mapesen

AI NVR I POE NVR KIT
Quick User Manual

www.mapesen.com

CONTENT

Charpter 1 Product Introduction

1.1 Safety Instructions

These instructions are intended ensure that the user can use the product correctly to avoid danger or property loss.
The precaution measure is divided into" Warning" and" Cautions".
Warnings: Serious injury or death may occur if any of the warnings are neglected.
Cautions: Injury or equipment damage may occur if any of the cautions are neglected.
Warnings:
1. Proper configuration of all passwords and other security settings is the responsibility regulations if the nation and region. Please refer to technical specifications for detailed information.
2. In the use of the product, you must be in strict compliance with the electrical safety regulations of the nation and region. Please refer to technical specifications for detailed information.
3. Do not connect several devices to one power adapter overload may cause over-heating or a fire hazard.
4. Please make sure that plug is firmly connected to the power socket.
5. If smoke, odor or noise rise from the device, turn off the power at once and unplug the power cable, and then please contact the service center.

1.2 Preventive and Cautionary Tips

Before connecting and operating your device, please be advises of the following tips:
1. Ensure unit installed in a well-ventilated, dust-free environment.
2. Unit is designed for indoor use only.
3. Keep all liquids away from the device.
4. Ensure environmental conditions meet factory specifications.
5. Ensure unit is properly secured to a rack or shelf. Major shocks or jolts to the unit as a result of dropping it.
6. May cause damage to the sensitive electronics within the unit.

7. Use the device in conjunction with an UPS if possible.
8. Power down the unit before connecting and disconnecting accessories and peripherals.
9. A factory recommended HDD should be used for this device.
Improper use or replacement of the battery may result in hazard of explosion. Replace with the same or equivalent type only. Dispose of used batteries according tothe instructions provided by the battery manufacturer.

Charpter 2 Installation Guide

2.1 HDD Installation

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

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

Step 2: Install 4 crews on HDD.

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

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

Step 5: Fix the HDD.

Step 6: Connect the power cable and SATA cable.

2.1.1 Front Panel Introduction

Indicator	Name	Function
NET	Network Status Indicator	NET LED is normally blue, indicating that network connection is normal.
PWR	Power Status Indicator	PWR LED is normally blue, indicating that the device is functioning properly.
HDD	Hard drive Status Indicator	HDD LED is normally blue, indicating that the device is functioning properly.
USB	USB2.0 Interface	Universal Serial Bus(USB) ports for additional devices such as USB mouse and USB Hard Disk Drive (HDD).

2.1.2 Product Overview

1. This equipment is a digital video surveillance product specially designed for the security field. By using the embedded LINUX operating system to enable the system to operate more stably. Besides, with the standard H.265 video compression algorithm, to achieve a high quality, low bit rate, single frame play and other video functions.
2. This equipment can be used in banking, telecommunications, power, justice, transportation, intelligent residential areas, factories,

warehouses,resources, water conservancy facilities, and other fields.

2.2 Statement

1. Thank you very much for purchasing this IVR product, if you have any question or requirement, please feel free to contact us.
2. The company will update the contents of this manual based on the enhancement of product function, and will regularly improve or update the products or processes described in this manual. The updated content will be added to the new version of this manual without prior notice. If the product description does not match with the physical one, all to prevail in kind.

Note:

1. The IVR with more than 9 channels must access the gigabit switch, otherwise there will be a loss of video or standstill phenomenon.
2. All the IP addresses of the network devices in lan cannot conflict.
3. The gateway needs to be set by right IP address.

2.3 Install Hard Disk

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

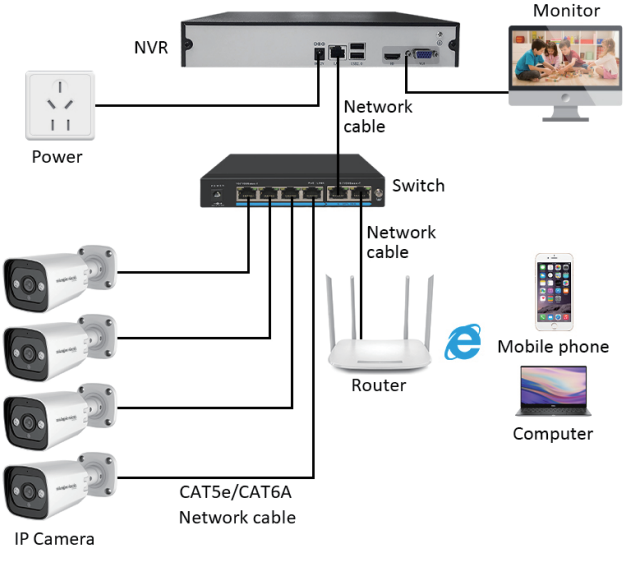
2.3.1 Hard Disk Installation Steps:

1. Unscrew the screws of the case, open the case cover.
2. Connect the hard disk data cable and power cord.
3. Use the screws to fix the hard disk onto the hard disk screw hole on the baseplate.
4. Cover the case cover, and fixed with a screw.
5. If there is a hard disk box, fix the hard disk into it in the correct direction, can be inserted into the IVR.

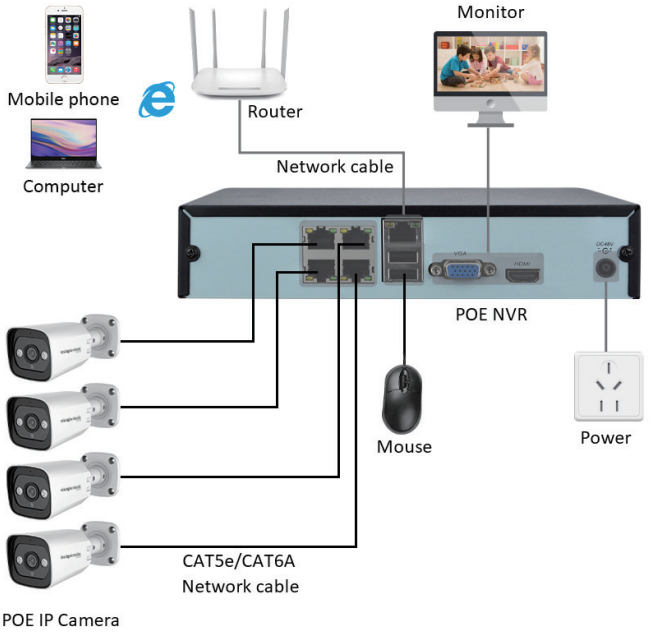
⚠ Note: Before the operation of replacing the hard disk, the power of device should be turn off, and disconnect power supply. The device model with a hard disk box supports hot-swap.

2.4 Network Connecting Diagram

General NVR connection mode: AI NVR and IPC can be connected in the same LAN through switches, as shown in the figure:



Connection mode of POE NVR: just connect IPC to the POE power supply port of NVR through network cable, as shown in the figure:



S\N	POE NVR	Camera	52V Power Supply	15M Network Cable
4CH	1PC	4PCS	1PC	4PCS
8CH	1PC	8PCS	1PC	8PCS

Charpter 3 Host Operation

3.1 Boot and Shutdown Operation

3.1.1 Boot

The device is connected to the power supply, press the power switch (some devices have the switch button, depending on the actual device), the power indicator light is on, and the video recorder is turned on. After the startup is complete, the startup wizard is displayed by default. Follow the steps of general Settings - Administrator password - Time setting - Network setting - Mobile phone monitoring - Disk management - Channel connection to complete the basic IVR configuration. After clicking finish, the preview screen is displayed.

⚠Note: Please use the power supply provided with the network digital video recorder, do not use other types or brands of power to replace the original power supply.

3.1.2 Shutdown

• Power off: Press the switch button on the front panel or unplug the power cable to turn off the device. (Switch keys are different, depending on the actual device)

• Software shutdown: Click the shutdown button at the lower left corner of the preview interface, enter the "Shutdown" and select "OK". (Tip: It is recommended to use this method when shutting down to avoid damage to the device in the event of an unexpected power failure).

Note: Before replacing a hard disk, turn off the device and then turn off the power.

3.1.3 Power Off Recovery

When the video recorder is in the video recording working state, if the system power is cut off or forcibly shut down, the video recorder will

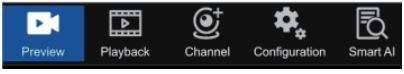
automatically save the video before the power failure, and automatically restore to the working state before the power failure to continue working.

3.2 Login System

After the device is powered on and the preview screen is displayed, the device is in full-screen mode by default. You can click the login button at the bottom of the screen (hover at the bottom), enter the user name and password (default user name: admin, password: 123456), and click OK to log in to the device.

3.3 Menu Operation

After login, follow the toolbar on the upper side of the interface to set the related parameters.



3.3.1 How to Connect IPC to IVR

Before configuring an IVR, you need to know how to connect all IVR channels to the IPC screen.This product supports multiple versions of ONVIF protocol and is compatible with mainstream IPC brands in the market.

Before IPC connects to an IVR, ensure that the IP address and the IVR IP address are on the same LAN, and the primary and substreams must be adjusted to the recommended values. Otherwise, IPC may not be found, image access is unavailable, images are not smooth, and picture quality is poor. (Currently, MAC address binding is implemented for added cameras. No matter how the IP address and network segment are changed behind these cameras, as long as they can be searched by IVR, IVR can adapt to cross-network segment graph, only slink,i9 protocol is supported).

Connect the IVR to the LAN switch. After the IVR is powered on, click the icon Configuration to go to the Network Management page. Set the IVR IP address, subnet mask, and gateway on the basic parameter page. After the configuration is saved, go to the network diagnosis page, run the ping test, select the device NIC, enter the destination PC, ping through, indicating that the device and the PC are on the LAN.
Then, left-click the icon Channel again to enter the channel connection interface, as shown below:

The IVR is automatically added by default. It automatically searches for all IVRs on the LAN and adds them to the channel list. If you want to manually add mode, you can manually search IPC and click Add All to add it to the channel list. For details, see the channel connection module description.
The following describes IVR functions in terms of real-time preview, video playback, channel connection, advanced configuration, and intelligent AI.

3.3.2 Preview

After the device starts normally, the real-time preview screen will be entered, as shown in the following figure:

3.3.2.1 Interface Function Introduction

The main interface consists of real-time preview, video playback, channel connection, advanced configuration, intelligent AI and other main menus, which can be switched arbitrarily.

Upper-right menu description:

- MIC Input :Click the slider to adjust the audio input volume
- Speaker Output :Click the slider to adjust the audio output volume
- Monitor Alarm :When there is an alarm, the indicator will keep blinking. After clicking the button, the detailed alarm information can be displayed, as shown in the following picture:

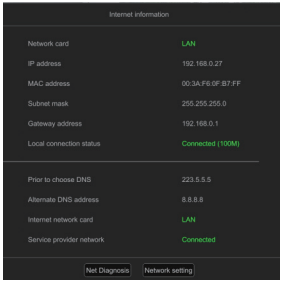
In practical application, in order to avoid the impact of the alarm, you can click the button Disarming on the page to temporarily shield the alarm information (the alarm actually exists, you can query it in the log), if you need to view the real-time alarm information, then click the defense button.

- APP:After clicking, the APP download QR code and device ID QR code will be displayed, as shown below:

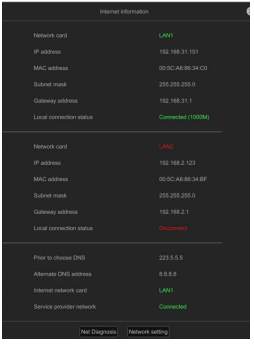
Click "Details" to jump to the P2P service interface, you can view its version information.

If the App has been bound, you can click the unbind button on the interface and enter the device login password to remove the device from the mobile APP.

• Network Information :After clicking, it will automatically detect the network connection status, and display the detailed information about the device network, you can diagnose and set the network, as shown in the figure below:



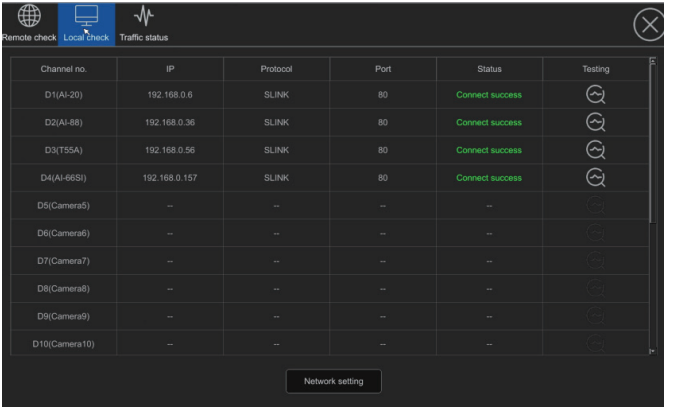
Single NIC



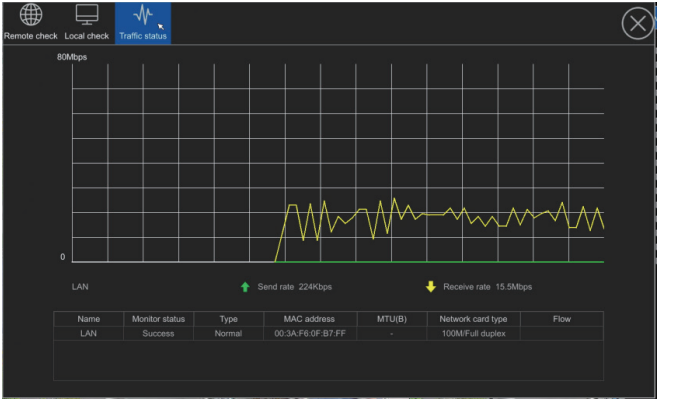
Dual NIC

Network Settings: Click this button to jump directly to the network Settings interface.
Network diagnosis: The interface is as shown below, and the functions are described in detail as follows:

Remote diagnosis: Displays the network connection status between the IVR, router, and carrier.
a.Packet capture test: You can select the corresponding network adapter to capture packets and back up the captured files to an external USB flash drive.
b.ping Testing: Click to ping the IP address or domain name of the peer to be checked. By default, ping the Baidu domain name. You can enter the IP address or domain name as required.
c.Diagnosis: After user clicks Diagnose, the device automatically detects whether the external network is connected.
Local diagnosis: Displays information about the current access channel of the device. You can click Detect to check whether the network is connected.

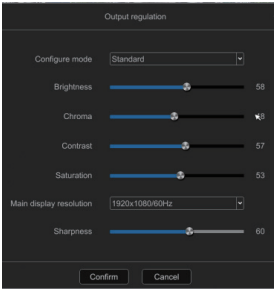


Traffic status: Displays the current sending and receiving rates of the device network card and is displayed in a schematic diagram.

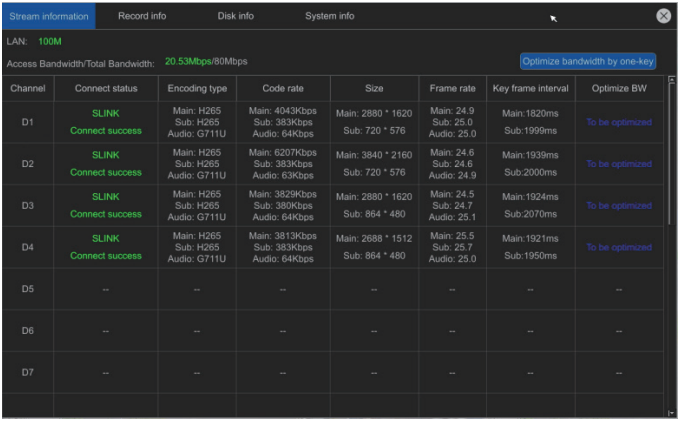


• Output Adjustment : Click to display the current output mode and display resolution, the output mode can be standard, soft, bright, vivid mode, or customized brightness, chroma, contrast, saturation, sharpness and resolution, as shown in the following picture.

• Note: Only some devices support sharpness adjustment.

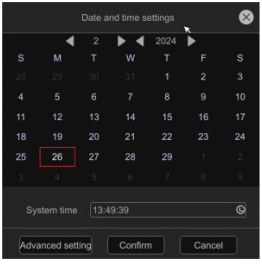


• System Keeper : Click it to display stream information, video information, disk information, preview information, etc., as shown in the following picture.



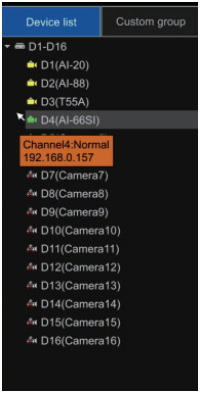
Channel	Connect status	Encoding type	Code rate	Size	Frame rate	Key frame interval	Optimize BW
D1	SLINK Connect success	Main: H265 Sub: H265 Audio: G711U	Main: 4043Kbps Sub: 383Kbps Audio: 64Kbps	Main: 2880 * 1620 Sub: 720 * 576	Main: 24.9 Sub: 25.0 Audio: 25.0	Main:1820ms Sub:1999ms	To be optimized
D2	SLINK Connect success	Main: H265 Sub: H265 Audio: G711U	Main: 6207Kbps Sub: 383Kbps Audio: 63Kbps	Main: 3840 * 2160 Sub: 720 * 576	Main: 24.6 Sub: 24.6 Audio: 24.9	Main:1939ms Sub:2000ms	To be optimized
D3	SLINK Connect success	Main: H265 Sub: H265 Audio: G711U	Main: 3829Kbps Sub: 380Kbps Audio: 64Kbps	Main: 2880 * 1620 Sub: 864 * 480	Main: 24.5 Sub: 24.7 Audio: 25.1	Main:1924ms Sub:2070ms	To be optimized
D4	SLINK Connect success	Main: H265 Sub: H265 Audio: G711U	Main: 3813Kbps Sub: 383Kbps Audio: 64Kbps	Main: 2688 * 1512 Sub: 864 * 480	Main: 25.5 Sub: 25.7 Audio: 25.0	Main:1921ms Sub:1950ms	To be optimized
D5	--	--	--	--	--	--	--
D6	--	--	--	--	--	--	--
D7	--	--	--	--	--	--	--

• Device time display: Displays the current device time. You can modify the device time here or go to the advanced configuration page for more Settings.



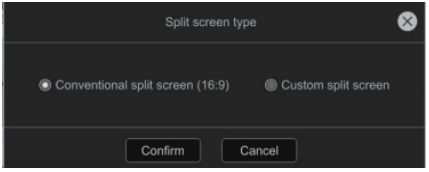
• Describes the toolbar on the right

Device list: can display the access channel channel number, channel name, video status, channel connection status, channel IP address (mouse hover channel number can be displayed).

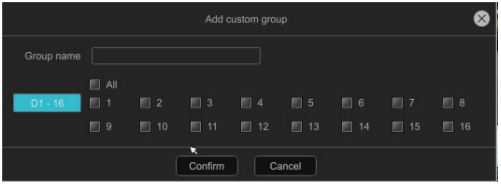


Custom Grouping:

Click Add Custom group, it will appear as shown in the picture to choose regular split screen or custom split screen.



Conventional split screen: You can select the channel number to add the corresponding channel to the group.

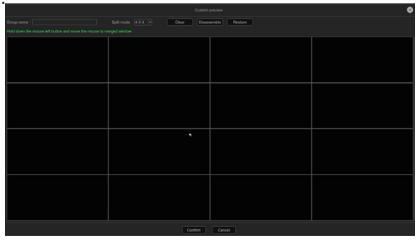


Custom split screen: User can customize the size of the preview area according to actual requirements, and select channels to put into the corresponding area after dividing.

Select an area, click Clear the button, clear the channel in the area, but do not split the window.

Select an area, click Disassemble the button, user can split the area into the original window.

Click Restore the button, you can restore to the original window, clear all channels.



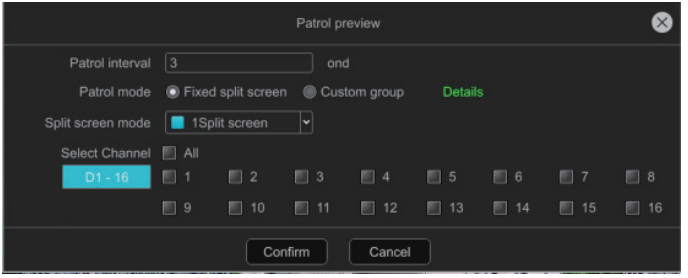
• The bottom toolbar is introduced：

Shutdwon :Click this button to shutdown, reboot, login/cancel operation.

• Split :Click this button to choose preview split mode.

• Previous/Next :The current preview window can be page-turned.

• Patrol :Patrol can be opened and closed, rotation interval can be set, fixed split screen or custom split screen mode can be set.



• Alarm event linkage preview Pop-Up :User can open or close the pop-up window. If the alarm is triggered, the preview screen of the alarm channel will automatically pop up, and the window will be automatically restored after the alarm disappears. (Note: This function needs to be configured and opened in the alarm linkage first).

• Alarm Flicker Frame :User can open or close the alarm flashing side window. If the alarm is triggered, the border of the channel preview screen will flash automatically.

• Full Screen :Click the button to preview the full-screen .

• Display/Hidden OSD :Click to open or hide the OSD channel screen.

• P/T Control :Click to open the PTZ control interface, described in detail below.

• Backup :Click to pop-up the backup interface.

• Snapshot :One-click capture for the window of the access channel screen.

• Audio Broadcasting :After enabling, it can realize the intercom of one-click video recorder to all channels IPC; (Private protocol support only) .

• P/T Control Interface.

Select the channel to be configured, click the arrow key to turn the head, and set the zoom and zoom of the focal length, focus and aperture; Set the speed of the head. The following page explains the detailed setting methods of preset, cruise, and trajectory functions:

• Preset setting and Pick-up.

• Select the channel, turn the camera to the required position through the direction button controlled by the PTZ, then select a preset number from the drop-down list of "preset ", set the preset number, and click "Set".

• User can also pick up and clear Preset in this interface.

• Cruise setting, pickup and delete.

• Select a cruise number from the "Cruise" drop-down list, click "Set" button to enter the "Cruise Setting" interface, then select preset, cruise time, cruise speed, click "Add" button, the preset of the cruise path will be added successfully (multiple preset points can be added).

• Select a cruise number from the "Cruise" drop-down list and click the "pick-up" button to call.

• Select a cruise number from the "Cruise" drop-down list and click the "Delete" button to delete it.

• Cruise setting and pick up (need front-end speed dome to support).

• Select a track number from the "track" drop-down list, and click the "Set" button to start recording, and then perform a series of direction operations. Click the "Set" button again to stop recording the track, and the track is successfully remembered.

• Select a track number from the Track drop-down list and click the pick up button to pick up the cruise.

• Switch Channel.

• Select one channel and drag it to another. By default, all configurations are interchanged.

• Describes the toolbar of the window.

When the mouse clicks the channel screen, the window toolbar can be displayed, as shown in the figure.

• P/T Control :Click to open the PTZ control interface.

• Display smart detect switch :Click to display the smart rule line or detection frame .

• Snapshot :Capture the current channel picture.

• Audio Intercom :After enabling, it can realize the intercom between nvr and IPC; (Private protocol support only).

• Play IPC audio :Enable the channel's audio.

• IPC adjustment :To adjust current channel's video parameter,audio input and output, light mode...etc.

• IPC maintenance upgrade :User can restart the camera in this channel or select other channels, restore the factory, enable/disable the full netcom, upgrade and other operations

• Right-click Menu Introduction.

The right-click menu basically includes some common functions on the preview interface described above, the specific use method is no longer described, and the actual operation can be carried out according to personal habits, as shown in the figure:

Turn off the sound and light alarm: Click to enter the menu, user can select the channel one key to turn off the sound and light alarm of IPC, as shown in the following figure.

3.3.2.2 Video Playback

Enter the video playback interface. By default, IVR selects the maximum number of playback channels supported by the device and the date of the day to automatically query the recording, as shown below:

Note: Some large-capacity IVR need to manually click the query button. For details, please check the actual IVR device interface.

• Video query channel selection: default selection of the maximum playback paths supported by the device. Users can add or remove query channels based on actual needs.

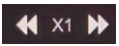
• Video query date selection: default selection of the current date. Users can select the needed video recording date based on actual requirement. If a date has a blue background in the calendar table, it indicates that there is a recording for that day. If not, it indicates that there is no recording for that day.

• Video type selection: default selection of all types. Users can select regular recordings or alarm event recordings based on actual circumstances. The progress bar color and interface labeling correspond to different alarm events.

Video playback: default playback of the IVR retrieved video starts from

zero hour of the day. Users can click the left mouse button or scroll the mouse wheel to zoom in and select the needed time point for playback by clicking on the timeline.

Toolbar introduction:

Name	Icon	Function description
Display AI intelligent rules and results		Show/hide AI intelligent rules and results
Pause/Play key		Play/Stop the current recording
Stop key		Stop playing the video and turn off all images
Forward/Reverse keys		Playing videos forward/ backward by time
Single frame playback key		Frame playback of recording
Jump forward/backward for 30 seconds		Jump the video forward/ backward for 30 seconds to play
Slow/Fast play keys		Slow or fast playback of 1X/2X/4X/8X/16X recordings at multiple speed
Split screen mode		Switch playback window split screen number
Previous/Next Page		Page flipping function key, matched with split screen function for use

Full screen function		Full screen video display
Backup key		The file backup interface will pop up
Capture key		One click capture of the current channel window
Channel flipping key		Click to flip the playback channel

3.3.3 Channel Connection

The channel connection interface is used to add cameras searched in the network to the video recorder, as shown below:

3.3.4 Advanced Configuration

Note: It is divided into expert mode and simple mode. Expert mode includes all the functions in simple mode and includes more functions. Which functions appear in expert mode will be marked below).

3.3.4.1 Video Parameters

3.3.4.1.1 OSD Settings

• OSD settings.

Display channel OSD: you can turn on or off the display of the front-end IPC name in the video.

Channel name position: you can set the channel name position in the upper left corner, upper right corner, lower left corner, lower right corner or customize drag.

Display time OSD: you can turn on or off the time of displaying the front-end IPC in the video.

Time position: the channel time position can be set to the upper left corner, upper right corner, lower left corner, lower right corner or customized dragging.

Time format: 12-hour and 24-hour format can be set.

Date format: You can set the year-month-day, month-day-year, day-month-year format.

Copy to: the configuration parameters of the current channel can be copied to other channels. The same model and version of IPC must support copying.

Note: the above configuration for the IPC front-end requires support from the IPC front-end before it can be saved and take effect!

3.3.4.1.2 Encoding Parameters (Expert Mode)

Channel: you can select the corresponding channel to configure the video type, resolution, bit rate type, bit rate, video frame rate, image quality, encoding type, and I frame interval.

Stream type: switch the main stream or sub stream of the channel and configure them separately.

Video type: there are two types: composite stream and video stream. When the channel supports audio output, you need to select composite stream.

Resolution: obtain the resolution supported by the IPC according to the connected IPC; (Note: Different models of IPC have different resolutions).

Bit rate type: you can set the fixed bit rate or variable bit rate of IPC.
Bit rate upper limit: get the IPC bit rate limit based on the connected IPC. You can pull down to choose to set different bit rates or customize settings.
Video frame rate: obtain the frame rate supported by the IPC according to the connected IPC, and you can pull down to select and set different frame rates.
Image quality: obtain the image quality supported by the IPC according to the connected IPC. When the bit rate type is variable bit rate, you can select different image quality as needed.
Encoding type: obtain the encoding type supported by the IPC according to the accessed IPC, and you can drop down to select and set.
I frame interval: you can set the I frame interval of the front end IPC.
Copy to: the configuration parameters of the current channel can be copied to other channels. The same model and version of IPC must support copying.

3.3.4.1.3 Lens Parameters (Expert Mode)

Image setting: adjust the brightness, contrast, saturation and chroma, picture effect between 0-255 of the front end IPC, or restore the default with one click.
Light mode: the default front end IPC light mode, the user can set the warmlight, infrared light, dual light source and other modes according to actual needs.
Light control: the front end IPC light control is obtained by default, and users can set off, automatic, manual and other modes according to actual needs.
Light brightness: obtain the front end IPC light brightness by default, and users can adjust it between 0 and 100 according to actual needs;
Switching mode: the front end IPC mode is obtained by default, and users can set it according to actual requirements. External trigger, automatic, color, black and white and other modes.

• IR CUT trigger: obtain the IR CUT settings of the front end IPC by default. You can set the IR CUT settings forward or reverse.
• Advanced settings: set advanced lens parameters such as mirroring, WDR, 3D noise reduction, aperture, GAMMA and other front end IPC lens parameters. The specific configuration is subject to the actual interface.
Copy to: the configuration parameters of the current channel can be copied to other channels. The same model and version of IPC must support copying.

3.3.4.1.4 Privacy Masking (Expert Mode)

After enabling, the specified video area is masked so that the masked area is invisible for preview and playback.
Copy to: The configuration parameters of the current channel can be copied to other channels. The same model and version of IPC must support copying.

3.3.4.2 Recording Storage

3.3.4.2.1 Recording Plan

Recording plan: the default is "scheduled recording + alarm recording" mode. Users can set scheduled recording and alarm recording, scheduled recording, alarm recording, and stop recording according to actual needs.
• Scheduled recording + alarm recording: within the set scheduled recording time period, or an alarm triggers recording, the current channel system will perform recording operations.
• Timing recording: only within the set scheduled recording time period, the current channel system will perform recording operations.
• Alarm recording: if the channel is configured to trigger the alarm recording function, the current channel system will perform recording operation.
• Stop recording: stop recording on the current channel.
• Set event recording time:

Click the "Go to Settings" button for motion detection, alarm input, smart configuration, etc. to quickly enter the corresponding event configuration interface. After checking the video linkage method in the "Linkage Method" of the event, the corresponding alarm is actually triggered linkage recording.

• Note: linkage recording is enabled by default for alarm events, and users can configure it according to actual needs.

• Pre-recording time: the recording time before the alarm event starts can be configured.

• Recording delay: the recording time after the alarm event ends can be configured.

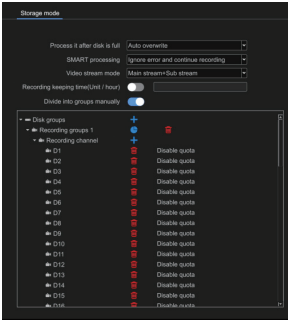
Note: the pre-recording time and recording delay time are only for alarm recording.

• Set scheduled recording time period: After clicking "Edit", you can configure any recording time period.

• Network disconnection supplementary recording: after enabling this function, the video data recorded on the IPC's SD card during the abnormal period can be downloaded to the local hard disk. It requires IPC to be inserted into the SD card to support it, and it is only supported by private protocols.

3.3.4.2.2 Storage Mode (Expert Mode)

The information on the page details the current IVR storage mode, as shown below.



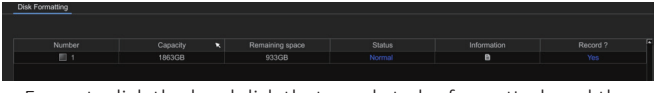
Post-recording processing: for the situation after the hard disk is full, you can set two methods: "Automatic overwrite" or "Stop recording". The default is "Automatic overwrite"; Automatic overwrite means that the old recording data will be overwritten after the hard disk is full. Recording full stop means recording will stop when the hard disk is full.

• SMART processing: for the situation after a smart information error occurs on the hard disk, you can set two methods: "Ignore the error and continue recording" or "Stop recording when an error occurs"; the default is "Ignore the error and continue recording". Ignore the error and continue recording means continuing recording after a smart information error occurs on the hard disk. Stop recording on error means stopping recording after a smart information error occurs on the hard disk.
• Recording stream mode: configure the "Main stream + Sub stream" mode to record the main stream and sub stream; configure the "Main stream" mode to record only the main stream.
• Video storage time: you can set the retention time of the latest video. If the set retention time is exceeded, the old video will be automatically eliminated.
• Grouping: IVR defaults to "Automatic grouping" for recording, that is, the recording data of all channels is written to one hard disk by default, and jumps to the next hard disk after the recording is full; in order not to affect the performance of the device, the number is greater than or equal to 64 channels It is recommended that channel device be connected to multiple hard drives.
• Manual grouping: enable manual grouping, you can arbitrarily select channels and hard disks for group recording, and support up to 16 groups.

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

3.3.4.2.3 Disk Format

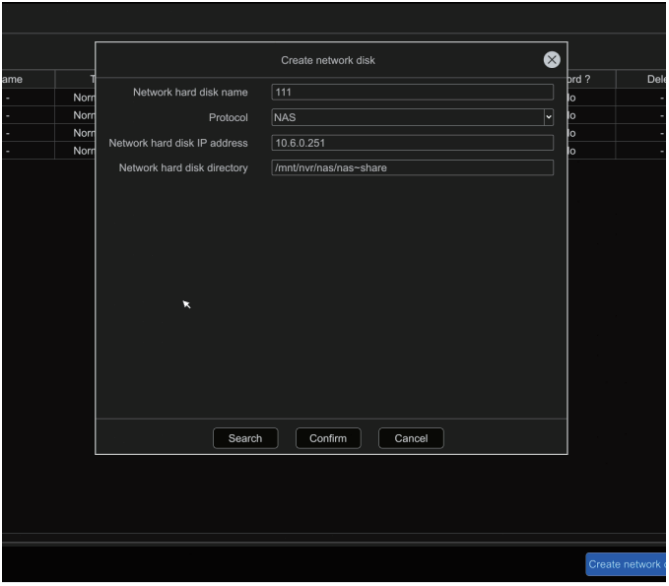
• As shown below

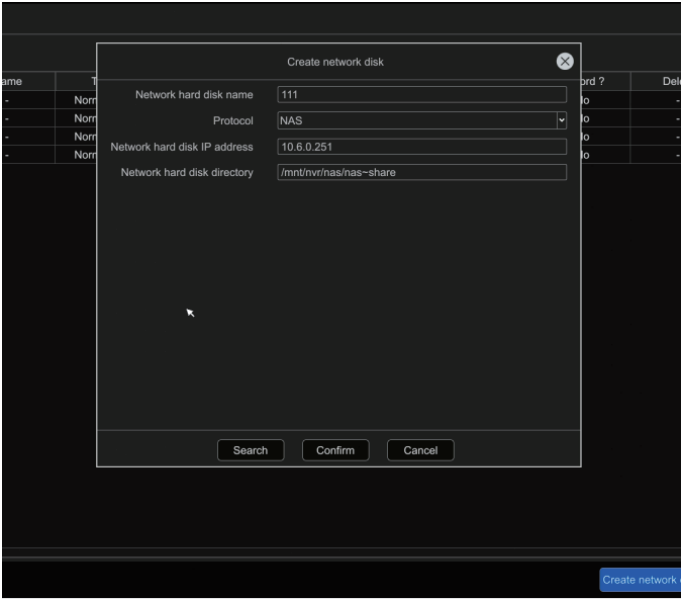


• Format: click the hard disk that needs to be formatted, and then click the Format button (Note: when the status is "Requires Formatting", the corresponding hard disk must be formatted before the hard disk can continue recording. In addition, please do not have other operations during the formatting process).

• Create a network disk: you can choose network disks with two protocols: NAS and IPAN.

• Create a network disk: you can choose network disks with two protocols: NAS and IPAN.
• Network hard disk name: users can name it according to actual needs.
• Network IP address: fill in the network hard disk server address. Note: the network hard disk server needs to be built by the user.
• Network hard disk directory: after clicking Search, the network hard disk directory can be automatically displayed. After the creation is completed, click OK.





3.3.4.3 Alarm Management

3.3.4.3.1 Normal Event

• Motion Detection

• Enable: This function requires IPC support. After checking, the motion detection function can be turned on.

• Sensitivity: Users can set the sensitivity of motion detection trigger according to actual needs.

• Area settings: Press and hold the left mouse button on the screen and drag to the area that needs to be detected. The red grid area that appears is the selected area for motion detection.

• Clear all: clear the detection area with one click.

• Full screen frame: You can set the full screen as the detection area with one click.

• Camera light alarm: The IPC light linkage can be configured. When the alarm is triggered, the IPC light flashes and alarms.

• Camera sound alarm: The IPC voice alarm can be configured. When the alarm is triggered, the IPC voice alarm will occur.

• Arming time: You can configure the arming time that needs to trigger the alarm. The default is to arm all day long.

• Linkage method: You can configure the alarm method that needs to be linked when the alarm is triggered. The following details.

• Send email: After checking, when the alarm is triggered, the alarm message can be received in the inbox configured on the email configuration interface.

Note: This method requires that the mailbox can be used normally and the device can connect to the external network.

• Video recorder voice alarm: After checking, when the alarm is triggered, the IVR will have a voice broadcast.

Note: This function is supported by some devices, and the details are subject to the actual device.

• Monitor alarm: After checking, when the alarm is triggered, the alarm information can be displayed in the monitor alarm in the upper right corner of the device.

• Upload to network platform: After checking, when the alarm is triggered, the alarm information will be received on the IVR web client or the mobile phone bound to the App.

• Buzzer alarm: If checked, the IVR will have a buzzer sound when the alarm is triggered.

• Alarm output: After checking, when the IVR alarm output port has an external alarm, after the alarm is triggered, the alarm can be triggered.

• Video recording: can be set to link this channel or other channels to record.

• Capture: This channel or other channels can be set to capture pictures, and the picture records can be queried in the camera capture

on the "Smart AI" interface.

• Camera alarm: After checking, when the alarm is triggered, the alarm input of the IPC and the external alarm can be triggered to alarm.

• Preview pop-up window: After checking, when the alarm is triggered, the preview window of the channel screen will pop up. After the alarm ends, the window will be restored.

Note: This function requires turning on the "Alarm event linkage preview pop-up window" in the preview interface.

• PTZ control: The PTZ can be configured to rotate to a preset point or cruise after the alarm is triggered.

Note: The deployment time and linkage method of all IVR alarm events are the same, and will not be described in details later.

• Video loss (expert mode).

When the channel screen goes offline, an alarm will be triggered, and the video loss log can be queried in the alarm event. The default is to arm all day.

• Video Occlusion (expert mode).

The detection area can be drawn as needed. When the drawn area picture is blocked, an alarm will be triggered. Users can configure the arming time and linkage method according to actual needs. Only supported by private protocols.

• Alarm input (expert mode).

• Alarm input: divided into local alarm input and remote alarm input. Local alarm input requires IVR hardware support, and remote alarm input requires IPC support.

• IP device address: can display the IP address of the IPC that supports remote alarm input.

• Alarm input name: The interface displays the default name, which can be configured by the user according to actual needs.

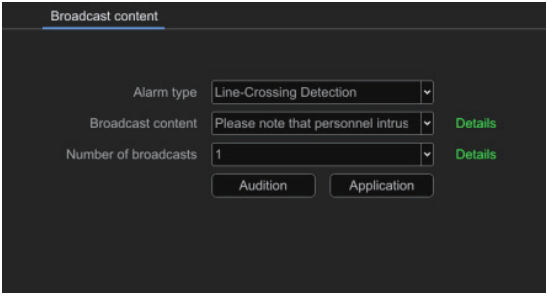
• Alarm status: The alarm can be set to normally open or normally closed according to actual needs.

• Alarm processing: Configure the arming time and linkage method. For detailed usage, please refer to the description in the motion detection section of this document.

• Copy to: Copy the current configuration to other channels. Remote alarm input requires an IPC of the same model and version to support copying.

3.3.4.3.2 NVR Audio Alarm

• This function is used to configure the voice content of the video recorder voice alarm and the number of voice broadcasts after the alarm event ends, as shown in the following figure:



• Alarm type: User can select the alarm event type supported by the device.

• Alarm content: You can select voice broadcast content or customized settings.

• Number of broadcasts: You can set the number of voice alarms after the alarm event ends.

• Apply: The currently set voice broadcast content and broadcast times will take effect after clicking Apply.

• Audition: Click Audition to check whether the set voice broadcast content is correct.

3.3.4.3.3 System Abnormality

• Abnormality type: Configurable alarm triggering method when the device encounters abnormalities such as hard disk full, missing hard disk, hard disk error, network disconnection, IP address conflict, recording failure, network hard disk disconnection, array degradation or array offline; network hard disk Offline, array degradation, array offline, etc. are only supported by some devices.

• Trigger mode: The trigger mode is used in the same way as the description of the motion detection module linkage mode, so no further details will be given.

3.3.4.4 Network Management

3.3.4.4.1 Local Network

• Basic Parameters:

• Network card: According to different versions, single network card devices display one network card, and dual network card devices can choose different network cards for IP configuration respectively.

• Physical address: displays the physical address of the current device, the physical address is unique.

• Network status: Displays the network status of the current video recorder. When the network cable is not connected, the network status displays 10/M half-duplex. After the network cable is connected, it displays 100M/1000M full-duplex according to the actual bandwidth of the connected network.

• Automatically obtain an IP address: When enabled, the device automatically obtains an IP address, subnet mask, and gateway address; when turned off, a fixed static IP, subnet mask, and gateway need to be set.

• MTU (bytes): The default is 1400, which can be modified to be consistent with the router in the network where the device is connected.

• Automatically obtain DNS address: When enabled, the network DNS can be automatically obtained. After it is disabled, a fixed static DNS needs to be configured for use. It is recommended that the preferred DNS address is 223.5.5.5 and the alternative DNS address is 114.114.114.114.

• Internet network card: The network card used for connecting the device to the external network. The Internet network card can be selected according to the network conditions the device is connected to.

• USB network sharing: Connect your mobile phone (only supports Android phones) to the device through a USB data cable. After turning on the USB network sharing function of the mobile phone, the device detects the network and displays that the connection is successful. After the device detects the mobile network, the device can Connect to the external network via mobile phone network.

• Network diagnosis: Can diagnose the network condition of the device.

• Advanced parameters: (expert mode).

• UPnP: When enabled, internal ports can be mapped to external ports through the router.

• RTSP port: The default is 554, which is used by other platforms or devices to access the video recorder through the RTSP protocol.

• HTTP port: Default is 80, the port used to access the device through the browser through the http protocol.

• HTTPS port: Default is 443, which is the port used by the browser to access the web side of the device through the https protocol.

• Onvif port: default 8082, used for other platforms or devices to connect to the device through the Onvif protocol.

• FLINK port: default 12321, the streaming protocol port of the Web client and device, used internally.

• RTSP verification: After the device turns on RTSP verification, other devices or platforms need to verify the user name and password of the device to access the device through the RTSP protocol.

• TOE mode: The device turns on the TOE mode, which may solve the problem of network failure and is supported by some devices.

3.3.4.4.2 Dynamic Domain Name (Expert mode)

It is used to access the Web side of the device through dynamic domain names in the WAN. The device currently supports four DDNS servers: 3322, DynDns, No-IP, and PeanutHull.

After users apply for a dynamic domain name on any of the above four DDNS domain name websites, they can access the device Web side through the corresponding DDNS domain name by filling in the correct information into the device configuration interface.

3.3.4.4.3 Email Settings (Expert mode)

• Sender's email address and password: Fill in the outgoing mailbox address and the authorization password of the mailbox. Note that the authorization password is not necessarily the login password of the mailbox. The rules of different types of mailboxes are different. The specific rules of the mailbox used shall prevail.

SSL: Some mailboxes need to enable SSL service to accept emails, such as Google, etc.

Attachment form: After enabling, screenshots can be received in the mailbox, and the screenshots can be sent in a package or not;

Packaging: The alarm capture attachment is sent in the form of a compressed package. If not packaged, the picture will be sent in uncompressed form.

SMTP server: To use different types of mailboxes, you need to select the corresponding server address. You can choose according to the commonly used servers listed or enter it yourself.

SMTP port: needs to correspond to the mailbox, pay attention to distinguish the SSL port and non-SSL port of the mailbox.

• Recipient's email address: multiple email addresses can be supported to receive emails.
• Test email: After filling in the correct recipient and sender information, you can click the test email button to check whether the mailboxes are connected. If they are connected, you can receive the test email in your inbox.
Note: To use the Email linkage function, you need to ensure that the network environment is good and the device can smoothly access the external network.

3.3.4.4.4 Network Protocol

• Mobile phone monitoring
This page is the configuration interface for mobile phone monitoring, which can enable or disable the P2P service, as shown below.

• Protocol name: P2P protocol name
• Enable: Turn on this service to connect to the device with your mobile phone.
• Alarm push: Only when this function is turned on can the mobile app receive alarm information.
• Activation status: displays the status of the device registered to the server.

• Connection status: Displays the status of whether the current device is added to the app. Online means it is connected, and offline means it is not connected.

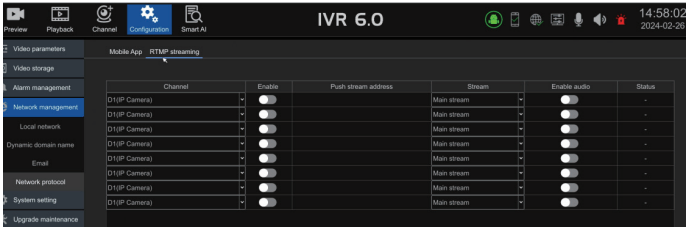
• aliloT4NVR version: The device has built-in aliloT4NVR version;

• Auto upgrade version: The device has built-in autoup2pupgrade version.

• APP download QR code: APP download QR code and device ID QR code;

• RTMP streaming (expert mode)

This module supports RTMP service push audio and video streams, the interface is as shown below.



• Select the channel, main stream or sub-stream, and whether to enable audio, and the audio and video streams of the channel can be pushed to the server.

• The push address is: correctly fill in the server address of the platform to be pushed.

3.3.4.5 System Configuration

3.3.4.5.1 Time Setting

• Device Time

• System time: The time of the video recorder can be set.

• Date format: The date format can be set, and there are three date formats to choose from: day-month-year, year-month-day, month-day-year.

• Time zone: Different time zones can be switched according to the region where the device is located.

• Daylight Saving Time: After enabling Daylight Saving Time, you can set the Daylight Saving Time period and offset time by week or by date.

• NTP time adjustment: After the function is enabled, fill in the time adjustment interval and time adjustment service address for network time adjustment (the device needs to be connected to the external network).

3.3.4.5.2 User Management

• User permissions: Set permissions for new users.

• Modify user: Modify the user name, password, and user type of the selected user.

• Add user: You can add a new user and use this user to manage the device.

• User type: Administrator users have all permissions; the initial default permissions of three types of users, such as ordinary users, operator users, and none, are different, and users can increase or decrease permissions as needed.

• Delete user: The selected user can be deleted (admin user cannot be deleted).

• Password retrieval: Used to set the method for the user to retrieve the password after forgetting it. user can choose to scan the QR code on the mobile APP or retrieve the password by email. (Both methods require the user to bind the video recorder to the App before retrieving the password, and only admin users support password retrieval).

• Pattern unlocking: The pattern unlocking method can be set for the admin user or other newly added users. After pattern unlocking is enabled, you can choose two password methods to log in on the device login interface, and the pattern password method is used by default.

• Pattern unlocking on or off: Admin users can enable or disable pattern unlocking when modifying users, and other users can enable or disable pattern unlocking when creating or modifying users.

3.3.4.5.3 Device Parameter

• Basic Settings:

• Device name: The name of the video recorder can be set

• Select language: You can select the system language of the video recorder, which will take effect immediately.

• Main display resolution: The local display resolution of the video recorder can be modified (requires monitor support), and the modification will take effect immediately.

• Automatic logout time: You can set the automatic logout time. After setting, the video recorder will automatically log out after the set time when no one is operating. The default is 0 minutes and it will not automatically log out.

• Boot Full screen preview mode: When enabled, the device starts in full-screen mode by default. After it is turned off, the device starts in non-full-screen mode by default.

• Advanced Settings: (Expert mode).

• guide: used to guide users to complete basic configuration after booting. After enabling, power on the device and enter the guidance interface. After closing, the device will directly enter the preview interface when it is powered on. It is enabled by default.

• System mode: The device supports the maximum number of preview display channels and playback channels on the same screen (different models of video recorders have different capabilities) and needs to be restarted to take effect.

• Mouse speed: adjust the moving speed of the mouse, effective immediately.

3.3.4.6 Upgrade and Maintenance

• Device information: Displays the current version information of the video recorder, product serial number, number of connected hard disks, number of SATA ports supported by the device, number of alarm inputs and alarm outputs, device panel type, etc.

• Online user: information of the user currently accessing the video recorder, showing user name, login time, login IP and login method.

3.3.4.6.1 Log Information （Export Mode）

Used to query all log information such as device operation, exceptions, alarms, etc., and can perform filtering query based on type, time period, channel and other conditions, and supports exporting of query results or all logs.

3.3.4.6.2 NVR Upgrade

This page can upgrade the device, which is divided into online upgrade and USB upgrade:

• Online upgrade: Click the detection button. After detecting the new version, click Upgrade and wait for the device upgrade to complete. After the upgrade is completed, the device will automatically restart. Note: The device needs to be connected to the external network to detect the new version.

• USB upgrade: This method needs to put the upgrade file with the update suffix into the USB flash drive in advance, and connect it to the device through the USB interface of the device. Click the Browse button and select the upgrade file, then click Upgrade. According to the upgrade progress of the device interface, wait for the device to be upgraded. Completed, the device will automatically restart after the upgrade is completed.

Note: During the upgrade process, please do not perform any operations on the local and remote ends to avoid irreparable errors.

3.3.4.6.3 NVR Maintenance

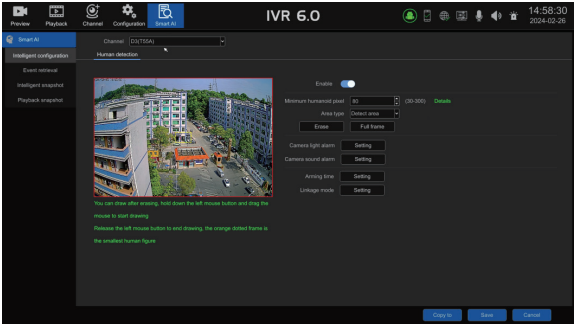
• Export configuration: After the device is connected to the USB flash drive, the device configuration can be exported to the USB flash drive.
• Import configuration: After the device is connected to the U disk with the configuration file, click Import Configuration to import the configuration files of other devices or this device into the device. The imported configuration needs to be restarted to take effect.
Note: Importing configurations only supports importing configurations of the same layout and version.
• Factory Restore: Supports restoring the device to factory configuration. You can select a single configuration, multiple configurations or all configurations to restore as needed. You need to restart the device to take effect.
• Telnet: This function is used for developer debugging; (expert mode).
• Maintenance mode: You can set the device to restart regularly for maintenance. You can choose "once", "daily" or "weekly" for scheduled restart settings. After setting the maintenance time, a prompt box will pop up 10 seconds before the system time reaches the maintenance time. The system will automatically restart after 10 seconds when the maintenance time is reached, disabled by default (expert mode).
Once： refers to the device restarting only once at the set time
Every day: refers to the device restarting at the set time every day.
Weekly: refers to the device restarting at the set time every week.

3.3.5 Intelligent AI

3.3.5.1 AI Configuration

In this mode, the intelligence supported by the IPC is automatically obtained according to the connected channel IPC, as shown in the figure below. The current IPC channel only supports humanoid detection. The following is a detailed introduction to the usage instructions of the intelligent A1.

3.3.5.1.1 Human Detection



• This intelligence requires front-end IPC support and supports the detection of static and dynamic humanoids with humanoid pixels in the screen.

• Enable: You can enable or disable the humanoid detection function.

• Set the detection area: click the mouse on the channel screen, hold down the left mouse button and drag the mouse to start drawing the specified area, release the left mouse button to end the drawing; when there is a detection area in the screen that needs to be redrawn, it needs to be erased first and then drawn.

• Minimum human pixels: The range is 30-300. Only when the proportion of the target in the video is greater than this proportion, it will participate in the detection. It is recommended to set the detected humanoid size range as accurately as possible according to the actual scene when using it, so as to speed up the detection and reduce false detections.

• Erase: Erase the detection area frame with one click.

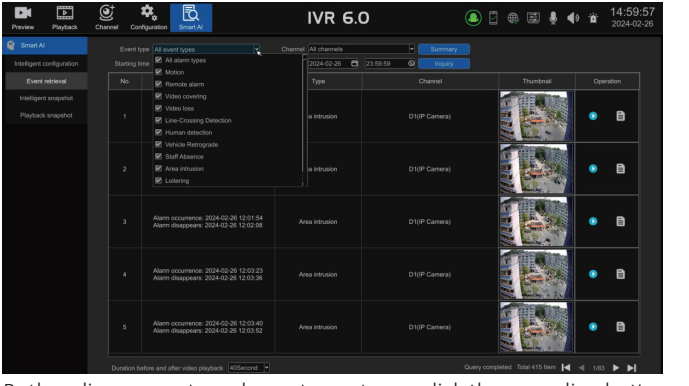
• Full screen frame: Click to automatically set the detection area to full screen.

• For camera light alarm, camera sound alarm, arming time, and linkage mode usage, please refer to the description of the motion detection module.

• Copy to: Copy the current configuration to other channels. This is only supported when the connected IPC model and version are the same.Area intrusion.

3.3.5.2 Intelligent Search

All intelligent alarm events can be retrieved based on channel, event type, and time period. The interface is as shown in the figure below.



Both ordinary events and smart events can click the recording button to play the video, and the recording duration before and after the playback event can be set by yourself.

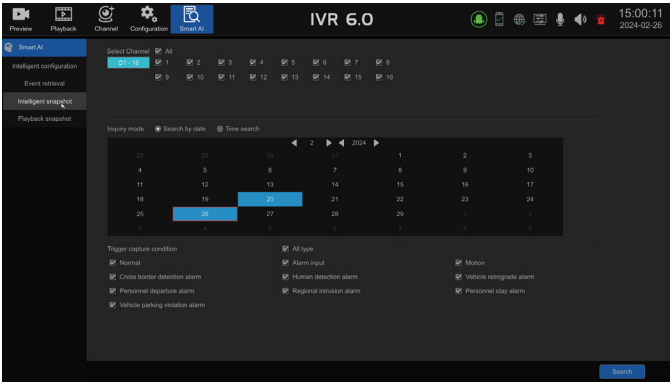
For intelligent IPC intelligent events such as Area intrusion，Vehicle illegal parking.

Vehicle Retrograde，Line-Crossing Detection，Staff Absence.Loitering, captured thumbnails and details can be displayed.

Detailed summary: Count the number of times for all queried event information.

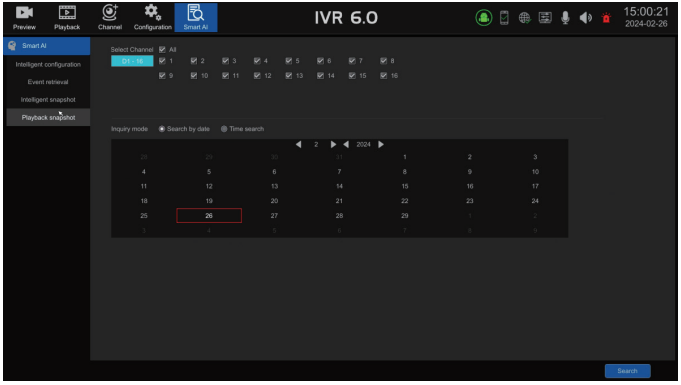
3.3.5.3 IPC Capture

For linked snapshot pictures, conditional retrieval can be performed based on channel, day or time period, as shown in the figure below.



3.3.5.4 Playback Snapshot

Pictures captured during playback can be retrieved based on channels, days or time periods, as shown in the figure below.



4.1 NVR Web Page Operation Guide

4.1.1 Network Connection

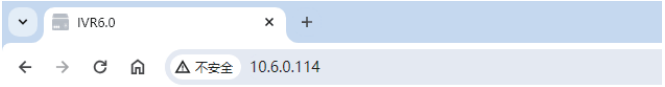
• Confirm that the NVR is correctly connected to the network.

• Set the IP address, subnet mask and gateway for the computer host and IVR respectively. If there is no routing device in the network, please assign an IP address on the same network segment. If there is a routing device in the network, the corresponding gateway and subnet mask need to be set. For the network settings of the network digital video recorder, see [Advanced Configuration] > [Network Management].

• Please make sure the IP address is set correctly. After the IP address is set, you can use the system's built-in ping tool to check whether the NVR has been correctly connected to the network.

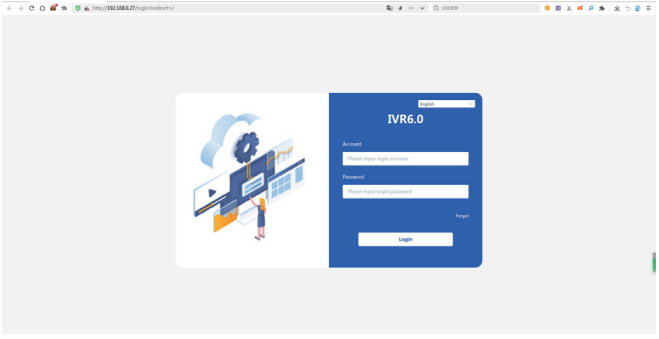
4.1.2 ActiveX Installation and User Login

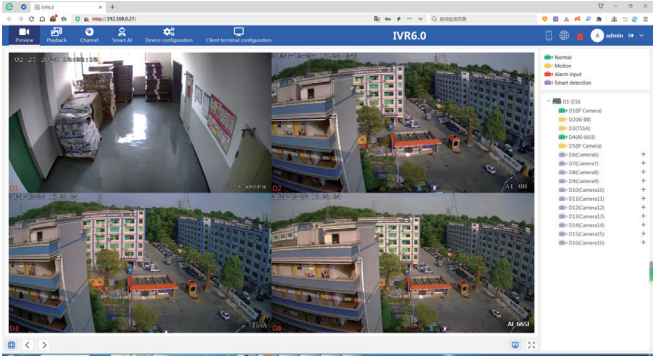
• After the NVR is correctly connected to the network, you can log in and access the NVR through 360 Secure Browser (extreme speed mode), Google Chrome, Firefox, Microsoft Edge and other Google-based browsers by entering the IP address of the IVR in the address bar.



• Click the link to download and install the Web plug-in IVR Web Plugin Setup according to the interface prompts, and run the installation. (Note: Some computers may have anti-virus software misidentify the plug-in as a virus interception. During the download and installation process, ensure that the plug-in is not intercepted.).

• After the plug-in is installed, enter the user name, password, and click OK to log in to the web interface, as shown below.

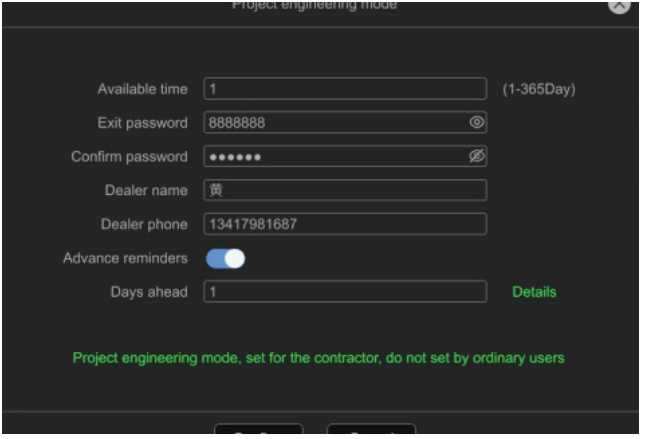




The functions of the web side are similar to those of the GUI local side, and the specific usage methods will not be described again.

Chapter 4 Project Engineering Mode Guide

This operation guide is an instruction on how to use the project engineering mode. When you need to set the device usage permission for a certain period, you can log in with the admin account and password: 654321, and set the device availability time (days), exit password, and dealer name. Phone, you can choose to turn on the advance reminder function, as shown in the figure below:

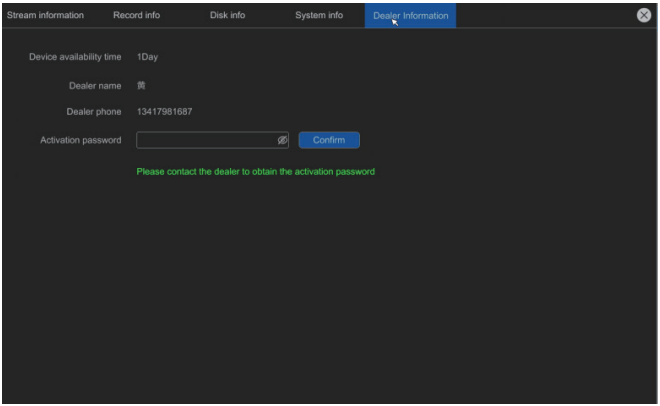


Note: The available time is calculated based on the power-on running time of the device.

After the settings are completed, you can log in normally and use the device functions within the available period.

When an advance reminder is set and the remaining usable time reaches the preset period, every time the use time is reduced by one day, a pop-up window will pop up to remind the user to activate:

There will also be a pop-up reminder every time you restart the NVR. If this function is not turned on, there will be no pop-up reminder. In addition to this pop-up window, you can also enter the system manager-dealer information at any time during use and enter the activation password to activate.



When the available time expires, the authorization expires and the device functions cannot be used, and a prompt box as shown in the figure below pops up. Enter the preset exit password to activate, and you can continue to use it normally.

The exit password must be kept safe. If it is accidentally lost, please contact technical support personnel for assistance in retrieving it.

Chapter 5 Common Trouble Shooting

1. The device cannot be started or keeps restarting.
a. Replace the power supply and check whether the power supply matches or whether the standard power supply is used;
b. If it is caused by hard disk failure, you can unplug the hard disk first and observe.
c. The main board of the NVR is faulty, please contact the supplier for repair.
2. The RS-485 PTZ Speed Dome pan/tilt cannot be controlled.
a. The RS-485 interface cable is incorrectly connected, and ports A and B are connected reversely.
b. The PTZ decoder type, protocol, baud rate, and address bit settings are incorrect.
c. The RS-485 interface of the motherboard is broken.
3.IVR cannot query the video.
a. Check whether the hard disk connection is normal. You can unplug and insert the hard disk and try again.
b. Check the hard disk data because there are errors in bad sectors and bad clusters. Please check the hard disk. If the hard disk is damaged, please replace the hard disk.
c. Check whether the time currently displayed by the device and the time of querying the recording are normal.
d. Check whether the device has normal recording during the time period to be queried. You can use the log to check whether there is any hard disk loss or channel picture loss on that day.
4. Downloaded or backed up videos cannot be played normally.
a. The downloaded or backed up video is in MP4 format and needs to be played with a player that supports MP4 format.
5. After the device is turned on, there is no display on the monitor interface.
a. Check whether the monitor HDMI cable or VGA cable is in normal contac.
b. Check whether the current resolution of the monitor supports the

current resolution of the device. You can try to press and hold the mouse wheel for about 5-10 seconds. The IVR will automatically switch to the lowest resolution of 1024*768.
c. Replace the monitor and check whether the monitor is damaged;
6. After the device is turned on, the display interface is misaligned or the display is incomplete.
a. Check whether the display resolution is consistent with the current resolution of the device. You can set adaptive settings on the display to match.
7. The hard disk connected to the device cannot be recognized.
a. Check whether the hard disk is damaged, and you can exchange the identifiable hard disk with the hard disk to check.
b. Check whether the hard disk is in poor contact, power off the device, re-insert the hard disk and then power on to see whether the hard disk can be recognized.
c. Check whether the SATA cable or power cord connected to the hard disk is damaged. You can exchange the SATA cable and power cord connected to the identifiable hard disk with the hard disk to check.
8. The device cannot search for IPC.
a. Check whether the IVR Internet card light is on or whether the network cable is in poor contact.
b. If the private protocol IPC cannot search, check whether the IVR and IPC are connected to the same LAN.
c. If the Onvif protocol IPC cannot be searched, check whether the IPC supports the Onvif protocol or whether the Onvif protocol is turned on.
d. Some Onvif protocol IPCs do not support cross-network segment search. You can try to set the IVR and IPC to search on the same network segment.
e. Check whether there is an IP conflict in the network.
9. The IVR device failed to connect to IPC.
a. Check whether the IPC can be searched, and check whether the IPC that can be searched has been connected multiple times, causing the picture to be unsuccessful.

b. If the private protocol connection does not produce a picture, check whether the IPC is connected multiple times. Some IPCs do not support multiple connections due to performance reasons. You can disconnect other connections and observe again.
c. If the Onvif protocol connection fails to produce a picture, check whether the IPC has enabled the Onvif protocol connection function.
d. Check whether the IPC username and password are filled in correctly.
10. What to do if you forget your IVR password.
a. If the IVR has been bound to the mobile App, you can retrieve it through the mobile App according to the device interface prompts.
b. If the mobile app is not bound, you can use the upgrade tool installed on the computer to restore the device to default, and then log in again using the default password 123456.
c. If there is no computer environment installation tool, you need to contact the manufacturer for processing.

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