

ThermalTronix

TT-J Series

Thermal Camera Specifications

User Manual



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Disclaimer

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- Design and specifications are subject to change without prior notice.
- The initial administrator ID is "admin", the password is empty. And the password should be set when logging in for the first time.

Please change your password every three months to safely protect personal information and to prevent the damage of the information theft.

Please, take note that it's a user's responsibility for the security and any other problems caused by mismanaging a password.

OVERVIEW

IMPORTANT SAFETY INSTRUCTIONS

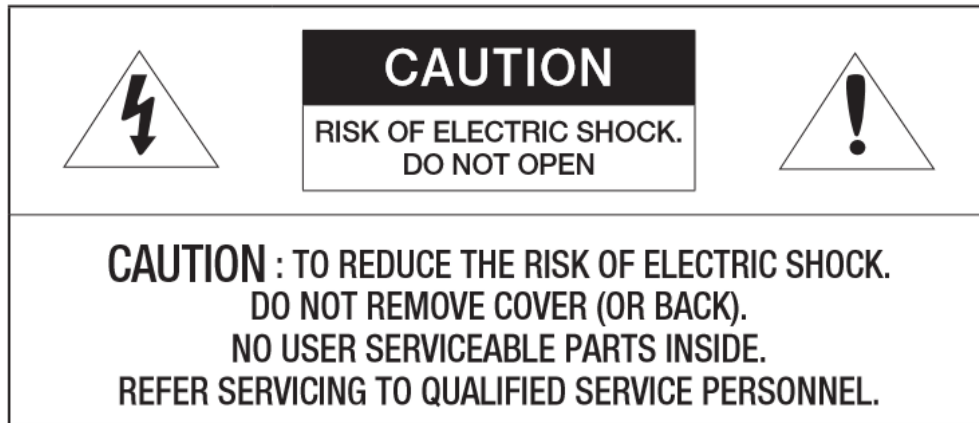
1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions
5. Don't focuses on the strong radiation source (Sun、 Direction laser beam or reflection).
6. Don't use strong corrosive cleaner to clean the device.
7. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
8. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
9. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
10. Only use attachments/accessories specified by the manufacturer.
11. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
12. Unplug this apparatus during lighting storms or when unused for long periods of time.
13. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, storage error, does not operate normally, or has been dropped.



WARNING

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE. DO NOT INSERT ANY METALLIC OBJECT THROUGH THE VENTILATION GRILLS OR OTHER OPENINGS ON THE EQUIPMENT.

CAUTION



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EXPLANATION OF GRAPHICAL SYMBOLS



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

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1. OVERVIEW

1.1 Product features

Pseudo-color

You can select different color mode on camera, to display high or low temperature of object.

- **Multi-Streaming**

This network camera can display videos in different resolutions and qualities simultaneously using different CODECs.

- **Web Browser-based Monitoring**

Using the Internet web browser to display the image in a local network environment.

- **Alarm**

When an event occurs, image is either sent to the email address registered by the user, sent to the FTP server, saved in a Micro SD card.

- **Gray detector**

Analysis the Gary D-value between high substances and background, when the D-value greater than threshold, it will trigger event.

- **Shelter Detection**

Try to detect detach on video monitor

- **Motion Detection**

Detects motion from the camera's video input.

- **Intelligent Video Analysis**

Analyzes video to detect logical events of specified conditions from the camera's video input.

- **Auto detection of Disconnection Network**

Detects network disconnection before triggering an event.

- **Auto detect storage unusual**

Detect Micro SD card unusual, it will send image to the Email and FTP server that user registered.

- **ONVIF Compliance**

This product supports ONVIF profile-S.

For more information, refer to www.onvif.org.



1.2 Recommended PC specifications

- CPU : Intel Core 2 Duo 2.4 GHz or higher (for using 1920x1080 30 fps)

Intel Core i7 2.8 GHz or higher (for using 1920x1080 60 fps)

- Resolution : 1280X1024 pixels or higher (32 bit color)

- RAM:2GB or higher

- Supported OS : Windows XP / VISTA / 7 / 8

- Supported Browser : Microsoft Internet Explorer (Ver. 11 ~ 9)

Google Chrome (Ver.41 or lower) ※ Windows only

☒ Neither a beta test version unlike the version released in the company website nor the developer version will be supported.

☒ For IPv6 connection, Window 7 or higher is recommended.

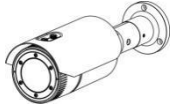


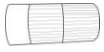


Video Memory: 256MB or higher

If the driver of the video graphic adapter is not installed properly or is not the latest version, the video may not be played properly.

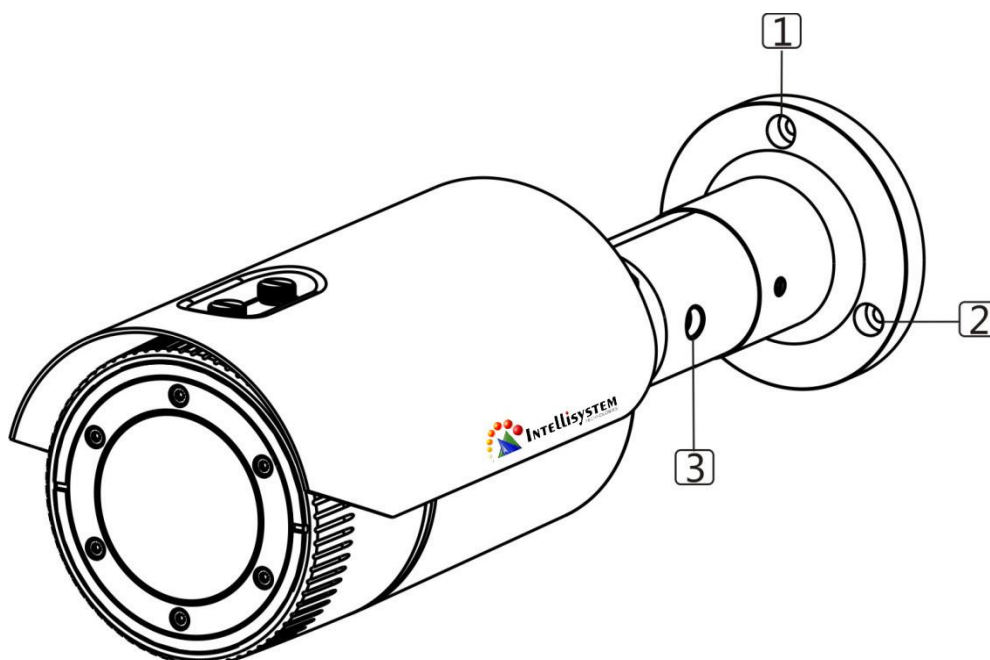
☒ For a multi-monitoring system involving at least 2 monitors, the playback performance can be deteriorated depending on the system.

WHAT'S INCLUDED

Please check if your camera and accessories are all included in the product package.

Appearance	Item Name	Quantity	Description
	Camera	1	
	User Manual PDF	1	
	12V power adapter	1	
	RJ45 waterproof sleeve	1	Protecting RJ45 network interface for water
	Screw spike	3	For installing on ceiling and wall
	Warranty card	1	

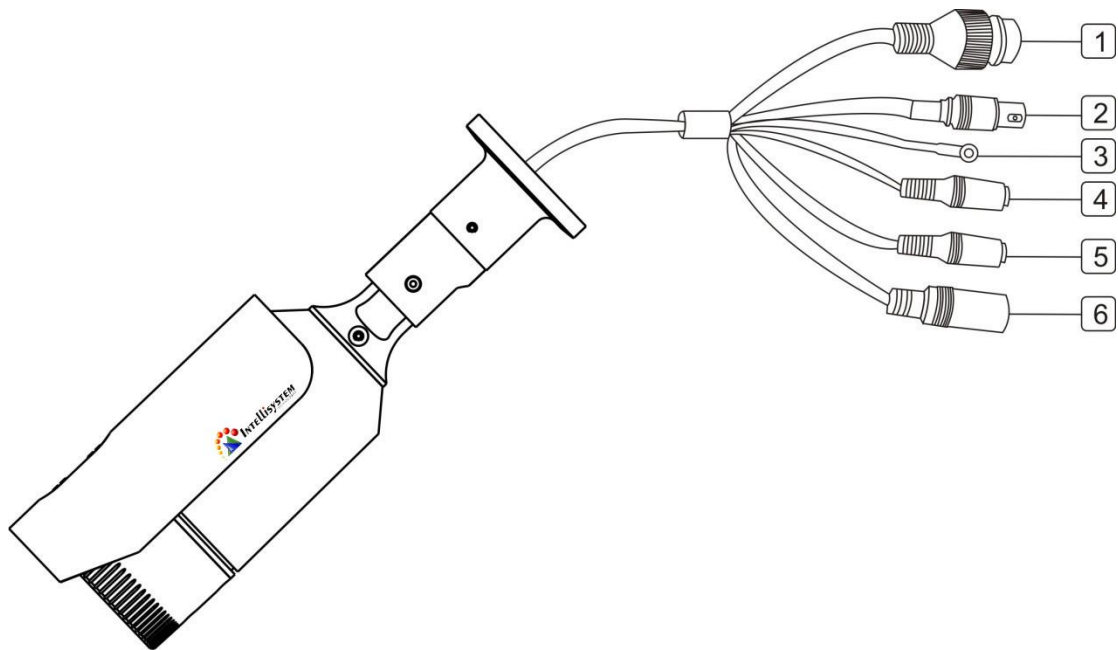
1.3 At a Glance



Appearance

Item	Description
1 2 Fixed screw holes installation	To install the camera on panel.
3 Fixed screw for monitoring direction	To adjust the monitoring direction.

Output line



Item	Description
1 Network port	To connecting PoE or Ethernet cable.
2 Testing displayer output	To testing monitor output port. Using the testing monitor cable to connect the display to test the video.
3 Protective earth port	To protecting the product for lighting and surge.
4 Audio output hole	To connecting loudspeaker
5 Audio input hole	To connecting microphone
6 Power port	To plug in the power line

2. Installation & Connection

2.1 Installation

Precautions before installation

Ensure you read out the following instructions before installing the camera:

- It must be installed on the area (ceiling or wall) that can withstand 5 times the weight of the camera including the installation bracket.
- Stuck-in or peeled-off cables can cause damage to the product or a fire.
- For safety purposes, keep anyone else away from the installation site. And put aside personal belongings from the site, just in case.

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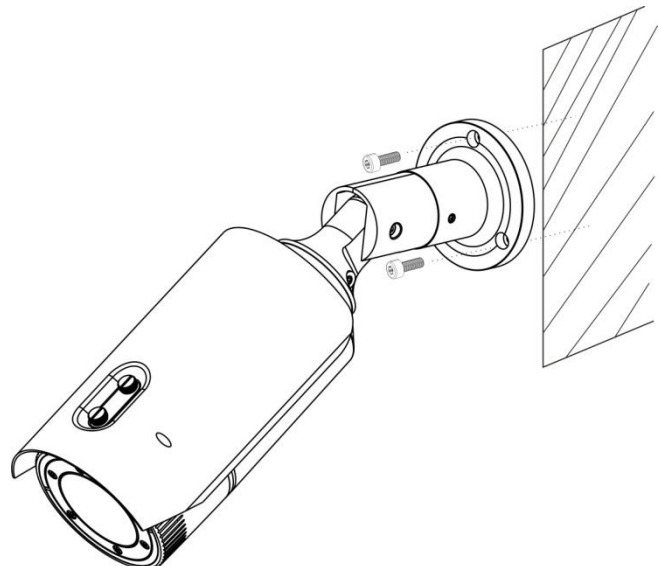
Installation

1. Punching 3 holes on fixed platform
2. Use the 3 supplied screws to fix the camera to the 3 punched holes.
3. Screw off the fixed screw, to adjust the direction of camera up and down.

- The range of incline is 90°.

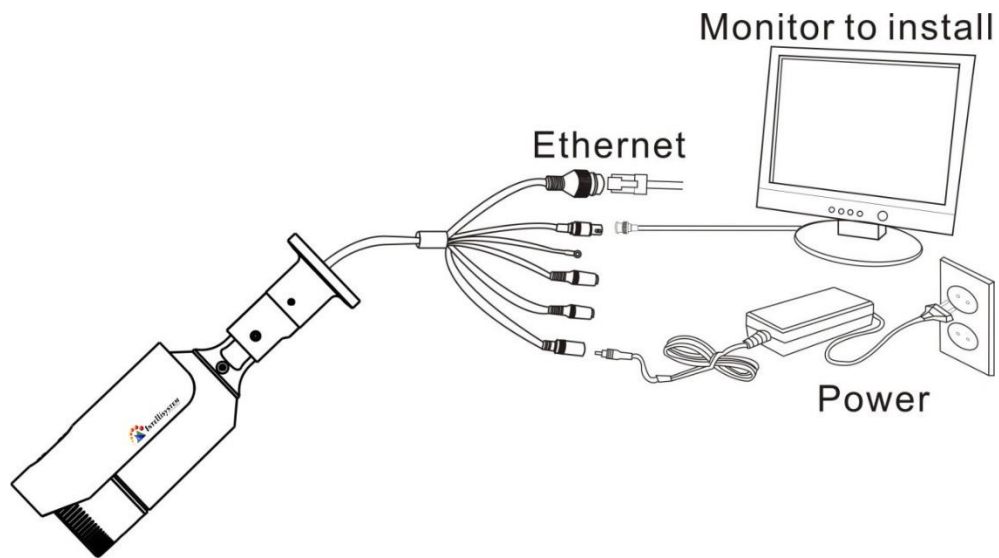


Don't screw too off when adjust the direction, or it will fall off.



4. After adjustment, screw up the fixed screw.

2.2 Connect with other device



Ethernet connection

Connect the Ethernet cable to LAN or Internet.

Analog video output

Connect the video output port to the video input port on monitor.

- Video output: Single output signal lines (Max.1.0 Vpp)
- Line out impedance:75Ω

Power supply

Input DC12V power supply on power port.



➤ If PoE and DC 12V powers are both applied, the device will be operated by the initially applied power source.

- You can also use a router featuring PoE to supply power to the camera.

- Use PoE that is compliant with the IEEE802.3af protocols.

- If you want to connect an external device, you must turn off the external device before proceeding.

Power Cable Specification for Each Model

In case of DC 12V Input:

Type (AWG)	# 22	# 20	# 18
Cable Length (Max.)	20m	32m	50m

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Network Cable Specifications

Item	Contents	Remark
Connector	RJ45	
Ethernet	10/100Base-T	10/100Mbps
Cable	UTP Category 5e	
Max. Distance	100m	
PoE Support	IEEE802.3af	

Grounding the Product

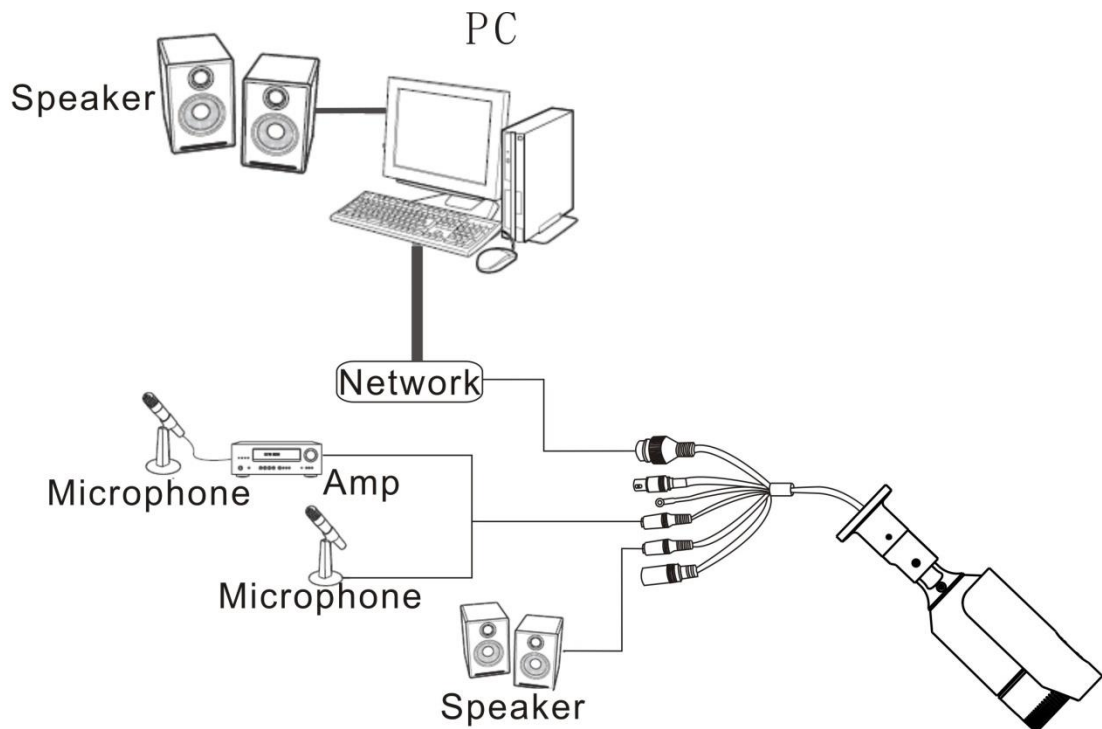
Connect the device housing to earth by using screwdriver.



- Grounding protects the product from a surge or lightning.
- When grounding, make sure to turn the product's power off.

Recommended Grounding Cable

- Length : Less than 3M
- Gauge : 18 AWG or bigger Ex) UL1007 AWG 18/16, UL1015 AWG18/16/14/12, UL2468 AWG18/16/14
- Connecting to Audio Input/Output



1. Connect the AUDIO IN port of the camera with the microphone or LINE OUT port of the amplifier that the microphone is connected to.
2. Connect the AUDIO OUT port of the camera with the speaker
3. Check the specifications for audio input.

Audio Codec

- Audio In: G.711 PCM (Bit Rate: 64kbps / Sampling Frequency: 8kHz), G.726
- ADPCM (Bit Rate: 16Kbps, 24Kbps, 32Kbps, 40Kbps / Sampling Frequency: 8kHz)
- Audio Out: G.711 PCM (Bit Rate: 64kbps / Sampling Frequency: 8kHz)

Full duplex Audio

- Audio in : Mono signal line input (Max.2.4 Vpp)
- Audio out : Mono signal line output (Max.2.4 Vpp)
- Line out impedance : 16Ω

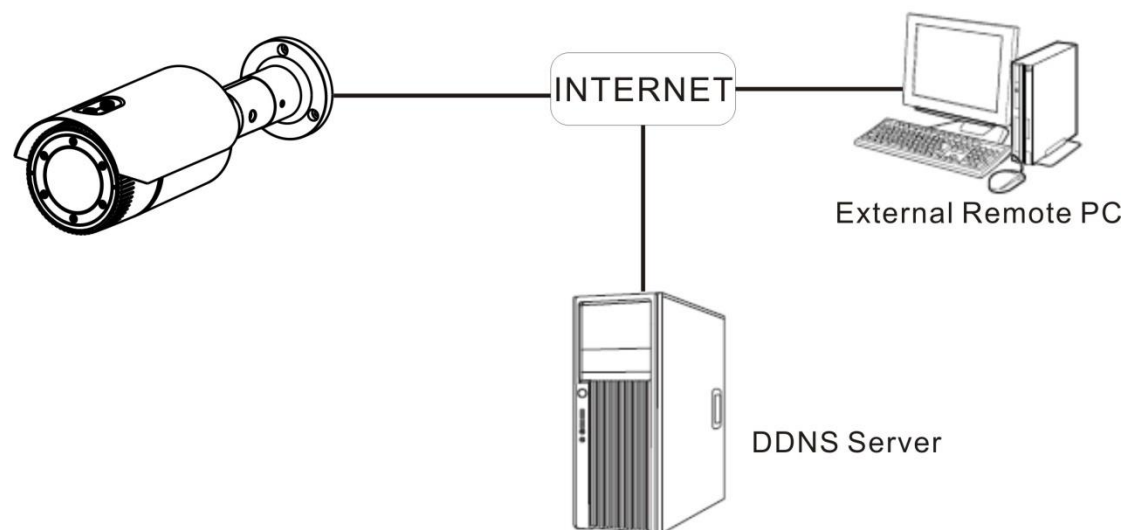
3. Network Connection And Setup

You can set up the network settings according to your network configurations.

3.1 Connecting the camera directly to local area networking

Connecting to the camera from a local PC in the LAN

1. Launch an Internet browser on the local PC.
2. Enter the IP address of the camera in the address bar of the browser.



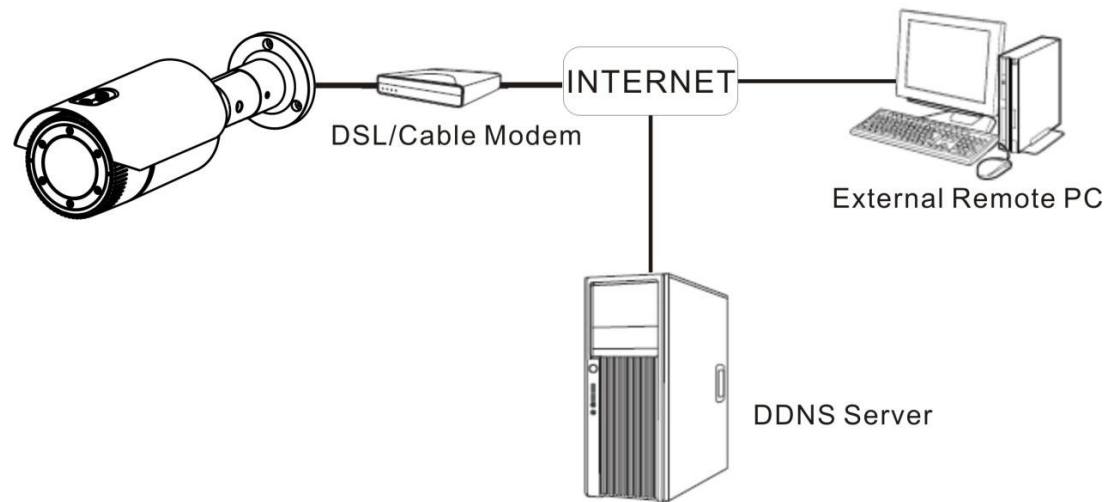
A remote PC in an external Internet out of the LAN network may not be able to connect to the camera installed in the intranet if the port-forwarding is not properly set or a firewall is set. In this case, to resolve the problem, contact your network administrator.

Factory default IP address is 192.168.2.100.

To change the IP address, use the Search IP.

For further details on Search IP use, refer to “Static IP Setup”.

3.2 Connecting the camera directly to a DHCP based DSL/Cable modem



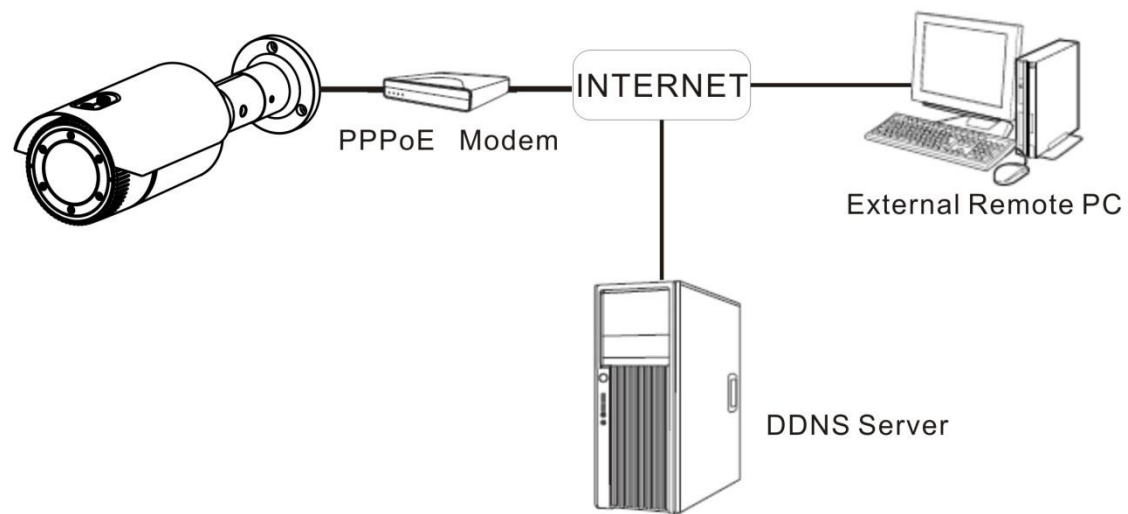
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1. Connect the user PC directly with the network camera.
2. Run the IP Installer and change the IP address of the camera so that you can use the web browser on your desktop to connect to the Internet.
3. Use the Internet browser to connect to the web viewer.
4. Move to [Setup] page.
5. Move to [Network] – [DDNS] and configure the DDNS settings.
6. Move to [Basic] – [IP & Port], and set the network type to [DHCP].
7. Connect the camera, which was removed from your PC, directly to the modem.
8. Restart the camera.



- For registering the DDNS settings, refer to “Registering with DDNS”.
- Refer to “TCP/IP” for how to setup IP.

3.3 Connecting the camera directly to a PPPoE Modem



1. Connect the user PC directly with the network camera.
2. Run Search IP Installer and change the IP address of the camera so that you can use the web browser on your desktop to connect to the Internet.
3. Use the Internet browser to connect to the web viewer.
4. Move to [Setup] page.
5. Move to [Network] – [DDNS] and configure the DDNS settings.
6. Move to [Network] – [PPPoE] Setup Page, set the network type to [PPPoE], and enter the network service's ID and password.
7. Connect the camera, which was removed from your PC, directly to the modem.

8. Restart the camera.

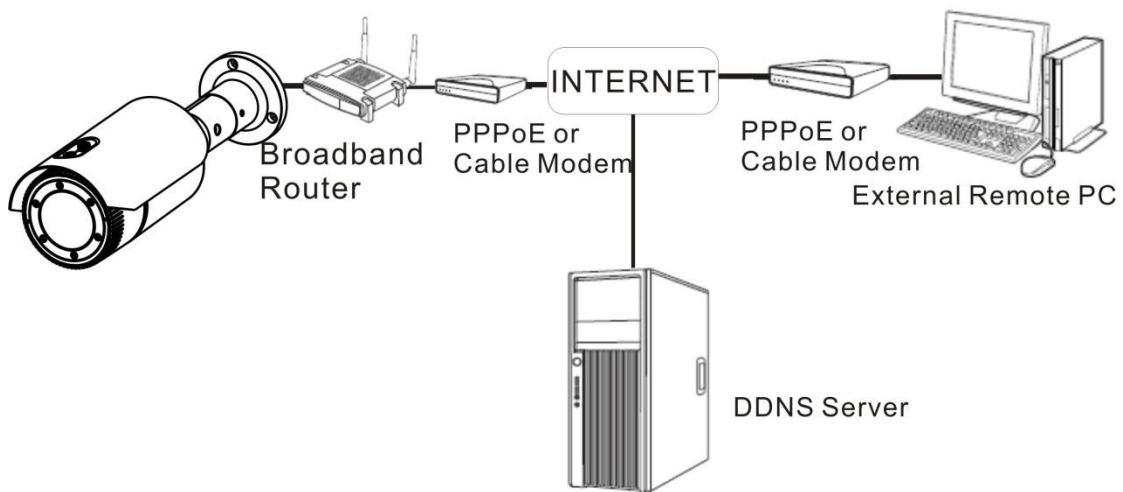


- For registering the DDNS settings, refer to “Registering with DDNS”.
- For configuring the DDNS settings, refer to “DDNS”.

Refer to “IP & Port” for how to setup IP.

3.4 Connecting the camera to a broadband router with the PPPoE/Cable modem

This is for a small network environment such as homes, SOHO and ordinary shops.



Configuring the network settings of the local PC connected to a Broadband Router

Configuring the network settings of the local PC connected to a Broadband Router, follow the instructions below.

- Select : <Network>→<Properties>→<Local Area Connection>→<General>→<Properties>→<Internet Protocol (TCP/IP)>→<Properties>→<Obtain an IP address automatically> or <Use the following IP address>.
- Follow the instructions below if you select <Use the following IP address>:

1ex1) if the address (LAN IP) of the Broadband Router is 192.168.2.1

IP address: 192.168.2.100

Sub net Mask: 255.255.255.0

Default Gateway: 192.168.2.1

ex2) if the address (LAN IP) of the Broadband Router is 192.168.0.1

IP address: 192.168.0.100

Sub net Mask: 255.255.255.0

Default Gateway: 192.168.0.1

ex3) If the address (LAN IP) of the Broadband Router is 192.168.xxx.1

IP address: 192.168.xxx.100

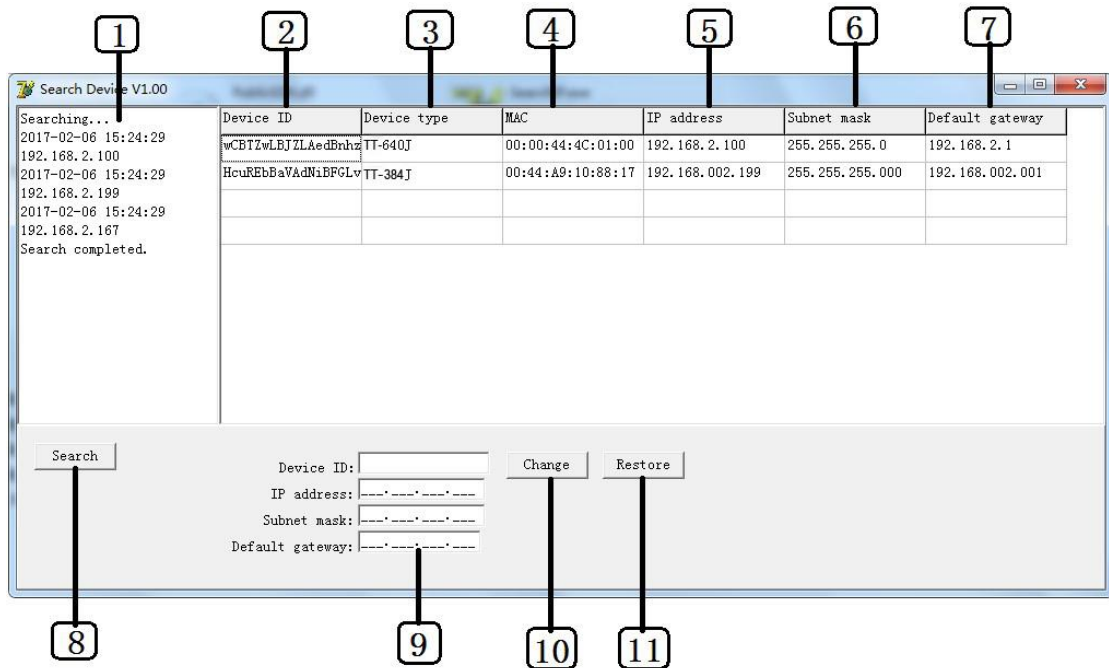
Sub net Mask: 255.255.255.0

Default Gateway: 192.168.xxx.1



➤ For the address of the Broadband Router, refer to the product's documentation.

3.5 Search IP Interface



Item	Description
1 Search....	Display the process of searching
2 Device ID	Camera ID that connecting
3 Device Type	Camera model name that connecting
4 MAC	The Ethernet address of camera that connecting
5 IP address	IP address of connecting camera
6 Sub net mask	The sub net mask of connecting camera
7 Default gateway	The gateway of connecting camera
8 Search	Scan the online cameras

9	Display the IP, sub net mask and gateway of camera for modification
10 Change	Modify the IP, sub net mask and gateway of camera
11 Restore	Reset the camera to factory defaults

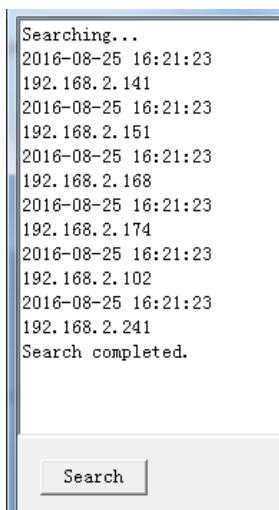


For Search IP, please use the version installed on the CD or the latest version.

3.6 Static IP setup

Run<Search IP V1.00> to display the camera search list.

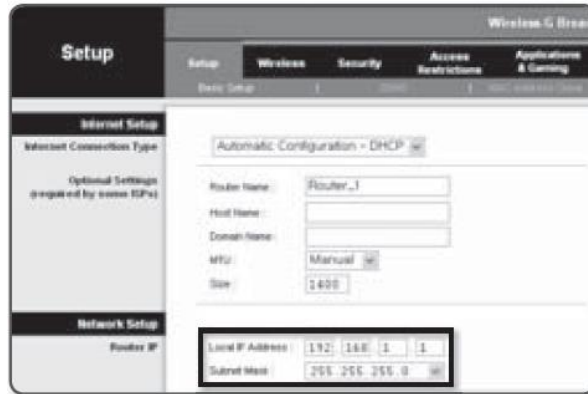
At the initial startup, the interface will be empty.



1. Click “Search”, Display camera information on searching list.
2. If display “Search completed” when searching, means finish searching.

Device ID:	<input type="text" value="MJCBLY1ftSpfEDTeI"/>	<input type="button" value="Change"/>
IP address:	<input type="text" value="192.168.002.168"/>	
Subnet mask:	<input type="text" value="255.255.255.000"/>	
Default gateway:	<input type="text" value="192.168.002.001"/>	

3. Select a camera from searching list, <Device ID>、 <IP address>、 <Sub net mask>、 <Default gateway> of camera will displayed below.
 - MAC: The MAC address of camera is automatically displayed and requires no user setting.



If not using a Broadband Router

For setting <IP Address>、 < Sub net mask>and< Default gateway>, contact your network administrator.

4. Click “Change” to finish network setting

If using a Broadband Router


- Enter an address falling in the IP range provided by the Broadband Router.
 ex) 192.168.1.2~254,
 192.168.0.2~254,
 192.168.XXX.2~254
 - The <Sub net Mask>of the Broadband Router will be the<Sub net Mask> of the camera.
 - Default gateway: The <Local IP Address> of the Broadband Router will be the <Gateway> of the camera.

- The settings may differ depending on the connected Broadband Router model.
- For more information, refer to the user manual of the applicable router.

If the Broadband Router has more than one camera connected.

Configure the IP related settings and the Port related settings distinctly with each other.

ex)

	Category	Camera#1	Camera#2
IP related setting	IP Address	192.168.2.100	192.168.2.101
	Sub net Mask	255.255.255.0	255.255.255.0
	Gateway	192.168.2.1	192.168.2.1
Port related setting	HTTP Port	8001	8002



- If the <HTTP Port> is set other than 80, you must provide the <Port> number in the address bar of the Internet browser before you can access the camera.

ex) http://IP address: HTTP Port

<http://192.168.2.100:8001>

3.7 Connecting to the camera from a shared local PC

1. Run Search IP.

It will scan for connected cameras and display them as a list.

2. Access to the camera can also be gained by typing the camera's IP address in the address bar of the Internet browser.

4. Web viewer

4.1 Connecting to the camera

Normally, you would :

1. Launch the Internet browser.
2. Type the IP address of the camera in the address bar.

ex) • IP address (IPv4) : 192.168.2.100

- http://192.168.2.100

- the Login dialog should appear.

If the HTTP port is other than 80

1. Launch the Internet browser.
2. Type the IP address and HTTP port number of the camera in the address bar.

ex) IP address : 192.168.2.100:HTTP Port number(10000) http://192.168.2.100:10000 - the Login dialog should appear.

Using URL

1. Launch the Internet browser.
2. Type the DDNS URL of the camera in the address bar.

ex) URL address : ddns.hanwha-security.com/User name

- The Login dialog should appear.



- Network connection is disabled in the LAN only environment.

To check the DDNS address

If the camera is connected directly to the DHCP cable modem, DSL modem, or PPPoE modem, the IP address of your network will be changed each time you try to connect to the ISP (Internet Service Provider) server.

If this is the case, you will not be informed of the IP address changed by DDNS.

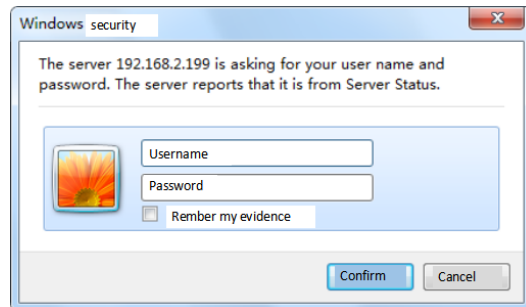
Once you register a dynamic IP-based device with the DDNS server, you can easily check the changed IP when you try to access the device.

To register your device to the <DDNS> server, visit ddns.hanwha-security.com and register

Your device first, and then set the Web Viewer's <Network> - <DDNS> to < ddns.hanwha-security.com >, as well as providing <User name> that had been used for DDNS registration.

4.2 Password setting

1. When you access the product for the first time, the login gorge will pop-up.



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2. Input user name "admin".
3. Click [confirm] to into "password change" window.
4. Input new password on "password change" window.

PasswordModify

New Password	<input type="password"/>
Password Confirm	<input type="password"/>

Confirm

1. .When using the 8-9 digit password, you must use 3 combinations of uppercase, English lowercase, number, or special characters.
2. .When using a 10-15 digit password, you must use two combinations of English, English lowercase, number, or special characters.
3. .The special characters that can be used are: ` ! @ # \$ % ^ * () _ - + = | { } [] . ? / .
4. .The password should not be the same as the user name.
5. .You can not use four or more consecutive characters, for example: 1234, abcd, and so on.
6. .You can not use repeated 4 characters, for example: ????, 1111, aaaa.



- For a new password with 8 to 9 digits, you must use at least 3 of the following:
uppercase/lowercase letters, numbers and special characters.

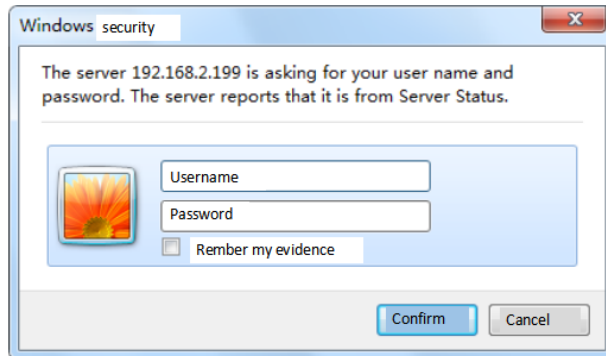
- For a password with 10 to 15 digits, you must use at least 2 types of those mentioned.
- Special characters that are allowed: `~`!@#%\$%^*()_-=+|{[]}./.
- Can not use more than 4 consecutive character, ex: 1234, abcd, etc.

- Can not use repeat 4 character, ex: ????,1111, aaaa.

4.3 Log in

Whenever you access the camera, the login window appears.

Enter the User ID and password to access the camera.



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1. Enter “admin” in the <User name>input box.
2. Enter password in the <Password> input box.
3. Click [confirm].



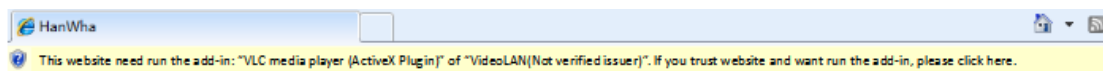
If you have logged in successfully, you will the Live Viewer screen.

If you check the “Remember my credentials” option when your input is done, in future the interface will display your user name and password automatically.

4.4 Installing VLC setup plugin

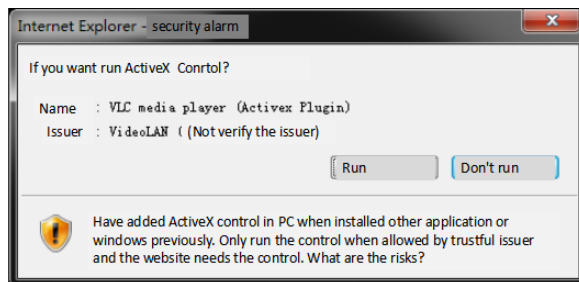
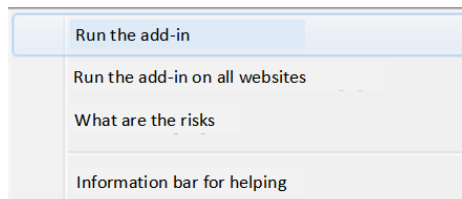
If connecting to a camera for the first time, you will see the installation message. Then, install the required VLC media player Plugin to access the camera and control the video from it in real time.

1. When the monitoring page is accessed for the very first time, the installation page is displayed. Click [Click Here] to begin installation.

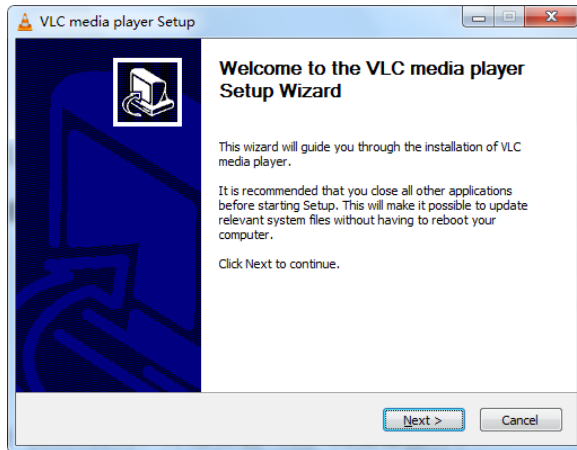


2. Select "run the add-in" on pop-up window, or "run the add-in all websites".

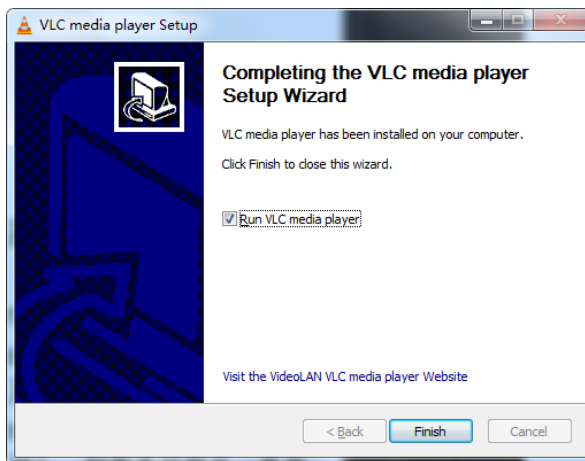
3.



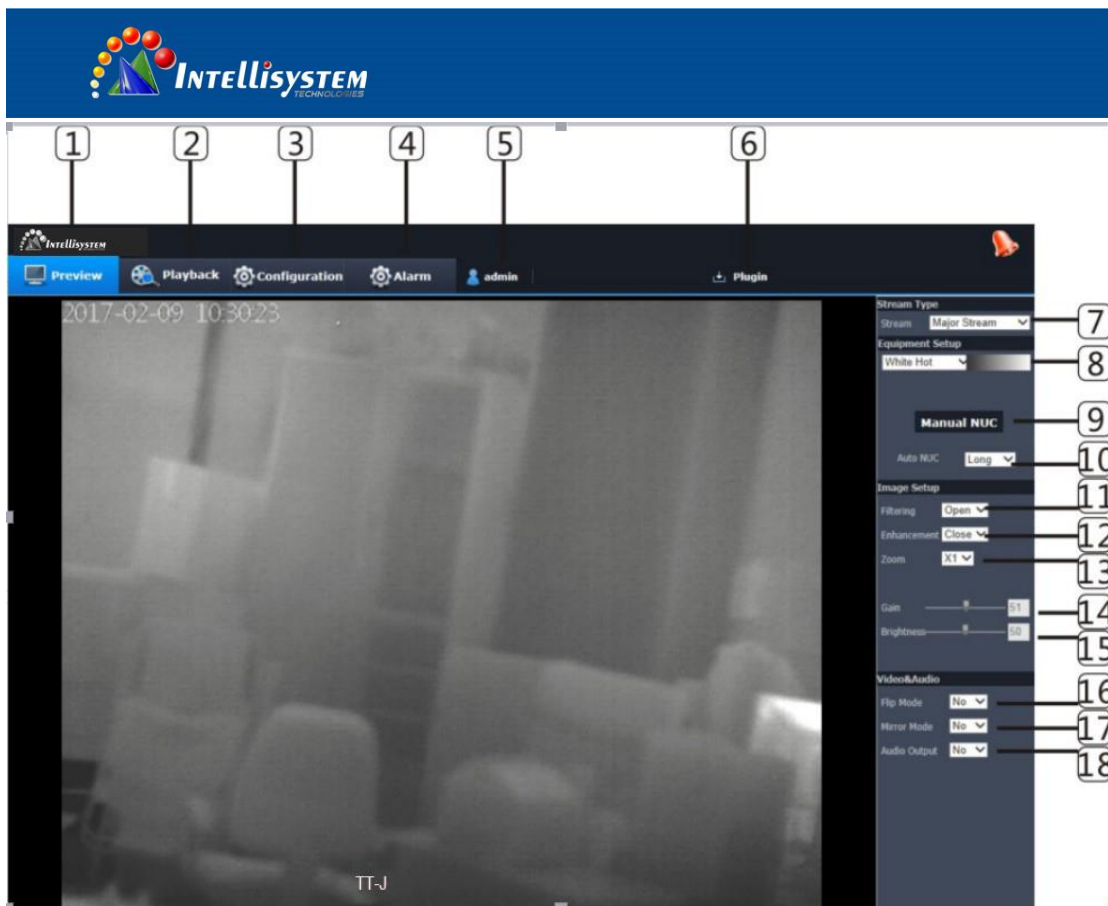
4. Click [Run] in the message window.



4. Click [Next] to install the Plugin.





4.5 Using the live screen



Items	Description
1 Live View	Move to the monitoring screen.
2 Playback	Move to the screen where you can search for the video recording saved in your Micro SD memory card or NAS.
3 Setup	Move to the Setup screen.
4 Alarm	Move to alarm setup screen
5 Admin	Display current user
6 Download plug-in	VLC media player plug-in manually
7 Code stream	<p>You can set code stream in <configuration>→<Audio & Video para.>→<coding para. Setup>.</p> <p>➤ It will display current used configuration file information after</p>

	connecting Web Viewer.
8 Pseudo-color	Selecting different color mode to distinguish high & low temperature of the object.
9 Manual zero setting	Revise the thermal image manually when the image lag appeared.
10 Manual correction	Select different Auto zero setting modes. <ul style="list-style-type: none"> ➤ When selecting “short”, zero setting every 1 minute. ➤ When selecting “middle”, zero setting every 5 minutes. ➤ When selecting “long”, zero setting every 10 minutes. ➤ When selecting “off”, won’t Auto zero setting.
11 Smoothing	Select if wipe off the background noise. <ul style="list-style-type: none"> ➤ Smoothing function on, the image will gentler, less background noise. ➤ Smoothing off, the image will clearer, more background noise.
12 Enhance	Select if opening enhance <ul style="list-style-type: none"> ➤ Enhance on, high & low temperature limit will clearer ➤ Enhance off, the image will gentler.
13 zoom	<ul style="list-style-type: none"> ➤ Select x1, display original image size. ➤ Select x2, the central zone of image will magnify 2 times. ➤ Select x3, the central zone of image will magnify 3 times. ➤ Select x4, the central zone of image will magnify 4 times.
14 Gain	Configure image gain value <ul style="list-style-type: none"> ➤ When gain value low, the image will gentler, but the definition will low. ➤ When gain value high, the image will clearer, but more noise.
15 Brightness	Configure image brightness value
16 Flip	Select if flip the image vertically <ul style="list-style-type: none"> ➤ Flip vertical on, the image will turn upside down.

vertical	➤ Flip vertical off, display the original image.
 Flip horizontal	<p>Select if flip the image horizontally.</p> <ul style="list-style-type: none"> ➤ Flip horizontal on, the image will be mirror left-right. ➤ Flip horizontal off, display the original image.
 Voice output	Enable or disable the voice output.

Full screen

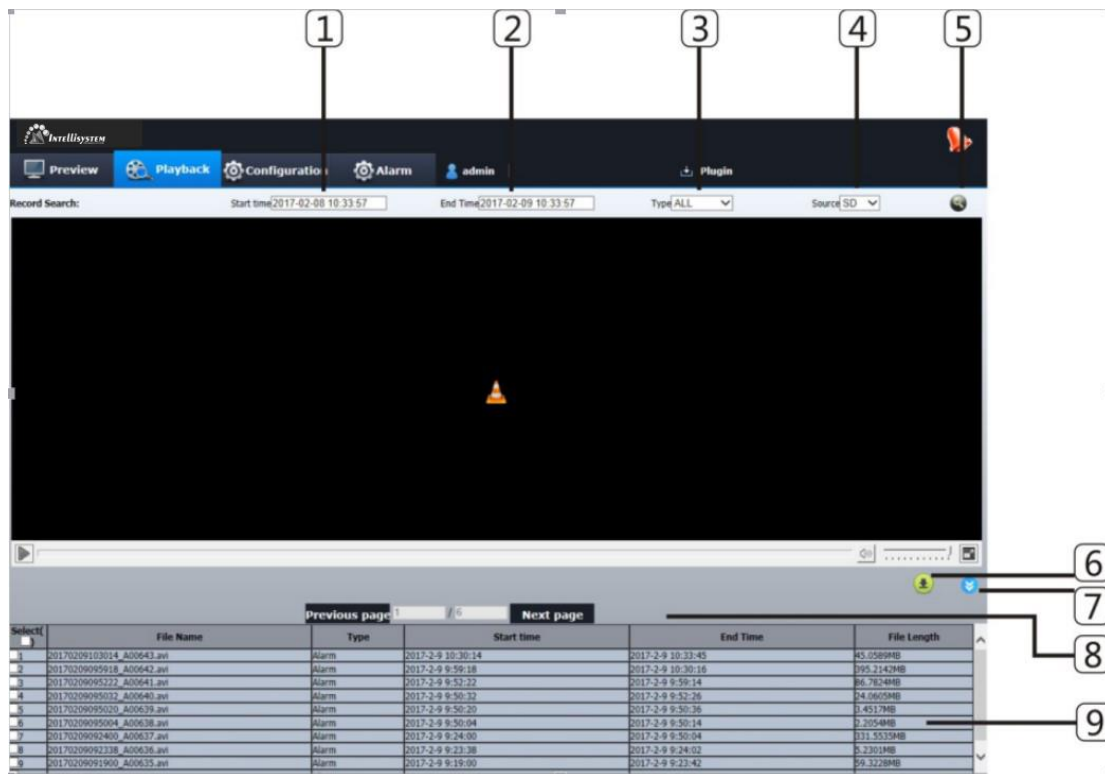
1. Double click the image, to display the image full screen
2. Double click to exit full screen.

4.6 Playing the recorded video



Before you can play the video, you must configure the record settings. For details on record settings, refer to “Storage” and “Alarm Setup”.

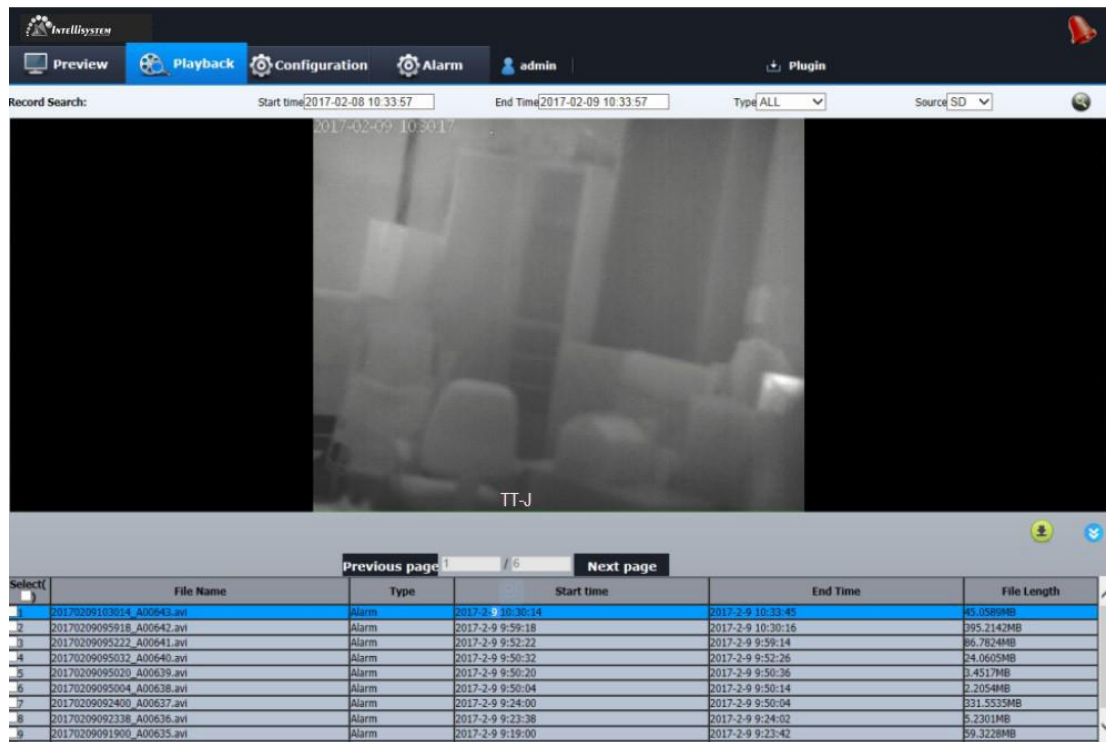
Name of event search screen and its function



Item	Description
1 Start time	Set the search date and time range for data saved in your Micro SD memory card or NAS.
2 End time	
3 Recording type	Configure the event type / you want search.
4 Source	Select the source of events. SD: Search the event from SD card NAS: Search the event from NAS server
5 Search	Run event searching
6 Download	Download data selected
7 Hiding search result	Hiding searching result list



8 Paging	Paging of searching list.
9 Searching list	Display the data searched.

Play video






The screenshot shows the Intellisystem software interface. At the top, there is a navigation bar with buttons for 'Preview', 'Playback', 'Configuration', and 'Alarm'. Below this is a search bar with fields for 'Start time' (2017-02-08 10:33:57), 'End Time' (2017-02-09 10:33:57), 'Type' (ALL), and 'Source' (SD). The main area displays a video playback window with a timestamp of 2017-02-09 10:30:17. Below the video is a table with search results.

Select	File Name	Type	Start time	End Time	File Length
1	20170209103014_A00643.avi	Alarm	2017-2-9 10:30:14	2017-2-9 10:33:45	45.0589MB
2	20170209095918_A00642.avi	Alarm	2017-2-9 9:59:18	2017-2-9 10:30:16	395.2142MB
3	20170209095222_A00641.avi	Alarm	2017-2-9 9:52:22	2017-2-9 9:59:14	86.7824MB
4	20170209095032_A00640.avi	Alarm	2017-2-9 9:50:32	2017-2-9 9:52:26	24.0605MB
5	20170209095020_A00639.avi	Alarm	2017-2-9 9:50:20	2017-2-9 9:50:36	3.4517MB
6	20170209095004_A00638.avi	Alarm	2017-2-9 9:50:04	2017-2-9 9:50:14	2.2054MB
7	20170209092400_A00637.avi	Alarm	2017-2-9 9:24:00	2017-2-9 9:50:04	331.5535MB
8	20170209092338_A00636.avi	Alarm	2017-2-9 9:23:38	2017-2-9 9:24:02	5.2301MB
9	20170209091900_A00635.avi	Alarm	2017-2-9 9:19:00	2017-2-9 9:23:42	59.3228MB

1. Click [] Button
2. Specify the start time and end time of your search.
3. Select an event type and source for your search within the specified period.
4. Click [] Button. The search results will be displayed in the list.
5. Select a data item to play in the search list, double click to play.

6. When playing the video, the section in the specific period is played by moving the time bar.


7. To listen to a voice signal in the recorded video, then activate the voice signal icon [] when you play it. If the voice signal icon is [], it's silent mode.


8. When Playing the video, Click [] to cover the maximum size of the monitor.

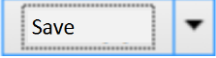
Download video searched

Select	File Name	Type	Start time	End Time	File Length
<input checked="" type="checkbox"/>	20170209103014_A00643.avi	Alarm	2017-2-9 10:30:14	2017-2-9 10:39:28	118.19199B

1. Select one video from data list searched (Tick in front of the data).

2. Click [] Button. The Save window appears

3. Click [] above [], Choose [**Save as**], the Save As window appears

5. Confirm the save path and click [] Button. The screen shot will be backed up to the specified path.

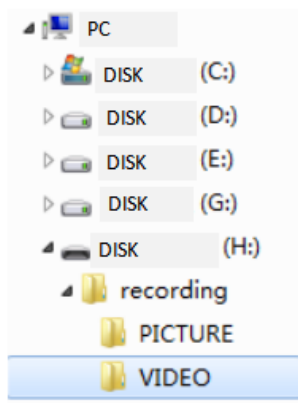
To play the backup video

The backed up images are saved in an avi format. Gom Player, VLC Player, and Window Media Player are recommended as the media player compatible with this format.



In case of Windows Media Player, download the latest codec from www.windows7codecs.com and install it prior to use.

To Play an AVI File on Micro SD memory card



1. Take out the Micro SD card from the camera.

Before separating the Micro SD memory card, set the <Open the recording



plan> to <Off> in the “<Setup>→<storage management>→<recording plan>” menu.

2. Insert the Micro SD memory card into the PC
3. Play the AVI file in the “\recording\VIDEO”



- A file name starts with the format “YYYYMMDDHHMMSS_T(A)00001.avi” and the file number is incremented by one.
- YYYYMMDDHHMMSS indicates the start time of data saving.
- T00001 is timing video, A00002 is alarm video. Each AVI file’s size is Max. 512M
- Once corrupted, the data in the Micro SD memory card cannot be replayed in the Web Viewer’s [Playback].

Play the AVI file in NAS

- In Windows browser, use \\<ipaddress>\ to access.

Ex) \\192.168.2.159\nas\recording\VIDEO\



- Selecting AVI file to play after connecting NAS server.
- The file name format is “YYYYMMDDHHMMSS_T (A) 00001.avi”, T mean timing recording, A means alarm recording.

- YYYYMMDDHHMMSS means starting time of saved data.
- Each AVI file's size is Max. 512M.
- If you change or damage the saved data on your own, it will not play back or save properly.

5. Setup screen

5.1 Setup

On the network, you can set up basic information on the camera, video and audio, network events and system.



1. In the Live screen, click [Configuration].

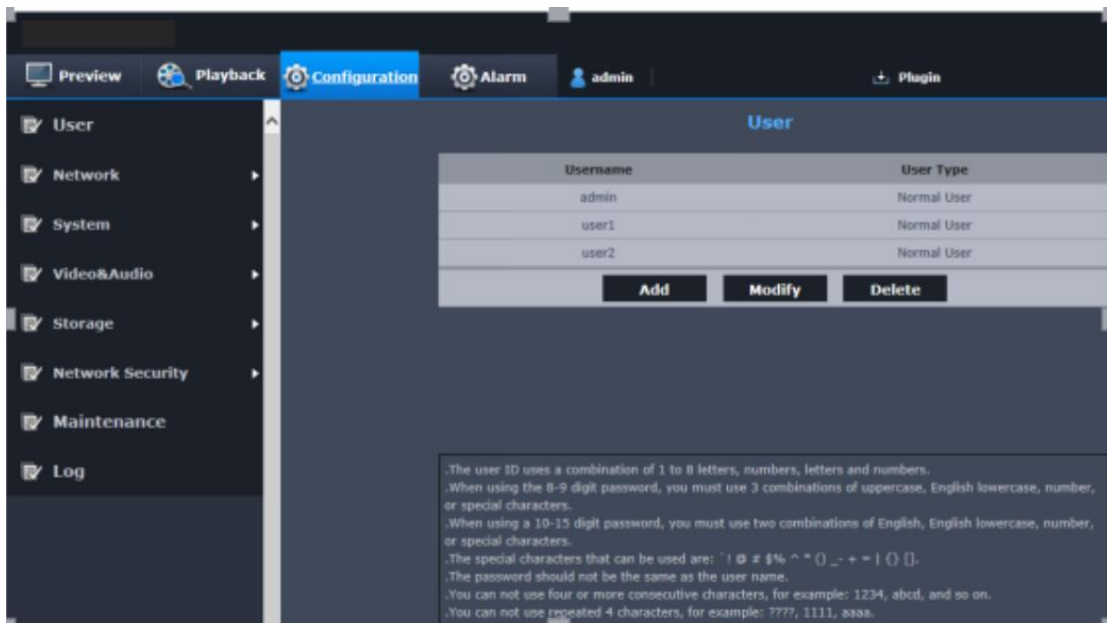
2. The Setup screen appears.

5.2 User Management

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1. From the setup menu, select the <User>tab.

2. Provide the necessary user information



- Administrator password change: Change the password for the administrator



- For the security purposes, you are recommended to use a combination of numbers, alphabets uppercase and lowercase and special characters for your password.
- It is recommended to change your password once every three months.
- The password length and limits are shown as follows.

- A combination of at least three types of upper case, lower case, numeric, and special characters: 8 to 9 characters.

- A combination of at least two types of upper case, lower case, numeric, and special characters: 10 to 15 characters.
- Should be different from the ID.
- For higher security, you are not recommended to repeat the same characters or consecutive keyboard inputs for your passwords.
- Special characters that are allowed. :~`!@#\$\$%^*()_-=|{}[].?/
- Cannot use 4 consecutive characters, ex: 1234, abcd etc.
- Cannot use repeat 4 characters, ex: ?????, 1111, aaaa.

•New users: Click [New] to add a new user

The new user only can watch Live Viewer, if new user type is <common user>.

•Modification: You can modify the selected user’s password.

3. Click [confirm] after finishing.

User

Username	User Type
admin	Normal User
user1	Normal User
user2	Normal User

Add
Modify
Delete

Username

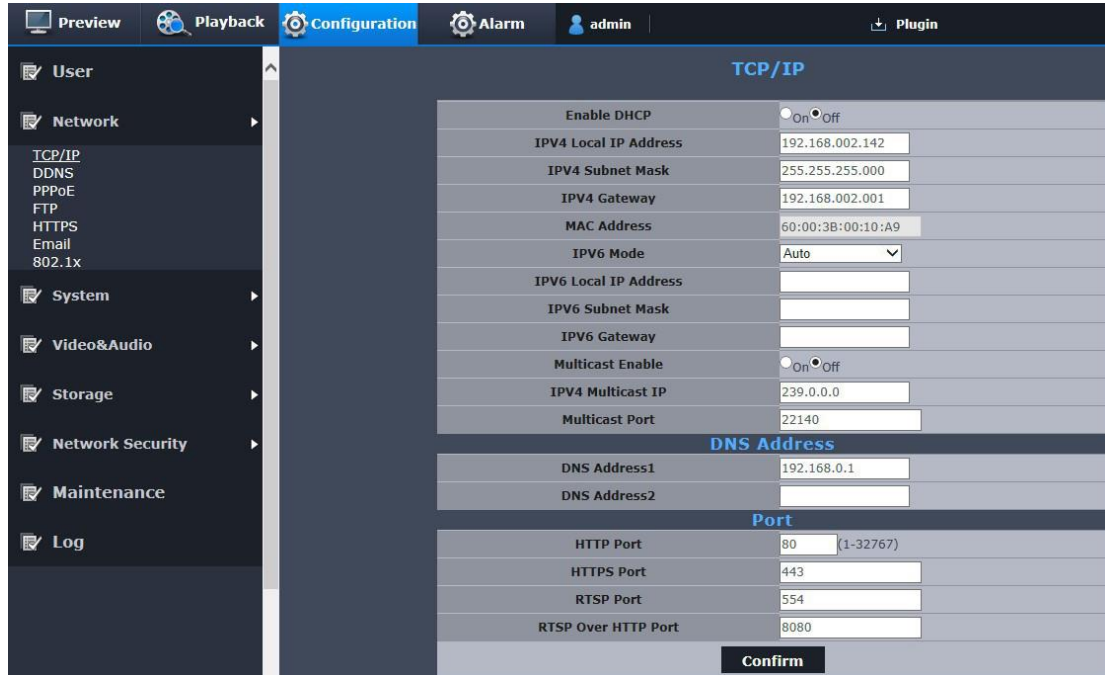
Password (Input admin user password)

New Password

Confirm
Cancel

.The user ID uses a combination of 1 to 8 letters, numbers, letters and numbers.
 .When using the 8-9 digit password, you must use 3 combinations of uppercase, English lowercase, number, or special characters.
 .When using a 10-15 digit password, you must use two combinations of English, English lowercase, number, or special characters.
 .The special characters that can be used are: `!@#\$%^*()_-=+|{}[].
 .The password should not be the same as the user name.
 .You can not use four or more consecutive characters, for example: 1234, abcd, and so on.
 .You can not use repeated 4 characters, for example: ????, 1111, aaaa.

5.3 Network Setup



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TCP/IP

1. From the Setup menu, select the <Network setup> tab.

2. Click <TCP/IP>.

3. Set <IPv4 setup>.

- IP Type: select IP type

- Manual: Specify the IP address, Sub net mask, Gateway, DNS1 and DNS2.

- DHCP: Specify the DNS1 and DNS2.

If you set it to <Manual>, you should specify the IP, Sub net mask, Gateway, DNS 1 & 2 manually.

- MAC Address: Shows the MAC address.

- IP Address: Displays the current IP address.
- Sub net Mask: Displays the <Sub net mask> for the set IP.
- Gateway: Displays the <Gateway> for the set IP.
- DNS1/DNS2: Displays the DNS (Domain Name Service) server address.

4. Set the <IPv6 setup>.

- Route advertisement: Use the default IPv6 address.
- Auto: Display and use the IPv6 address obtained from the DHCP server.
- Manual: Enter IP address and gateway manually and use it.



➤ The IP addressing system will be defaulted to DHCP. If no DHCP server is found, the previous settings will be restored automatically.

➤ Once completed with editing, click [Apply ()] to apply changes and the browser exits. After a while, connect again with the changed IP.

5. Type in each item in the Port menu as necessary.

Neither the port range between 0 and 1023 nor port 3702 is available.

- HTTP: HTTP port used to access the camera via the web browser.

The default is 80 (TCP).

Setting the HTTP port for Google Chrome browsers to 65535 is not allowed by security policy.

HTTP port can not modify into 8000、 5000 and 8080。

- **HTTPS:** In this version, the security of the web communication protocol HTTP is strengthened. It can be used when you set HTTPS mode in SSL.

The initial value is set to 443 (TCP).

The available setting range is 1024~65535. (For security reasons, in your Safari or Google Chrome browser, you may not use 65535 as your HTTPS port).

- **RTSP:** Used to transfer videos in the RTSP mode; the default is 554.

- **RTSP over HTTP Port:**

Only use it when modify RTSP protocol into HTTP protocol.



➤ If changed the HTTP port, the browser exits. Afterwards, address should contain the newly assigned HTTP port trailing the IP.

ex) IP address: 192.168.2.100, HTTP port : Assigned 8001 \Rightarrow <http://192.168.2.100:8001>

(If HTTP port is set to 80, no need to specify the port number)

➤ Using RTSP and HTTPS is recommended in order to prevent the image information from being restored.

6. Click [confirm] to finish.

DDNS



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DDNS is an abbreviation of Dynamic Domain Name Service that converts the IP address of a camera into a general Host Name so that the user can easily remember it.



➤ You can use the DDNS service only if the internet is connected.

1. From the Setup menu, select the <Network setup> tab.

2. Click <DDNS>.

3. Select the <DDNS> connection type.

4. Type in the DDNS items according to the selected type.

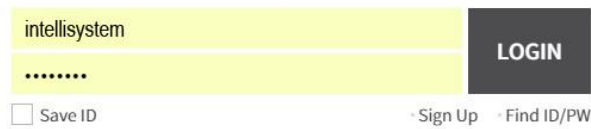
•Default DDNS: Default DDNS server is ddns.hanwha-security.com.

- Product ID: Register the product ID on ddns.hanwha-security.com server.

5. Click <apply> to finish.

Register your product on ddns.hanwha-security.com

DDNS System Login



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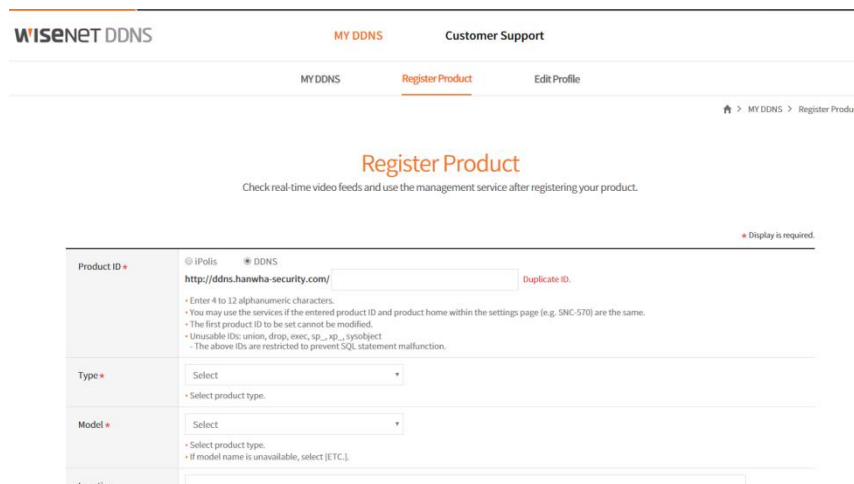
1. Visit ddns website (ddns.hanwha-security.com) and login by using the registered user

2. Select <MY DDNS> after login

DDNS System Login



3. Click [Register Product] to register your product.



4. Input product ID. You must rechecking the ID you input.

MY DDNS

Below is a list of your currently-registered products. You may use video verification, product management, and video tagging services for each DDNS. If a list of products is not displayed, register the products you own on the 'Register Product' page.

[How to Use DDNS](#)

Search for information on registered products.

No.	Product ID	Model	Connection Status	Product Management	View	Video Tagging
1	Intellisystem	TT-J	OFF	Edit Delete	View >	

[Download Excel File](#)

5. Select<Type> and <MODEL >.

Product ID *

[iPolis](#)
[DDNS](#)

- Enter 4 to 12 alphanumeric characters.
- You may use the services if the entered product ID and product home within the settings page (e.g. SNC-570) are the same.
- The first product ID to be set cannot be modified.
- Unusable IDs: union, drop, exec, sp_*, xp_*, sysobject
- The above IDs are restricted to prevent SQL statement malfunction.

Type *

- Select product type.

Model *

- Select product type.
- If model name is unavailable, select [ETC].

Location

- Enter a description for product management.
- Up to 15 Korean characters and numbers or up to 30 alphanumeric characters.

Description

- Enter a description for product management.
- Up to 15 Korean characters and numbers or up to 30 alphanumeric characters.

Product Registration

6. Specified product position and description (if need).

7. Click [Product Registration].

The product will added on product list, you can check it.

PPPoE

The camera will get a public network IP.



➤ You only can use PPPoE service by connecting internet.

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1. Select <network setup> from configuration menu.
2. Click <PPPoE>.
3. Open <PPPoE>, input PPPoE user name and password
4. Click <yes> to finish.

FTP

You can configure the FTP server settings so that you can transfer the image taken with camera to your PC if an event occurs.

1. From the setup menu, select the <network setup>tab.



2. Click <FTP>.

3. Open <FTP>, and input the information you need.

- FTP Configuration

- Server address: Enter the IP address of the FTP server that you transfer the alarm or event images.

- Port: The default port of the FTP server is 21: however, you can use a different port number according to the FTP server settings.

- ID: Enter the user ID with which you will log in to the FTP server

- Password: Enter the user account password for logging into the FTP server.

- Anonymity: Don't need user account and password if select [anonymity].

- Saving directory: Begin with "/". If it's empty behind "/", the images upload will saved in root directory of FTP server. If you want save in someone folder, please input the file name that existed behind the "/".

4. When done, please click [yes].

HTTPS

Used for safe connecting system or installing public certification.



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1. From setup menu, select <network setup>tab.

2. Click<HTTPS>.

3. Open<HTTPS>.

You must enter the camera's IP address with https://<Camera IP> format, if you want visit the camera by using HTTPS mode.

4. Search the public certification that installed on camera.

You need provide the certificate name, certificate file that issued by the certification body and key file, if you want install the certificate on the camera.

The <HTTPS> item will be active only with installing the public certificate.

5. When done, please click [yes].

Email

You can configure the FTP/E-mail server settings so that you can receive the Email if an event occurs.



1. From the Setup menu, select the <Network setup> tab.

2. Click <Email>.

3. Open <Email>, input the value you need.

- Server address: Enter the IP address of the email server that you transfer the alarm or event images to.

- Port: The default port of the email server is 25; however, you can use a different port number according to the email server settings.

- Sender: Enter the address of the email sender. If the sender address is incorrect, the email from the sender may be classified as SPAM by the email server and thus may not be sent.

- User name: Enter the user ID for logging into the email server.

- Password: Enter the user account password for logging into the email server.

- Recipient 1-4: Enter the address of the email recipient.

4. When done, click [Apply].

802.1X

When connecting network, you can choose whether using 802.1x protocol.



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1. From the Setup menu, select the <Network Setup> tab.

2. Click <802.1x>.

3. Open <802.1x > to set homologous para.

- EAP Type: Specify the use of the 802.1x protocol.

- EAP version: Select version 1 or 2.

- User name: Enter the client certificate ID.

- Password: Enter the client private key password. If the key file used is not encrypted, you don't need to enter it.



➤ If the connected network device does not support the 802.1x protocol, the protocol will not operate properly even if you set it.

4. When done, click [Apply].

5.4 System setup

Time setup



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1. From the Setup menu, select the <System setup>tab.

2. Click<Time setup>.

3. Specify the time and date that will be applied to the camera.

- Timezone: Specify the local timezone based on the GMT.

- System time setup: Specify the time and date that will be applied to your system.

- Manual: Specify the time manually.

- Synchronize with PC viewer: Sets to the time of the computer connected.

- Synchronize with NTP server: Sync with the time of the specified server address.

4. Click [apply] to finish.

System para.



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1. From setup menu, select <system setup>tab.

2. Click <system para.>.

3. Setting analog video output display mode.

•System: Select analog video output mode.

- PAL: Select PAL mode when local monitor is PAL.

- NTSC: Select NTSC mode when local monitor is NTSC.

4. Setting WEB monitor displayed by OSD language.



You need to reset the WEB after modify the language.

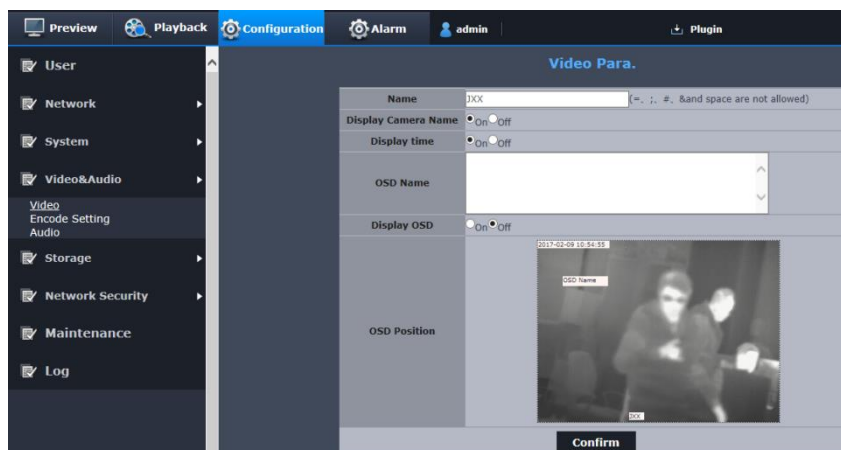
5. When done, click [yes].

6. System para.: Display the configuration file information of camera.

- Mode: camera name.
- Software version: The current software version.
- Hardware version: The current hardware version of camera.
- Storage device: Local storage device that camera supported.
- User amount: The current connected rear-end user amount.

5.5 VIDEO & AUDIO setup


Video setup



1. From the Setup menu, select the <Video & Audio setup > tab.
2. Click <Video setup>.
3. Setting overlaying the OSD para.on real time video.

- Name: Display the camera name on screen that specified.

- Custom name: Display the custom camera name on the screen specified.

- Movable camera name, time and custom name: If you want move someone OSD position, move cursor on homologous OSD, when the cursor display  , then hold left mouse button and move the cursor on new position.

4. When done, please click [yes].

Codec para.setup

You can modify setup file to adapt different environment based on recording and network transfer condition.



1. From setup menu, select <Audio & Video setup>tab.

2. Click < Codec papa.setup>.

3. Select homologous codec information, include resolution and frame rate.

-Type: you can select one of fixed rate and variable rate to compress. Fixed rate means the network transmission is fixed when you change video quality and rate. Variable rate means it will give priority to video quality when you change rate.

-Resolution: Setting video resolution

-Rate: Setting max.rate when the type is VBR.



Due to rate will adjust limited according to resolution, rate and screen, the practical rate will bigger than Max.rate. So you should consider the environment when you set the value.

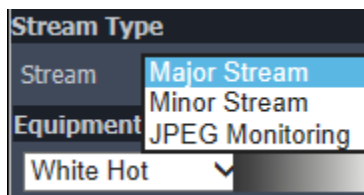
-Frame rate: setting Max.frame quantity every second.

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4. When done, click [yes].

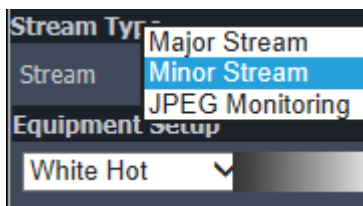
Main code stream application

1. You should restart after you modify the main code stream para.
2. The event recording will encode according to main code stream. You should restart after you modify the resolution of main code stream.



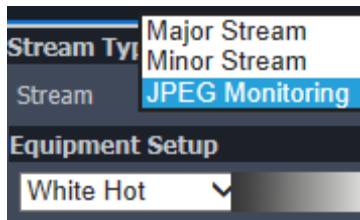
Sub code stream application

You should restart after you modify the sub code stream parameter.



JPEG Application

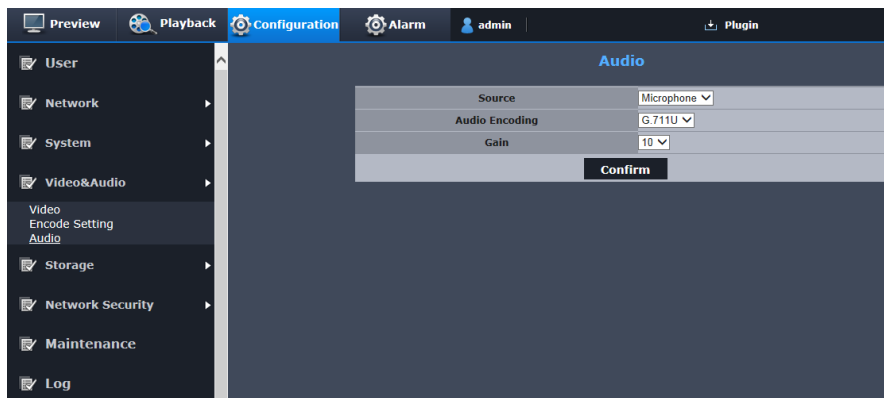
You should restart after you modify the JPEG parameter.



Audio para.setup.

You can configure the audio codec settings of the audio source from the camera.

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1. From the Setup menu, select the <Video & Audio > tab.

2. Click <Audio setup>.

3. Set the audio input value.

- Source: Sets the audio input.

- Line: Connect the cable to the audio device.

- Microphone: Micro phone that is built-in in the camera.

- Audio Codec: Specify the audio codec.

- G.711: A audio codec standard, it uses 64 Kbps PCM (Pulse Code Modulation) encoding. ITU standard audio codec that is adequate for digital voice transfer in PSTN network or through a PBX.

- G.726: ITU standard audio codec applying ADPCM (Adaptive Differential Pulse Code Modulation) for variable bit rates of 40/32/24/16 Kbps to 64 Kbps PCM encoding.

- Bit rate: Set the bit rate to differentiate compression ratio if using G.726 codec.
- Gain: Specify the audio input amplification.



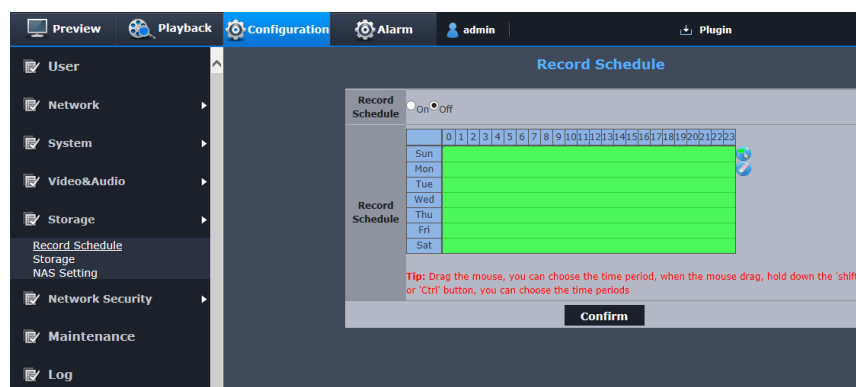
Sound quality deterioration or howling may occur if the loudness of the sound source or gain value were set excessively.

4. When done, click [Apply].

5.6 Storage management

Recording plan

Setting appointed time to auto recording.



1. From setup menu, select <storage management>tab.

2. Click <recording plan>

3. Open <recording plan>

4. Drag the mouse, you can choose the time period, when the mouse drag, hold down the 'shift' or 'Ctrl' button, you can choose the time periods.

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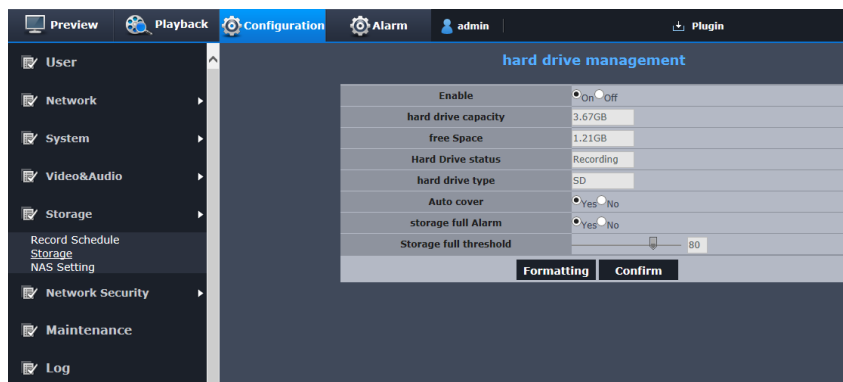
5. When done, click [yes].



If plan recording overlaps alarm recording, the device will only open alarm recording.

Memorizer management

You can activate Micro SD card, select covering condition, check margin of saved data occupied, and format micro SD card.



1. From setup menu, select<Memorizer management>tab.

2. Click<Memorizer management>tab.

3. Display the information of micro SD card.



- It will display “Recording” when the device is recording data.
- It will display “Ready” if turn “enable” to “off”.
- If display “ERROR”, please check below items:

- Check memorizer, make sure it connects with device.
- Check the file in the memorizer, make sure it didn't damaged.
- Check memorizer, make sure it didn't been broken.

If it still display “ERROR”, please change Micro SD card.

4. Check<Hard drive capacity> and <Usable size> of micro SD card.

5. Check the saved data, if they are not important, click <formatting>



- The formatting will slow if the micro SD card is large capacity.
- The data stream will increase if you set high resolution, high rate and high frame rate.

6. Select “yes” of “Auto Overrides”, if micro SD card is full, it will delete old date and save new date to replace.

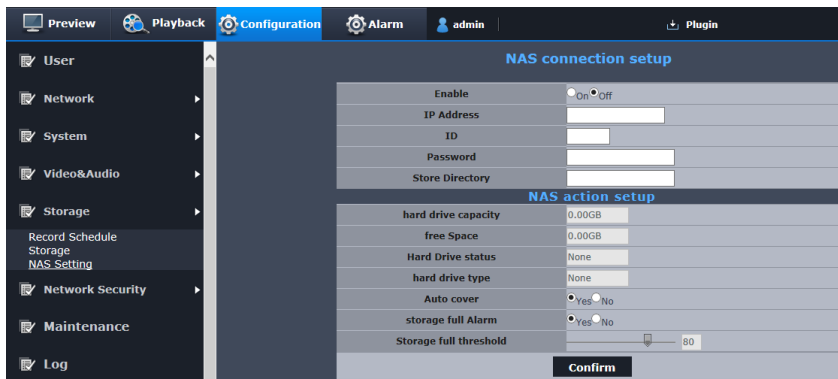
Once you delete the data, you cannot recover it.

7. Hard disk full alarm: when Micro SD card is full, it will alarm and record the log.

8. Hard disk full threshold value: when [available capacity/total capacity = threshold value], the device will think of micro SD card is full.

9. When done, click [yes].

NAS setting



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1. Select<Storage management>tab.

2. Click<NAS Setup>.

3. Enter the information registered in your NAS.

- IP Address: Unique IP address assigned to the NAS.
- ID: An ID registered in the NAS.
- Password: Password registered in the NAS.
- Saving list: The NAS user file to save data.

4. When done, turn “off” to “on” of NAS Setup, then click [yes].

5. Refreshing after a while, when it display the capacity of NAS, means the device have connected with NAS server.



- It will display “Recording”, when the device is recording the data.
- If the fail message is displayed, check the following:

- Confirm that the IP address of the NAS is valid.

- Confirm that the ID/password of the NAS is valid.

-Confirm that you can access the folder designated as the default folder using the ID of the NAS.

-Confirm that the NAS IP address and the camera IP address are in the same format.

ex) The NAS & camera sub net mask initial value is 255.255.255.0.If the IP address is 192.168.20.32 then the NAS IP address should be in the range of 192.168.2.1 ~ 192.168.2.255.

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6.Select “yes” of “Auto Overrides”, if micro SD card is full, it will delete old date and save new date to replace.



It support auto deleting only the file in NAS is on-specification.

7. Hard disk full alarm: when NAS server is full, it will alarm and record the log.

8. Hard disk full threshold value: when [available capacity/total capacity = threshold value], the device will think of NAS server is full.

5.7 Network security

IP address filtration

Set up awarding or refusing visiting IP list.

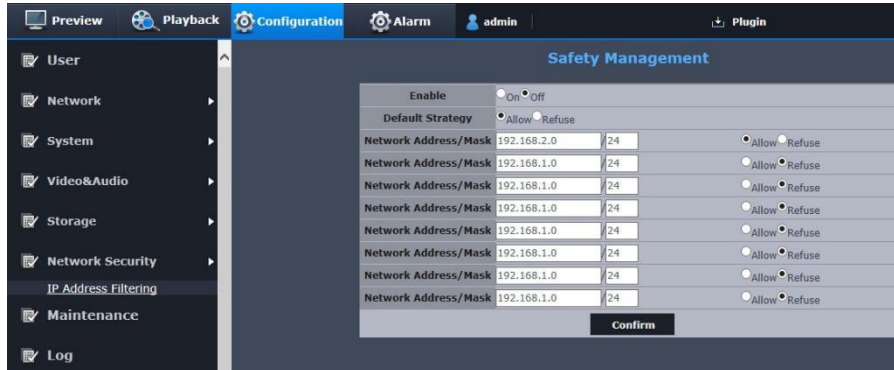
1. From setup menu, select <network security>tab.

2. Click <IP address filtration>.

3. Open<security management>, select <default strategy>.

•Refusing: if select this tab, it will award other IP to visit except the IP in filtration list.

•Awarding: if select the tab, other IP cannot visit except the IP in the filtration list.



4. In filtration list, enter especial IP address or segment to dispark or forbid.

- 192.168.2.100/32 means 192.168.2.100 is dispark or forbid.

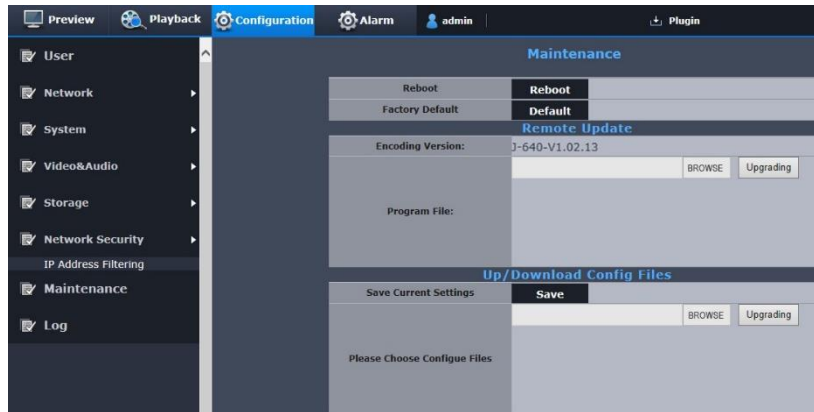
- 192.168.2.100/24 means 192.168.2.1-192.168.2.255 is dispark or forbid.



You cannot add the current PC IP into <refusing>, you should add it into <awarding>.

5. When done, click [yes].

5.8 System maintenance



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1. From setup menu, select <System maintenance> tab.

2. Select the item you need to set.

- Restart: restart the system.
- Factory default: to reset the system into factory default.
 - The IP address won't recover.
 - The user setup won't recover.
 - The log information won't recover.
- Hardware update: Run system updating.
- Upload/download configuration file: backup or upload system setup.
 - Save current setup: backup current system setup.
 - Upload configuration file: upload the backup system setup to current system.

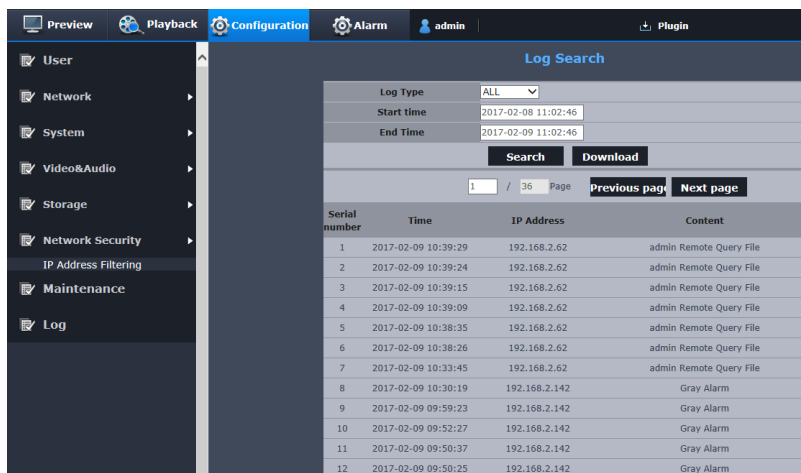
5.9 Log

You can check the system log or event log.

1. From the Setup menu, select the <log> tab.

2. Select log type.

- Alarm log: check event log, include time information.
- Unusual log: check unusual log, include time information.
- Operation log: check operation log, include time information.
- All: check system log, alarm log and unusual log.



Serial number	Time	IP Address	Content
1	2017-02-09 10:39:29	192.168.2.62	admin Remote Query File
2	2017-02-09 10:39:24	192.168.2.62	admin Remote Query File
3	2017-02-09 10:39:15	192.168.2.62	admin Remote Query File
4	2017-02-09 10:39:09	192.168.2.62	admin Remote Query File
5	2017-02-09 10:38:35	192.168.2.62	admin Remote Query File
6	2017-02-09 10:38:26	192.168.2.62	admin Remote Query File
7	2017-02-09 10:33:45	192.168.2.62	admin Remote Query File
8	2017-02-09 10:30:19	192.168.2.142	Gray Alarm
9	2017-02-09 09:59:23	192.168.2.142	Gray Alarm
10	2017-02-09 09:52:27	192.168.2.142	Gray Alarm
11	2017-02-09 09:50:37	192.168.2.142	Gray Alarm
12	2017-02-09 09:50:25	192.168.2.142	Gray Alarm

3. If one page cannot display all logs, please use page turning button.

4. Click < download> button to download the log data you selected.



- Each page displays 12 logs with the latest one displayed at the top
- The event/system log list can contain up to 5000 logs; after that, the existing logs will be deleted from the oldest one each time a new log is created.

6. Alarm configuration

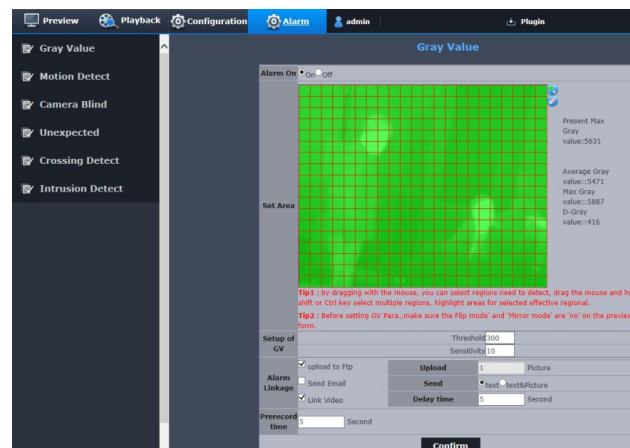


Open timing recording and alarm recording at same time, the device will only record alarm recording.

6.1 Gray value alarm

If gray difference value in the area greater than the threshold, it will alarm.

1. From alarm menu, select <gray value>tab.
2. Open <Gray value>.
3. You can select a part area of screen as detection area or deleted area.
 - Detection area: By dragging with the mouse, you can select regions need to detect, drag the mouse and hold shift or Ctrl key select multiple regions, highlight areas for selected effective regional.
 - Deleted area: You can delete the area by dragging with the left key of mouse to move.



4. Setup/selecting alarm condition.

- Right-hand of detection area display Max.gray value of screen, average gray value, difference value and max.value of yellow area.

- Threshold: When the threshold you set less than gray difference value, it will alarm.

- Sensitivity: it will easy to alarm if the sensitivity value is high.

5. It will run the operation when the specified alarm trigger.

- FTP:It will transfer the image to the specified FTP server when the alarm trigger.

- Email: It will transfer the image to specified email when the alarm trigger.

- Text: it will only transfer text to email when the alarm trigger.

- Text & image: it will transfer text and one image to email when the alarm trigger.

- Recording: setting recording time in gray value alarm.

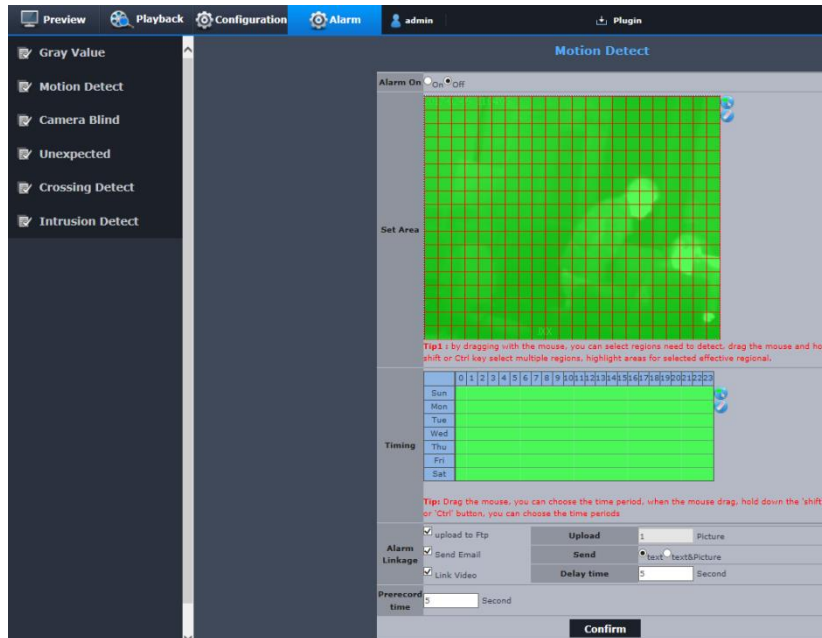
- Delayed time: appoint alarm triggering timing; it will saving image until appointed timing. Max.delayed time is 60s after alarm triggering.

6. Setting pre-recording: Appoint the time before alarm triggering; start at this time, it will save image. Max.appointed time is 10s.

7. When done, click [yes].

6.2 Motion Detection

It detects a motion that meets all conditions specified by sensitivity, size and area.



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1. From alarm menu, select <motion detection>tab.

2. Open <motion detection>.

3. You can appoint the area of screen to add on the detection area or evacuant area.

- Detection area : By dragging with the mouse, you can select regions need to detect, drag the mouse and hold shift or Ctrl key select multiple regions, highlight areas for selected effective regional.

- Delete area : You can delete the area by dragging with the left key of mouse to move.

4. Appoint <Arming time>.

- Drag the mouse, you can choose the time period, when the mouse drag, hold down the

'shift' or 'Ctrl' button, you can choose the time periods

5. It will run operation when appointed alarm triggering. About <alarm linkage>, please refer “gray value”.

6. Setting pre-recording: Appoint the time before alarm triggering; start at this time, it will save image. Max.appointed time is 10s.

7. When done, click [yes].

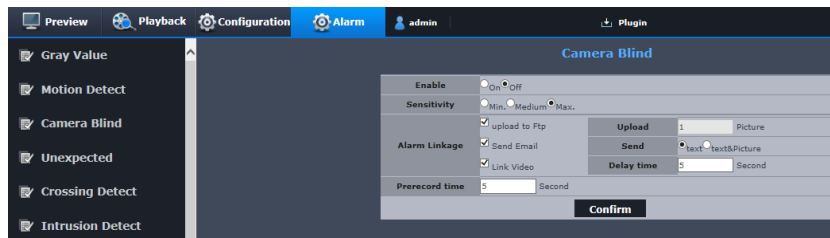


The motion detection effect will decline or incorrectness at below situations:

- The gray value of the subject is similar with background.
- Small activities at boundary of view of camera.
- Scene change, Illumination changes continuously or other reasons, a lot of motions continuously occurred.
- The fixed target move continuously at one position.
- Unconspicuous motion.
- The movable target is too close to camera.
- The target hides behind of other targets.
- The target moves too fast.

6.3 Video shield

You can set when the lens is shielded, trigger alarm.



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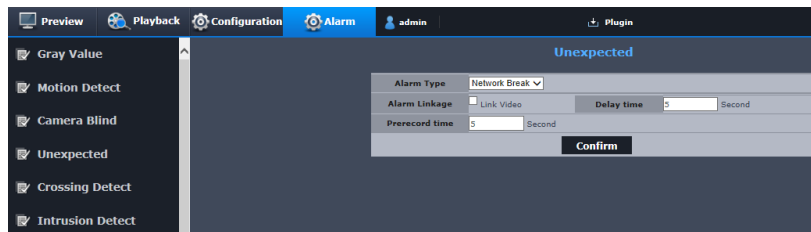
1. From setup menu, select <video shield>tab.
2. Open <video shield>.
3. Setting video shield sensitivity. Higher sensitivity, faster to detect video shield.
4. It will run operation when appointed alarm triggering. About <alarm linkage>and<pre-recording>, please refer “gray value”.
5. When done, click [yes].



- Video shield will detect a little while after shield happened (max.5s).

6.4 Unusual alarm

Disconnect network, IP conflicting, memorizer full and memorizer error will regard as unusual event.



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1. From setup menu, select <unusual alarm>tab.

2. Select alarm type.

- Network disconnection: you can select video recording when it detect network disconnecting.

- IP conflicting: you can select video recording when it detects IP conflicting.

- Memorizer full: you can select uploading images to FTP server or transfer to email when it detects memorizer full.

- Memorizer error: you can select uploading images to FTP server or transfer to email when it detects memorizer error.

3. About <alarm linkage>and<pre-recording>, please refer “gray value”.

4. When done, click [yes].

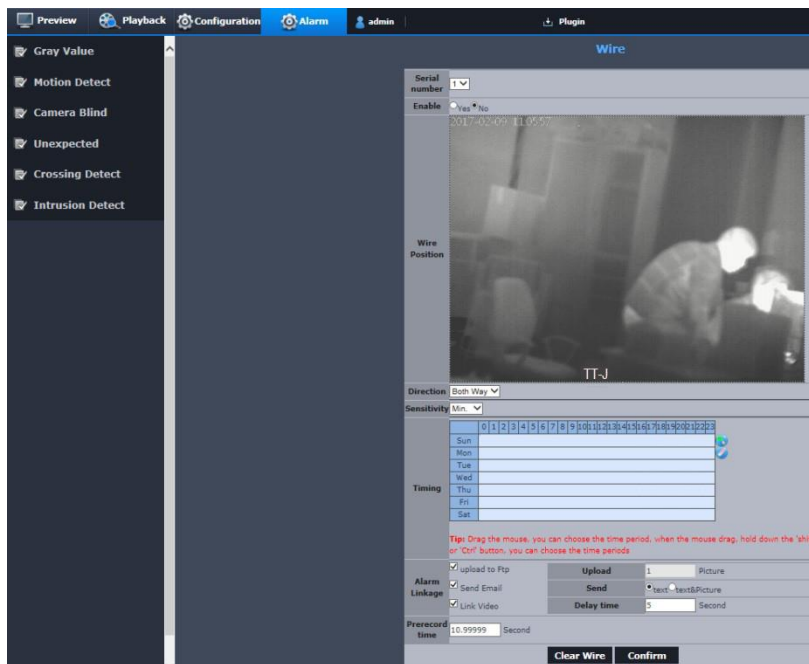
6.5 Crossing alarm

It detects event that meets all conditions specified by sensitivity and area and the event condition rules.

1. From setup menu, select <crossing alarm>tab.

2. The device support 4 kinds crossing alarm modes.

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3. Open <crossing alarm>.

4. Click the starting and ending point of imaginary line on the screen, then select the rules you need:

- Both way : Detecting the target moving from A to B or B to A.
- A→B : Detecting the target moving from A to B.
- B→A : Detecting the target moving from B to A.

5. About <arming time>, <alarm linkage>and<pre-recording>, please refer “gray value”.
6. When done, click [yes].
7. If you want to delete the trip line you defined, please click [deleting trip line] button below.



The size of target detected may be different with actual size, it's depend on the shape. If the camera catch the closer target, the video analysis function will be inaccuracy.



The smart video analysis function will be inaccuracy at the situations below:

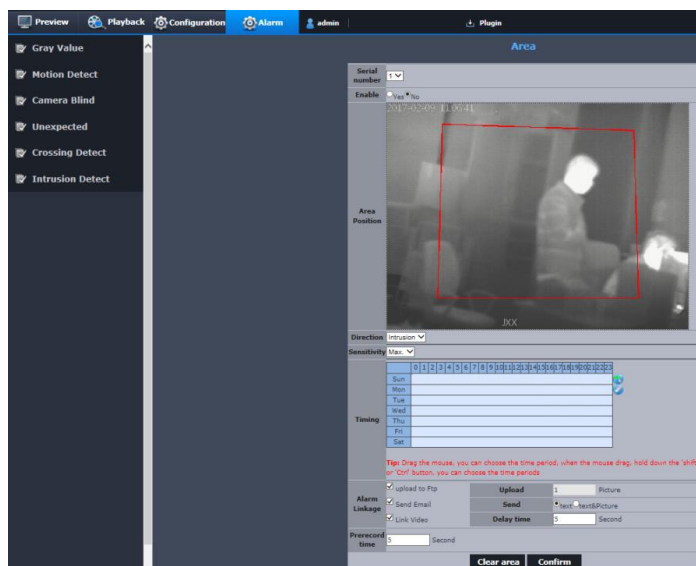
- The gray value of target is similar with background.
- The fixed target move continuously at one position.
- Inconspicuous motion.
- The movable target is to close to camera.
- The target hides behind of other targets.
- The target moves too fast.
- Small activities at boundary of view of camera.
- Scene change, Illumination changes continuously or other reasons, a lot of motions continuously occurred.

6.6 Area alarm

It detects event that meets all conditions specified by sensitivity and area and the event condition rules.

1. From setup menu, select <area alarm>.
2. The device support 4 kinds area alarm modes.
3. Open <area alarm>.

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4. Click 4 peaks to defined detection area on screen, then select the rules you need:
 - Invading: It will detect the target appeared in the area of at the boundary of the area for a while.
 - Entrance: Detecting the movable target moves from outside of area to the inside of area defined.
 - Leaving: Detecting the movable target moves from inside of area to the outside of area defined.
5. About <arming time>, <alarm linkage>and<pre-recording>, please refer “gray value”
6. When done, click [yes].
7. If you want to delete the area you defined, please click [deleting area] button below.

7. Appendix

7.1 Specifications

Items		<i>ThermalTronix</i>	
		TT-384J	TT-640J
Video	Detector	Uncooled FPA micro bolometer	
	Resolution	384(H) X 288(V)	640(H) X 480(V)
	Pitch size	25µm	17µm
	Wave range	8-14µm	
	Frame Frequency	50Hz	
	Video output	CVBS : 1.0 Vp-p / 75Ωrecombination, 720x480(N), 720x576(P),	
Lens	FOV	16.8° (H) X 12.6° (V)	
	Aperture	F1.1	
	Length	9, 18, 37, 50mm	
	Type	Mechanical no thermalization	
Tilting	Tilting range	0-90°	
Operations	NETD	< 70mK	
	Electronic zoom	1X/ 2X/3X/4X	
	Brightness/Gain	Manual brightness/Gain	
	Noise	off/on	
	Image enhancement	off/on	
	Pseudo-color	12 kinds	
	Revising function	Manual revising, Auto revising; timing revising	
	Overturn/Mirroring	Off/on	

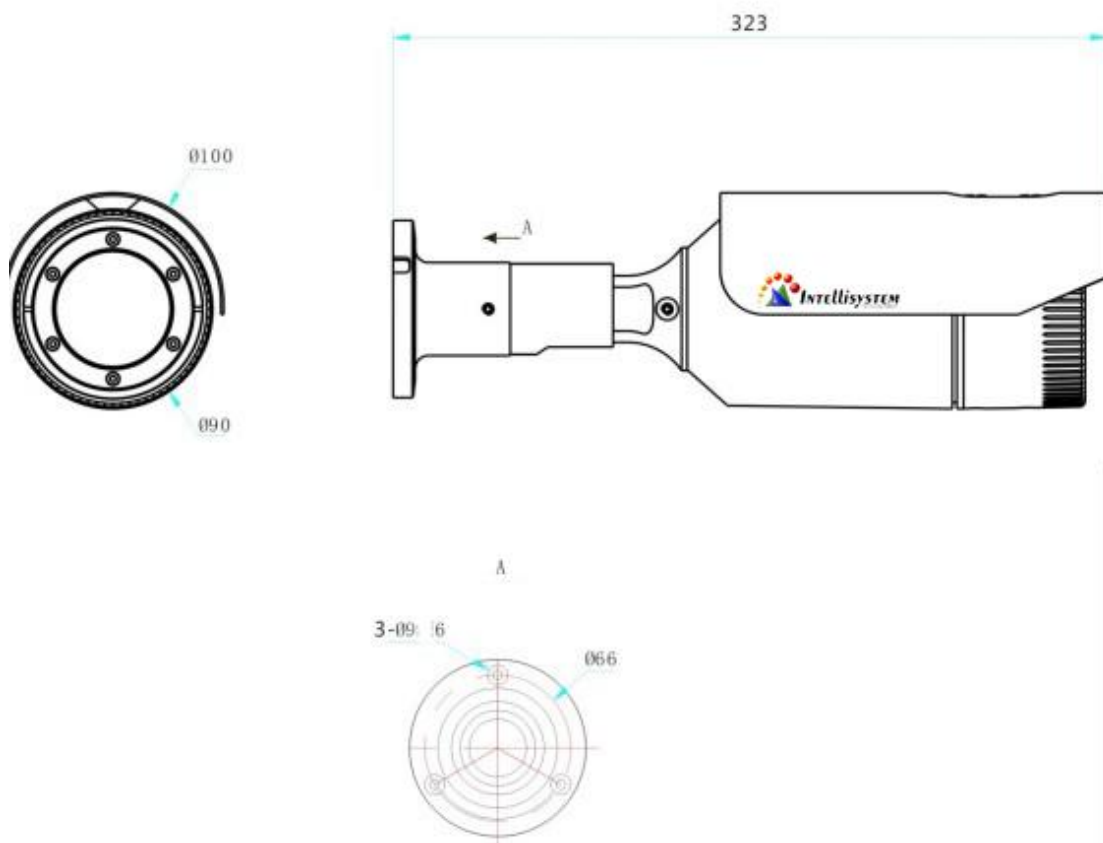
	Audio input	Off/on
	Alarm	Gray value, motion detection, video shield, area invading, crossing alarm, network disconnecting, IP conflicting, memorizer full, memorizer error.
	Event alarm	<ul style="list-style-type: none"> ● Upload to FTP. ● Transfer to email ● Saving in local device or recording on NAS when alarm trigger.
Network	Ethernet	RJ-45 (10/100BASE-T)
	Video compression format	H.264, Motion JPEG
	Resolution	720x576 / 720x480 / 640x480 / 384x288 / 320x240
	Frame rate	H.264 : Max.30 fps Motion JPEG : 640x480 : Max. 15 fps
	Video quantity adjustment	H.264 : compression level、 target bit rate level controlling.
	Bit rate controlling	H.264 : CBR or VBR
	Audio compression format	G.711A/G.711U/G.726
	IP	IPv4,IPv6
	Protocol	TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTCP,RTSP, NTP, HTTP, HTTPS, SSL, DHCP, PPPoE, FTP, ICMP, IGMP, ARP, DNS, DDNS
	Security	HTTPS(SSL) Login authentication Classify Login authentication IP address filtration User visiting log 802.1X authentication
Memorizer	Micro SD - Download moving images from SD card	

		NAS -Support recording on NAS server.
	Application codec port.	ONVIF Profile S
	Web Viewer	Support : Microsoft Internet Explorer (Ver.9~11), Google Chrome (Ver.40 or under)
Environment	Working temperature/humidity	-40°C ~ +60°C (+14°F ~ +131°F) / less than 90% RH
	Storage temperature/humidity	-45°C ~ +65°C (-22°F ~ +140°F) / Less than 90% RH
	Input voltage/electricity	DC12V±10% PoE(IEEE802.3af, Class3)
	Power dissipation	6W (at normal temperature) 6W(PoE, Class3) (at normal temperature)
Machinery	Color/material	Ivory white/aluminium
	Size	Length: 323mm The largest outer diameter: 100mm
	Weight	1.3Kg

7.2 Product image

Unite : mm

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7.3 Malfunction Removal

Problem	Solution
I cannot access the camera from a web browser	<ul style="list-style-type: none"> ● Check to make sure that the camera's Network settings are appropriate. ● Check to make sure that all network cables have been connected properly. ● If connected using DHCP, verify that the camera is able to acquire dynamic IP addresses without any problem. ● If the camera is connected to a Broadband Router, verify that port forwarding is properly configured.
The Image cannot display after the camera start up.	If the camera starting up/ shutdown frequently, the device will go into shutdown protection. Please wait for 5s to restart.
Viewer got disconnected during monitoring.	<ul style="list-style-type: none"> ● Connected Viewers become disconnected upon any change to camera or network configurations. ● Check all network connections. ● If the camera is connected over an PPPoE network, it's possible for ● Viewer to disconnect under poor network conditions.
After alarm triggering, you cannot receive the email.	Verify setup by following: <ol style="list-style-type: none"> 1. Check <system setup>→<timing setup>, if the time is usual. 2. Check<sending email>tab at alarm setup, if it is right. 3. Check <network setup>→<email setup>, if it is enable.

Cannot recording on Micro SD card	Check<hard disk> in <storage management>→<memorizer management>, if it displays OK?
Cannot record plan recording.	If plan recording time overlap with alarm recording time, the device will only record alarm recording.
Open a lot kinds of alarm recording, only one alarm recording takes effect.	If open a lot kinds of alarm recording, the device will only record alarm recording.