PT118XT-HD

Outdoor Vandal Proof 18X IP HD PTZ Dome

User Manual

CBC GROUP

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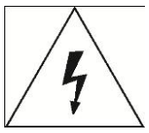
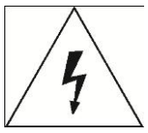


CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRICAL SHOCK, DO NOT OPEN THE COVERS.
THERE ARE NO USER SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONAL



This symbol (lightning flash with arrowhead) is intended to alert the user to the presence of un-insulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

This symbol (exclamation point) is intended to alert the user about the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Important Safety Guide

1. **Read, heed and follow all the Instructions**
   Read all the safety and operating instructions before using the product.
2. **Keep this manual**
   Keep this manual for future reference.
3. **Attachments / Accessories**
   Use only the attachments or accessories specified by the manufacturer.
4. **Installation**
   Do not install near any heat resources such as radiators, heat registers, stoves, or other apparatus including amplifiers that product heat. Improperly installed product may fall, cause serious injury to a child or adult and damage the product. Do not block any ventilation holes or openings. Install in accordance with the manufacturer's instructions. Use only with the cart, stand, tripod, bracket, mounting devices, or table specified by the manufacturer. Installation should be done only by qualified personnel and conform to all the instructions by the manufacturer. Refer all servicing to qualified service personnel.
5. **Power source**
   This product should be operated with the same type power source as indicated on the marking label

Caution

1. **Operating**
   1. Before using, make sure that the power supply and associated parts are properly installed.
   2. While operating, if any abnormal condition or malfunction is observed, stop using the product immediately and then contact your local dealer.

2. **Handling**
   1. Do not disassemble or tamper with the parts inside the product.
   2. Do not drop or subject the product to shock and vibration as this can damage the product.
   3. Care must be taken when you clean the clear dome cover. Especially, scratches or dust on the cover will ruin the quality of the product.

3. **Installation and Storage**
   1. Do not install the product in areas of extreme temperature, which exceed the allowable range.
   2. Avoid installing in high humid or dusty environments.
   3. Avoid installing in places where radiation is present.
   4. Avoid installing in places where there are strong magnetic fields and electric signals.
   5. Avoid installing in places where the product would be subject to strong vibrations.

Feature

This 'IP-server' supports remote images, sound, setup and control of camera functions though IP Networks such as LAN, ADSL/VDSL, and Wireless LAN

❑ Camera Specifications

- Image Sensor : 1/3" Megapixel solid State Progressive Scan CCD.
- Zoom : × 18 Optical Zoom
- WDR function (Wide Dynamic Range)
- SNR(Super Noise Reduction) function
- You can adjust focus to PTZ camera with 'Semi-Auto Focus function' included Auto-Focus, Manual Focus.

❑ Video

- Supports H.264, MPEG4,MJPEG (H.264 is the latest high efficiency compression format)
- Various Resolutions : 1280×720 ~ 256×144
- Supports a wide range of bandwidth control : 50kbps ~ 8Mbps
- Supports HD-SDI(HDCCTV) video output

❑ Audio

- Supports various transmission modes :

Simplex (IP-server → Client PC / Decoder, Client PC / Decoder → IP server) and full-duplex

❑ Network

- Supports static IP, dynamic IP (DHCP), and PPPoE
- Supports 1:1 and 1:N connection
- Supports Multicast transmission
- Supports various network protocol: TCP/IP, UDP, Multicast, DHCP, SMTP, HTTP, SNMP, RTP, RTSP

❑ Powerful Pan/Tilt function

- MAX. 360°/sec High Speed Pan/Tilt movement.
- With the Vector Drive Technology, Pan/Tilt motions are accomplished along the shortest path. As a result, the time to view a target is remarkably short and the video output displayed feels very natural for monitoring.
- With the Micro-Stepping Control Technology, video movements still look very smooth at high zoom magnification. During operation via a controller the camera can be moved by as little as 0.05/sec. Hence it is very easy to make the camera focus on desired target even at high zoom magnification. Additionally it is easy to make the camera focus on desired positions with zoom-proportional pan/tilt movement.

❑ Preset, Swing, Group

- You can set up to 99 preset positions, and assign camera image setting to each preset. Additional it is possible to also assign a label/name to each preset position.
- A maximum of 8 Swing sets are programmable. This function allows the user to set the camera to move repetitively between two preset positions at a programmed speed.
- A maximum of 4 Patterns are programmable. This function allows the user to set the camera to memorize a path (mostly curve path) by the joystick of the controller and record the trajectory operated by the joystick as closely as possible.
- A maximum of 8 Group sets are programmable. This function is that the camera memorizes the combination of Presets, Pattern and/or Swings sequentially and runs these Presets, Pattern and/or Swings repetitively. A Group can be any combination of up to 20 Preset/Pattern/Swing functions.

❑ PTZ control

- Using RS-485 communication connection, a maximum of 255 cameras can be connected to a single controller.

❑ Alarm in/ output (Supported only on appropriate models)

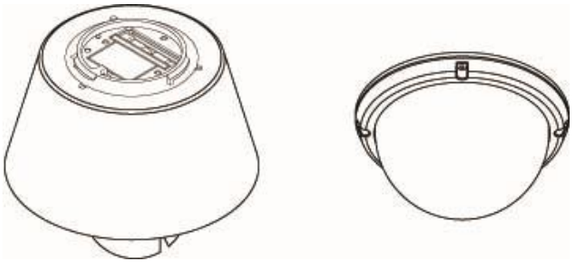
- 3 alarm sensor inputs and 1 alarm relay output are available.
- The alarm sensor inputs are decoupled with photo-couplers to avoid external electric noise and shock protection.
- Both N.O.(Normal Open) sensors and N.C.(Normal Close) sensors can be used and the signal range of the Alarm output can be from DC 5.0V to 12.0V depending on the various applications.
- The camera can be set to move to a Preset position or to run functions such as Pattern, Swing and Group when there are external sensor activations. Also "Post Alarm" function is possible, which is supposed to activate after a user-defined time period and sequentially in succession to the action by external sensor activations

❑ Designed for various Outdoor Environments and Easy Installation

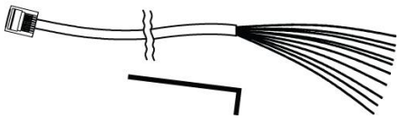
- The fans and heaters are built-in to the camera for cold and hot temperature environments. Also idealistic case design protects the camera from wet and dusty environments. (IP67)
- The camera is designed for easy to installation and maintenance.

Package Component

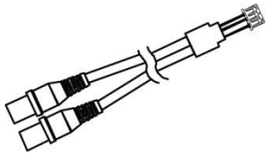
❑ Product & Accessories



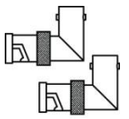
● Main Body & Clear Dome Cover



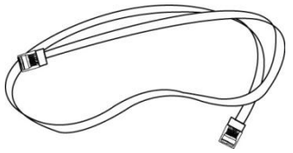
● Default Accessories
[Main Cable, Wrench]



● Audio Cable



● BNC (2ea)

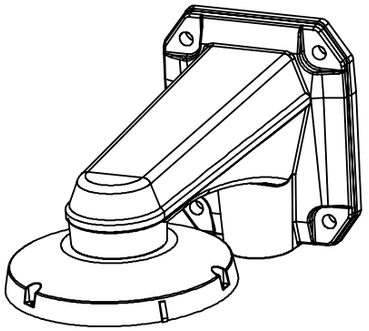


● LAN Crossover Cable

● CD

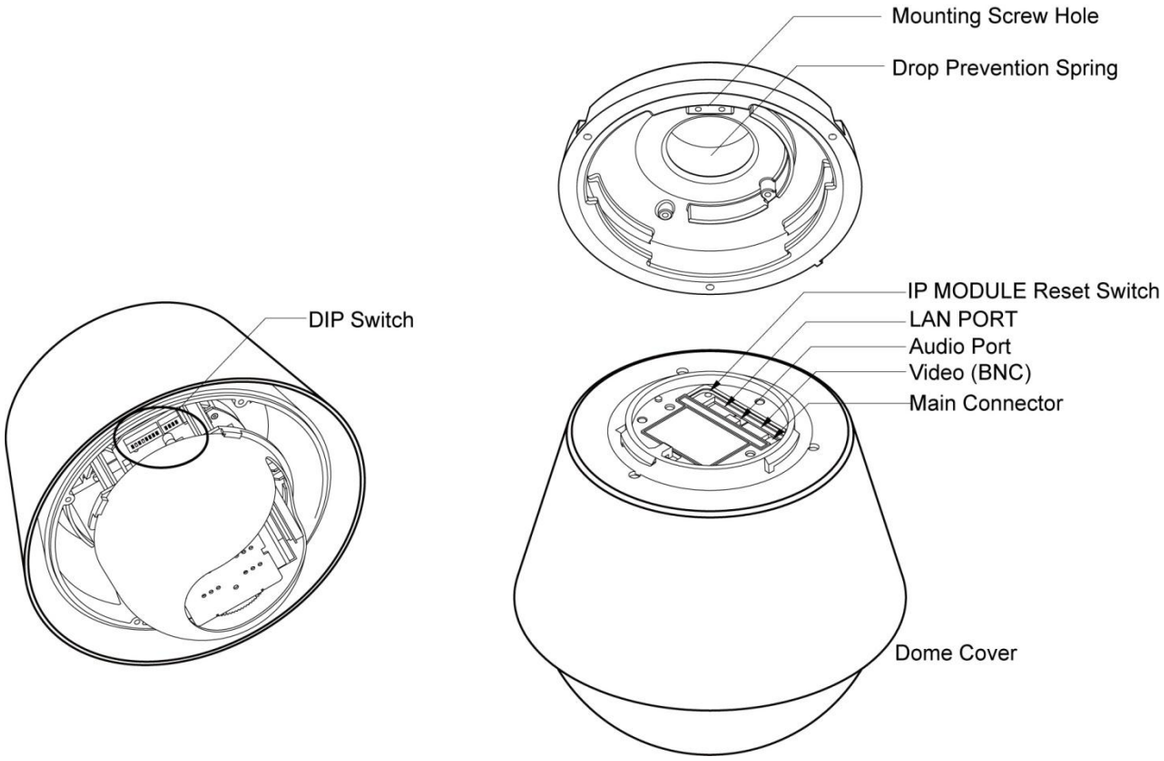
● Manual

❑ Brackets



● Wall Mount Bracket
[Screws : Machine M5×15, Hex Lag #14×50]

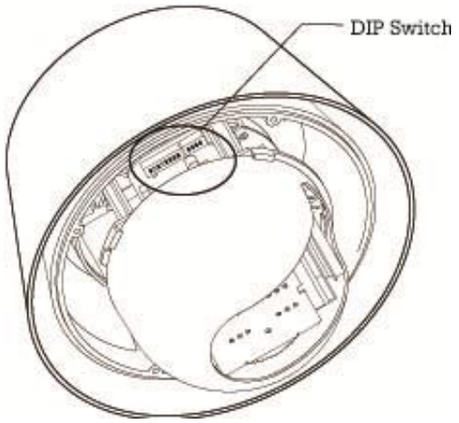
Main Part Description



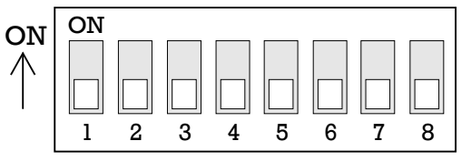
● Dome Cover	Do not remove the protection vinyl from the dome cover before finishing all the installation processes. This is to protect the dome cover from scratches or dust.
● DIP Switch	Used to set up the camera IDs and protocols.
● Drop Prevention Spring	Used to protect the product from being dropped by connecting safety wire of bracket to hook of main body when being installed.
● Mount Screw Hole	Used to assemble the main body with a bracket using screws.
● Main Connector	Used for the power wire, the video cable and the RS-485 communication cable connection.
● LAN Connector	Used for Ethernet cable connection. (Only supported on IP models)
● Audio Port	Used for Audio In/Out connection
● Video (BNC)	Used for HD-SDI cable connection.
● IP Module Reset Switch	Used for system rebooting

DIP Switch Setup

Before installing the camera, set up the DIP switches to configure the camera ID and the communication protocol.



❑ Camera ID Setup



- The ID number of camera is set using a binary number. Examples shown below.
- The range of ID is 1~255. UDo not use 0 as camera IDU. Factory default of Camera ID is 1.
- If you want to control a certain camera, you must match the camera ID with Cam ID setting of DVR or Controller.

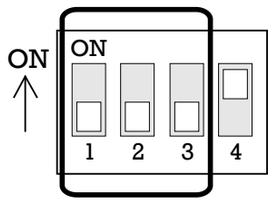
Pin	1	2	3	4	5	6	7	8
ID	1	2	4	8	16	32	64	128
1	**on**	off	off	off	off	off	off	off
2	off	**on**	off	off	off	off	off	off
3	**on**	**on**	off	off	off	off	off	off
4	off	off	**on**	off	off	off	off	off
5	**on**	off	**on**	off	off	off	off	off
6	off	**on**	**on**	off	off	off	off	off
7	**on**	**on**	**on**	off	off	off	off	off
8	off	off	off	**on**	off	off	off	off
9	**on**	off	off	**on**	off	off	off	off
10	off	**on**	off	**on**	off	off	off	off

Pin	1	2	3	4	5	6	7	8
ID	1	2	4	8	16	32	64	128
11	**on**	**on**	off	**on**	off	off	off	off
12	off	off	**on**	**on**	off	off	off	off
13	**on**	off	**on**	**on**	off	off	off	off
14	off	**on**	**on**	**on**	off	off	off	off
15	**on**	**on**	**on**	**on**	off	off	off	Off
16	off	off	off	off	**on**	off	off	off
17	**on**	off	off	off	**on**	off	off	off
18	off	**on**	off	off	**on**	off	off	off
19	**on**	**on**	off	Off	**on**	off	off	off
20	off	off	**on**	off	**on**	off	off	off

Pin	1	2	3	4	5	6	7	8
ID	1	2	4	8	16	32	64	128
21	**on**	off	**on**	off	**on**	off	off	off
22	off	**on**	**on**	off	**on**	off	off	off
23	**on**	**on**	**on**	off	**on**	off	off	off
24	off	off	off	**on**	**on**	off	off	off
25	**on**	off	off	**on**	**on**	off	off	off
26	off	**on**	off	**on**	**on**	off	off	off
27	**on**	**on**	off	**on**	**on**	off	off	off
28	off	off	**on**	**on**	**on**	off	off	off
29	**on**	off	**on**	**on**	**on**	off	off	off
30	off	**on**	**on**	**on**	**on**	off	off	off

Pin	1	2	3	4	5	6	7	8
ID	1	2	4	8	16	32	64	128
31	**on**	**on**	**on**	**on**	**on**	off	off	off
32	off	off	off	off	off	**on**	off	off
33	**on**	off	off	off	off	**on**	off	off
34	off	**on**	off	off	off	**on**	off	off
35	**on**	**on**	off	off	off	**on**	off	Off
36	off	off	**on**	off	Off	**on**	off	off
37	**on**	off	**on**	off	Off	**on**	off	off
38	off	**on**	**on**	off	Off	**on**	off	off
39	**on**	**on**	**on**	off	Off	**on**	off	off
40	off	off	off	**on**	Off	**on**	off	off

❑ Communication Protocol Setup

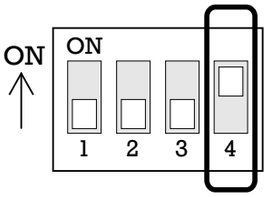


- Select an appropriate Protocol using the below DIP switch combinations.

Switch Mode			Protocol
P0 (Pin 1)	P1 (Pin 2)	P2 (Pin 3)	
OFF	OFF	OFF	PELCO-D, 2400 bps
ON	OFF	OFF	PELCO-D, 9600 bps
OFF	ON	OFF	PELCO-P, 4800 bps
ON	ON	OFF	PELCO-P, 9600 bps
Others			Reserved

- Match the camera protocol with the camera protocol setting of your DVR or controller to control the camera.
- Adjust the DIP switch after turning off the camera. If you changed the camera protocol by changing the DIP S/W, the change will be effective after you reboot the camera.
- The factory default protocol is "Pelco-D, 2400 bps"

❑ Terminal Resistor Setup



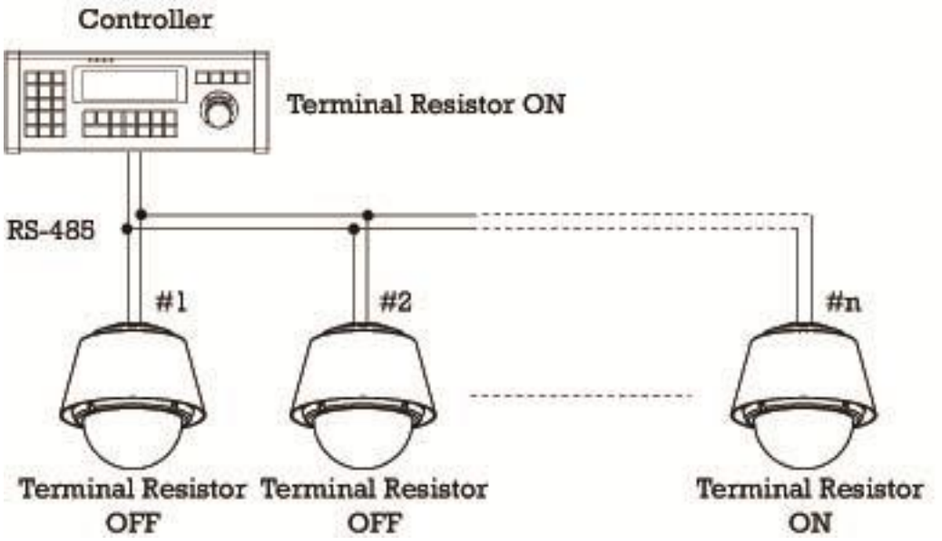
The terminal resistor is used for the following cases.

- **In case that the control cable length between a camera and a controller is relatively very long (1:1 Connection)**

  If the communication cable length is very long, the electrical signal will bound in the terminal point. This reflected signal causes distortion of original signal. Accordingly, the camera can then be out of control. In this case, the terminal resistor of both sides i.e. the camera and the controller must be set to 'ON' state.

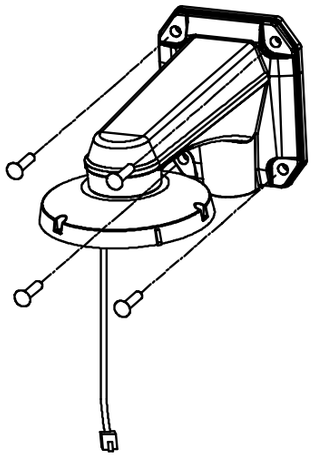
- **In case that multiple cameras are connected to a controller**

  Due to similar reasons with the case 1, the terminal resister of the controller and the last camera must be set to 'ON' state. The last camera means the camera farthest in cable length from the controller. Do not turn on the terminal resistor of more than one camera on the same communication cable.

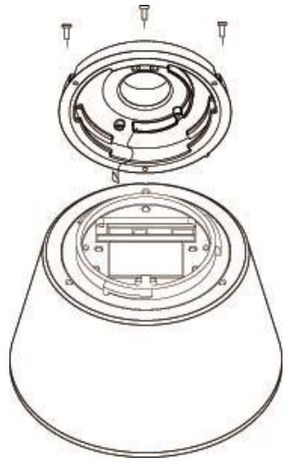


Installation using Wall Mount Bracket

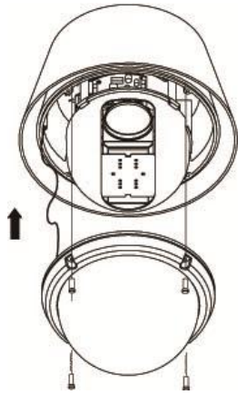
①Make a hole diameter between 30~40mm on the mounting surface to pass the wire(s) and cable(s) through the mounting surface. (In case of the wiring and cabling through the mounting surface only) Then prepare the wall mount bracket. Pull the wire(s) and cable(s) for the system as below. Attach the wall mount bracket to the mounting surface. (Hex Lag #14×50)



② Pull the wire(s) and cable(s) for the system through. Before connecting cables, hook the safety wire inside the adaptor to the cameras main body. Wire the cable(s) to the camera connections. After assembly, attach the camera to the bracket with 3r screws. (Machine M5×15)



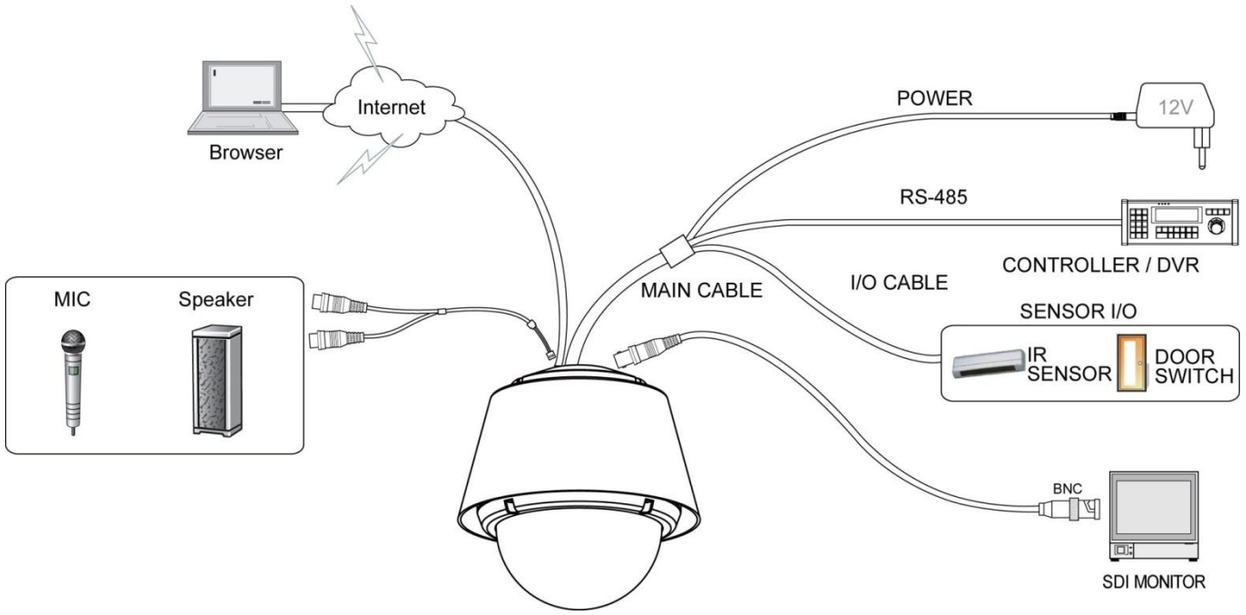
③ Assemble the dome cover with safety wire of main body and screw the main body with dome cover. After assembly, remove protection vinyl from dome cover.



Important Notice

- Before starting the installation, make sure that the Camera ID and Protocol are set up correctly.

Wiring and Cabling



❑ Port Description

- Main Cable

Port Pin Number	Cable Color	Signal
1	Black	RS-485 +
2	Brown	RS-485 –
3	Red	DC 12V
4	Orange	Ground
5	Yellow	OUT 2 (Relay Output 2)
6	Green	OUT 1 (Relay Output 1)
7	Blue	IN COM (Sensor Input Common)
8	Violet	IN 1 (Sensor Input 1)
9	Gray	IN 2 (Sensor Input 2)
10	White	IN 3 (Sensor Input 3)

- Audio Cable

Port Pin Number	Cable Color	Signal
1	RCA(Yellow)	Audio IN
2		Audio GND
3	RCA(White)	Audio OUT

❑ Power Description

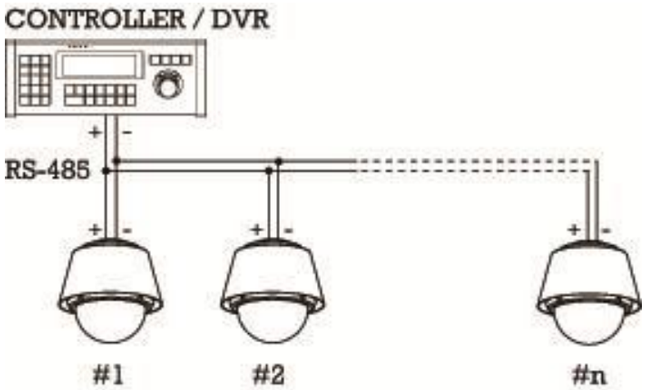
- Carefully check the voltage and current for the power supply. The input power is indicated on the back of main unit.

Rated Power		Input Voltage Range	Current Consumption
DC12V Model	IP Model	DC 12V	3.0 A

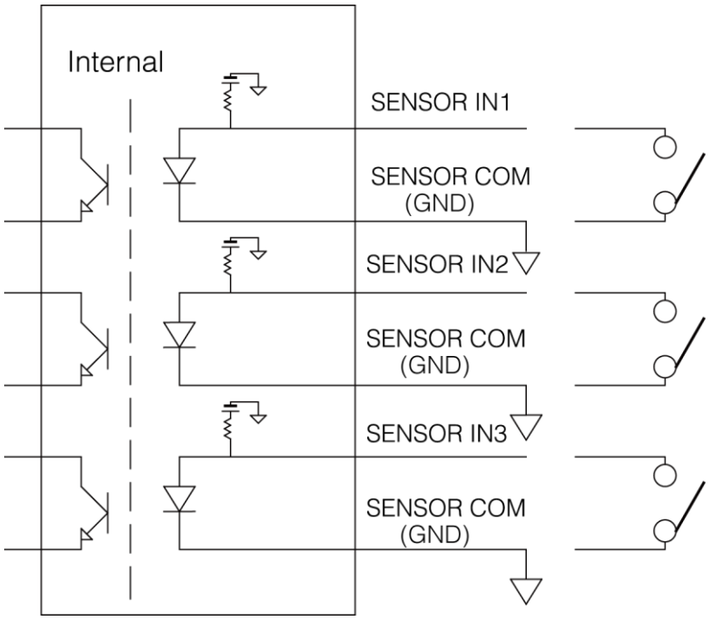
- In cases where the length of the power wire is very long, there may be voltage drop and the system may not work properly. Make the length of the power wire as short as possible.

❑ RS-485 Communication

- For PTZ control, connect the cable(s) to your keyboard or DVR. To connect multiple cameras to a single controller, RS-485 communication should be connected in parallel as shown below.



❑ Sensor Input



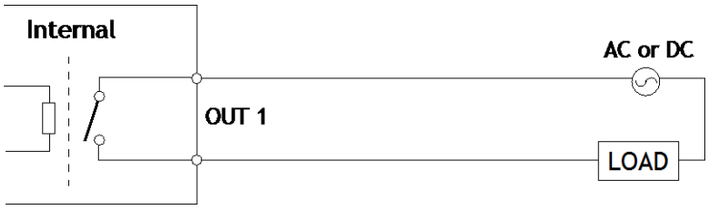
Before connecting sensors, check the sensor driver voltage and output signal type. Since sensor output signal types are divided into Open Collector and Voltage Output types in general, the cabling must be installed properly depending on the signal type.

Signal	Description
IN COM (GND)	Connect SENSOR COMs to this port(GND) as shown in the circuit above.
IN1, IN2, IN3	Connect output of sensors for each port as shown in the circuit above.

If you want to use Alarm Input, the type of sensor must be selected. The sensor types are Normal Open and Normal Close. If the sensor type is not selected properly, alarm activation will occur opposite of what is desired

⊙ Normal Open	Output Voltage is high state when sensor is activated
⊙ Normal Close	Output Voltage is high state when sensor is not activated

❑ Relay Output



The maximum loads are as follows.

Power Type	DC Power	AC Power
Maximum Load	MAX. DC 24V, 1A	MAX. AC 125V, 0.5A

Web-View Main Screen

- Setup
  This menu contains the configurations for IP camera operation.
- Export Image
  This function saves the current image on the screen as a JPG file.
- Print
  This function prints out the current image on the screen.
- Pan/Tilt
  Opens the display for PTZ Control and allows access to the PTZ setup.
- Camera
  Indicates or selects the current video channels on the main screen.
- Alarm
  Indicates when sensor is active.
- Control
  Indicates or selects a Relay is active.
- Audio
  Select to use the audio data transmission from server.

- Audio Out

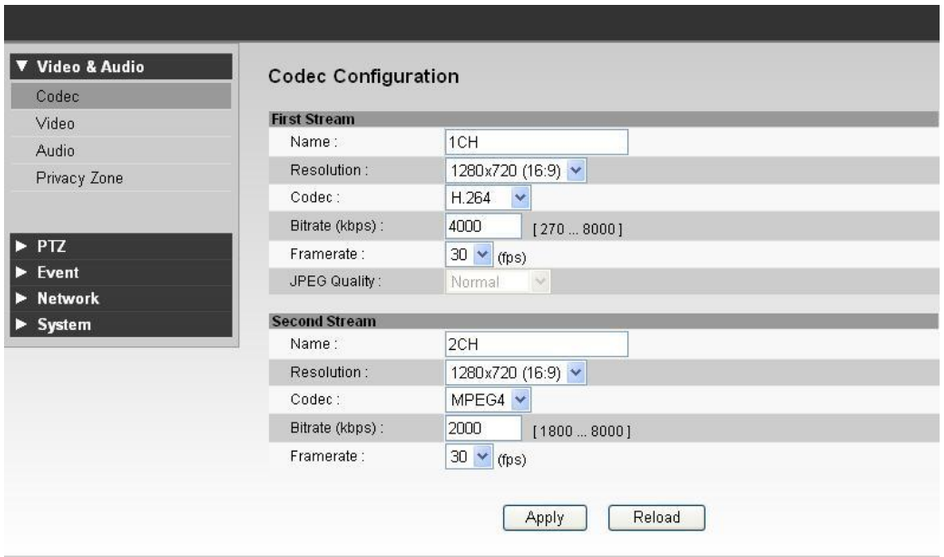
  When button is activated, audio is transmitted from web-viewer to camera.

- Full Screen

  Full screen mode is available when you click button. If you want to return to general mode from full screen mode, you should press the ECS button on your keyboard.

Video and Audio configuration

1. Codec



- Use to setup the resolution, channel name, codec, quality and fps for encoding images

  - Resolution

    Setup the resolution for the main and sub channels. It supports 8 different resolutions in 16:9 and 4:3 ratios for each channel.

  - Channel name

    Setup the name for the main channel and sub channels.

  - Codec

    Use to set the codec as H.264, MPEG4 or MJPEG.

  - Bit rate

    Select the bit rate to encode with H.264 and MPEG4, the bit rate is related with quality. The units used for bit rate data is in Kbps.

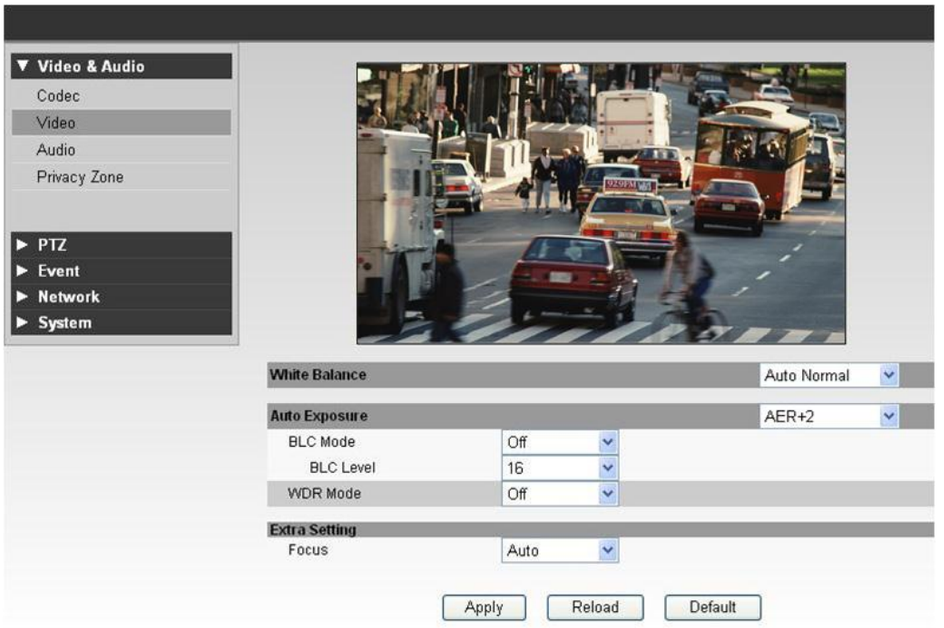
  - Frame rate

    Select the frame rate to encode this can be set up between 0 to 30fps.

  - JPEG quality

    Select the JPEG image quality. This can be set between Low to Super Fine.

2. Video



●White Balance

This controls the color balance for color temperature. It has two modes (Auto/Manual mode). The color balance is automatically controlled on Auto mode. You can manually set red and blue balance on Manual mode.

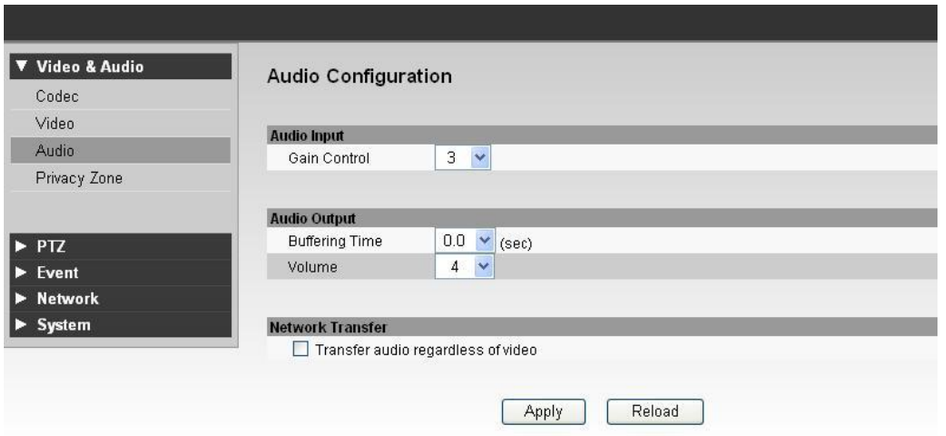
● Auto Exposure

- ◆ AE mode: This is the basic mode for Auto Exposure.
- ◆ AER1, AER2: The mode adds the 'IR Removal function' to the AE mode. The IR function works with high sensitively on AER1 and with medium sensitively on AER2.
- ◆ A E+ : This mode adds the 'DSS function' on to the AE mode.
- ◆ AER+1, AER+2, AER+3: These modes apply different levels of the 'IR Removal function' and 'DSS function' on to the AE mode. These functions work in High / Medium/ Low sensitively on AER+1 / +2/ +3 respectively.

● Focus

The Auto mode, automatically controls the focus. The Manual mode, the user sets the focus manually by user.

3. Audio



- Use to set the Audio In/Out and network transfer.

  - Audio Input Gain

    Use to set the amount of gain required on the Audio Input.
  - Audio Output
    - Buffering time

      Use to set the buffering time when audio data is transfer between client and remote server. We recommend setting the buffering time longer if sound is bad or network is unstable.
    - Volume

      Select the volume for the Audio Output.
  - Network transfer.

    This function allows the transfer of audio data without considering video data transmission

4. Privacy zone

- To protect others' privacy, 4 Privacy Masks can be created on the arbitrary position to hide objects such as windows, shops or private house. (Max. 8 Privacy Masks on a screen when you set the gap more 50° between each masks)

- **Privacy Zone Mask Setup**
  - Select a Mask number to program. If the selected mask has already data, the screen displays what was programmed.
  - Move your camera to the required position for masking using the PTZ Controller.
  - Adjust the mask size required.
  - Click the Set button. Then [Undefined] will disappear and the hidden selected areas will turn to gray

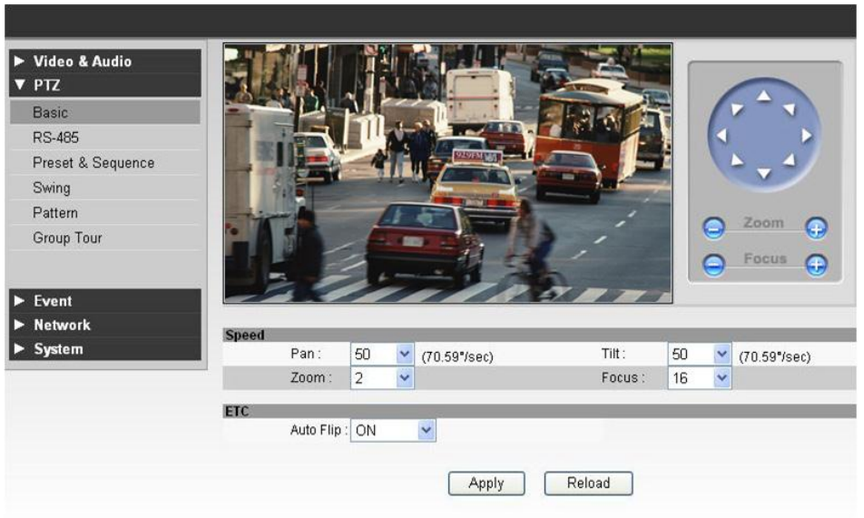
- **Delete Privacy Zone Mask**
  - Select a Mask number to delete.
  - Click the Delete button. Then [Undefined] will be displayed and recover normal images erasing hidden gray parts.

PTZ configuration

1. Basic configuration

- Use to set the basic PTZ operation, such as to control the speed of Pan/Tilt/Zoom/Focus and Auto Flip function.

2. RS485 configuration



- Setup to control PTZ with external Controller devices though RS485 port. You should set the speed, protocol and address to match the controller devices.

- ●Protocol mode
  - ◆ Use to set the speed, protocol and address instead of using external DIP switch settings. On Software, the camera values can be set via Web browser.
- ●Speed/ Protocol/ Address
  - ◆ You should set values to match Controller devices.

3. Preset and Preset Sequence

●Preset

◆ Preset setup

① Move camera to the display the area of interest using PTZ Controller.

② Select preset number and Dwell Time.

③ Click 'Set button'. Then preset setting is finished and the [Undefined] will disappear.

◆ Clear Preset

① Select preset number to delete.

② Click 'Clear button'. Then [Undefined] will be displayed again.

◆ Move Preset

① Select preset number to move.

② Click 'Move button'. Then the camera view will moved to the assigned area for the preset number.

●Preset Sequence

Use to assign multiple presets in a regular sequence. The camera will move between assigned presets and hold as long as the Dwell time set, then the camera will move onto the next preset in the sequence.

4. Swing

- Swing setup
  ① Select the swing number
  ② Set the first position number to the 1st Position, the second position number to 2nd position.
  ③ Set the Speed and Dwell Time for swing.
  ④ Click 'Apply button'. Then Swing setting is finished and [Undefined] will disappear.

- Delete Swing
  ① Select the swing number to delete.
  ② Set the value as "Not used" in 1st Position and 2nd Position and click "Apply button'.
  Then Swing is deleted and [Undefined] will be displayed for assigned swing numbers.

- Run Swing
  ① Select swing number to run.
  ② Click 'Run Swing button'. When the swing function is running, you can check the swing speed and Dwell time.

- Direction

- Select the pan direction for swing. It supports 3 types of pan directions. (Shortest, Clockwise and Counter Clockwise)

- CGI preset commands from 41 to 48 are assigned to run swing.

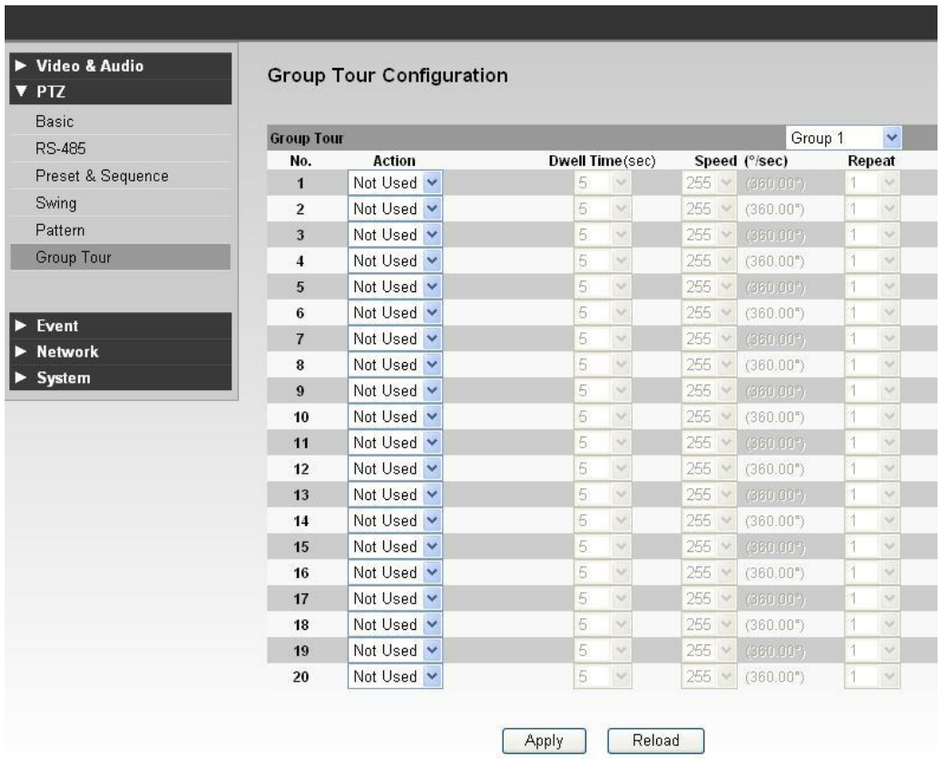
5. Pattern

- Pattern setup
  - ① Select the pattern number to set.
  - ② Move to the field of view to the start position using PTZ Controller.
  - ③ Click 'Set Pattern Start button' to begin Pattern recording.
  - ④ The when you move camera using PTZ Controller the function will memorized the speed and path.
  - ⑤ Click 'Set Pattern Stop' button. Then Pattern setting is finished and [Undefined] will disappear.
    .
- Delete Pattern
  - ① Select the pattern number to delete..
  - ② Click 'Delete Pattern button'. Then selected Pattern is deleted and [Undefined] will be displayed again.

- Pattern action
  - ① Select the pattern number to run.
  - ② Click 'Run Pattern button'. Then the assigned pattern activate.

- CGI preset commands from 31 to 34 are assigned to run pattern.

6. Group Tour



- Group number

  8 groups can be setup. (From 1 to 8)

  .

- Action

  Select which action to set from choice of Presets, Swings or Patterns.

  .

- Dwell Time

  Set the dwell time between the Preset, Swing or Pattern to the next action

  ,

- Speed

  Select the camera speed for Preset or Swing.

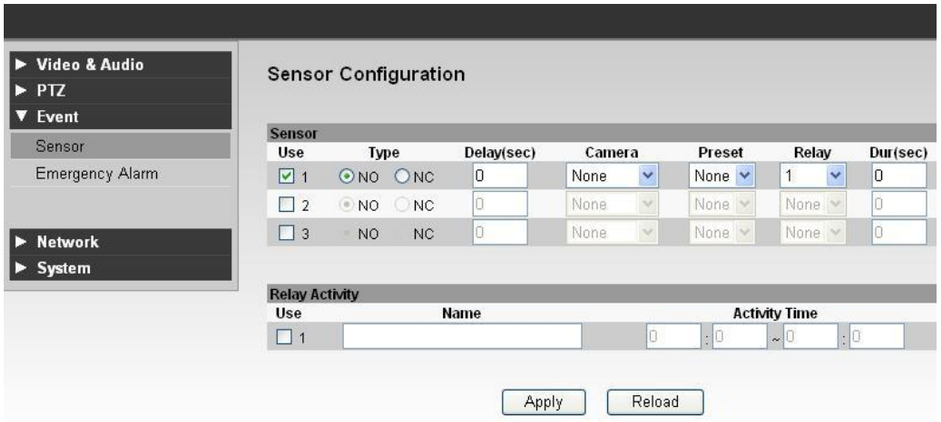
- Repeat

  Set the repeat frequency for the action.

- CGI preset commands from 51 to 58 are assigned to run group tour.

Event setup

1. Sensor and Relay



- Sensor
  - Use

    Select to activate/deactivate a sensor.
  - Type

    Select the sensor type between NO/NC.
  - Delay

    Set the delay time after sensor is working. During the delay time the Camera does not treat another sensor signal as the event and will ignore it.
  - Camera

    Select the camera to connect. The selected camera stream will be used for Sensor Preset, Emergency Alarm.
  - Preset

    Select the preset position for the camera to the move when sensor has been activated
  - Relay

    Select the relay to work when sensor has been activated.
  - Duration

    Set the duration that the Relay remains active.

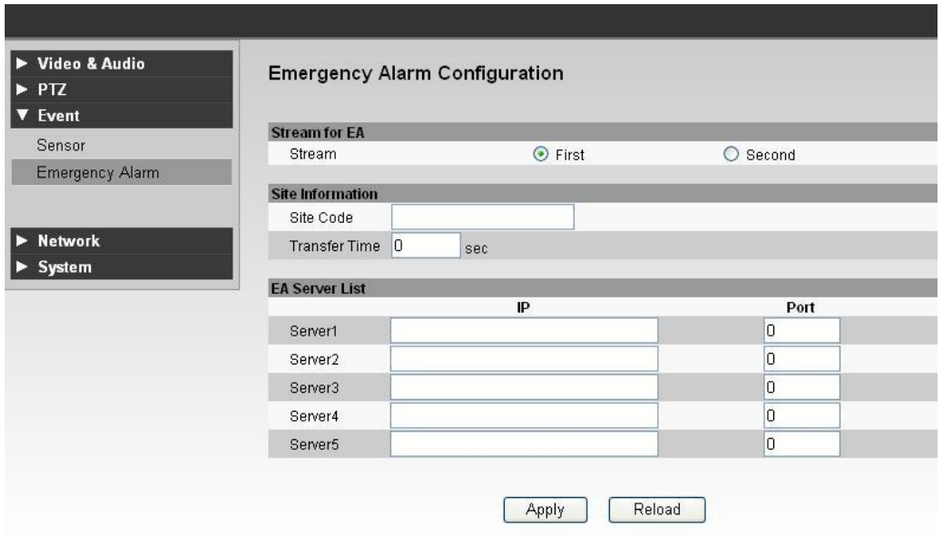
- Relay activation
  - Use

    Check the box to enable/disable the relay activation.
  - Name

    Enter the name for the relay device.
  - Activity Time

    Set the activity time. The relay can only work during the assigned time.

2. Emergency Alarm



Emergency alarm transfers video data to an EA server when sensor event happens,

- Stream

  Select the priority of the EA stream when an event occurs.

- Site Code

  Input a site code/name for the camera, this is transmitted to EA server during an event.

- Transfer Time

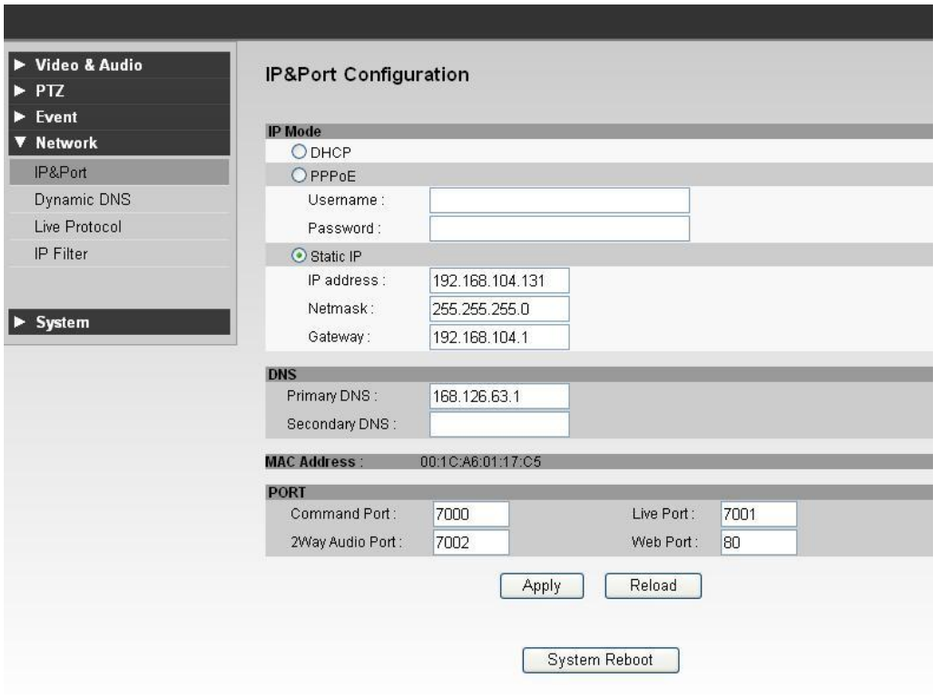
  Select the duration that the video is streamed to the EA server.

- EA Server List

  Input the EA server IP address(s) and port number(s) to transfer emergency data and video.

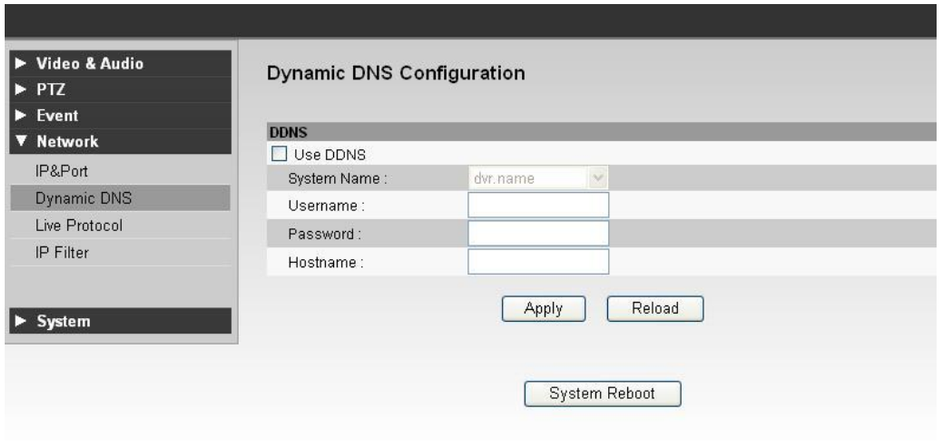
Network Setup

1. IP Setup



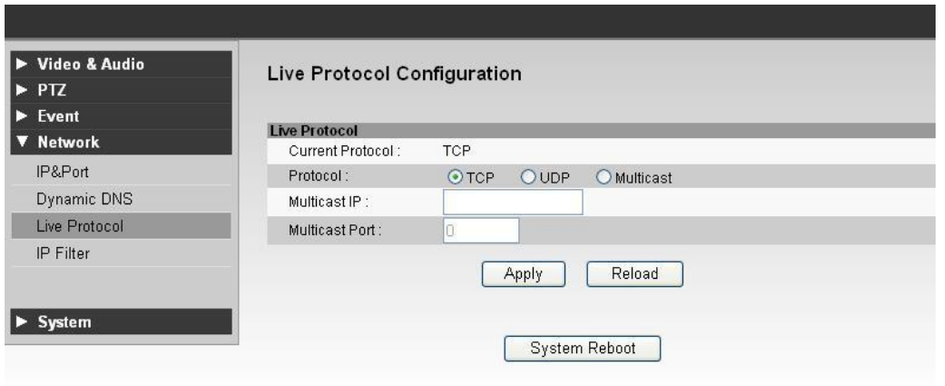
- Set the network values for the Camera. Select either DHCP, PPPoE or Static IP. Then enter the DNS server details and change port number if required. The settings will be applied to the new values after rebooting the system

2. Dynamic DNS



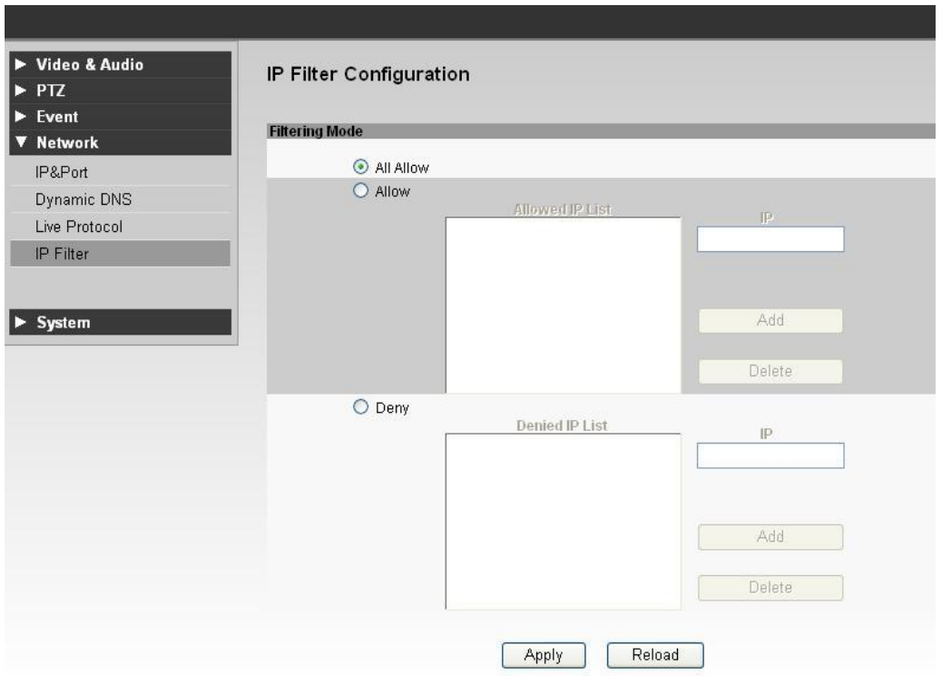
- DDNS allows the use of a domain name for network connection instead of an assigned IP address. This function is very useful when you use a dynamic IP protocol such as DHCP or PPPoE.

3. Live Protocol



- Select the method used to transfer video, audio data to remote clients,

4. IP filtering



- Setup the network authority by allowing / restricting the incoming connections.
  - All Allow

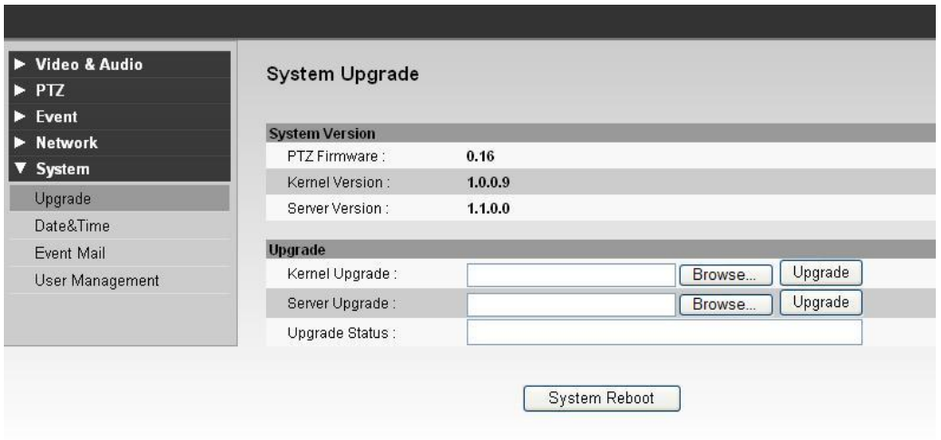
    This option allows all incoming connections.
  - Allow

    Input the specific IP addresses allowed to connect.
  - Deny

    Input specific IP addresses unauthorized to connect.

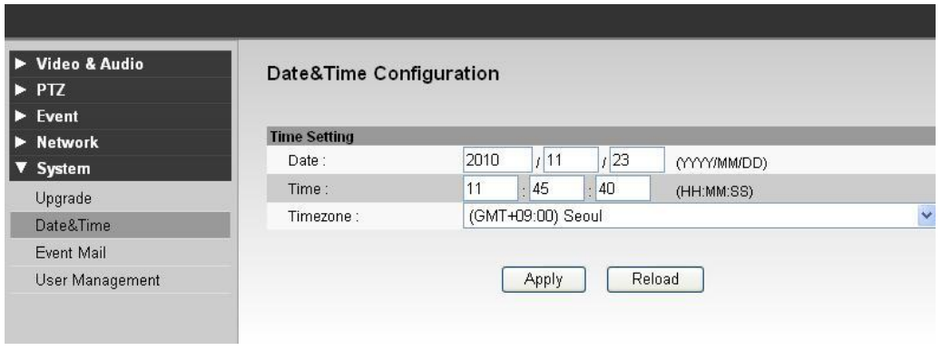
System configuration

1. Upgrade



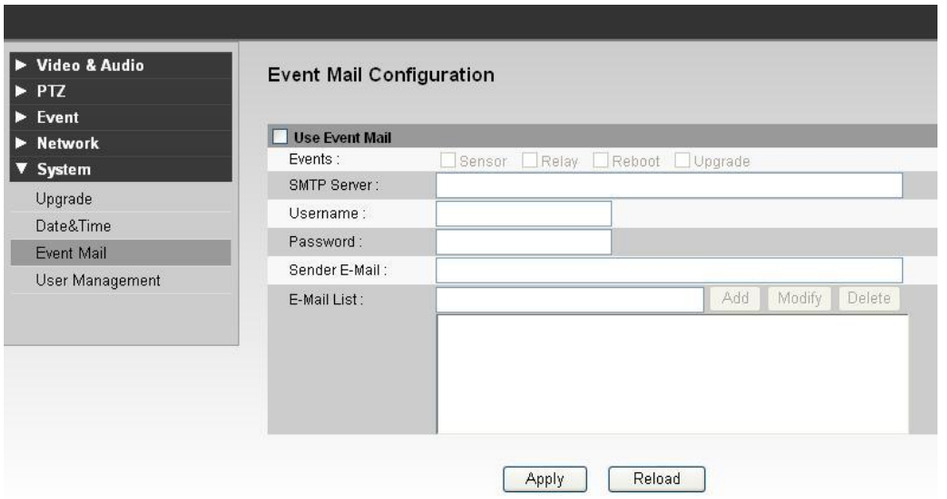
This menu allows the User to upgrade the camera with the latest firmware updates. The screen displays updating status on 'Upgrade Status message window'. The upgrade firmware version will be applied after rebooting system.

2. Date & Time



Use this menu to set the date, time and local time zone for the camera.

3. Event mail



The camera will sent event information by e-mail when an event occurs.

- Use Event Mail

  Use this option to enable/disable the function.

- Events

  Select which event types to be used for email notification.

- SMTP Server

  Input the SMTP server address to use.

- User name/Password

  Input the username and password for the SMTP Server log in.

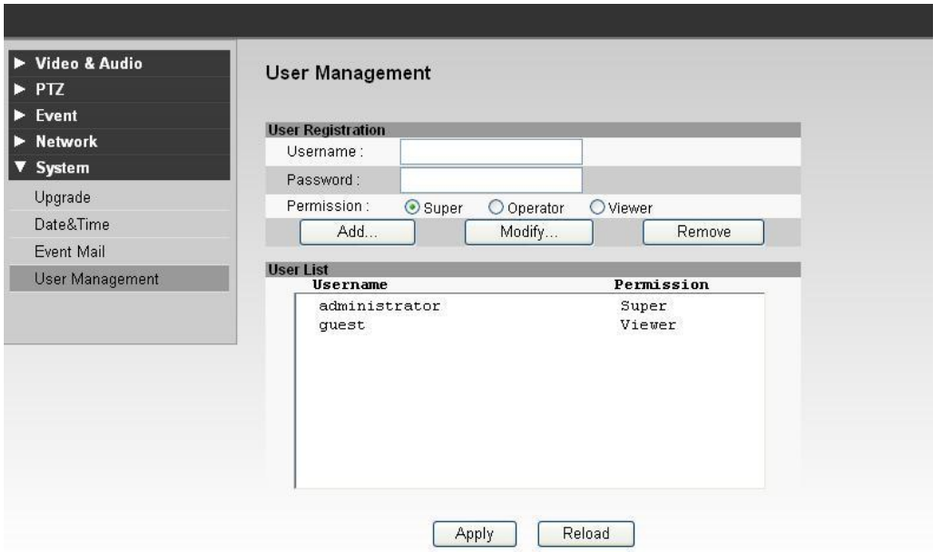
- Sender E-Mail

  Input the sender (camera) e-mail address.

- E-Mail List

  Input receiver e-mail addresses that should receive the email alerts.

4. User management



The User management setup windows allow the user to add/renew and delete the user accounts/permissions. The permissions can set to each user by the following authority levels Super/Operator/Viewer level.

- Super level: This is assigned for highest authority users that have access to all functions, controls and setup options.
- Operator level: This should be assigned for middle authority users that require control of Video, Audio, PTZ and Event features.
- Viewer level: This should be assigned for the low level authority users that only require the surveillance of image and video.

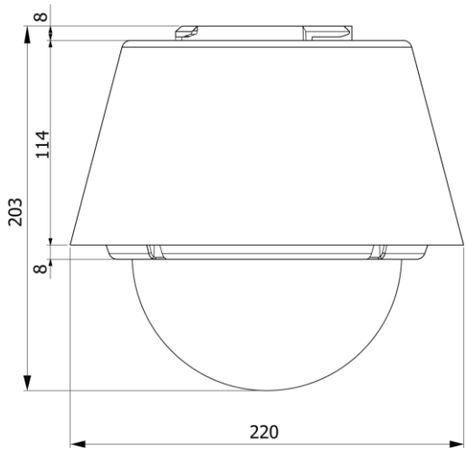
Specification

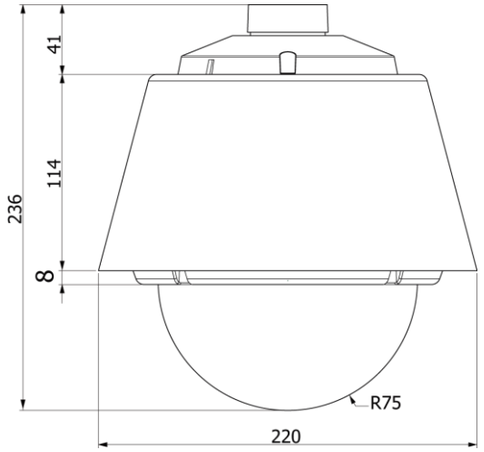
Camera Part		
Image Sensor		1/3", Solid State Progressive Scan CCD
Total Pixels		1348(H) × 976(V), 1.3M
Effective Pixels		1296(H) × 966(V), 1.25M
Lens		F1.6(Wide) ~ F2.8(Tele), f=4.7 ~ 84.6mm
		×18 Optical Zoom
Angle of View		H : 55.2°(Wide) ~ 3.2°(Tele)
Focus Range		∞ ~ 0.01m(Wide), 1m(Tele)
Minimum Object Distance		10mm (Wide), 1000mm(Tele)
Zoom Speed		3.5 sec (Wide to Tele)
AE Mode		AE / AER / AE+ / AER+ / Shutter / Exposure / AGC
Iris Control		Auto / Manual (F1.6 ~ F34)
Gain Control		Auto / Manual (0 ~ 30dB)
Shutter Speed Control		Auto / Manual (1/4 ~ 1/10,000sec)
White Balance		Auto / Manual (Red, Blue Gain Adjustable)
Auto DSS Limit		×2, ×4, ×8 fields
Day & Night (ICR)		Auto / Manual
Min. Illumination		0.5 Lux (Color) / 0.02 Lux (B/W) @ 50 IRE & F1.6 & 1/4s & 28dB
BLC		Auto / Manual, 256 Levels
WDR		On / Off
Privacy Mask		8 Masks (Spherical Coordinate)
Video	Standards	Main Stream : H.264HP/MPEG4SP/MJPEG, Secondary Stream : H.264HP / MPEG4SP
	Output	1 × BNC (Composite or HD-SDI, Optional)
	Resolution	1280×720/30fps ~ 256×144/30fps
	Frame Rate	0 ~ 30 fps
	Bit Rate	50 Kbps ~ 8 Mbps
Audio	Algorithm	G.711
	Input	1 × Line - In
	Output	1 × Line - Out
	Sample Rate	G.711 : 8 KHz

Mechanism Part			
Network	Interface		Ethernet 10/100 Base-T (RJ-45)
	Protocol		TCP/IP, UDP, Multicast, DHCP, SMTP HTTP, SNMP, RTP, RTSP
Software	Web Viewer		Live Monitoring, Recording, Search & Playback, Backup
Pan/Tilt	Travel Range		Pan : 360°(Endless), Tilt : 180°
	Speed	Preset	360°/sec
		Jog	0.05 ~ 360°/sec (Proportional to Zoom)
		Swing	1.41° ~ 180°/sec
	Preset		99 Presets
	Pattern		4 Patterns (760 command/Pattern)
	Swing		8 Swings
	Group		8 Groups (20 Actions/Group)
Communication	Type		RS-485
	PTZ Protocol		Pelco-D, Pelco-P Selectable
Sensor / Alarm	Sensor		3 Inputs, Photo-Coupler Input
	Alarm		1 Relay Outputs, Max Load : DC24V 1A / AC125V 0.5A
	IP Reset Button		Yes
Physical	Mount Accessory		Wall Mount or Ceiling Mount, Sun-shield (Optional)
	Dimension	Dome	∅ 150mm / ∅ 5.9″
		Wall	292.5×279.8 mm / 11.5×11 ″
	Weight	Wall	Approx 3.8 Kg
	Material	Dome	Polycarbonate
		Internal	Polycarbonate, ABS
		External	Aluminum
	Rated Power		DC12V, 3A (36W)
	Waterproof		IP 67
	Fan		Always ON
	Heater		Operation start from Internal Temperature 10°C
	Operation Temperature		-30°C ~ 50°C (Recommended 0°C ~ 40°C)

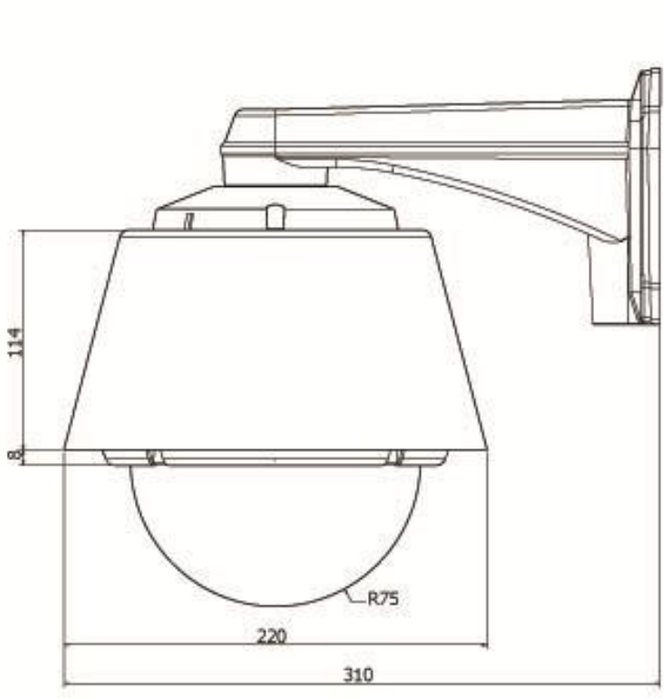
Dimension

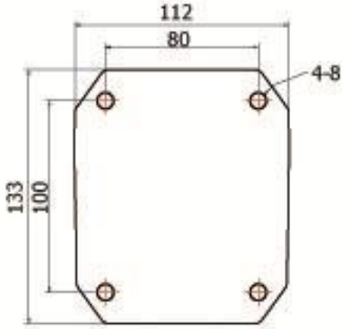
● Main Body





● Wall Mount Type





[Unit : mm]