Configuration Guide

IP Cameras & Encoders

Note

This manual provides information to configure IP Camera and Video Server products through admin page settings.

For the connection to the admin page enter

http://[IP_address:http_port]/admin.htm

in the address field of Internet Explorer.

Refer to the manual of each product for product specific installation

speco technologies®

Revision History:

Date	Rev No	Description
Jul 1st, 2014	2.0	Creation of the Document
Jul 8th, 2014	2.0.1	Minor revisions; Added applicable product list
Mar 4th, 2015	2.0.2	Added Video Setup (Motorized Focus and Zoom Products)

Indications:

	**Warning:** Death or Serious Injury will occur without following Warning.
	**Caution:** Operational Problem (Faulty & Malfunction) will occur without complying with Caution.
	**Reference:** Technical Information for Users.

Applicable Models:

	Model	
Main	O2B2	Bullet, 3.6-16mm, 2MP 1080p
	O2B5	Bullet, 3.7mm, 2MP 1080p
	O2D4	Indoor/Outdoor Dome, 3.6-16mm, 2MP 1080p
	O2DP8	Indoor Dome, 3.6-16mm, 2MP 1080p
	O2MB1	Indoor/Outdoor Miniature Bullet, 3.7mm, 2MP 1080p
	O2MD1	Indoor/Outdoor Miniature Dome, 3.7mm, 2MP 1080p
	O2MT61	Indoor/Outdoor Miniature Turret, 3.7mm, 2MP 1080p
	O2PTZ22D5W	Outdoor PTZ, 20x Optical, 2MP 1080p
	O2PTZ34D5W	Indoor PTZ, 20x Optical, 2MP 1080p
	O2T6	Indoor Traditional, CS type lens, 2MP 1080p
	O5MDP1	Indoor/Outdoor Miniature Dome, Panoramic 360°, 5MP
Intensifier®	OiD4	Indoor/Outdoor Dome, 3.6-16mm, HD
	OiMD1	Indoor/Outdoor Miniature Dome, 3.7mm, HD
	O2iB3M	Indoor/Outdoor Bullet, 2.8-12mm Motorized Focus & Zoom, 2MP 1080p
	O2iB6	Indoor/Outdoor Bullet, 2.9mm(Optional 3.6/6mm), 2MP 1080p
	O2iD4M	Indoor/Outdoor Dome, 2.8-12mm Motorized Focus & Zoom, 2MP 1080p
	O2iMD1	Indoor/Outdoor Miniature Dome, 2.9mm(Optional 3.6/6mm), 2MP 1080p
	O2iMT61	Indoor/Outdoor Miniature Turret, 2.9mm(Optional 3.6/6mm), 2MP 1080p
Entry	O2MD2	Indoor/Outdoor Miniature Dome, 3.7mm, 2MP 1080p
	O2DP9	Indoor Miniature Dome, 3.7mm, 2MP 1080p
Encoder	OS101/102	Encoders

Contents

1. Preparation for connection

1.1. Product Installation

Brief information for rapid installation is provided in this section. For more detailed information, you are recommended to refer to pertinent documentations provided with the product.

1. **Apply Power to the product and connect the product with network cable.**

Applying improper power to device can cause damage to the device.
Varieties of power supplying option are provided for each of the product. Please refer to the manual of each specific product for available option.

2. **Install "ONSIP installer (Ver.3.0.1 or above)" for locating IP cameras on the local network and "Speco-NVR (Ver.5.17 or above)" for recording video on your PC.**
   Speco-NVR installation also includes ONSIP Installer installation. Detailed information for installing these programs can be found in **[Speco-NVR User's (Owner's) Guide],** respectively.

3. **Assign IP address to the product using ONSIP Installer.**
   Identify the type of the network environment and set up IP address. If network type is xDSL or Cable modem you need supplementary information provided by your ISP.

< Quick Installation Guide of ONSIP Installer >

a. Starting ONSIP Installer.

To starting ONSIP Installer, select "**Start Up**" -> "**Programs**" -> "**Speco Technologies**" -> "**ONSIP Installer**" at the Windows task bar.

b. Find the product for the configuration

Click on "**Refresh**" button to list up all IP Products (IP Cameras or encoders) connected on the same network with the PC and identify the products with MAC Address.

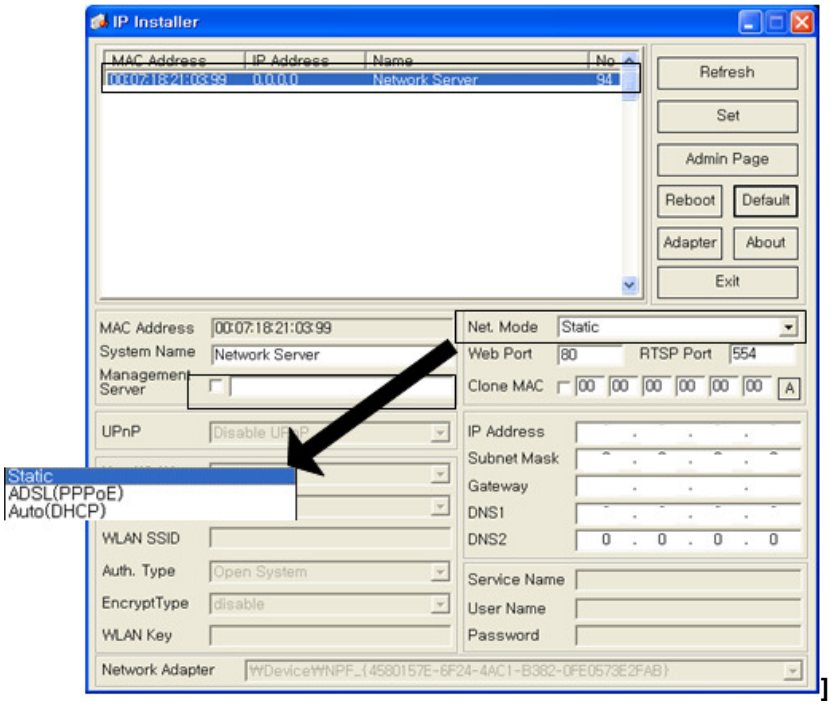


Fig. 1-1. ONSIP Installer Product Search

c. Assign network parameters needed for connection to the product. Please follow through the following procedures.

I. Double click on a product you want to set up.

II. The selected product will be highlighted and network parameter settings will be shown. Each product can be identified with unique MAC address. Refer to the following figure for an example.

III. If you want to change or initiate the network settings, fill in the fields with white background (the fields surrounded by red rectangles below) with proper values.

IV. Once you fill in the fields, click on "**Set**" to initialize the product with new settings.

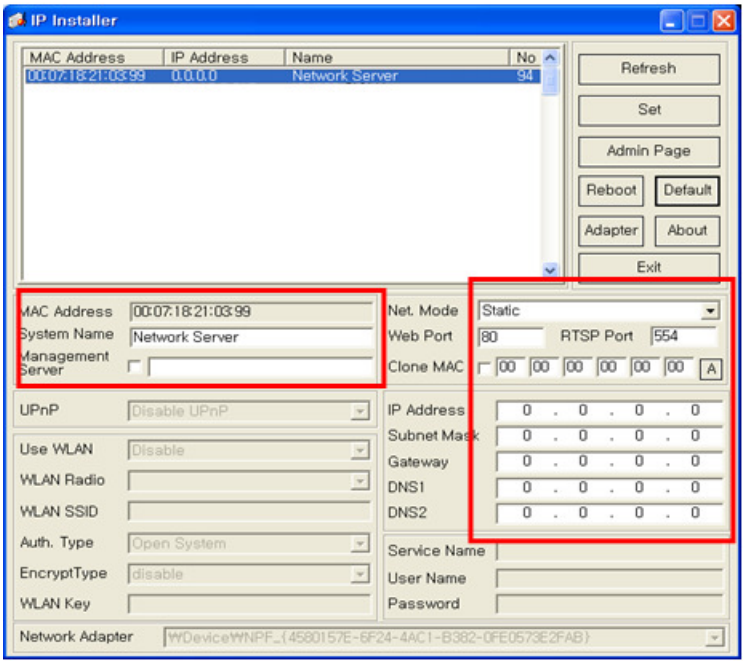


Fig. 1-2. ONSIP Installer Parameter Setting Up

1.2. PC Requirements

AV streaming data received from IP camera or video server can be decoded or stored in a PC running Speco NVR (VMS for IP cameras). Minimum requirement of the PC is recommended as in the following table.

Item	Minimum Requirements	Misc
CPU	Intel Core i3 above	
RAM	2GB above	
Graphic Card	Video RAM 256MB above	Resolution : 1920x1080 above
LAN Card	10Mbps above	
OS	Windows XP above	

2. Admin Tool

The operational condition of the IP cameras and encoders can be set up over the network. This chapter describes general information of setting up these products over the network. The products covered include IP Cameras and encoder products.

2.1. Access

Access to Admin Tool is available using Internet Explorer and "Speco-NVR"

1. **Assess using Internet Explorer**

   Type in the IP address of the product in the address field of the Internet Explorer as follows:

   http://[IP address of the product]/admin.htm

   Example: http://172.16.64.133/admin.htm

   If you have changed the HTTP port of the product from default value (80) you can access the Admin mode by adding HTTP port address as follows:

   http://[device IP address]:[HTTP port]/admin.htm

   Example: http://172.16.64.133:8080/admin.htm

2. **Access using Speco-NVR**

   Select Video Channel in the viewing window of "Speco-NVR". Selected Video Channel will be highlighted. Click  button on the right side of the display screen. Upon connection, the web browser will start to initiate the admin page (Make sure that Internet Explorer is set as the default browser).

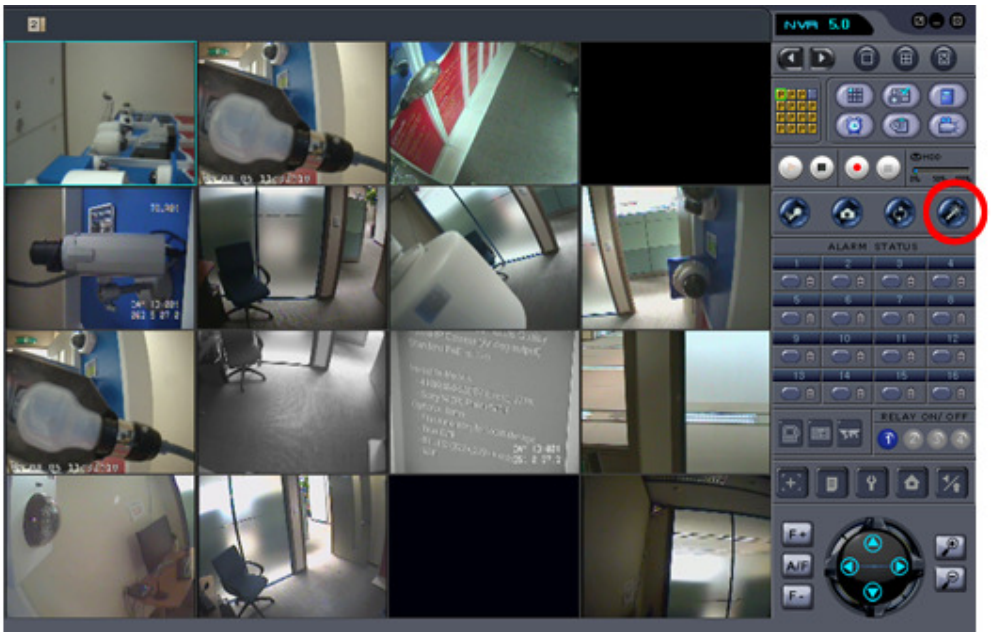


Fig 2-1. Access to Admin Page Using "Speco-NVR"

3. Input User Name and Password

Accessing to Admin Page is required to insert User Name and Password

Factory default "**User Name**" and "**Password**" are set as "**admin**" and "**1234**", respectively. Click on "OK" button to enter into the Basic Setup page of Admin mode. If you have changed the username and password of the Administrator, you must log on with the changed username and password.

For the sake of enhanced security, we strongly recommend you to change ID and Password during the installation and remember the ID and Password.
The details are described on [User Admin & Time Setup] section of this document.

If ID and Password are lost, restore the factory default value by following the procedure below.
While power is applied to the product, press the Factory Default button for more than 5 sec, and then all Setting Parameters will be returned to Factory Default.

2.2. Layout of the admin page

Upon initiation of the admin page, the screen similar to the following picture will be shown.

The left side of the admin page shows various admin page menus, while the right side shows the settings of selected admin menu. Click each of the menu items at the left to go into the specific admin page.

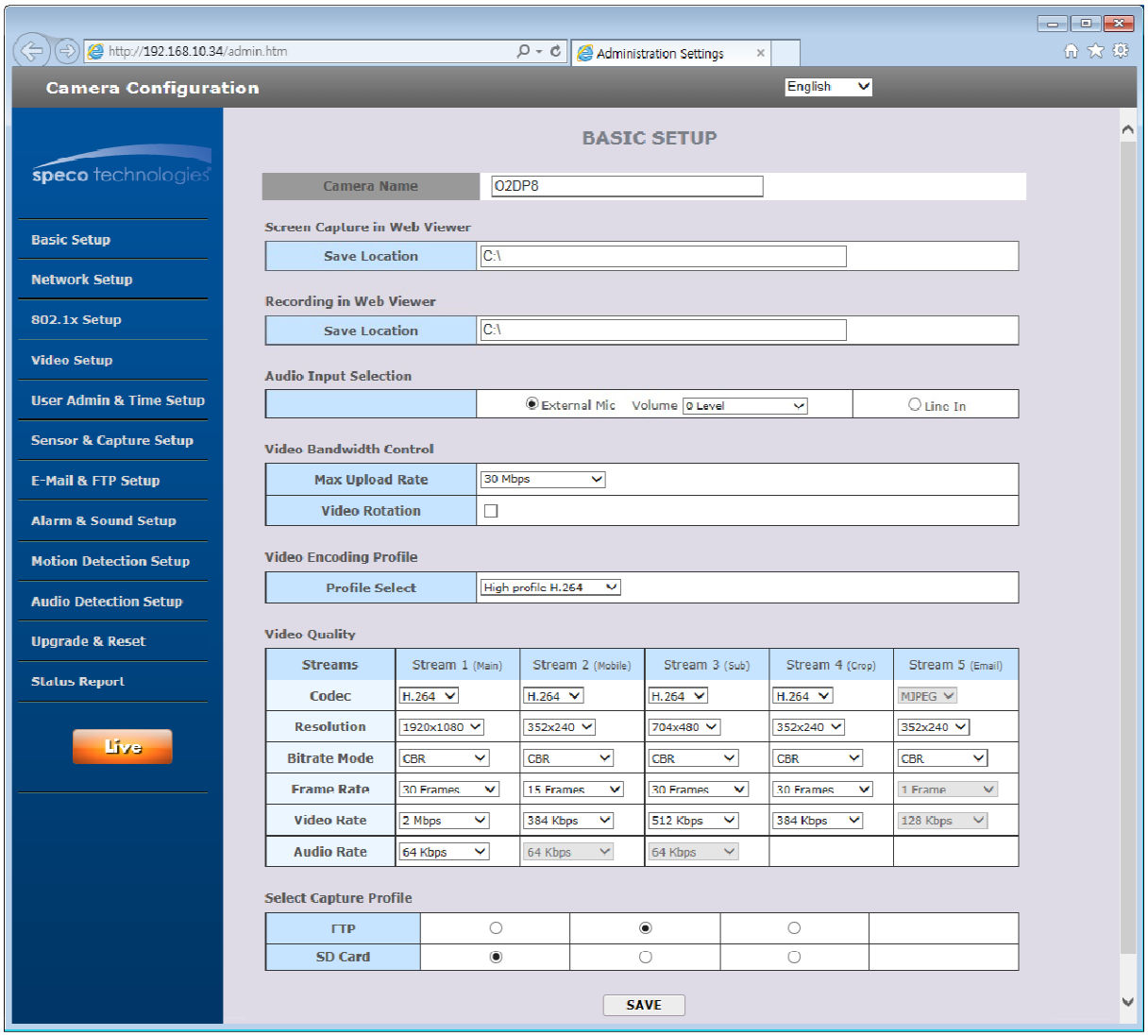


Fig. 2-2. Layout of Admin Page

- Select the language of your preference from the drop down list at the top right.

- Click on "**Live**" button for initiating live video connection after finishing setup.

2.3. Basic Setup

Setup the basic parameters for the operation of the product.

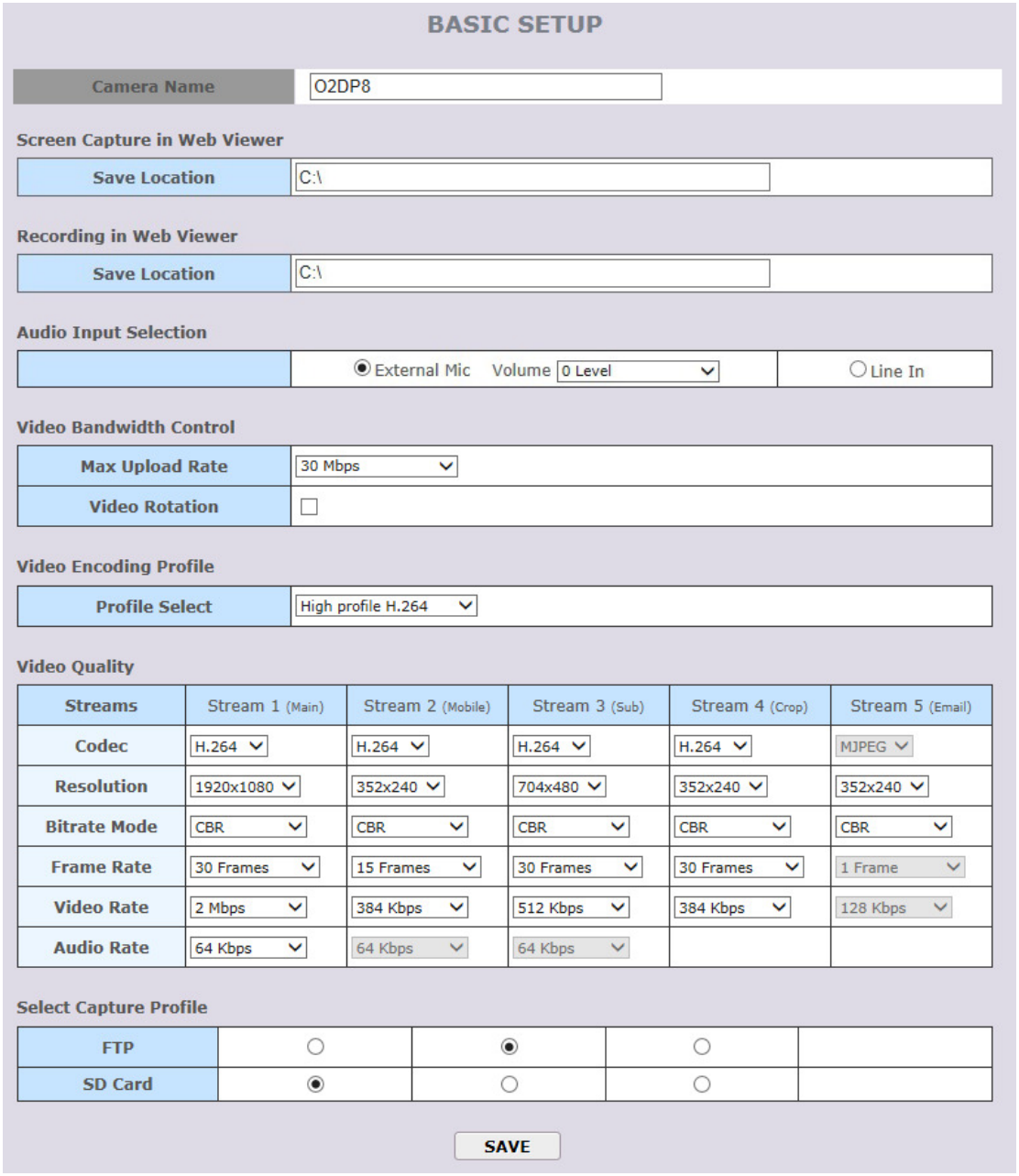


Fig. 2-3. Basic Setup

Item	Description
Camera Name	Nickname of the product. It is same as the one set-up by ONSIP installer. You can reassign the nickname. The Camera name will be shown in the connection through Speco-NVR.
Screen Capture in Web Viewer	Designate the folder to save captured image in Web viewer by clicking capture button ( ).

Recording in Web Viewer		Designate the folder to record live video in Web viewer by clicking record button ( ).
Audio Input Selection		Select the type of input audio. • **Line In**: used for Line-out from general audio device. • **Ext-Mic**: used for Microphone
Video Bandwidth Control	Max upload rate	Assign maximum bandwidth of the uplink for the network connected to device.
	Video rotation	Check at the box to rotate the video by 180°.
Video Encoding Profile		Select video encoding profile. • **Baseline**: Primarily for low-cost applications such as video conferencing and mobile applications. • **Main**: Used for standard-definition digital TV broadcasts. • **High**: primary profile for broadcast and disc storage applications, particularly for high-definition television applications (for example, Blu-ray and HDTV) Select a profile for your application. Default is "**High profile**". Check whether the client supports the selected profile because video can't be displayed if client does not support selected profile.
Video Quality	Streams	Maximum 5 different video streams can be transmitted simultaneously through different video channel. Define the parameters for each video stream. "Stream 5 (Email)" is only used for e-mail transmission against Event.
	Codec	Assign video codec for the channel. Either H.264 or MJPEG can be chosen. As the use of MJPEG is applicable only for certain software, please check it before selecting MJPEG. • If MJPEG is selected, low "**Video Rate**" is automatically adjusted for configured resolution and frame rate.
	Resolution	Assign the resolution of each Stream.
	Bitrate Mode	Select the Constant Bit Rate (CBR) and Variable Bit Rate (VBR).
	Frame rate	Assign video frame rate. You can improve picture quality by lowering frame rate for the same bandwidth.
	Video rate	Assign the video bitrate for transmitting video data. Higher video rate ensures better video quality. But if you set the video rate exceeding the Max. Upload Speed, normal video transmission can't be done. If the video is interrupted or there is mosaic, you need to lower the video rate.
	Audio rate	Assign the audio bitrate for transmitting audio data. Audio data is not transmitted if you select "**N/A**".

Select Capture Profile	Select the video profile upon event. Upon event, selected profile will be transmitted to FTP Server or stored in micro SD Card.
SAVE	Save the parameters when settings are finished. You must click the “SAVE” once you finish all settings.

2.4. Network Setup

Setup the network parameters appropriately in accordance with your network environment. Many of the parameters in this mode are same as those set up by “**ONSIP Installer**”.

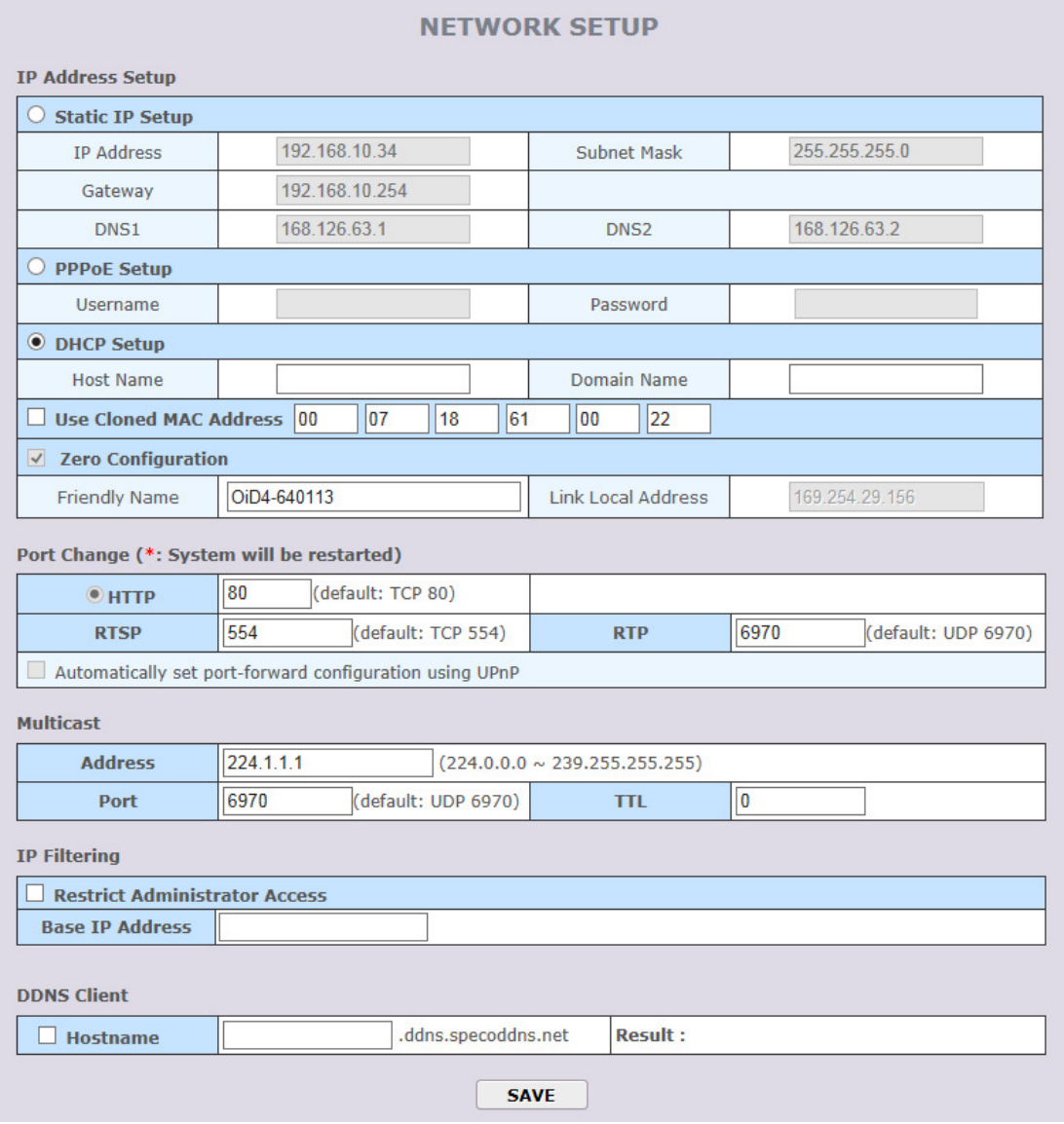


Fig. 2-4. Network Setup

Item		Description
IP Address Setup	The network types supported by the products are LAN (fixed IP), PPPoE, and DHCP (automatic IP allocation).	
	Static IP Setup	When the network environment is fixed IP, select 'LAN' in the network type, and input the IP address, Subnet Mask, Gateway, DNS1 and DNS2. Ask your network administrator or ISP for the information. DNS2 is used when DNS1 does not work. **#. When you change the DNS, restart the camera.**
	PPPoE Setup	When the network environment is PPPoE with automatic IP address assignment, select 'PPPoE' in the network type and fill in the 'User Name' and 'Password' fields with the values given by your ISP. It is for the use with ADSL modems.
	DHCP Setup	Select this mode if there is a DHCP server available to assign IP addresses automatically. Select this mode in case of Cable Modem.
	Clone MAC	When some customers want to use Clone MAC, use this function.
	Zero Configuration	If you don't receive IP from the DHCP Server, IP will be automatically assigned in the range of 169.254.xxx.xxx You can easily search the product through Bonjour and Friendly Name is the name of the device used in Bonjour.
Port Change	Port number should be a positive integer below 65,535. Duplication of port number is prohibited.	
	HTTP	HTTP port is used for the connection to the admin page. Default is 80.
	RTSP	The RTSP port is used for transmitting real time audio/video data from the product. Default is TCP 554. RTSP Address : rtsp://camera_ip_address[:rtsp_port]/StdCh<1|2|3|4>
	RTP	The RTP port is used for transmitting real time audio/video data from the product. Default is UDP 6970. It is used for multicasting.
Multicast	The range of Multicast address is 224.0.0.0 ~ 239.255.255.255.	
	Address	The address is used for multi-casting real time audio/video data from the product. Default is 224.1.1.1.
	Port	The port is used for multi-casting real time audio/video data from the product. Default is UDP 6970.
	TTL	Define number of routers multi-casting data pass through. Default is 0(off).
IP Filtering	You can restrict the access to the admin page from IP addresses beyond certain IP address range.	
	Restrict Administrator	Check at this box to restrict access to the admin page.

	Access	
	Base IP Address	Input IP address of the PC which is intended to be used for access to the admin page.
DDNS Client	You can register the product to the DDNS Server for name service.	
	Log on to server	Check this box to use DDNS service. By checking Hostname your product can use a domain name instead of a numeric IP address. This feature is particularly useful in a dynamic IP address environment where the IP address can change periodically. Input the hostname for the service. Result shows message from the Speco DDNS server.
SAVE		Save the parameters when settings are finished. You must click "SAVE" once you finish all settings.

2.5. 802.1x Setup

This is the setup page for IEEE802.1x authentication.

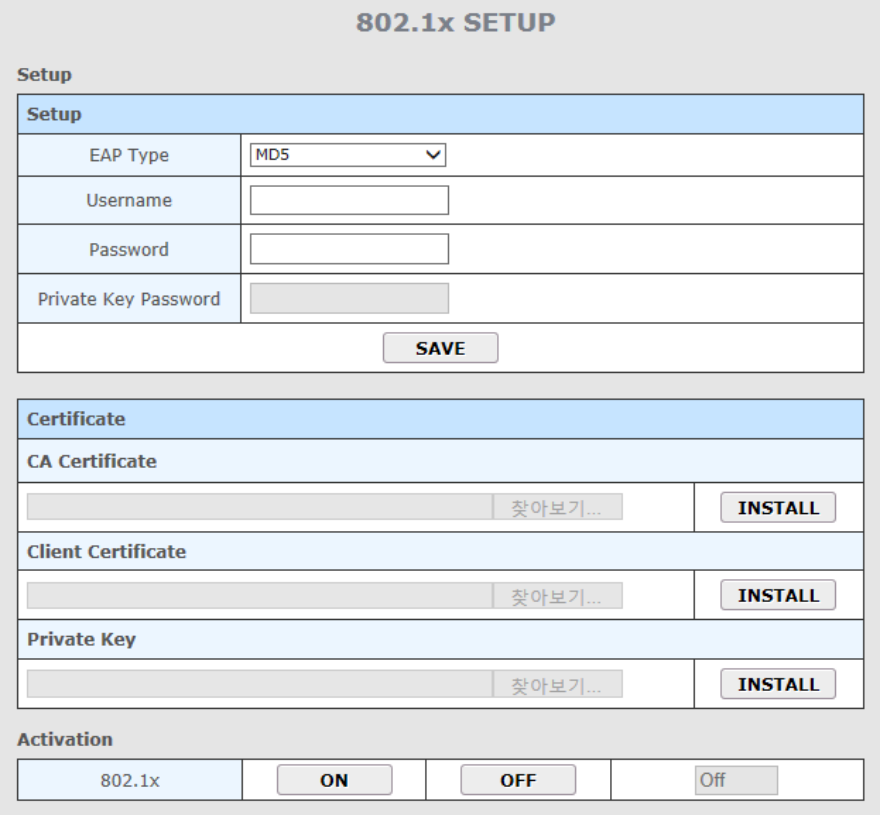


Fig. 2-5. 802.1x Setup

Item		Description
Setup	Select EAP type and configure Sub Fields.	
	EAP type	Select EAP type to choose authentication method. In order for

		authentication to be successful, the client and the server must use the same authentication method. Fields used in each method are as followings: • **EAP-MD5**: Username, Password • **EAP-TLS**: CA Certificate, Client Certificate, Private Key, Username, Private Key Password • **PEAP**: CA Certificate, Username, Password • **EAP-TTLS**: CA Certificate, Username, Password
	Username	Account name of client.
	Password	Password for the account
	Private Key Password	Password for Private Key.
SAVE		Save the parameters when settings are finished. You must click “SAVE” once you finish all settings.
Certificate	CA Certificate	Certificate for server verification.
	Client Certificate	Certificate for client verification.
	Private Key	Private Key of client.
Activation		Select at the “ON” to enable 802.1x authentication. If checked, this product behaves as a client requiring authentication.

2.6. Video Setup

You can adjust the parameters of input video. Note that parameters will vary in accordance with the camera module employed.

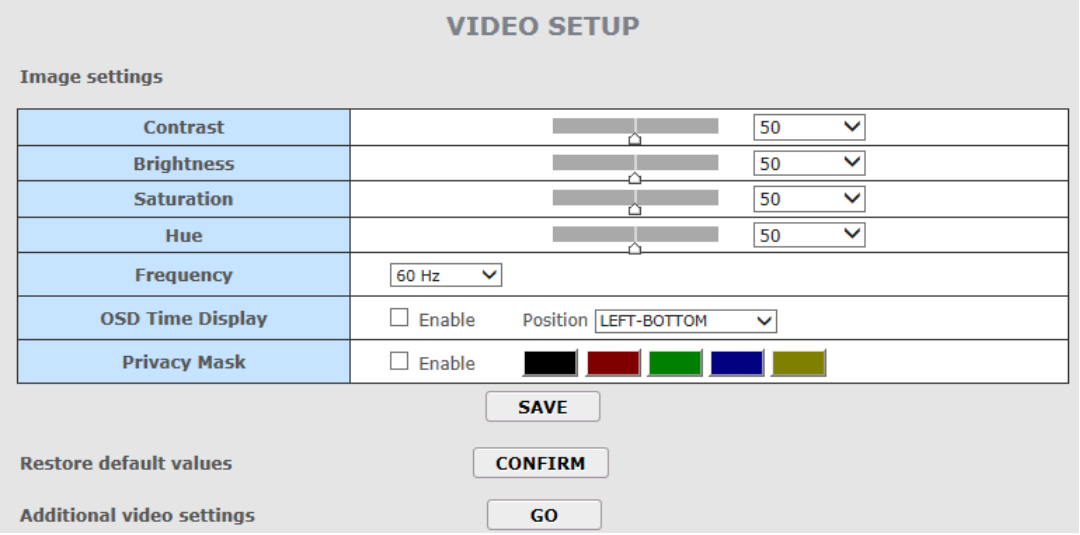


Fig. 2-6. Video Setup

Item		Description
Image settings	Contrast	Adjust contrast. Default is 50.
	Brightness	Adjust Brightness. Default is 50.
	Saturation	Adjust saturation. Default is 50.
	Hue	Adjust hue. Default is 50.
	Frequency	Select frequency of the power. Power frequency can be different by each country. Correct one must be choose for frequency It can be selectable 50Hz or 60Hz. Default is 60Hz.
	OSD Time Display	Enable/disable OSD time display and allocate the position of OSD display.
	Privacy Mask	Mask out some part of the video. Select the color for Privacy Mask. After the color is selected, position the mouse to one corner then click and drag the mouse to desired position and release button to select the area.
SAVE		You must click “SAVE” once you finish all settings.
Restore default values		Click on “CONFIRM” to restore the default settings.
Additional video settings		Click on “GO” to adjust additional video settings.

2.6.1. Additional video settings

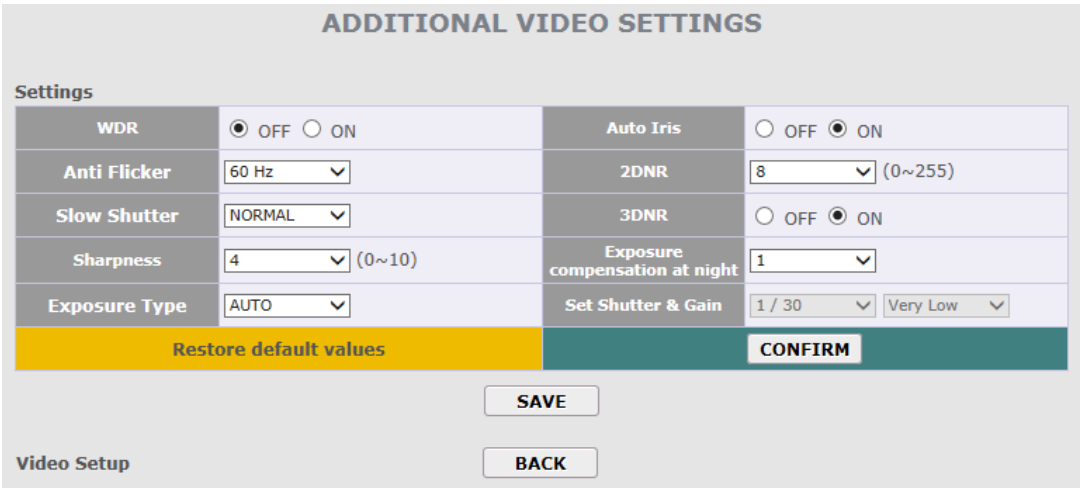


Fig. 2-6-1. Additional video settings

Item		Description
Settings	WDR	Set the WDR mode ON or OFF.
	Auto Iris	Set the Auto Iris ON or OFF
	Anti Flicker	Synchronize the video frequency with Power Frequency of your

		region to remove flickering. (OFF, 60Hz, 50Hz)
	Slow Shutter	Enhance the video image under low light conditions by controlling the shutter speed.
	2DNR	Set 2 dimensional noise reduction value.
	3DNR	Set 3 dimensional noise reduction ON or OFF.
	Sharpness	Adjust the sharpness of video. The higher the value, the better the video image. Video can be noisier with a higher value.
	Exposure compensation at night	Set function Exposure compensation at night in accordance with the installation environment. For the product with default automatic function, the selection is deactivated.
	Exposure Type	Change the camera exposure type. • **AUTO**: The exposure value is automatically adjusted. • **SHUTTER PRIO.**: Only the shutter speed can be set and Gain value will be adjusted automatically. • **MANUAL**: Shutter speed and Gain value can be set.
	Set Shutter & Gain	Activated when Exposure Type is set to Manual. Shutter speed and Gain value can be set.
Restore original values		Click on “CONFIRM” to restore the default settings.
SAVE		You must click “SAVE” once you finish all settings.
Video Setup (BACK)		Return to Video Setup.

2.7. Video Setup (Intensifier® products)

You can adjust the parameters of the input video of Intensifier® products.

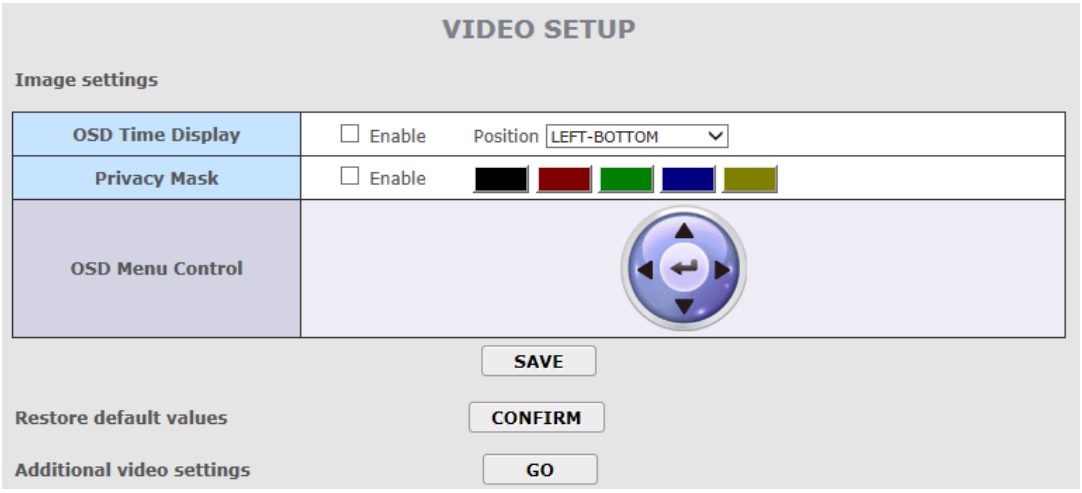


Fig. 2-7. Video Setup (Intensifier® products)

Item	Description
OSD Time Display	Enable/disable OSD time display and allocate the position of OSD display.
Privacy Mask	Mask out some part of the video. Select the color for Privacy Mask. After the color is selected, position the mouse to one corner then click and drag the mouse to desired position and release button to select the area.
OSD Menu Control	Available to set up more details by OSD Menu. On changing anything on OSD, the changed setup is always saved. • ↲**(Enter)**: Use this to access the OSD. • ▲**(Up)** / ▼**(Down)**: Use this to move the cursor up or down in the menu screen. It is also used to change the selection of the desired menu item. • ◄**(Left)** / ►**(Right)**: Use this to the move cursor to left or right in the menu screen. It also changes the parameter of the selected menu item.
SAVE	You must click the “SAVE” once you finish the all settings.
Restore original values	Click on “CONFIRM” to restore the default settings.
Additional video settings (GO)	Click on “GO” to Adjust the Additional video settings.

2.7.1. Motorized Focus and Zoom (MFZ) Control

You can adjust the parameters of the Focus and Zoom of MFZ products.

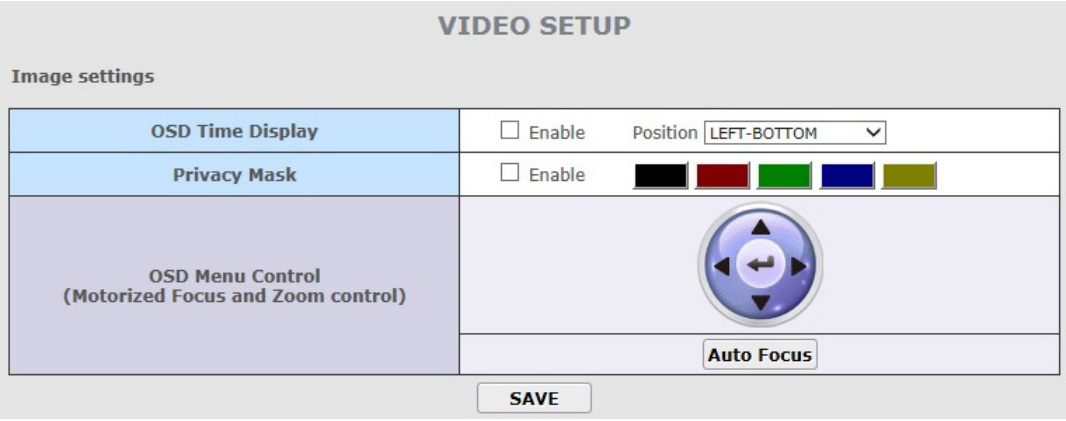


Fig. 2-7-1. Video Setup (Intensifier® products)

Item	Description
OSD Time Display	Enable/disable OSD time display and allocate the position of OSD display.
Privacy Mask	Mask out some part of the video. Select the color for Privacy Mask. After the color is selected, position the mouse to one corner then click

OSD Menu Control	and drag the mouse to desired position and release button to select the area. Available to set up more details by OSD Menu. On changing anything on OSD, the changed setup is always saved. • ↲ **(Enter)**: Use this to access the OSD. • **▲(Up)** / **▼(Down)**: Use this to move the cursor up or down in the menu screen. It is also used to change the selection of the desired menu item. • **◄(Left)** / **►(Right)**: Use this to the move cursor to left or right in the menu screen. It also changes the parameter of the selected menu item.
Motorized Focus and Zoom Control	Use the "Motorized Focus and Zoom Control" button to adjust Focus and Zoom of lens. #. If you enter(↲) OSD menu, control button works as OSD menu control. • **▲(Zoom in)** / **▼(Zoom out)**: Adjust the distance of Motorized lens with Up or Down button. • **◄(Focus Near)** / **►(Focus Far)**: Adjust the focus of Motorized lens with Left or Right button. • **Auto Focus**: Set the focus automatically.
SAVE	You must click the "SAVE" once you finish the all settings.
Restore original values	Click on "CONFIRM" to restore the default settings.
Additional video settings (GO)	Click on "GO" to Adjust the Additional video settings.

2.7.2. Additional video settings

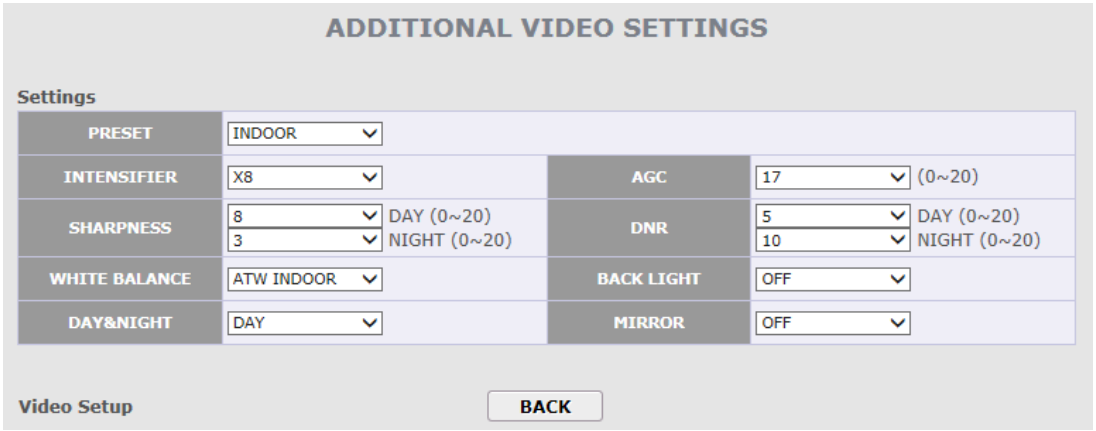


Fig. 2-7-2. Additional video settings

Item		Description
Settings	PRESET	Select Preset for the camera's installation circumstance. If a preset is selected, all other values below do not need to be changed. For manual adjustment, change necessary values below
	INTENSIFIER	Select the Intensifier value. As the value is increased, more light is captured, resulting in a brighter image. If increased too high, motion blurring may occur, depending on the light conditions.
	AGC	Set the brightness at low light (0 ~ 20). Noise level will also increase as the AGC level increases
	SHARPNESS	Adjust the sharpness of video.
	DNR	DNR feature digitally reduces the video noise. The noise reduction effect will especially be beneficial at low light environment.
	WHITE BALANCE	Select the White Balance mode. • **ATW INDOOR**: ATW will be set in between the color temperature of 2,000°K ~ 8,000°K • **ATW OUTDOOR**: ATW will be set in between the color temperature of 2,000°K ~ 10,000°K • **PUSH**: In order to obtain the optimum White Balance under current illumination, highlight the PUSH WB, direct the camera to a piece of white paper, and press the menu button. If the environment such as the light source is changed, please adjust the WHITE BALANCE again. • **MANUAL**: Select this option to manually adjust the Color Temperature. The manual setup value is available to be changed on OSD menu.
	BACK LIGHT	Select the Back Light mode. • **BLC**: When an object looks dark due to a backlight, BLC enhances the overall brightness of the image so the dark object shows brighter. • **HLC**: HLC masks off the brightest spot in the image so the rest of the image shows clearer. • **WDR**: When the light level's dynamic range gets greater on the screen due to a backlight, WDR adjusts the level of brightest area as well as the darkest area to make the overall image clearer.
	DAY & NIGHT	Select the Back Light mode. • **DAY**: The camera will stay in the Day mode only. All Intensifier presets are set to DAY mode. • **NIGHT**: The camera will stay in the Night mode only.

		• **AUTO**: The camera will automatically switch between DAY and NIGHT modes, according to the lighting condition.
	MIRROR	Set up the video mirroring and rotation
Video Setup (BACK)		Return to Video Setup.

2.7.3. Intensifier® OSD Menu

For more advanced settings of the camera, access the OSD menu of the camera. Note that some of the Intensifier® settings are duplicated from the OSD menu.

PRESET: Select the PRESET suitable for the camera installation circumstance. Six (6) presets are available. **[INDOOR, OUTDOOR, LOW LIGHT, HALLWAY, LOBBY(WDR), ELEVATOR]**

MAIN SETUP

1. **LENS**
   1) **DC**
      - **DC LEVEL**: Set the IRIS Level. **[0 ~ 20]**
      - **CET_WGT**: Set the Luminance (Y) Weight Level at the center of AE area. **[0 ~ 20]**
      - **AGC**: Set the brightness at low light. Noise level will also increase as the AGC level increases. **[0 ~ 20]**
      - **FLICKERLESS**: Turn on or off the Flickerless Function. **[ON / OFF]**
      - **SHUTTER**: Adjust the brightness of the image with the shutter speed. **[1/30, 1/60, 1/120, 1/240, 1/480, 1/1000, 1/2000, 1/4000, 1/10000, 1/20000, 1/40000]**
      - **INTENSIFY**: In order to make the image brighter than that of the AGC GAIN MAXIMUM, this feature digitally overlays several fields together. **[OFF, X2, X4, X8, X16, X32, X64]**
      - **MODE**: When the Iris level reaches its maximum at intense day light (outdoor), defocusing can happen due to deeper depth of field. Use this mode to compensate for the defocusing and shading. **[INDOOR, OUTDOOR]**

   2) **ESC**
      - **BRIGHTNESS**: Set the brightness of the image. **[0 ~ 20]**
      - **CET_WGT**: Set the Luminance (Y) Weight Level at the center of AE area. **[0 ~ 20]**
      - **AGC**: Set the brightness at low light. Noise level will also increase as the AGC level increases. **[0 ~ 20]**
      - **FLICKERLESS**: Turn on or off the Flickerless Function. **[ON / OFF]**
      - **INTENSIFY**: In order to make the image brighter than that of the AGC GAIN MAXIMUM, this feature digitally overlays several fields together. **[OFF, X2, X4, X8, X16, X32, X64, X128]**

2. **WHITE BALANCE**
   1) **ATW INDOOR**: ATW will be set in between the color temperature of 2,000℃K ~ 8,000℃K.

2) **ATW OUTDOOR**: ATW will be set in between the color temperature of 2,000°K ~ 10,000°K. In this mode, the white balance tracking range is extended to even beyond the B/G area displayed in the VECTOR SCOPE.

3) **PUSH**: In order to obtain the optimum White Balance under current illumination, highlight the PUSH WB, direct the camera to a piece of white paper, and press the ↲(Enter) button. If the environment such as the light source is changed, please adjust the WHITE BALANCE again.

4) **MANUAL**: Select this option to manually adjust the Color Temperature.
   - **COLOR TEMP** : **[LOW, MIDDLE, HIGH]**
     - Overall COLOR TEMP Range : 3,700°K ~ 9,500°K
     - LOW : White is set at 3700K
     - MIDDLE : White is set at 5100K
     - HIGH : White is set at 9500K
   - **R-GAIN**: Adjust the Red-Gain level if the COLOR TEMP settings do not display the color properly. **[0 ~ 20]**
   - **B-GAIN**: Adjust the Blue-Gain level if the COLOR TEMP settings do not display the color properly. **[0 ~ 20]**

3. BACKLIGHT

1) **HLC**: HLC masks off the brightest spot in the image so the rest of the image shows clearer.
   - **LEVEL** : Adjust the transparency of the mask. **[0 ~ 20]**
   - **MODE** : You can choose among 'ALL DAY' or 'NIGHT ONLY' using LEFT or RIGHT button. **[ALL DAY, NIGHT ONLY]**
   - **COLOR** : Set the color of the mask. **[BLK, WHT, YEL, CYN, GRN, MAG, RED, BLU]**

2) **BLC**: When an object looks dark due to a backlight, BLC enhances the overall brightness of the image so the dark object shows brighter.
   - **LEVEL**: Adjust the BLC level to a point where the objects shows the best. **[0 ~ 20]**
   - **X-POSI**: Move the BLC area to the X axis direction. **[0 ~ 20]**
   - **Y-POSI**: Move the BLC area to the Y axis direction. **[0 ~ 20]**
   - **X-SIZE**: Adjust the width of the area. **[0 ~ 20]**
   - **Y-SIZE**: Adjust the height of the area. **[0 ~ 20]**

3) **WDR**: When the light level's dynamic range gets greater on the screen due to a backlight, WDR adjusts the level of brightest area as well as the darkest area to make the overall image clearer.
   - **WEIGHT**: Adjusts the WDR processing level. **[LOW, MIDDLE, HIGH]**

4. SPECO DNR: SPECO DNR feature digitally reduces the video noise. The noise reduction effect will especially be beneficial at low light environment.

1) **DAY**: Set the SPECO DNR of the day. **[0 ~ 20]**
2) **NIGHT**: Set the SPECO DNR of the night. **[0 ~ 20]**

5. DAY&NIGHT

1) **DAY**: The camera will stay in the Day mode only.

2) **NIGHT**: The camera will stay in the Night mode only.
   - **BURST**: Turn the Burst signal output On or OFF. Some equipment will only display B/W properly when the Burst signal is turned on. **[ON, OFF]**

3) **AUTO**: To switch between Day (Color) and Night (Black / White) Mode automatically depending on the Sensor
   - **D/N LEVEL**: The light level that triggers D/N switching can be selected. **[LOW, MIDDLE, HIGH]**
   - **DELAY**: The camera checks the light level for certain period of time to confirm the Day and Night mode change. Adjust the confirmation time. **[3SEC ~ 20SEC]**
   - **BURST**: Turn the Burst signal output On or OFF. Some equipment will only display B/W properly when the Burst signal is turned on. **[ON, OFF]**

6. IMAGE

1) **SHARPNESS**: When this level is increased, the outline of the picture will become rougher and clearer. Adjust this value appropriately depending on the sharpness of the picture.
   - **DAY**: Set the sharpness of the day. **[0 ~ 20]**
   - **NIGHT**: Set the sharpness of the night. **[0 ~ 20]**

2) **MIRROR**
   - **HORIZONTAL**: The image is flipped horizontally.
   - **VERTICAL**: The image is flipped vertically.
   - **ROTATION**: The image is rotated by 180°.

3) **D-ZOOM (Digital ZOOM)**
   - **OFF**: Turn off the D-ZOOM Function
   - **ON**: Turn on the D-ZOOM Function
     - **D- Zoom**: Set the D-ZOOM level. **[X01.0 ~ X12.0]**

4) **SHADING**: In a spherical lens, the light level received at the sensor from the center of the lens and the edge of the lens is different. Hence, the outer area of the image is darker than the center of the image. **[ON, OFF]**

5) **ACE**: In a dynamic level situation such as backlight, ACE enhances only the light level of the dark area selectively while keeping the level of the bright area the same to make the image more viewable. **[OFF, LOW, MIDDLE, HIGH]**

6) **DEFOG**: Can get more clear video by adjusting AE and CONTRAST at fog or smoke scene.

On using DEFOG function, “ACE” function is disabled. **[ON, OFF]**

7) **COLOR GAIN**: COLOR GAIN adjusts the color appearance by adjusting the colorfulness of the Red and Blue relative to its own brightness. **[0 ~ 20]**

8) **GAMMA**: Changes the gamma level of the camera.
   - **CRT**: Setup for gamma level that is suitable for CRT.
   - **LCD**: Setup for gamma level that is suitable for LCD.
   - **USER**: Setup for gamma level that users want. **[0.35 ~ 1.00]**.

7. GENERAL

1) **CAM ID**: This sets a communication id number for the camera. **[0 ~ 255]**
2) **ID DISPLAY**: Turn on/off the display of the CAM ID on the screen. **[ON ~ OFF]**
3) **CAM TITLE**: Use this feature to name the camera, which will display on the monitor screen. Camera name can contain up to 10 characters
   - **OFF**: Turn off the display of the CAM TITLE on the screen.
   - **ON**: Turn on the display of the CAM TITLE on the screen.
     - **U/D**: Use UP/DOWN KEY to change the displayed character.
     - **L/R**: When the character you want is displayed, use LEFT/RIGHT KEY to select.
     - Characters to be used : “**0~9**” , “**A~Z**” , “**&**” , “**C**” , “ **(** ” , “ **)** ” , “ **-** ” , “ **.** ” , “ / ” , “ ” (space)
     - **EXIT-MENU**: Save the selected characters as the name of the camera and exit the CAM TITLE menu.

4) **LANGUAGE**: This selects which language the OSD will display.
5) **BAUDRATE**: You can select among 2400/4800/9600/38400/57600/115200 bps for RS-485 communication
6) **VERSION**: The camera firmware version will be displayed
7) **SYSTEM**
   - **DIGITAL OUT**: Adjusts the Y value of the Digital Video output signal.
   - **DEFECT DET**: Compensates for a SENSOR defect.
     - Turn this feature on by pressing ↲(Enter) button. Then a defective spot will be compensated and the threshold value selected accordingly. **[6~255]**
     - Press ↲(Enter) button to finish after allowing some time for adjustment.
     - Camera power have to be turned off and on

   - **CVBS**: Configure the system’s operating signal format either to NTSC (signal output as 30p) or PAL (signal output as 25p).
     - **NTSC**: This sets the CVBS output as NTSC analog signal while keeping the signal output as 720/60p or 30p
     - **PAL**: This sets the CVBS output as PAL analog signal while keeping the signal output as 720/50p or 25p

8. **EXIT**: Exit the OSD menu.

2.8. User Admin & Time Setup

You can change the ID and password of users and also assign different attributes to each user. Once the required setting-up is finished, please click the “SAVE” to save the setting values.

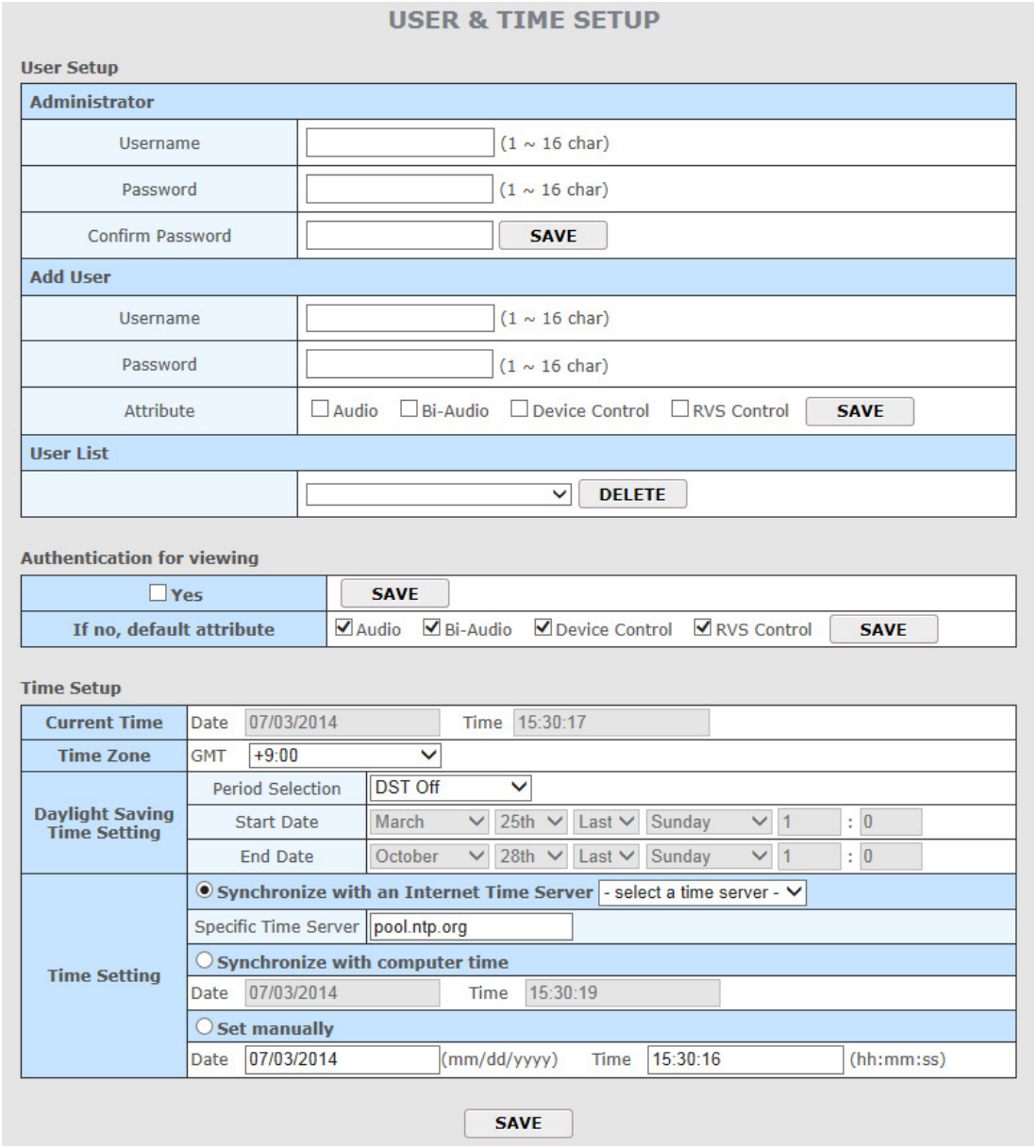


Fig. 2-8. User Admin & Time Setup

Item		Description
User Setup	Administrator Username	Admin ID. Default ID is “**admin**”
	Administrator	Admin password. The default password is “**1234**”.

	password	
	Administrator Confirm Password	Enter the password one more to confirm the password.
	Add User Username	Enter user ID you want to add. Up to 100 users can be registered in the product.
	Add User Password	Enter user password.
	Add User Attribute	You can assign different privileges to users for the access to system resources. • Attributes are Audio, Bi-directional Audio, Pan/Tilt/Zoom control and RVS Control. • For example, if you want a specified user to hear the audio from the device, check Audio in the check box.
	User List	You can list "user IDs" and their attributes here. format : user id [A, BA, P, R] : • A – audio • BA – bi-directional audio • P – PTZ(Pan/Tilt/Zoom) • R – RVS Control You can delete specific user by clicking on "**DELETE**" button.
Authentication for Viewing	YES **SAVE**	If you want to restrict viewing access to the product, check at the box left to "**Yes**" and click on "**SAVE**". Users need to input ID and password to connect to the product in viewing mode.
	If No, default attribute	If you uncheck for the "**Authentication for Viewing**", all users can access the product with the same default attribute. Checked attributes are enabled. Click "**SAVE**" to save the default attribute.
Time Setup	Current Time	It shows you the current time kept in the product.
	Synchronize with an Internet Time Server	Synchronize the time kept in the product with the time kept in time server on the internet at the right. When the time server is out of the reach from the product, you can assign time server by filling in "**Specific Time Server**" field.
	Synchronize With this Computer Time	Synchronize the time kept in the product with the time in the PC.
	Set Manually	Set the time manually. Fill in the fields with desired formats.
SAVE		Save the set-up parameters when parameters settings are finished. You must click the "SAVE" once you finish the all setting-up.

For maintaining more accurate time through continued time synchronization, set the time synchronization with time server on the network or internet time server.

If ID and Password are lost, you can set the system again through Factory Default as follows:
When the power is applied to product, press the Factory Default button for more than 5 sec, then all Setting Parameters will be returned to Factory Default.

2.9. Sensor & Capture Setup

This is the setup mode for sensors and video capture conditions. Captured video can be sent to user by FTP or (and) E-mail, or stored on local storage.

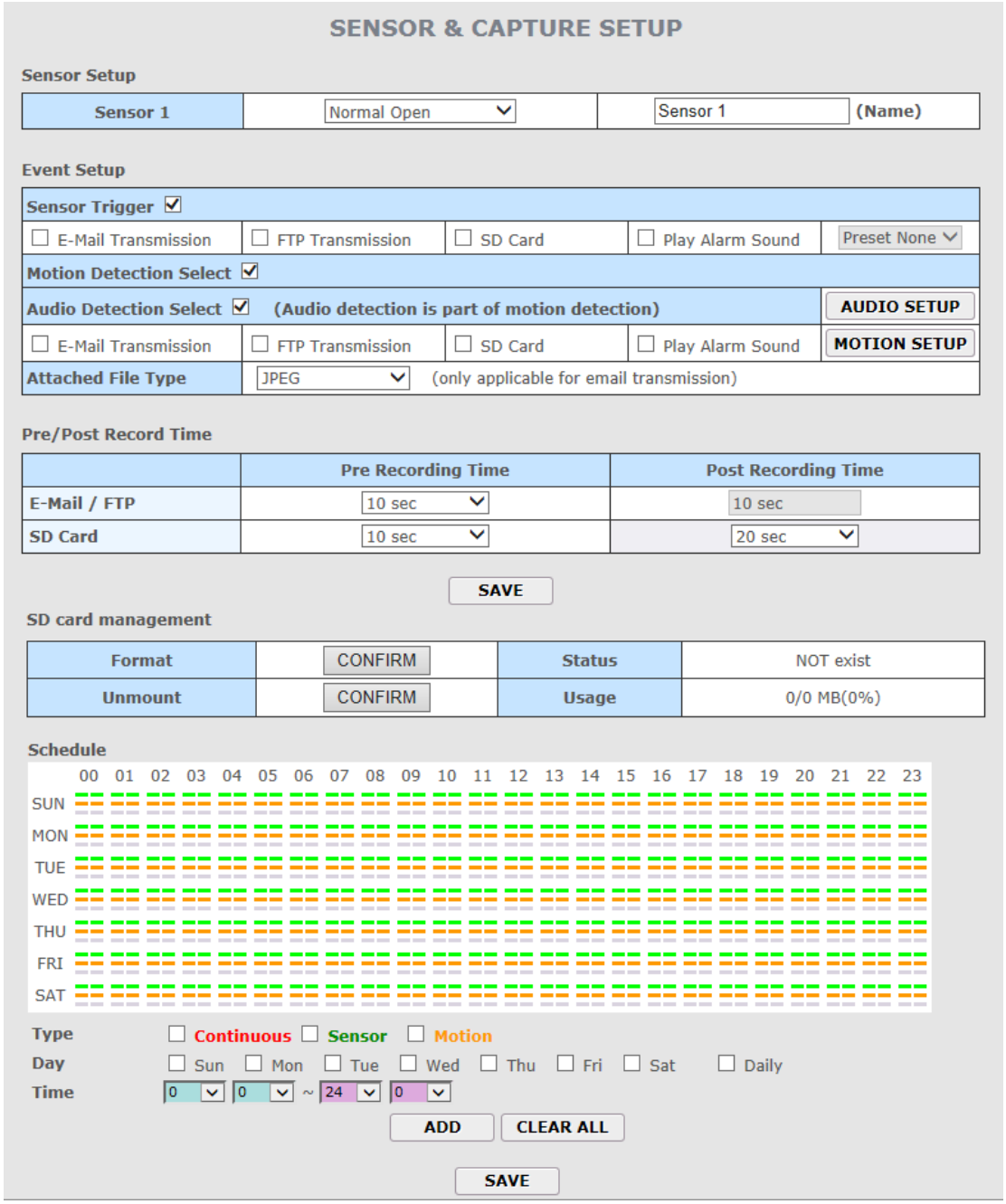


Fig. 2-9. Sensor & Capture Setup

Item		Description
Sensor Setup	Sensor 1	Select sensor type. There are two types of sensors which are **Normal Open** and **Normal Close.**
	Name	Input logical name of the sensor.

Event Setup	Set events initiating video capture for FTP, E-mail or storing in the local storage.	
	Sensor Trigger	Enable/Disable Sensor event. Selected transmission is initiated only when sensor is activated. Select desired transmission methods for sensor event.
	Motion Detection Select	Enable/Disable Motion Detection event. Select desired transmission methods for motion event.
	Audio Detection Select	Enable/Disable Audio Detection event. Transmission methods applied for motion event is applied for transmission.
Transmission Method	Select a way of sending captured video	
	E-Mail Transmission	Transmit to the desired E-mail address configured at **[E-Mail & FTP Setup]**
	FTP Transmission	Transmit to the desired FTP Server configured at **[E-Mail & FTP Setup]**
	SD Card	Save the video into built-in SD Card.
	Play Alarm Sound	Generate Alarm Sound through Speaker. This function is only available in the products having built-in Speaker.
	Audio Setup	Move to Set-Up Menu for configuring Audio Detection Zone.
	Motion Setup	Move to Set-Up Menu for configuring Motion Detection Zone.
	Attached File Type	Select the type of file which is attached in the E-Mail.
Pre-Post Recording Time	E-Mail / FTP	Total 20 second of video data is transmitted through E-mail. Post recording time is automatically adjusted in accordance with the pre-recording time.
	Built-In Storage	Pre and Post recording time is independently configurable when recording into built-in SD card. The Pre-Recording can be selected from 5, 10, 15 sec, while post-recording time can be selected from 10, 15, 20, 30, 60 sec.
SAVE		Save the setup parameters. You must click on “SAVE” to apply the setting values.
SD Card Management	SD Card Format	Format the SD Card for Use. A new SD Card must be formatted initially.
	SD Card Status	Display the status of SD Card on the product. • **Detected**: SD Card is recognized. • **Not Exist**: No SD Card or Not Recognized. • **Error**: Unable to use SD
	SD Card	Unmount the SD Card to eject the SD Card safely. To prevent the Data

Schedule Alarm Setting	Unmount	Loss and damage of SD Card, you must do the Unmount procedure before ejecting the SD Card.
	SD Card Usage	Display the Usable/Used Space of SD Card.
	Configure event schedule.	
	Type	Select type of event to set schedule among Continuous Recording, Sensor, and Motion Detection.
	Day	Select the Date on which Alarm go off.
	Time	Set time begin and end time. The time can be set in the increment of 30 minutes.
SAVE		Save the setup parameters. You must click on "SAVE" to apply the setting values.

2.10. E-Mail & FTP Setup

Configure E-mail and FTP connection information.

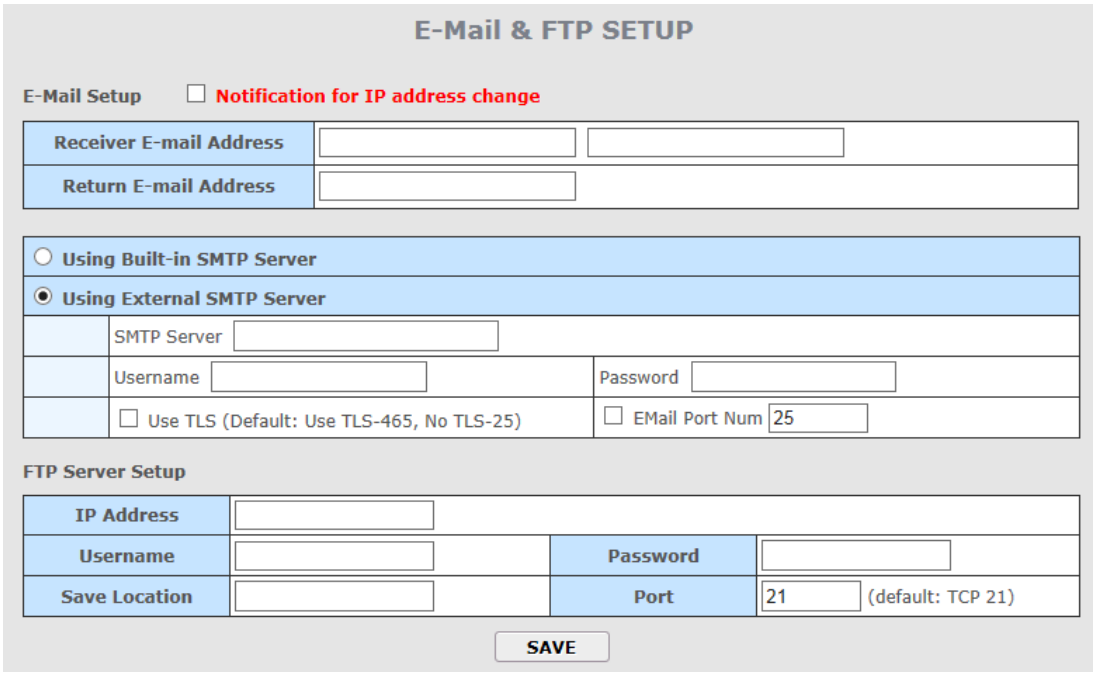


Fig. 2-10. E-mail and FTP Setup

Item		Description
E-Mail Setup	Notification for IP address change	If you check this, the IP address will be sent via E-mail whenever the IP address changes. It is sent to the E-mail address set in "**Receiver E-Mail Address**".

	Receiver E-Mail Address	Enter destination E-mail address to send information from your product.
	Return E-Mail Address	Fill in this field with active and valid e-mail address to identify sender of the e-mail. Typical e-mail address will be the e-mail address of the owner or the administrator. If not set, the sender address will be set to "support@net-video.net". Note that the e-mail message from the product might not pass through the SPAM filter of the receiver's e-mail server, when this field is not filled in with active e-mail address.
	Using Built-in SMTP Server	If you are using web mail services having no SMTP server, check the radio button at the left of "**Using Built-in SMTP Server**" and enter active and valid e-mail address to avoid spam filtering on the receiving e-mail server.
	Using External SMTP Server	If you are using external mail server, fill in the fields with proper parameters.
	Use TLS	Check only for the request of using TLS during the Log On by SMTP Server.
	E-Mail Port Num	Use only for the changed use of default port of E-Mail Server.
FTP Server Setup		Setup IP address, Username, Password and Directory of FTP server to send captured video data. Default FTP port number is 21.
SAVE		Save the setup parameters. You must click on "SAVE" to apply the setting values.

2.11. Alarm Device Setup

Test the alarm output and describe the condition of alarm annunciation.

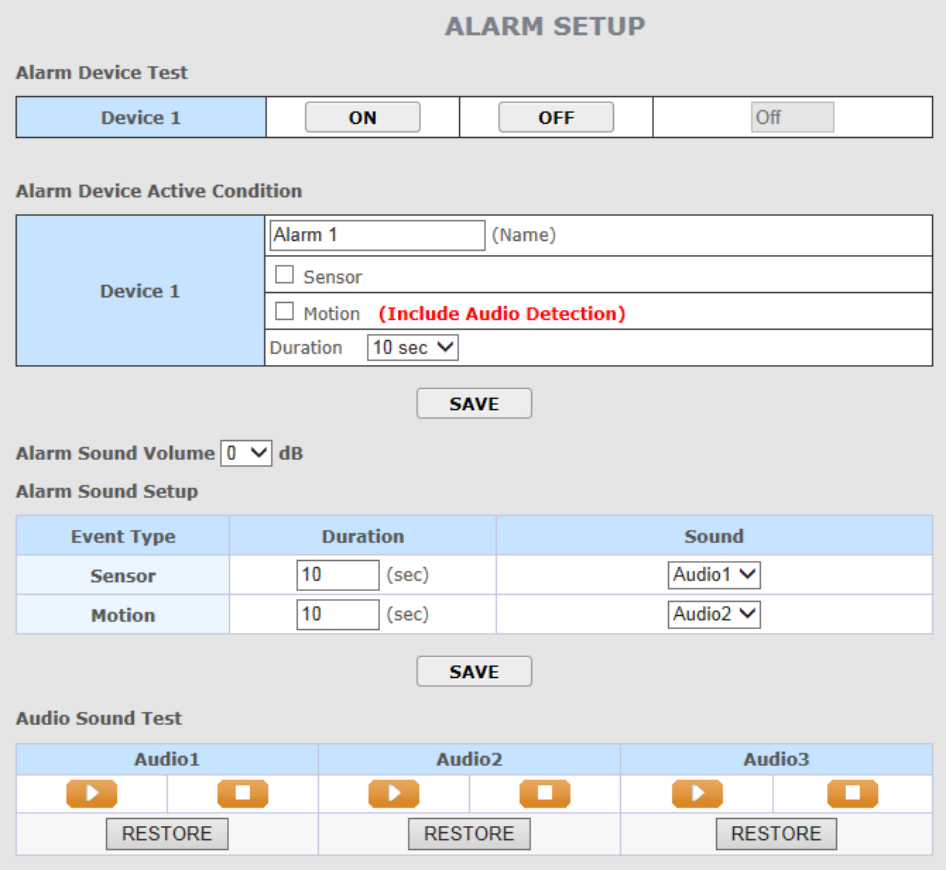


Fig. 2-11. Alarm Device Setup

Item		Description
Alarm Device Test	Test alarm devices. Click on On/Off for testing.	
	ON	On the alarm output (close the relay contact)
	OFF	Off the alarm output (Open the relay contact)
Alarm Device Active Condition	Set up the condition of activating each alarm device. Select sensor or motion detection.	
	Name	Logical name of the alarm device can be input into the box at the left.
	Sensor	When checked, alarm device is activated upon sensor input.
	Motion	When checked, alarm device is activated upon Motion, Audio Detection or PIR detection.
	Duration	Set the duration of Alarm annunciation.
Alarm Sound Volume		Set the alarm sound volume.
Alarm Sound Setup	Event Type	Set the alarm event type.
	Duration	Set the duration of Alarm annunciation.
	Sound	Set the alarm audio.

Audio Sound Test	Play	Play the audio sound.
	Stop	Stop the audio sound.
	RESTORE	Restore the Alarm Sound changed by “Upgrade & Reset”, as the basic sound.
SAVE		Save the setup parameters. You must click on “SAVE” to apply the setting values.

2.12. Motion Detection Setup

Set the motion detection regions. Up to 3 regions can be defined.

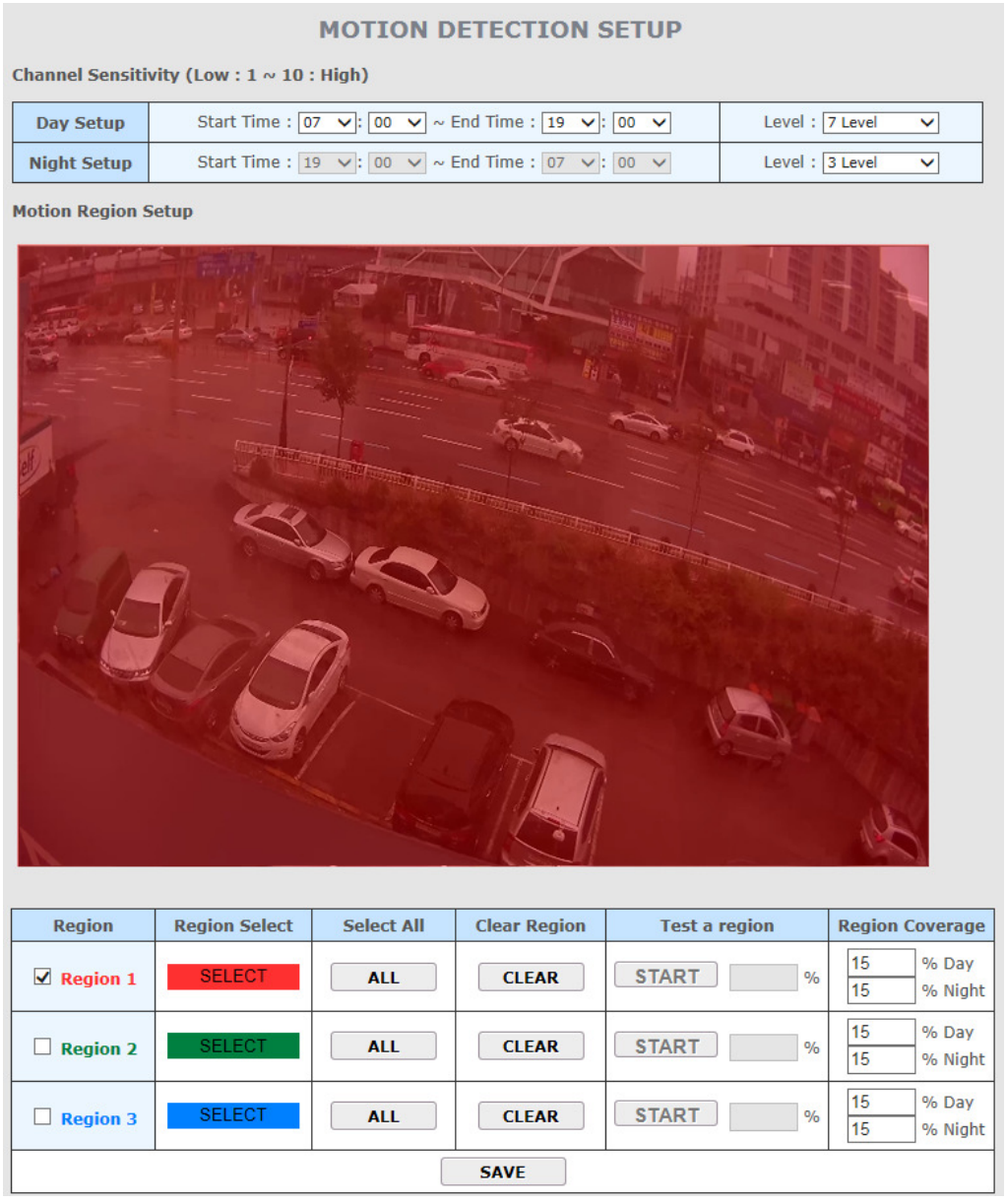


Fig. 2-12. Motion Detection Setup

Item		Description
Channel Sensitivity		Set the sensitivity of motion detection for day and night. Default level is 7 in the daytime and 3 at night. The Higher the value, the higher the sensitivity. Note that false motion alarm can be generated if the sensitivity is set to be unnecessarily high. You are recommended to set the sensitivity to most appropriate value after test.
Motion Region Setup	Up to 3 motion detection zones can be configured.	
	Region 1, 2, 3	Click on “SELECT”, then click & drag on the Video to select the region. Even if you configure the region, motion detection will not be enabled if you don’t check the box. **Legend of the color : 1 : Red, 2 : Green, 3 : Blue**
	Select All	Set entire region of video as motion region.
	Clear Region	Erase the configured region.
	Test a Region	This will help you to find out by several testing about how many percent is needed to detect motion in your view sight.
	Region Coverage	Set how many percent of change in the video will be recognized as motion in the configured region. This value controls how much coverage the region needs to have motion before motion detection is triggered. 1 is the most sensitive and 100 is the least sensitive. Note that false motion alarm can be generated under noisy video when the value is small.
SAVE		Save the setup parameters. You must click on “SAVE” to apply the setting values.

2.13. Audio Detection

Set the audio detection level. Audio detection is treated as part of motion detection in the system.

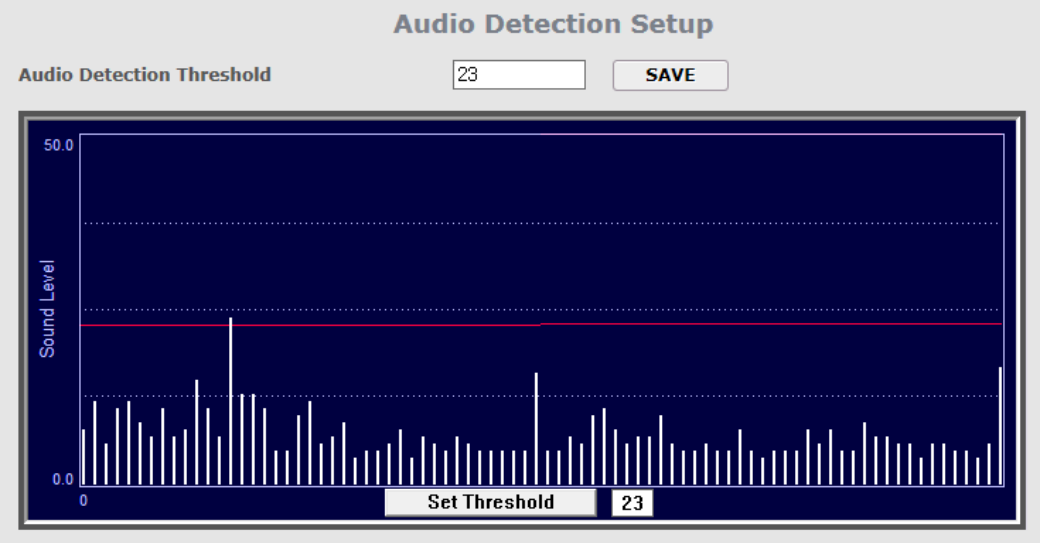


Fig. 2-13. Audio Detection Setup

Item	Description
Audio Detection Threshold	Set the sensitivity of audio detection for each channel. The Lower the value, the higher the sensitivity. Note that false audio alarm can be generated at unnecessary high sensitivity, so you need to set the value to most appropriate level after testing.
Set Threshold	Audio input level is drawn in as a bar graph. Set the threshold level. Audio detection event is generated if input audio exceeds threshold level which is indicated as a red horizontal line.

2.14. PTZ Setup

PTZ Setup is available on the models having Pan/Tilt/Zoom functions. You can configure PTZ parameters using Web Viewer or Speco NVR.

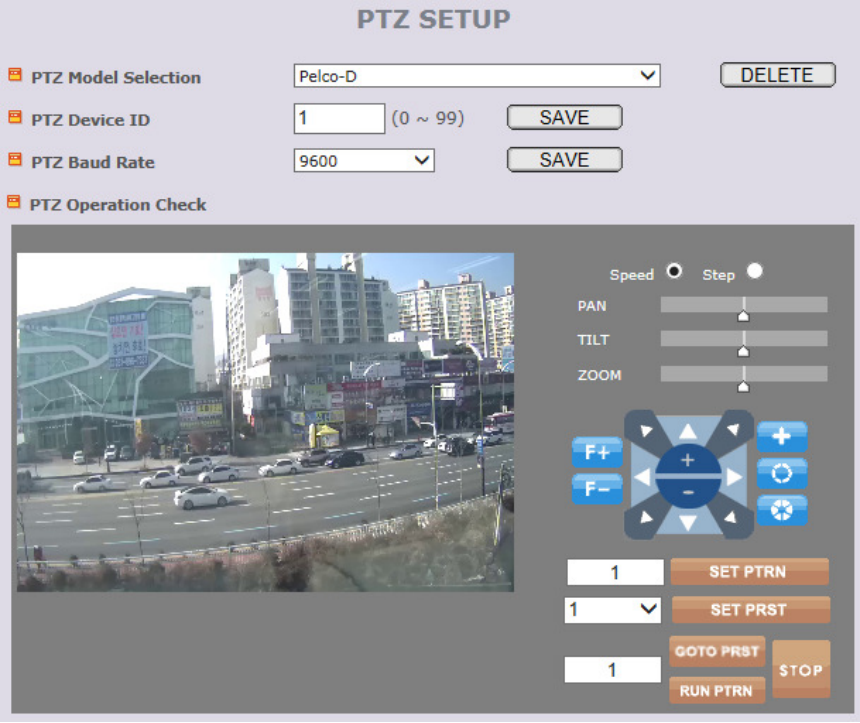


Fig. 2-14. PTZ Setup

Item		Description
PTZ Model Selection	Select the Protocol which is used by PTZ Camera.	
	Delete Button	Delete the displayed PTZ Protocol.
PTZ Device ID	Your PTZ device needs an ID. Input ID in this field. Click on SAVE to save the ID. If PTZ ID does not match, it won't operate normally.	
PTZ Baud Rate	Configure the RS-485 Baud Rate for PTZ control. If the PTZ Baud Rate does not match, it won't operate normally.	
PTZ Operation Check	Speed	Select this RADIO button to set the speed of the PTZ operation.
	Step	Select this RADIO button to set the step size of PTZ operation.
	PAN	Move the slider to adjust the speed or step in panning.
	TILT	Move the slider to adjust the speed or step in tilting.
	ZOOM	Move the slider to adjust the speed or step in zooming.

2.15. Upgrade & Reset

You can upgrade the device via the IP network.

Upgrade is a process to renew the System Software stored in the non-volatile memory of the system. You must restart the system by “System Restart” after the upgrade.

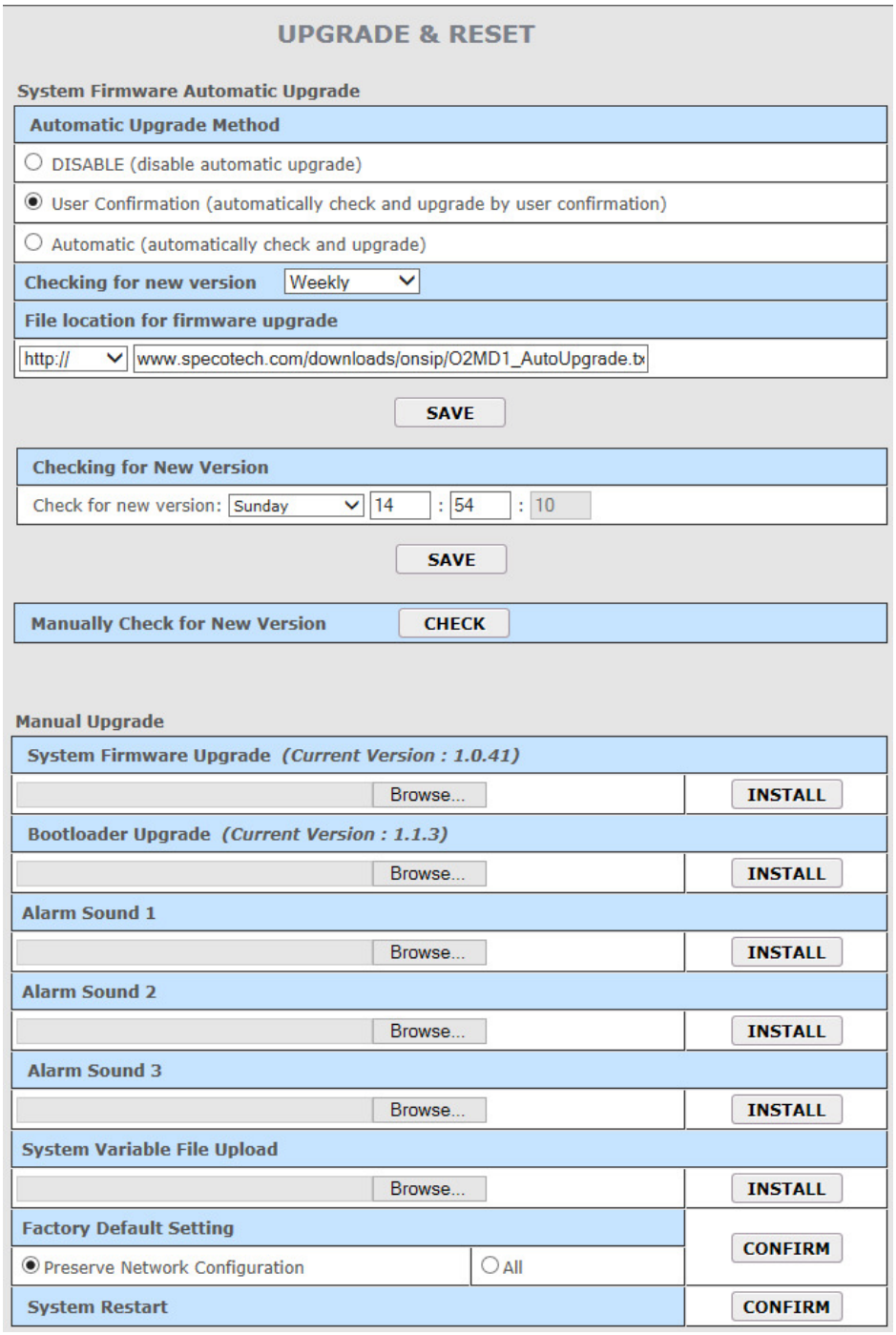
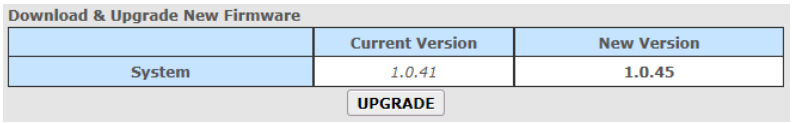


Fig. 2-14. Upgrade & Reset

Contents of the upgradable system component should be downloaded from the **Speco** website. Please check the latest version before the system upgrade is performed.

Item		Description
System Firmware Automatic Upgrade	Upgrade Method	Select automatic upgrade way. • **Disable**: Disable the automatic upgrade. • **User Confirmation**: If there is new version, it will be displayed on Admin Page. When the user clicks OK, proceeds with the upgrade. • **Automatic**: Automatically upgrade to new version. Default setting is "User Confirmation".
	Checking for New version	Select the check period of firmware version
	File Location for firmware upgrade	Set the firmware upgrade URL.
	Cheek for New Version	Setup Time and Date for new firmware upgrade.
Manually Check for New Version		Available to check it up manually if the new firmware updated or not.
Download & Upgrade New Firmware		If any new firmware is updated, the dialog below will show 
Manual Upgrade	System Firmware Upgrade	Upgrade the system software installed on the product via the network.
	Bootloader Upgrade	Upgrade the bootloader installed on the product via the network after getting from Technical Support Team. Normally not required.
	Alarm Sound	Change the Alarm Sound in the camera.
	System Variable File Upload	The System Template File is available to be installed by uploading.
	PTZ File Upgrade	For the PTZ Applicable Product, you can use PTZ by uploading extra protocol. (Applicable product will get it activated automatically)
	Factory Default Setting	Re-initialize the system to factory default state. By checking on a Radio button "Except Network Configuration", you can preserve the parameters for the network in case of remote upgrade. Checking on "All", will return all the parameters to factory default state. **Once all the values are set to factory default state, the product needs to be set-up again using ONSIP Installer.**
	System Restart	Perform remote reset by clicking on the **"CONFIRM"** button. ***[Important] To apply upgraded contents, you should perform***

		System Restart. **All previous connections will be disconnected upon reset. Device does not resume the connections and the user must re-connect to the product manually.**

The upgrade of product will change the F/W or other programs installed on the system. To operate the system with the changes, you must perform "System Restart" after the upgrade.

After restoring the Factory Default, if you need to access to the product with the same access information, you must select "Preserver Network Configuration".
If you do the Factory Default by selecting "All", all network parameters will be initialized, you need to assign the network parameters again for use of the product.

<Upgrading the Product>

Unless otherwise instructed, the owners of the device are recommended to upgrade the system when upgraded firmware is released using manual upgrade procedure.

Followings are the procedure to apply for the manual upgrade

1) Save the F/W which you get from the visiting Website or E-Mail enquiry to your PC.
2) Log on "Admin Tool", select "Upgrade & Reset" menu.
3) Open the "Choose File" window by clicking "Browse.." to find F/W file for Upgrade. The file extension is ".ief".
4) Click "Open" to select the F/W file, then "Choose File' window will be closed.
5) Once click "Install", alert message box will pop up, then click "OK" button to transmit the F/W file to product. The required time for transmission will be dependent on network environment, In some cases, it will take few minutes.
6) Upgrade completion message will appear after the system upgrade has been completed.
7) Reboot device by performing "System Restart".
8) After rebooting, log on to the product in admin mode again and click the "Status Report".
9) Check the version number and release date of the firmware.

Once the system is reset to the factory default state by system reset of the administrator, all the connection of the users might be disconnected. Since the connection is not recovered automatically, users should set up the connection manually with new connection information.

2.16. Status Report

It shows you system records since the system started.

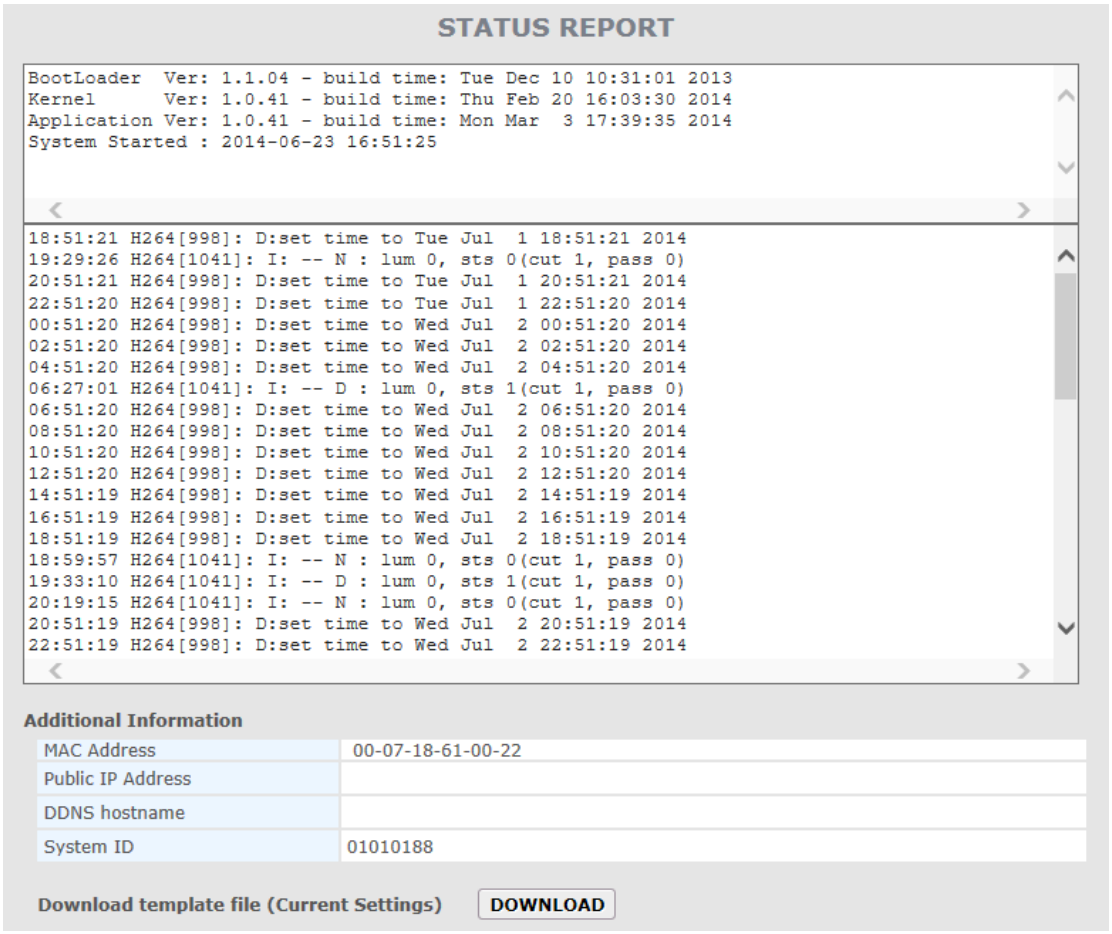


Fig. 2-16. System Status Information

With this System Status Information, you can check whether the system upgrade has been done correctly or not, as well as the versions and event status of the whole system and modules.

- **Download Template File (Current Configurations):** The selected points on camera setup is stored as file. The System Configuration File is available to be installed by uploading in “Upgrade & Reset - System Variable File Upload” menu.

3. Web Viewer

3.1. Web Viewer

IP camera and video server provide video connection over the internet explorer. The web viewer might be different on different product.

Video crop function is available from the web viewer.

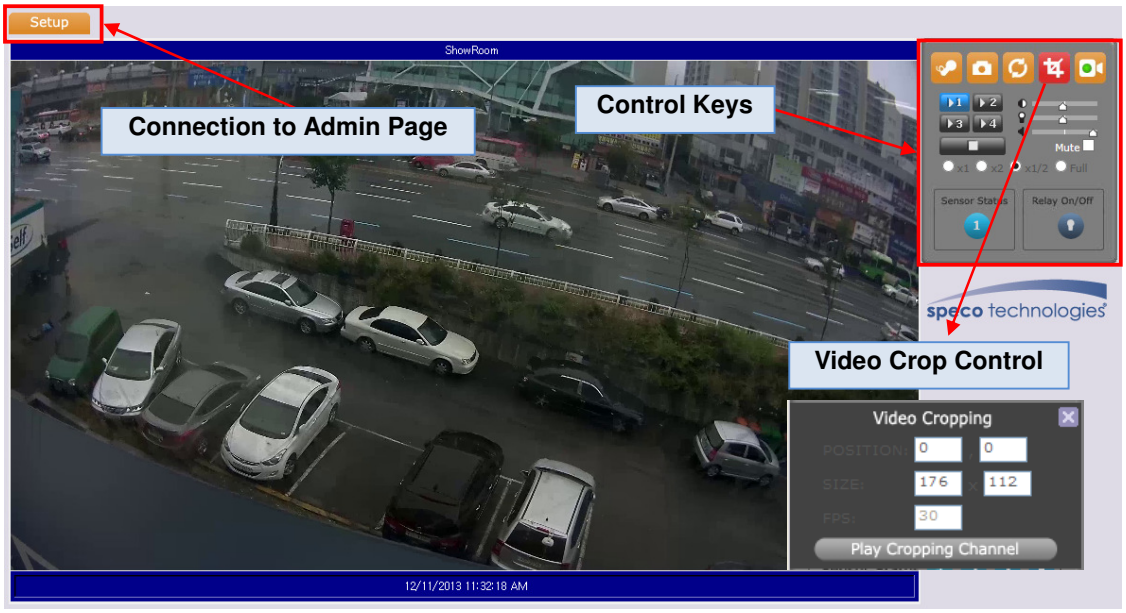
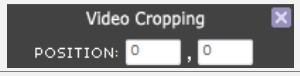
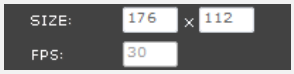


Fig. 3-1. Web Viewer-1

Fig. 3-1. Web Viewer-2

3.2. Buttons and Indicators of Web Viewer.

Item	Description
	On/Off control of bidirectional audio communication. Bidirectional audio communication is enabled when highlighted. If the microphone is not connected to PC to set up the bidirectional audio, an error message is indicated and the temporarily stopped image may occur. **If the video is stopped, should "refresh" the webpage or "re-connection" to play the video.**
	Capture a still video cut. Captured video is stored in the folder designated in [2.3. Basic Setup].
	Rotate the video by 180°.
	Start Crop Video. Crop video is always transmitted through "Stream 4(Crop)".
	Recording a live video. Recording video is stored in the folder designated in [2.3. Basic Setup].
	Set the coordinate of the top left corner of the crop video.
	Set the size and frame rate (frames/sec) of the crop video. Maximum size is 352x240 and Maximum FPS is 30.
	Click to start transmission of crop video on "Stream 4(Crop)".
	Click on the button to connect to the channel. If crop video is enabled, it is available through "Stream 4(Crop)".
	Disconnect the video.
	adjust contrast and brightness, it only applies on viewer. The adjustment value is stored on the PC. Please refer to the [2.7 Video Setting] for video setting of the camera.
	Volume control and audio mute control.
	Adjust the size of the video.
	Shows the status of the sensor. Highlighted color indicates that the sensor is activated.
	On/Off control of the relay. Highlighted color indicates that the relay is "On".

3.3. Crop Video Setting

The position, size and the frame rate of the crop video can be set in the web viewer. The blue area in the figure below shows the crop window from a 1920x1080 image sensor. Set the position as (190, 179) and the size as the desired. After the setting, click on (Play Cropping Channel) to start video transmission

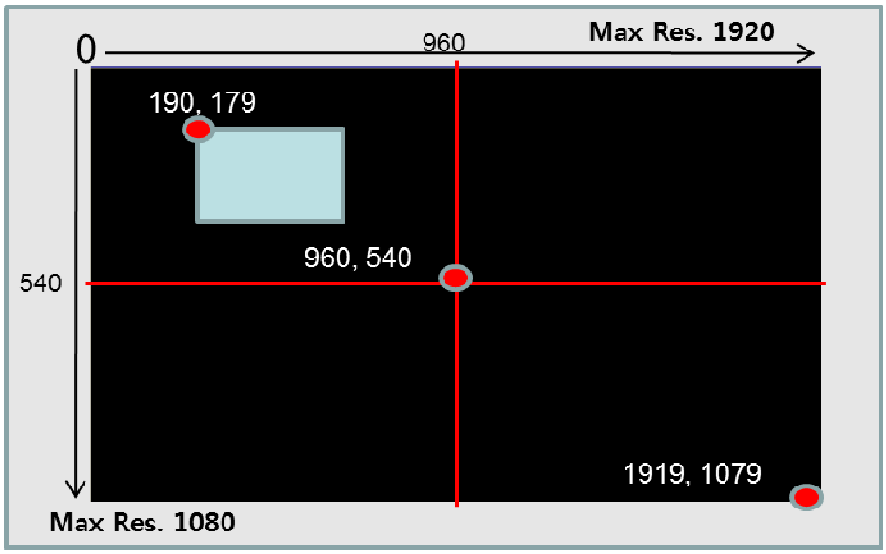


Fig. 3-3. Example of the Crop Window

- Speco-NVR offers more advanced interface to the use of crop video. Please refer to the manual of Speco-NVR for the details.

3.4. PTZ Control Menu

You can control the PTZ of PTZ-enabled product by using PTZ menu control buttons on the Web Viewer.

Item	Description
	Camera Position Control • Pan/Tilt control • Zoom In • Zoom Out
	Focus on faraway point.
	Focus on near point.
	Enter into OSD menu for camera setting. In the OSD menu, use Up/Down buttons to navigate through the menu item on the screen. Depending upon the situations Left/Right buttons will perform one of the followings. 1. Change parameter value in each submenu. 2. Decrement/increment the numbered value.

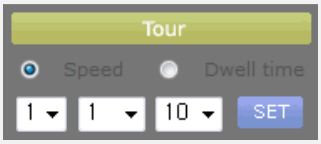
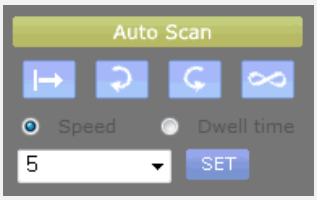
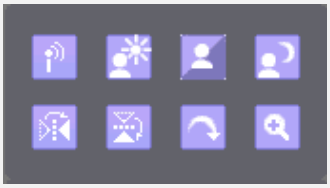
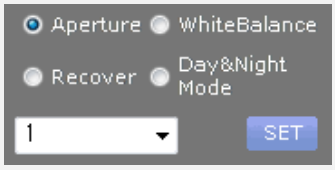
	3. Go into lower level menu trees. 4. If clicked when the cursor is on “EXIT”, upper menu will be activated or OSD menu mode will be finished. For more detailed information, refer to the product manual. **If the product can’t support the OSD menu, “Menu” button is disabled.**
	After activating this mode, the camera will move so that the clicked point on the video is located at the center of the video display. • Left: Deactivated. • Right: Activated.
	Control the Iris.
SET PTRN	Set the Pattern for repeating the programmed movement.
SET TOUR	Set the Tour for repeatedly moving to the designated preset.
SET PRST	Set the Preset Position.
GOTO PRST	Move to the designated preset position.
R.PTRN	Perform the configured pattern.
R.TOUR	Perform the configured tour
R.SCAN	Perform the configured scan.
STOP	Stop the currently performed command.

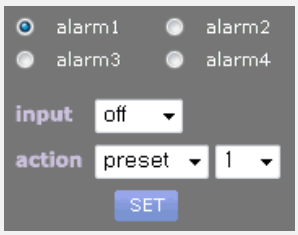
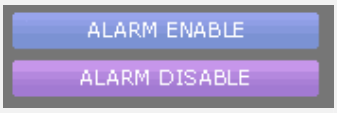
1. **Pattern Setting Procedure (Pattern is a recorded sequence of PTZ operation steps)**
   a. Choose Number to be assigned as Pattern ID.
   b. Click “SET PTRN” button to start recording the pattern. The OSD menu will appear on the screen.
   c. Operate the camera using Pan/Tilt/Zoom Control.
   d. Click “SET PTRN” again to save the pattern.

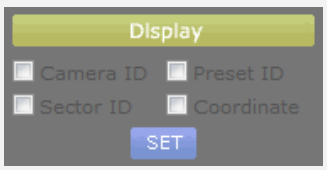
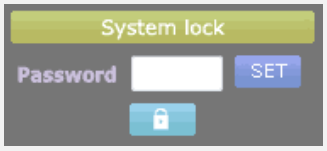
2. **Tour Setting Procedure: (Tour is a series of Preset)**
   a. Choose Number to be assigned as Tour ID.
   b. Click “SET TOUR” button to start tour setting. The OSD menu will appear on the screen.
   c. Choose preset number and Click “GOTO PRST”.
   d. Repeat procedure “c” to assign a series of preset positions to the tour.
   e. Click “SET TOUR” again to save the tour.

3. **Preset Setting Procedure**
   a. Choose Number to be assigned as Preset ID.
   b. Pan/Tilt/Zoom Control.
   c. Click “SET PRST” button to save the preset position.

< Detailed Setup >

Item	Description	
	You can change the setup of configured Tour After you select the setting value of “Tour No. / Step No. / Setting Value” in sequence, click the SET button to set.	
	You can change the setting of configured Auto Scan in OSD Menu.	
		Set the Start/End Point of Scan mode. The coordinate value is displayed at the bottom of the screen. Scan area is changed in accordance with the rotational direction setting of endless. Out of the two scanning regions (narrow region defined by small angle and wide region defined by large angle). If counterclockwise direction was set, the scanning covers the wide region, while the scanning covers narrow region if clockwise direction was selected. **Note: Endless Function of OSD Menu should be Off.**
		Select the rotational direction of camera, when Endless Rotation is On.
		Activate/Deactivate the Endless Function. The configured status can be checked only on OSD Menu.
		Activate/Deactivate the Flickerless Function.
		Activate/Deactivate the BLC Function.
		Activate/Deactivate the WDR Function. This function is available on some specific products.
		Activate/Deactivate the DSS Function.
		Reverse the Left/Right of Video.
		Reverse the Up/Down of Video.
		When passing over the 90 degree as the limited point of Tilt operation, it will rotate the camera by 180 degree for continuous movement.
		Activate/Deactivate the Digital Zoom of Camera Module.
	Change the Setting Value of Camera Module. Select the category to change and select the Setting Value, then click on SET button.	

<table>
<tr><td> 
</td><td>Designate or change the PTZ Operation against each Alarm Input.
Set the N.O. / N.C. as activation condition and select the PTZ Command to perform accordingly, then press SET to save the setting value.</td></tr>
<tr><td> 
</td><td>Enable/Disable the Alarm.
For the Alarm Triggered operation, alarm should be enabled.</td></tr>
<tr><td rowspan="4"> 
</td><td colspan="2">Add or Change the Setting of Privacy mask.
Select the number of the mask to set then click on SET. The Privacy Setting is displayed on the Screen.</td></tr>
<tr><td>DISPLAY</td><td>Display region for privacy mask.</td></tr>
<tr><td>ACTION</td><td>Move or Adjust the position and size of privacy mask by selecting MOVE and ADJUST.
To adjust the size, select ADJUST and press the Focus Far 

button, Adjust the size using PT Direction Key and save by pressing the Focus Far Button.</td></tr>
<tr><td>SAVE</td><td>You must save after changing any setting.</td></tr>
<tr><td> 
</td><td>Change the area of Sector configured on OSD Menu.
The character strings displayed by the Sector function can be changed only through OSD Menu.</td></tr>
<tr><td> 
</td><td>Delete the settings for Preset, Tour, Pattern, Privacy, or Sector configured in the camera selectively or altogether.</td></tr>
<tr><td> 
</td><td>Enable/disable display of Camera ID, Preset ID, Sector ID, and Coordinate information.
Check/uncheck on small box at the left of each submenu, and then press the SET button to configure.</td></tr>
<tr><td> 
</td><td>Lock access to OSD Menu.
Enter password which is a number from 1 to 200. Then press SET button. Activate/deactivate the System Lock by pressing the LOCK button.
If you want to go into OSD Menu under the System Lock Status, you need to perform Goto Preset to selected number for password.</td></tr>
<tr><td> 
</td><td>Restart the Camera Module and start operation.</td></tr>
</table>

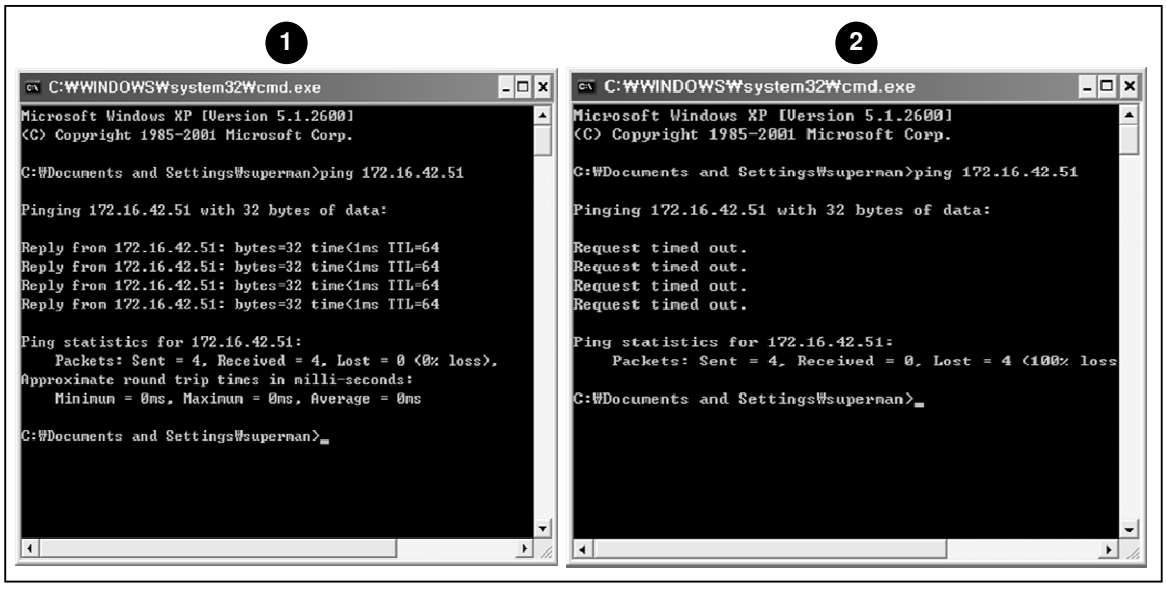
4. Troubleshooting and Tips

4.1. Troubleshooting after installation

4.1.1. Neither channel name nor video is shown up and eventually timeout message is shown up.

1. Check the power and network connection of device.
   To check if the network is properly operating, open the browser and try to connect to any server.
   Example) http://www.google.com
   Or open the MS-DOS Prompt and type the following
   ping www.google.com
   Then press Enter. If you see the "Reply from …" message it means that the network is working properly. To check if the device is connected, open the MS-DOS Prompt and type the following
   ping [the IP of the server]
   Example) ping 192.168.1.112

2. If you see the "Reply from …" message, it means that the server is properly connected.
   If you do not see a Reply message, check if the network cable and power cable are properly connected.



4.1.2. The name of the server is shown but no video is available (Only the Frame of Web Viewer)

- In this case, network connection is not a problem. Please do the followings:
  - Check whether the video is properly applied into the product.
  - Check whether there is firewall between the product and the client and check whether the network is NAT type.
  - Connect to the product through TCP. (Actually only TCP is available presently)
  - If the network type is NAT, “port mapping” should be done. The NAT server will send the packet through specific port to the product through “port mapping”. IP sharing device has the “port mapping” function in general. Details of the procedure can be found from the manual of the IP sharing device.

4.2. Troubleshooting after successful connection to the device

4.2.1. Video movement is slow

- In Basic Setup of Admin Page, lower the “Quality”. High quality means more data. You can also set the “Max. upload rate” to higher value. But this value must be lower than the maximum upload speed of your network. For example, if the maximum uploading bandwidth of the network is 400Kbps, set the total “Max. upload rate” as 384Kbps. If you set it higher, the video image can be corrupted with artifacts.

  Ask your network manager or ISP for maximum uploading bandwidth of the network.

4.2.2. The image is dull and I see green, pink dots

- This could be caused by performance limitation of the PC. Do not run too many programs while running viewer program. The other reason could be missing data in the transmission from the device.

4.2.3. Mosaic phenomenon

- Mosaic phenomenon occurs when not enough network bandwidth is available considering the resolution and frame rate of the video.

  Example is 704x480 video with low Max. upload rate.

  Users are recommended to adjust resolution and frame rates to lower values for lower bandwidth network