Firmware User's Manual

A1D-311-V5.01.07-AC

2011/6/15

ACTi
Connecting Vision

Table of Contents

1. Recommended PC Specification

CPU	Core2Duo 2.13GHz and above
Memory	2 GB or above
Operating System	Windows XP with SP2 or above. Windows Vista / Windows 2003 / Windows 7 / Windows 2008 Internet Explorer 6.0 SP2 / Internet Explorer 7.0 / Internet Explorer 8.0
Video Resolution	SVGA or XGA with 1024x768 resolution

2. Preparation before setup

Connect to device and setup IP

Our IP device provides access through Internet Explorer. The IP address for your PC must be within the same subnet as the IP device. You need to match the TCP/IP settings between PC and IP device before you can access it via IE.

There are two ways to add devices to the network.

With DHCP server / router:

DHCP server assigns IP addresses to devices automatically. You can find them on the network with our **IP Utility**. It is available on NVR CD and our website:

http://www.acti.com/IP_Utility

Run IP Utility to start auto device search. Click on the underlined IP links to access your IP devices. You do not need to change IP.

Without DHCP server / router:

Please assign a static IP for each device and add them one by one. Connect to the first device by following steps 1 to 5 below.

Before adding more devices into the network, you need to change the current device to a new IP address so no two devices have IP conflict. (Steps 6 to 9).

For adding devices without DHCP, please see following steps.

1. Connect the PC to the Network Switch with the CAT5 cable, and change your PC's IP to 192.168.0.99 / Subnet Mask 255.255.255.0 (101 is just a sample, it may be any number from 1 to 254 except 100.)

2. Connect the device to your Network Switch. If it is a PoE enabled Switch, then the device is powered on. If it is NOT a PoE enabled Switch, please also plug in the Power Adapter.

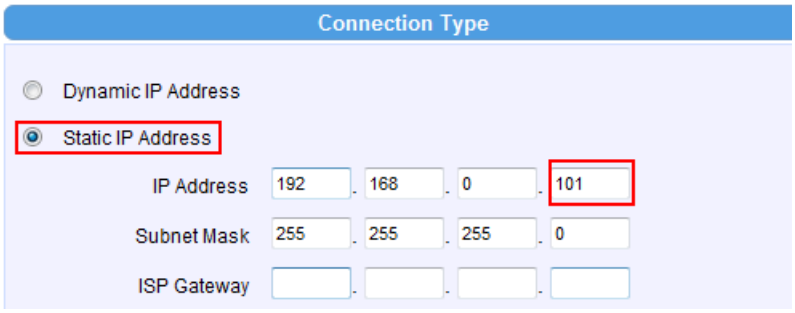
3. Open Internet Explorer, and type in **Default IP**:

   http://192.168.0.100

4. When you see the login window, please input default user and password:

   Default Username: Admin Password: 123456

5. After you log in, you will see the video from IP device. To go to the main menu, click the "Setup" button on the top left.
6. Please go to IP settings -> Connection Type. Change the IP mode to Static and the IP address to 192.168.0.101 or any other unused IP (Avoid 192.168.0.100, the IPs of your PCs and other devices already in network.). Click "Apply" then click System -> Save & Reboot.



7. Internet Explorer will close after a few seconds. This is normal.

8. Wait for 30 seconds and open IE again by typing in the **new IP**. (In this example, 192.168.0.101). For later device you add into the network, please choose an IP that does not is not used by any existing device.

9. If you have more than one device, continue again from step 2. Assign different new IP to each camera (for instance -> 192.168.0.102, 192.168.0.103 …). You do not need to unplug the existing devices from the switch because there is no IP conflict.

Sample screenshots to setup IP of your PC (Win XP)

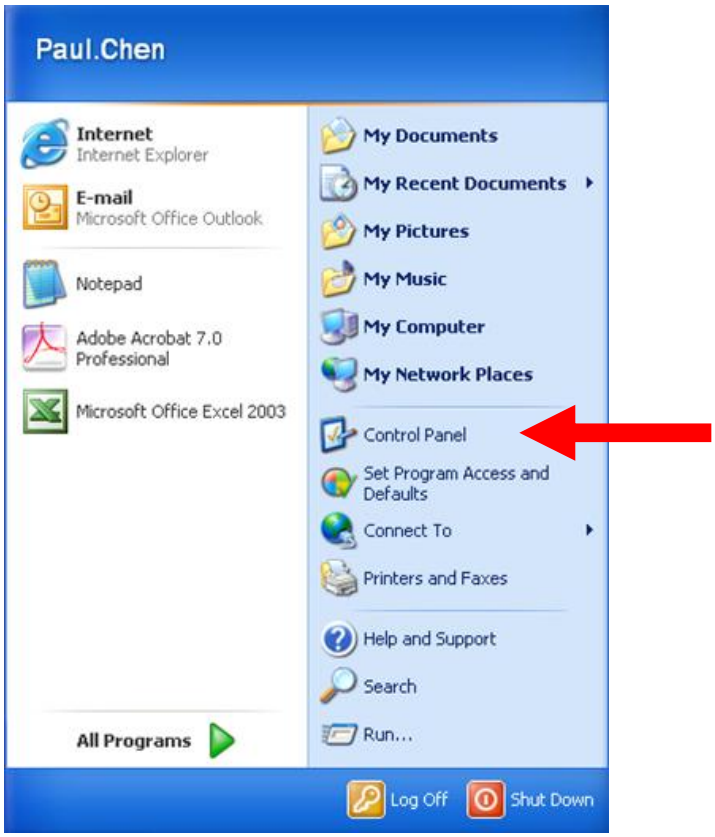
The procedures below show how to setup your IP on Windows XP. If you use operating system other than Windows XP, please refer to OS manuals for proper setup procedures.

STEP1

Start up your PC.

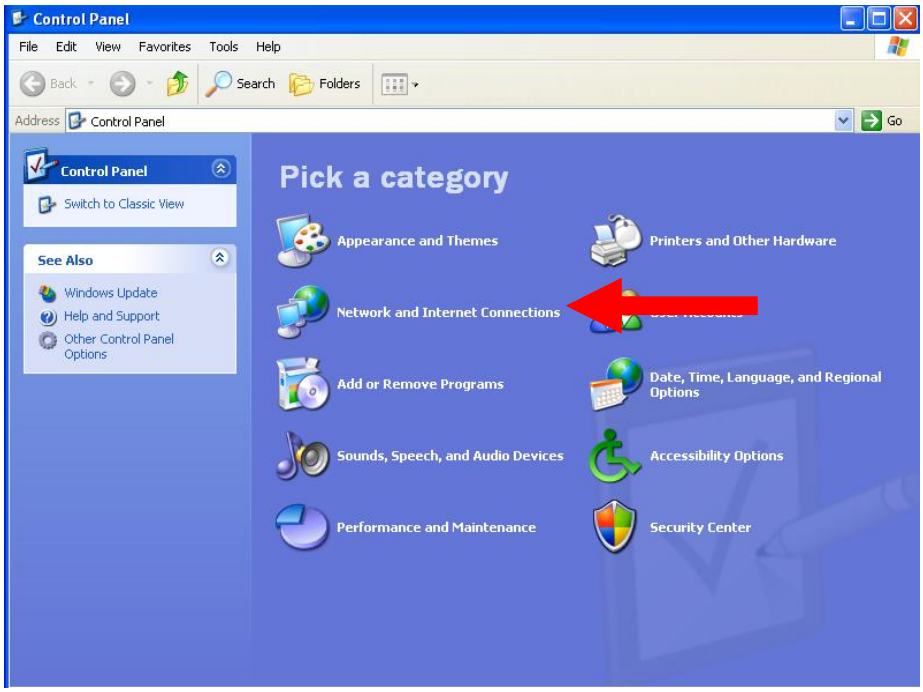
STEP2

Click the [Start] and select the "Control Panel"



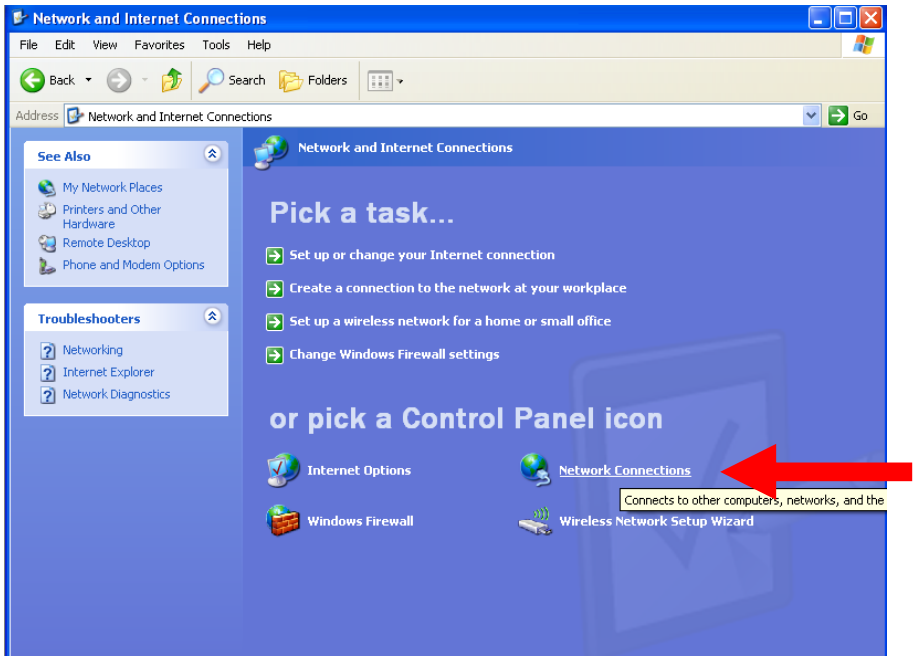
STEP3

Double-click the "Network and Internet connections" icon.



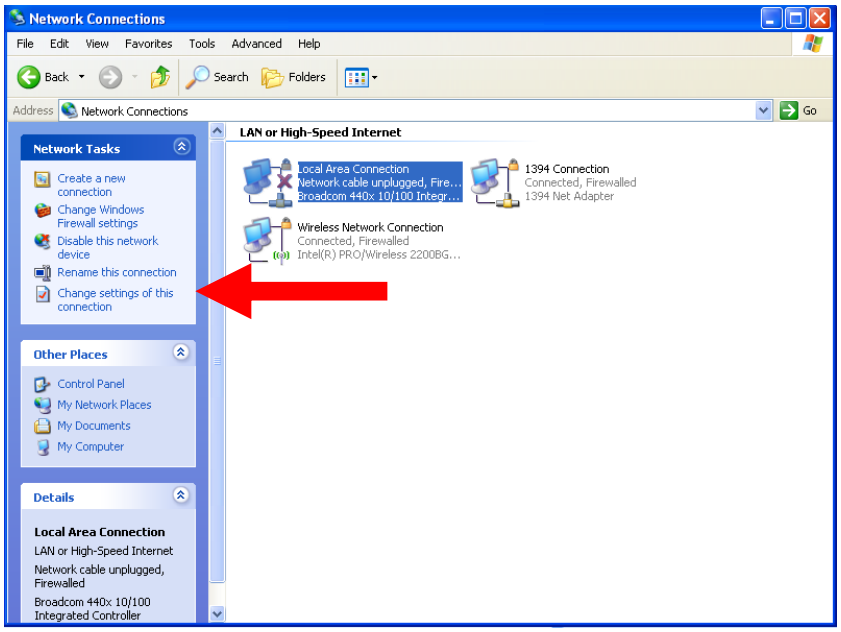
STEP4

Double-click the "Network connections" icon



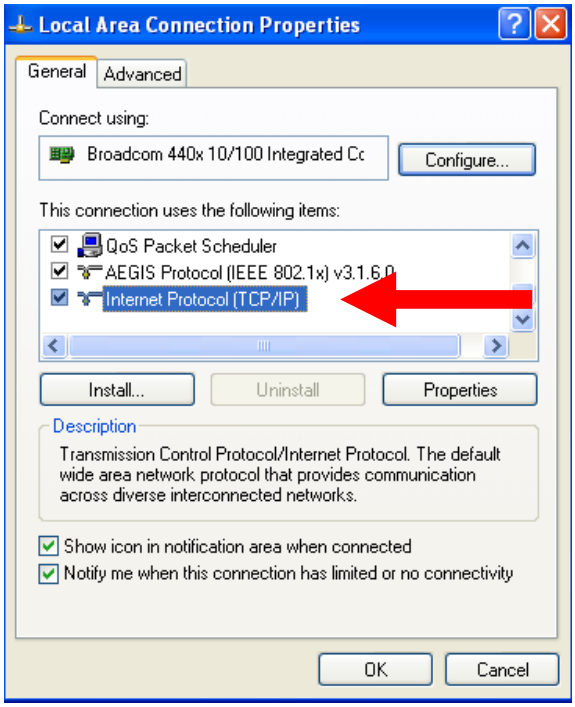
STEP5

Click "Local Area Connections", and then click "Change settings of this connection" in the Network Task menu.



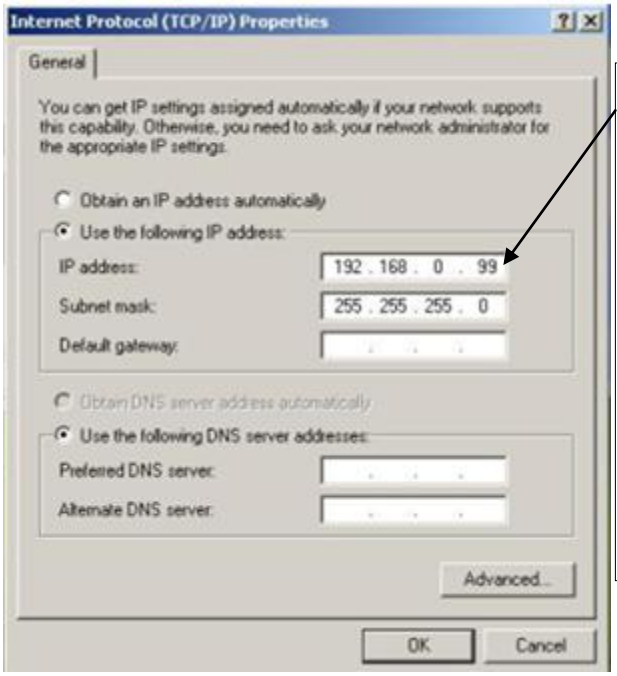
STEP6

Click "Internet Protocol (TCP/IP)", and then click [Properties]



STEP7

Click the "Use the following IP address" radio button and enter the IP address and the subnet mask.



Please set the settings as below.

IP address: 192.168. 0.xxx

Subnet mask: 255.255.255. 0

(**NOTE**: xxx should be a number from 1 to 254 except 100, which is used by the IP device. Please also make sure that no two equipments use the same IP address in the same network.)

STEP8

Click the [OK] button and the window dialog box will close.

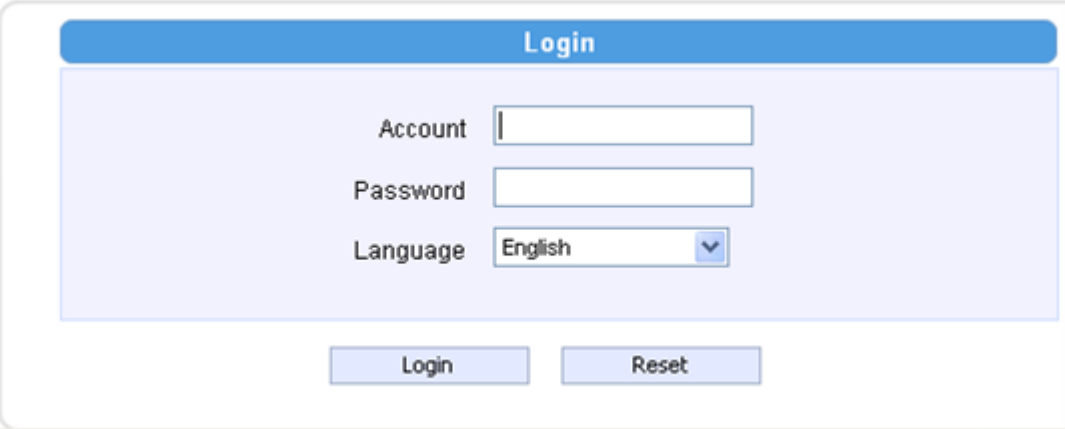
3. Configuring the IP device

This section describes how to configure the IP device. The administrator has unlimited access to all settings, while the normal user can only view live video. The IP device is configured under a standard browser (Microsoft Internet Explorer 6.0 / 7.0 / 8.0).

Login

STEP1
Open Internet Explorer 6.0 / 7.0 / 8.0. You may download the latest version from:
http://www.microsoft.com/windows/ie/downloads/default.mspx

STEP2
Enter the IP address of the IP device and press enter to go to Login Page.
The default IP address is "**192.168.0.100**"



STEP3
Enter the Account name and the Password
(Default Account: Admin / Password: 123456).

STEP4
Select the language of the IP device user interface.

You can select between English, Traditional Chinese, Japanese, Spanish, Italian, German, Portuguese, Greek, Russia, Turkey, Indonesia and Swedish. This user interface setting will disappear once you log out, if you want to change the default user interface language, please go

to [Host] in the "Host" section under the setup tab.

STEP5

Click the Login button to login or click the Reset button to re-enter again. Once you've logged in, the "Live page" will be displayed as below.

Live view

Click the ❶ [Live] tab to show [Live page]. Refer to the table below for how to configure each setting.

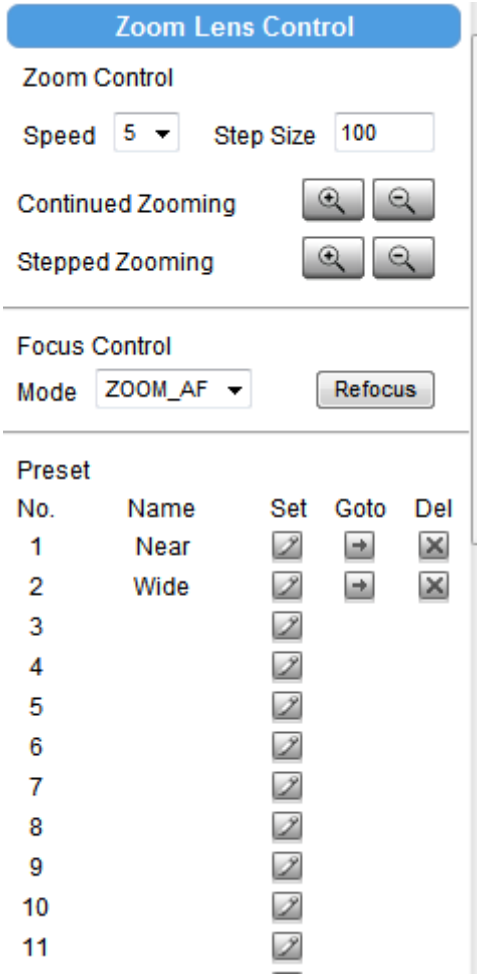
Function List

Function	Description
❸ Full Screen	Click the icon  to stretch the preview to full screen. You can click "Esc" button on the keyboard to return to previous display.
❹ Snapshot	Click the icon "  " to take a snapshot. The snapshot picture will be saved to the default folder "C:\Users\"account name"\Picture", in the format of

	YYYYMMDD_HH_mm_ss.jpg.
5 Audio out	Click the icon  to enable the audio out from PC to IP camera or video server. When it is enabled, your voice will be transferred to the audio out of the IP camera or video server. NOTE: you will need to have a microphone connected to your PC to send out audio.
6 Media	If dual stream mode is enabled, click 6 to select which stream to display (Media 1 or 2). The default is single stream only. To change to dual stream mode, please refer to "Media 1" section under "Setup" tab
7 Encoder Type	Click 7 to select the compression codec used in video encoding. The Encoder type option includes MPEG-4, MJPEG and H.264. Once selected, the video server/IP camera will start to send video in new stream type.
8 Display size	Click  or  to adjust display screen size
9 Audio in 	Click the speaker icon to toggle mute / audio in. Click and drag to decide volume below. You must first enable audio in setting to change here.
10 PTZ Panel	Click on the PTZ button to pop up the Zoom Lens Control panel, and enable Mouse PTZ at the same time. Panning and Tilting via PT platform will only be activated by mouse PT command. *Note: This is not available in 4 cropped VGA mode.
11 DO Settings	Click  to set DO output level to High. Click  to set DO output level to Low. If your device has more than one DO available, each DO is controlled separately.
12 Network status	 Indicates the network state. If the light on the right is green, it means the network is ok. If the light is gray, it means the network is broken. The light on the left is not used
13 Live View	Live view from Camera is displayed here. The title bar shows the time and date.

If you want to setup this IP camera/video server, please click the 2 [Setup] tab to switch to "Setup Page"

Zoom Lens Control Panel



If you are using Zoom / Auto Focus camera, this screen is available by clicking on PTZ button in the live view screen.

You can change the current zoom ratio by clicking on either the continued Zooming buttons, or the Stepped zooming buttons. Step size will determine how much each click on stepped zooming changes the zoom ratio. Speed determines how fast will zoom control operate under continued zoom.

There are three Focus Control Modes. Zoom_AF means that the camera will readjust focus after every zooming operation. Camera using Auto mode will continuously calculate the overall focus in view, and modify focus position once ISP considers current view to be blurred. This will generate a lot of focus position movements if something is moving in and out of the view. Please be sure to use this function on more robust Box type cameras. Manual focus control will allow you to manually select the focus distance, so that if the automatically determined focus position is not what you have in mind, you can easily adjust it to your liking.

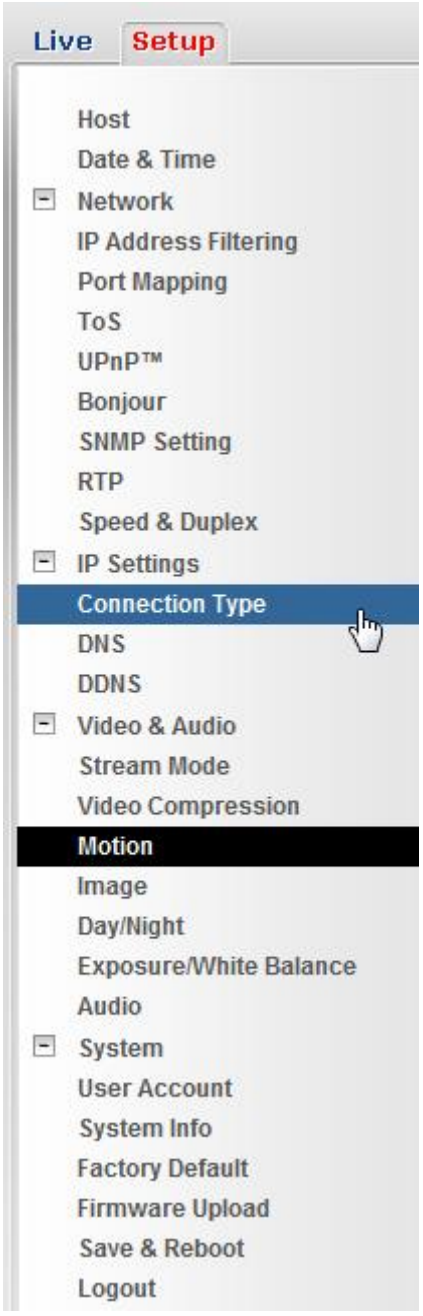
You can configure up to 32 Zoom presets below. Just click Set, enter the name and move the zoom/focus position to what you desire, then click set again. You can instantly ask the camera to go to that zoom and focus position by clicking on the Goto button.

Click Delete to remove this zoom preset point from camera memory.

Setup Menu

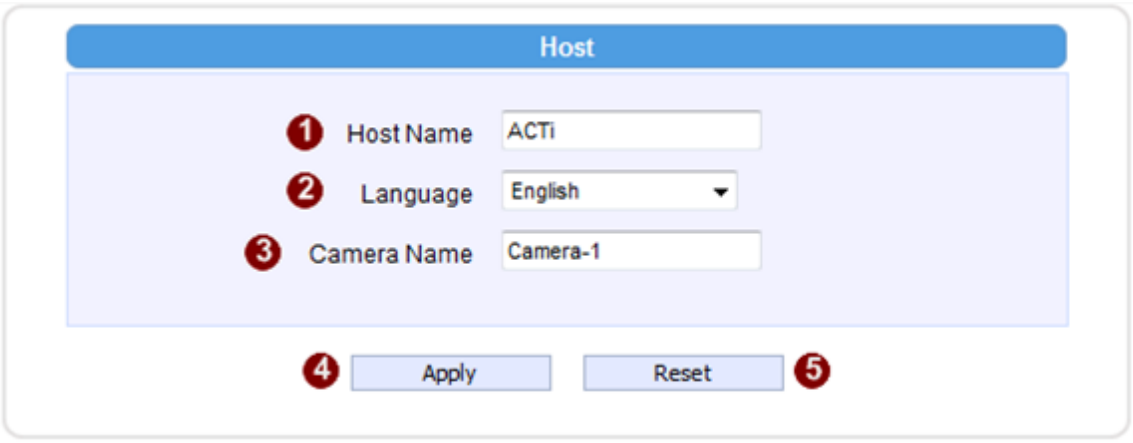
In Setup Page, the left side is devoted to the menu.

There are many sections in the menu, most of them hidden for ease of navigation. The fully expanded menu is shown here to the right.



Host

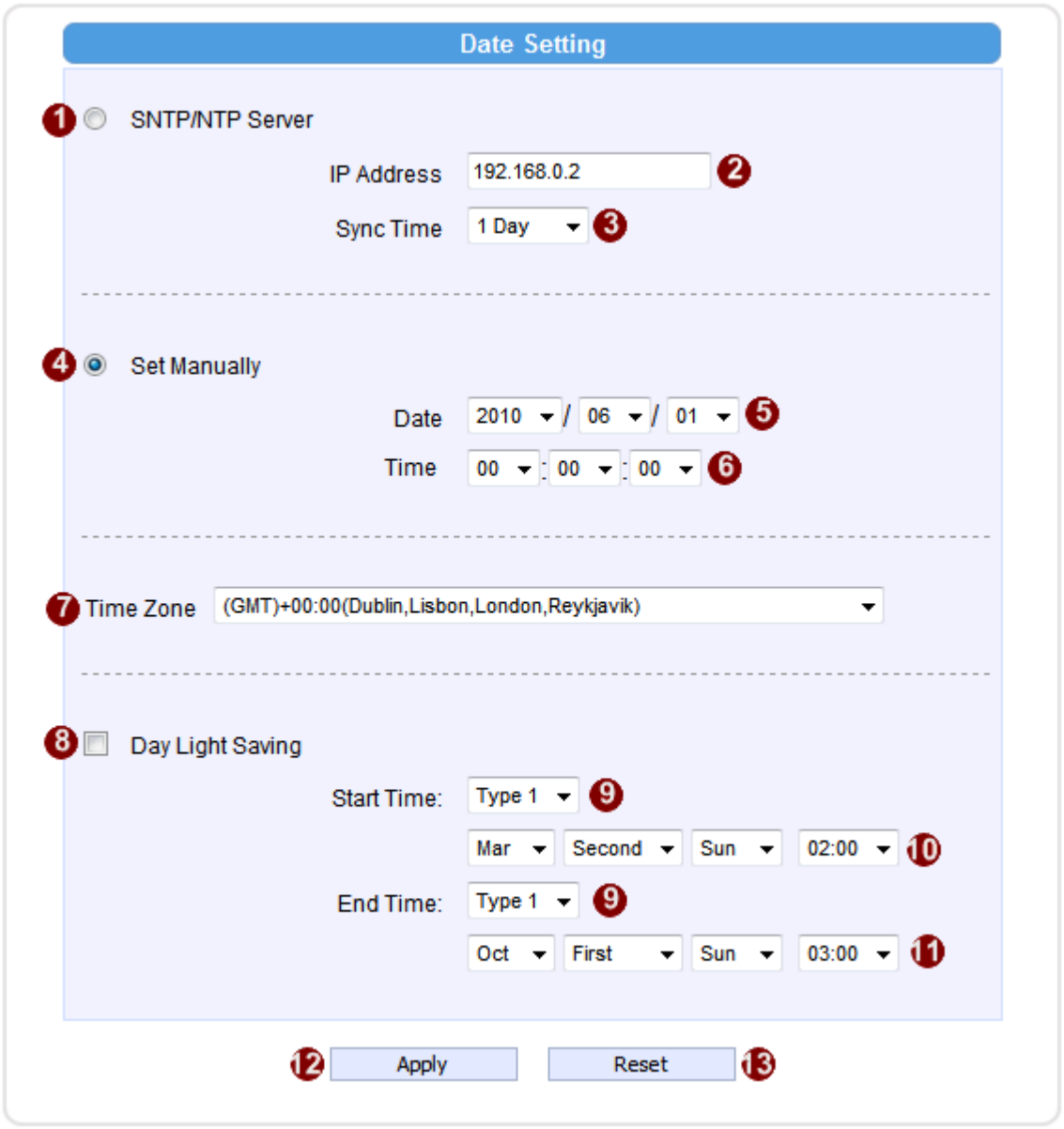
Click the [Host] to enter Host settings page. Refer to the table below for how to configure each setting.



Parameters	Description
1 Host name	Enter a host name, and this host name will be shown when you use the IP utility or the SDK to search for the IP device.
2 Language	Select the language of default user-interface. Each user login will see the default user-interface first.
3 Camera name	The camera name is reserved for customer use.

Click the 4 [Apply] button to confirm the settings or click the 5 [Reset] button to re-enter the parameters.

Date & Time



Click the [Date & Time] item under Setup to see Date Setting Page. Refer to the table below for how to configure each setting. The default method is to set manually.

Date Setting

Parameters	Description
❶SNTP/NTP server	Click this to enable IP device's SNTP/NTP function. This enables this IP device to synchronize its time settings with a SNTP/NTP server. You can use this function to make sure all your IP devices' time is the same. Additionally, with our embedded digital-time-code in the streaming, you can tell the event sequence accurately. ❷ **IP address**: Enter the IP address of the SNTP/NTP server. ❸ **Sync time**: Select the time interval for this IP device to synchronize its time.
❹ Set manually	Click this to manually setup the date & time. ❺ **Date** : Select the date ❻ **Time**: Select the time
❼ Time zone	Select the time zone offset for local settings
❽Day Light Saving	Select Type 1 ❾ to specify daylight saving time by week number in a month; select Type 2 to specify daylight saving time by date. ❿ **Start Time**: Select the daylight savings start time. ⓫ **End Time**: Select the daylight savings end time.

Click the ⓬ [Apply] button to confirm the settings or click the ⓭ [Reset] button to re-enter the parameters.

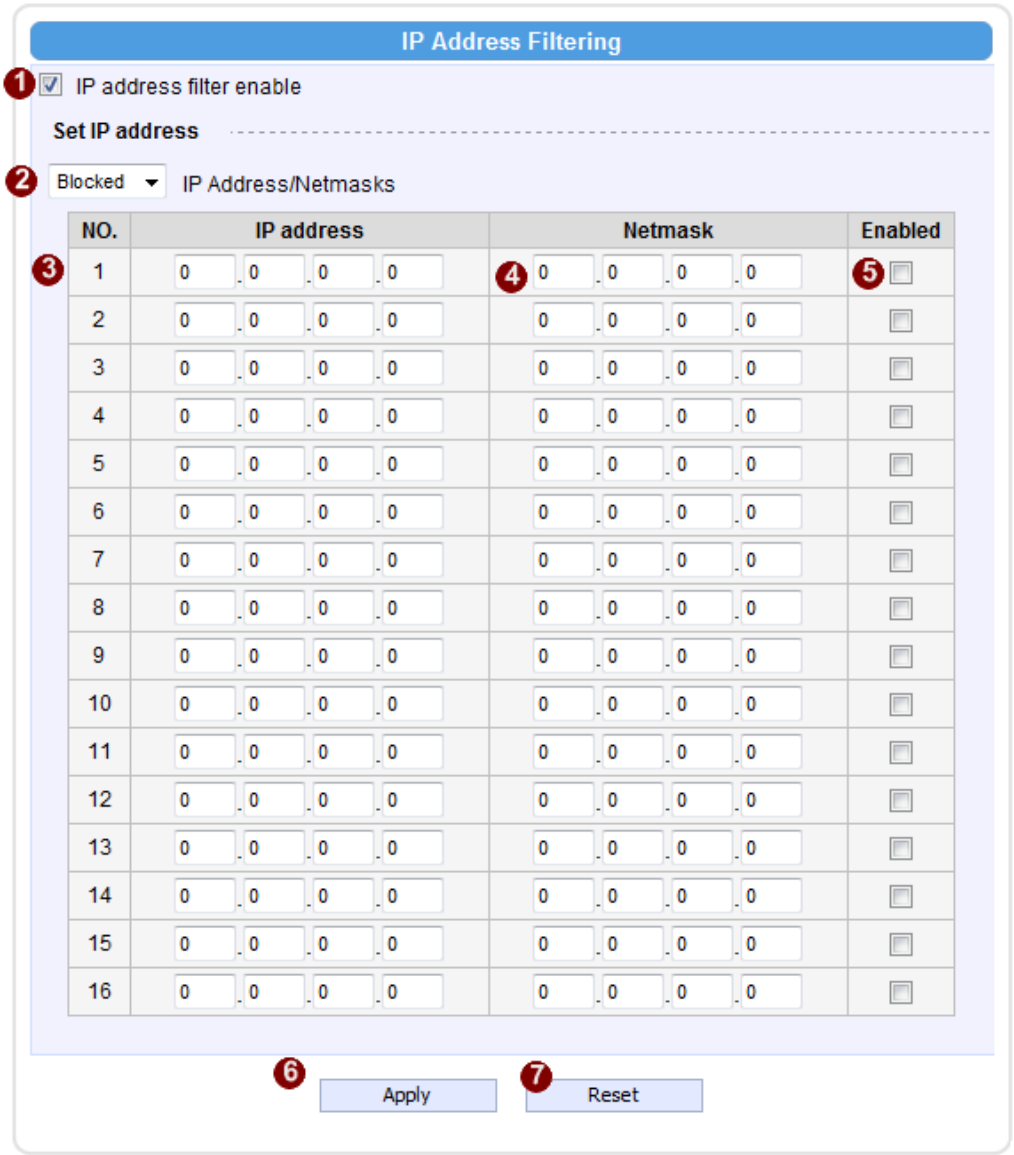
Network Section

Click the [Network] item on the "Setup Page".

IP Address Filtering

WARNING: Please be very careful when using this function, as you may lose access to your camera if you make mistakes in setup. You may either accidentally deny yourself access, or forgot to include your own IP address in the allowed address list. You will need to perform hard reset to be able to access the device again.

Click the [IP Address Filter] item to display the "IP Address Filtering Page". Refer to the table below for how to configure each setting.

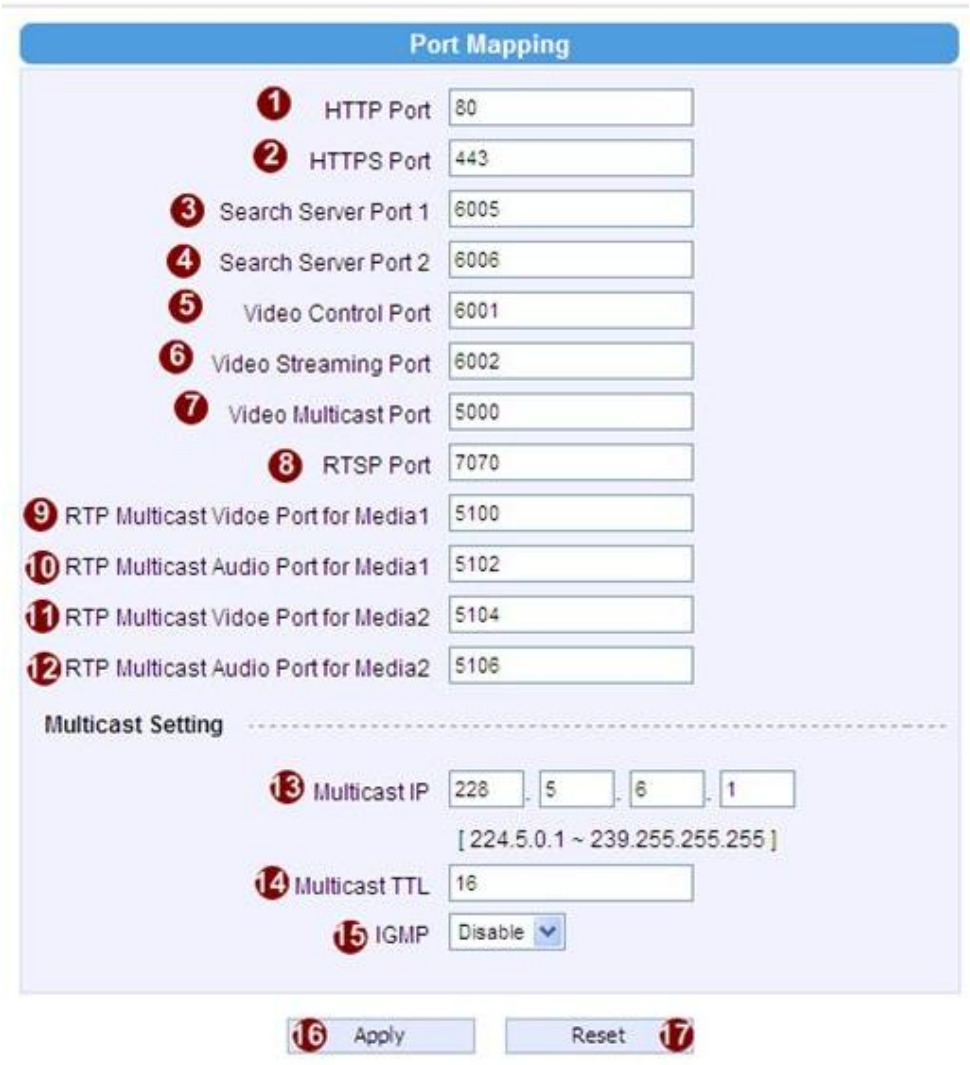


Parameters		Description
❶	IP address filter enable	Check this box to enable IP Address Filtering.
❷	Filter Method	The filter can be set in either "Allow" mode or "Block" mode. 1. "Allow" mode will refuse access to all IP addresses except the ones listed below. 2. "Block" mode will accept all incoming access except the IP addresses listed below. Make sure you include the Netmask in your consideration.
❸	IP Address	The IP address you wish to allow or block. Please note that the actual range is modified by the Netmask.
❹	Netmask	Using Netmask allows you to set filtering for a whole range of IP address at once, without the need to enter all of them individually. If you are not sure about the function of netmask, then you should use 255.255.255.255, and it will affect only a single IP address per line of entry, or use 255.255.255.0 to use the same setting for all IP addresses starting with the same three numbers. .
❺	Enable	For each entry, you must check this box for it to be effective. For an entry that you no longer need but does not wish to delete, you can uncheck it, and the system will remember it for future use. If a new entry that has never been used before does not have Enable checked, then it will not be stored in memory.
❻	Apply	Click this to use the current displayed info to do IP Address filtering. If you setup correctly, it will change into a grayed out "Success" in a few seconds.
❼	Reset	Click this button to re-enter the parameters.

Click the ❻ [Apply] button to confirm the settings or click the ❼ [Reset] button to re-enter the parameters.

Port Mapping

Click the [Port Mapping] item to display the "Port Mapping Page". Refer to the table below for how to configure each setting.



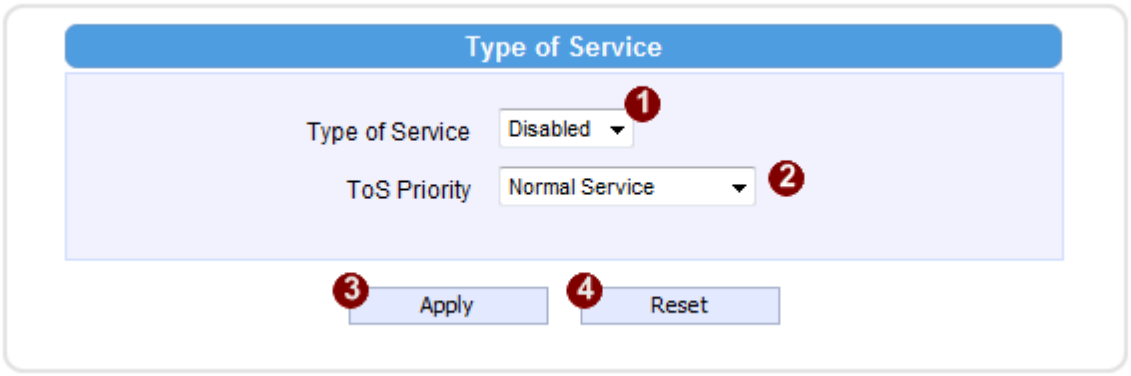
Parameters	Description
1 HTTP port	Select the port assigned for HTTP protocol access
2 HTTPS	Select the port assigned for HTTPS protocol access
3 Search server port1	Select the first port used by server search applications to detect this IP device. (e.g. IP utlity)
4 Search server port2	Select the first port used by server search applications to detect this IP device. (e.g. IP utlity)

❺ Video control port	Select the port used to support video control function by application programs. (e.g. NVR)
❻ Video streaming port (TCP Only)	Select the port used by this IP device for Video Streaming.
❼ Video Multicast Port	Enable/disable multicast audio streaming
❽ RTSP port	Select the port assigned for RTSP protocol access
❾ RTP Multicast Video Port for Media1	Select the port for the multicast video streaming of media1 via RTP protocol
❿ RTP Multicast Audio Port for Media1	Select the port for the multicast audio streaming of media1 via RTP protocol
⓫ RTP Multicast Video Port for Media2	Select the port for the multicast video streaming of media2 via RTP protocol
⓬ RTP Multicast Audio Port for Media2	Select the port for the multicast audio streaming of media2 via RTP protocol
⓭ Multicast IP	Select the multicast IP. Default settings is 228.5.6.1
⓮ Multicast TTL	Select the multicast TTL. Default setting is 255.
⓯ IGMP	Select video type connected to the video-in of this IP device. If you use an incorrect video type, some images might be lost.

Click the ⓰ [Apply] button to confirm the settings or click the ⓱ [Reset] button to re-enter the parameters.

ToS

Click the [ToS] (Type of Service) item to display the "ToS Page". Refer to the table below for how to configure each setting.

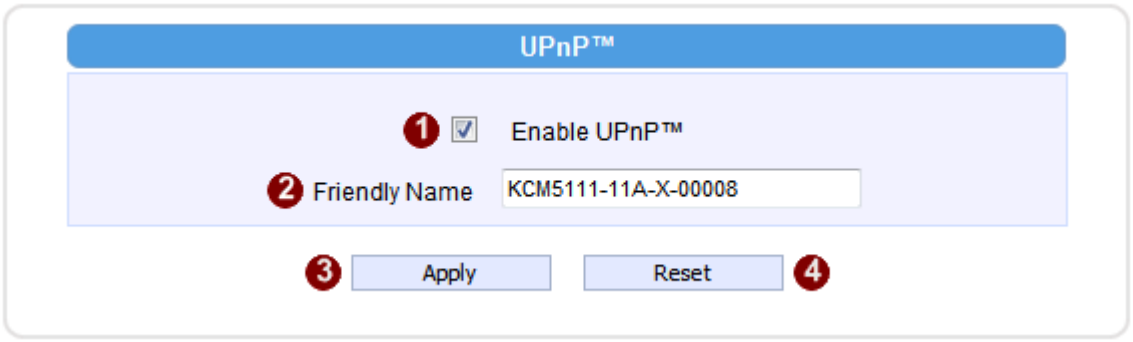


Parameters	Description
1 TOS (type of service)	Select whether to add the TOS tag onto the streaming data. Streaming data with a higher priority TOS tag will be transmitted first when compared with other data.
2 TOS priority	Select the TOS tag's priority to be added onto the streaming. You can select between 1.**Minimize-Delay** 2.**Maximize-throughout** 3.**Maximize-Reliability** 4.**Normal-Service**

Click the 3 [Apply] button to confirm the settings or click the 4 [Reset] button to re-enter the parameters.

UPnP™

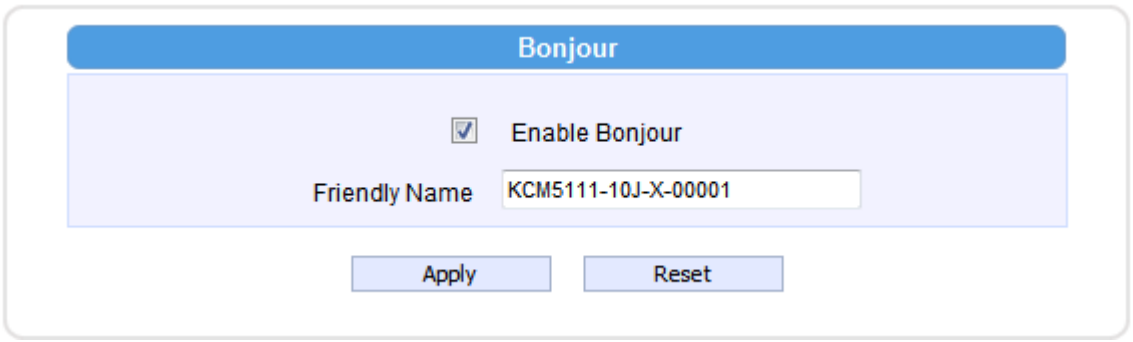
Click the [UPnP™] item to display the "UPnP™ Setting Page".



Click checkbox 1 to enable or disable the UPnP™ function. Edit the UPnP Friendly Name in text field. 2

Click the [Apply] button 3 to confirm the settings or click the [Reset] button 4 to re-enter the parameters.

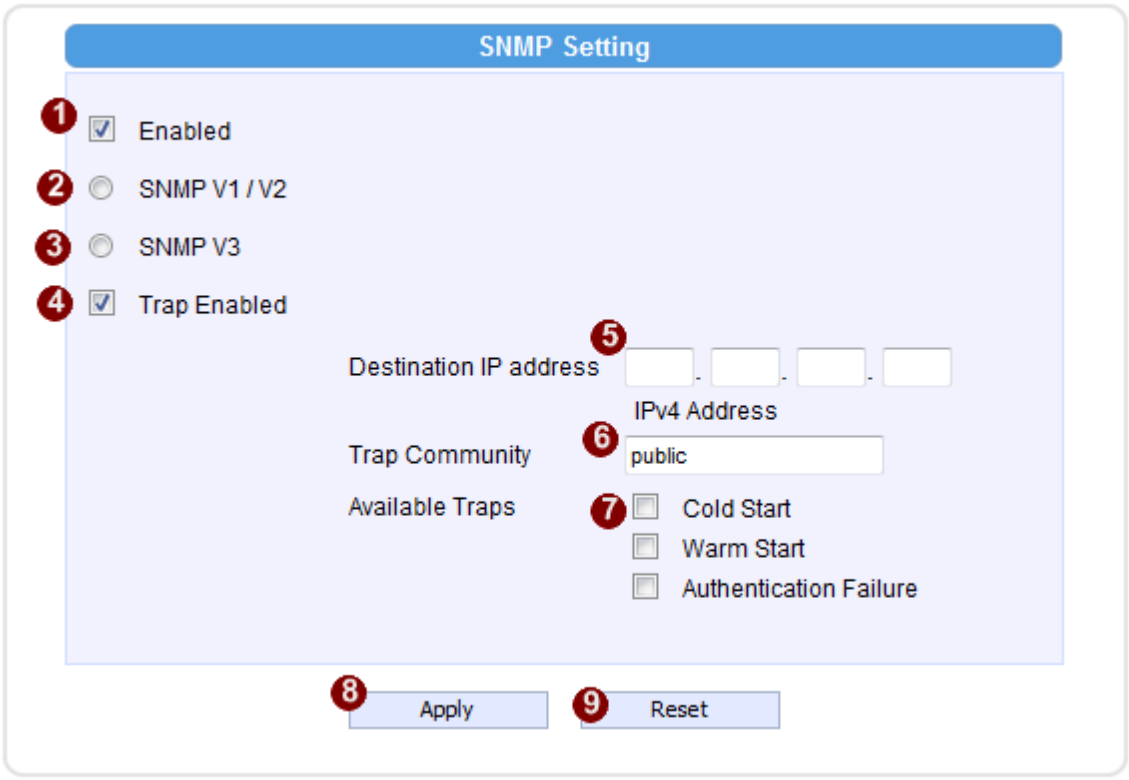
Bonjour



Bonjour is a protocol developed by Apple.Inc. This protocol allows for easy searching of devices on network. You may enable Bonjour and search for this device via its Friendly Name.

SNMP Setting

Click the SNMP Setting item to display the SNMP setting Page



Click 1 to enable SNMP function.

Select 2 to use SNMP V1/V2 or 3 to use SNMP V3

Check the check box 4 to enable traps

Enter the Destination IP address in 5

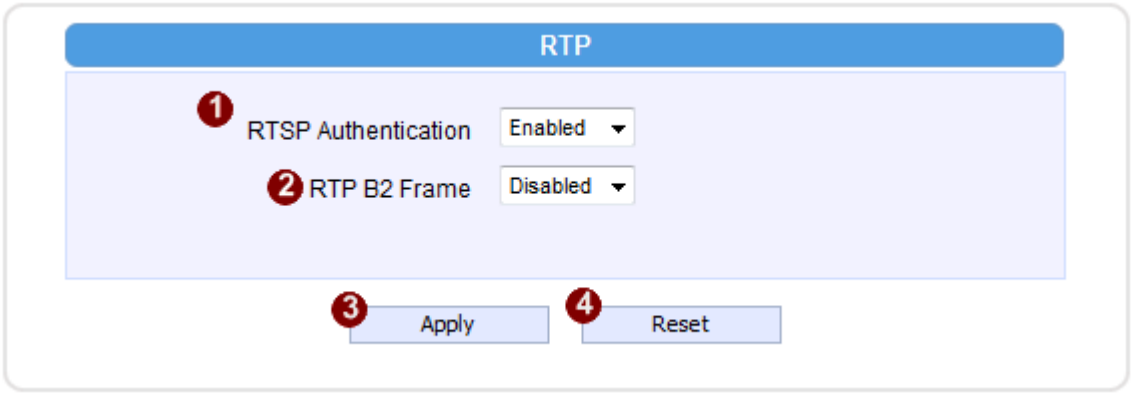
Enter the Trap Community used in 6

Select the Available trap in 7

Click the [Apply] button 8 to confirm the settings or click the [Reset] button 9 to re-enter the parameters.

RTP

Click RTP Item to configure RTP Settings

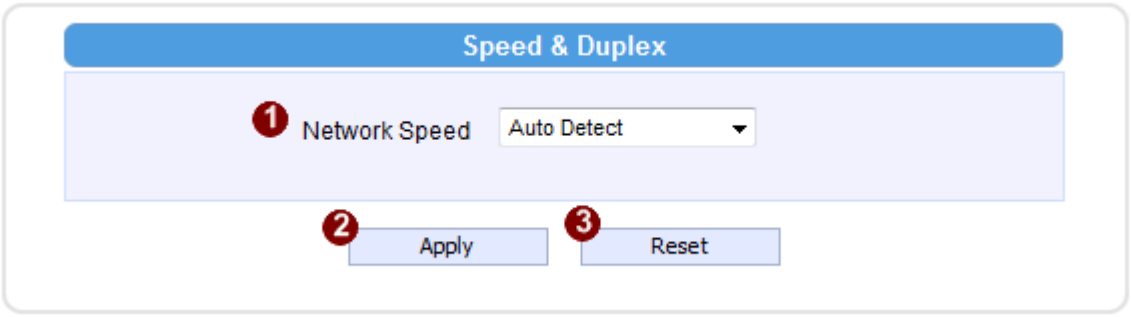


1	RTSP Authen Enable	Check box to enable RTP streaming's Account/Password authentication.
2	RTP B2 Frame Enable	Check box to enable the B2 frame in RTP streaming

Click the [Apply] button 3 to confirm the settings or click the [Reset] button 4 to re-enter the parameters.

Speed & Duplex

Click the [Speed & Duplex] item in the network section to display the "Speed and Duplex" Page. Refer to the table below for how to configure each setting.



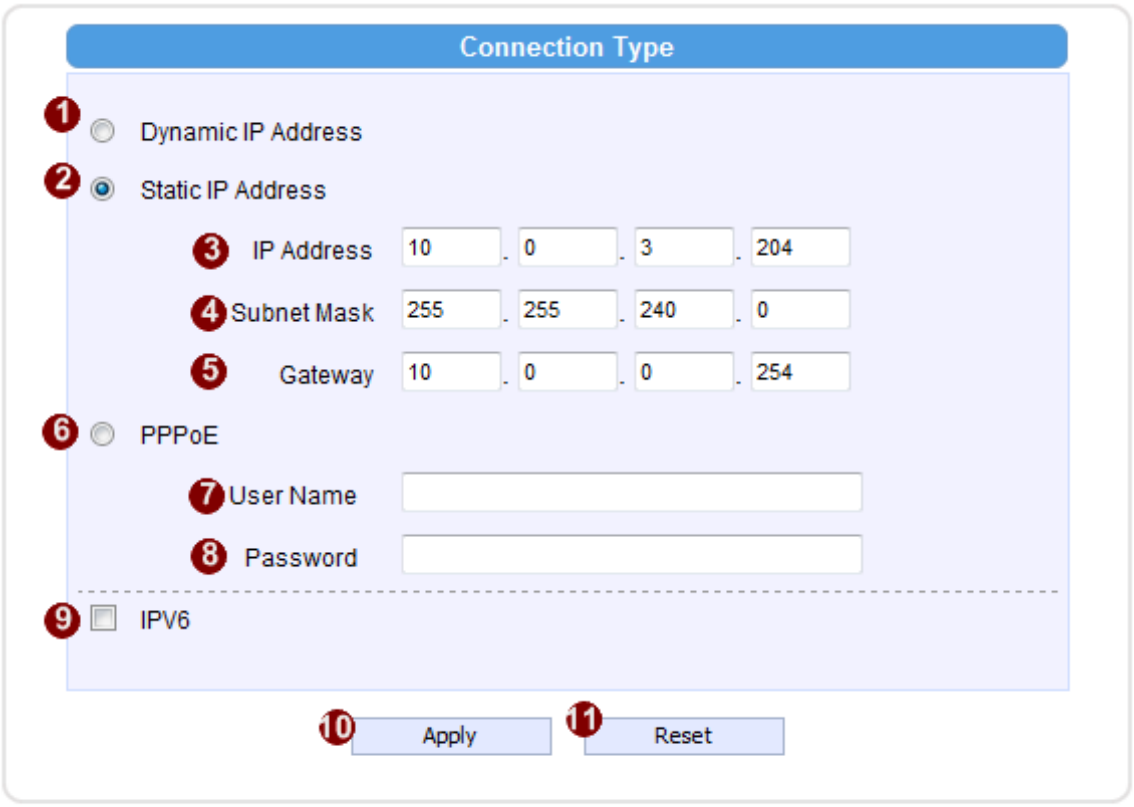
Parameters	Description
1 Network speed	This item lets you select the network transmission speed. You can select from 1. **Auto detect** (default setting) 2. **100Mbps / Full duplex** 3. **100Mbps / Half duplex** 4. **10Mbps / Full duplex** 5. **10Mbps / Half duplex**

Click the 2 [Apply] button to confirm the settings or click the 3 [Reset] button to re-enter the parameters.

IP Settings

Connection Type

Click the [Connection Type] item to display the "Connection Type Page". Refer to the table below for how to configure each setting.



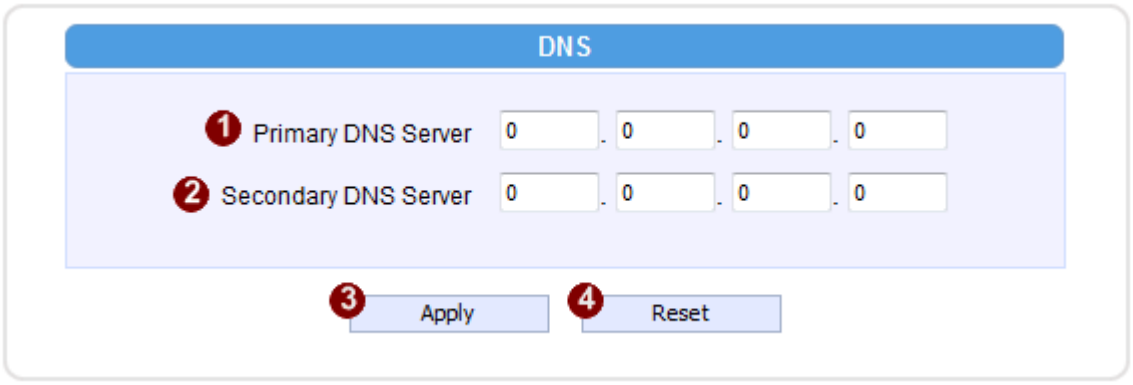
Parameters		Description
1	Dynamic IP address	Click this to enable IP device's DHCP function. It will acquire its WAN port IP address from a DHCP server within the same network. (You must have a DHCP server in order to enable this function.)
2	Static IP address	Click this to manually enter the IP address. 3 **IP address**: Enter the WAN port IP address. 4 **Subnet mask**: Enter the subnet mask of WAN port. If IP address is changed, adjust the subnet mask accordingly. 5 **ISP gateway**: Enter the IP address of the gateway (the router).

6	PPPoE	Click this when you connect IP device directly to the xDSL modem. 7 **User name**: Enter the user name of your xDSL account. 8 **Password**: Enter the password of your xDSL account. **Note**: You have to click the [Save Reboot] after you click the [Apply button] to let this IP device start xDSL connections.
9	IPV6	Click the check box to support IPV6 protocol

Click the 10 [Apply] button to confirm the settings or click the 11 [Reset] button to re-enter the parameters.

DNS

Click the [DNS] item to display the "DNS Server Settings Page". Refer to the table below for how to configure each setting.

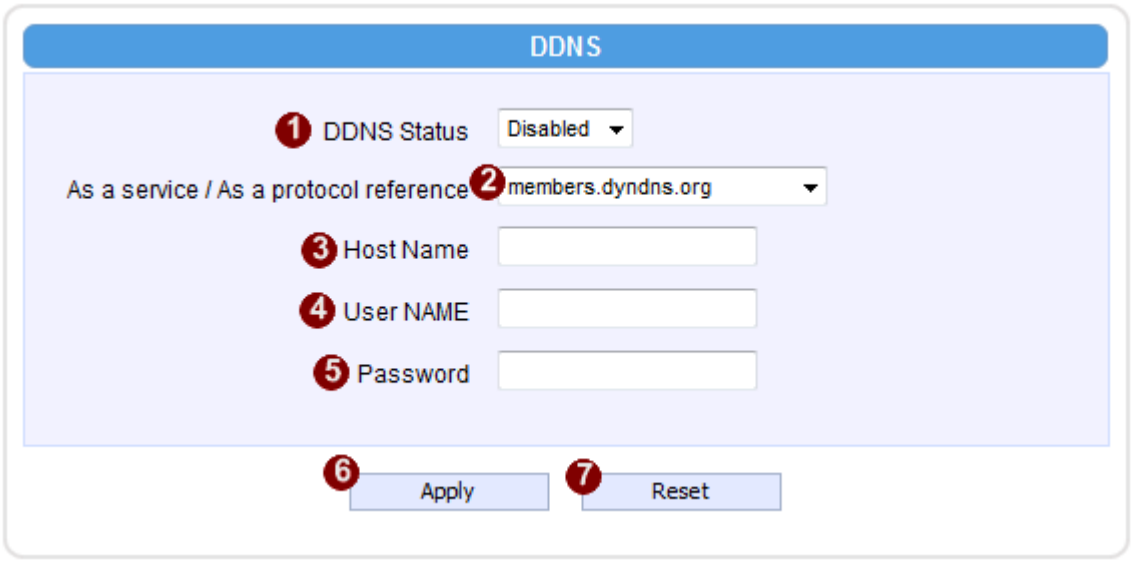


Parameters		Description
1	Primary DNS server	Defines the IP address of the primary DNS server. This is used for identifying this computer by name instead of IP address.
2	Secondary DNS server	The IP address of the secondary DNS server. It will be used once the primary DNS server fails.

Click the 3 [Apply] button to confirm the settings or click the 4 [Reset] button to re-enter the parameters.

DDNS

Click the [DDNS] item to display the "DDNS Server Setting Page". Refer to the table below for how to configure each setting.



Parameters	Description
1 DDNS type	Click this to enable IP device's DDNS function. DDNS function enables user to connect to this IP device by domain name even if its IP address is not static.
2 Protocol / Service Reference	Click one of the DDNS service providers. You can visit their website to get a DDNS service account for this IP device.
3 Host name	Enter the host name of your DDNS service account. (ex: xxxx.dyndns.org)
4 User name	Enter the user name to login your DDNS service account.
5 Password	Enter the password to login your DDNS service account.

Click the 6 [Apply] button to confirm the settings or click the 7 [Reset] button to re-enter the parameters.

Video & Audio

Click the [Video & Audio] item on the "Setup Page".

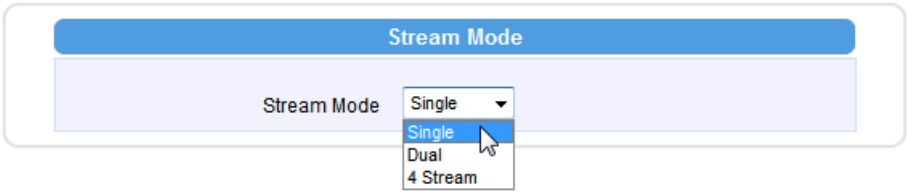
Please note that some elements may not appear on all models.

Video

Click the [Video] item to display the "Video Page". The functions here are grouped under different screens.

Stream Mode

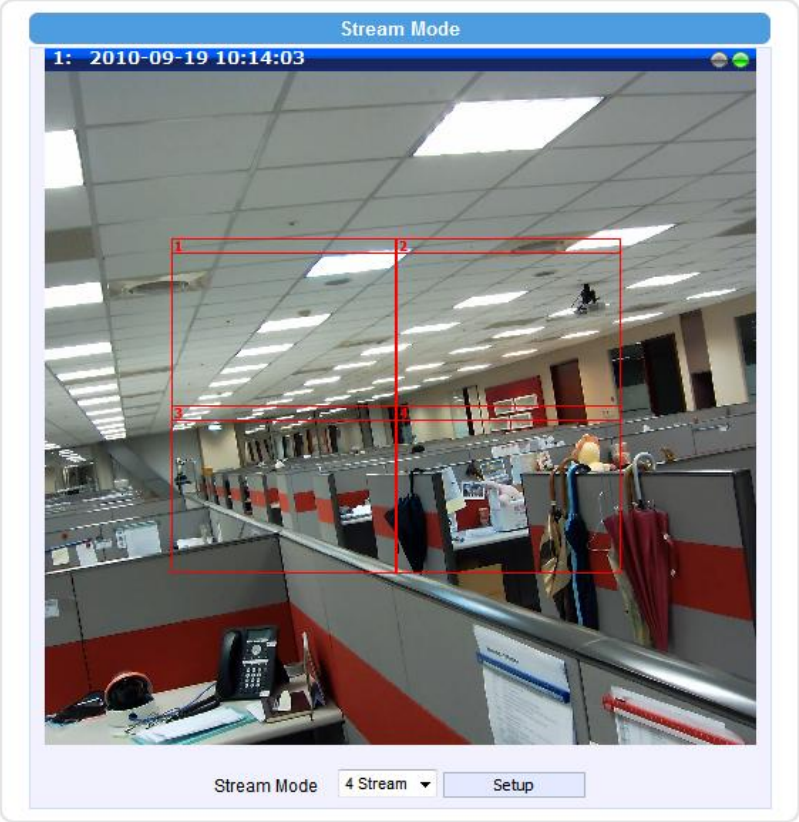
This section determines how many streams are available from this device. There are three modes: Single, Dual or 4 Stream. "4 Stream" mode is available only to 4 Megapixel models.



In single stream mode, resolutions available include 4 Megapixel 2032 x 1920 (for some models), Full HD 1920 x 1080, HD720 1280 x 720 and VGA 640 x 480.

In 4 Stream mode, there is a Standard View and a Positioning View. This image below shows the Standard View. This display shows where each crop window located is but does not allow you to change move it. To reposition the crop windows, click "Setup".

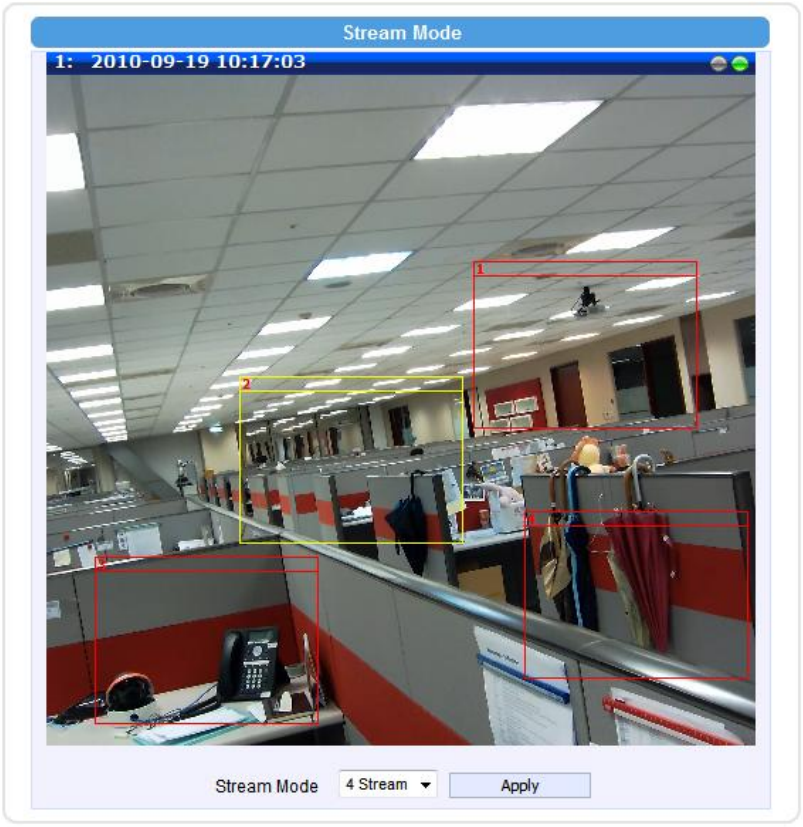
4 Stream Mode – Standard View



In Standard View you can see where the window for each channel is located. To edit cropping location, click "Setup".

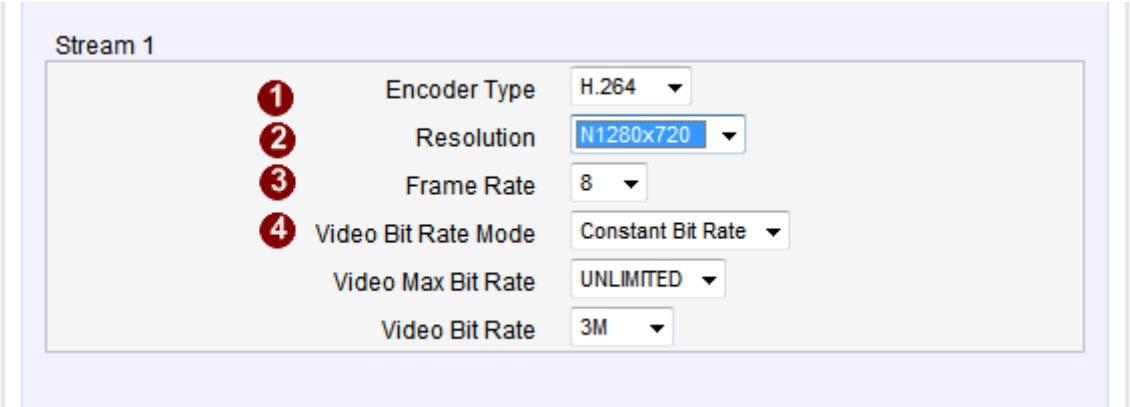
4 Stream Mode – 4 VGA Window Positioning View

In 4 VGA Window Positioning View, you may position each window to where you desire to view. The current view is the 4M view area to allow you the most flexibility in positioning. Click and drag the top bar of each window to activate it and drag to place. The currently active window is highlighted in yellow, while the other windows are shown in red.



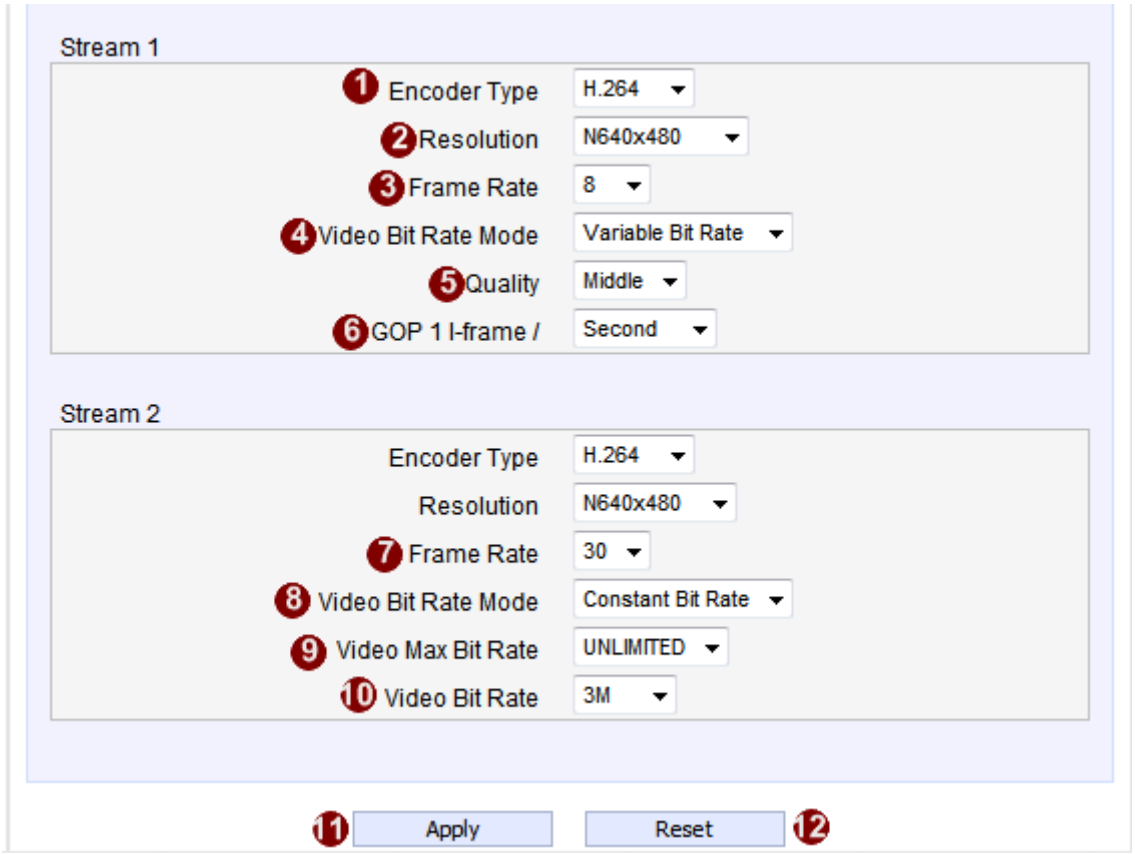
Compression

Single Stream Mode:



	Parameters	Description
1	Encoder Type	Select the encoder's compression type. MPEG-4 / MJPEG / H.264
2	Resolution	Select the video resolution of the camera between 4M (2032 x 1920), 2M 1080p (1920 x 1080), 1M 720p (1280 x 720) and VGA (640 x 480)
3	Frame rate	Select the available frame rate from the drop down menu.
4	Video Bit Rate Mode	**Constant Bit Rate**: The bit rate remains constant at all conditions, Video quality will be better when image is still. Large amount of motion or complex scene will degrade quality slightly. **Variable Bit Rate**: The video bit rate will vary based upon scene complexity and amount of movement. The quality will remain the same.
5	Quality (Variable Bit Rate Only)	When encoder type is MPEG4 or H.264, and video bitrate mode is "Variable Bit Rate" Select the quality value from High / Middle / Low
6	GOP Length (Variable Bit Rate Only)	When encoder type is MPEG4 or H.264. and video bitrate mode is "Variable Bit Rate". Select the Interval between two I-frames. This is also called GOP Length. (Group of Picture). Default value is one I frame per second. The maximum length of GOP is limited to 60.
9	Video Max Bitrate (Constant Bitrate only)	This puts a hard cap on the maximum bit rate allowed in any given second of video streaming. Assigning a limited bit rate may result in a few dropped frames rate when the stream data overflows the allowed bit rate. Doing so will also disable Bit Rate setting below.
10	Video Bitrate (Constant Bitrate only)	This is the target bitrate that the camera will attempt to provide when using Constant Bitrate mode. The actual value will fluctuate slightly based on scene changes.

Dual Steam Mode:



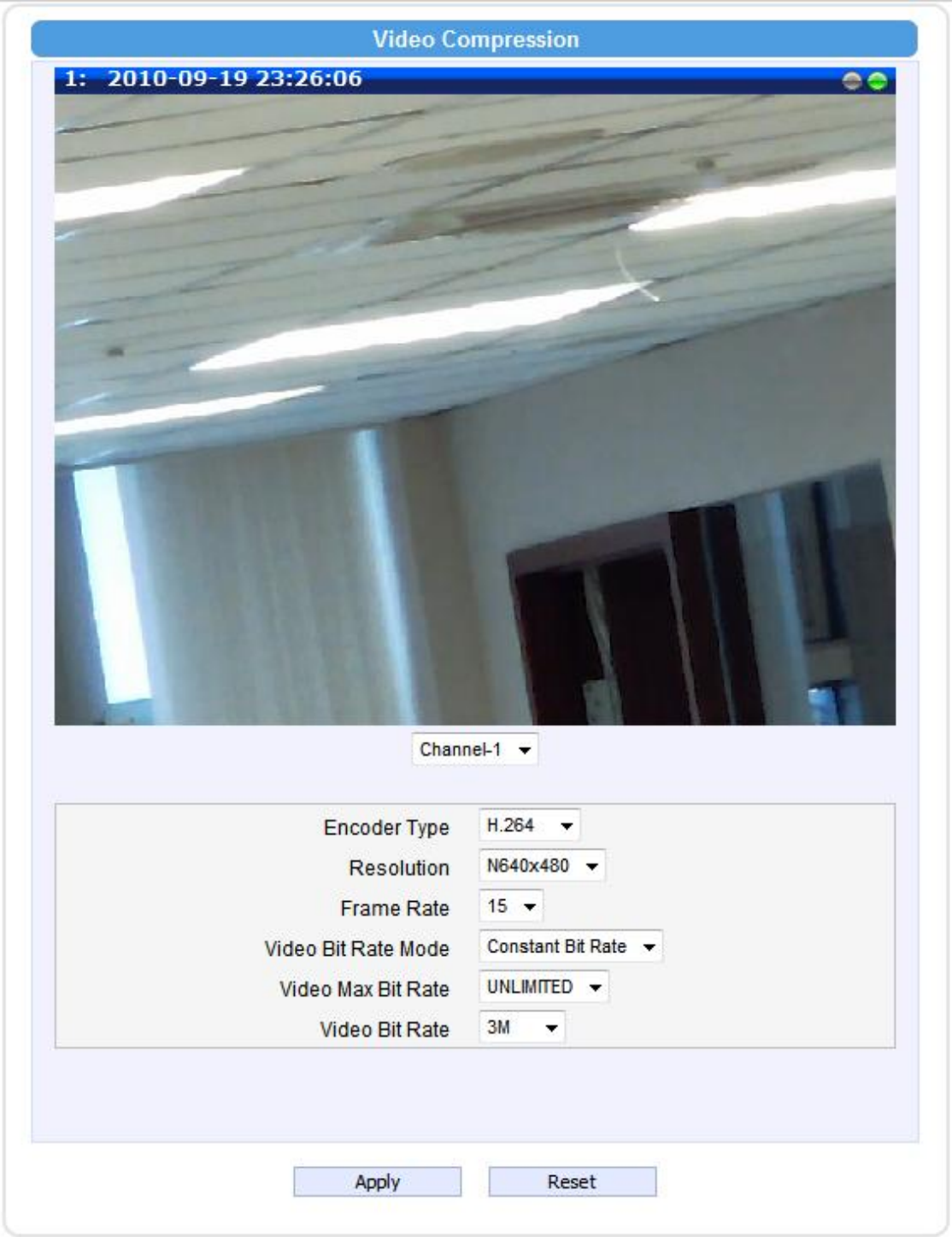
	Parameters	Description
1	Encoder Type	Select the encoder's compression type. MPEG-4 / MJPEG / H.264
2	Resolution	Select the video resolution of the camera between 4M (2032 x 1920), 2M 1080p (1920 x 1080), 1M 720p (1280 x 720) and VGA (640 x 480)
3	Frame rate	Select the available frame rate from the drop down menu.
4	Video Bit Rate Mode	**Constant Bit Rate**: The bit rate remains constant at all conditions, Video quality will be better when image is still. Large amount of motion or complex scene will degrade quality slightly. **Variable Bit Rate**: The video bit rate will vary based upon scene complexity and amount of movement. The quality will remain the same.
5	Quality	When encoder type is MPEG4 or H.264, and video bitrate mode is "Variable Bit Rate" Select the quality value from High / Middle / Low
6	GOP Length	When encoder type is MPEG4 or H.264. and video bitrate mode is "Variable Bit Rate". Select the Interval between two I-frames. This is also called GOP Length. (Group of Picture) . Default value is one I frame per second. The maximum length of GOP is limited to 60.
7	Frame rate	Select the available frame rate from the drop down menu.

❽	Video Bit Rate Mode	**Constant Bit Rate**: The bit rate remains constant at all conditions, Video quality will be better when image is still. Large amount of motion or complex scene will degrade quality slightly. **Variable Bit Rate**: The video bit rate will vary based upon scene complexity and amount of movement. The quality will remain the same.
❾	Video Max Bitrate	This puts a hard cap on the maximum bit rate allowed in any given second of video streaming. Assigning a limited bit rate may result in a few dropped frames rate when the stream data overflows the allowed bit rate. Doing so will also disable Bit Rate setting below.
❿	Video Bitrate	This is the target bitrate that the camera will attempt to provide when using Constant Bitrate mode. The actual value will fluctuate slightly based on scene changes.

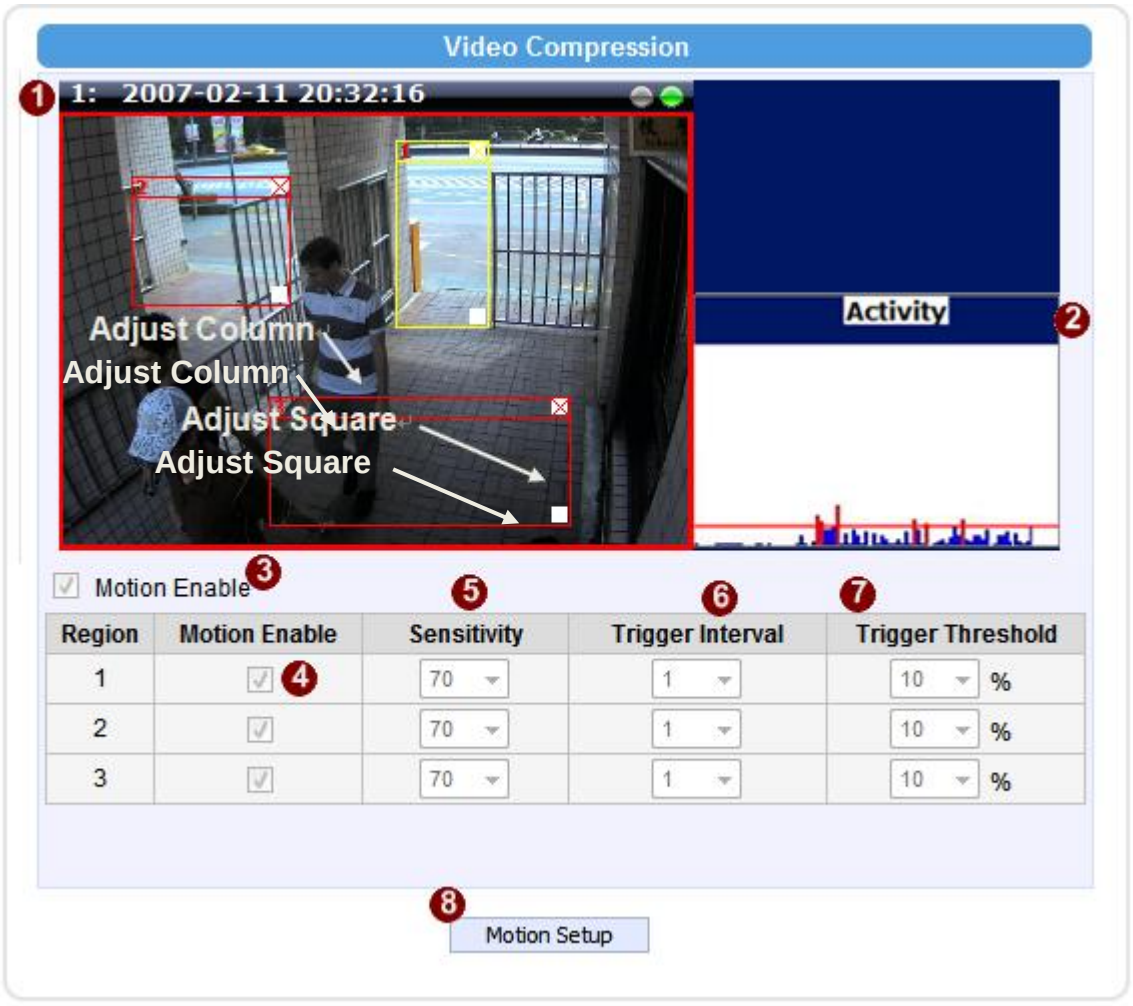
Click the ⓫ [Apply] button to confirm the settings or click the ⓬ [Reset] button to re-enter the parameters.

4 Stream Mode:

Configuring compression settings in 4 stream mode is basically the same as configuring compression settings in other modes. The setting is the same across all 4 channels, but you may switch view of the individual channels by selecting the channel on top.

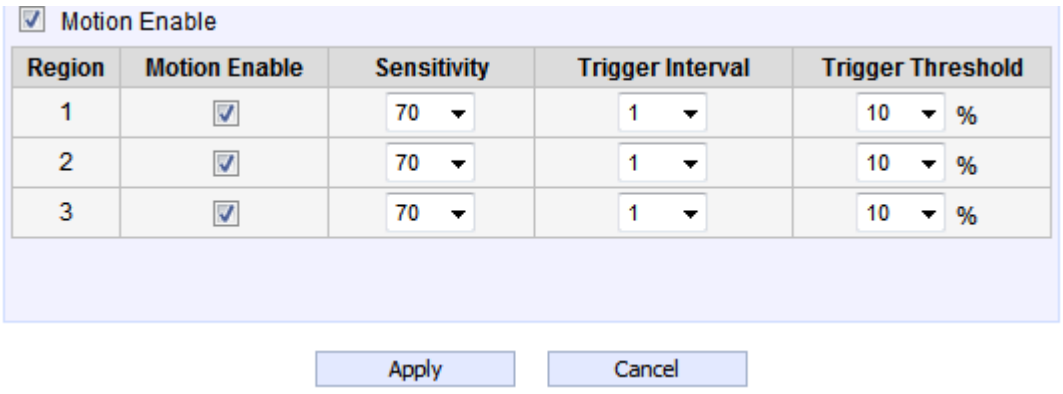


Motion Detection



Click the 8 [Motion Setup] button to edit the settings. Before clicking Motion Setup, you will be in passive observer mode. You will see activity status and whether each motion window has motion activity, but will not be able to change settings.

Motion Setup mode



Video Motion Detection:

STEP1: Click the Plus sign 3 to expand the Motion Detection settings then Click the Motion Enable checkbox to enable motion detection.

STEP2: Click the 4 checkbox to enable motion detection for each individual region**.**

STEP3: Click one region to start to edit its size and location. You can click the "Adjust Column" to drag motion region to your desired location. You can click the "Adjust Square" and drag to adjust motion region size. You can click the upper right button to cancel this motion region. Repeat above procedure to adjust the motion region.

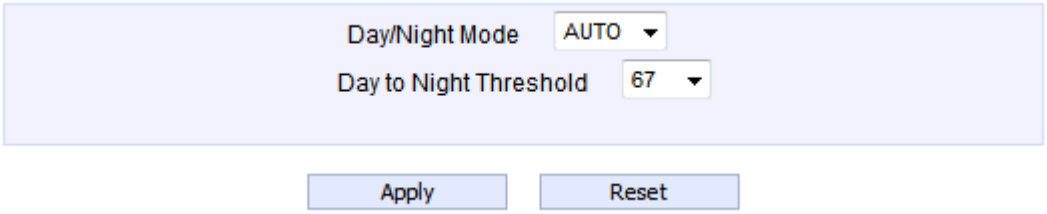
STEP4: Set the 5 sensitivity of motion detection region.
STEP5: Set the 6 interval time of motion detection. After a motion event is triggered, no more events will be triggered within this time in the same region
STEP6: Set the 7 trigger threshold of motion detection region. The larger this value, the larger the object size needed to trigger motion detection.
STEP7: In motion activity 2 window, the bar shows the motion activity status. You can also see the trigger threshold (Red line). When the motion activity exceeds the trigger threshold, the bar would become red to indicate that a motion event has been triggered.

While viewing the motion activity window, you can adjust the motion sensitivity (the higher, the easier camera considers video change to be an activity) and the threshold (the higher, the larger the activity needed to trigger a motion event). If the default settings are not satisfactory for your scene, you may try our alternative recommendations of:

Sensitivity: 80, Threshold: 2~5 (for normal environment)
Sensitivity: 80, Threshold: 5~10 (for very noisy environment)

Day / Night

This section concerns the day and night switch timing for your camera.

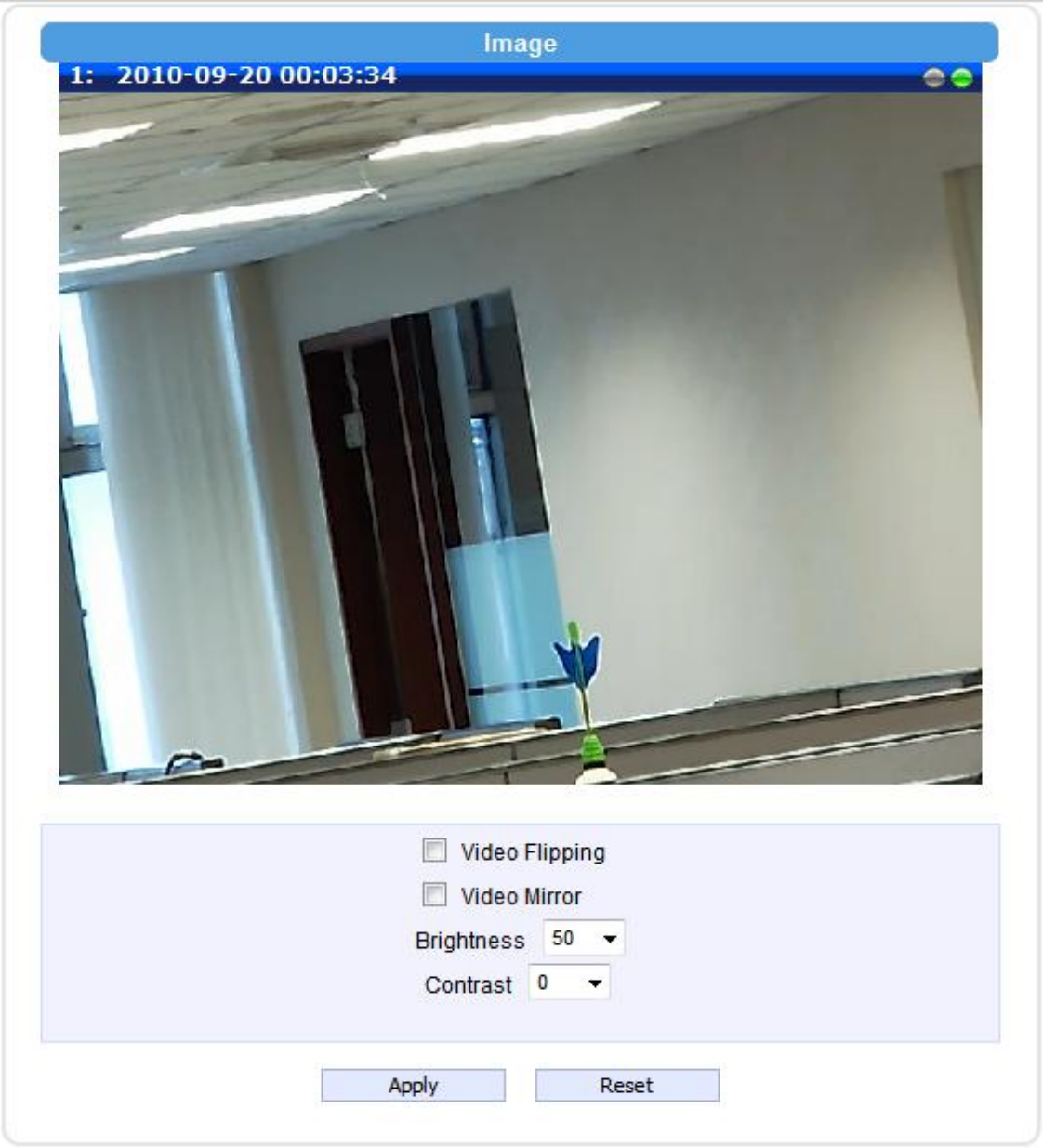


1. **Day / Night Mode:** The camera will change between day and night modes by default. You may command camera to stay in day or night mode here, or allow it to change automatically.
2. **Day to Night Threshold:** This value controls the level of light where camera switches into night mode. Increasing it will make camera switch to night mode at a darker illumination level.

   Click the [Apply] button to confirm the settings or click the [Reset] button to re-enter the parameters.

Image

This section concerns the general video settings.



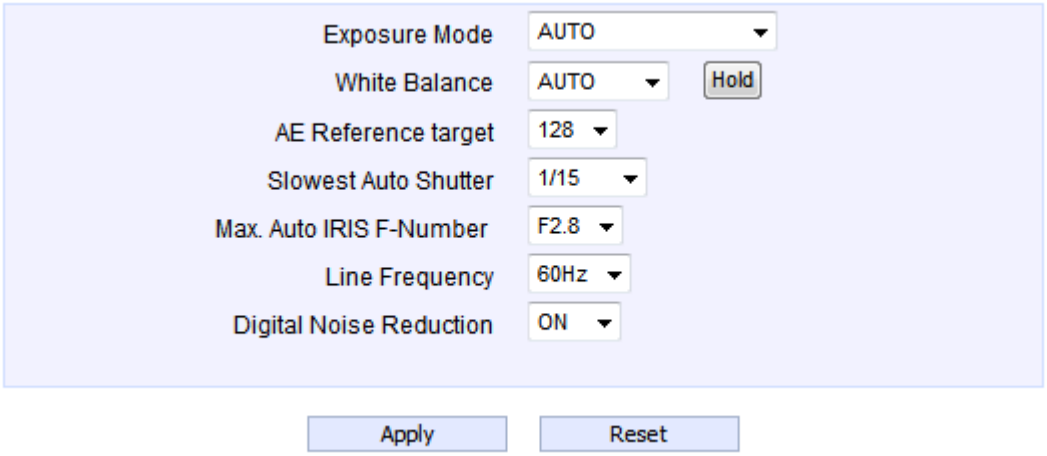
1. **Video Flipping:** Check this box to flip the video up-down
2. **Video Mirror**: Check this box to mirror the video left-right
3. **Brightness:** Select the Brightness value. The higher the value, the brighter the image.
4. **Contrast:** Select the Contrast value. The higher the value, the sharper the contrast.

Click the [Apply] button to confirm the settings or click the [Reset] button to re-enter the parameters.

Exposure / White balance

Configure Exposure and White Balance and Digital Noise Reduction for best image quality here. Some options will only appear under certain exposure / White balance modes. We will describe each in detail below.

Exposure Mode - Auto



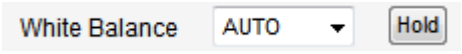
In Auto Exposure Mode, you control the image brightness by configuring the AE Reference Target and Slowest Auto Shutter.

AE Reference Target means the Auto Exposure reference target, which can be considered as the "Target Brightness on Sensor". The camera will use several internal parameters to achieve best quality with reference to this. **The higher this value, the brighter the overall scene, and the more noise at night.**

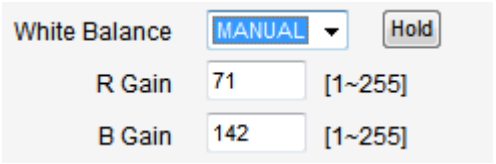
Slowest Auto Shutter means the longest allowed exposure time for each frame. In extreme low light conditions, the exposure time is automatically increased to get more light into one image. If it extends beyond the interval between frames, (i.e. 1/30 second), then the frame rate will be automatically reduced. **Longer time in this value gives clearer images at night for slow moving objects, but more motion blur for fast moving objects.**

White balance weights the proportion of color in scene and recreates the most realistic color. Usually this function is performed seamlessly in the background in auto mode. In some cases you may want to fix the color proortions of your view. Wait until you like the color on screen. You can hold a piece of white paper in front of camera for reference, then wait until you like the current value to click on the "Hold" button to the right. This will lock the current value and enter the manual white balance mode.

Before Hold



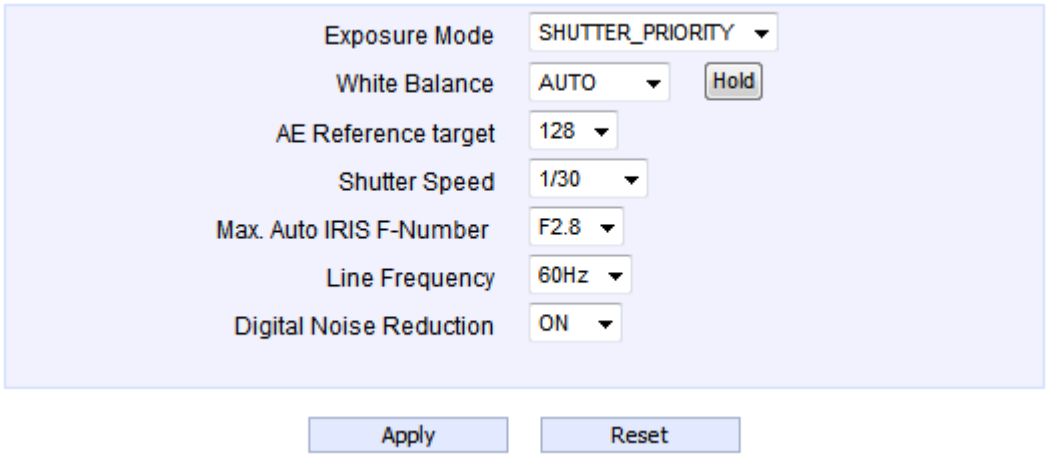
Entering Manual mode with Hold White Balance



Line Frequency is the power supply frequency. Select the right frequency to avoid image flickering.

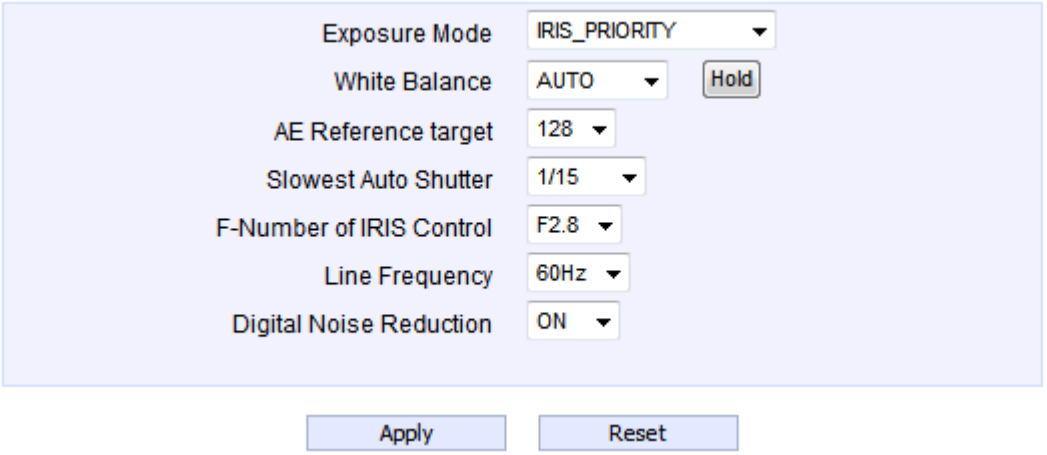
DNR means Digital Noise Reduction. Enable this for smooth and clear image. Disable this if your scene contains many extreme details that may be smoothed over with DNR.

Exposure Mode – Shutter Priority



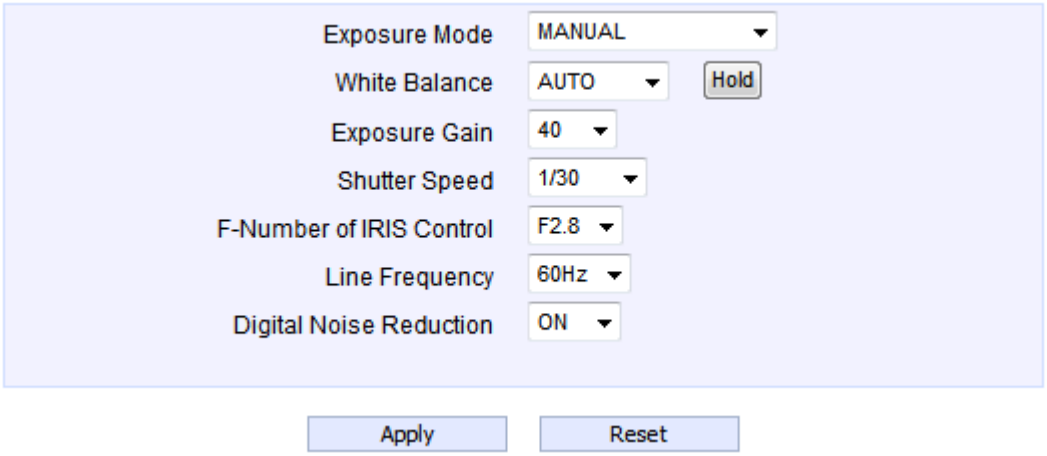
In Shutter Priority Mode, the shutter speed is locked at the user defined value. Camera will compensate for different brightness with Iris size or signal enhancements. This is useful when the target moves very fast and has to be viewed with short exposure shutter time.

Exposure Mode – Iris Priority



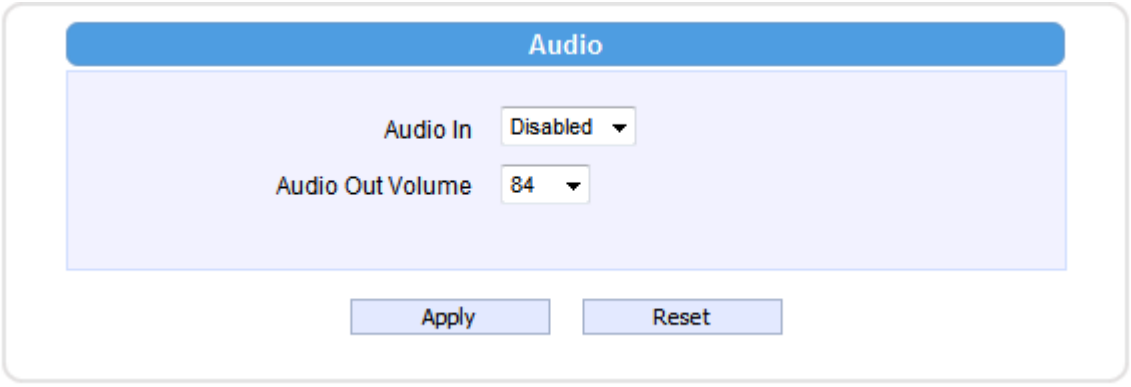
In Iris Priority Mode, Iris size is fixed to ensure sufficient depth of view. Camera varies exposure time shutter to compensate for brightenss change.

Exposure Mode - Manual



In Manual Exposure mode, you may configure the shutter speed and exposure image gain yourself for optimum performance.

Audio



Audio In - Enable or disable Audio In via the check box.

Audio Out Volume – Control the output volume of Audio Out here.

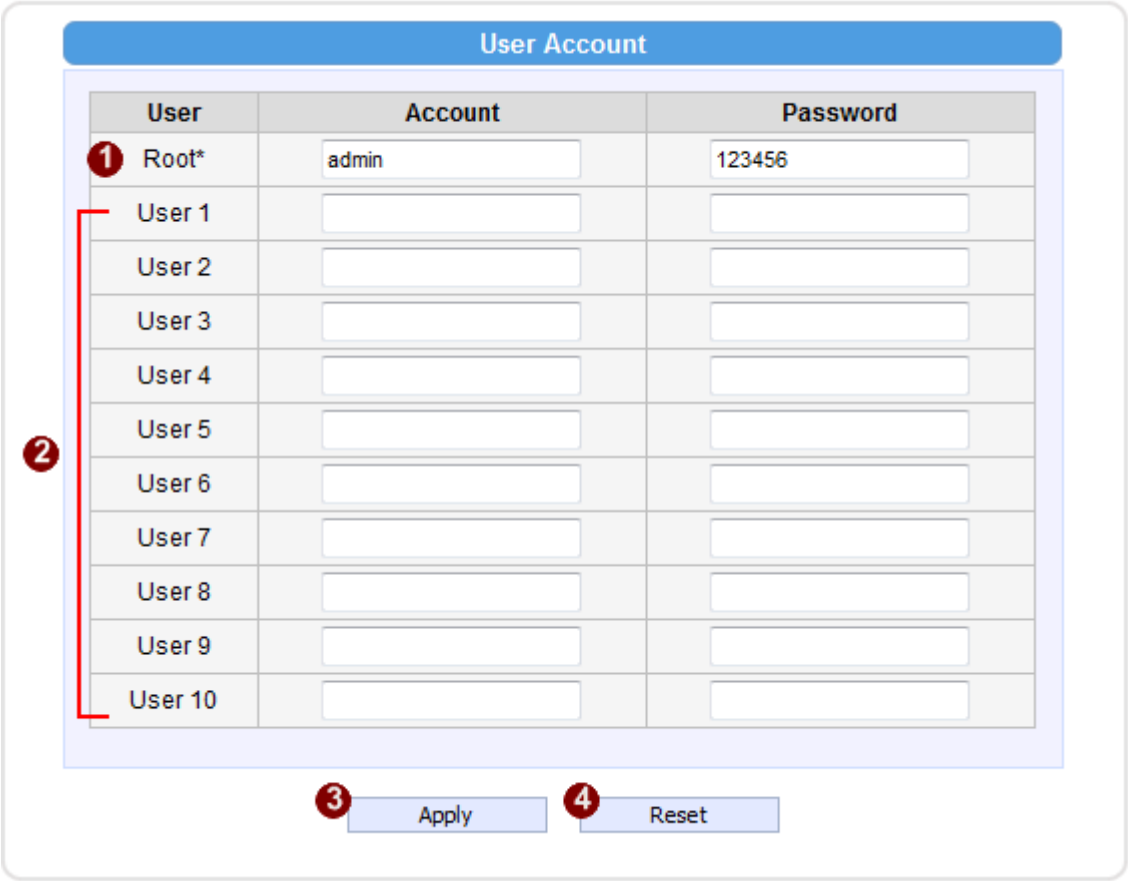
Click the [Apply] button to confirm the settings or click the [Reset] button to re-enter the parameters.

System

Click the [System] item on the "Setup Page".

User Account

Click the [User Account Setting] item to display the "User Account Setting Page".



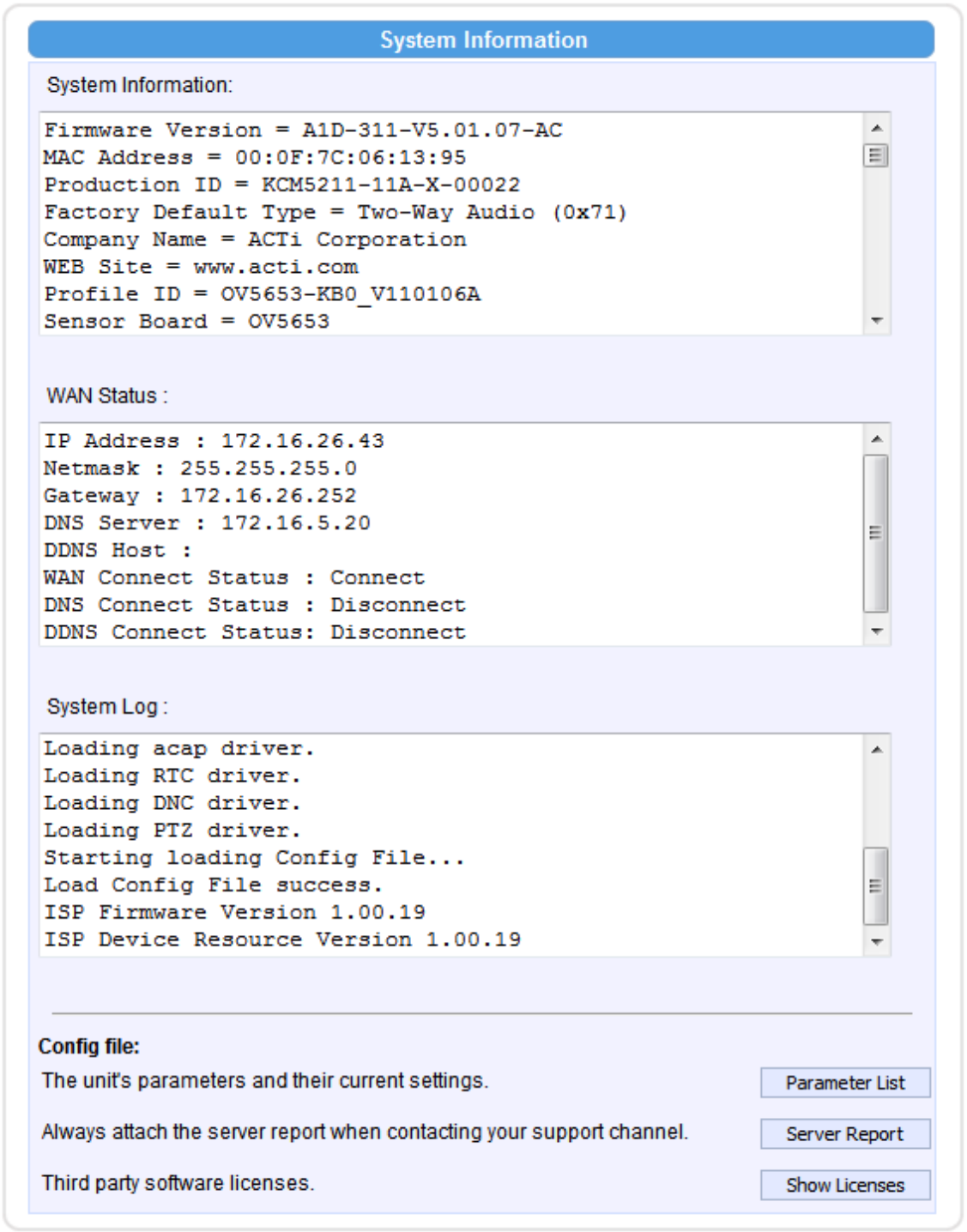
Setup the account names and their passwords. There are 1 root (1) (administrator) account and 10 common user accounts (2) Administrator account allows the user to watch the live view and setup everything; but common user account allows user only to watch the live image.

Click the (3) [Apply] button to confirm the settings or click the (4) [Reset] button to re-enter the parameters.

System Info

Click the [System Info] item to show details about this IP device including system information, WAN status and system log. Refer to the table below for how to configure each setting.

View the information at the 3 textboxes. This information is very useful to understand the IP device status and to resolve any problem that might occur.



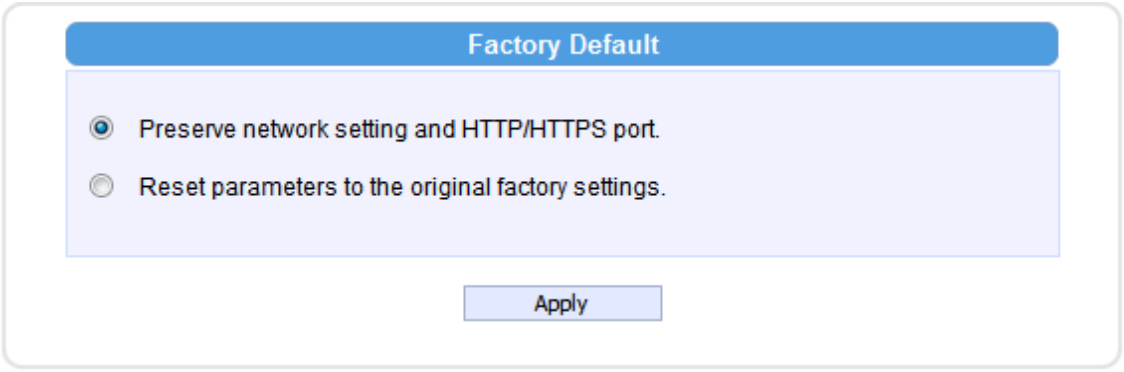
Column	Description
System info	It shows the firmware version, MAC address, production ID, and factory default type of IP device.
WAN status	It shows the WAN port's IP address, netmask, gateway, DNS server, DDNS host and connection status.
System log	It shows the system event. This column is very useful to as a diagnostic tool. At the bottom of this area is the ISP firmware version, which is an useful diagnostic parameter.

Click [Parameter List] to see all configurations of the IP device.

Click [Server Report] to export related information while reporting to your support channel.

Factory Default

Click the [Factory Default] item to display the "Factory Default Page".

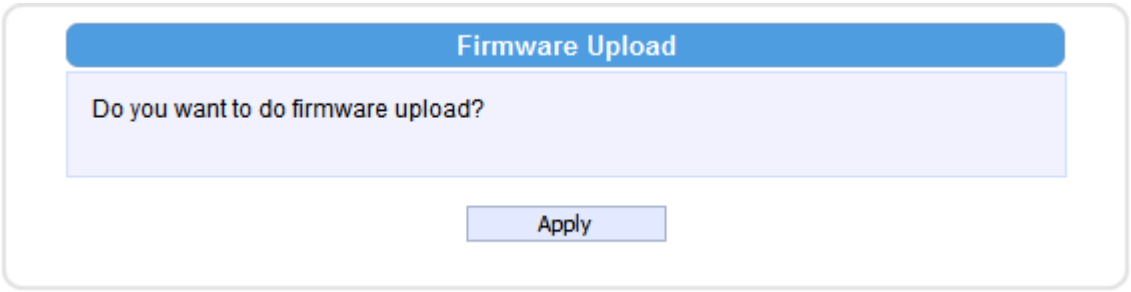


If you want to keep network settings and restore other settings to factory default, please select the first option. If you select the second one instead, all the settings would be removed during factory default. You will have to use factory default IP setting to connect to this camera. Please refer to previous login section.

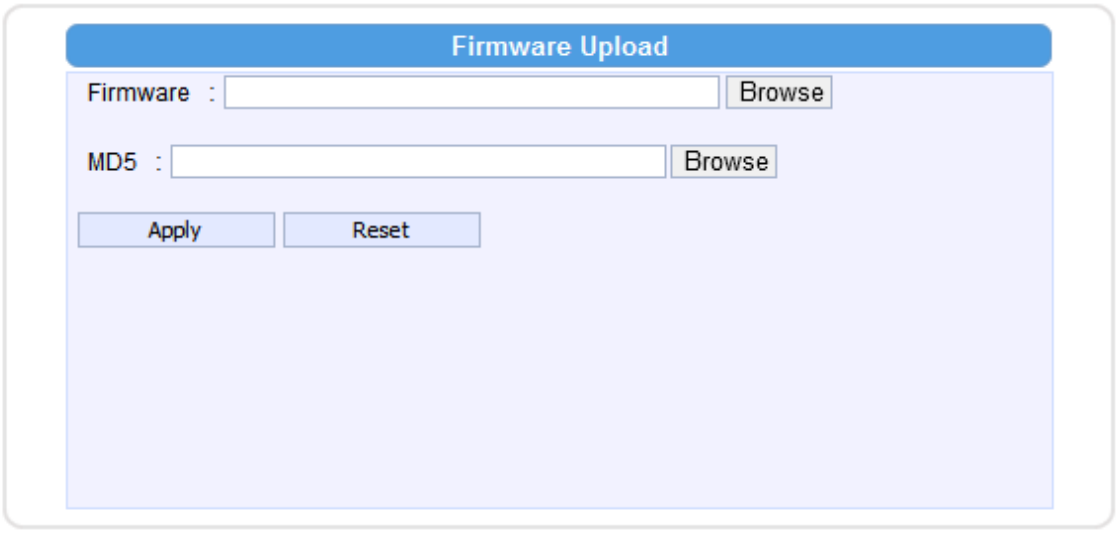
Click the [Apply] button to show a warning dialog that reminds you again before restoring the device to factory default.

Firmware Upload

Click the [Firmware Upload] item to display the "Firmware Upgrade Page". Upgrade the IP device's firmware through this page with the following instructions. You may upgrade firmware for individual cameras with this function. To upgrade camera firmware in batches, please use IP utility, which can be freely downloaded from website. The firmware file you download from website will contain one .upg file, and one .md5 file. Uploading firmware through Web Configurator uses only the .upg file. You will need both files if you are doing multiple upgrades with IP Utility.



Click the [Apply] button. The ''Firmware Upgrade Page-2" will be displayed as below.



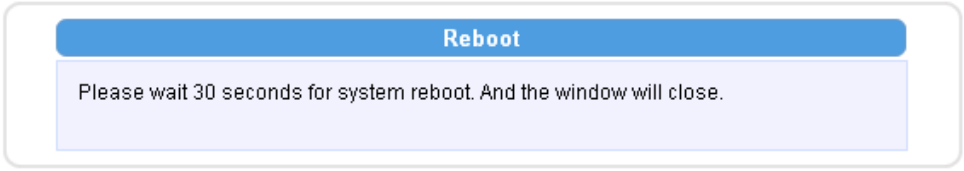
Click [Browse] to select the upgrade image file and MD5 file. You can always get the latest version at our website. Click the [Apply] button to start upgrade.
The upgrade process window will show a progress bar indicating upgrade status.

Once the process is finished, you will get an "OK" message and system will reboot itself.

NOTE: If you cancel the firmware upgrade during upgrade process, the browser window will be closed

Save & Reboot

This section tells you how to save all the settings and reboot this IP device. This is critical because some settings might not take effect before save and reboot. Click the [Save & Reboot] item to display the "Reboot Page".



The Action LED indicator will go dark to indicate that the IP device is rebooting. After around 30 seconds, the Action LED will light up again to indicate that the reboot is completed.

Logout

Clicking this item allows you to log out of the IP device. Be sure to logout this IP device once your setting is completed.