on. Then click "OK" to save the settings.

* If there is a signed certificate, click "Browse" to select it and then click "Install" to install it.
* Click "Create a certificate request" to enter the following interface.

☐ Enable	
Installation type	○ Have signed certificate, install directly
	○ Create a private certificate
	◉ Create a certificate request
Create a certificate request	Create Download Delete

Click "Create" to create the certificate request. Then download the certificate request and submit it to the trusted certificate authority for signature. After receiving the signed certificate, import the certificate to the device.

☐ Enable	
Certificate installation	
Certificate installation	○ Create a private certificate
	○ Signed certificate already available. Install directly
	◉ Create a certificate request
Create a certificate request	Create No files
Certificate request download	Browse Export
Certificate request deletion	Delete
Install the generated certificate	Browse Import
	Apply

③ After the certificate has been installed, enable this function and apply it. Then the camera can be accessed by entering https://IP: https port via the web browser (e.g. https://192.168.1.201:443).

Server Port: the default server port of the NVR is 6036. The server port number can be changed as required. The port is mainly used in network video management system.
POS Port: the default POS port of the NVR is 9036.

> *Note: The HTTP port and server port of the NVR should be mapped to the router before you access the NVR via WAN.*

API Server: You can log in the media player which supports the RTSP protocol by the username and password here. Moreover, the third-party can further develop through API service.
Authentication: Basic authentication and digest authentication are optional.

RTSP Port: RTSP real-time stream protocol can be used to control the sending of real-time data. By media player (like VLC player) which supports the RTSP real-time stream protocol, you can view the live images. The default RTSP port is 554 and it can be changed as needed. (The address format: rtsp://IP address:554/chID=1&streamType=main or rtsp://IP address:554/chID=1&streamType=sub; main indicators main stream; sub indicators sub

stream; chID indicators channel ID).

Examples: ① Enable RTSP and "Anonymous". Then open the VLC player and enter the address (for example: rtsp://192.168.1.88:554/chID=1&streamType=main) in the network address bar of the VLC player. Then you can view the video of channel 1.

② Enable RTSP and open the VLC player. After that enter the address (for example: rtsp://192.168.1.88:554/chID=1&streamType=sub) in the network address bar of the VLC player. Then a login box will pop up. Enter the username and password which should be as the same as the username and password of API server. Then you can view the video of channel 1. Note: only some versions may support API server function. Please skip the following instructions if your DVR does not support it.

13.1.3 PPPoE Configuration

Click Start→Settings→Network→PPPoE to go to the interface as shown below. Check "Enable" in "PPPoE Settings" and then enter the username and password obtained from the dealer. Click "Apply" to save the settings.
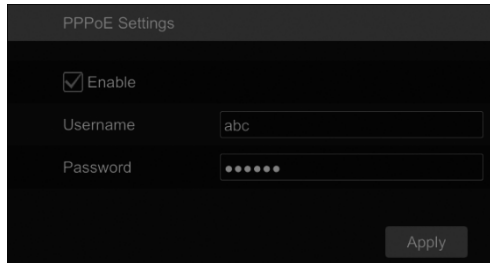
13.1.4 DDNS Configuration

The DDNS is used to control the dynamic IP address through a domain name. You can access the NVR easily if the DDNS is enabled and configured.

Click Start→Settings→Network→DDNS to go to the interface as shown below.
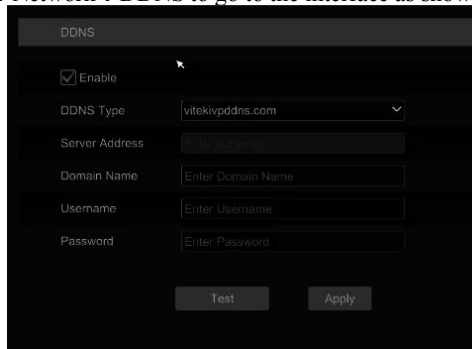
Check "Enable" and then select the DDNS type. Enter the server address, domain name, username and password according to the selected DDNS type. Click "Test" to test

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the effectiveness of the input information. Click "Apply" to save the settings.

You will have to enter the server address and domain name if some DDNS types are selected. Go to the relative DNS website to register domain name and then enter the registered domain information here). take **www.vitekivpddns.com** for example.

① Enter **www.vitekivpddns.com** in the address bar to visit its DNS website.

② Click **Registration** to go to the interface as shown below. Set the DDNS account information (username, password and so on) and then click **Submit** to save the account.

③ Create domain name and then click **Request Domain**.

④ After you successfully request your domain name, you will see your domain name information in the list.

⑤ Click Start→Settings→Network→DDNS to go to DDNS setting interface. Enable DDNS and then select the **www.vitekivpddns.com** DDNS type. Enter the registered username, password and domain name and then click "Apply".

⑥ Map the IP address and HTTP port in the router (you can skip this step if UPnP function is enabled).

⑦ Enter the registered domain name plus HTTP port like **www.1234.vitekivpddns.com***:81* in the address bar and then press Enter key to go to the web client.

13.1.5 E-mail Configuration

Click Start→Settings→Network→E-mail to go to the following interface.

Enter the sender's name, e-mail address, SMTP server and SMTP port (you can click "Default" to reset the SMTP port to the default value) and then enable or disable the SSL and attaching image. Select the username (the username list will be updated automatically according to the email address you enter) and enter the password of the sender and then click "Apply" to save the settings (you don't have to enter the username and password if "Anonymous Login" is enabled). Click "Test" to pop up a window. Enter the e-mail address of the recipient in the window and then click "OK". The e-mail address of the sender will send an e-mail to the recipient. If the e-mail is sent successfully, it indicates that the e-mail address of the sender is configured correctly. Click "Edit Recipient" to go to the following interface.

Click "Add" and then enter the recipient's e-mail address and select the schedule (if a schedule is selected, the system will send the alarm email and the recipient will receive it only in the selected schedule time) in the popup window. Click "Add" in the window to add the recipient. You can also change the recipient's receiving schedule by clicking ⌄ in the "Schedule" column. Click 🗑 to delete the recipient in the list. Click "Apply" to save the settings. Click "Edit Sender" to go to the e-mail configuration interface of the sender.

13.1.6 UPnP Configuration

By UPnP you can access the NVR through web client which is in WAN via router without port mapping.

① Click Start➔Settings➔Network➔UPnP to go to the following interface.

② Make sure the router supports UPnP function and the UPnP is enabled in the router.

③ Set the NVR's IP address, subnet mask and gateway and so on corresponding to the router.

④ Check "Enable" in the interface as shown below and then click "Apply".

Click the "Refresh" button to refresh the UPnP status. If the UPnP status is "Invalid UPnP" after refreshing it a few times, the port number may be wrong. Please change the mapping type to "Manual" and then click [   ] to modify the port until the UPnP status turns to "Valid UPnP". Refer to the following picture. You can view the external IP address of the NVR. Enter the external IP address plus port in the address bar to access the NVR such as http://123.45.678.91:81.

Port Type	External Port	External IP Address	Port	UPnP Status	Edit
HTTP Port	80		80	Not Ready	
HTTPS Port	443		443	Not Ready	
Server Port	6036		6036	Not Ready	
RTSP Port	554		554	Not Ready	
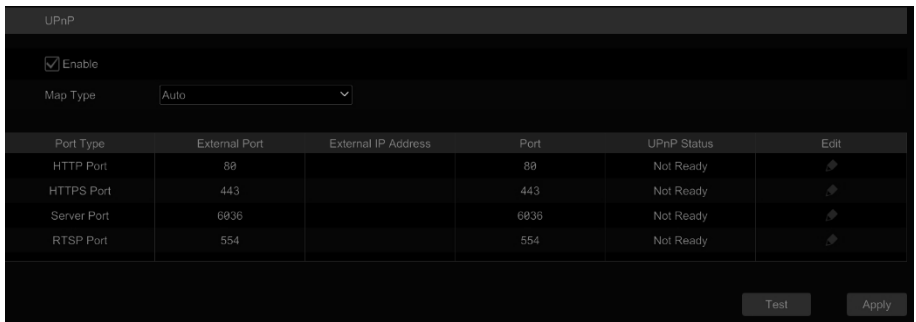
13.1.7 802.1X

If it is enabled, the NVR data can be protected. When the NVR is connected to the network protected by the IEEE 802.1X, user authentication is needed.

802.1x	
Enable	
Protocol	EAP_MD5
Eapol Version	1
Username	Enter Username
Password	Enter Password
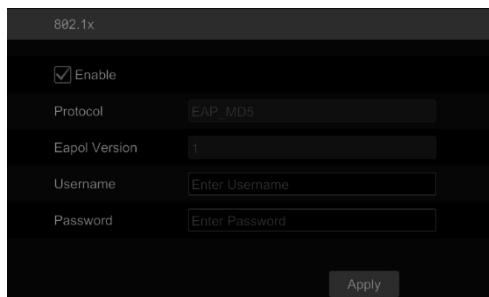
To use this function, the NVR should be connected to a switch supporting 802.1x protocol. The switch can be considered as an authentication system to identify the device in a local network. If the NVR connected to the network interface of the switch has passed the authentication of the switch, it can be accessed via the local network.

Protocol type and EAPOL version: Please use the default settings.
Username and password: The user name and password must be the same with the user name and password applied for and registered in the authentication server.

13.1.8 NAT Configuration

Click Start→Settings→Network→NAT to go to the interface for NAT configuration. Check "Enable" and then select the NAT server address. Click "Apply" to save the settings.
You can scan the QRCode through mobile client which is installed in the mobile phone or tablet to log in the mobile client instantly.
Access Type: NAT or NAT2.0 can be selected.
Note: if you want to use cloud upgrade, you must enable NAT2.0.

13.1.9 FTP Configuration

Some models may not support this function.
Click Start→Settings→Network→FTP to go to the interface for FTP configuration. Check "Enable" and enter the server name, port, username and password, max file size and remote directory.
Please enable "Resume Uploading" as needed.
After that, you can choose the recorded files to upload as needed in this interface.

13.1.10 Platform Access

Some models may not support this function.
This function is mainly used for connecting VMS 2.0. The setting steps are as follows.
Click Start→Settings→Network→Platform Access to go to the interface.
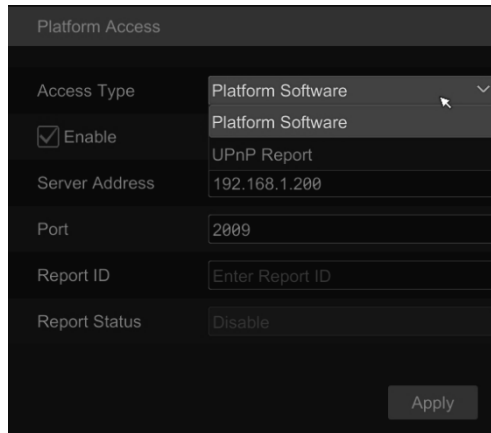
Platform Access

① Set "Access Type" as "Platform Software" and select "Enable" as shown below.

② Check the IP address and port of the transfer media server in the VMS 2.0. The default server port for auto report is 2009. If it is modified, please go to the transfer media interface to check.

③ Enable the auto report in the VMS 2.0 when adding a new device. Then self-define device ID and complete the remaining information of the device in the VMS 2.0.

④ Enter the above-mentioned server address, port, and report ID in the server interface. Then click "Apply" to save the settings. Now the VMS 2.0 system will automatically connect this device.

UPnP Report Access

In this interface, you can also access the third-party platform by UPnP Report. If this one is enabled, please enter the server address, port, and manufacturer ID.

13.1.11 SNMP

① Click Start→Settings→Network→SNMP to go to the interface for SNMP configuration.
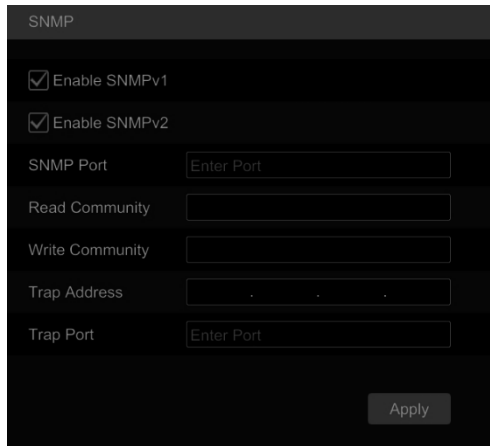
② Check SNMPv1or SNMPv2 to enable this function.
③ Set the port of the SNMP.
④ Set the trap address and the trap port.
⑤ Click "Apply" to save the settings.

Trap Address: The IP address of SNMP host.
Trap Port: The port of SNMP host.
Tips: Before setting the SNMP, please download the SNMP software and manage to receive the device information via SNMP port. By setting the trap address, the device is allowed to send the alarm event and exception message to the monitoring center.

13.1.12 Cloud Upgrade

Note: Before you use cloud upgrade, please enable NAT2.0.
① Click Start→Settings→Network→Cloud Upgrade as shown below.
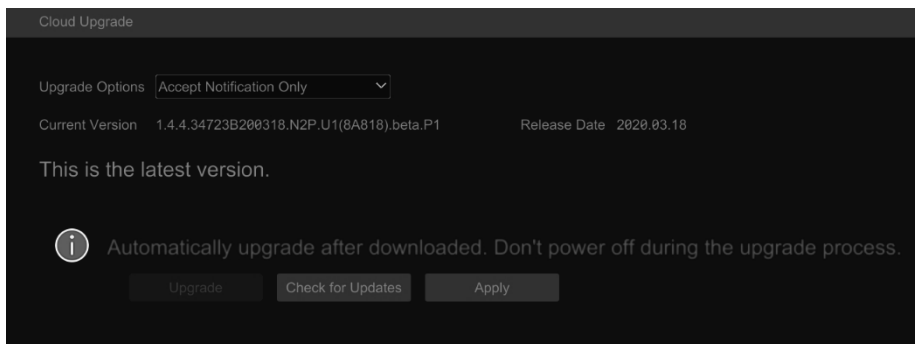
② Select "Accept Notification Only" or click "Check for Updates" to check whether the current version is the latest. If your software version is not the latest, click "Upgrade" to download and

upgrade from the cloud server.
②   Please do not power down during the upgrade process.
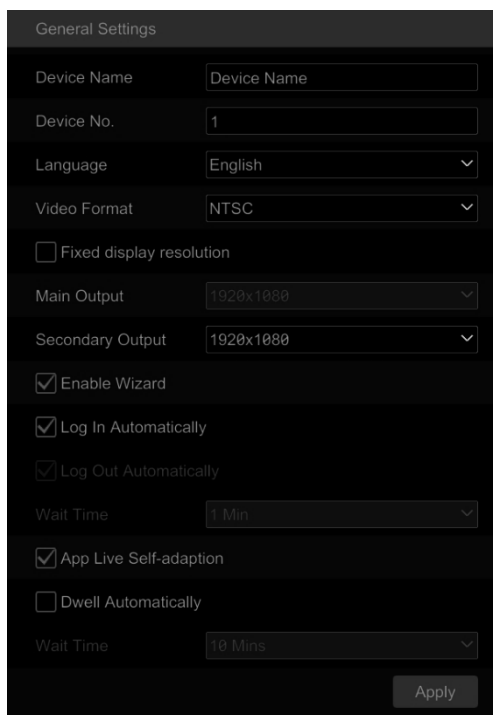
13.1.13   View Network Status

Click Start→Settings→Network→Network Status to view the network status or click on the tool bar at the bottom of the live preview interface to view network status conveniently.

13.2   Basic Configuration

13.2.1   Common Configuration

Click Start→Settings→System→Basic→General Settings to go to the following interface. Set the device name, device No., language, video format and main output. Enable or disable wizard, "Log In Automatically", "Log Out Automatically" (if checked, you can set the wait time), "App Live Self-Adaption" and "Dwell Automatically" (if checked, you can set the wait time). Click "Apply" to save the settings.

Device Name: The name of the device. It may display on the client end or VMS that help user to recognize the device remotely.
Video Format: Two modes: PAL and NTSC. Select the video format according to the camera.

Main Output: Enable "Fixed display resolution" and then select the main output as needed.
Note: You can set the resolutions of the main output and secondary output respectively if the NVR has dual outputs. Refer to the picture as shown below.
Dwell Automatically: Switch automatically. Check it and set "wait time".The system will switch images automatically if it is not operated during the time you set.

13.2.2   Date and Time Configuration

Click Start→Settings→System→Basic→Date and Time to go to the interface as shown below.
Set the system time, date format, time format and time zone of the NVR. The default time zone is GMT-8 Las Vegas, San Francisco, Vancouver. If the selected time zone includes DST, the DST of the time zone will be checked by default. Click "Apply" to save the settings.
You can manually set the system time or synchronize system time with network through NTP.
Manual: select "Manual" in the "Synchronous" option and then click ⏰ after the "System Time" option to set the system time.
NTP: select "NTP" in the "Synchronous" option and then enter the NTP server.
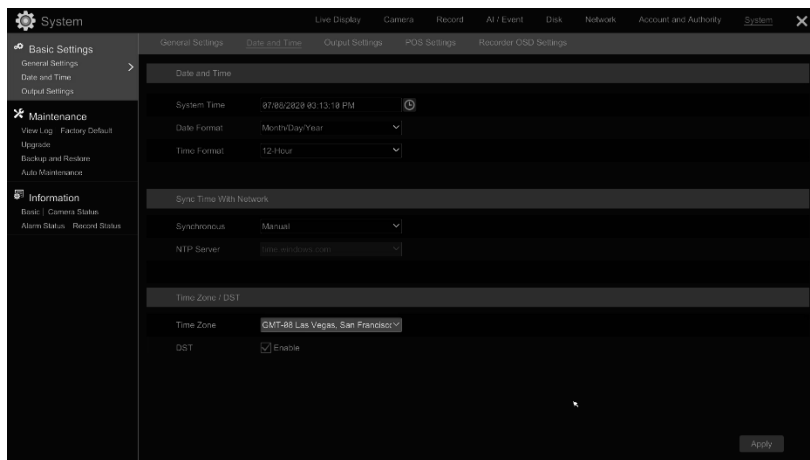
13.2.3 Recorder OSD Settings

Click Start→Settings→System→Basic→Recorder OSD settings to go to recorder OSD setting interface. OSD name and icon can be enabled here.

13.3   Factory Default

Click Start→Settings→System→Maintenance→Factory Default to go to the following interface. Please choose the item as needed.
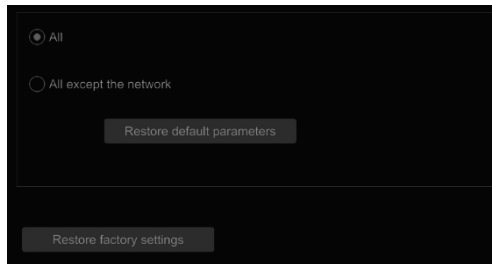
Note: Resetting to the factory default settings will not change time zone.

13.4 Device Software Upgrade

- **Upgrade**

You can click Start→Settings→System→Information→Basic to view MCU, kernel version and firmware version and so on. Before upgrade, please get the upgrade file from your dealer.

The upgrade steps are as follows:

① Copy the upgrade software (.tar) into the USB storage device.

② Insert the USB storage device into the USB interface of the NVR.

③ Click Start→Settings→System→Maintenance→Upgrade to go to "Upgrade" interface. Select the USB device in "Device Name" option and go to the path where the upgrade software exists. Select the upgrade software and then click "Upgrade". The system may automatically restart during upgrading. Please wait and do not power off the NVR during upgrading.

> *Note: The file system of the USB mobile device which is used for upgrading, backing up and restoring should be FAT32 format.*

- **Flash Upgrade**

The upgrade steps are as follows:

① Copy the flash upgrade files into the USB storage device.

② Insert the USB storage device into the USB interface of the DVR.

③ Restart the DVR. Then the system will automatically upgrade.

- **Cloud Upgrade**

① Click Start→Settings→System→Maintenance→Cloud Upgrade to go to "Cloud Upgrade" interface.

② Enable "Auto-check for updates" to check if the current version is the latest one automatically. You can also click "Check for updates" to check the version by yourself. If it is not the latest one, obtain the latest version from the cloud server and then click "Upgrade". The system may automatically restart during upgrading. Please wait and do not power off the device during upgrading.
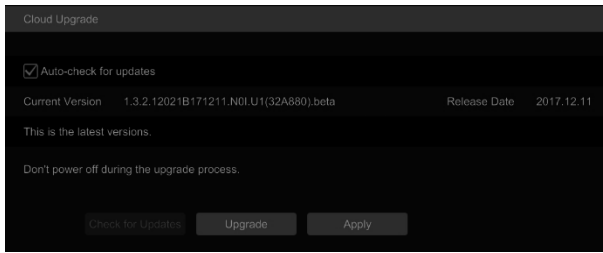
Note: The system will automatically check the latest version once a day if auto-check for updates is enabled.

13.5 Backup and Restore

You can back up the configuration file of the NVR by exporting the file to other storage devices; you can recover the configuration to other NVRs which are of the same model with the NVR by importing the configuration file to other NVRs to save time.

Insert the USB storage device into the USB interface of the NVR and then click Start→Settings→System→Maintenance→Backup and Restore to go to the interface.

● **Backup**

Select the USB device in "Device Name" option; go to the path where you want to store the configuration backup file and then click "Backup"; click "OK" in the popup window.

● **Recover**

Select the USB device in "Device Name" option; find the configuration backup file and then click "Recover"; click "OK" in the popup window.

13.6 Restart Automatically

You can set the automatic restart time for the NVR to maintain it regularly. Click Start→Settings→System→Maintenance→Auto Maintenance to go to the interface as shown below. Enable auto maintenance, set the interval days, and point of time and then click "Apply" to save the settings. The NVR will restart automatically at the pointed time every interval days.
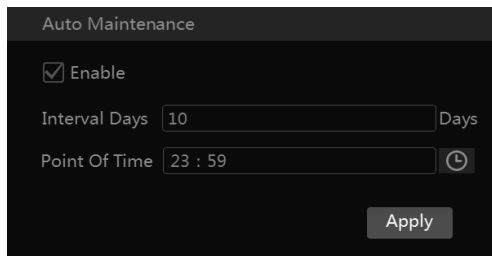
13.7   View Log

Click Start→Settings→System→Maintenance→View Log to go to the log view interface. Select the log main type, click 🕒 to set start time and end time and then click "Search". The searched log files will be displayed in the list.

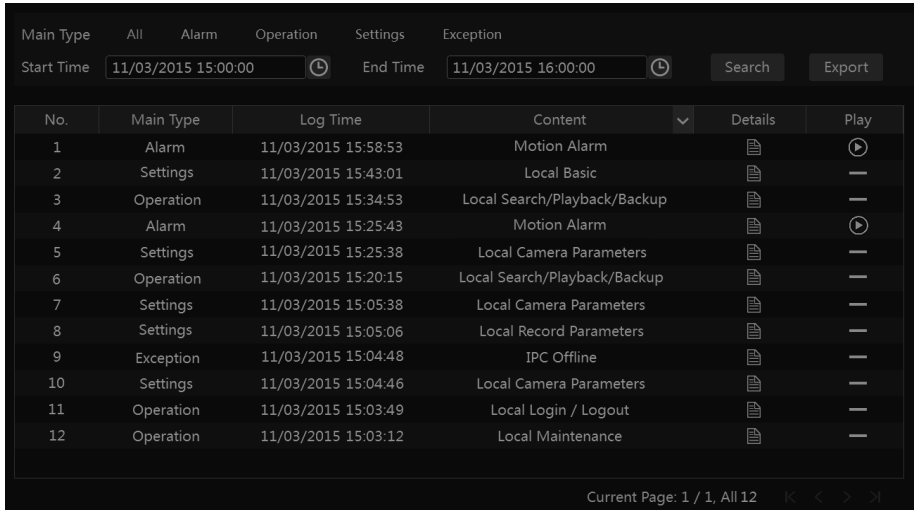| No.	Main Type	Log Time	Content	Details	Play
	Main Type	All Alarm Operation Settings Exception			
	Start Time 11/03/2015 15:00:00 🕒 End Time 11/03/2015 16:00:00 🕒			Search	Export
1	Alarm	11/03/2015 15:58:53	Motion Alarm	📄	⊙
2	Settings	11/03/2015 15:43:01	Local Basic	📄	—
3	Operation	11/03/2015 15:34:53	Local Search/Playback/Backup	📄	—
4	Alarm	11/03/2015 15:25:43	Motion Alarm	📄	⊙
5	Settings	11/03/2015 15:25:38	Local Camera Parameters	📄	—
6	Operation	11/03/2015 15:20:15	Local Search/Playback/Backup	📄	—
7	Settings	11/03/2015 15:05:38	Local Camera Parameters	📄	—
8	Settings	11/03/2015 15:05:06	Local Record Parameters	📄	—
9	Exception	11/03/2015 15:04:48	IPC Offline	📄	—
10	Settings	11/03/2015 15:04:46	Local Camera Parameters	📄	—
11	Operation	11/03/2015 15:03:49	Local Login / Logout	📄	—
12	Operation	11/03/2015 15:03:12	Local Maintenance	📄	—

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Choose the log file in the list and then click "Export" button to export the log file. Click ✔ on the "Content" title bar to pop up a menu list. Check contents in the menu list and then the log list will show the checked log contents only. Click ▶ to play the video log.

13.8   View System Information

Click Start→Settings→System→Information and then click the corresponding menu to view the "Basic", "Camera Status", "Alarm Status", "Record Status", "Network Status" and "Disk" information of the system.

14   Remote Surveillance

14.1   Mobile Client Surveillance

① Enable NAT in the NVR. Refer to <u>13.1.8 NAT Configuration</u> for details.

② Download and install the mobile client "Transcendent viewer" into the mobile device with a Android or iOS system.

③ Run the mobile client, go to the "Add Device" interface and then click 🔲 to scan the QRCode of the NVR (Go to Start→Settings→System→Information→Basic to view the QRCode of the NVR).

④ After scanning the QRCode successfully, enter the login password to log in mobile client.
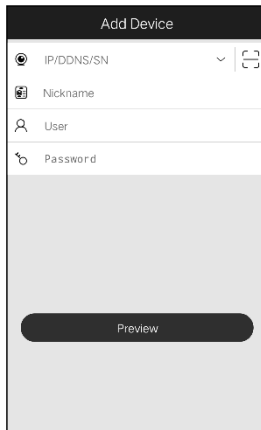
14.2   Web LAN Access

① Click Start→Settings→Network→TCP/IP to go to the "TCP/IP" interface. Set the IP address, subnet mask, gateway, preferred DNS, and alternate DNS of the NVR.

② Open IE browser on your computer, enter the IP address of the NVR in the address bar and then press enter to go to the login interface as shown below. You can change the display language on the top right corner of the login interface. Enter the username and password of the NVR in the interface and then click "Login" to go to the live preview interface.

> *Notes: 1. Please make sure that the IP address of the NVR and the computer are both in the same local*
> *network segment. For example, supposing that the IP address of the computer is 192.168.1.41,*
> *the IP address of the NVR should be set to 192.168.1.XXX.*
> *2. If the HTTP port of the NVR is not 80, but other number instead, you need to enter the IP*
> *address plus port number in the address bar when accessing the NVR over network. For example,*
> *the HTTP port is 81. You should enter http://192.168.1.42:81 in the address bar.*

14.3   Web WAN Access

> ➢   **NAT Access**

① Set the network of the NVR. Please refer to 13.1.1 TCP/IP Configuration for details.

② Enable NAT and then set the NAT server address. Please refer to 13.1.8 NAT Configuration for details.

③ Open a web browser on your computer, enter the NAT server address ***www.autonat.com*** or NVT2.0 server address ***www.natplus.top*** in the address bar and then press enter to go to the interface as shown below (download and install the relative plugin according to the tip if you access the NVR through NAT for the first time).

Enter the serial number (click ⬚ on the tool bar at the bottom of the live preview interface to see the serial number of the NVR), user name (the user name of the NVR, ***admin*** by default) and password (the password of the NVR, ***123456*** by default) of the NVR, select the display language on the top right corner of the interface and then click "Login" to go to the web client interface.

> ➢ **PPPoE Access**

① Click Start→Settings→Network→PPPoE to go to the "PPPoE" interface. Check "Enable" in the "PPPoE settings" and then enter the username and password you get from your ISP. Click "Apply" to save the settings.
② Click Start→Settings→Network→Network Status to view the IP address of the NVR.
③ Open a web browser on your computer, enter the IP address of the NVR like http://123.45.678.9 in the address bar and then press enter to go to the login interface. Enter the username and password of the NVR in the interface and then click "Login" to go to the live preview interface.

> ➢ **Router Access**

① Click Start→Settings→Network→TCP/IP to go to the "TCP/IP" interface. Set the IP address, subnet mask, gateway, preferred DNS and alternate DNS of the NVR.
② Set the HTTP port (it is suggested to modify the HTTP port because the default HTTP port 80 might be used) and enable UPnP function in both the NVR and the router. If the UPnP function is not available in the router, you need to forward the LAN IP address, HTTP port and server port of the NVR to the router. Port mapping settings may be different in different routers, so please refer to the user manual of the router for details.
③ Get the WAN IP address of the NVR from the router. Open a web browser on your computer, enter the WAN IP address plus HTTP port like http://123.45.67.890:100 in the address bar and then press enter to go to the login interface. Enter the username and password of the NVR in the interface and then click "Login" to go to the live preview interface.

Note: If the WAN IP address is a dynamic IP address, it is necessary for you to use the domain name to access the NVR. Click Start→Settings→Network→DDNS to set DDNS (see 13.1.4 DDNS Configuration for details). By using DDNS function you can use the domain name plus HTTP port like http://sunshine.vitekivpddns.com:100 to access the NVR via internet.

14.4 Web Remote Control

The supported browsers for remote access are IE8/9/10/11in Windows system
When you access the NVR through web client for the first time, you need to download and install the relative components for normal preview and playback. Please refer to the tips in the remote interfaces for details. The buttons and icons on the top right corner of the remote interface are introduced as follows.
admin: the current login username.
Logout: click it to log out and return to the login interface.
Modify Password: click to change the password of the current login user. Enter the current

password and then set a new password in the popup window. Click "OK" to save the new password.

Local Settings: click to change the local settings. Set the snapshot number and click "Browse" to set the snapshot path and record path as shown below. Click "Apply" to save the settings.

Snapshots number	5 ▼
Save snapshots to	C:\Users\Administrator\Pictures [Browse]
Save record files to	C:\Users\Administrator\Videos [Browse]
	[Apply]

14.4.1 Remote Preview

Click "Live Display" in the remote interface to go to the preview interface. The preview interface consists of the four areas marked in the following picture.

> **Start Preview**

Select a window in the preview area and then click one online camera on the left panel to preview the camera in the window. You can click 🔲 in the tool bar to preview all the cameras.

> **Left Panel Introduction**

Click ‹ on the left panel to hide the panel and click › to show the panel. You can view all the added cameras and groups on the left panel.

● **View Camera**

Click ▣◀ Camera to view the cameras. You can view the number of all the added cameras

and the online cameras. For instance, the left number 3 in Camera (3/4) on the left panel stands for the number of online cameras; the right number 4 stands for the number of all the added cameras. Enter the camera name in the search box and then click [🔍] to search the camera. Click [↻] to refresh the camera list.
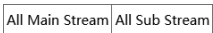
- **View Group**

Click [◄◄] Single Channel Sequences to view the groups. The top side of the left panel displays all the groups and the bottom side displays all the cameras in the group.

- **View Scheme**

Click [⊞] Customize Display Modes to view the scheme. All schemes can be shown in the left panel. Double click the scheme name to display.

➢ **Tool Bar Introduction**

Button	Meaning
[▦]	Screen mode button.
OSD OFF	Click to disable OSD. Click [OSD ON] to enable OSD.
[⛶]	Click to show full screen. Right click on the full screen to exit full screen.
All Main Stream All Sub Stream	Click "All Main Stream" or "All Sub Stream" to set the stream of all the cameras.
[🔔]	Manual alarm button. Click to pop up a window and then trigger and clear the alarm-out in the window manually.
[▤]	Click to preview all the cameras.
[▤]	Click to close all the preview cameras.
[◉]	Click to start recording for all cameras to computer. Click [◉] to stop recording.
[REC]	Click to start recording for all cameras to the NVR. Click [REC] to stop recording.
[🎤]	Click to enable talk with the NVR.

➢ **Right Panel Introduction**
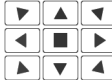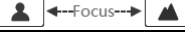
Click [‹] on the right panel to show the panel and click [›] to hide the panel. Click [⬮] PTZ at the bottom of the panel to go to "PTZ" panel. Click [▸] Operation to go to "Operation" panel. Click [⚙] Lens Control to go to "Lens Control" panel. Click [◉] Fisheye to go to "Fisheye" panel.

Click one camera window in the preview area and then click [Main Stream] to set the camera's live preview stream and record stream to main stream in manual record mode; click [Sub-stream] to set the camera's live preview stream and record stream to sub stream. In sub stream tab, set the resolution, FPS and bitrate and then click "Apply" to save the settings.

Operation panel introduction:

Button	Meaning
○̄	Click to take a snapshot.
◎	Click to start record to computer
REC	Click to start record to the NVR.
⊕	Click to zoom in the image of the camera and then drag the mouse on the camera image to view the hidden area.
⊖	Click to zoom out the image of the camera.
🎙	Click to start two-way talk.
⊛	The 3D zoom in function is designed for P.T.Z. Click it and then drag the image to zoom in or zoom out the image; click the image on different areas to view the image of the dome omni-directionally.
📷	Click to close the preview camera.
|:|	Click to display original size
◁◎ ▬▬▬▬	Click to enable audio and then drag the slider bar to adjust the volume. You can listen to the camera audio by enabling audio.

PTZ panel introduction:

Button	Meaning
▼ ▲ ▼ ◄ ■ ► ▲ ▼ ◄	Click ▲ / ▼ / ▼ / ▼ / ◄ / ▲ / ◄ / ► to rotate the dome; click ■ to stop rotating the dome.
− ──○── +	Drag the slider to adjust the rotating speed of dome.
⁷⁄₄₄ ←--Zoom--→ ⁺⁄▶▶	Click ⁺⁄▶▶ / ⁷⁄₄₄ to zoom in/out camera image.
👤 ←--Focus--→ ▲	Click ▲ / ▲ to increase/ decrease the focal length.
◐ ←-- Iris --→ ✷	Click ✷ / ◐ to increase/decrease the iris of the dome.
⚑	Click to view the preset list and then click the button in the list to call the preset.
⊙	Click to view the cruise list and then click the corresponding buttons in the list to start or stop the cruise.

14.4.2 Remote Playback

Click "Playback" in the remote interface to go to the playback interface.

① Check the recording event types and cameras on the left panel. Set the recording date on the calendar beside the time scale.

② Click 🔍 Search to search the recorded data and then click ▶ Play or directly click the time scale to play the recording.

The operation of the playback time scale is similar to that of the time scale in the main program of the NVR. Please refer to 8.2 Playback Interface Introduction for details.

Introduction of playback control buttons:

Button	Meaning
■	Stop button.
◄	Rewind button. Click it to play video backward.
►	Play button. Click it to play video forward.
❚❚	Pause button.
◄◄	Deceleration button. Click it to decrease the playing speed.
►►	Acceleration button. Click it to increase the playing speed.
◄❙	Previous frame button. It works only when the forward playing is paused in single screen mode.
❙►	Next frame button. It works only when the forward playing is paused in single screen mode.
⊝ 30s ⊕	Click ⊝ to step backward 30s and click ⊕ to step forward 30s.
⌦	Backup start time button. Click the time scale and then click it to set the backup start time.
✂	Backup end time button. Click the time scale and then click it to set the backup end time.
⬇	Backup button.
◎	Backup tasks button. Click it to view the backup status.
☰	Event list button. Click it to view the event record of manual/schedule/sensor/motion.

14.4.3 Remote Search and Backup

Click "Search and Backup" in the remote interface to go to the backup interface. You can back up the recording by event or by time.

➤ **By Event**

Check the recording type on the left side of the interface and then click ▦ to set the start time and end time; check the cameras and then click 📄 on the right side to search the recordings (the searched recorded data will be displayed in the list); check the recorded data in the list and then click "Backup" to backup the record.

➤ **By Time**

Click ▦ to set the start time and end time on the left side of the interface; check the cameras and then click 📚 on the right side to backup the recording.

Image Management: Click "Image Management" to go to image management interface. The system will display all the captured images automatically in the list. Click 🗑 to delete the image. Click 📤 to pop up the "Export" window. Click 📷 to pop up the "View Image" window. Click 📥 to export the image.

View Backup Status: Click "Backup Status" to view the backup status. Click "Pause" to pause; click "Resume" to continue the backup; click "Delete" to delete the task.

14.4.4 Intelligent Analysis

This function is only available for the model with VCA (video content analysis) functions.
Click "Intelligent Analysis" in the remote interface to configure smart search, statistics, face database, face attendance and face check in. All of these settings are similar to that of the NVR. See the configurations of the NVR for details.

14.4.5   Remote Configuration

Click "Function Panel" in the remote interface and then configure the camera, record, alarm, disk, network, account and authority and system of the NVR remotely. All of these settings are similar to that of the NVR. See the configurations of the NVR for details.

Appendix A   FAQ

Q1.   Why can't I find the HDD?

a.   Please check the power and SATA data cables of the HDD to make sure they are well connected.

b.   For some NVRs with the 1U or small 1U case, the power of the adapter may be not enough for operating them. Please use the power adaptor supplied along with the NVR.

c.   Please make sure the HDDs are compatible with the NVR. See <u>Appendix C Compatible Device List</u> for details.

d.   The HDD could have gone bad.

Q2.   Why are there no images output in some or all of the camera windows?

a.   Please make sure the resolutions of the cameras are supported by the NVR.

b.   Please make sure the network cables of the IP camera and NVR are both connected properly and the network parameters are set correctly.

c.   Please make sure the network and the switch both work.

Q3.   The screen has no output after booting the NVR normally.

a.   Please make sure the screen, HDMI or VGA cables are good and well connected.

b.   Please make sure the screen supports the resolution of 1280*1024, 1920*1080 or 3840*2160 (4K*2K). The NVR cannot self-adapt to the screen of which the resolution is lower than 1280*1024, and then the screen will remind you that the screen resolution is not supported by the NVR or just have no display. Please use a screen that supports at least 1280*1024, 1920*1080 or 3840*2160 resolution before booting the NVR.

Q4.   Forget the passwords?

a.   The password for *admin* can be reset through "Edit Security Question" function.
Click "Edit Security Question" in the login window and then enter the corresponding answer of the selected question in the popup window, the password for *admin* will be reset to *123456* by default. If you forget the answer of the question, this way will be invalid, please contact your VITEK reseller for help.

b.   The passwords of other users can be reset by *admin*, please refer to <u>12.1.2 Edit User</u> for details.

Q5.   The NVR cannot add up to the maximum number of IP cameras?

Take a 16 CH NVR as an example. Some 16 CH NVR support a maximum of 120Mbps bandwidth input. Refer to the picture below. The remaining bandwidth should be larger than the bandwidth of the IP camera you want to add, or you would fail to add the IP camera. You should lower the added cameras' bitrate to release the bandwidth. It is recommended to add cameras by "Quickly Add" for batch adding.
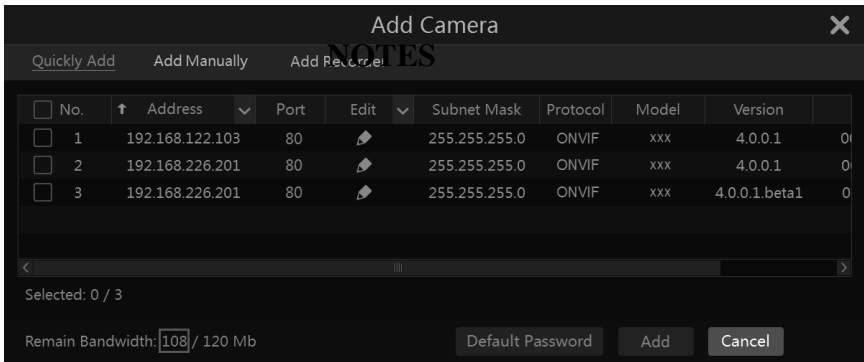
Q6. The IP camera which connects to the PoE port of the NVR cannot be displayed automatically in the camera list, why?

a.   Please check whether the resource of the PoE port is occupied by another IP camera that is added through network.

●   Take the 16 CH NVR with 8 PoE ports as an example. The resource distribution of the 16 CH IP cameras is shown in the picture below.

When you add IP cameras through network, the IP cameras will occupy the resource from CH1, CH2, CH3, CH4… by the adding sequence; if you directly connect the IP cameras to the PoE ports of the NVR, the IP cameras will occupy the resource from CH9 to CH16 according to the number of the PoE port each IP camera is connecting to.

Supposing that 12 CH IP cameras have been added to the NVR through network and no IP camera has been directly connected to the PoE port. The 12 CH IP cameras occupy the 8 network resources from CH1 to CH8 and 4 PoE resources from CH9 to CH12 which are supposed to be occupied by connecting the IP cameras directly. In this situation, if you directly connect one IP camera to PoE5, PoE6, PoE7 or PoE8, the IP camera will be displayed in the camera list automatically; if you connect it to PoE1, PoE2, PoE3 or PoE4, it won't be displayed in the camera list by showing resource conflict; if you just need to connect it to PoE1, PoE2, PoE3 or PoE4, you should first delete the IP camera which occupies the PoE port resource and then reconnect it to the PoE port.

●   Take the 8 CH NVR with 8 PoE ports as another example. The resource distribution of the 8 CH IP cameras is shown in the picture below and the adding rules of the IP cameras are similar to the rules mentioned in the above. Please refer to the above for details.

Detailed Specifications	VT-TNR414P(2)
Video Input / Resolution	4 IP Channels up to 8 MegaPixel
Main Monitor Output	1 x 4K HDMI / 1 x 1080P VGA
Multi Operation	Pentaplex: Live Display / Record / Playback / Backup / Remote Acess
Recording Compression	H.265 / H.264
OS	Embedded Linux
Recording	120fps (30fps per channel)
Audio over IP Inputs	4 (1 Audio Channel per IP Camera over IP)
Local Audio In/Out	IN: RCA x 1CH / OUT: RCA x 1CH
Two-Way Audio	YES
Encode	CBR
Quality Levels	11 level (According to Bit Rate)
Recording Modes	Manual / Timer / Motion / Sensor
File Management	Reserving time, Redundancy, Dual stream recording
Local Playback	4CH
Analytics	Tripwire, Intrusion, Object Detected/Missing, Exception, Crowed Density, People Intrusion and People Counting
Search	Time sliced image search, Time/Calendar search, Event (Motion, External alarm), Tag search
Alarm Modes	Sensor, Motion, Video loss, IP conflict, Disk error, Illegal access, Network disconnection
Alarm Inputs	IP Camera Dependent (No Local Input)
Alarm Triggering	Record, Snap, PTZ move, Alarm out, E-mail, etc
Network Interface	RJ45 x 1
POE ports	RJ45 x 4, with POE
PoE Standard	802.3af 15W max per port
Total PoE Budget	50W all ports
Bit Rate (Per Camera)	512Kbps ~ 10 Mbps (Adjustable)
Total Bandwidth	50Mbps Incoming / 50Mbps Outgoing
Dual-stream	Individual Network Video Stream and local recording stream, set seperately
Network Protocols	TCP/IP, UDP, DHCP, DNS, PPPOE, DDNS, Email, UPNP, NAT, Telnet
Internet-streaming	Total 28 task resource (Local+Remote) 4 CH IE playback
Remote Viewing	CMS / Web Browser / Mobile Platforms
Remote Users	10 Simultaneous Online Users
Backup	Network, USB
SATA HDD	SATA x 1, max to 10TB each
PTZ Protocol	Through Network
USB	USB 2.0 x 2 (for mouse and USB backup device)
Power Consumption	≤ 5W (Without HDD)
Power Supply	48V/2.5A
Working Environment	32°~122°F @ 10% ~ 90% RH
Dimensions (WxHxD)	10.43 x 8.07 1.77" (265mm × 205mm × 45mm)
Weight	4.41lbs (2kg)

Detailed Specifications	VT-TNR818P(2)
Video Input / Resolution	8 IP Channels up to 8 MegaPixel
Main Monitor Output	1 x 4K HDMI / 1 x 1080P VGA
Multi Operation	Pentaplex: Live Display / Record / Playback / Backup / Remote Acess
Recording Compression	H.265 / H.264
OS	Embedded Linux
Recording	240fps (30fps per channel)
Audio over IP Inputs	8 (1 Audio Channel per IP Camera over IP)
Local Audio In/Out	IN: RCA x 1CH / OUT: RCA x 1CH
Two-Way Audio	YES
Encode	CBR
Quality Levels	11 level (According to Bit Rate)
Recording Modes	Manual / Timer / Motion / Sensor
File Management	Reserving time, Redundancy, Dual stream recording
Local Playback	8CH
Analytics	Tripwire, Intrusion, Object Detected/Missing, Exception, Crowed Density, People Intrusion and People Counting
Search	Time sliced image search, Time/Calendar search, Event (Motion, External alarm), Tag search
Alarm Modes	Sensor, Motion, Video loss, IP conflict, Disk error, Illegal access, Network disconnection
Alarm Inputs	IP Camera Dependent (No Local Input)
Alarm Triggering	Record, Snap, PTZ move, Alarm out, E-mail, etc
Network Interface	RJ45 x 1
POE ports	RJ45 x 8, with POE
PoE Standard	802.3af 15W max per port
Total PoE Budget	100W all ports
Bit Rate (Per Camera)	512Kbps ~ 10 Mbps (Adjustable)
Total Bandwidth	50Mbps Incoming / 50Mbps Outgoing
Dual-stream	Individual Network Video Stream and local recording stream, set seperately
Network Protocols	TCP/IP, UDP, DHCP, DNS, PPPOE, DDNS, Email, UPNP, NAT, Telnet
Internet-streaming	Total 33 task resource (Local+Remote) 8 CH IE playback
Remote Viewing	CMS / Web Browser / Mobile Platforms
Remote Users	10 Simultaneous Online Users
Backup	Network, USB
SATA HDD	SATA x 1, max to 10TB each
PTZ Protocol	Through Network
USB	USB 2.0 x 2 (for mouse and USB backup device)
Power Consumption	≤ 5W (Without HDD)
Power Supply	48V/2.5A
Working Environment	32°~122°F @ 10% ~ 90% RH
Dimensions (W x D x H)	10.43" x 8.07 x 1.77" (265×205×45mm)
Weight	4.85lbs (2.2kg)

Detailed Specifications	VT-TNR818PF
Video Input / Resolution	8 IP Channels up to 8 MegaPixel
Main Monitor Output	1 x 4K HDMI / 1 x 1080P VGA
Multi Operation	Pentaplex: Live Disp./Record/Playback/Backup/Remote Access
Recording Compression	H.265 / H.264
OS	Embedded Linux
Recording	240fps (30fps per channel)
2-Way Audio / Audio Over IP	YES / 8 (Camera Dependent)
Inputs	
Local Audio In/Out	IN: RCA x 1CH / OUT: RCA x 1CH
Encode	CBR / VBR
Quality Levels	11 level (According to Bit Rate)
Recording Modes	Manual / Timer / Motion / Sensor / Analytics
File Management	Reserving time, Redundancy, Dual stream recording
Intelligent Analytics	Gen. III Face Detection, Target Counting, Intrusion, Region Entrance / Exit, Line Crossing, Scene Change, Video Blur
Face Det: Channels / Database	8 CH., 16 Libraries (10,000 Pics), 240 pictures per minute
Face Det: Search by Picture	Add, Modify, Delete and Search Face Pictures (App, Web, Local PC)
Face Det: Adding Face pics	Resolution (64×64 - 1920×1080), jpeg below 200KB
Face Det: Face Trace Map	Resolution (600×300-3840×2160), jpeg below 200KB
Local Playback	8 Ch.
Search	Time sliced image search, Time/Calendar search, Event (Motion, External alarm), Tag search
Alarm Modes	Sensor, Motion, Video loss, IP conflict, Disk error, Illegal access, Network disconnection
Alarm In / Out	8 inputs / 4 outputs
Alarm Triggering	Record, Snap, PTZ move, Alarm out, E-mail, etc
Network Interface	RJ45 x 1
PoE / Standard / Total Budget	RJ45 x 8, w/ POE 802.3af 15W max per port / 100W all ports
Bit Rate (Per Camera)	512Kbps ~ 10 Mbps (Adjustable)
Total Bandwidth	50Mbps Incoming / 50Mbps Outgoing
Dual-stream	Individual network video stream and local recording stream, set separately
Internet-streaming	Total 33 task resource (Local+Remote) 8 CH IE playback
Network Protocols	TCP/IP, UDP, DHCP, DNS, PPPOE, DDNS, Email, UPNP, NAT, Telnet
Remote Viewing	CMS / Web Browser / Mobile Platforms
Remote Users	10 Simultaneous Online Users
Backup	Network, USB
SATA HDD	SATA x 1, max to 10TB
PTZ Protocol	Through Network
USB	USB 2.0 x 2 (for mouse and USB backup device)
Power Consumption / Supply	≤ 5W (Without HDD) / 48V/2.5A
Working Environment	32°~122°F @ 10% ~ 90% RH
Dimensions (WxHxD)	10.43" × 8.07 × 1.77" (265mm×205mm×45mm)

Detailed Specifications	VT-TNR1646PF
Video Input / Resolution	16 IP Channels up to 8 MegaPixel
Main Monitor Output	1 x 4K HDMI / 1 x 1080P VGA
Multi Operation	Pentaplex: Live Display / Record / Playback / Backup / Remote Access
Recording Compression	H.265 / H.264
OS	Embedded Linux
Recording	480fps (30fps per channel)
Audio over IP Inputs, Local Audio	16 (Camera dependent) IN: RCA x 1CH / OUT: RCA x 1CH
Two-Way Audio	YES
Encode	CBR / VBR
Quality Levels	11 level (According to Bit Rate)
Recording Modes	Manual / Timer / Motion / Sensor
File Management	Reserving time, Redundancy, Dual stream recording
Local Playback	16CH
Intelligent Analytics	Gen. III Face Detection, Target Counting, Intrusion, Region Entrance / Exit, Line Crossing, Scene Change, Video Blur
Face Det: Channels / Database	16 CH., 16 Libraries (10,000 Pics), 240 pictures per minute
Face Det: Search by Picture	Add, Modify, Delete and Search Face Pictures (App, Web, Local PC)
Face Det: Adding Face pics	Resolution (64×64 - 1920×1080), jpeg below 200KB
Face Det: Face Trace Map	Resolution (600×300-3840×2160), jpeg below 200KB
360° Camera De-Warping	Multiple Views include 360° Overview, Double 180° Panorama View, Quad View, Overview + 3 Views, and Single View
Search	Time sliced image search, Time/Calendar search, Event (Motion, External alarm), Tag search
Alarm Modes	Sensor, Motion, Video loss, IP conflict, Disk error, Illegal access, Network disconnection
Alarm Inputs / Output / Triggering	8CH / 4CH / Record, Snap, PTZ move, Alarm out, E-mail, etc
Network Interface	RJ45 x 1
PoE Ports / Standard / Total PoE	RJ45 x 16, with POE @ 802.3af 15W max per port / 150W all ports
Bit Rate (Per Camera)	512Kbps ~ 10 Mbps (Adjustable)
Total Bandwidth	256Mbps Incoming / 256Mbps Outgoing
Dual-stream	Individual Network Video Stream and local recording stream, set seperately
Network Protocols	TCP/IP, UDP, DHCP, DNS, PPPOE, DDNS, Email, UPNP, NAT, Telnet
Internet-streaming	Total 95 task resource (Local+Remote) 16 CH IE playback
Remote Viewing	CMS / Web Browser / Mobile Platforms
Remote Users	10 Simultaneous Online Users
Backup	Network, USB
SATA HDD	SATA x 4, max to 10TB each (40TB Total)
RS485	RS485 x 2 (for PTZ and Keyboard)
PTZ Protocol	Through Network or RS485 (Pelco D / Pelco P)
USB	USB 2.0 x 1 + USB 2.0 x 1 (for mouse and USB backup device)
Power Consumption / Supply	≤ 15W (Without HDD) / AC 110/220V (ATX 300W)
Working Environment	32°~122°F @ 10% ~ 90% RH
Dimensions	17.3 x 15.4 x 2.8" (440 x 390 x 77mm)
Weight (Metric)	15.19lbs (6.89kg)

Detailed Specifications	VT-TNR3216PF
Video Input / Resolution	32 IP Channels up to 8 MegaPixel
Main Monitor Output	1 x 4K HDMI / 1 x 1080P VGA
Multi Operation	Pentaplex: Live Display / Record / Playback / Backup / Remote Acess
Recording Compression	H.265 / H.264
OS	Embedded Linux
Recording	960fps (30fps per channel)
Audio over IP Inputs	32 (1 Audio Channel per IP Camera over IP)
Local Audio In/Out / Two-Way	IN: RCA x 1CH / OUT: RCA x 1CH / YES
Encode	CBR
Quality Levels	11 level (According to Bit Rate)
Recording Modes	Manual / Timer / Motion / Sensor
Local Playback	16CH
Intelligent Analytics	Gen. III Face Detection, Target Counting, Intrusion, Region Entrance / Exit, Line Crossing, Scene Change, Video Blur
Face Det.: Channels Database	32 CH., 32 Libraries (5000 Pics), 180 pictures per minute
Face Det.: Search by Picture	Add, Modify, Delete and Search Face Pictures (App, Web, Local PC)
Face Det.: Adding Face pics	Resolution (6128×128 - 1920×1080), jpeg below 70KB
Face Det.: Face Trace Map	Resolution (2560×1920), jpeg below 512KB
Image Dewarping	Fish Eye 360º Camera De-Warping with Single Overall and 3-way Division
Search	Time sliced image search, Time/Calendar search, Event (Motion, External alarm), Tag search
Alarm Modes	Sensor, Motion, Video loss, IP conflict, Disk error, Illegal access, Network disconnection
Alarm Inputs / Output	16CH Local Input + 1 Channel per IP Camera / 4CHzRecord, Snap, PTZ move, Alarm out, E-mail, etc
Alarm Triggering	
Network Interface	RJ45 x 1
POE ports, PoE Standard, Total	RJ45 x 16, with POE, 802.3af 15W max per port, 150W all ports
Bit Rate (Per Camera)	512Kbps ~ 10 Mbps (Adjustable)
Total Bandwidth	256Mbps Incoming / 256Mbps Outgoing
Dual-stream	Individual Network Video Stream and local recording stream, set seperately
Network Protocols	TCP/IP, UDP, DHCP, DNS, PPPOE, DDNS, Email, UPNP, NAT, Telnet
Remote Viewing	CMS / Web Browser / Mobile Platforms
Remote Users	10 Simultaneous Online Users
Backup	Network, USB
SATA HDD	SATA x 8, Max 10TB each
RS485	RS485 x 2 (for PTZ and Keyboard)
PTZ Protocol	Through Network or RS485 (Pelco D / Pelco P)
USB	USB 2.0 x 1 + USB 3.0 x 1 (for mouse and USB backup device)
Power Consumption / Supply	≤ 15W (Without HDD) / AC 110/220V (ATX 300W)
Working Environment	32°~122°F @ 10% ~ 90% RH
Dimensions (WxHxD)	16.93" x 3.54" x 17.72" (430 x 90 x 450mm)
Weight	19.62lbs (8.9kg)

Detailed Specifications	VT-TNR6480E1
Video Inputs / Resolution	64 Channels Supporting up to 8 MegaPixels @ 30fps Max
Main Monitor Output	HDMI × 2 : 1 × 3840 × 2160 / 1920 × 1080 / 1280 × 1024 , 1 × 1920 × 1080 / 1280 × 1024
	VGA × 1: 1920 × 1080 / 1280 × 1024
Multi Operation	Pentaplex: Live Display / Record / Playback / Backup / Remote Access
Recording	8MP / 6MP / 5MP / 4MP / 3MP / 1080P / 960P / 720P
Compression	Standard H.265 / H.264
OS	Embedded Linux
Audio	64 CH IPC Dependent
Local Audio In / Out	IN: RCA × 1CH / OUT: RCA × 1CH
Two-Way Audio	YES
Encode	CBR / VBR
Quality Levels	11 (According to Bit Rate)
Recording Modes	Manual / Timer / Motion / Sensor
File Management	Reserving time, Redundancy, Dual stream recording
Local Playback	16 Ch.
Search	Time sliced image search, Time/Calendar search, Event (Motion, External alarm), Tag search
Intelligent Analytics	License Plate Recognition, Target Counting, Intrusion, Region Entrance / Exit, Line Crossing, Scene Change, Video Blur
De-Warping	Fish Eye 360º Camera De-Warping with Single Overall and 3-way Division
Alarm Modes	Manual / Sensor / Motion / Exception
Alarm Inputs / Outputs	8 CH local alarm input, supporting IPC alarm input / 4 CH Output
Alarm Triggering	Record / Snap / Preset / E-mail
Network Interface	RJ45 10 / 100 / 1000 Mbps × 2
Bit Rate (Per Camera)	512Kbps ~ 10 Mbps (Adjustable)
Dual-stream	Individual Network Video Stream and local recording stream, set separately
Network Protocol	TCP / IP, PPPoE, DHCP, DNS, DDNS, UPnP, NTP, SMTP
Network Web Client / Mobile OS	Up to 10 users online / iOS, Android
PTZ Protocol	
RS485	Through Network or RS485 (Pelco D / Pelco P)RS485 x 2 (for PTZ and Keyboard)
SATA HDD	SATA × 8 (Max 10TB per HDD, 80TB total), e-SATA × 2
Disk Array	RAID0, RAID1, RAID5, RAID6, RAID10
Local Backup	U disk, USB mobile HDD
Network Backup	YES
USB	USB 2.0 × 2 (front panel, rear panel), USB × 3.0 × 1 (rear panel)
Remote Controller	YES
Power Consumption / Supply	≤ 15W (Without HDD) / ATX 250W
Working Environment	14ºF~122ºF (-10º~50ºC) / 10~90% RH
Dimensions	17.52" × 17.12" × 3.54" (W × D × H)

Detailed Specifications	VT-TNV128E1
Network Input	128 IP Channels up to 12 MegaPixel, 640MbPS
Video Output	HDMI-1 up to 3840 × 2160 @ 60fps
	HDMI-2~4 up to 1920 × 1080
	VGA up to 1920 × 1080
Recording Compression	H.265+ / H.265 / H.264
OS	Embedded Linux
Recording Resolution	12MP/8MP/6MP/5MP/4MP/3MP/1080P/1280×1024/960P/ 720P/960H/D1/CIF /
Audio Over IP Input,	128 (Camera Dependent)
HDMI Audio Out	YES
2-Way Audio / Local Output	RCA × 1
Recording Streams / FPS	Dual Stream (CBR & VBR) / 30 (NTSC)
Recording Modes	Manual / Timer / Motion / Sensor / Analytics
Simultaneous Playback,	Max 16 CH
Search / Smart Search	Time Sliced Image Search, Time/Calendar Search, Event (Motion, External Alarm),
	Tag Search
Intelligent Analytics	Gen. III Face Detection, Target Counting, Intrusion, Region Entrance / Exit,
	Line Crossing, Scene Change, Video Blur
Face Det.: Channels Database	128 CH., 32 Libraries (10,000 Pics), 2160 pictures per minute
Face Det.: Search by Picture	Add, Modify, Delete and Search Face Pictures (App, Web, Local PC)
Face Det.: Adding Face pics	Resolution (128×128 - 1920×1080), jpeg below 70KB
Face Det.: Face Trace Map	Resolution (2560×1920), jpeg below 512KB
Alarm Modes	Sensor, Motion, Video loss, IP conflict, Disk Error, Illegal access, Network
Alarm In / Out	Disconnection
Alarm Triggering	24 Inputs / 8 Outputs
Network Interface	Record, Snap, PTZ Move, Alarm Out, E-mail
Bit Rate (Per Camera)	RJ45 10 / 100 / 1000 Mbps × 2
Total Bandwidth	512Kbps ~ 10 Mbps (Adjustable)
Dual-stream	Display Priority 128Mbps / Network Priority 640Mbps
PTZ Preset	Individual Network Video Stream and Local Recording Stream, Set Separately
	Auto Cruise, up to 255 Presets and 8 Cruises
Network Protocols	TCP/IP/UDP/DHCP/DNS/PPPOE/DDNS/Email/UPNP/NAT/ Telnet
External Interface / Reset	USB 2.0 × 2, USB 3.0 × 1, RS 485 (Full Duplex), RS 232 / YES
Remote Viewing	CMS / Web Browser / Mobile Platforms
Backup	Network, USB
SATA HDD	SATA x 16, max 10TB each (Total 160TB)
Disk Array	RAID0, RAID1, RAID5, RAID6, RAID10
PTZ Protocol	Through Network
USB	USB 2.0 × 2 (front panel), USB 3.0 × 1
Power Consumption / Supply	50w without HDD / ATX 300w
Working Environment	32°~122°F @ 10% ~ 90% RH
Dimensions (WxHxD)	17.20" × 19.02" × 5.63" (437mm×483mm×143mm)
Weight	30.9lbs (14kg) without HDD

NOTES

LIMITED PRODUCT WARRANTY

VITEK products carry a three (3) year limited warranty. VITEK warrants to the purchaser that products manufactured by VITEK are free of any rightful claim of infringement or the like, and when used in the manner intended, will be free of defects in materials and workmanship for a period of three (3) years, or as otherwise stated above, from the date of purchase by the end user. This warranty is nontransferable and extends only to the original buyer or end user customer of a VITEK Authorized Reseller.

The product must have been used only for its intended purpose, and not been subjected to damage by misuse, willful or accidental damage, caused by excessive voltage or lightning.

The product must not have been tampered with in any way or the guarantee will be considered null and void.

This guarantee does not affect your statutory rights.

Contact your local VITEK Reseller should servicing become necessary.

VITEK makes no warranty or guarantee whatsoever with respect to products sold or purchased through unauthorized sales channels. Warranty support is available only if product is purchased through a VITEK Authorized Reseller.