

Encoder Firmware – CIF
A1C-M2N-V2.05.12-NB

User's Manual

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INSTALLATION

1.1 Minimum System Requirements

CPU	Pentium 4 2.4GHz and above
Hard Disk	40 GB or above
Memory	256 MB or above
Operating System	Windows XP with SP2 or above / Windows 2000 with SP4 or above
Video Resolution	SVGA or XGA with 1024x768 resolution

1.2 Preparation before setup

To configure your IP device, you have to use the Internet Explorer to login the IP device. Before that, your PC's networks settings and the IP device's IP address must be setup. Make sure all the connections are connected correctly, and then follow the procedures below to setup.

1. Setup your PC network

You have to match your PC's TCP/IP setting with the IP device's default settings before you can use IE browser to login it. This section tells you how to setup your PC's TCP/IP settings.

2. Setup IP device's IP address

This IP device's IP address can be setup manually or automatically by network service (DHCP).

1.2.1 Setup your PC network

To set up the network of IP device via a PC, you have to change the TCP/IP settings of the PC.

The following are the default network settings of IP device.

IP Address: 192.168.0.100

Subnet Mask: 255.255.255.0

To access the IP device, the IP address of the PC should match the address below.

IP Address: 192.168.0.xxx

Subnet Mask: 255.255.255.0



NOTE: xxx should be a number from 1 to 254, but 100 is excepted.

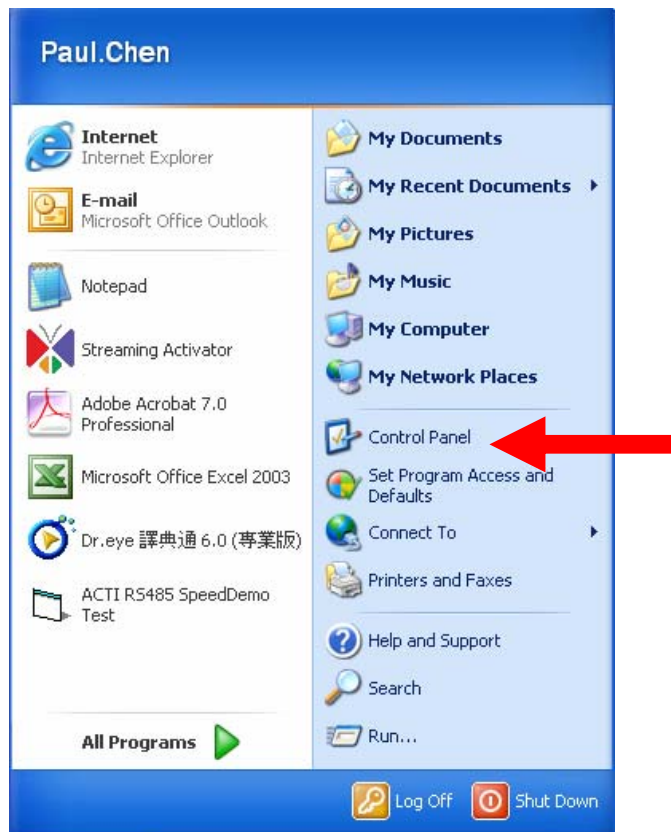
The procedures below is the setup procedure of a PC using Windows XP as its OS. When running an OS other than Windows XP, please refer to the manual included with the OS.

- **STEP1**

Start up your PC.

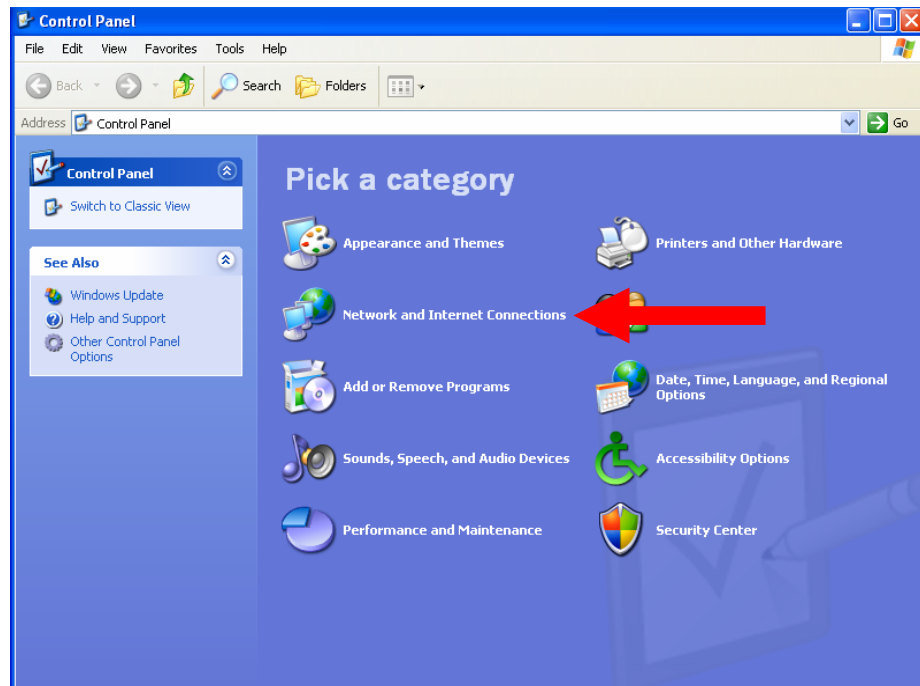
- **STEP2**

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



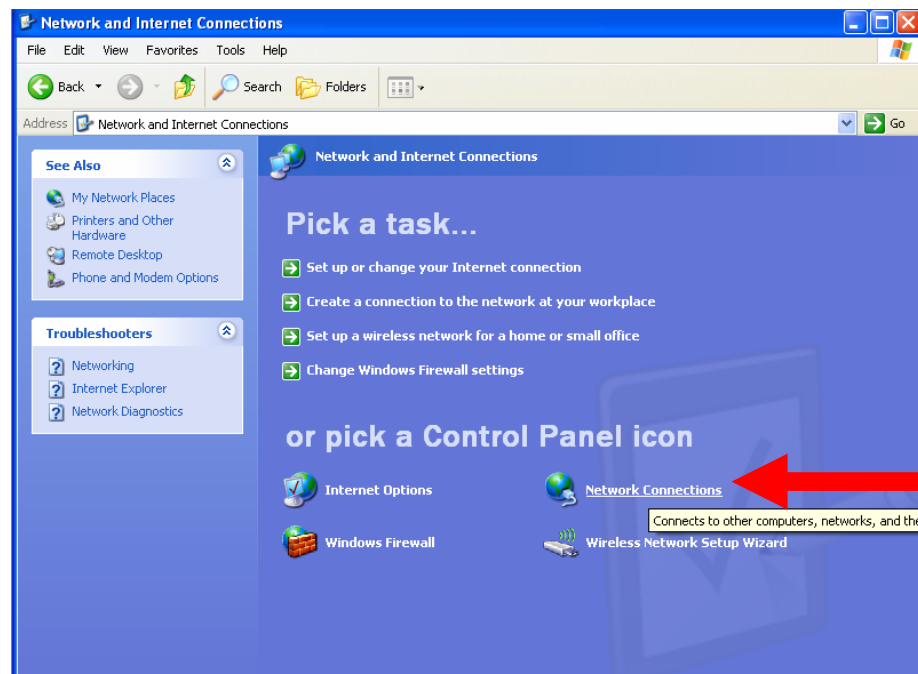
- **STEP3**

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



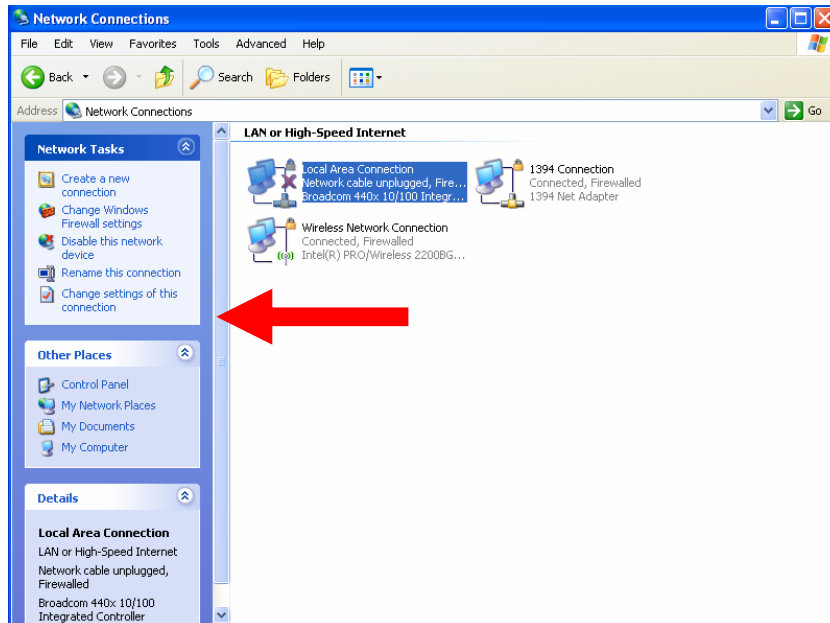
- **STEP4**

Double-click the "Network connections" icon



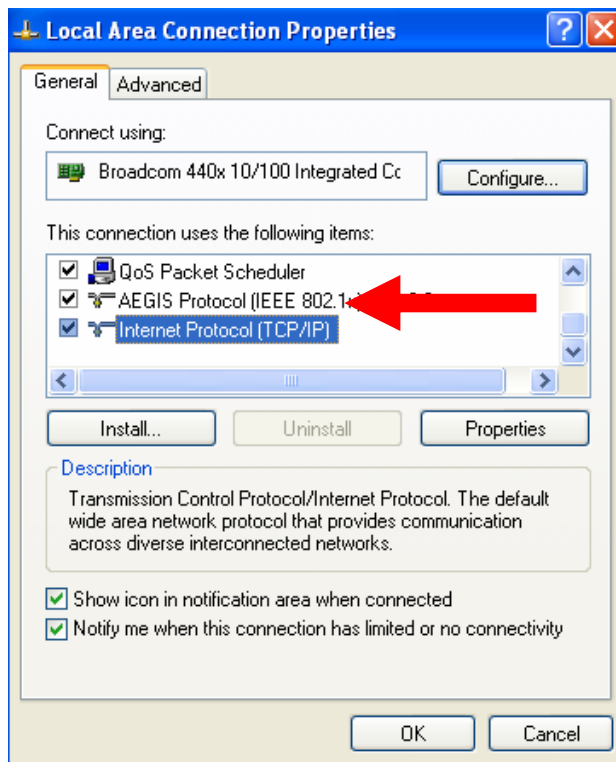
- **STEP5**

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



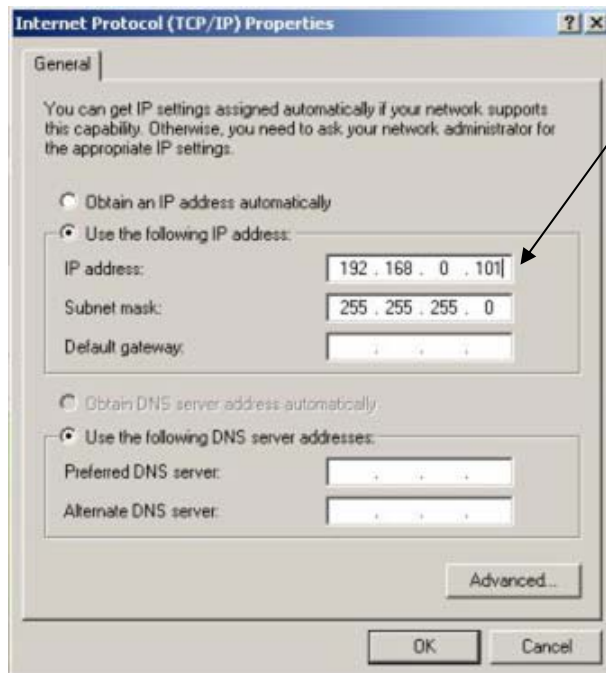
- **STEP6**

Click “Internet Protocol (TCP/IP)”, and then click the [Properties] button.



- **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, but 100 is excepted.)

- **STEP8**

Click the [OK] button and the window dialog box closes.

1.3 Configuring the IP device

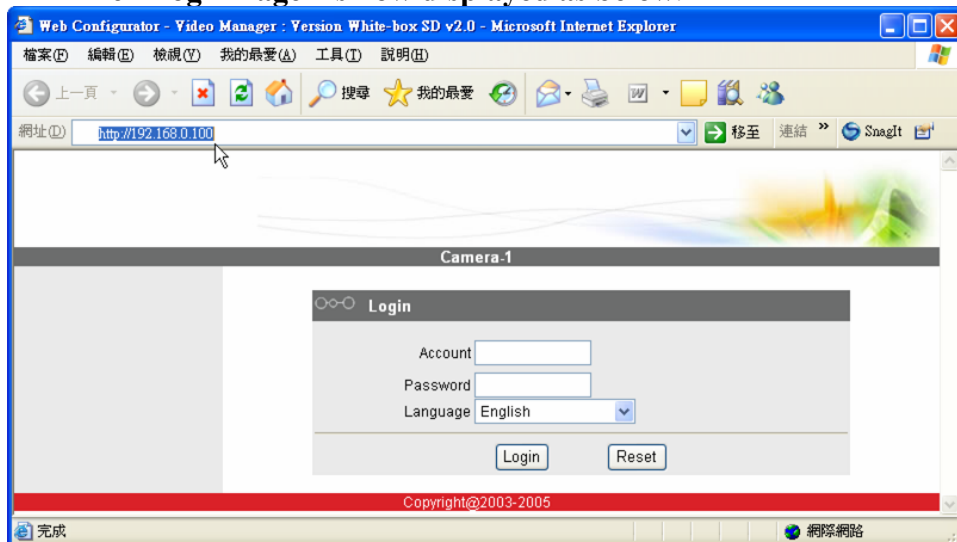
This section describes how to configure the IP device. The product administrator has unlimited access to all setup windows and normal users can only watch the live image. The IP device is configured under a standard browser (Microsoft Internet Explorer 6.0 or above).

Follow the procedures below to configure the IP device.

- **STEP1:** Open a browser
- **STEP2:** Enter the IP address of the IP device.

The default IP address is “192.168.0.100”



The “Login Page” is now displayed as below.



- **STEP3:** Enter the Account name (factory default: Admin) and the Password (factory default: 123456).



NOTE: Internet Explorer of 6.0 or above is highly recommended. If you don't have the it, please download it from <http://www.microsoft.com/windows/ie/downloads/default.msp>

- **STEP4:** Select the language of the IP device user interface. You can select from English, Traditional Chinese, Simplified Chinese, Japanese and Spanish. This user interface setting will disappear once you log out, if you want to change the default user interface language, please change the setting of [Host setting] after login succeeded.
- **STEP5:** Click the  button to login or click the  button to re-enter again.

Once successfully login, the “Main Setup page” will be displayed as below.

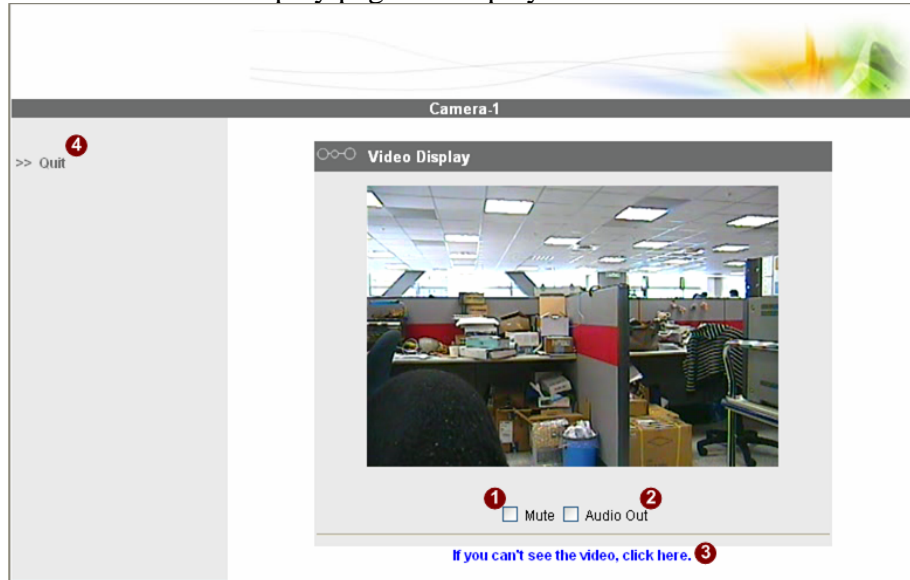


1.3.1 Video Display

This section tells you how to view live images via Internet Explorer.

- **STEP1:** Click the [Video Display] on the “Main Setup page”.

The “Video Display page” is displayed as below.



- **STEP2:** Check the **1** [Mute] checkbox to select mute enable/disable
- **STEP3:** Click the **2** [Audio Out] checkbox to enable/disable audio output from control PC to IP device.
- **STEP4:** Click the **3** if you cannot see the video, and follow the instructions.
- **STEP5:** Click the **4** [Quit] to exit the live view and return to “Main Setup page”.



NOTE: If the streaming is disabled, you cannot see the live images here.



NOTE: Be sure to set the Network Connections Type to Auto Negotiation to respective apparatus connected to this IP device via network. Otherwise, the maximum transmission performance might not be achieved. This is because the IP device follows MII standard.

1.3.2 Host Setting

This section tells you how to setup IP device's host settings and LAN settings.

- **STEP1:** Click the [Host Setting] on the “Main Setup page”.

The “Host setting page” is displayed as below.

The screenshot shows the 'Camera-1' configuration interface. On the left is a navigation menu with options: Video Display, Host Setting, WAN Setting, Date Setting, Video Setting, Event Setting, Video Adjust, User Account, System Info, Firmware, Factory Default, Save Reboot, and Logout. The main content area is titled 'Camera-1' and contains several configuration sections, each with 'Apply' and 'Reset' buttons. Red numbered callouts (1-10) point to specific fields:

- Host Setting:** Host Name (1), Language (2), Apply (3), Reset (4).
- LAN Setting*:** IP Address (5), Subnet Mask (6), Apply (3), Reset (4).
- Network Link Speed & Duplex:** LAN Port (7), WAN Port (8), Apply (3), Reset (4).
- ToS(Type of Service):** ToS(Type of Service) (9), ToS Priority (10), Apply (3), Reset (4).
- Port Mapping:** HTTP Port (1), Search Server Port 1 (2), Search Server Port 2 (3), Apply (3), Reset (4).

- **STEP2:** Configure these settings with reference to the table below. If you are still unsure what to set, contact your system administrator.

■ Host 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.

■ LAN Setting

Parameters	Description
⑤ IP address	The address shown is the current LAN port IP address of this IP device. You can change its IP address by change the parameter here.
⑥ Subnet mask	The address shown is the current LAN port subnet mask of this IP device. If the IP address is changed, adjust the subnet mask accordingly..

■ Network link speed & duplex

Parameters	Description
⑦ LAN port	This item lets you select the network transmission speed of LAN port. You can select from <ol style="list-style-type: none"> 1. Auto detect (default setting) 2. 100Mbps / Full duplex 3. 100Mbps / Half duplex 4. 10Mbps / Full duplex 5. 10Mbps / Half duplex
⑧ WAN port	This item lets you select the network transmission speed of WAN port. You can select from <ol style="list-style-type: none"> 1. Auto detect (default setting) 2. 100Mbps / Full duplex 3. 100Mbps / Half duplex 4. 10Mbps / Full duplex 5. 10Mbps / Half duplex

■ Port Mapping

Parameters	Description
⑨ 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 while compared with other data to be transmitted.
⑩ TOS priority	Select the TOS tag's priority to be added onto the streaming. You can select between <ol style="list-style-type: none"> 1. Normal-Service 2. Minimize-Cost 3. Maximize-Reliability 4. Maximize-throughout 5. Minimize-Delay

■ToS (Type of Service)

Parameters	Description
11 HTTP port	Select the port for this IP device to use HTTP protocol.
12 Search server port1	Select the port1 for this IP device to support search function of the application program (eg. IP utility).
13 Search server port2	Select the port2 for this IP device to support search function of the application program (eg. IP utility).

- **STEP3:** Click the **3** [Apply] button of each setting to confirm the settings or click the **4** [Reset] button to re-enter the parameters.



NOTE: Once finished all settings, be sure to click the [Save Reboot] button, otherwise, some settings won't take effect.



NOTE: Check with your system administrator, if Client PC and IP device are setting in different VLANs, please connect to WAN port.



NOTE: Be sure to set the Network Connections Type to Auto Negotiation to respective apparatus connected to this IP device via network. Otherwise, the maximum transmission performance might not be achieved. This is because the IP device follows MII standard.

1.3.3 WAN Setting

This section tells you how to setup IP device's WAN, DNS server and DDNS server settings.

- **STEP1:** Click the [WAN Setting] on the “Main Setup page”.

The “WAN setting page” is displayed as below

The screenshot shows the WAN Setting page for a camera. The page is titled "Camera-1" and has a sidebar with navigation options. The main content area is divided into three sections: "WAN Setting*", "DNS Server Setting", and "DDNS Server Setting". Each section contains various input fields and buttons, with red numbered callouts (1-16) pointing to specific elements. The "WAN Setting*" section includes a "Failover" dropdown (1), a "Dynamic IP Address" section with a selected radio button (2), and a "Static IP Address" section with input fields for IP Address (4), Subnet Mask (5), and ISP Gateway (6). The "PPPoE" section has input fields for User Name (8) and Password (9). The "DNS Server Setting" section has input fields for Primary DNS Server (10) and Secondary DNS Server (11). The "DDNS Server Setting" section has a "DDNS Type" dropdown (12), a "Service ISP" dropdown (13), and input fields for Host Name (14), User Name (15), and Password (16). Each section has "Apply" (17) and "Reset" (18) buttons at the bottom.

- **STEP2:** Configure these settings with reference to the table below. If you are still unsure what to set, contact your system administrator.

■ WAN Setting

Parameters	Description
1 Failover	The LAN and WAN in IP device are binned to one single IP configuration. All streaming traffics go through WAN by default. The LAN will take over WAN's function when the WAN is linked down. As WAN is recovered, LAN release the streaming function to WAN.
2 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.)
3 Static IP address	Click this to manually enter the IP device WAN port IP address. <ul style="list-style-type: none"> 4 IP address: Enter the WAN port IP address. 5 Subnet mask: Enter the subnet mask of WAN port. If IP address is changed, adjust the subnet mask accordingly. 6 ISP gateway: Enter the IP address of the gateway (the router).
7 PPPoE	Click this when you connect IP device directly to the xDSL modem. <ul style="list-style-type: none"> 8 User name: Enter the user name of your xDSL account. 9 Password: Enter the password of your xDSL account. <p>Note: You have to click the [Save Reboot] after you click the [Apply button] to let this IP device start xDSL connections.</p>

■ DNS server Setting

Parameters	Description
10 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.
11 Secondary DNS server	The IP address of the secondary DNS server. It will be used once the primary DNS server fails.

■ DDNS server Setting

Parameters	Description
12 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.
13 Service ISP	Click one of the DDNS service providers. You can visit their website to get a DDNS service account for this IP device.
14 Host name	Enter the host name of your DDNS service account. (ex: xxxx.dyndns.org)

15 User name	Enter the user name to login your DDNS service account.
16 Password	Enter the password to login your DDNS service account.

- **STEP3:** Click the **17** [Apply] button of each setting to confirm the settings or click the **18** [Reset] button to re-enter the parameters.



NOTE: Check with your system administrator, if Client PC and IP device are setting in different VLANs, please connect to WAN port.



NOTE: Once finished all settings, be sure to click the [Save Reboot] button, otherwise, some settings won't take effect.



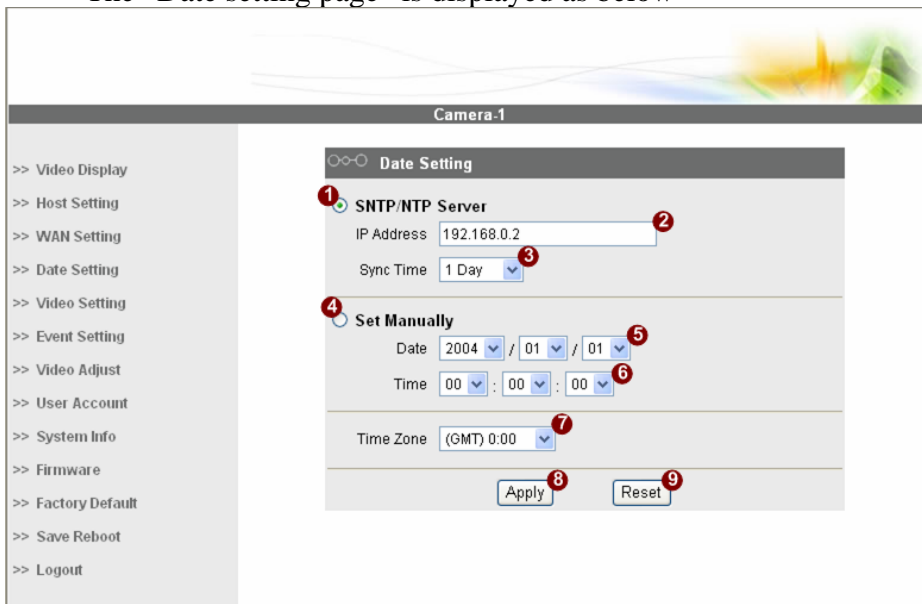
NOTE: Be sure to set the Network Connections Type to Auto Negotiation to respective apparatus connected to this IP device via network. Otherwise, the maximum transmission performance might not be achieved. This is because the IP device follows MII standard.

1.3.4 Date Setting

This section tells you how to setup IP device's date and time settings.

- **STEP1:** Click the [Date Setting] on the “Main Setup page”.

The “Date setting page” is displayed as below



- **STEP2:** Configure these settings with reference to the table below. If you are still unsure what to set, contact your system administrator.

■ Date Setting

Parameters	Description
1 SNTP/NTP server	Click this to enable IP device's SNTP/NTP function. SNTP/NTP function enables this video 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. 2 IP address: Enter the IP address of the SNTP/NTP server. 3 Sync time: Select the time interval for this IP device to synchronize its time.
4 Set manually	Click this to manually setup the date & time. 5 Date : Select the date 6 Time: Select the time
7 Time zone	Select the time zone offset for local settings

- **STEP3:** Click the 8 [Apply] button of each setting to confirm the settings or click the 9 [Reset] button to re-enter the parameters.



NOTE: Once finished all settings, be sure to click the [Save Reboot] button, otherwise, some settings won't take effect.

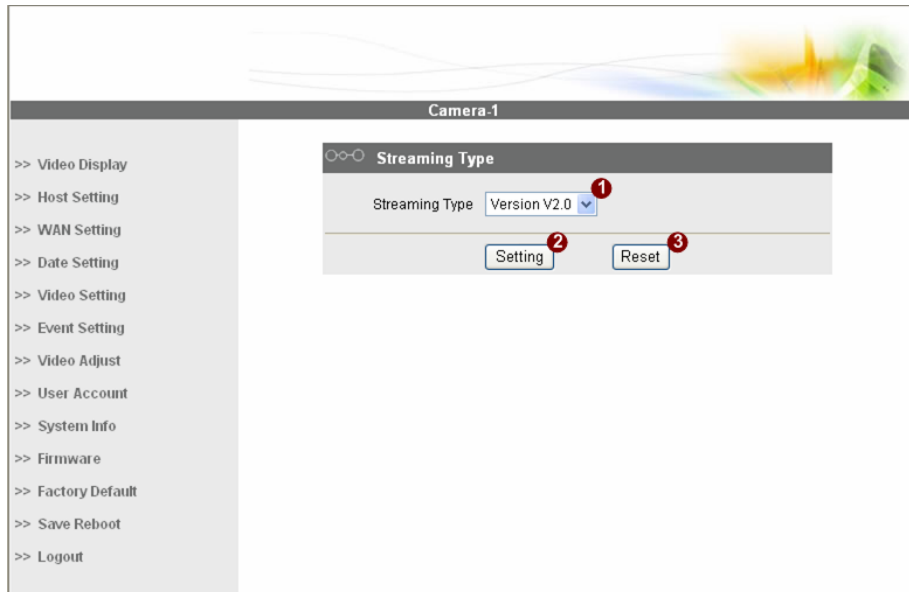
Manually set date and time will be gone, if power off.

1.3.5 Video Setting

This section tells you how to setup IP device's video and streaming settings.

- **STEP1:** Click the [Video Setting] on the “Main Setup page”.

The “Video setting page” is displayed as below





- **STEP2:** Select streaming protocol **1** [Version V1.0] (without audio function) or [Version V2.0] (with audio function), and click **2** [Setting] button to config settings, or **3** [Reset] button to re-enter the parameters. Configure these settings with reference to the table below. If you are still unsure what to set, contact your system administrator.

■Video setting of Version V1.0

■Video setting of Version V1.0

Parameters	Description
1 Camera name	The camera name is reserved for customer use.
2 LAN streaming	Select the streaming mode in the LAN. You can select TCP (TCP/IP) mode or Multicast mode to send video streaming. You can also select Disable to disable the streaming via LAN.
3 WAN streaming	Select the streaming mode in the WAN. You can select TCP mode to send streaming or select Disable to disable the video streaming.
4 Multicast IP	Select the multicast IP. Default settings is 228.5.6.1
5 Multicast TTL	Select the multicast TTL. Default setting is 255.
6 IGMP	Enable or diable IGMP snooping. You may find a support package for helping you IGMP knowledge. Please visit our web site, and get the support document TS-00038.
7 Analog video	Select video type connected to the video-in of this IP device. If you use an incorrect video type, some images might be lost.

8 Resolution	Select the video resolution of the IP device.
9 Bitrate	Select the bit rate of the video streaming. You can select from 28Kbps to 3Mbps. Note: Lower bit rate consumes less bandwidth but delivers lower quality images. High bit rate consumes more bandwidth but delivers higher quality images.
10 Frame rate mode	Select the frame rate mode. Constant: The streaming's frame rate remains constant at all conditions. Variant:: The streaming's frame rate will variants according to the images variability to keep the image quality good.
11 Frame rate	Select the frame rate of the video streaming.
12 Estimate Bitrate	Click the "Apply" while setting to variable bitrate, then an estimate bitrate will show after item 11
13 Frame Integration	Select the deinterlance mode.
14 Low Pass Filter	Enable to reduce colour noise, and prevent data burst
15 Serial Port Baud Rate	Select the Baud Rate setting of serial port.
16 Serial Port Control	Select the Control setting of serial port.
17 Video register port	Select the port for this IP device to support video registration function of the application program.
18 Video control port	Select the port for this IP device to support video control function of the application program.
19 Video streaming port	Select the port for this IP device to support video streaming function of the application program.
20 Video multicast port	Select the port for this IP device to support video multicast function of the application program.

- **STEP3:** Click the  [Apply] button of each setting to confirm the settings or click the  [Reset] button to re-enter the parameters.



NOTE: Once finished all settings, be sure to click the [Save Reboot] button, otherwise, some settings won't take effect.

■Video setting of Version V2.0

■Video setting of Version V2.0

Parameters	Description
① Camera name	The camera name is reserved for customer use.
② Streaming Method	Select the streaming mode. 1. TCP only 2. Multicast only 3. TCP & Multicast 4. RTP over UDP 5. RTP over Multicast 6. RTP over UDP & Multicast
③ Audio	Select enable or disable the audio function.
④ Multicast IP	Select the multicast IP. Default settings is 228.5.6.1
⑤ Multicast TTL	Select the multicast TTL. Default setting is 255.
⑥ Multicast Interface	Select multicast interface

7 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.
8 Analog video	Select video type connected to the video-in of this IP device. If you use an incorrect video type, some images might be lost.
9 Resolution	Select the video resolution of the IP device.
10 Bitrate	Select the bit rate of the video streaming. You can select from 28Kbps to 3Mbps. Note: Lower bit rate consumes less bandwidth but delivers lower quality images. High bit rate consumes more bandwidth but delivers higher quality images.
11 Frame rate mode	Select the frame rate mode. Constant: The streaming's frame rate remains constant at all conditions. Variant:: The streaming's frame rate will variants according to the images variability to keep the image quality good.
12 Frame rate	Select the frame rate of the video streaming.
13 Estimate Bitrate	Click the "Apply" while setting to variable bitrate, then an estimate bitrate will show after item 12
14 Frame Integration	Select the deinterlance mode.
15 LowPass Filter	Enable to reduce colour noise, and prevent data burst
16 Serial Port Baud Rate	Select the Baud Rate setting of serial port.
17 Serial Port Control	Select the Control setting of serial port.
18 RTSP port	Select the port for this IP device to support RTSP
19 Video RTP Over Multicast	Enable/disable the multicast video streaming via RTP protocol
20 Audio RTPOver Multicast	Enable/disable the multicast audio streaming via RTP protocol
21 Video control port	Select the port for this IP device to support video control function of the application program.
22 Video streaming port	Select the port for this IP device to support video streaming function of the application program.
23 Video multicast port	Select the port for this IP device to support video multicast function of the application program.

- **STEP3:** Click the **24** [Apply] button of each setting to confirm the settings or click the **25** [Reset] button to re-enter the parameters.



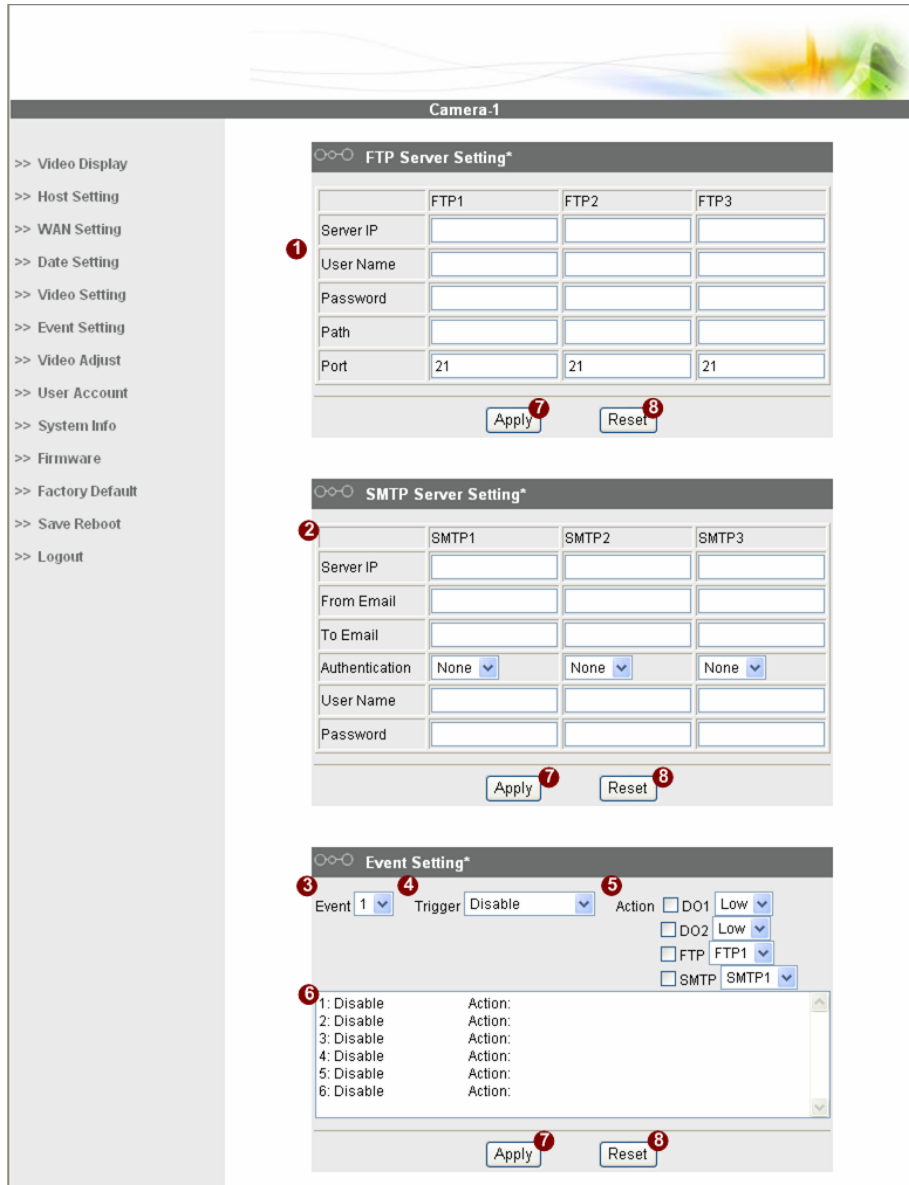
NOTE: If you change **Search Server Port1 & Search Server Port2**, then you need to change ports in IP management software when searching for this IP device. Otherwise, you might not find this IP device in the network



NOTE: Once finished all settings, be sure to click the [Save Reboot] button, otherwise, some settings won't take effect.

1.3.6 Event Setting

This section tells you the related setting of event triggering.



■ Event setting

Parameters	Description
1 FTP Server Setting	Set settings of FTP site
2 SMTP Setting	Set settings of SMTP
3 Event	Select event number
4 Trigger	Select the trigger mode

5 Action	Select the action mode
6 Status Window	Windows to show event settings

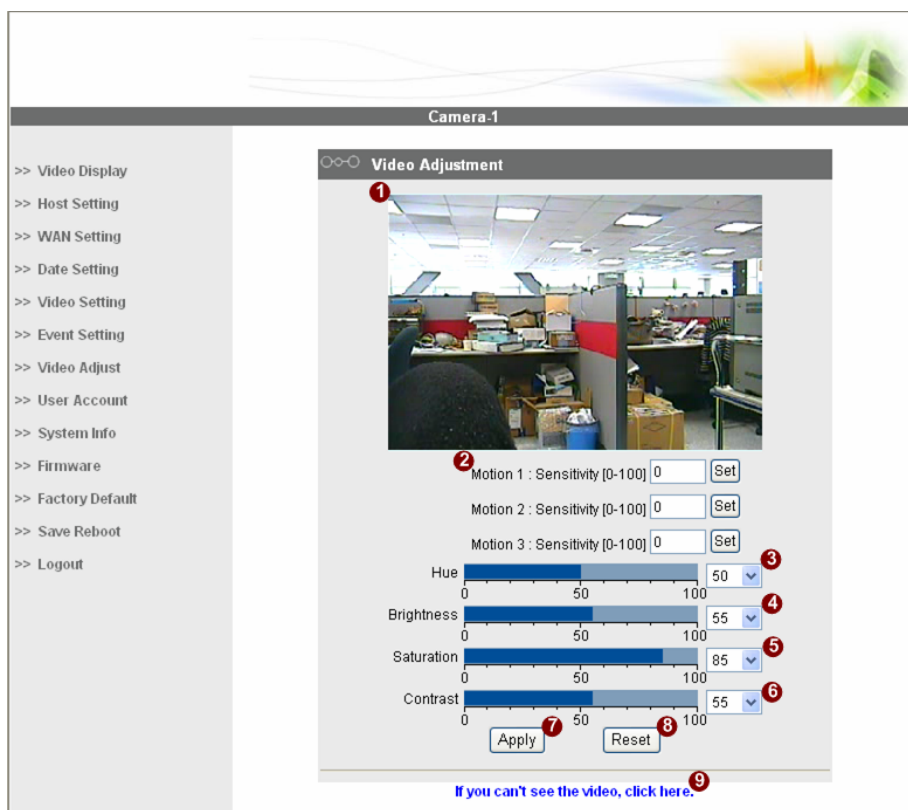
STEP1: Click the **7** [Apply] button of each setting to confirm the settings or click the **8** [Reset] button to re-enter the parameters.

1.3.7 Video Adjustment

This section tells you how to adjust the streaming video.

- **STEP1:** Click the [Video Adjust] on the “Main Setup page”.

The “Video adjust page” is displayed as below



- **STEP2:** Set the (2) sensitivity of motion detection windows.
- **STEP3:** Adjust the video by changing the value of (3) “Hue”, (4) “Brightness”, (5) “Saturation” and (6) “Contrast”. See the images displayed above for the effect of the current setting.
- **STEP4:** When satisfied with the video settings, click the (7) [Apply] button of each setting to confirm the settings or click the (8) [Reset] button to re-enter the parameters.
- **STEP5:** Click the (9) if you cannot see the video, and follow the instructions.



NOTE: Once finished all settings, be sure to click the [Save Reboot] button, otherwise, some settings won't take effect.



NOTE: You may find a support package for helping you on better video quality adjustment. Please visit our web site, and get the support document TS-00103.

1.3.8 User Account Management

This section tells you how to setup the accounts.

- **STEP1:** Click the [User account] on the “Main Setup page”.

The “Account management page” is displayed as below

User	Account	Password
*Root	Admin	123456
USER1		
USER2		
USER3		
USER4		
USER5		
USER6		
USER7		
USER8		
USER9		
USER10		

Apply Reset

- **STEP2:** Setup the account names and their respective passwords. There are **1** root (administrator) account and **2** 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.
- **STEP3:** Click the **3** [Apply] button of each setting to confirm the settings or click the **4** [Reset] button to re-enter the parameters.



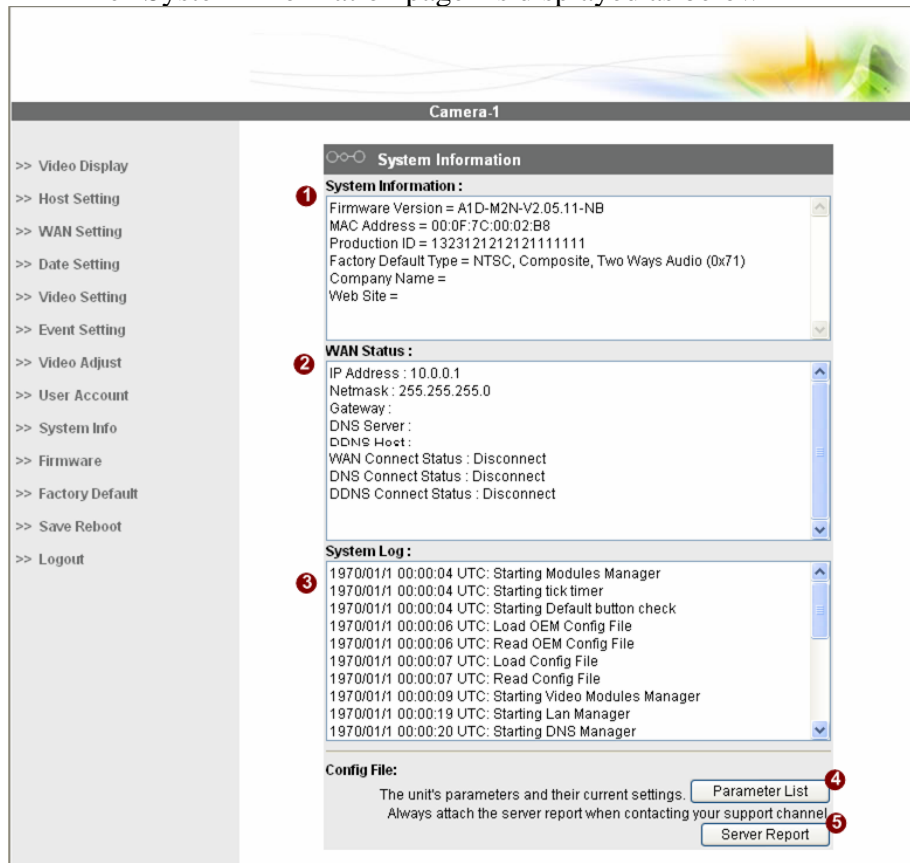
NOTE: Once finished all settings, be sure to click the [Save Reboot] button, otherwise, some settings won't take effect.

1.3.9 System Info

This section tells you how to see the system information of this IP device including system information, WAN status and system log.

- **STEP1:** Click the [System info] on the “Main Setup page”.

The “System information page” is displayed as below



- **STEP2:** View the information at the 3 columns. This information is very useful to understand the IP device status and to resolve any problem that might occur.

■ System info

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

- **STEP3:** Click **4** [Parameter List] where you may see all configurations of the IP device.

- **STEP4:** Click **5** [Server Report] to export related information of the IP device while reporting a support to your support channel.

1.3.10 Firmware Upgrade

This section tells you how to see update IP device’s firmware. You can always visit our web site for the latest firmware.

- **STEP1:** Click the [Firmware] on the “Main Setup page”.

The “Firmware upgrade page-1” is displayed as below



- **STEP2:** Click **1** [Apply] button. The “firmware upgrade page-2” will be displayed as below.



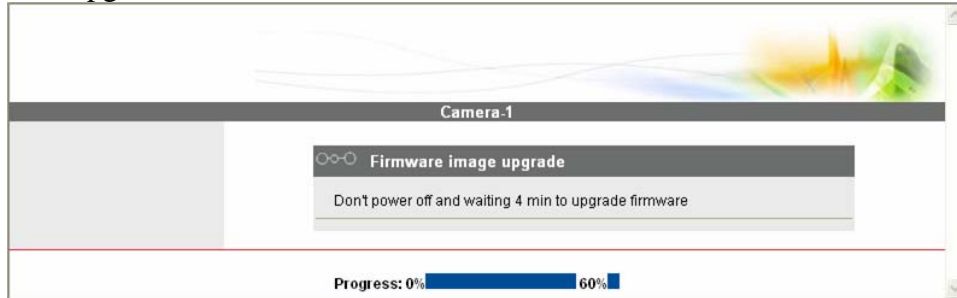
■ Date Setting

Parameters	Description
3 Firmware images file	You can upload the firmware images here. Click the [browse] to select the an image file and click the [enter]. You can always get the latest version at our website.
4 MD5 file	You can upload the MD5 file here. Click the [browse] to select an MD5 file and click the [enter]. You can always get the latest version at our website.

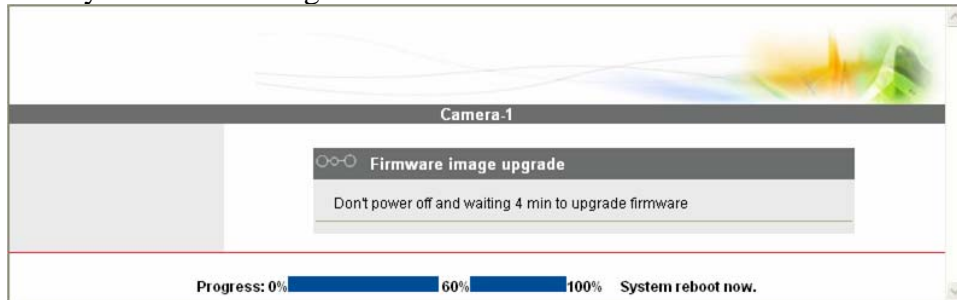


NOTE: The version of the firmware image and the MD5 file to be uploaded must be the same, otherwise, the firmware upgrading will fail and the IP device will continue using previous firmware version.

- **STEP3:** Click the **5** [Upload] button to start upgrading or click the [Reset] to re-select the files.
- **STEP4:** The upgrade process window shows a progress bar indicating upgrade status.



- **STEP5:** The progress bar shows the upgrading is completed, and system is rebooting.

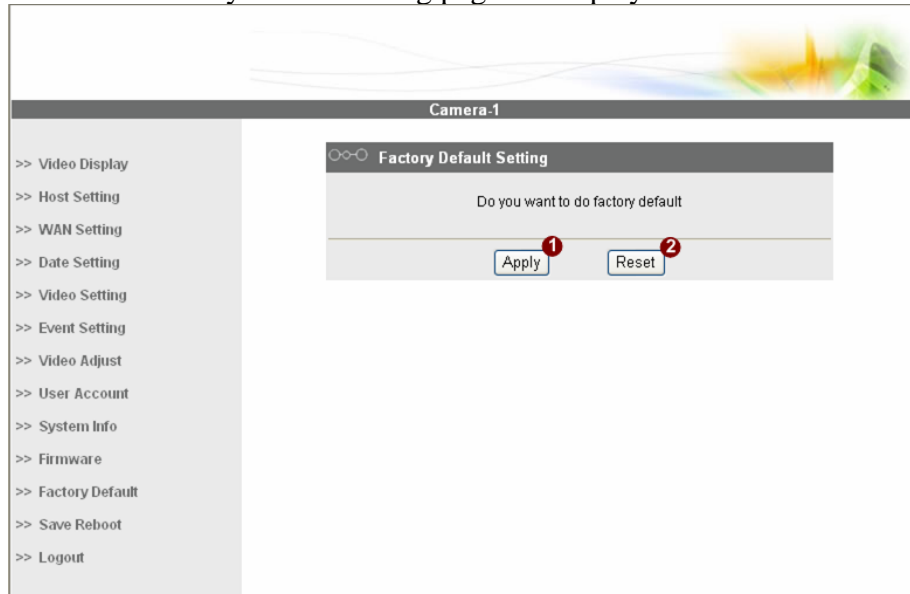


1.3.11 Factory Default

This section tells you how to see load IP device's factory default setting.

- **STEP1:** Click the [Factory Default] on the “Main Setup page”.

The “Factory default setting page” is displayed as below



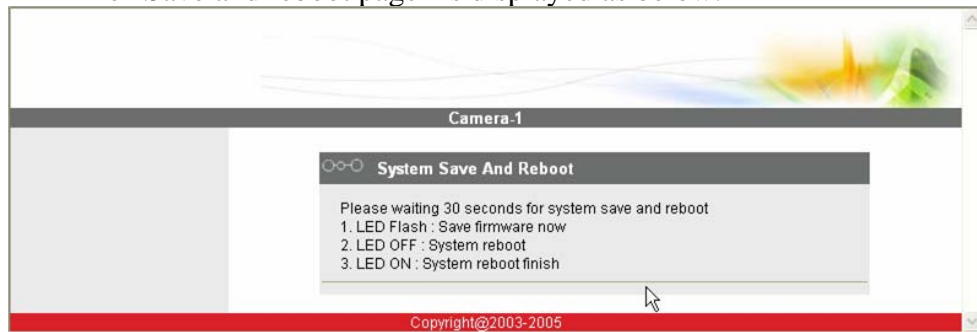
- **STEP2:** Click the [Apply] button to go to loading confirmation page or click the [Reset] button to exit to previous page.
- **STEP3:** A confirmation page will be displayed. Click the [Save Reboot] button to start loading factory default settings.

1.3.12 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.

- **STEP1:** Click the [Save and reboot] on the “Main Setup page”.

The “Save and reboot page” is displayed as below.



- **STEP2:** The Action LED indicator will light down 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.

1.3.13 Logout

This section tells you how to logout the IP device. Be sure to logout this IP device once your setting is completed.

- **STEP1:** Click the [Logout] on the “Main Setup page”.

You will logout and return to the “Login Page” displayed as below.

