



# Encoder Firmware

**A1D-310-V4.08.05-AC**

**User's Manual**

2010/9/06



**ACTi**  
Connecting Vision

# Table of Contents

<b>1. Recommended PC Specification</b>	<b>4</b>
<hr/>	
<b>2. Preparation before setup</b>	<b>5</b>
<hr/>	
Connect to device and setup IP .....	5
Sample screenshots to setup IP of your PC (Win XP) .....	7
<b>3. Configuring the IP device</b>	<b>11</b>
<hr/>	
<b>Login</b> .....	<b>11</b>
<b>Live view</b> .....	<b>13</b>
<b>Date &amp; Time</b> .....	<b>16</b>
<b>Network Section</b> .....	<b>18</b>
Host .....	19
IP Address Filtering .....	20
Port Mapping .....	22
ToS .....	24
UPnP™ .....	25
SNMP Setting .....	26
RTP .....	27
Speed & Duplex .....	28
<b>IP Settings</b> .....	<b>29</b>
Connection Type .....	29
DNS .....	31
DDNS .....	32
<b>Video &amp; Audio</b> .....	<b>33</b>
Video .....	33
<b>System</b> .....	<b>52</b>
User Account .....	52
System Info .....	54
Factory Default .....	55
Firmware Upload .....	56
Profile Upload .....	57

Save & Reboot..... 58  
Logout..... 58

# 1. Recommended PC Specification

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

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## 2. Preparation before setup

### Connect to device and setup IP

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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](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:

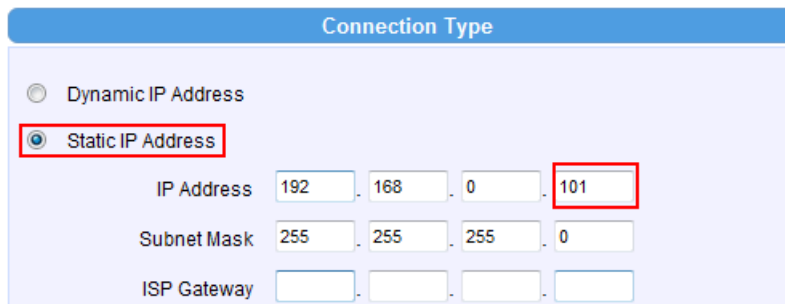
Please assign a static IP for each device and add them one by one. Connect to the first device by following steps 1 to 5 below.

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.

- Open Internet Explorer (Version 6.0 or above) , and type in **Default IP:**  
**http://192.168.0.100**
- When you see the login window, please input default user and password:  
**Default Username: Admin    Password: 123456**
- 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.
- 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.



Connection Type

Dynamic IP Address

Static IP Address

IP Address: 192 . 168 . 0 . 101

Subnet Mask: 255 . 255 . 255 . 0

ISP Gateway: . . . .

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

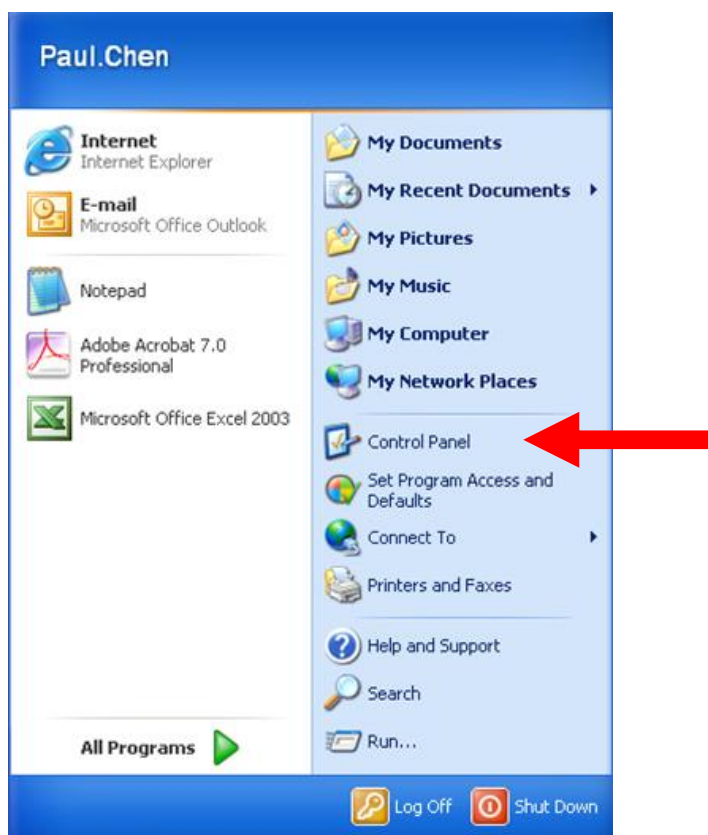
The procedures below show how to setup your IP on Windows XP. If you use operating system other than Windows XP, please refer to OS manuals for proper setup procedures.

### STEP1

Start up your PC.

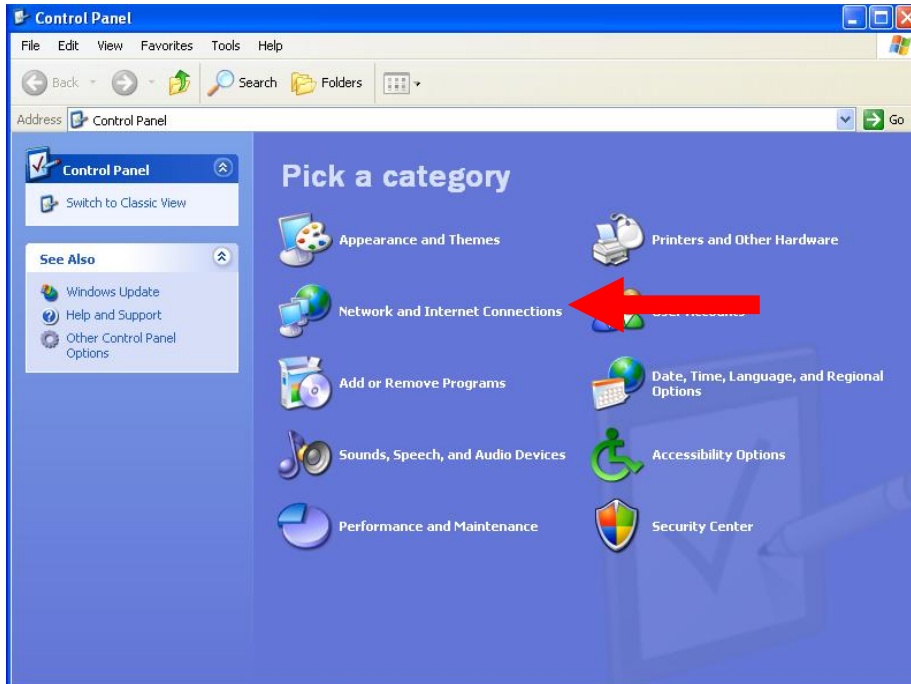
### STEP2

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



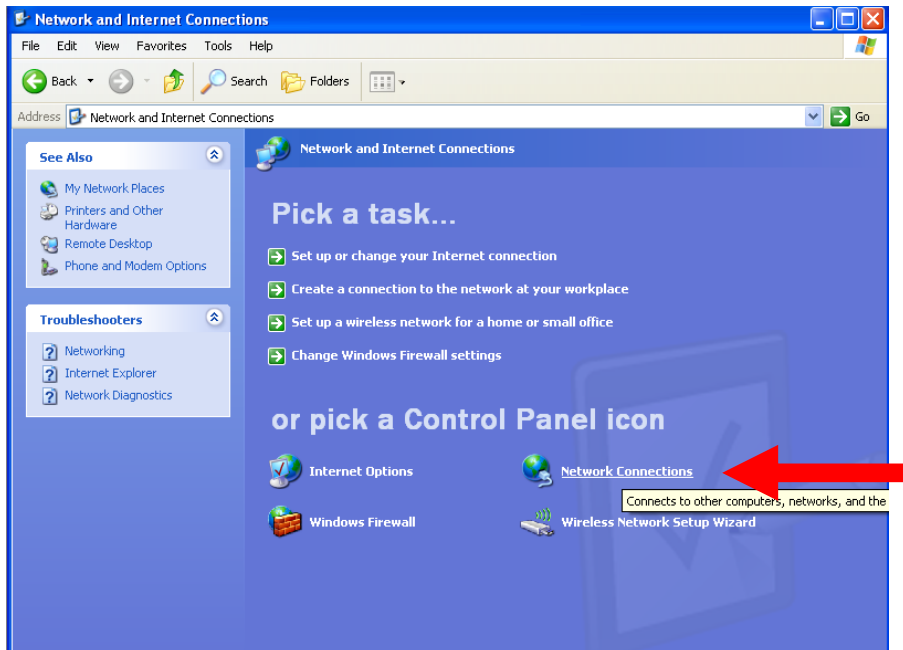
**STEP3**

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



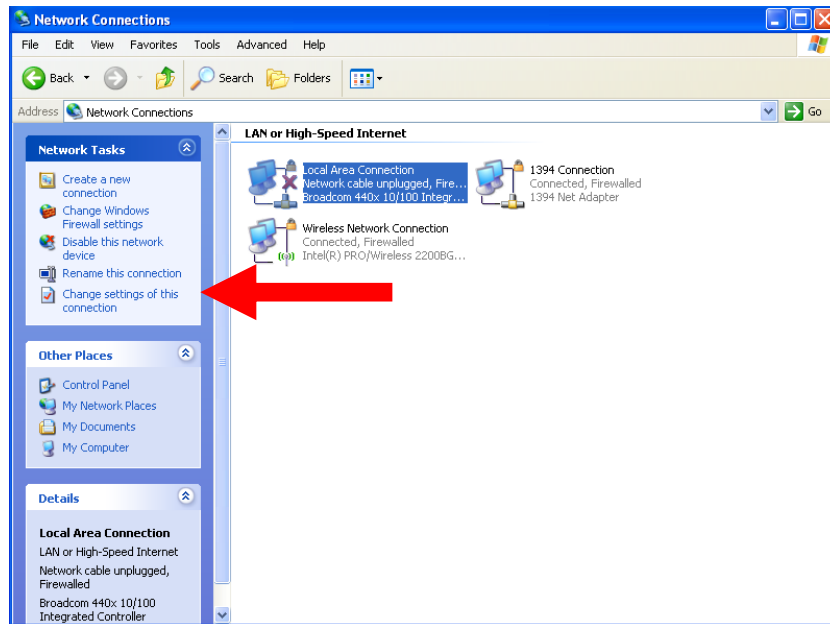
**STEP4**

Double-click the "Network connections" icon



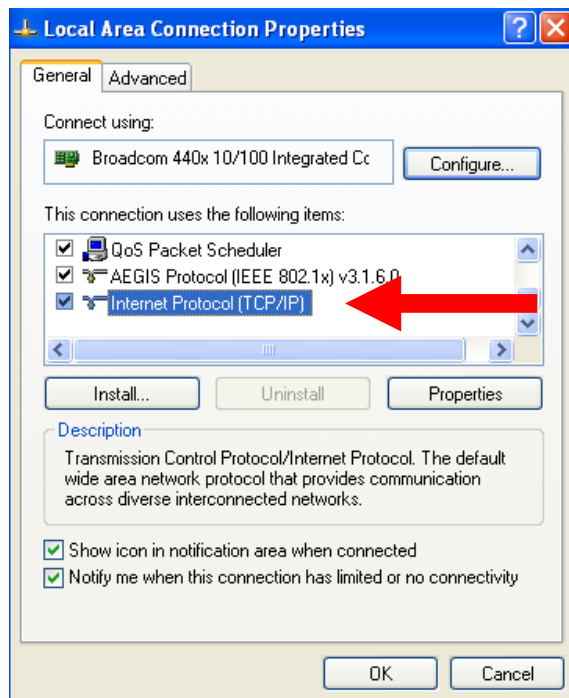
**STEP5**

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



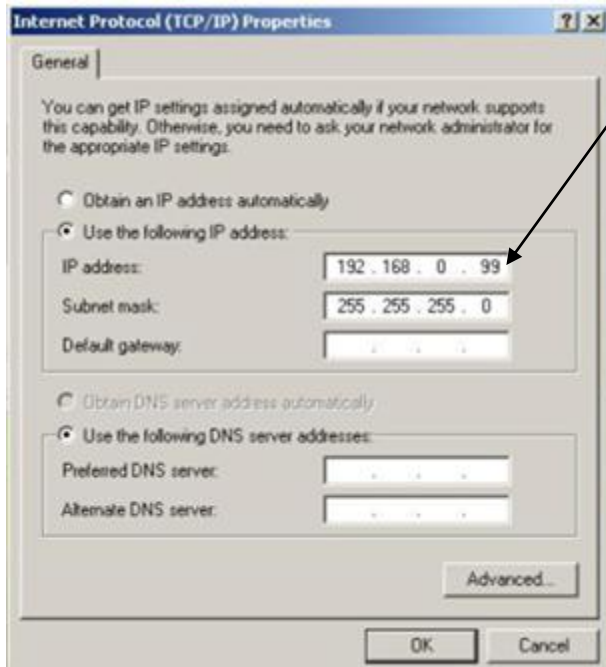
**STEP6**

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 or above).

### Login

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#### STEP1

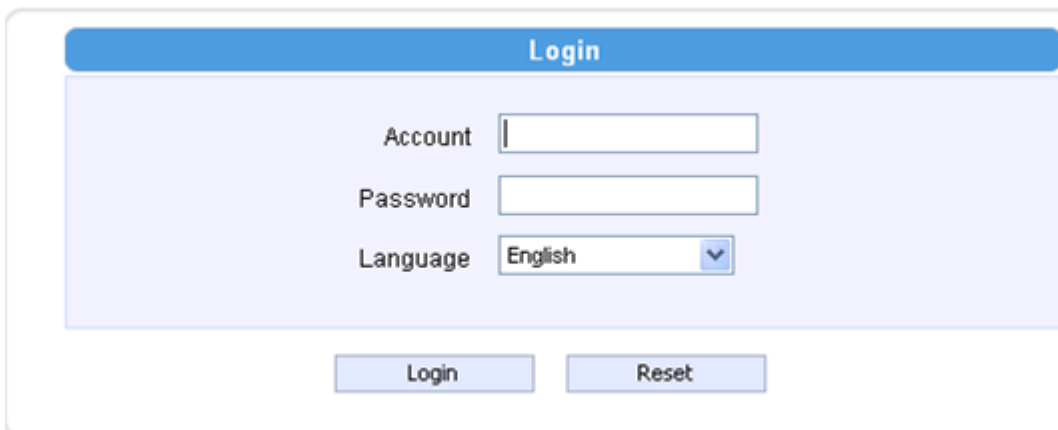
Open Internet Explorer 6.0 or above. You may download the latest version from:

<http://www.microsoft.com/windows/ie/downloads/default.msp>

#### 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"



The screenshot shows a web browser window displaying a login page. The page has a blue header with the word "Login". Below the header, there are three input fields: "Account", "Password", and "Language". The "Language" field is a dropdown menu currently set to "English". At the bottom of the form, there are two buttons: "Login" and "Reset".

#### STEP3

Enter the Account name and the Password

**(Default Account: Admin / Password: 123456).**

#### STEP4

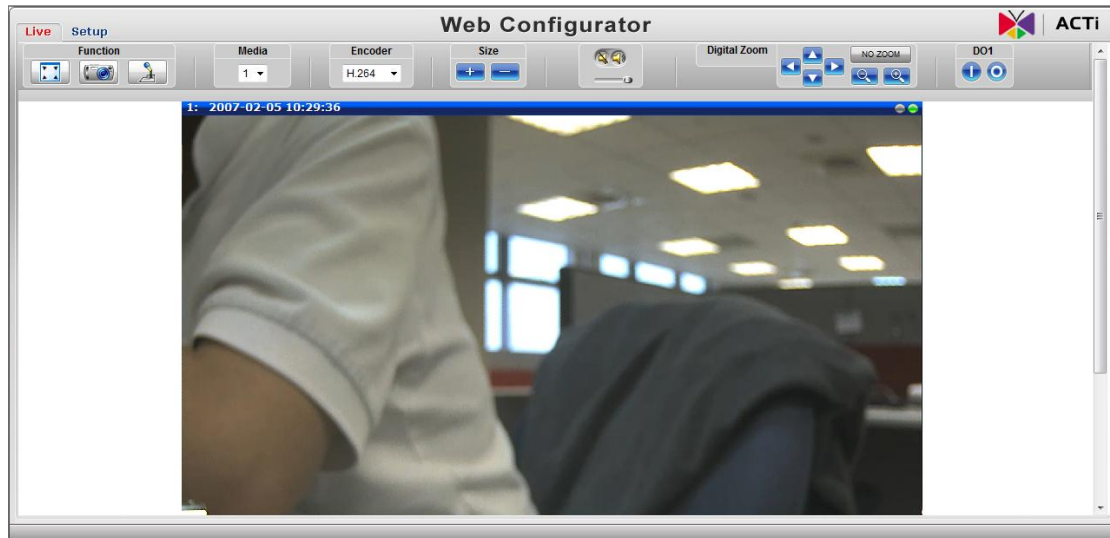
Select the language of the IP device user interface.

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.

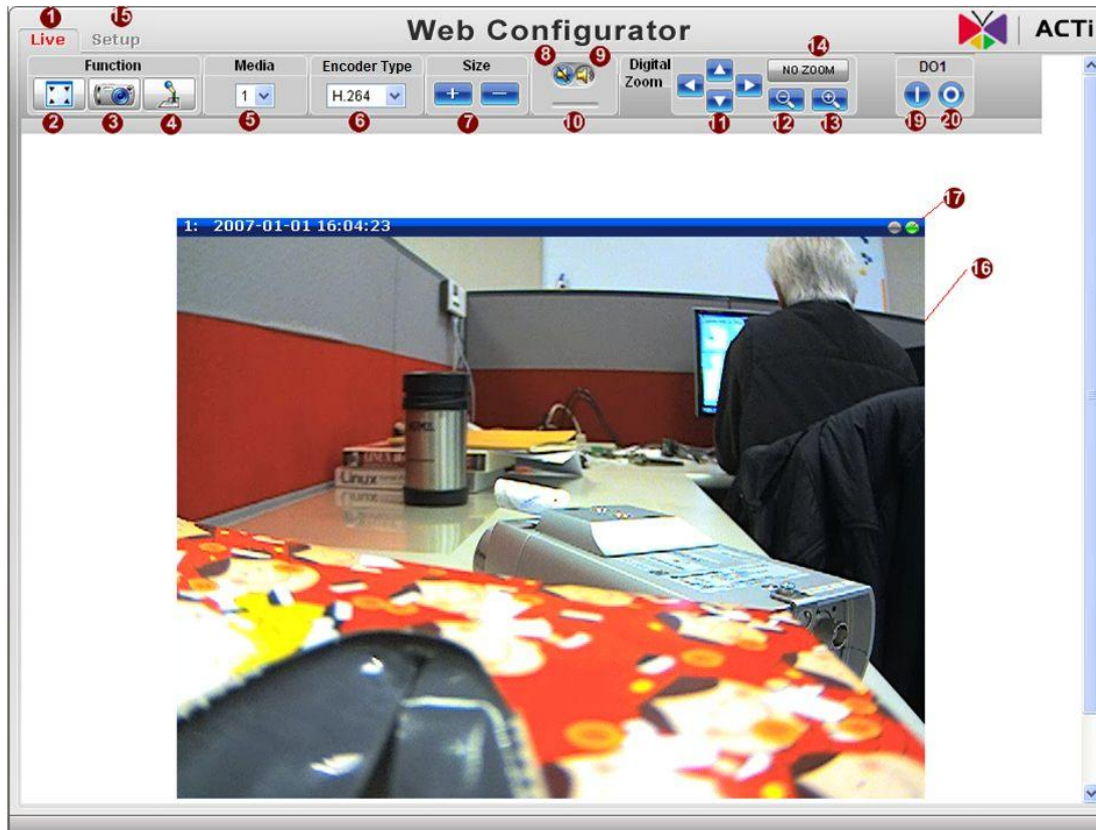
**STEP5**

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





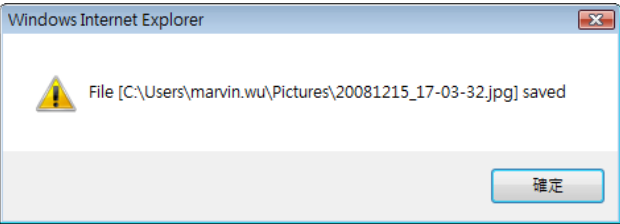











## Live view





Click the **1** [Live] tab to show [Live page]. Refer to the table below for how to configure each setting.



### Function List

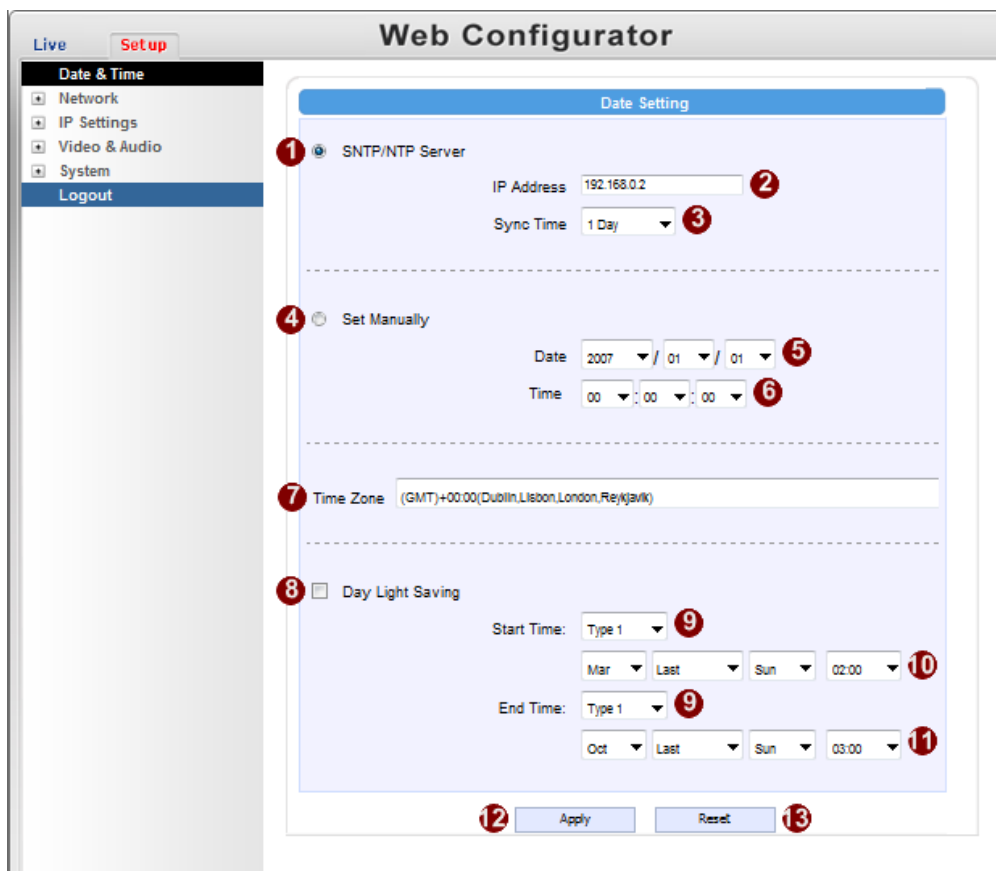
Function	Description
<b>2</b> Full Screen	Click the icon  to stretch the preview to full screen. You can click “Esc” button on the keyboard to return to previous display.
<b>3</b> Snapshot	Click the icon “  ” to take a snapshot. The snapshot picture will be saved to the default folder “C:\Users\”account name”\Picture”, in the format of YYYYMMDD_HH_mm_ss.jpg.

	
<p><b>4</b> Audio out</p>	<p>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.</p> <p>NOTE: you will need to have a microphone connected to your PC to do that.</p>
<p><b>5</b> Media</p>	<p>If dual stream mode is enabled, click <b>5</b> 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</p>
<p><b>6</b> Encoder Type</p>	<p>Click <b>6</b> 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.</p>
<p><b>7</b> Display size</p>	<p>Click  or  of <b>7</b> to adjust <b>16</b> display screen size</p>
<p><b>10</b> Audio in</p>	<p>Click the icon  <b>8</b> to mute or the icon  <b>9</b> to receive audio in from the video server/IP camera. Drag the volume bar  <b>10</b> to adjust the volume.</p>
<p><b>11</b> Digital Zoom</p>	 <p>Digital zoom enables you to zoom into the image. You can click to zoom <b>13</b> in  click  to zoom <b>12</b> out. You can click the <b>14</b>  button to cancel all zoom-in and go back to original status (no zoom status).</p> <p>When you digitally zoom in the video, you can click  to pan/tilt the video up, down, left and right. NOTE: This pan/tilt function does not work if the video is not zoomed-in (no zoom status).</p>

<p><b>17</b> Network status</p>	<p> 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.</p> <p>The light on the left is not used</p>
<p>DO Setting</p>	<p> Click <b>19</b>  to set DO output level to High. Click <b>20</b>  to set DO output level to Low. If your device has more than one DO available, each DO is controlled separately.</p>

If you want to setup this IP camera/video server, please click the **15** [Setup] tab to switch to “Setup Page”

## 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
<b>1</b> SNTP/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. <b>2 IP address:</b> Enter the IP address of the SNTP/NTP server. <b>3 Sync time:</b> Select the time interval for this IP device to synchronize its time.
<b>4</b> Set manually	Click this to manually setup the date & time. <b>5 Date :</b> Select the date <b>6 Time:</b> Select the time

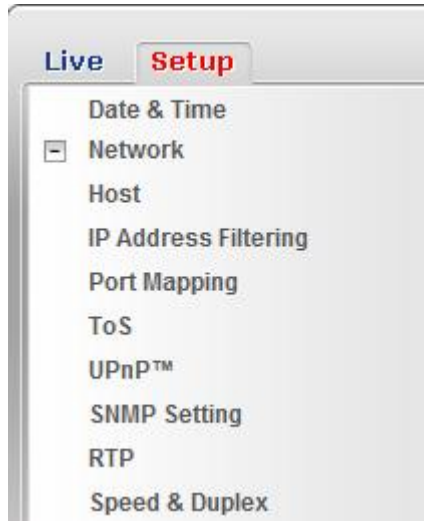
7 Time zone	Select the time zone offset for local settings
8 Day Light Saving	Select Type 1 9 to specify daylight saving time by week number in a month; select Type 2 to specify daylight saving time by date. 10 <b>Start Time:</b> Select the daylight savings start time. 11 <b>End Time:</b> Select the daylight savings end time.

Click the 12 [Apply] button to confirm the settings or click the 13 [Reset] button to re-enter the parameters.

## Network Section

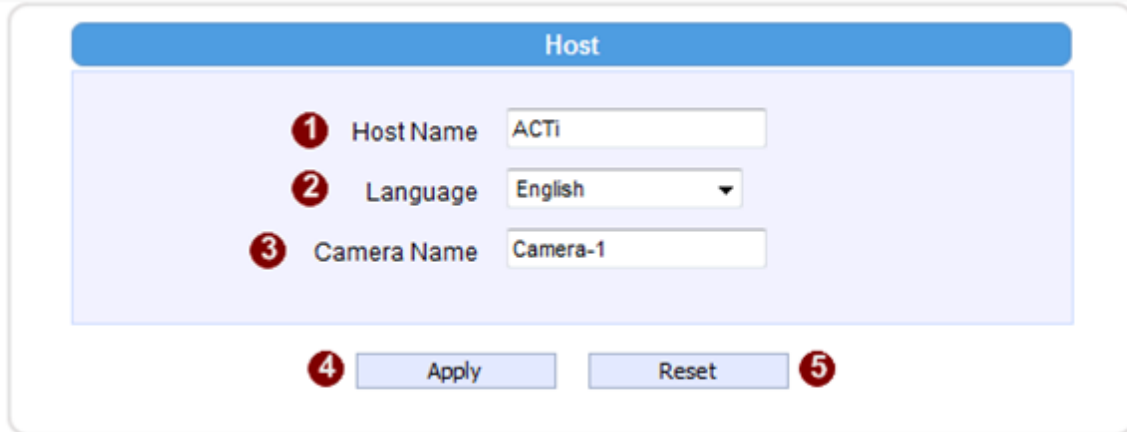
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Click the  [Network] item on the “Setup Page”.



## Host

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



Parameters	Description
<b>1</b> 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.
<b>2</b> Language	Select the language of default user-interface. Each user login will see the default user-interface first.
<b>3</b> 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.

## 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.

IP Address Filtering

**1**  IP address filter enable

Set IP address -----

**2** Blocked ▾ IP Address/Netmasks

NO.	IP address	Netmask	Enabled
<b>3</b> 1	0 . 0 . 0 . 0	<b>4</b> 0 . 0 . 0 . 0	<b>5</b> <input type="checkbox"/>
2	0 . 0 . 0 . 0	0 . 0 . 0 . 0	<input type="checkbox"/>
3	0 . 0 . 0 . 0	0 . 0 . 0 . 0	<input type="checkbox"/>
4	0 . 0 . 0 . 0	0 . 0 . 0 . 0	<input type="checkbox"/>
5	0 . 0 . 0 . 0	0 . 0 . 0 . 0	<input type="checkbox"/>
6	0 . 0 . 0 . 0	0 . 0 . 0 . 0	<input type="checkbox"/>
7	0 . 0 . 0 . 0	0 . 0 . 0 . 0	<input type="checkbox"/>
8	0 . 0 . 0 . 0	0 . 0 . 0 . 0	<input type="checkbox"/>
9	0 . 0 . 0 . 0	0 . 0 . 0 . 0	<input type="checkbox"/>
10	0 . 0 . 0 . 0	0 . 0 . 0 . 0	<input type="checkbox"/>
11	0 . 0 . 0 . 0	0 . 0 . 0 . 0	<input type="checkbox"/>
12	0 . 0 . 0 . 0	0 . 0 . 0 . 0	<input type="checkbox"/>
13	0 . 0 . 0 . 0	0 . 0 . 0 . 0	<input type="checkbox"/>
14	0 . 0 . 0 . 0	0 . 0 . 0 . 0	<input type="checkbox"/>
15	0 . 0 . 0 . 0	0 . 0 . 0 . 0	<input type="checkbox"/>
16	0 . 0 . 0 . 0	0 . 0 . 0 . 0	<input type="checkbox"/>

**6**  **7**

Parameters	Description
<b>1</b> IP address filter enable	Check this box to enable IP Address Filtering.
<b>2</b> Filter Method	<p>The filter can be set in either “Allow” mode or “Block” mode.</p> <ol style="list-style-type: none"> <li>1. “Allow” mode will refuse access to all IP addresses except the ones listed below.</li> <li>2. “Block” mode will accept all incoming access except the IP addresses listed below.</li> </ol> <p>Make sure you include the Netmask in your consideration.</p>
<b>3</b> IP Address	The IP address you wish to allow or block. Please note that the actual range is modified by the Netmask.
<b>4</b> 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. .
<b>5</b> 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.
<b>6</b> 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.
<b>7</b> Reset	Click this button to re-enter the parameters.

Click the **6** [Apply] button to confirm the settings or click the **7** [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.

Port Mapping

**1** HTTP Port

**2** HTTPS Port

**3** Search Server Port 1

**4** Search Server Port 2

**5** Video Control Port

**6** Video Streaming Port

**7** Video Multicast Port

**8** RTSP Port

**9** RTP Multicast Video Port for Media1

**10** RTP Multicast Audio Port for Media1

**11** RTP Multicast Video Port for Media2

**12** RTP Multicast Audio Port for Media2

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**13** Multicast IP      
[ 224.5.0.1 ~ 239.255.255.255 ]

**14** Multicast TTL

**15** IGMP

**16**   **17**

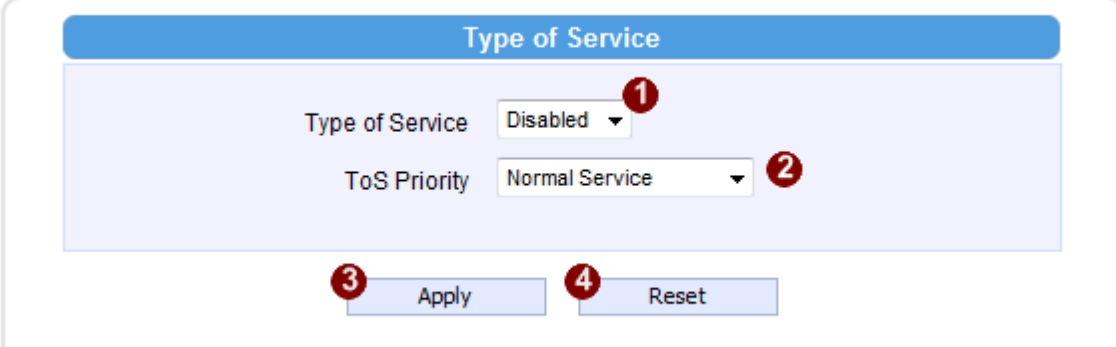
Parameters	Description
<b>1</b> HTTP port	Select the port assigned for HTTP protocol access
<b>2</b> HTTPS	Select the port assigned for HTTPS protocol access
<b>3</b> Search server port1	Select the first port used by server search applications to detect this IP device. (e.g. IP utility)
<b>4</b> Search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

<b>5</b> Video control port	Select the port used to support video control function by application programs. (e.g. NVR)
<b>6</b> Video streaming port (TCP Only)	Select the port used by this IP device for Video Streaming.
<b>7</b> Video Multicast Port	Enable/disable multicast audio streaming
<b>8</b> RTSP port	Select the port assigned for RTSP protocol access
<b>9</b> RTP Multicast Video Port for Media1	Select the port for the multicast video streaming of media1 via RTP protocol
<b>10</b> RTP Multicast Audio Port for Media1	Select the port for the multicast audio streaming of media1 via RTP protocol
<b>11</b> RTP Multicast Video Port for Media2	Select the port for the multicast video streaming of media2 via RTP protocol
<b>12</b> RTP Multicast Audio Port for Media2	Select the port for the multicast audio streaming of media2 via RTP protocol
<b>13</b> Multicast IP	Select the multicast IP. Default settings is 228.5.6.1
<b>14</b> Multicast TTL	Select the multicast TTL. Default setting is 255.
<b>15</b> 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 **16** [Apply] button to confirm the settings or click the **17** [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.

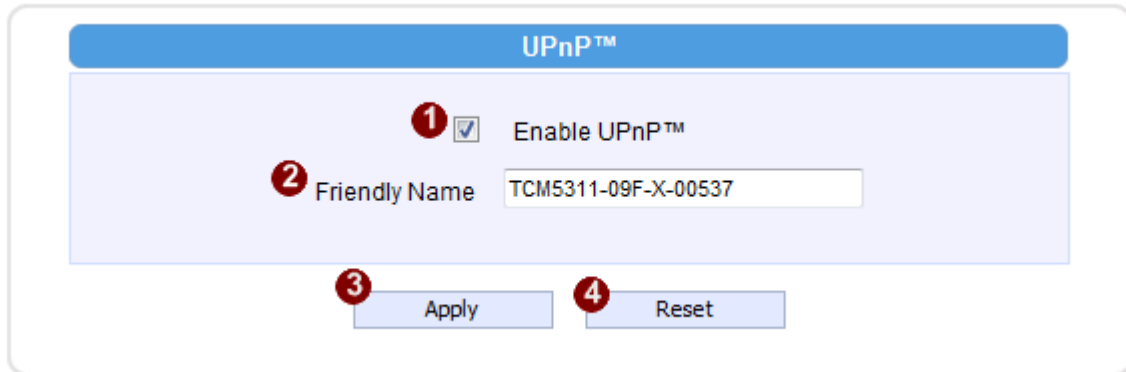


Parameters	Description
<b>1</b> TOS (type of service)	Select whether to add the TOS tag onto the streaming data. Streaming data with a higher priority TOS tag will be transmitted first when compared with other data.
<b>2</b> TOS priority	Select the TOS tag's priority to be added onto the streaming. You can select between <ol style="list-style-type: none"> <li>1. <b>Minimize-Delay</b></li> <li>2. <b>Maximize-throughout</b></li> <li>3. <b>Maximize-Reliability</b></li> <li>4. <b>Normal-Service</b></li> </ol>

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”.



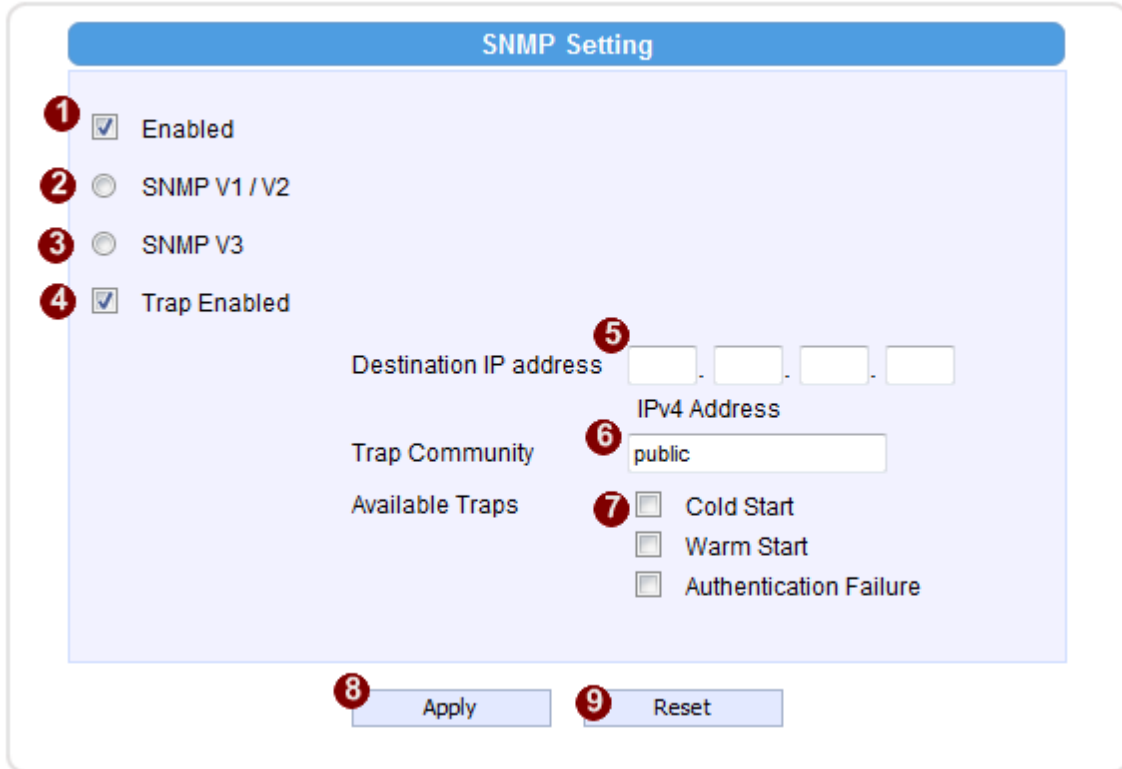
The screenshot shows the UPnP™ setting page. At the top is a blue header with the text "UPnP™". Below the header is a light blue box containing the settings. The first setting is a checkbox labeled "Enable UPnP™" with a red circle containing the number "1" next to it. The checkbox is checked. The second setting is a text field labeled "Friendly Name" with a red circle containing the number "2" next to it. The text field contains the value "TCM5311-09F-X-00537". Below the text field are two buttons: "Apply" and "Reset". The "Apply" button has a red circle containing the number "3" next to it, and the "Reset" button has a red circle containing the number "4" next to it.

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.

## 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**

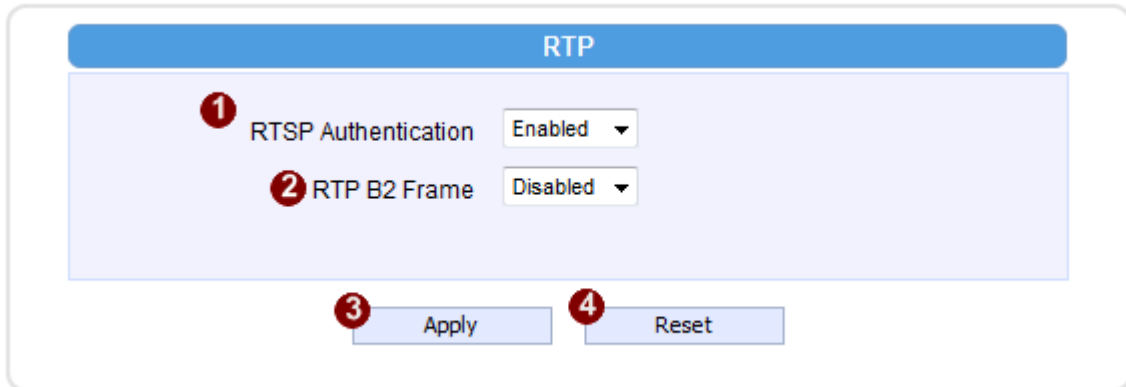
Enter the Trap Community used in **6**

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



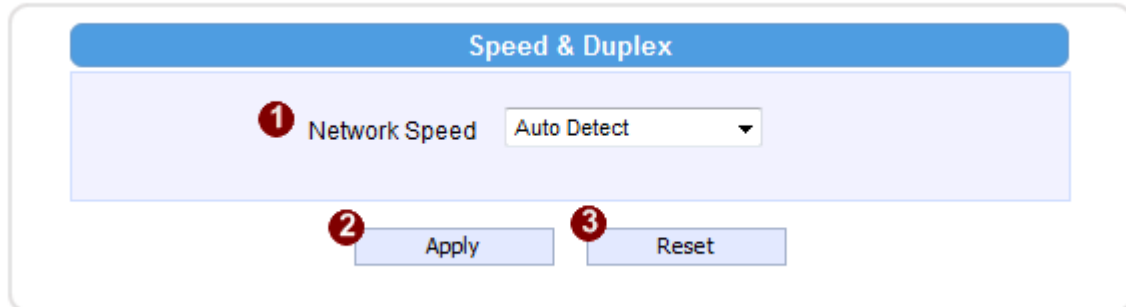
<b>1</b> RTSP Authen Enable	Check box to enable RTP streaming's Account/Password authentication.
<b>2</b> RTP B2 Frame Enable	Check box to enable the B2 frame in RTP streaming

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.



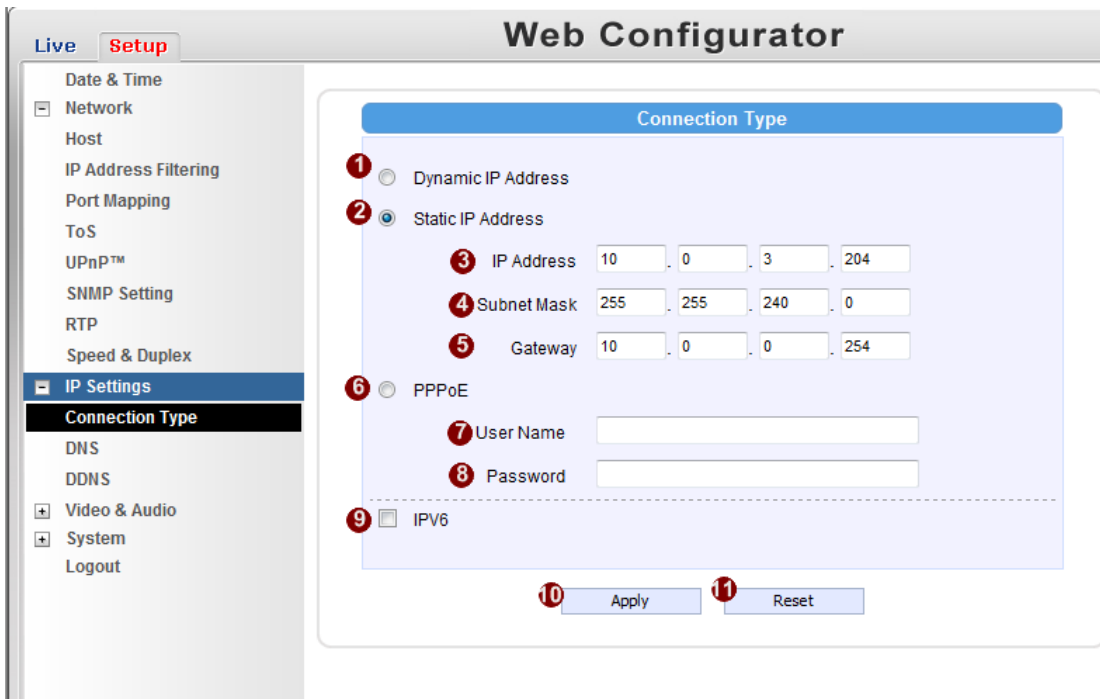
Parameters	Description
<b>1</b> Network speed	This item lets you select the network transmission speed. You can select from <ol style="list-style-type: none"> <li>1. <b>Auto detect</b> (default setting)</li> <li>2. <b>100Mbps / Full duplex</b></li> <li>3. <b>100Mbps / Half duplex</b></li> <li>4. <b>10Mbps / Full duplex</b></li> <li>5. <b>10Mbps / Half duplex</b></li> </ol>

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.

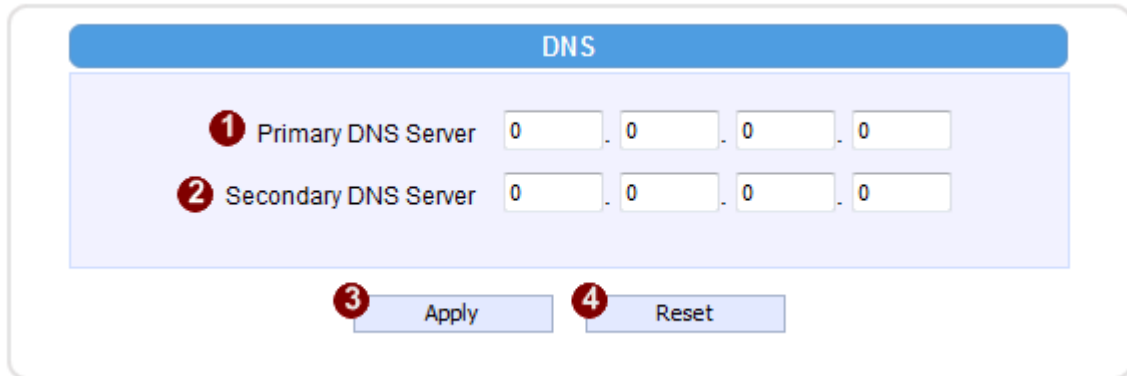


Parameters	Description
<p><b>1</b> Dynamic IP address</p>	<p>Click this to enable IP device's DHCP function.</p> <p>It will acquire its WAN port IP address from a DHCP server within the same network. (You must have a DHCP server in order to enable this function.)</p>
<p><b>2</b> Static IP address</p>	<p>Click this to manually enter the IP address.</p> <p><b>3 IP address:</b> Enter the WAN port IP address.</p> <p><b>4 Subnet mask:</b> Enter the subnet mask of WAN port. If IP address is changed, adjust the subnet mask accordingly.</p> <p><b>5 ISP gateway:</b> Enter the IP address of the gateway (the router).</p>
<p><b>6</b> PPPoE</p>	<p>Click this when you connect IP device directly to the xDSL modem.</p> <p><b>7 User name:</b> Enter the user name of your xDSL account.</p> <p><b>8 Password:</b> Enter the password of your xDSL account.</p> <p><b>Note:</b> You have to click the [Save Reboot] after you click the [Apply button] to let this IP device start xDSL connections.</p>
<p><b>9</b> IPV6</p>	<p>Click the check box to support IPV6 protocol</p>

Click the  [Apply] button to confirm the settings or click the  [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.

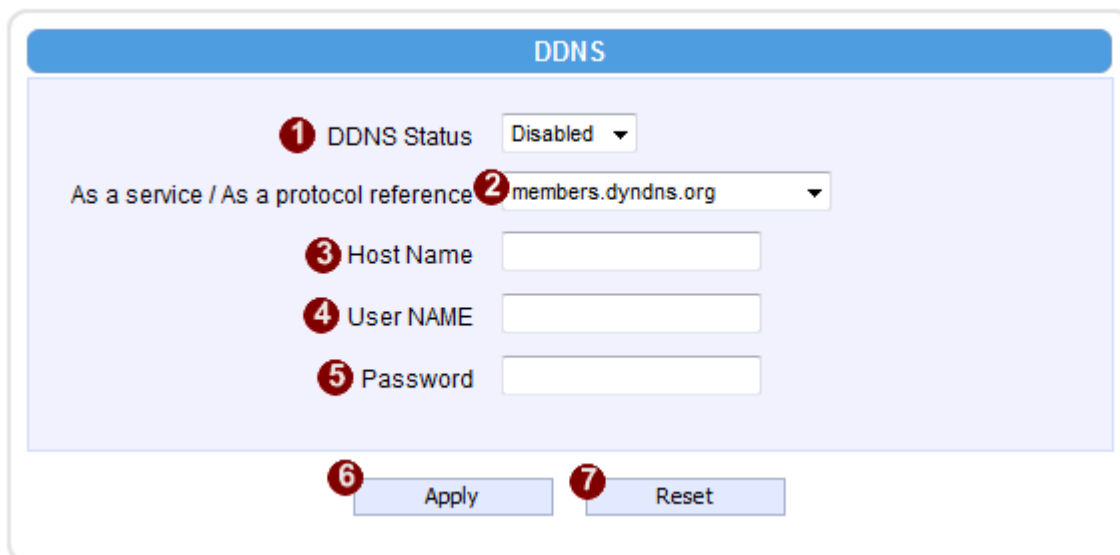


Parameters	Description
<b>1</b> Primary DNS server	Defines the IP address of the primary DNS server. This is used for identifying this computer by name instead of IP address.
<b>2</b> Secondary DNS server	The IP address of the secondary DNS server. It will be used once the primary DNS server fails.

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
<b>1</b> 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.
<b>2</b> 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.
<b>3</b> Host name	Enter the host name of your DDNS service account. (ex: xxxx.dyndns.org)
<b>4</b> User name	Enter the user name to login your DDNS service account.
<b>5</b> 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”.

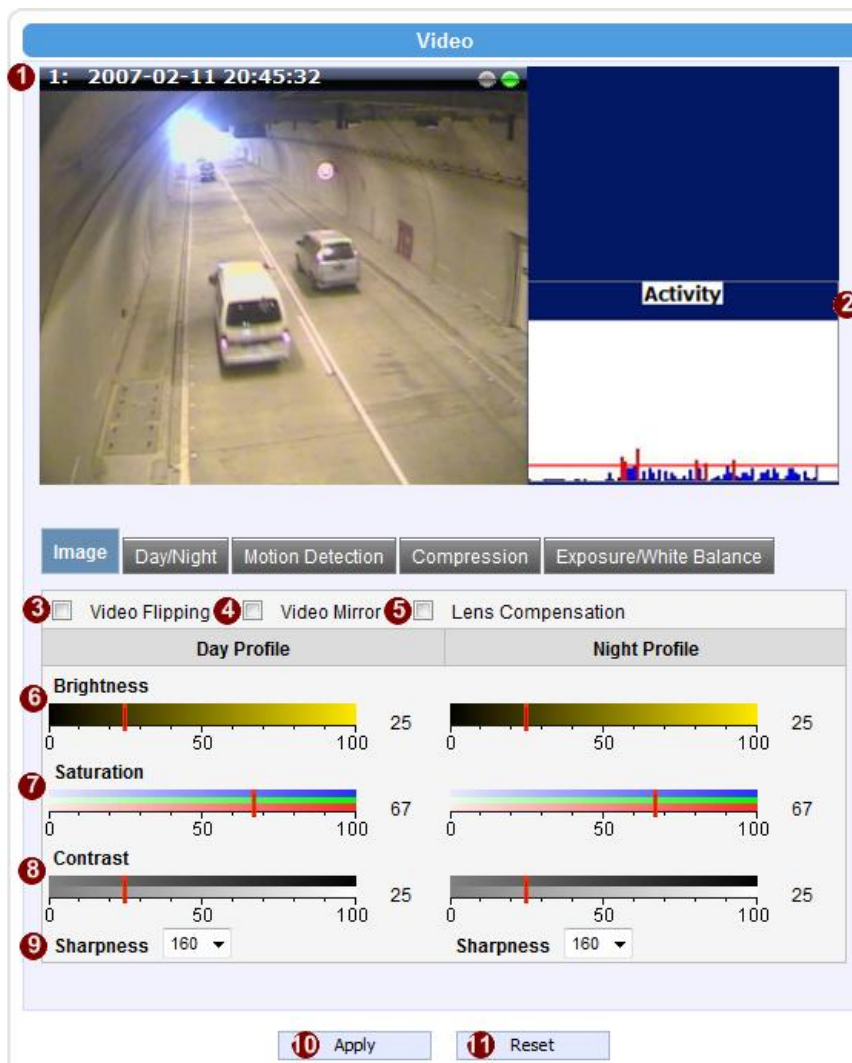
**Please note that some elements may not appear on all models.**

### Video

Click the [Video] item to display the “Video Page”. The functions here are grouped under different tabs. Starting from firmware version 4.07, there are two sets of all settings in the Video section, one for day time and one for nighttime. The camera will automatically load different profile based upon the current Day/Night status. This function allows for tailored configuration so that the camera may perform optimally under all lighting conditions.

#### Image (CMOS Models)

This tab concerns the general video settings. Please refer to the table below for functions.



**Video**

1: 2007-02-11 20:45:32

Activity



Image Day/Night Motion Detection Compression Exposure/White Balance

Video Flipping
  Video Mirror
  Lens Compensation

	Day Profile	Night Profile
Brightness	25	25
Saturation	67	67
Contrast	25	25
Sharpness	160	160

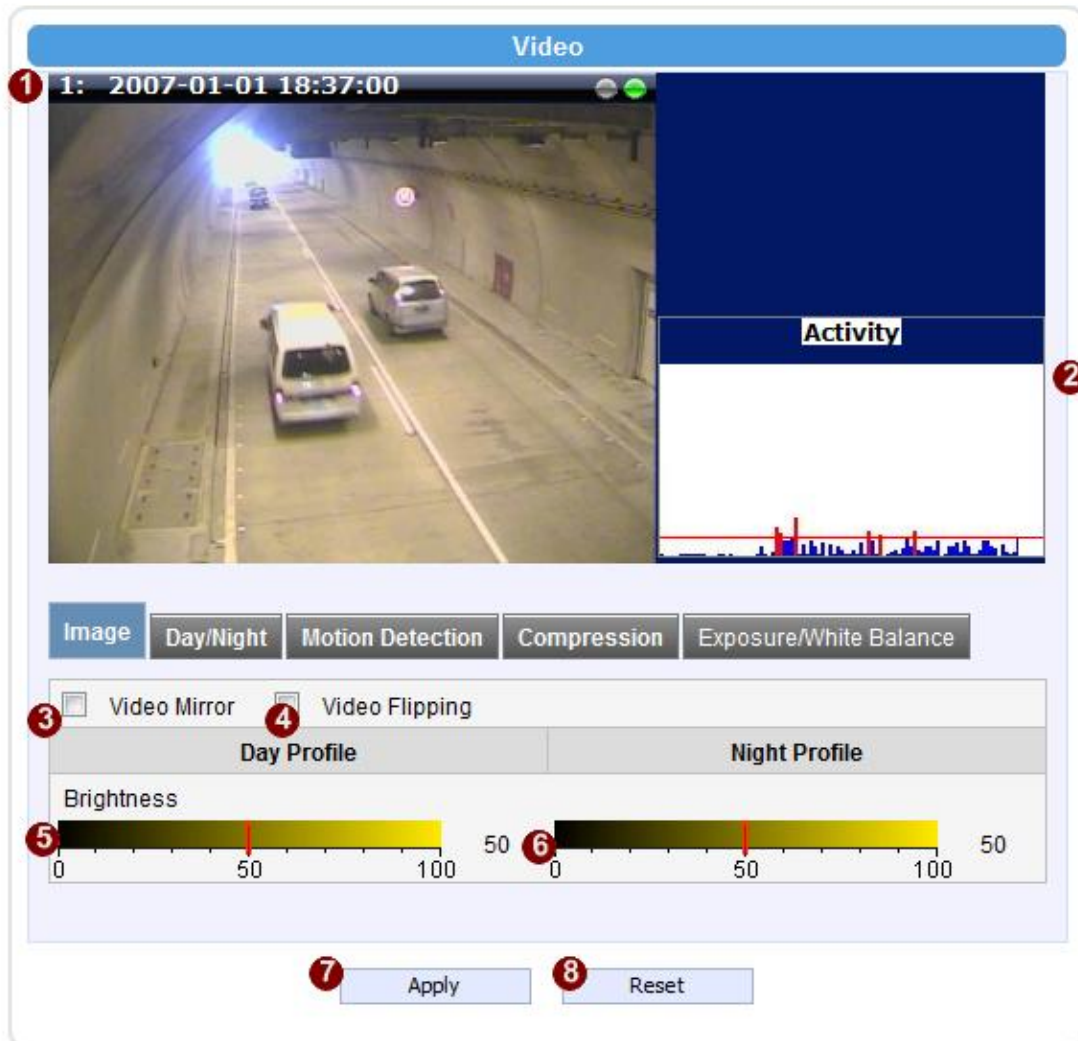
Apply Reset

Parameters	Description
1 Live View	Live view of the camera
2 Activity	Motion activity status
3 Video Flipping	Check this box to flip the video up-down
4 Video Mirror	Check this box to mirror the video left-right
5 Lens Compensation	Check this box to use best pre-set settings for bundled lens
6 Brightness	Select the brightness value
7 Saturation	Select the saturation value
8 Contrast	Select the contrast value
9 Sharpness	Select the Sharpness value

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

**Image (Megapixel CCD Models)**

This tab concerns the general video settings. Please refer to the table below for functions.

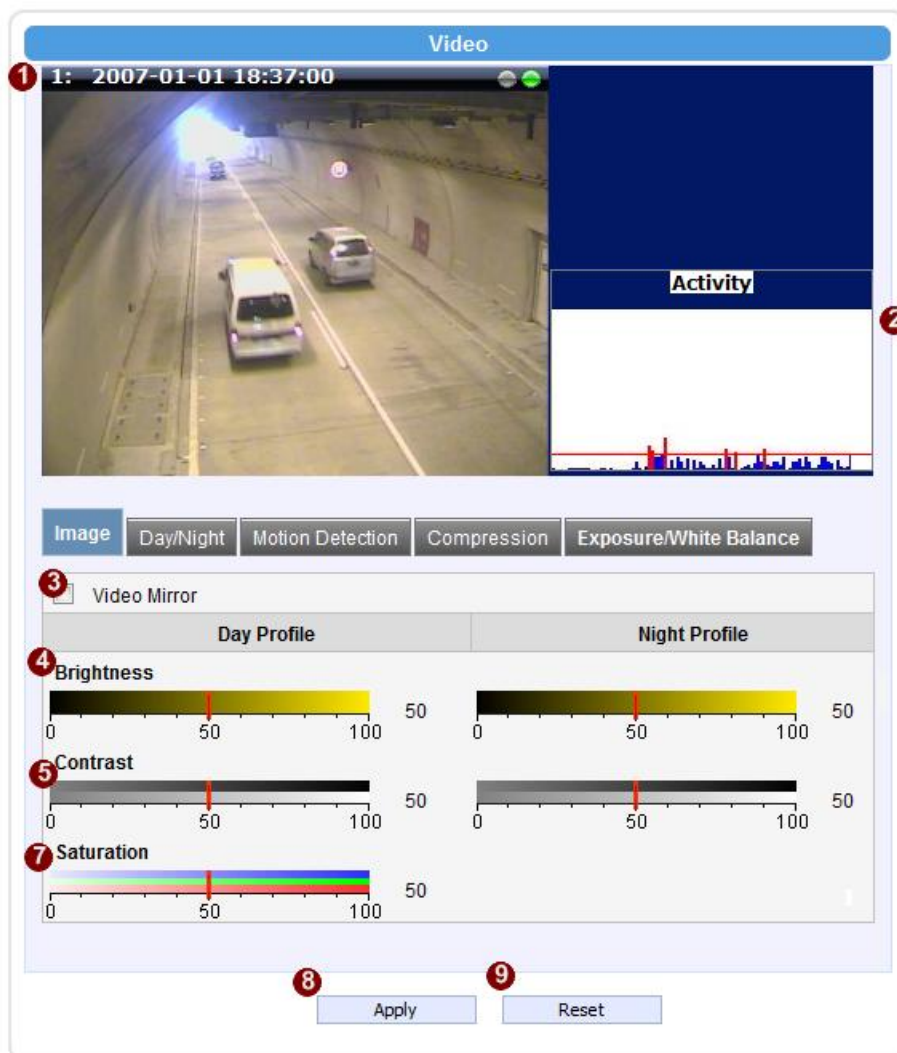


Parameters	Description
<b>1</b> Live View	Live view of the camera
<b>2</b> Activity	Motion activity status
<b>3</b> Video Flipping	Check this box to flip the video up-down
<b>4</b> Video Mirror	Check this box to mirror the video left-right
<b>5</b> Brightness (Day Profile)	Select the daytime brightness value
<b>6</b> Brightness (Night Profile)	Select the nighttime brightness value

Click the **7** [Apply] button to confirm the settings or click the **8** [Reset] button to re-enter the parameters.

### Image (CCD D1 Models)

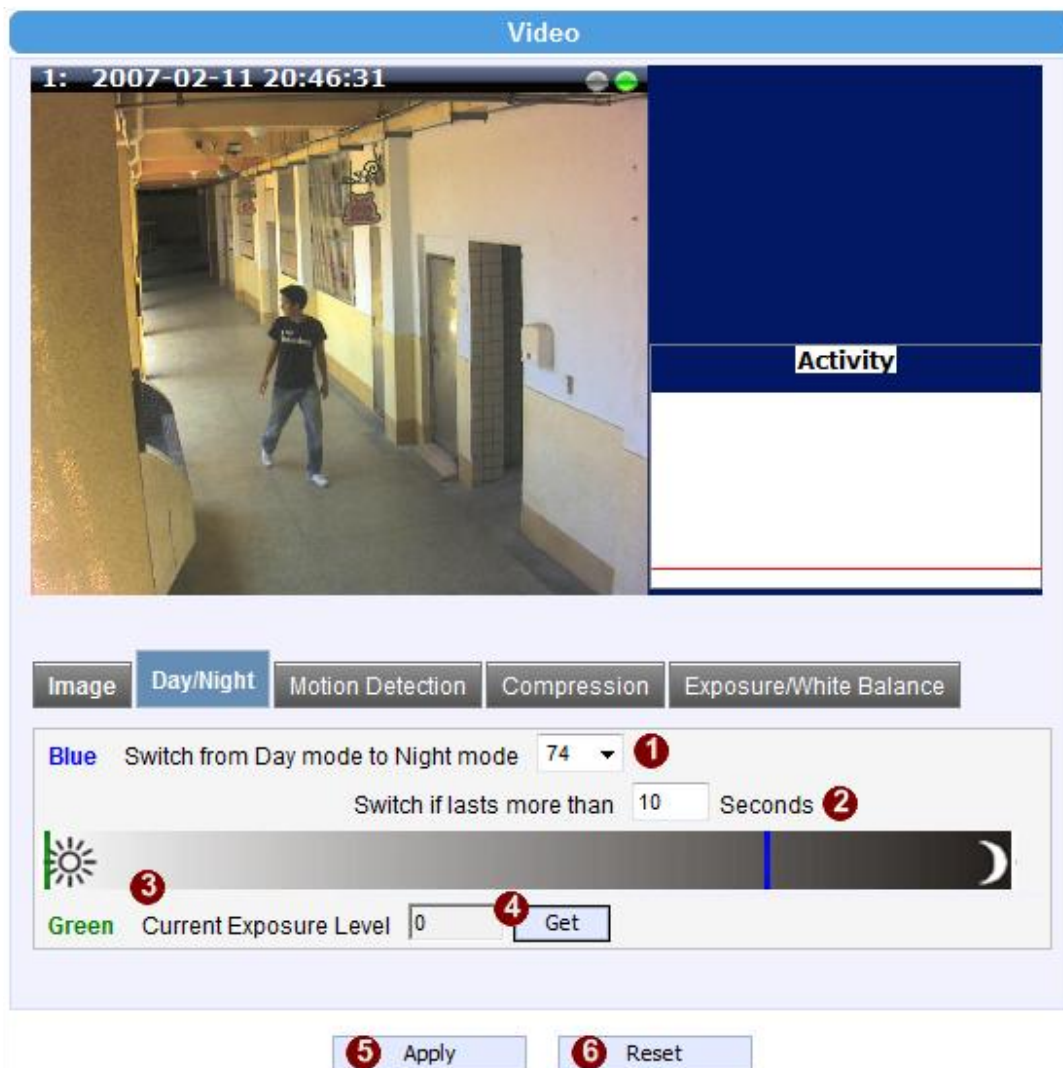
This tab concerns the general video settings. Please refer to the table below for functions.



Parameters	Description
1 Live View	Live view of the camera
2 Activity	Motion activity status
3 Video Mirror	Check this box to mirror the video left-right
4 Video Mirror	Check this box to mirror the video left-right
5 Lens Compensation	Check this box to use best pre-set settings for bundled lens
6 Brightness	Select the brightness value
7 Contrast	Select the contrast value

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

Day/Night (CMOS Non-D/N Models)



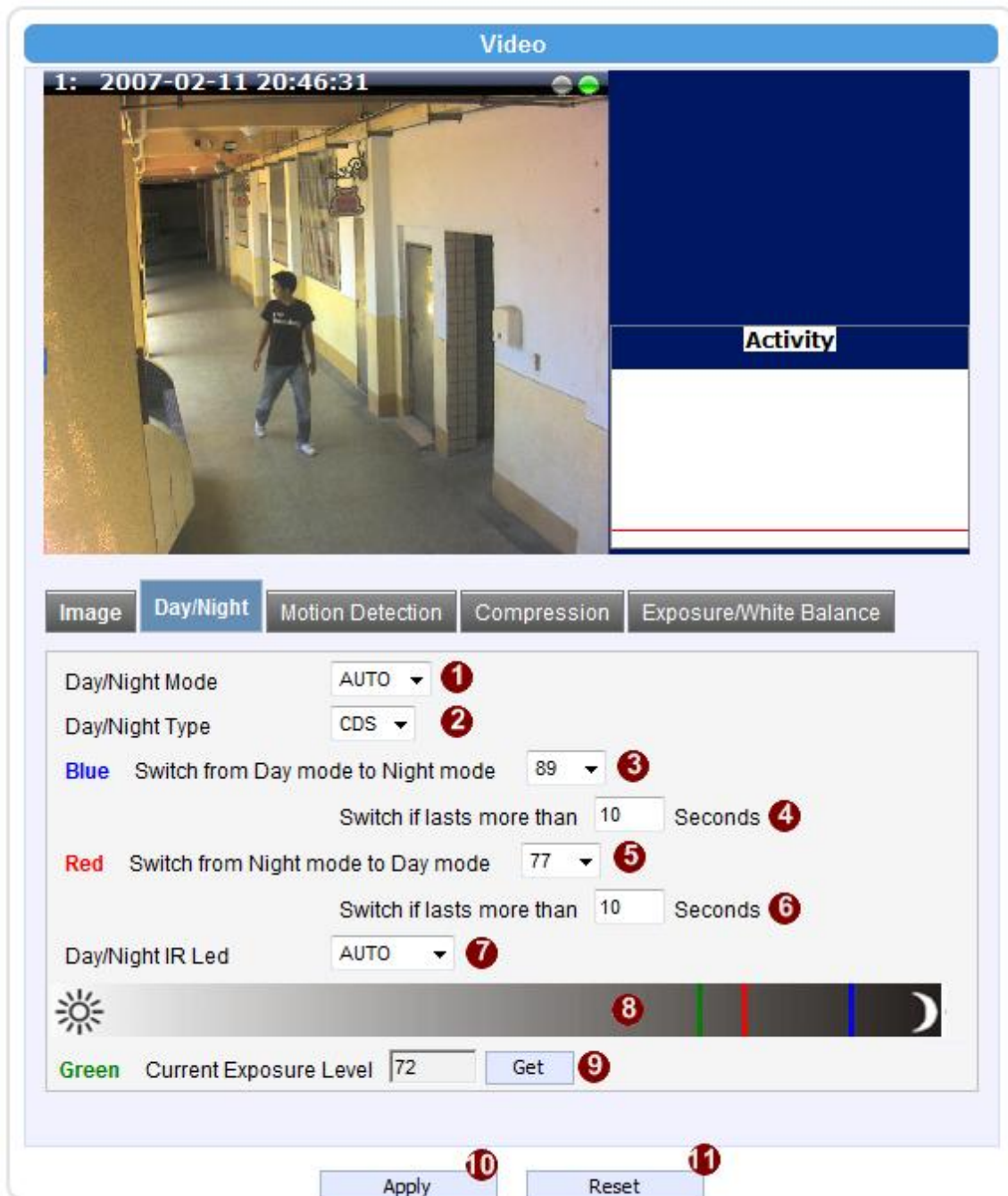
This tab concerns the day and night switch timing for your camera. Please refer to the table below.

Parameters	Description
<b>1</b> Switch from Day mode to Night mode	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.
<b>2</b> Switch if lasts more than X seconds	The camera will only switch day/night status if the illumination level stays either above or below the boundary for this much time. This is to prevent a temporary brightness change from triggering unnecessary day/night changes.
<b>3</b> Brightness Meter Bar	This bar shows the illumination level at which cameras go to night or day mode (Blue bars), and shows the current detected

	illumination level (Green bars). Use this bar to fine tune the day/Night switch timing.
<p><b>4</b> Get Current Exposure Level</p>	Clicking this button will refresh the illumination level reading from the camera sensor. The larger the number, the darker the environment.

Click the **5** [Apply] button to confirm the settings or click the **6** [Reset] button to re-enter the parameters.

**Day/Night (CMOS D/N Models)**

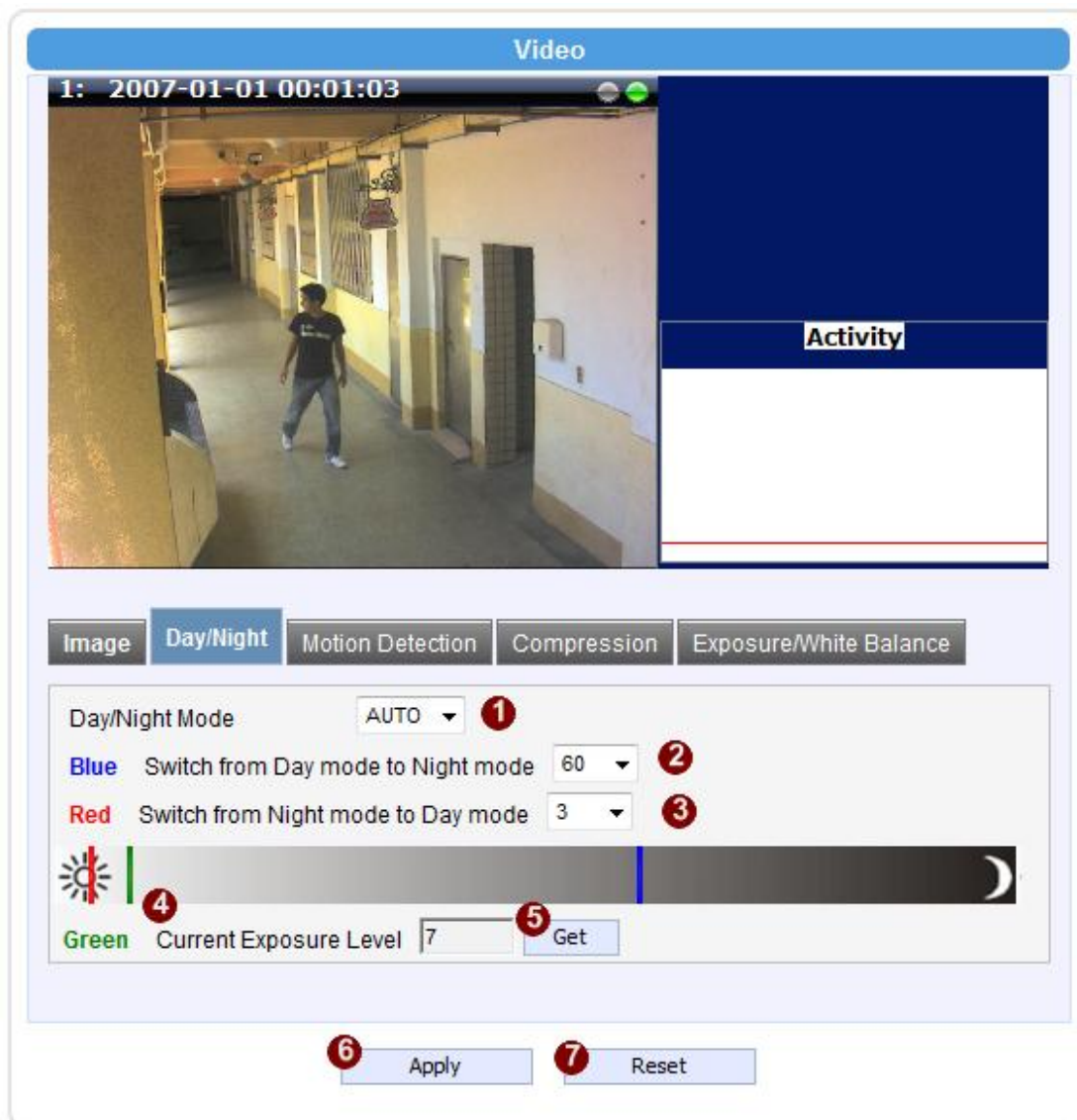


The screenshot displays the 'Day/Night' configuration page. At the top, there is a video window showing a hallway with a person walking, and an 'Activity' monitor on the right. Below the video are tabs for 'Image', 'Day/Night', 'Motion Detection', 'Compression', and 'Exposure/White Balance'. The 'Day/Night' tab is active, showing settings for Day/Night Mode (AUTO), Day/Night Type (CDS), and two transition thresholds (Blue and Red) with their respective durations. A Day/Night IR Led dropdown is set to AUTO. At the bottom, there is an illumination level bar with a sun icon on the left and a moon icon on the right, and a 'Current Exposure Level' of 72. The 'Apply' and 'Reset' buttons are at the very bottom.

Parameters	Description
1 Day/Night Mode	Select the day/night mode. Auto: The camera would switch between day and night mode automatically. It will follow Day to Night and Night to Day threshold defined by user below. Day: The camera will stay in day (Color) mode. Night: The camera will stay in night (black & white) mode.
2 Day/Night Type	Select the method used by Camera to determine illumination level. It can be either CDS light sensor or through image analysis by DSP. Not every model will allow selection for this.
3 Switch from Day mode to Night mode	This value controls the level of light where camera switches from Day mode into Night mode. Increasing it will make camera switch to Night mode at a darker illumination level.
4 Switch if lasts more than X seconds	The camera will only switch day/night status if the illumination level stays either above or below the boundary for this much time. This is to prevent a temporary brightness change from triggering unnecessary day/night changes.
5 Switch from Night mode into Day Mode	This value controls the level of light where camera switches into Day mode. Increasing it will make camera switch to Day mode at a darker illumination level.
6 Switch if lasts more than X seconds	The camera will only switch day/night status if the illumination level stays either above or below the boundary for this much time. This is to prevent a temporary brightness change from triggering unnecessary day/night changes.
7 Day/Night IR LED	IR LED may be configured as AUTO or Disabled here. If it is set as AUTO, LED will turn on in night mode and turn off in day mode. If set to Disabled, LED will stay off when camera switches into night mode.
8 Brightness Meter Bar	This bar shows the illumination level at which cameras go to night or day mode (Blue / Red bars), and shows the current detected illumination level (Green bars). Use this bar to fine tune the day/Night switch timing.
9 Get Current Exposure Level	Clicking this button will refresh the illumination level reading from the camera sensor. The larger the number, the darker the environment.

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

Day/Night (CCD D/N Models)



This tab concerns the day and night switch timing for your camera. Please refer to the table below.

Parameters	Description
<b>1</b> Day/Night Mode	Select the day/night mode. Auto: The camera would switch between day and night mode automatically. It will follow Day to Night and Night to Day threshold defined by user below. Day: The camera will stay in day (Color) mode. Night: The camera will stay in night (black & white) mode.
<b>2</b> Switch from Day mode to Night mode	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.

<b>3</b> Switch from Night mode into Day Mode	This value controls the level of light where camera switches into Day mode. Increasing it will make camera switch to Day mode at a darker illumination level.
<b>4</b> Brightness Meter Bar	This bar shows the illumination level at which cameras go to night or day mode (Blue / Red bars), and shows the current detected illumination level (Green bars). Use this bar to fine tune the day/Night switch timing.
<b>5</b> Get Current Exposure Level	Clicking this button will refresh the illumination level reading from the camera sensor. The larger the number, the darker the environment.

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

### How it works

An important feature in this screen is that user may now customize the illumination level to perform day/night mode switches.

On the horizontal brightness meter shown here, there are three colored bars. The bar represents light amplifying levels 0 to 100, where 0 is Brightest and 100 is darkest. 0 means no digital amplification of incoming light signals, which means that the environment is bright enough for the camera to get good quality images.

When the environment gets darker, as when the sun is setting over the horizon, the environmental gets darker. To maintain proper image brightness level, the camera will attempt to digitally amplify the light signals received by the sensor. The Blue one is the level at which camera will go into night mode, and remove Mechanical IR cut filter and open IR LED if available. The red one indicates the illumination level at which the camera will consider bright enough to go back to day (Color) mode.

The Red bar should always be to the left of the blue bar. As camera go from day to night mode, more lights are allowed inside (the IR filter is removed), so the detected light signal level will increase. If the night-to-day illumination level is too close to the day-to-night level, the camera will immediately consider it bright enough to go back to day mode, which will result in continuous day/night switching.

Motion Detection

1: 2007-02-11 20:32:16

Adjust Column

Adjust Square

Activity

Image Day/Night **Motion Detection** Compression Exposure/White Balance

Motion Detection ( Only for Media 1 )

Motion Enable

Region	Motion Enable	Sensitivity [0-100]	Trigger Interval [1-300 Secs]	Trigger Threshold [0-100%]
1	<input checked="" type="checkbox"/>	70	1	10
2	<input checked="" type="checkbox"/>	70	1	10
3	<input checked="" type="checkbox"/>	70	1	10

PIR Motion Sensor Enable

Enable	Sensitivity [0-100]	Trigger Interval [1-300 Secs]
<input checked="" type="checkbox"/>	80	1

Apply Reset

Click the **9** [Apply] button to confirm the settings or click the **10** [Reset] button to re-enter the parameters.

**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)

#### **PIR (Passive Infra Red motion sensors) (Not available to all models)**

PIR sensors are available for some models. For the models with PIR, there will be a PIR Motion Sensor section below the video motion detection.

You may enable PIR sensors by the checkbox **8** and modify the sensitivity/ trigger interval. When motion is detected via PIR sensor, a red border will show around the whole view area.

**Please note that PIR sensors have a shorter range of detection than Video motion detection.**

Compression

Video

1: 2007-01-01 00:16:45

Activity

Image
Day/Night
Motion Detection
Compression
Exposure/White Balance

Stream 1

<b>1</b> Encoder Type	H264		
<b>2</b> Resolution	1280x720		
Day Profile		Night Profile	
<b>3</b> Frame Rate	30	<b>7</b> Frame Rate	15
<b>4</b> Video Bit Rate Mode	Variable Bit Rate	<b>8</b> Video Bit Rate Mode	Constant Bit Rate
<b>5</b> Quality	High	<b>9</b> Video Max Bit Rate	UNLIMITED
<b>6</b> GOP 1 I-frame /	Second	<b>10</b> Video Bit Rate	1.5M

Stream 2  Enabled

Encoder Type	MJPEG		
Resolution	640x480		
Day Profile		Night Profile	
Frame Rate	<b>11</b> 15	Frame Rate	7
Quality	<b>12</b> 60	Quality	50

**13** Apply

**14** Reset

There are two streams output available for this network device. Click the [Stream 1] or [Stream 2] item to display the content page, Contents for both stream are identical. Refer to the table below for how to configure each setting.

44

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Parameters	Description
1 Encoder Type	Select the encoder's compression type. MPEG-4 / MJPEG / H.264
2 Resolution	Select the video resolution of the IP device.
3 Frame rate	Select the available frame rate from the drop down menu.
4 Video Bit Rate Mode	Select the video bit rate mode. <b>Constant Bit Rate:</b> The bit rate remains constant at all conditions. <b>Variable Bit Rate:</b> 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 / Medium / 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	<b>Select the available frame rate from the drop down menu.</b> 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.
8 Video Bit Rate Mode	Select the video bit rate mode. <b>Constant Bit Rate:</b> The video bit rate remains constant at all conditions. <b>Variable Bit Rate:</b> The video bit rate will vary based upon scene complexity and amount of movement. The quality will remain the same.
9 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.
10 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.
11 Frame rate (Stream2)	Select the frame rate for each profile by choosing from the drop down list. Frame rates available for stream 2 may be less than stream 1, depending upon the setting.
12 Quality	When encoder type is MJPEG: Select the quality value of MJPEG encoder type from 1 to 100.

Click the **13** [Apply] button to confirm the settings or click the **14** [Reset] button to re-enter the parameters.

**Exposure / White balance**

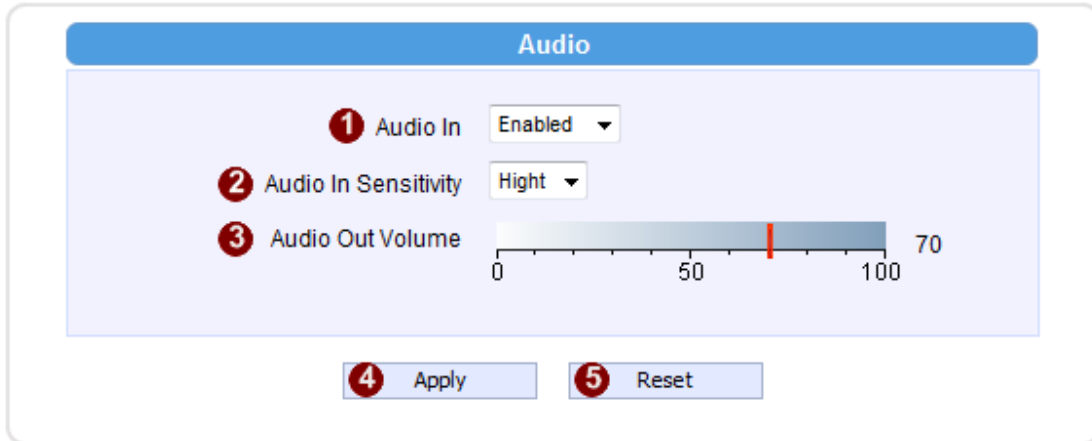
<b>1</b>	Line Frequency	Change settings between 60Hz or 50Hz, depending on the AC power type of your region..
<b>2</b>	WDR Mode	This determines if the WDR processing is turned on or off. Turn this on only when you have very large brightness differences in a single scene. Otherwise leave it off.
<b>3</b>	WDR Level	The strength of image modification by WDR algorithm. Increasing this will increase the effect of WDR processor.
<b>4</b>	Exposure Mode	Select exposure mode to auto or manual. <ol style="list-style-type: none"> <li>1. Auto: The IP camera will adjust the exposure automatically.</li> <li>2. Manual: Manually select the <b>8</b> Exposure Gain and <b>9</b> Shutter Speed below.. Day and</li> </ol>

		night mode change will not operate as normal under manual Exposure.
5	White Balance	<p>Select the white balance mode. After you set the parameter, you need to wait for 5~10seconds to see the final result.</p> <ol style="list-style-type: none"> <li>1. AUTO : Auto white balance (default)</li> <li>2. INDOOR1: Select the indoor white balance profile 1.</li> <li>3. INDOOR2: Select the indoor white balance profile 2.</li> <li>4. OUTDOOR1: Select the outdoor white balance profile 1.</li> <li>5. OUTDOOR2: Select the outdoor white balance profile 2</li> <li>6. HOLD: Select this to let the IP camera automatically obtain a best white balance setting according to current environment. The IP camera will use this setting to adjust color. NOTE: This setting will be lost after you reboot the camera.</li> <li>7. MANUAL: Select this to enable manual setting of the white balance. You will need to enter the 6 R Gain and 7 B Gain setting below.</li> </ol>
6	R Gain (Manual White balance mode only)	Add or decrease redness to the video when under Manual White Balance mode. (This function is only available in Manual White balance mode.)
7	B Gain (Manual White balance mode only)	Add or decrease blueness to the video when under Manual White Balance mode. (This function is only available in Manual White balance mode.)
8	Exposure Gain (In Manual Exposure Mode only)	Select the exposure Gain of the IP camera. The higher the value = brighter images. (1 ~ 255)
9	Shutter Speed (In manually shutter mode only)	Increase or decrease the shutter speed. The closer the number is to 1, the better nighttime performance is, although this also causes motion blur to the video.
10	Exposure Mode	<p>Select exposure mode to auto or manual.</p> <ol style="list-style-type: none"> <li>1. Auto: The IP camera will adjust the exposure automatically.</li> </ol>

		Manual: Manually select the <b>8</b> Exposure Gain and <b>9</b> Shutter Speed below..
<b>11</b>	White Balance (In Indoor/Outdoor/Auto/Hold profiles only)	<p>Select the white balance mode. After you set the parameter, you need to wait for 5~10seconds to see the final result.</p> <ol style="list-style-type: none"> <li>1. AUTO : Auto white balance (default)</li> <li>2. INDOOR1: Select the indoor white balance profile 1.</li> <li>3. INDOOR2: Select the indoor white balance profile 2.</li> <li>4. OUTDOOR1: Select the outdoor white balance profile 1.</li> <li>5. OUTDOOR2: Select the outdoor white balance profile 2</li> <li>6. HOLD: Select this to let the IP camera automatically obtain a best white balance setting according to current environment. The IP camera will use this setting to adjust color. NOTE: This setting will be lost after you reboot the camera.</li> </ol> <p>For all the settings above, you will need to setup the value for <b>12</b> AE Reference Target and Maximum auto shutter speed.</p> <ol style="list-style-type: none"> <li>7. MANUAL: Select this to enable manual setting of the white balance. You will need to enter the <b>6</b> R Gain and <b>7</b> B Gain setting below.</li> </ol>
<b>12</b>	AE Reference Target	This is the desired image brightness output level. The camera will attempt to change the exposure levels or digital amplification levels to achieve this level of brightness. Increasing this may provide a brighter image, but if there are extremely dark areas, this may also create slightly more noise in the underexposed areas.
<b>13</b>	Maximum auto shutter speed	The maximum allowed time for the camera to take a single image.

Click the **14** [Apply] button to confirm the settings or click the **15** [Reset] button to re-enter the parameters.

## Audio



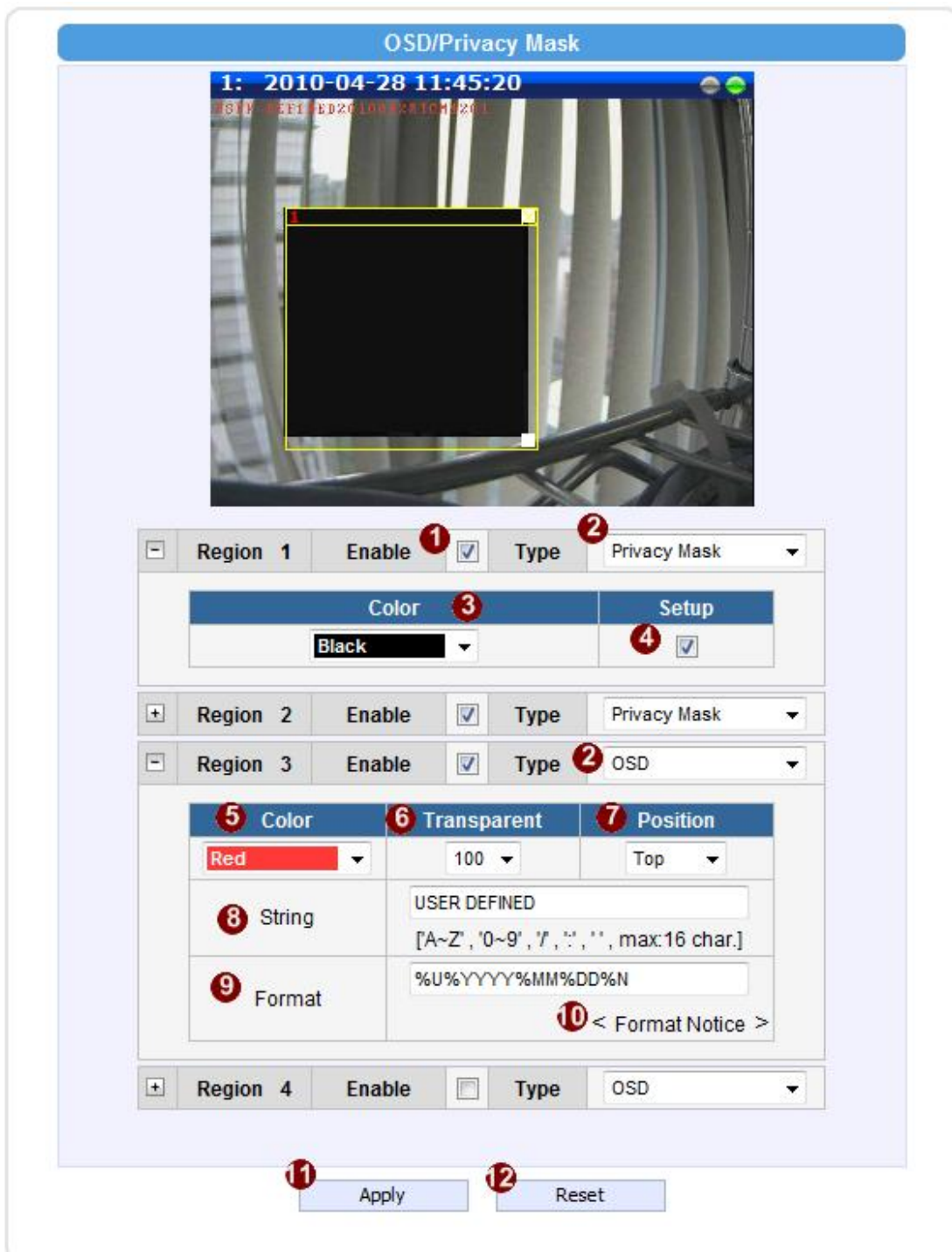
<b>1</b>	Audio In	Select to enable or disable the audio in function.
<b>2</b>	Audio In sensitivity	Select the sensitivity of audio microphone.
<b>3</b>	Audio Out Volume	Adjust the Audio Out volume.

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

### OSD/Privacy Mask

OSD (On Screen Display) and Privacy masks are configured in this section. There are four regions available. Each may be used either as a Privacy mask or an OSD text.

Privacy Mask is not available in Dual Stream mode. Please disable Stream 2 if you wish to use Privacy mask / OSD. Please go to Video & Audio -> Video -> Compression tab to configure Stream 2.



The screenshot displays the 'OSD/Privacy Mask' configuration window. At the top, a video preview shows a scene with a black rectangular privacy mask overlaid. The interface is divided into four regions for configuration:


- Region 1:**
  - Enable:  (1)
  - Type: Privacy Mask (2)
  - Color: Black (3)
  - Setup:  (4)
- Region 2:**
  - Enable:
  - Type: Privacy Mask
- Region 3:**
  - Enable:
  - Type: OSD (2)
  - Color: Red (5)
  - Transparent: 100 (6)
  - Position: Top (7)
  - String: USER DEFINED (8)
  - Format: %U%YYYY%MM%DD%N (9)
  - Format Notice: < Format Notice > (10)
- Region 4:**
  - Enable:
  - Type: OSD

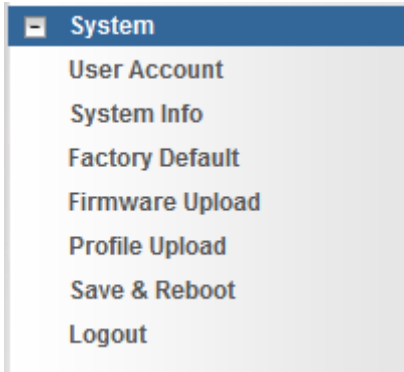
At the bottom of the window are two buttons: 'Apply' (11) and 'Reset' (12).

Parameters	Description
<b>1</b> Enable	Check this box to enable each OSD / Privacy mask region
<b>2</b> OSD / Privacy mask	Each region can be in one of two types. OSD (On Screen Display) or Privacy mask
<b>3</b> Color (Privacy mask)	This determines the color of the Privacy Mask Area. You may choose between Black, Green, Red and Blue.
<b>4</b> Setup	Click this checkbox to enable Privacy mask area setup. Click and drag the adjust square at the lower right to change dimensions, click and drag the adjust column at the top to move. (Similar to Motion Detection Region)
<b>5</b> Color(OSD)	This determines the color of the OSD Text. You may choose between Black, Green, Red and Blue.
<b>6</b> Transparent	This number determines the level of transparency for this OSD Text. 1 means that the background between the texts will not be visible, while 100 means the background will show through the OSD text.
<b>7</b> Position	Select the location where the text will appear in the image.
<b>8</b> String	This is where you enter the user defined string (%U) as described in the next section. Total length cannot be more than 63 characters
<b>9</b> Format	This controls what is shown in the OSD text. You can click the Format Notice to the corner for a full list of available parameters. <b>The OSD text is primarily based upon this field.</b>
<b>10</b> Format Notice	Click here to see the syntax list of how to configure the OSD text.

Click the **11** [Apply] button to confirm the settings or click the **12** [Reset] button to re-enter the parameters.

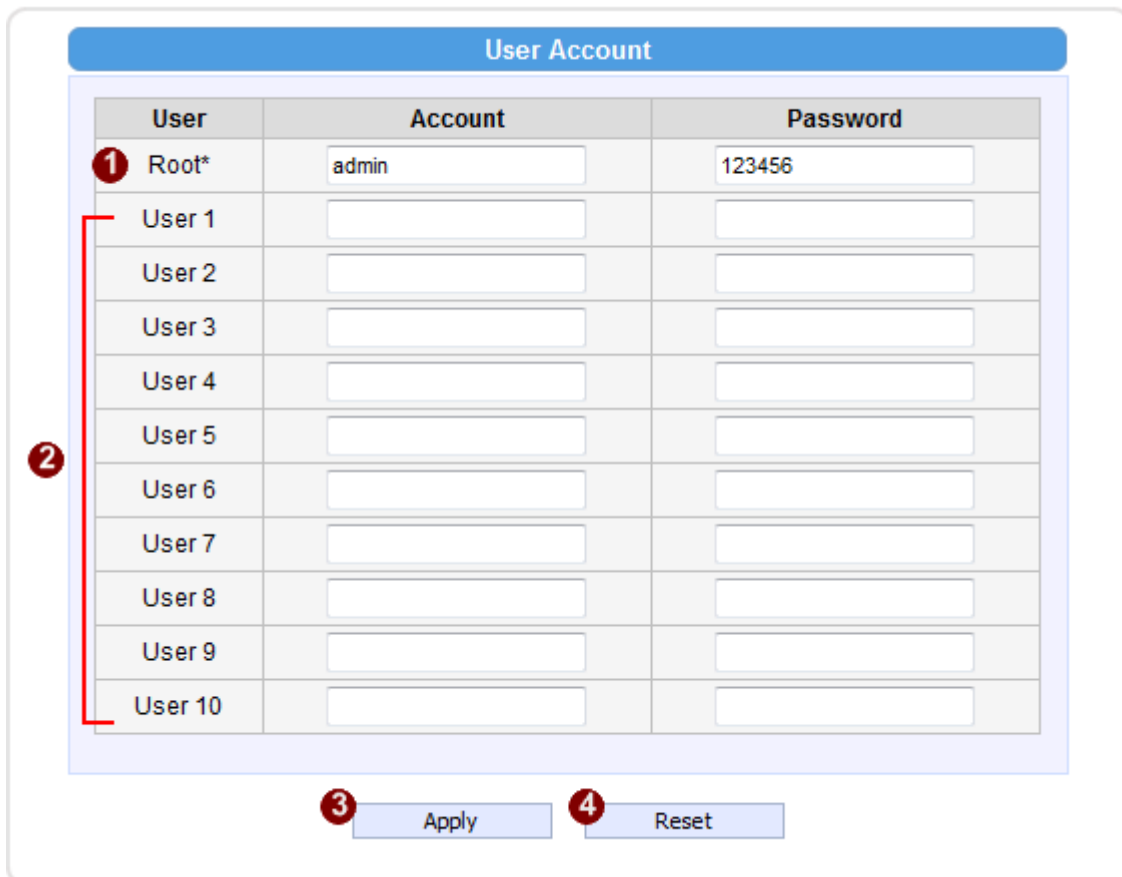
## System

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



## User Account



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



A screenshot of the 'User Account' setting page. It features a table with three columns: 'User', 'Account', and 'Password'. The first row is for the 'Root\*' user, with 'admin' in the 'Account' field and '123456' in the 'Password' field. This row is marked with a red circle '1'. Below it are ten rows for 'User 1' through 'User 10', each with empty input fields. A red bracket on the left side of these rows is marked with a red circle '2'. At the bottom of the page, there are two buttons: 'Apply' (marked with a red circle '3') and 'Reset' (marked with a red circle '4').

User	Account	Password
Root*	admin	123456
User 1		
User 2		
User 3		
User 4		
User 5		
User 6		
User 7		
User 8		
User 9		
User 10		

Apply Reset

Setup the account names and their respective passwords. There are 1 root (administrator)  account and 10 common user accounts . 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 display the “System Information Page”. This shows 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.

System Information

**System Information:**

1

```

Firmware Version = A1D-310-V4.07.10-AC
MAC Address = 00:0F:7C:56:56:56
Production ID = TCM4201-10C-X-00001
Factory Default Type = Two Ways Audio (0x71)
Company Name = ACTi Corporation
Web Site = www.acti.com
Profile ID = MT9M131-TA2_V091211A
Sensor Board = MT9M131
          
```

**WAN Status :**

2

```

IP Address : 10.0.3.69
Netmask : 255.255.240.0
Gateway : 10.0.0.254
DNS Server : 0.0.0.0 0.0.0.0
DDNS Host :
WAN Connect Status : Disconnect
DNS Connect Status : Disconnect
DDNS Connect Status : Disconnect
          
```

**System Log :**

3

```

BootLoader Version BOOTLOADER-310-V01.12
Starting Modules Manager
Devcap Version 0x0002
Start loading Profile File ...
Initiating factory button ...
Starting loading SYS File...
Starting Streaming Core ...
Starting DNS Manager
          
```

---

**Config file:**

The unit's parameters and their current settings. Parameter List

Always attach the server report when contacting your support channel. Server Report

Third party software licenses. Show Licenses

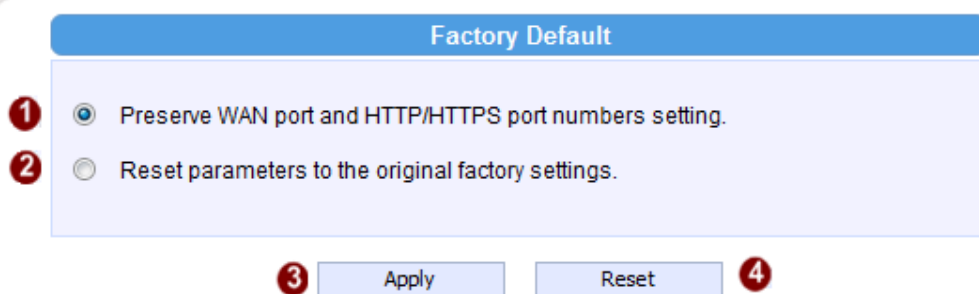
Column	Description
<b>1</b> System info	It shows the firmware version, MAC address, production ID, and factory default type of IP device.
<b>2</b> WAN status	It shows the WAN port's IP address, netmask, gateway, DNS server, DDNS host and connection status.
<b>3</b> System log	It shows the system event. This column is very useful to as a diagnostic tool.

Click **4** [Parameter List] where you may see all configurations of the IP device.

Click **5** [Server Report] to export related information of the IP device while reporting a support to your support channel.

## Factory Default

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



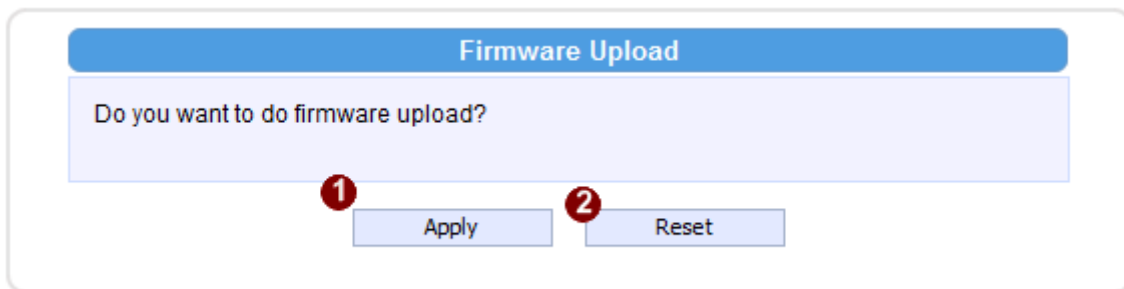
If you want to keep network settings and restore other settings to factory default, please click radio box **1**. If you click **2** instead, all the settings would be lost. You will have to use factory default IP setting to connect to this camera. Please refer to previous login section.

If you want to reset all setting to default, click to select this radio box **2**.

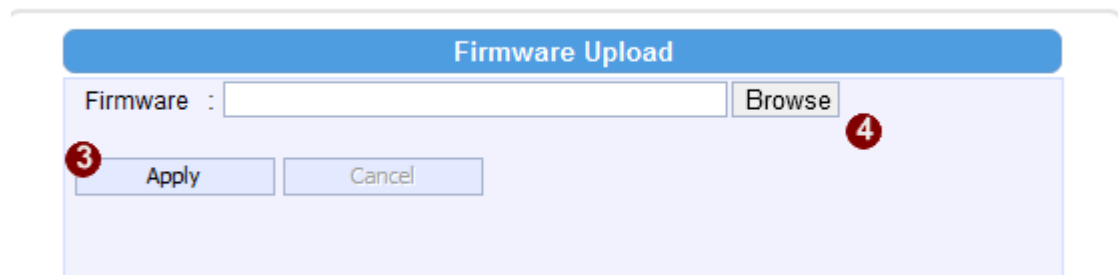
Click the [Apply] button to show a warning dialog that reminds you again before restoring the device to factory default.

## 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.



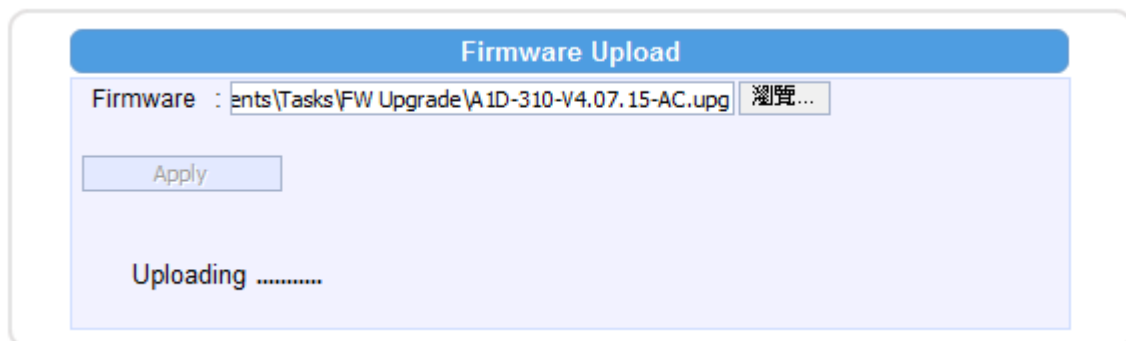
Click **1** [Apply] button. The “Firmware Upgrade Page-2” will be displayed as below.

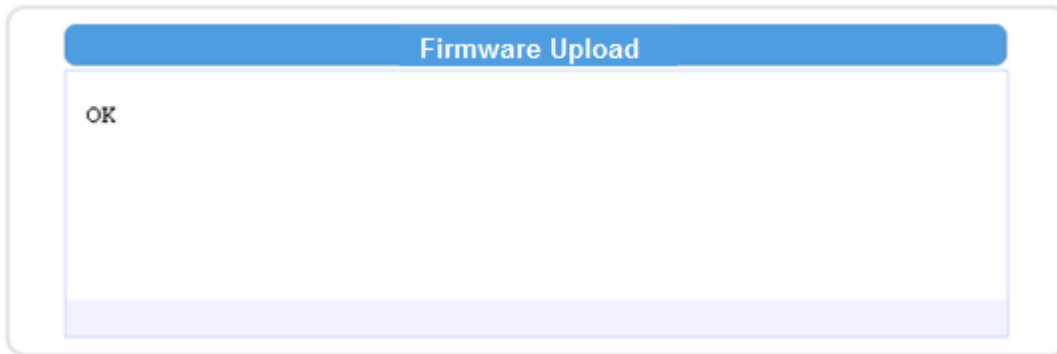


Click the **4** [Browse] to select the upgrade image file and click the [enter]. You can always get the latest version at our website.

Click the **3** [Apply] button to start upgrading

The upgrade process window will show a progress bar indicating upgrade status.





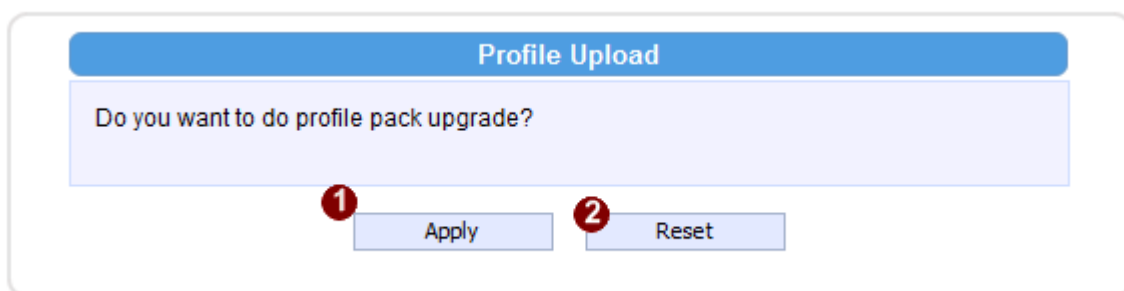
Once the process is finished, the progress bar will show the upgrading as OK, and reboot the IP device system.

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

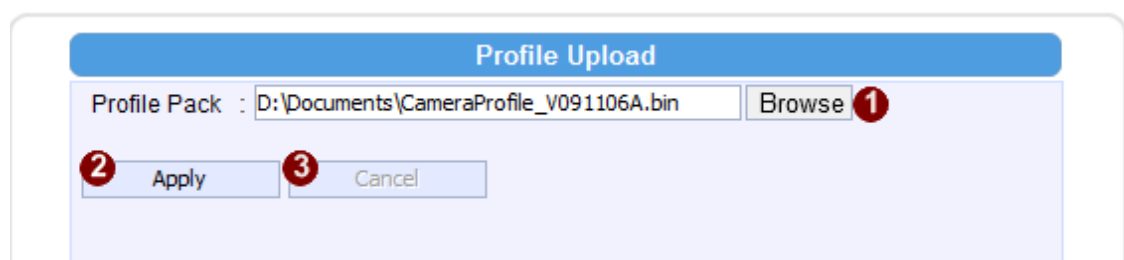
### Profile Upload

Profiles are sets of parameters that control how the image sensor behaves. Sometimes profiles are fine-tuned again to suit a specific environment, or for generally better image. They are not updated as frequently as firmware, and a good profile can stay in use for a very long time. Occasionally, you may wish to load a new profile pack into your camera. This section tells you how to upgrade IP Camera's Profile Pack.

Click the [Profile Upload] item to display the "Profile Upload Page".



**STEP1:** Click **1** [Apply] button. The "Profile Pack Page-2" will be displayed as below.



**STEP2:** Click the **1** [Browse] to select the new profile pack and click [enter]. You can always get the latest version at our website.

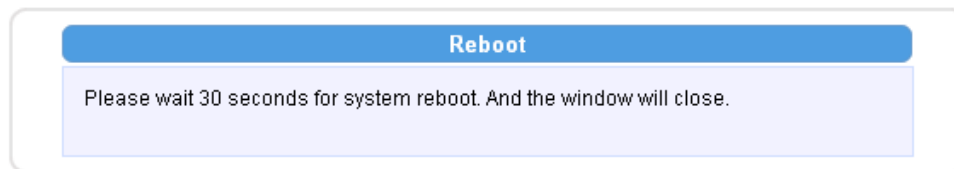
**STEP3:** Click the **2** [Apply] button to start upgrading

**STEP5:** The upgrade process window shows a progress bar indicating upgrade status.

**STEP6:** The system will reboot after profile upload.

## 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.