



*Now you can see!*

## 3 in 1 Digital Video Server



**DVS-IP5-4**

**User Manual**

# **DVS-IP5-4**

# **User Manual**

# Notes

- Before operating the device, we strongly advise users to read this manual and keep it for later use.
- It is highly advisable to update the device software to the latest version before use. The software can be found in [www.provision-isr.com](http://www.provision-isr.com) website (Download center)
- Please use the specified power supply to connect.
- Avoid incorrect operation, shock vibration or heavy pressing which can cause damage to the product.
- Do not use corrosive detergent to clean the body of the device. If necessary, please use a soft dry cloth to wipe dirt; for hard contamination, use neutral detergent. Any cleanser for high-grade furniture is applicable.
- Please follow the instructions to install the device.
- Do not expose the device to any liquids or rain.
- Do not operate the DVS in extreme temperatures or extreme humidity conditions.
- Keep away from heat sources such as radiators, heat registers, stove, etc.
- The instructions in this manual could be outdated; if you need any clarifications you can contact an authorized PROVISION-ISR support.
- PROVISION-ISR reserves the right to add changes to this manual and publish it online in our website ([www.provision-isr.com](http://www.provision-isr.com)): there may be inconsistencies with the latest version. This applies to any and all software upgrades and product improvements, interpretation and modification added. These changes will be published in the latest version without prior notification.
- When this product is in use, the relevant contents of Microsoft, Apple and Google will be involved in. The pictures and screenshots in this manual are only used to explain the usage of our product. The ownership of trademarks, logos and other intellectual properties related to Microsoft, Apple and Google belong to the above-mentioned companies.
- All pictures and examples used in the manual are for reference only.

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# 1 Introduction

The DVS (short for Digital Video Server) is designed for high-performance CCTV solutions. The device is designed for converting analog signal into digital signal, and is used for turning analog cameras into IP cameras. It adopts the state of the art video processing chips and utilizes most advanced technologies, such as video encoding and decoding technology, complies with the TCP/IP protocol, SoC, etc to ensure that this system will be extremely stable and reliable. The device should be used together with Provision-ISR's IP manager to enable the quick setting and full utilization of the DVS.

## Main Features

- H.264/H.265 Compression
- 3D DNR,
- D-WDR/BLC/HLC
- ROI coding
- Support audio in/out
- Support Alarm in/out
- Support RS485
- PoE power supply
- 12VDC output for camera.
- Remote monitoring support (Via smartphone/CMS/IE)

# 2 Device Installation

- Connect the camera you wish to use to the DVS.
- Connect the DVS to a network source (PoE Supported).
- If PoE is not used, you must connect the DVS to a 12V/1A power supply.
- Connect the camera to a power source. The 12VDC output of the DVS can support up to 500mA output. If the camera requires a higher current, use a 12DC power supply for the camera.
- The DVS will now appear as an IP camera in the network. Use the IP Manager tool to set it and access the camera as described in the next chapter.

## 3 IE Remote Access

You may connect the DVS via LAN or WAN. In this manual, we will use IE v11 for example. The details are as follows:

### 3.1 LAN

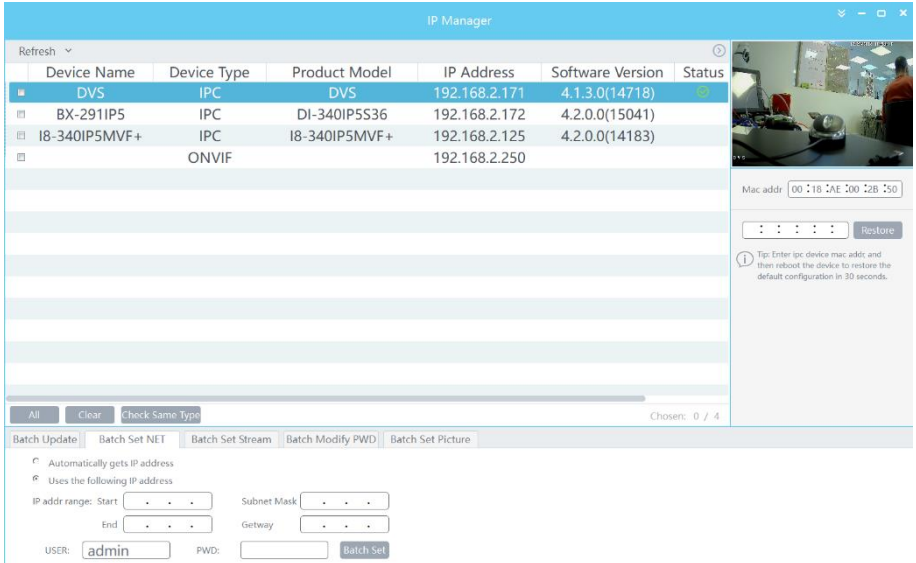
In LAN, there are two ways to access DVS:

1. Access through IP Manager Software.
2. Direct access through IE browser.

#### 3.1.1 Access through IP-Manager

① Make sure the PC and DVS are connected to the LAN and that the IP-Manager is installed on the PC. You can install the IP manager from the disc provided with the DVS or download it by clicking [here](#).

② Double-click the IP-Manager icon on the desktop to run this software as shown below:



③ Modify the IP address. The default IP address of the DVS is 192.168.226.201. Tick the devices you wish to set and then click on the “Batch Set NET” tab.

Automatically gets IP address  
 Uses the following IP addresses

IP address range: Start     
 End

Subnet Mask     
 Gateway

USER:  PWD:

If you wish to use DHCP (IP Address automatic assignment), choose “Automatically gets IP address”, set the password and click on “Batch set”. Wait for a few moments until the IP manager will configure the devices. After configuration, the IP addresses of the devices will refresh automatically.

**Please note:**

- 1) In order for the DHCP mode to work, you must have a DHCP server on the LAN.
- 2) Using DHCP for permanent installations is not advisable as the IP Address might change after a while and cause the devices to be unreachable.

If you wish to set static IP addresses, choose “Uses the following IP Addresses”, set the range of IP addresses you wish to assign (First and last address), set the gateway and subnet mask and click on batch set. Wait for a few moments until the IP manager will configure the devices. After configuration, the IP addresses of the devices will refresh automatically.

**Please note:**

- 1) The IP range must fit the number of chosen devices.
- 2) The selected IP addresses in the specified range must be available.

For example, if the IP address of your computer is 192.168.1.4, then the IP address of the DVS should be changed to 192.168.1.x. (x stands for any number between 1 and 255).



The default password of the administrator is “**123456**”.



④ Double click on the IP address for the system will pop up IE browser and connect to the DVS. IE browser will auto download the Active X control. You must install it in order for the



DVS to work. After successful installation, a login window will appear as shown below. Input the username and password to log in.



The default username is “*admin*”; the default password is “*123456*”.

### 3.1.2 Direct Access through IE

The default network settings are as shown below:

IP address: **192.168.226.201**

Subnet Mask: **255.255.255.0**

Gateway: **192.168.226.1**

HTTP: **80**

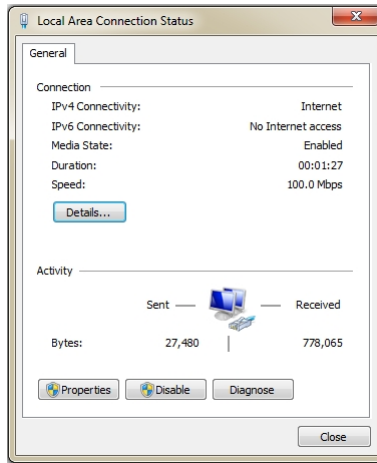
Data port: **9008**

You may use the above default settings when you log in the DVS for the first time.

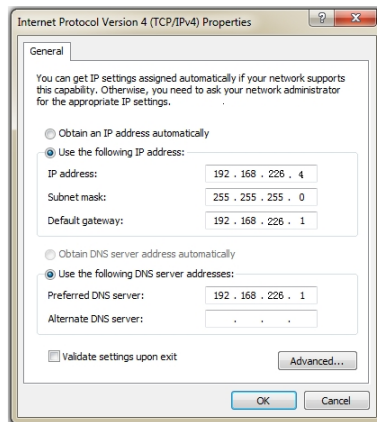
① You can use the IP manager to access the DVS even if the DVS is still using the default IP address. Double click on the IP address within the IP manager for the system to pop up IE browser and connect to the DVS. IE browser will auto download the Active X control. You must install it in order for the DVS to work. After successful installation, a login window will appear.

You can then set the IP address from the DVS configuration menu.

② If you wish to access the DVS using its default IP address you will have to manually set the IP address of the PC to be in the same IP segment as the default settings of the DVS. Open the network and sharing center. Click “Local Area Connection” to pop up the following window.



Select “Properties” and then select internet protocol according to the actual situation (most probably you are using IPv4). Next, click “Properties” button and set the network of the PC as shown below.



- ② Open the IE browser and input the default address of DVS and confirm. The IE browser will download Active X control automatically.
- ③ After downloading and installing the Active X control, the login dialog box will appear.
- ④ Input the default username and password and click “Login”.

## 3.2 WAN

**Allows you to access the DVS using a router or virtual server.**

- ① Make sure the DVS is well connected and configured via LAN. Log in the DVS via LAN

and go to the Config→Network Config→Port menu to set up the port number.

② Go to Config →Network Config→TCP/IP menu to modify the IP address.

③ After modifying the IP Address, click on “Port” and modify the port according to your needs.

Config Home > Network > TCP/IP

IPv4 IPv6 PPPoE Config IP Change Notification Config

Obtain an IP address automatically

Use the following IP address

IP Address

Subnet Mask

Gateway

Preferred DNS Server

Alternate DNS Server

Port Setup

Port Server DDNS SNMP 802.1X RTSP UPnP

HTTP Port

Data Port

RTSP Port

IP Setup

④ Go to the router’s management interface through IE browser to forward the IP address and port of the DVS to the “Virtual Server”. In the picture example below you will see an example of the setting as if the DVS IP address is “192.168.6.6” and the ports are default (9008 & 80)

Port Range						
Application	Start	End	Protocol	IP Address	Enable	
1	9008	9008	Both	192.168.6.6	<input checked="" type="checkbox"/>	<input type="button" value=""/>
2	80	81	Both	192.168.6.6	<input checked="" type="checkbox"/>	<input type="button" value=""/>
3	10000	10001	Both	192.168.6.166	<input type="checkbox"/>	<input type="button" value=""/>
4	21000	21001	Both	192.168.6.156	<input type="checkbox"/>	<input type="button" value=""/>
5	7777	7778	Both	192.168.6.206	<input type="checkbox"/>	<input type="button" value=""/>
6	1029	1030	Both	192.168.6.207	<input type="checkbox"/>	<input type="button" value=""/>

Router Setup

④ Open the IE browser and input your WAN IP and HTTP port to access the DVS.

## 4 Live Preview

### 4.1 The Live Preview Interface



### Icons and operation buttons:

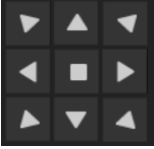










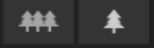





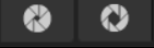


Icon	Description	Icon	Description
	Actual Size		Digital Zoom-in
	Fit to screen – True Proportions		Digital Zoom-Out
	Fit to screen - Stretch		PTZ Controls (Through RS-485 output)
	Full screen		Motion Detection indicator
	Enable/Disable live view		Alarm In Indicator
	Talk		Use mainstream for live-view
	Listen		Use sub-stream for live-view
	Take Snapshot		Use third stream for live-view
	Enable/Disable Local Recording		Choose the buffering plan

## 4.2 RS-485 (PTZ) Controls

Clicking on the PTZ extended button to unfold PTZ control panel. Using this interface will control the RS-485 Output of the DVS.

Please note: RS-485 output must be properly configured before being able to control any device.

The descriptions of the control panel are as follows:

Button	Description
	 to rotate the dome upwards;  to rotate the dome downwards;  to rotate the dome towards left;  to rotate the dome towards right;  to rotate the dome diagonally up-left;  to rotate the dome diagonally up-right;  to rotate the dome diagonally down-right;  to rotate the dome diagonally down-left;  to stop rotating the dome.
	Drag the scroll bar to adjust the rotating speed of the dome.
	Zoom button. Click  to zoom in the image; click  to zoom out the image.
	Focus button. Click  for far focus; Click  for near focus.
	Iris button. Click  reduce the iris size; click  to increase the iris size.

## 5 DVS Configuration

In this chapter, we will go through all the possible configurations of the DVS.

### 5.1 System Configuration

The “System Configuration” includes four submenus: Basic Information, Date & Time, Local Config and Storage.

#### 5.1.1 Basic Information

In the “Basic Information” interface, you can view all the necessary information related to the DVS, as seen below:

Config Home ▶ System ▶ Basic Information

Device Name	DVS
Device Type	DVS
Brand	Provision ISR
Software Version	4.1.3.0(14718)
Software Build Date	2018-01-03
Kernel Version	20170801
Hardware Version	1.3
Onvif Version	2.3
OCX Version	2.0.1.3
MAC	00:18:ae:00:2b:50

The following table will explain the available detail field.

<i>Parameter</i>	<i>Meaning</i>
Device name	Name of the device – can be modified from the OSD settings
Product Model	The model of the device
Brand	The brand of the DVS
Software version	The current software version
Software build date	The software build-date
Kernel version	The kernel version of the device
Hardware version	The hardware version of the device
ONVIF Version	The current ONVIF version
OCX Version	The current OCX version
Mac Address	The MAC address of device

## 5.1.2 Date & Time Configuration

Setting steps:

1. Go to Config→Date & Time menu as shown below.

Config Home ▶ System ▶ Date and Time

**Zone** Date and Time

Time Zone: GMT (Dublin, Lisbon, London, Reykjavik) ▼

DST

Auto DST

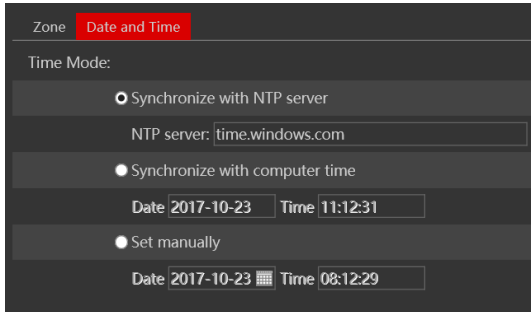
Manual DST

Start Time: January ▼ First ▼ Sunday ▼ 00 ▼ Hour

End Time: January ▼ First ▼ Sunday ▼ 00 ▼ Hour

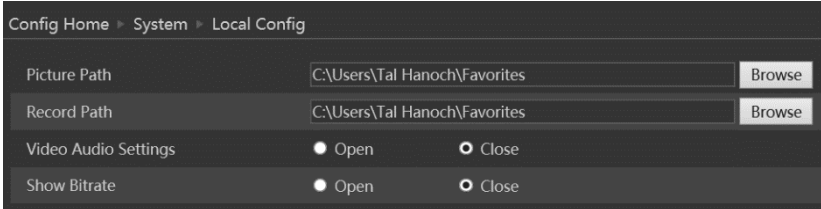
Time Offset: 30 Minutes ▼

2. Set the time zone.
3. Enable DST mode if required. DST settings are already configured according to your time zone. If you wish to set the DST manually, switch to “Manual DST” and set it accordingly.
4. To set the date and time, click on the “Date and Time” tab. You may synchronize the DVS time with an NTP server (Internet connection required), synchronize the DVS time with the time of the computer you are using or set the time manually.



### 5.1.3 Local Config

1. Got to “System Configuration” → “Local config” as shown below:



From here you can set the path on your computer where local snapshots and videos will be saved.

You can also choose if the DVS will show the current bit-rate on the live-view image (Local interface only).

### 5.1.4 Storage

The SD card feature allows you to insert an SD card into the DVS and enable the DVS to operate with a local storage. The SD card will be used for both snapshot and video files. You can allocate a certain percentage for each from the settings menu.

1. Go to “System Configuration” → “Storage” as shown below:

SD Card Record	
Capacity	29309 MB
Used Capacity	550 MB
Remaining Capacity	28759 MB
State	Normal
<input type="button" value="Eject"/> <input type="button" value="Format"/>	

If it is the first time you are using the SD card with the DVS or if the state is showing any value different than “Normal”, you should click on “Format” before the SD card will be available for recording.

Click “Eject card” to stop writing data to SD card and allow you to remove it safely. Inserting an SD card to the DVS must be done while the DVS is powered off.



**Note:** Using of SD card function should be coordinated with motion or sensor alarms.

The following table will explain the available detail field.

<i>Parameter</i>	<i>Meaning</i>
Capacity	The total capacity of the SD card
Used capacity	The capacity currently being used
Remaining Capacity	The available capacity
State	The state of the SD card.

The next tab is “Record”. Click on it to set the video recording parameters.

Config Home > System > Storage	
SD Card <b>Record</b>	
Record Stream	Main ▼
<input checked="" type="checkbox"/> Enable Pre Record	
Pre Record Time (second)	3 ▼
<input type="button" value="Save"/>	

The video parameters are as follows:

<i>Parameter</i>	<i>Meaning</i>
Record stream	Which video stream will be used for record
Pre-recording time	The duration of video prior to the recording trigger
Cycle recording	Whether to recycle record or stop when the SD card is full



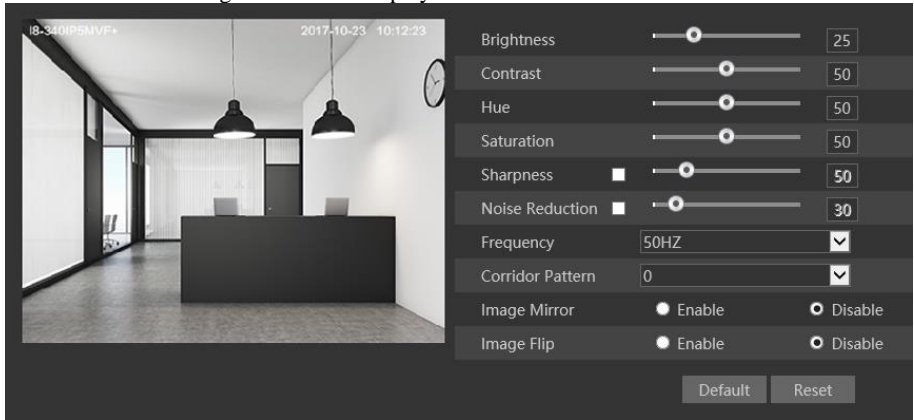
## 5.2 Video Configuration

DVS Configuration includes five submenus: Display Configuration, Video Stream, OSD Config, Video Mask and ROI Config.

### 5.2.1 DVS Configuration

Setting steps:

1. Go to “Video Configuration” → “Display” interface as shown below.

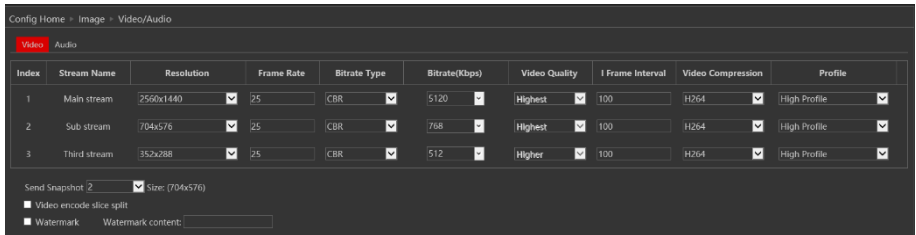


The display parameters are as follows:

<i>Parameter</i>	<i>Meaning</i>
Brightness	Set the image brightness
Contrast	Set the image contrast
Hue	Set the image hue
Saturation	Set the image saturation
Sharpness	Enable/Disable the sharpness and set its level
Noise reduction	Enable/Disable the 3D-DNR and set its level
Frequency	Set the frequency to 50/60Hz
Corridor Pattern	Rotate the image to fit corridors
Image Mirror	Mirror the image horizontally
Image Flip	Flip the image vertically

## 5.2.2 Video/Audio

Go to “Video configuration” → “Video/Audio” to see an interface as shown below.



Three video streams are available. You can set each one of them differently with the limitations of the DVS capability.

**Resolution:** The higher the resolution is, the bigger the image is.

**Frame rate:** The higher the frame rate is, the more fluent the video is. However, more storage room will be taken up.

**Bitrate type:** CBR and VBR are available. CBR (Constant Bit-Rate) means that no matter how what the video resources are, the compression bitrate will be constant as configured. This will not only facilitate the image quality better in a constant bitrate but also help to calculate the capacity of the recording. VBR (Variable Bit-Rate) means that the compression bitrate can be automatically adjusted according to the change of the video resources with the configured bitrate as the maximum value. This will help to optimize the storage network bandwidth.

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

**Bitrate:** Please set it according to your needs while taking in consideration the bandwidth and storage limits.

**I Frame interval:** It is recommended to use the default value. If the value is too high, the read speed picture group will be slow resulting in video quality loss.

**Video Compression:** Choose between H.265 and H.264. The DVS also support MJPEG on sub-stream resolution but you need to make sure that the application connected to the DVS also supports it.

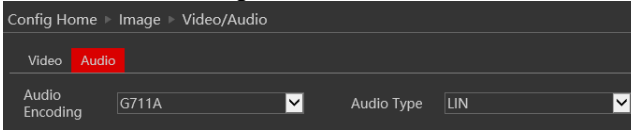
**Profile:** Baseline, main profile and high profile are optional. Baseline profile is mainly used in interactive applications with low complexity and delay. Main or high profile is mainly used for higher coding requirements.

**Send Snapshot:** Please select it according to the actual situation.

**Video encode slice split:** If enabled, you may get a more fluent image even when using a low-performance PC.

**Watermark:** You can set a watermark that will appear on the image.

In the next tab we have “Audio” settings as shown below:



Config Home > Image > Video/Audio

Video **Audio**

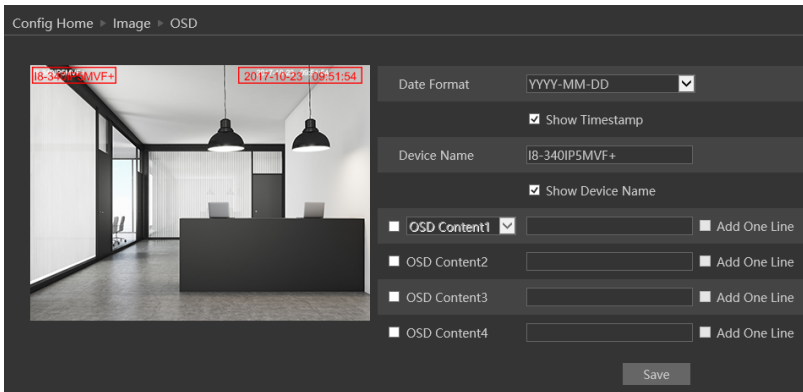
Audio Encoding  Audio Type

Set the encoding profile as desired and the type of audio input. If LIN (Line) is selected, it means that the audio input is already amplified and the input volume will be set to “low”. If MIC (Microphone) will be selected, it means that the audio signal is not amplified and the input volume will be set to “high”.

### 5.2.3 OSD Configuration

Go to “Video Config” → “OSD” menu to display the interface as shown below.

You may set the device name, time stamp and custom OSDs here. Drag the time stamp and custom OSD over the image on the left side to set their position. Then press the “Save” button to save the settings.



Config Home > Image > OSD

Date Format

Show Timestamp

Device Name

Show Device Name

OSD Content1   Add One Line

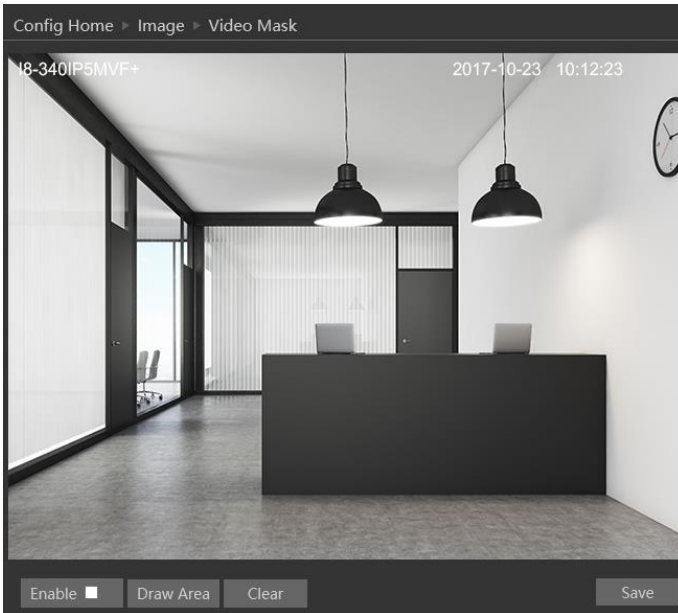
OSD Content2   Add One Line

OSD Content3   Add One Line

OSD Content4   Add One Line

## 5.2.4 Video Mask

You can set 4 mask areas at most.



### To set up video mask

1. Enable video mask.
2. Click “Draw” button and then drag the mouse to draw the video mask area.
3. Click “Save” button to save the settings.
4. Return to the live to see the following picture.

To clear the video mask:

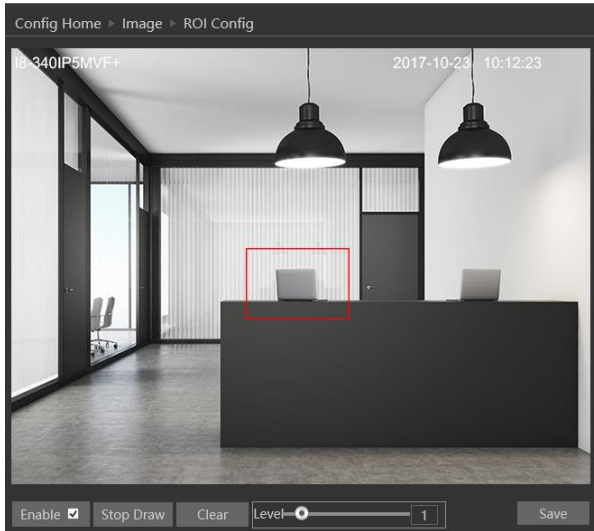
Go to video mask menu and then click “Clear” button to delete the current video mask area.

## 5.2.5 ROI Configuration

ROI is used to allocate higher bit-rate on a certain area of the image than other areas

### To set up ROI

1. Go to Config→ROI menu.



2. Check “Enable” and then click “Draw” button.
3. Drag the mouse to set the ROI area.
4. Set the level.
5. Click “Save” button to save the settings.

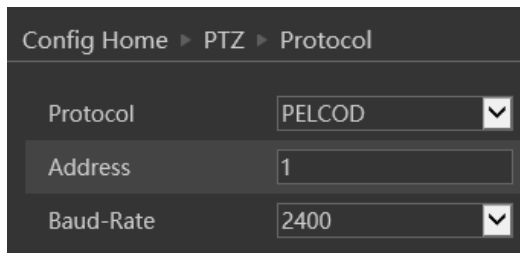
Now, you will see that the selected ROI area is clearer than other areas, especially in low bit-rate settings.

## 5.3 PTZ Configuration

PTZ Configuration relates to the RS-485 output of the DVS and includes three settings: Protocol, address and baud-rate.

### 5.3.1 Protocol

1. Go to “PTZ Configuration” → “Protocol” interface as shown below:



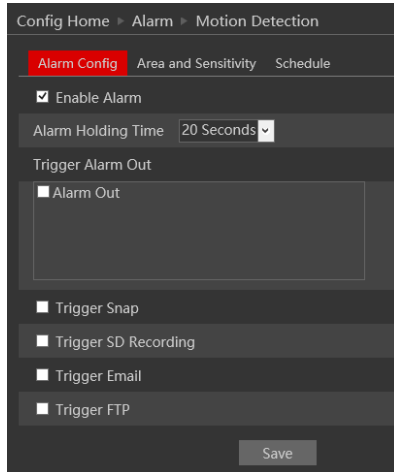
2. Input the protocol, address and baud rate according to the speed dome.

## 5.4 Alarm Configuration

Alarm configuration includes four submenus: Motion Detection, Alarm in and Alarm Out.

### 5.4.1 Motion Detection

Go to “Alarm configuration”→ “Motion Detection” to see an interface as below.

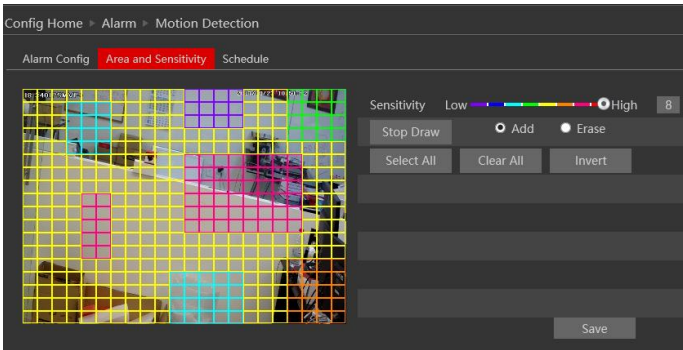


The first tab is the “Alarm Config”. Enable or disable the alarm and set the alarm holding time. The holding time means that the alarm signal will stay active and no additional alarms will be generated during that time.

Choose the DVS’s response to the alarm:

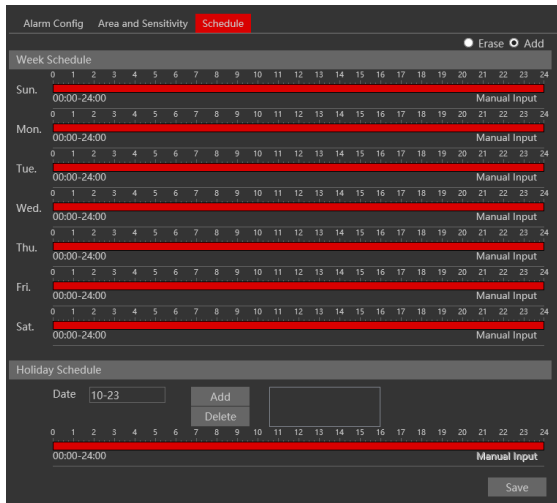
<i>Alarm Triggers:</i>	
Alarm Out	triggers the alarm out relay
Trigger Snap	takes a snapshot (SD card must be available)
Trigger SD Recording	Initiates video recording over the SD card (SD card must be available)
Trigger Email	sends an email as configured in the Email section.
Trigger FTP	send a snapshot as configured in the FTP section

Next is the “Area and Sensitivity” Tab. Move the “Sensitivity” scroll bar to set up the motion sensitivity and click on “draw” to enable the marking on the image. Note that you can set different sensitivities to a different area of the picture as shown below. Once finished, click on “Stop Draw”.



4. Click “Save” to save the settings.

Last is the “Schedule” tab:



Set the active alarm time for each of the weekdays. You can also set a holiday schedule and add required dates to it.

## 5.4.2 Alarm Input

Enter “Alarm”→ “Alarm Input” to see a screen as shown below:

Config Home > Alarm > Alarm In

**Alarm Config** Schedule

Enable Alarm

Alarm Type  ▼

Alarm Holding Time  ▼

Sensor Name  x

Trigger Alarm Out

Alarm Out

Trigger Snap

Trigger SD Recording

Trigger Email

Trigger FTP

Save

2. Enable the alarm to activate it and see the configuration parameters:

<i>Parameter</i>	<i>Meaning</i>
Alarm Type	You can set it to “NO” (Normally open) which means that the once the line is closed the alarm will be active, or “NC” (Normally Closed”) which means that once the line is open the alarm will be active.
Alarm Holding Time	The holding time means that the alarm signal will stay active and no additional alarms will be generated during that time.
Sensor Name	You can set a unique name for easy identification.
<i>Alarm Triggers:</i>	
Alarm Out	triggers the alarm out relay
Trigger Snap	takes a snapshot (SD card must be available)
Trigger Email	sends an email as configured in the Email section.
Trigger FTP	send a snapshot as configured in the FTP section

3. After the setting is complete, click “Save”.

4. Next, you will need to set the alarm schedule. Click on the “Schedule” tab to get the following interface:



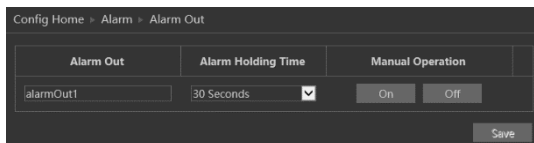


5. Set the active alarm time for each of the weekdays. You can also set a holiday schedule and add required dates to it. The holiday schedule overtakes the normal schedule.

### 5.4.3 Alarm Output

The Alarm output is actually a relay that can operate many types of devices such as gates, doors, strobe light, and sirens. The alarm out always works in a “NO” mode (Normally open) which means that the relay is open in a normal state and closed in an armed state.

1. Go to “Alarm”→ “Alarm Output” to get to the interface as shown below:



2. Alarm out has 4 modes as described below:

- A. Alarm Linkage (Shown Above): This mode will set the alarm out to be triggered as a response to any of the available alarms (Motion, Alarm in, Analytics). If this mode is chosen you will need to set it properly.

<i>Parameter</i>	<i>Meaning</i>
Alarm Out Name	You can set a unique name for easy identification.
Alarm Holding Time	The holding time means that the alarm signal will stay active and no additional alarms will be generated during that time.
Manual Operation	This mode will enable you to manually operate the relay.

3. Press the “Save” button to save the settings.

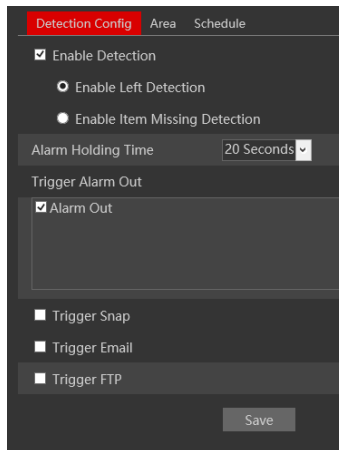
## 5.5 Basic Analytics

This version offers special video analytics that was designed to detect special scenarios and events. Video analytics detection is based on VMD (Video Motion Detection). v4.2 offers a variety of Analytics: Object Monitoring, Line Crossing, Sterile Area and Camera Tampering. Note that some features might not be available in specific models. For confirmation please refer to the DVS's technical specs.

### 5.5.1 Object Monitoring

Object Monitoring Analytics can work in one of two methods: Missing Item and Left Item. Missing item will detect if the marked item was moved or taken while left item will detect if an item was left behind in a defined area.

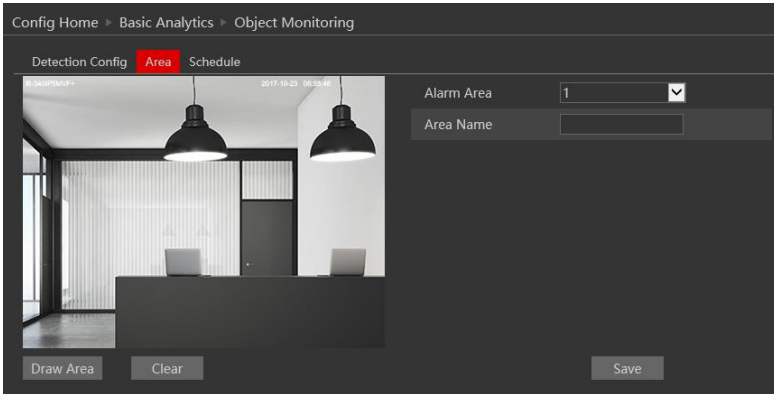
1. Go to “Basic Analytics”→ “Object Monitoring” to get to the interface as shown below:



2. Enable Alarm if required.
3. Choose if you wish for the object monitoring to work as “Missing Object” or “Left Object”
4. Set the Alarm response as follows and click “Save” to confirm:

<i>Alarm Triggers:</i>	
Alarm Out	triggers the alarm out relay
Trigger Snap	takes a snapshot (SD card must be available)
Trigger Email	sends an email as configured in the Email section.
Trigger FTP	send a snapshot as configured in the FTP section

5. Now you will have to set the detection area. Click on the “Area” tab to get to the interface shown below.



6. Click on “Draw Area”.

7. If you set the detection to “Missing Object” you will have to draw the area around the object. Notice that the area should be large enough for the Camera to see clearly and detect changes efficiently.

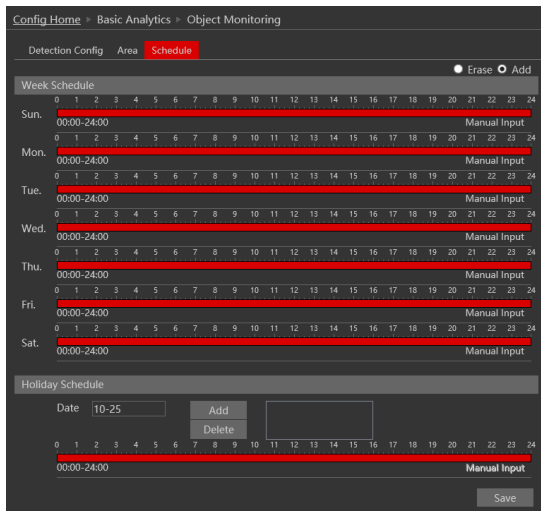
If you chose “Left object” you will need to draw an area for detection where left objects will trigger an alarm.

8. Set the area name.

9. Click “Save” to confirm the settings.

10. You can set up to 4 objects/areas. If you wish to set additional detection areas/objects, change the Alarm number and repeat stages 6-9.

11. Next, you will need to set the schedule. Click on the “Schedule” tab to get the following interface:



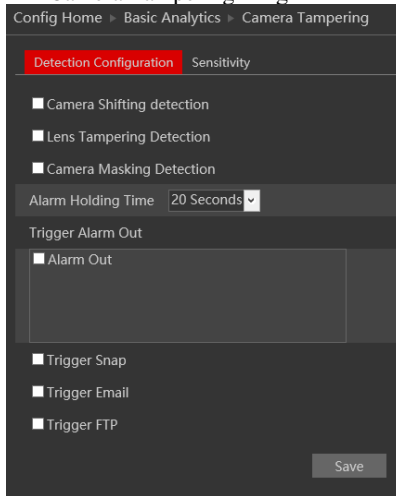
12. Set the active alarm time for each of the weekdays. You can also set a holiday schedule

and add required dates to it. The holiday schedule overtakes the normal schedule.

## 5.5.2 Camera Tampering

Camera tapering uses special analytics algorithm to detect if the Camera was tampered with. This includes: Camera shifting – detects if the Camera was shifted from its original location. Lens Tampering – detects if the lens was tampering resulting with a blurry image. Masking detection – detects if the Camera view was covered or blocked by any means.

1. Go to “Basic Analytics”→ “Camera Tampering” to get to the interface as shown below:



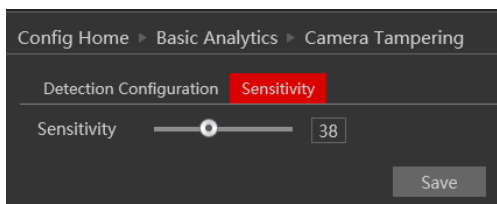
2. Enable the required detection analytics out of Camera Shifting/Lens Tampering/Masking detection.

3. Set the Alarm response as follows:

<i>Alarm Triggers:</i>	
Alarm Out	triggers the alarm out relay
Trigger Snap	takes a snapshot (SD card must be available)
Trigger Email	sends an email as configured in the Email section.
Trigger FTP	send a snapshot as configured in the FTP section

4. Click “Save” to confirm.

5. Go to the sensitivity tab:

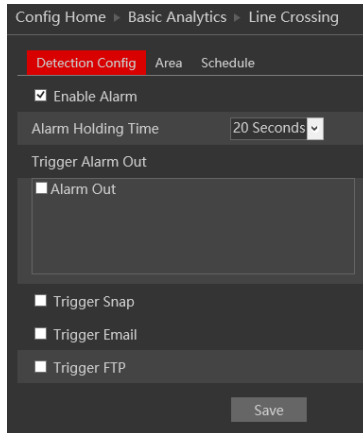


6. Set the sensitivity (0 – lowest, 100 – Highest)
7. Click “Save” to confirm.

### 5.5.3 Line Crossing

Line Crossing Analytics will detect if an object crossed a defined line. The crossing direction can be adjusted.

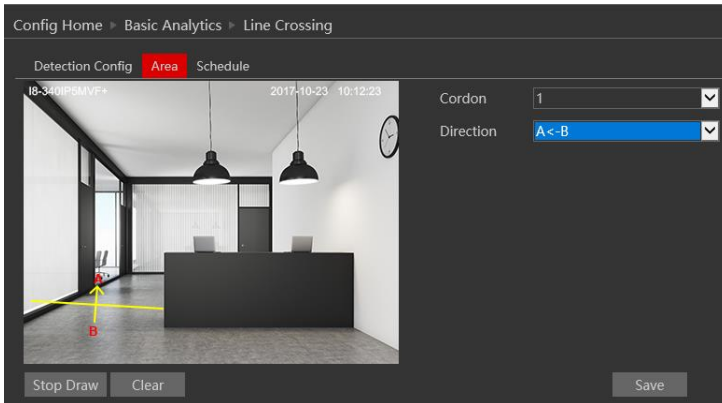
1. Go to “Basic Analytics”→ “Line Crossing” to get to the interface as shown below:



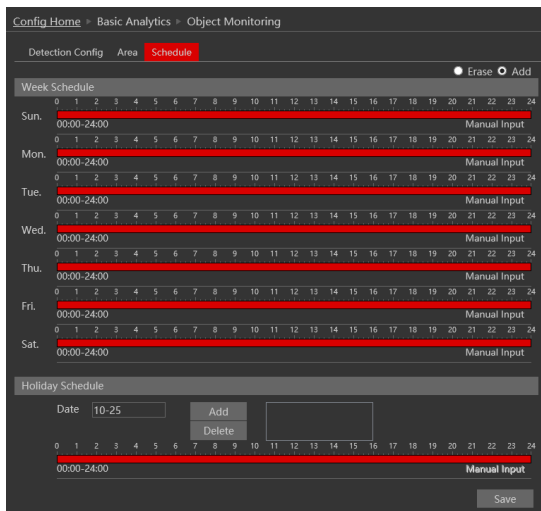
2. Enable Alarm if required.
4. Set the Alarm response as follows and click “Save” to confirm:

<i>Alarm Triggers:</i>	
Alarm Out	triggers the alarm out relay
Trigger Snap	takes a snapshot (SD card must be available)
Trigger Email	sends an email as configured in the Email section.
Trigger FTP	send a snapshot as configured in the FTP section

5. Now you will have to set the detection are (lines). Click on the “Area” tab to get to the interface shown below.



6. Click on “Draw Area”.
7. Draw the line. The length of the line should be as long as possible to increase the detection efficiency.
8. Set the crossing direction. The “A” and “B” sides will reflect on the image on the left. The available options are.  $A \rightarrow B$  – Crossing from A side to B side,  $B \rightarrow A$  - Crossing from B side to A side,  $A <-> B$  – Crossing from any side to any side.
9. Click “Save” to confirm the settings.
10. You can set up to 4 lines. If you wish to set additional lines, change the cordon number and repeat stages 6-9.
11. Next, you will need to set the schedule. Click on the “Schedule” tab to get the following interface:

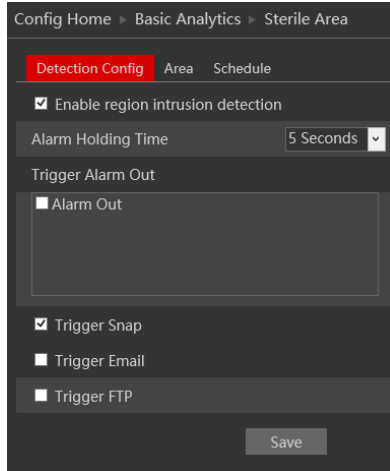


12. Set the active alarm time for each of the weekdays. You can also set a holiday schedule and add required dates to it. The holiday schedule overtakes the normal schedule.

### 5.5.4 Sterile Area

Sterile Area Analytics will detect if any object entered the defined area.

1. Go to “Basic Analytics”→ “Sterile Area” to get to the interface as shown below:

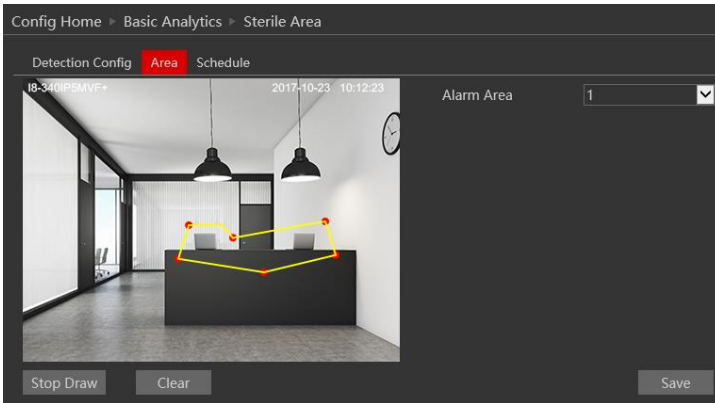


2. Enable Alarm if required.

3. Set the Alarm response as follows and click “Save” to confirm:

<i>Alarm Triggers:</i>	
Alarm Out	triggers the alarm out relay
Trigger Snap	takes a snapshot (SD card must be available)
Trigger Email	sends an email as configured in the Email section.
Trigger FTP	send a snapshot as configured in the FTP section

5. Now you will have to set the detection area. Click on the “Area” tab to get to the interface shown below.



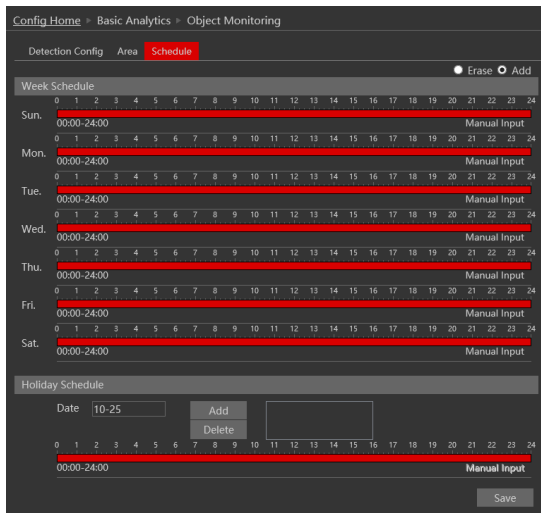
6. Click on “Draw Area”.

7. Draw the area. Drawing the area is done by clicking on the corners of the area you wish to monitor. The maximum points for the polygon are 6. Once you marked the 6<sup>th</sup> corner, the DVS will automatically connect it with the 1<sup>st</sup> point and close the area.

8. Click “Save” to confirm the settings.

9. You can set up to 4 areas. If you wish to set additional areas, change the alarm area number and repeat stages 6-8.

10. Next, you will need to set the schedule. Click on the “Schedule” tab to get the following interface:



11. Set the active alarm time for each of the weekdays. You can also set a holiday schedule and add required dates to it. The holiday schedule overtakes the normal schedule.



### 5.5.5 Analytics and Live Display.

Once enabled, the Analytics will appear on the DVS's live interface. It will not appear on any other device connected to the DVS such as NVR or CMS.

## 5.6 Network Configuration

Network configuration includes eight submenus: Port, IP Address, Server Configuration, IP Notify, DDNS Config, RTSP, UPnP, Mail Setting, and FTP.

### 5.6.1 TCP/IP

Go to “Network”→ “TCP IP” tab to see the interface shown below. The first and default tab is IPv4 Protocol. There are two options for IP setup: obtain an IP address automatically by DHCP or a defined IP address. You may choose one of the options as required.

**Automatic IP Assignment:** Use “Obtain an IP address automatically” for the DVS to communicate with an available DHCP server that will assign the DVS with an IP address automatically.

**Please note:**

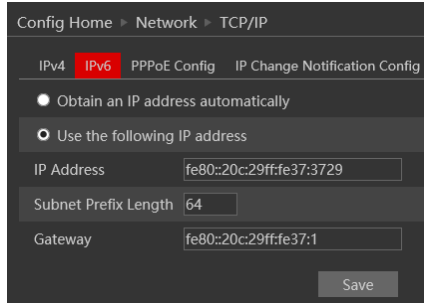
- 1) In order for the DHCP mode to work, you must have a DHCP server on the LAN.
- 2) Using DHCP for permanent installations is not advisable as the IP Address might change after a while and cause the DVS to be unreachable.

**Manual IP Assignment:** If you wish to set static IP addresses, choose “Use the following IP Address”, set the range of IP addresses you wish to assign (First and last address), set the gateway and subnet mask and click on batch set. Wait for a few moments until the IP manager will configure the DVS. After configuration, the IP addresses of the DVS will refresh automatically.

**Please note:**

- 1) The selected IP address must be available.

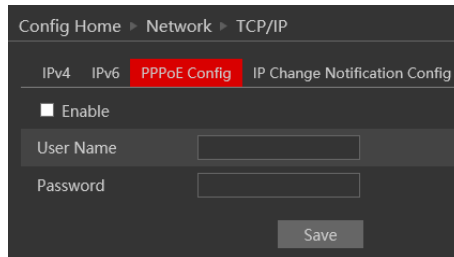
The next tab is IPv6:



The screenshot shows the 'Config Home > Network > TCP/IP' interface. The 'IPv6' tab is selected and highlighted in red. Below the tabs, there are two radio button options: 'Obtain an IP address automatically' (which is selected) and 'Use the following IP address'. Under the second option, there are three input fields: 'IP Address' with the value 'fe80::20c:29ff:fe37:3729', 'Subnet Prefix Length' with the value '64', and 'Gateway' with the value 'fe80::20c:29ff:fe37:1'. A 'Save' button is located at the bottom right of the form.

If you need to use IPv6, configure it in the same method as described for IPv4.

The next tab is PPPoE:



The screenshot shows the 'Config Home > Network > TCP/IP' interface. The 'PPPoE Config' tab is selected and highlighted in red. Below the tabs, there is a checkbox labeled 'Enable' which is currently unchecked. There are two input fields: 'User Name' and 'Password'. A 'Save' button is located at the bottom right of the form.

For PPPoE, the user is required to manually input the username and password for dial-up internet. After saving the username/password information set up IP address change notification. Last, connect with Modem and the device will dial-up internet automatically.

Press the “Save” button to save the settings.

The next tab is “IP Change Notification Config”: If you have used DHCP and you need to be notified that the IP Address assigned to the DVS was changed, enable it and set Email or FTP for the notification process.

## 5.6.2 Port

1. Go to “Network”→ “Port” to see the interface as shown below.

Config Home > Network > Advanced

Port Server DDNS SNMP 802.1X RTSP UPnP Email FTP QoS

HTTP Port

Data Port

RTSP Port

2. Input port number for IE access in the “HTTP Port” textbox.
3. Input the port number for audio & video transmission in the “Data Port” textbox.
4. Set the RTSP port for video/audio transmission over RTSP

### 5.6.3 Server Configuration

Go to “Network”→ “Server”.

Config Home > Network > Advanced

Port **Server** DDNS SNMP 802.1X RTSP UPnP Email FTP QoS

Enable

Server Port

Server Address

Device ID

This section refers to “Auto Report Server”. Enable it if required.

Auto report server will make the DVS to report back to the defined server using the port 2009. Set the port (default port is 2009. It is advisable not to change it.) Set the server address (usually it is the CMS address which needs to be a static address). Set a unique device ID. Each of the devices using auto server report should have its own ID.

The DVS will report back to the defined server its current IP using port 2009.

### 5.6.4 DDNS Configuration

1. Enter into "Network"→"DDNS" tab as below:

Config Home > Network > Advanced

Port Server **DDNS** SNMP 802.1X RTSP UPnP Email FTP QoS

Enable

Server Type

Server Address

User Name

Password

Domain

The default choice is Mint-Server which is Provision-ISR's free Domain name Registration (<http://www.provision-isr-dns.com>)

Note: DDNS is used to register for a hostname with DDNS username and password.

**Provision ISR** now allows you to use our mint DDNS server in order to create a virtual address for your security device on the internet. Each account is limited to 35 different addresses using your preferred domain name address instead of using IP addresses. Follow the steps below to register your device's name and to configure your DVR to use Provision ISR's Mint DDNS server.

**(a) To register a domain with Provision-ISR DDNS server follow these steps:**

- 1) Visit our website:  
<http://provision-isr-dns.com>  
and register for a domain name  
by clicking "**Registration**"



- 2) Fill in the registration form, then click  
"**Submit**"

- 3) Fill in the hostname you want to apply for  
and press "**Request Domain**" (for example  
"home")

- 4) If there is no  
problem with the domain registration you will see the following message: "**Your  
domain was successfully created.**"

If you do not see this message, the domain name you requested is already in use and you will be requested to provide an alternate domain name (please note: the *domain name* is sometimes called *hostname*).

You can create up to 35 domain records under a single account

- 5) The domain name is added at the beginning of your DVR address, for example, the domain "home" will appear at **home.provision-isr-dns.com**.



Press the "Save" button to save the settings.

## 5.6.5 SNMP

Simple Network Management Protocol (SNMP) is a popular protocol for network management. It is used for collecting information from and configuring, network devices, such as servers, printers, hubs, switches, and routers on an Internet Protocol (IP) network. In order to Enable and work with SNMP, you need that the switch or another server on the network will support this protocol as well. Though our DVS fully supports SNMP will not explain how to configure it on this manual.

## 5.6.6 RTSP

RTSP is used to stream video/audio using the shared protocol. v4.2 is also supporting RTSP using Multicast protocol.

Go to "Network" → "RTSP" interface as shown below.

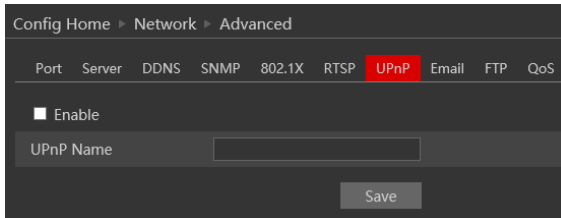
Config Home > Network > Advanced

Port	Server	DDNS	SNMP	RTSP	UPnP	Email	FTP
<input checked="" type="checkbox"/> Enable							
Port	554						
RTSP Address	rtsp://IP or domain name:port/profile1						
	rtsp://IP or domain name:port/profile2						
	rtsp://IP or domain name:port/profile3						
<input type="checkbox"/> Allow anonymous login (No username or password required)							
<input type="button" value="Save"/>							

1. Enable the RTSP if required.
2. RTSP Port: Access Port of the streaming media. The default port is 554.
3. RTSP Address: each of the streams have a unique RTSP address. Input the desired address into your RTSP player.  
Notice that the DVS also support multicast addresses that can be used as well for supporting players.
4. Enabling “Allow anonymous login” will authorize RTSP connection without the need for username/password.
5. Click “Save” to confirm and save settings.

### 5.6.7 UPnP

Go to “Network”→ “UPnP” interface as shown below.  
Select “Enable UPnP” and then input friendly name.



Then double-click “Network” icon on the desktop of the PC to see an icon with the name and IP address of the DVS. You may quickly access the device by double-clicking this icon.

## 5.6.8 Email Setting

Go to “Network” → “Email” interface.

Config Home > Network > Advanced

Port Server DDNS SNMP 802.1X RTSP UPnP **Email** FTP QoS

**Sender**

Sender Address

User Name

Password

Server Address

Secure Connection Unnecessary

SMTP Port 25

Send Interval(S) 0 (0-3600)

**Recipient**

Recipient Address

The input fields are as follows:

<i>Field</i>	<i>Meaning</i>
Sender Address	Sender's e-mail address
User Name	The username of the Email account
Password	The password of the Email account
Server Address	The SMTP/Outgoing Email server address
Secure Connection	Choose between Unnecessary/SSL/TLS
SMTP Port	The SMTP port. The default port will be used according to the secure connection choice but can be edited manually if required.
Send Intervals	The minimum time duration between 2 Email that will be sent by the system.
Recipient Address	The email addresses that Emails generated by the system will be sent to.

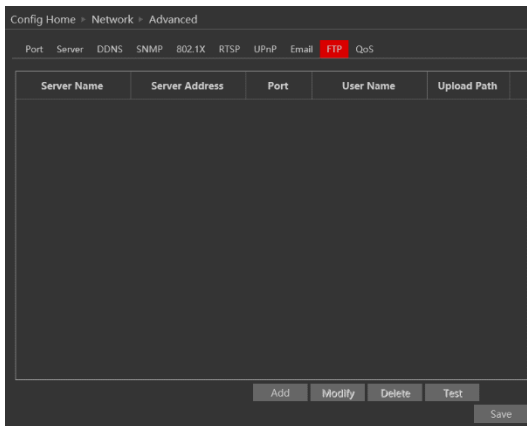
After all parameters are properly set up, you can click “Test” to confirm that the system can connect to the email server with the provided details. If an email sent successful, a “Test Successful” window will pop up, if not, you should try other email addresses or check and correct the settings.

In order to input new mail recipient, input the recipient address and click on “Add”. The new address will be added to the recipient list box.

**Notice:** If you change the static IP into PPPoE and select mailbox, there will be an e-mail sent to your mailbox for notifying a new IP address.

## 5.6.9 FTP

Go to “Network” → “FTP” interface as shown below.



To add a new FTP server click on “Add” and input the FTP server’s server name, address, port number, username, password, and upload path, click OK to confirm the setting.



Click on “Modify” to edit the information of the FTP server

Click on “Delete” to delete the FTP server

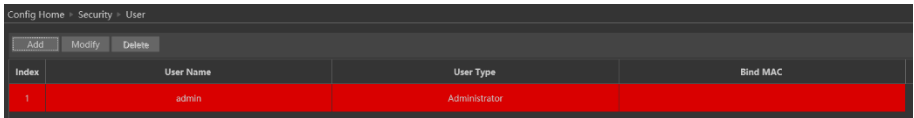
Click on “Test” to confirm the setting and availability of the FTP server.

## 5.7 Security

Security configuration includes three submenus: User Settings, Online Users, and Block & Allow lists.

### 5.7.1 User

Go to “Network” → “User” to access the following interface.



Index	User Name	User Type	Bind MAC
1	admin	Administrator	

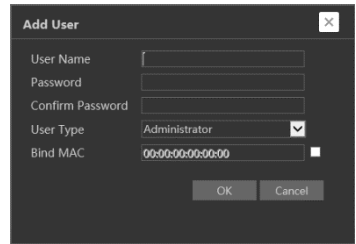
#### Adding a user:

Click on the “Add” button to pop up the “Add user” dialog box.

Input the username, password and confirm the password.

Set the user type. 3 user types are available:

- Administrator – Can perform all action and settings on the DVS.
- Advanced user – Can view and configure the DVS excluding the “User Access” section.
- Normal User – Can only view the live image and cannot configure.



At this stage, you can also bind a MAC address for the user. This means that this user will only be able to connect from a single pre-defined device and his access will be denied if he will try to connect from any other device.

Click on “OK” and “Save”

#### Modify user:

Select the user you wish to modify and click on the “Modify” button. A modification window will pop up as shown below.

You can change the username if required. If you wish to edit the password of the user, tick “modify password” and input the old password, new password, and confirmation of the new password.

You can also bind a MAC address for the user as explained in the “Add user” section. Click “OK” to save.

#### Delete user:

Select the user you wish to delete and click on the “Delete” button. A confirmation prompt will pop up. Click “Ok” to confirm.

**Note:** The default user “admin” cannot be deleted.

## 5.7.2 Online Users

“Online users” section will allow you to view users who are currently connected to the DVS. Administrator level users can also kick out other users who are currently connected to the DVS. Go to “Network” → “Online Users” to access the following interface.

Index	Client Address	Port	User Name	User Type	
1	192.168.2.105	62661	admin	Administrator	<a href="#">Kick Out</a>
2	192.168.2.100	5325	admin	Administrator	<a href="#">Kick Out</a>

You can view the IP address, port, username and user type used for the connection.

The “Kick Out” button will kick out the selected user and input his IP address to the blacklist. Click on it for the relevant user and confirm the prompt message.

**Important Note:** once the user is kicked out, the IP address used for connection will be

blacklisted. Therefore, the device used for connection will not be able to connect to the DVS until the IP address will be manually removed from the blacklist.

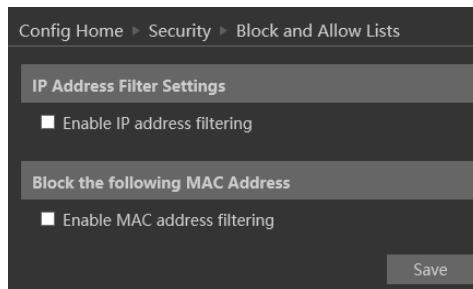
### 5.7.3 Block and Allow Lists

“Block and Allow” lists allow the user to create lists of IP/MAC addresses that will be allowed or denied for connection.

Once a “Block” list is created, all devices except the blocked devices will be allowed to connect to the DVS.

Once an “Allow” list is created, all devices except the allowed devices will be blocked from connecting to the DVS.

Go to “Network” → “Block and Allow Lists” to access the following interface.



The lists can be based on IP Only / MAC only / Both IP and MAC together.

Enable the filtering you wish to activate. For the demonstration, we will enable both IP and MAC filtering, so the instructions below are true for both.

- 1) Choose the type of list you wish to create (block or allow)
- 2) Input the IP/MAC address you wish to add to the list
- 3) Click on add.
- 4) If you wish to add more than one address, repeat stages 1-3
- 5) Once finished, click “Save” to confirm, save the settings and enable the lists.

Config Home > Security > Block and Allow Lists

### IP Address Filter Settings

Enable IP address filtering

Block the following IP address  Allow the following IP address

IPv4  IPv6

---

### Block the following MAC Address

Enable MAC address filtering

Block the following MAC address  Allow the following MAC address

## 5.8 Maintenance

Maintenance includes 4 submenus: Backup & Restore, Reboot, Upgrade and Operation log.

### 5.8.1 Configure Backup & Restore

Backup and restore are used to save the DVS's configuration on a PC and use it in case the DVS's configuration was changed or when you wish to change the configuration of several DVSs to be uniformed. This section also allows you to restore the DVS's setting to factory default with some exceptions.

Go to “Maintenance”→”Backup and Restore”.

Config Home > Maintenance > Backup and Restore

### Import Setting

Path

---

### Export Settings

---

### Default Settings

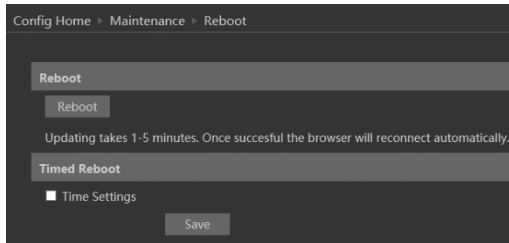
- **Importing Settings:** If you have a configuration file and you wish to import it to the DVS, click on “browse” and choose the relevant config file.

After choosing the file click on “Import settings” and wait for the process to finish.

- Exporting settings: If you wish to export the configuration settings of the DVS click on “Export”. Choose the location on your PC and set the file name. Click on “OK” to save the file on the desired location.
- Loading factory default: If from any reason you wish to restore your DVS settings to factory default, you can use the “Load Default” button.

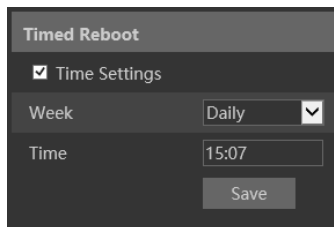
## 5.8.2 Reboot Device

Go to “Maintenance”→”Reboot” to see the interface as shown below.



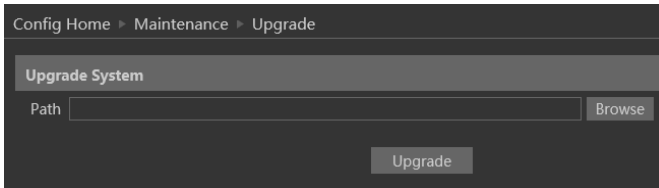
In order to reboot the DVS click on the reboot “Reboot” button and confirm the pop up prompt message, then wait for the reboot process to finish.

You can also set a scheduled reboot. Tick the “Time Settings” and set the time period and time for the reboot. You can choose a day of the week when the reboot will automatically take place or you can set it to happen on a daily basis. The reboot will occur on the specified day and time.



## 5.8.3 Upgrade

Go to “Maintenance”→”Update” to open the interface as shown below.



1. Click “Browse” button to select the upgrade file.
2. Click “Upgrade” button to start the upgrading process of the DVS.
3. The device will restart automatically once completed.
4. Depending on the update release note, the DVS configuration might reset.

### Notice:

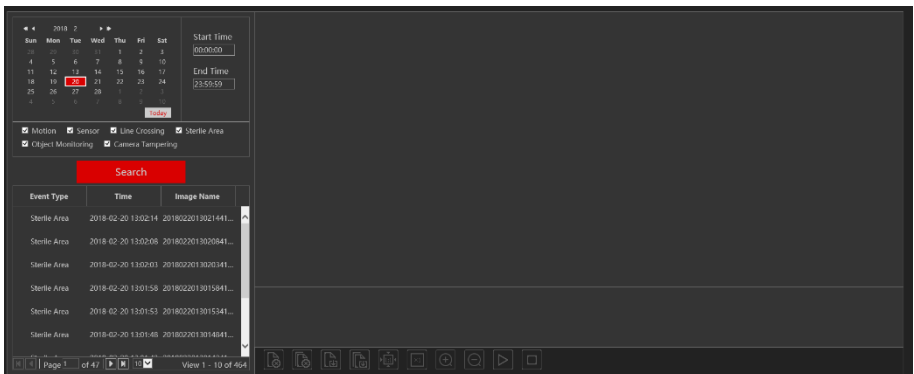
- 1) You must not disconnect to PC or close the DVS during the upgrade process to prevent permanent damage to the DVS.
- 2) The DVS update file is **\*\*\*.TAR**. the “TAR” file should not be extracted.


## 5.9 Playback

Playing back videos taken by the DVS have 2 options:

- A. Video files/Images saved locally on the PC (If any were taken)
- B. Video files/Images saved on the DVS SD card (If available)

To access the playback interface, click on the “Search” Main tab. The interface below will appear.



- 1) First, you will have to choose which type of media you wish to search. On the left top corner choose from Photo and Video 
- 2) Choose the location of the stored media. You can either choose “Local” – which is your PC or you can choose “SD Card” which is the DVS’s SD Card.
- 3) If you chose the SD card as the search source you can also define the alarm trigger as follows:

Motion  
  Sensor  
  Line Crossing  
  Sterile Area  
 Object Monitoring  
  Camera Tampering

- 4) Set the search range. You can choose a single day and set a time range of up to 24 hours. (full day). Once finished click on “Search” to show the results.

The screenshot shows a search interface with a calendar for February 2018. The date '20' is selected. To the right, the 'Start Time' is set to '00:00:00' and the 'End Time' is set to '23:59:59'. Below the calendar are the same filter checkboxes as above. A red 'Search' button is prominent. Below the button is a table of search results:












Event Type	Time	Image Name
Sterile Area	2018-02-20 12:15:00	2018022012150076...
Sterile Area	2018-02-20 12:14:55	2018022012145576...
Sterile Area	2018-02-20 12:14:50	2018022012145076...
Sterile Area	2018-02-20 12:14:45	2018022012144576...
Sterile Area	2018-02-20 12:14:40	2018022012144076...
Sterile Area	2018-02-20 12:14:35	2018022012143576...

- 5) Double click on the image/video from the list for it to show on the main playback window and it to the playback queue.












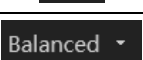


The playback controls are described below. Notice that it is different for Videos and Photos

- For Photos

Icon	Description	Icon	Description
	Close the displayed image		Digital Zoom In
	Close the displayed image and delete the queue list		Digital Zoom out
	Download the displayed image to your PC (SD Card search only)		Play a slideshow of the queued images
	Download the displayed image and queue list to your PC (SD Card search only)		Stop the slideshow
	Fit the image to the screen		Dwell time between images
	Display the image in real-size		

- For Videos

Icon	Description	Icon	Description
	Play		Play next file
	Pause playback		Enable/Disable Watermark
	Stop Playback		Download the selected file (SD Card only)
	Reduce playback speed		Enable/Disable Audio + Volume control
	Increase playback speed		Full-screen mode
	Play previous file		Buffering mode selection



## 5 Mobile Surveillance

This DVS supports mobile surveillance from internet browsers and iOS/Android mobile phones using Provision-ISR's application "Provision Cam2"

### 5.1 Network Configuration

- **Access the device via LAN**

**Step 1:** Connect device via wireless router. Then checkmark DHCP both in router and device to automatically acquire IP address or enter the IP address manually.

**Step 2:** Use WIFI function in your mobile phone to connect the wireless router.

**Note:** Make sure your phone network and device network are in the same network segment on LAN.

**Step 3:** Add the IP address and port in the mobile phone surveillance client.

- **Access the device via 3G network**

**Step 1:** Set the device network. Please enter Main Menu→Setup→Network tab.

▶ If you use PPPoE to connect the device, please enable PPPoE and input username and password received from your ISP in network tab. Then click "Apply". You can enter Main Menu→Information→Network tab to see the IP address. If you want to utilize dynamic domain name, please apply for a domain name in a DNS server supported by the device.

▶ If you have a static WAN IP address, please enter Main Menu→Setup→Network tab to input your IP address, gateway, and port.

▶ If you use LAN IP address, please enter Main Menu→Setup→Network tab to input your IP address, gateway and port and then forward IP address and port number in virtual server setup of the router or virtual server(If you have enabled the UPnP function in both the device and router, you can skip this step). Port forwarding setting may be different in different routers and servers. Please refer to the router's manual for details. After you forward your LAN IP address and port, please check the WAN IP address of the router or server.

**Step 2:** Add the WAN IP address or domain name in mobile phone surveillance client.

## 6 Q & A

### 1. Q: How to find my password if I forget it?

A: The default username is “admin” and the default password is “123456”.

If you have changed the password and you can't remember it, use the IP Manager to reset the DVS to factory default.

Default IP: 192.168.226.201

User name: admin

Password: 123456

### 2. Q: The DVS fails to connect devices through IE browser, why?

A: Network cable is not connected well. Please check the connection and make sure it is connected securely to the DVS.

B: IP was not assigned to an IP.

C: Web port number has been revised: contact an administrator or use the IP manager to get the correct port number.

D: If none of the above worked, recover the DVS's default setting using the IP Manager to reset the DVS to factory default.

Note: Default IP: 192.168.226.201 , mask number: 255.255.255.0

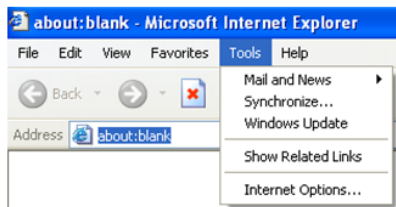
### 3. Q: IP tool cannot search for devices, why?

A: It may be caused by the anti-virus/firewall software in your computer. Please disable it and try to search device again.

### 4. Q: IE cannot download ActiveX control. How can I do?

a. Your IE browser probably set to block ActiveX controls. Please perform the following steps:

① Open IE browser. Click Tools-----Internet Options....



② Select Security-----Custom Level....Refer to Fig 4-1

③ Enable all the sub-options under “ActiveX controls and plug-ins”. Refer to Fig 4-2

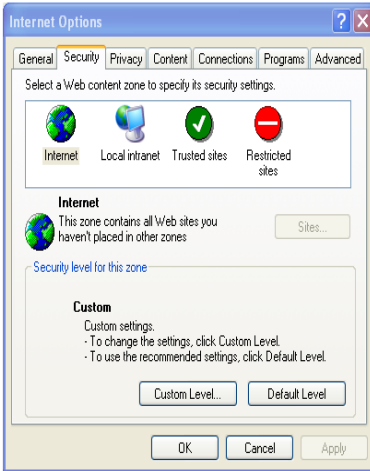


Fig 4-1

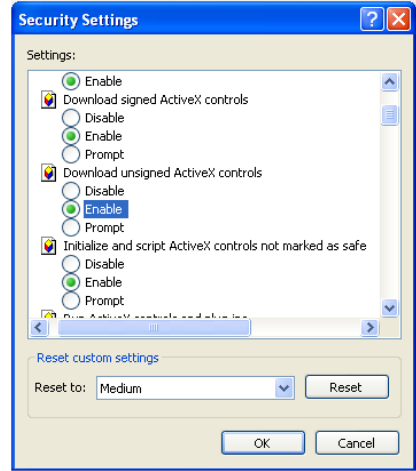


Fig 4-2

④ Click ok to finish setup.

b. Other plug-ins or anti-virus blocks ActiveX. Please uninstall or close them.

#### 5. Q: No sound can be heard, why?

A: Audio input device was not connected. Please connect and try again.

B: Audio was not enabled in the live view interface. Please check the AUDIO item to enable this function.