QUICK GUIDE

Full-HD
NETWORK Mini-PTZ CAMERA

Please read this guide thoroughly before use and keep it handy for future reference.

1 Introduction

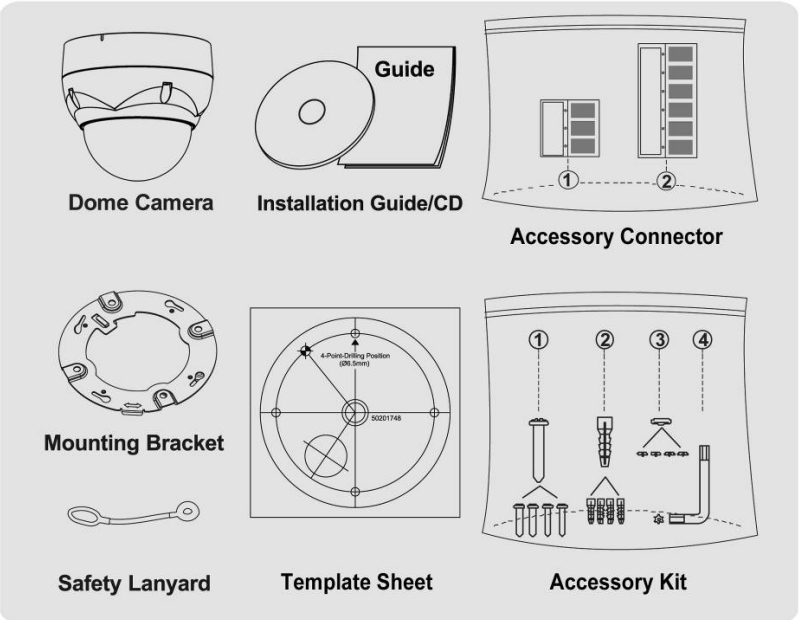
The network camera supports the network service for a sensor image with progressive scan, which can be monitored on a real-time screen regardless of distances and locations. By using its dedicated program, many users are able to have an access to the network camera at once or a single user can monitor various network cameras at the same time. It also enables users to play, store and retrieve a monitoring image by using a PC. All the settings and real-time monitoring screens are also provided through an access to the web.

The network camera is fully featured for security surveillance and remote monitoring needs. It is based on the DSP compression chip, and makes it available on the network as real-time, full frame rate Motion JPEG and H.264 video streams.

1.1 Components

The camera is designed with compact, small size, hard dome camera housing. The housing is constructed of aluminum, steel and plastic. The housing is designed to be mounted on a wall or a ceiling. The housing meets the Protection Classification IP66 standards for dust and moisture resistance.

- **Dome Camera** 1
- **Installation Guide/CD** 1
- **Template Sheet** 1
- **Mounting Bracket** 1
- **Safety Lanyard** 1
- **Accessory Kit** 1
  - 1) Mounting screws (PH6 x 35.0) ..... (4)
  - 2) Plastic anchors ..... (4)
  - 3) O-Rings ..... (4)
  - 4) Torx wrench ..... (1)
- **Accessory Connector** 1
  - 1) 3-pin terminal block ..... (1)
  - 2) 6-pin terminal block ..... (1)



1.2 Key Features

- **Brilliant video quality**

  The network camera offers the highly efficient H.264 video compression, which drastically reduces bandwidth and storage requirements without compromising image quality. Motion JPEG is also supported for increased flexibility.

- **Dual or Triple Streams**

  The network camera can deliver dual or triple video streams simultaneously at full frame rate in all resolutions up to Full-HD (1920 x 1080p) using Motion H.264 and JPEG. This means that several video streams can be configured with different compression formats, resolutions and frame rates for different needs.

- **Image setting adjustment**

  The network camera also enables users to adjust image settings such as contrast, brightness and saturation to improve images before encoding takes place.

- **Intelligent video capabilities**

  The network camera includes intelligent capabilities such as enhanced video motion detection. The network cameras external inputs and outputs can be connected to devices such as sensors and relays, enabling the system to react to alarms and activate lights or open/close doors.

- **Improved Security**

  The network camera logs all user access, and lists currently connected users. Also, its full frame rate video can be provided over HTTPS.

- **PoE (Power over Ethernet)**

  This network camera can be powered through PoE, which simplifies installation since only one cable is needed for carrying power, as well as video controls.

- **ONVIF Certificate**

  This is a global interface standard that makes it easier for end users, integrators, consultants, and manufacturers to take advantage of the possibilities offered by network video technology. ONVIF enables interoperability between different vendor products, increased flexibility, reduced cost, and future-proof systems.

- **Micro-SD Recording support**

  The network camera also supports a Micro-SD memory slot for local recording with removable storage.

- **Audio support**

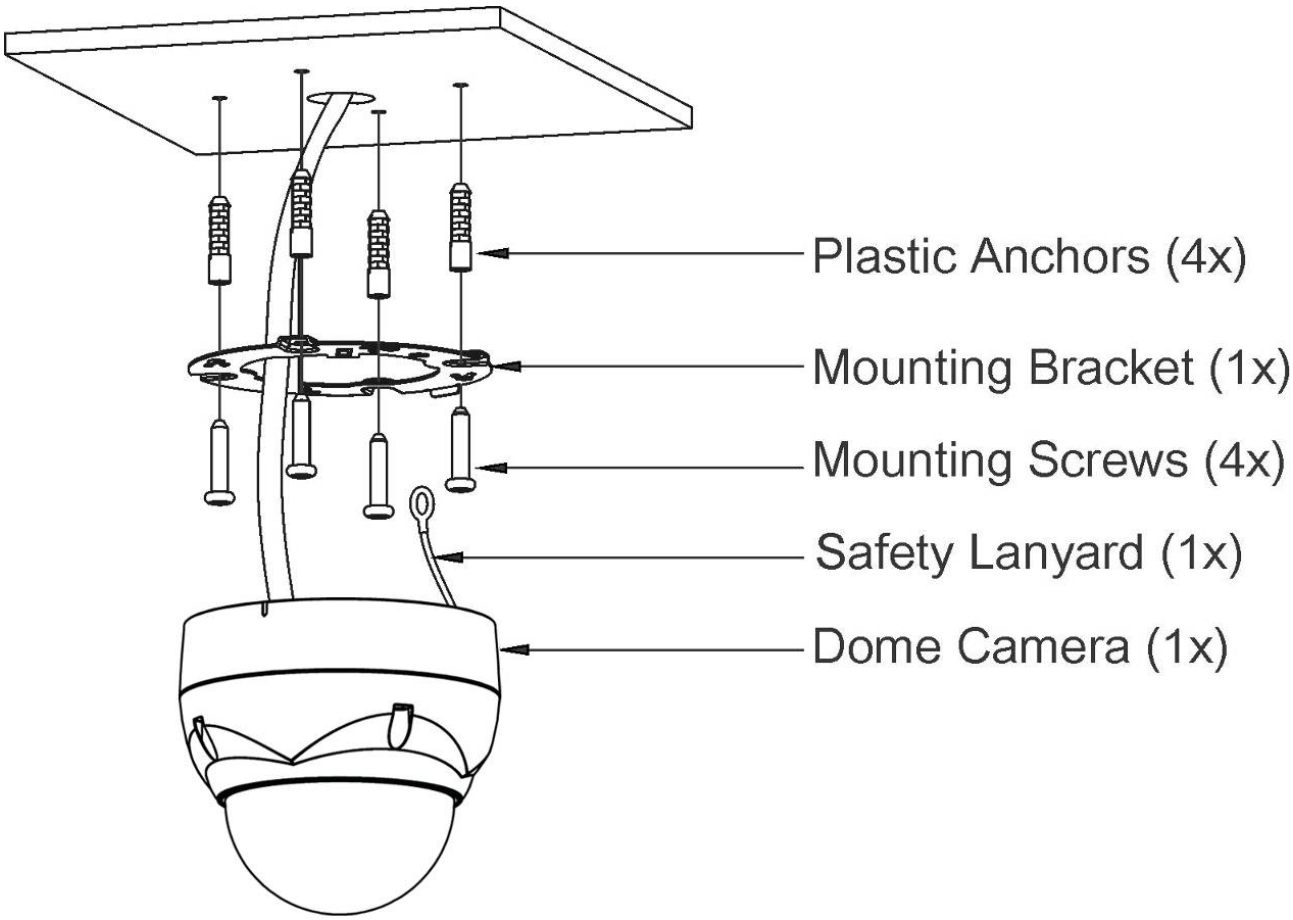
  The network camera also supports two-way audio.

2 Installation

2.1 Installation

The dome camera is for use in surface or pendent mounting applications, and the mounting member must be capable of supporting loads of up to 10 lb (4.5 kg). (Pendent mounting must use pendent mount accessory.)

The dome cameras mounting bracket should be attached to a structural object, such as hard wood, wall stud or ceiling rafter that supports the weight of the dome camera.



CAUTION: A silicone rubber sealant must be applied to seal the housing and cable-end to secure waterproofing.

2.1.1 Locking Dome Camera

1. Make screw holes on the ceiling using the supplied mounting Template Sheet (Figure A).
2. Fix the Mounting Bracket to the ceiling using supplied Anchors (4x) and Mounting Screws (4x) (Figure B).
3. Hook up the Safety Lanyard to the Safety Lanyard Hook of the Mounting Bracket (Figure C).
4. Align the locking tab on the bracket and the locking slot on the base of the dome (Figure D).
5. Turn the dome to the counterclockwise about 10 degree to the locked position (Figure E).

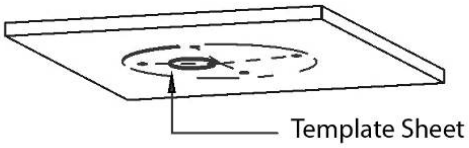


Figure A

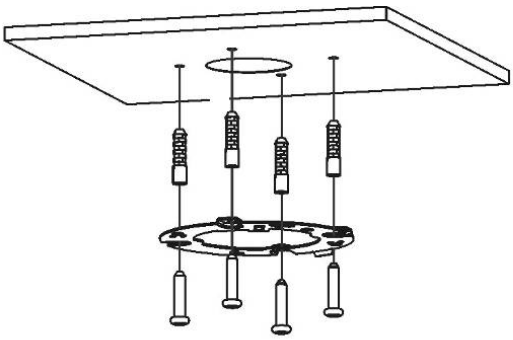


Figure B

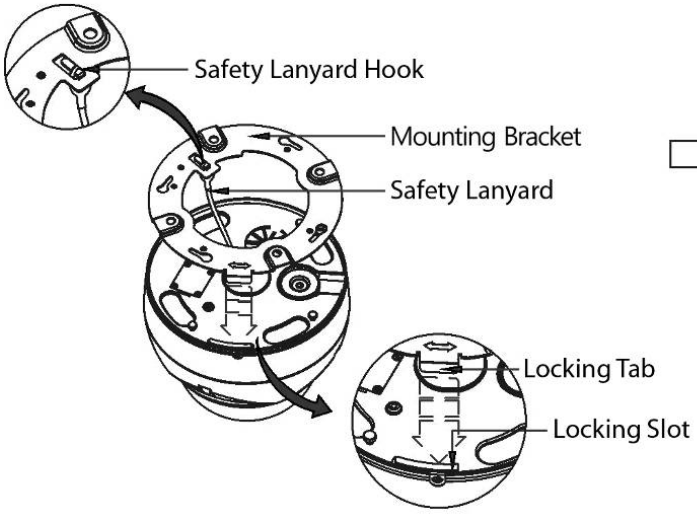


Figure C

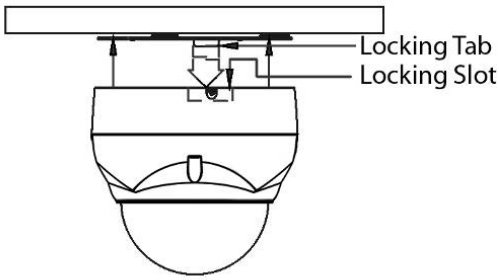


Figure D

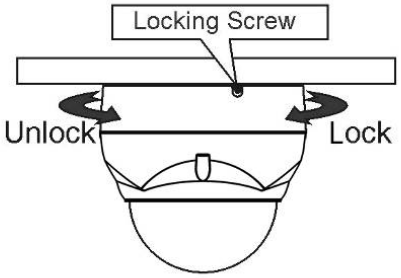


Figure E

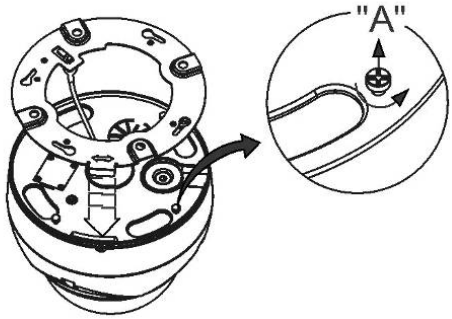
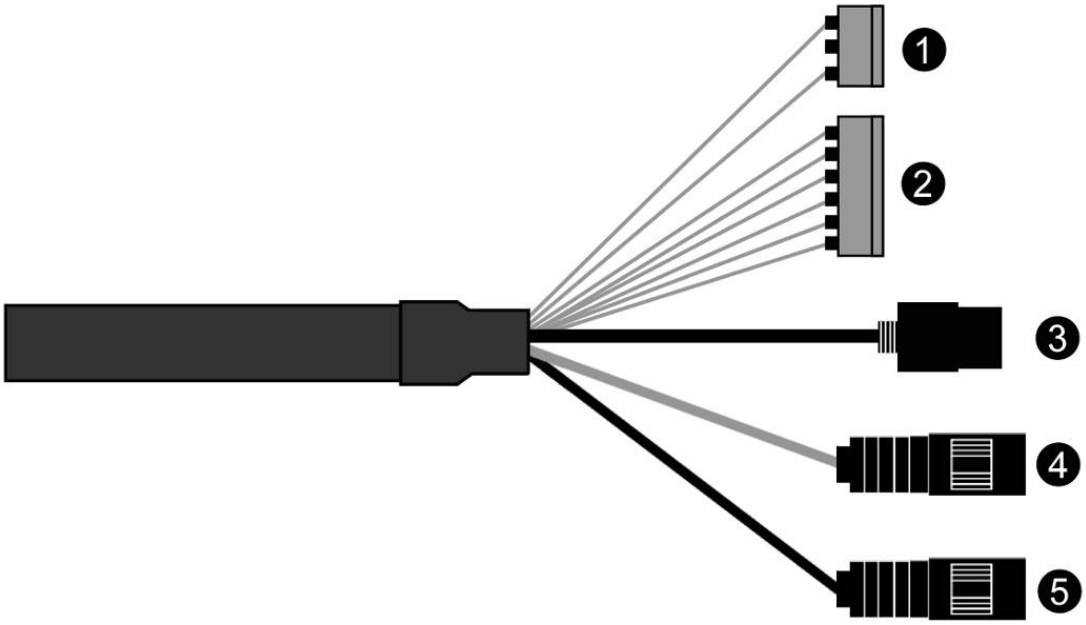


Figure F

CAUTION: Before installing mounting bracket to surface pre-adjust the four mounting screws “A” on the base of the dome camera to best match the mounting bracket locked position. Unscrew the locking screw on the side of the dome’s base and fit the tab of the mounting bracket into the locking slot. Screws “A” should not be too tight or too loose when the dome is in the locked position. After setting the proper positions of screws “A” remove the mounting bracket and install it to the proper surface. If it is too difficult to lock the dome in position after the mounting bracket has been installed readjust the screws “A” by unscrewing them a small amount and try to install dome camera again.

2.2 Basic Configuration of Camera System



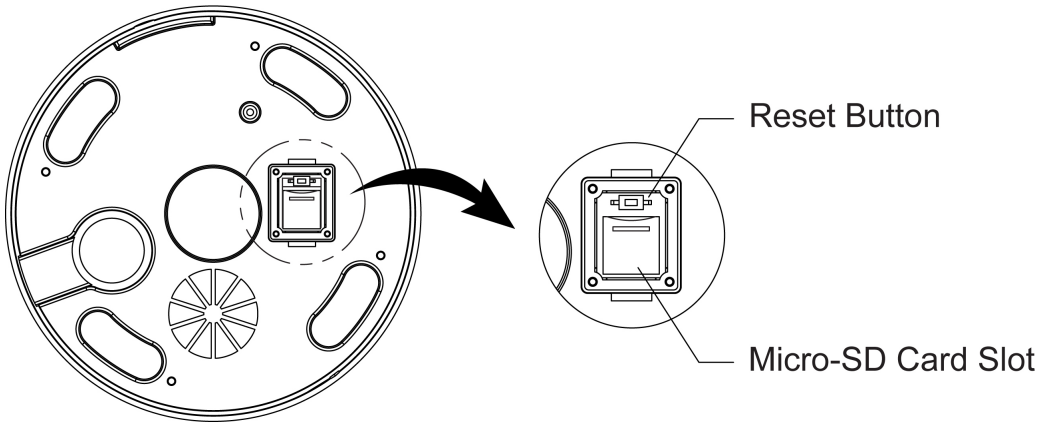
No.	Connector	Wire Color	Description
1	3-pin terminal block	RED	24VAC or 12VDC+
		WHITE	24VAC or 12VDC-
2	6-pin terminal block	PINK	ALARM INPUT 1
		GRAY	ALARM INPUT 2
		GREEN	ALARM INPUT 3
		BLUE	ALARM INPUT 4
		BROWN	GND
		YELLOW	ALARM OUTPUT
3	RJ-45	BLACK	Ethernet, RJ-45 port compatible with 10/100Mbps having PoE functionality.
4	STEREO	GRAY	AUDIO OUTPUT
5	STEREO	BLACK	AUDIO INPUT

The camera must be installed by qualified service personnel in accordance with all local and federal electrical and building codes.

2.3 Micro-SD Card Insertion

User can install and change Micro-SD card as shown in the following picture.

1. Open the Micro-SD card cover.
2. Install or change Micro-SD card.
3. Tightly close the Micro-SD card cover to ensure it is waterproof.



2.4 Connections

- **Connecting the Network**

  Connect a standard RJ-45 cable to the network port of the camera. Generally a cross-over cable is used for directly connection to PC, while a direct cable is used for connection to a hub.

- **Connecting Alarms**

  - **A1,A2,A3,A4 (Alarm Input 1,2,3,4)**

    You can use external devices to signal the camera to react on events. Mechanical or electrical switches can be wired to the A1,A2,A3,A4 (Alarm Input 1,2,3,4) and G (Ground) connectors.

  - **G (Ground)**

    NOTE: All the connectors marked G or GND are common.

    Connect the ground side of the alarm input and/or alarm output to the G (Ground) connector.

  - **AO (Alarm Output)**

    The camera can activate external devices such as buzzers or lights. Connect the device to the AO (Alarm Output) and G (Ground) connectors.

- **Connecting the Power of Camera**

  Connect power of 12VDC or 24VAC for the camera.

  When using a 12VDC adapter, connect the positive (+) pole to the ‘ + ’ position and the negative (-) pole to the ‘ - ’ position.

  Use satisfy clause 2.5 of IEC60950-1/UL60950-1 or Certified/Listed Class 2 power source only.

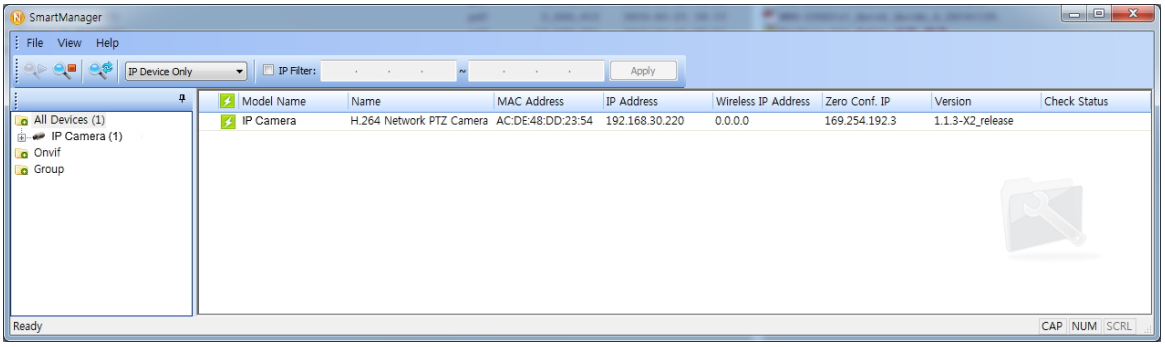
  - Be careful not to reverse the polarity when you connect the power cable.
  - You can also use a router featuring PoE (Power over Ethernet) to supply power to the camera.
  - 24VAC is recommended to use for the camera power for stable operation with heater kit. If using PoE, the heater will not operate at all.

2.4.1 Network Connection & IP assignment

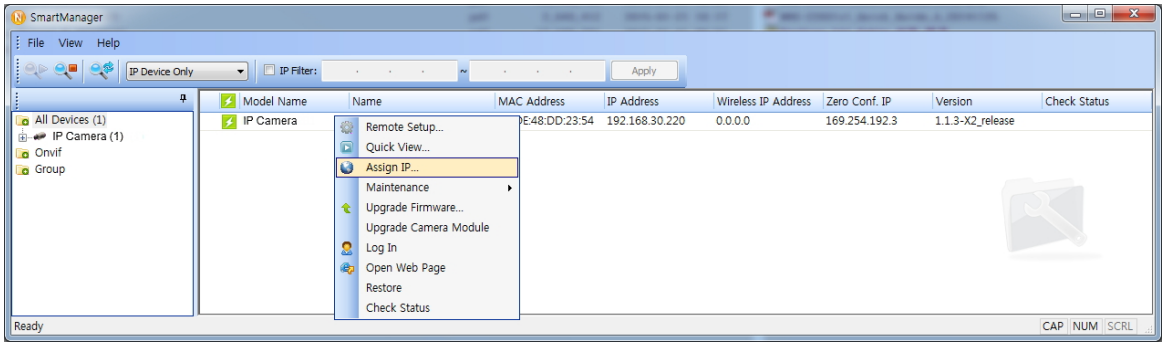
The camera supports the operation through the network. When a camera is first connected to the network, it is necessary to allocate an IP address to the device with the SmartManager utility on the CD. (Default IP 192.168.30.220)

1) Connect the network camera/device to the network and power up.

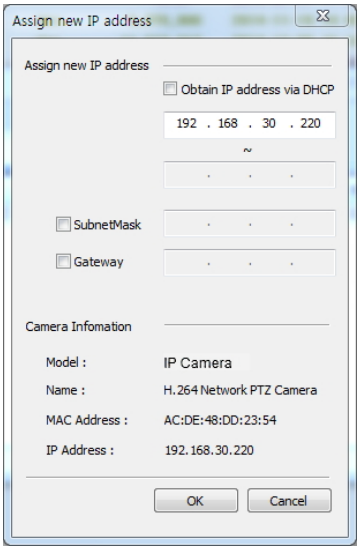
2) Start SmartManager utility (Start > All programs > SmartManager > SmartManager). The main window will display, and after a short while any network devices connected to the network will be displayed in the list.



3) Select the camera on the list and click right button of the mouse. You can see the pop-up menu as below.



4) Select Assign IP Address. The Assign IP window will display. Enter the required IP address.



NOTE: For more information, refer to the SmartManager Users Manual.

3 Operation

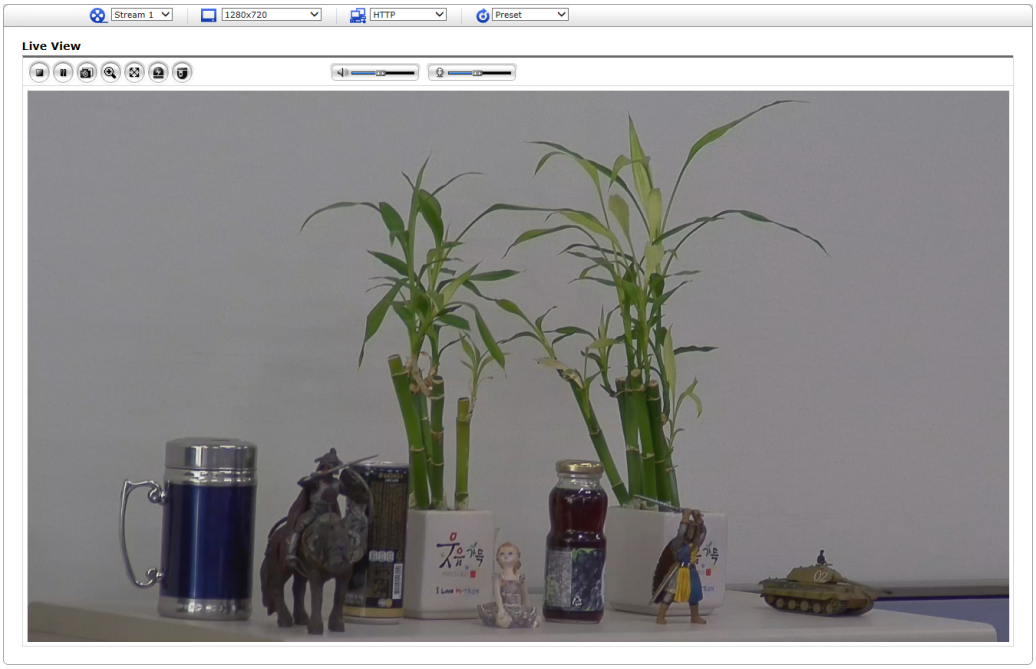
The network camera can be used with Windows operating system and browsers. The recommended browsers are Internet Explorer, Safari, Firefox, Opera and Google Chrome with Windows.

NOTE: To view streaming video in Microsoft Internet Explorer, set your browser to allow ActiveX controls.

3.1 Access from a browser

1. Start a browser (Internet Explorer).
2. Enter the IP address or host name of the network camera in the Location/Address field of your browser.
3. You can see a starting page. Click **Live View, Playback,** or **Setup** to enter web page.

4. The network cameras **Live View** page appears in your browser.

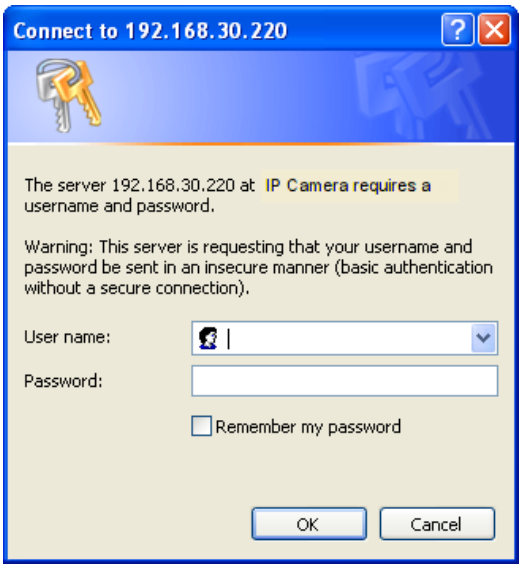


3.2 Access from the internet

Once connected, the network camera is accessible on your local network (LAN). To access the network camera from the Internet you must configure your broadband router to allow incoming data traffic to the network camera. To do this, enable the NAT traversal feature, which will attempt to automatically configure the router to allow access to the network camera. This is enabled from Setup > System > Network > NAT. For more information, please see "System > Network > NAT" of User's Manual.

3.3 Setting the admin password over a secure connection

To gain access to the product, the password for the default administrator user must be set. This is done in the Admin Password dialog, which is displayed when the network camera is accessed for the setup at the first time. Enter your admin name and password, set by the administrator.



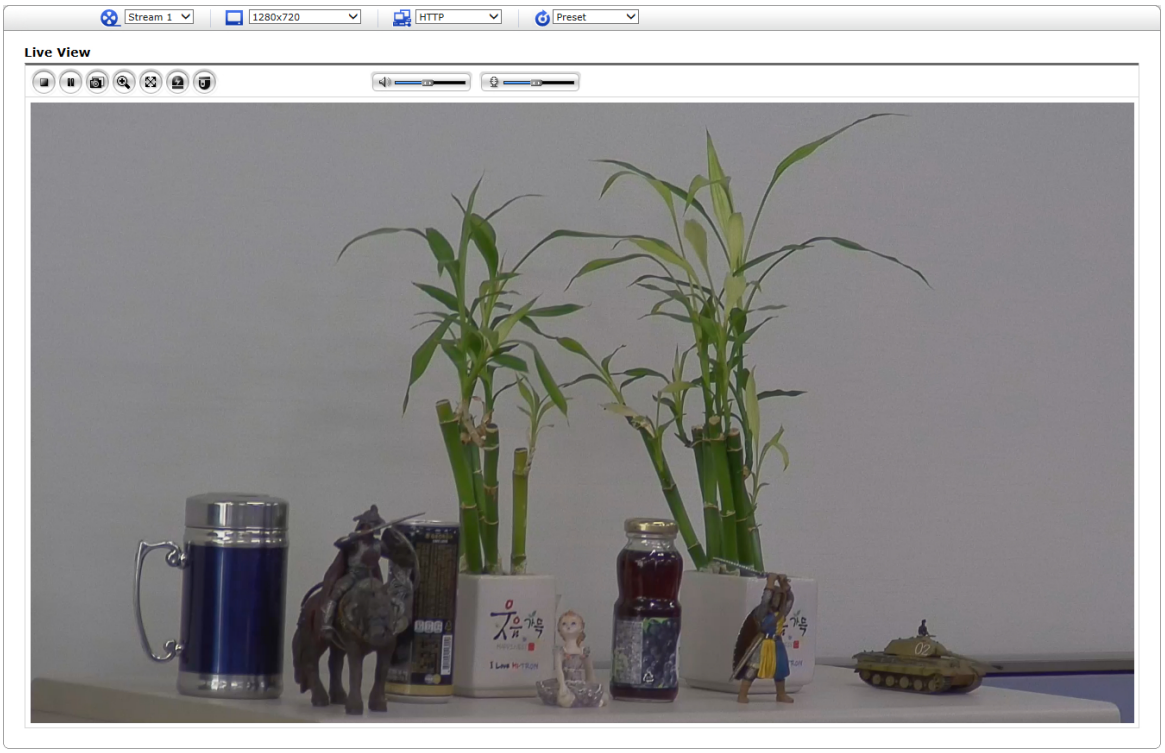
NOTE: The default administrator user name and password is admin. If the password is lost, the network camera must be reset to the factory default settings. Please see Resetting to the factory default settings.

To prevent network eavesdropping when setting the admin password, this can be done via an encrypted HTTPS connection, which requires an HTTPS certificate (see NOTE below). To set the password via a standard HTTP connection, enter it directly in the first dialog shown below. To set the password via an encrypted HTTPS connection, please see "System > Security > HTTPS" of User's Manual.

NOTE: HTTPS (Hypertext Transfer Protocol over SSL) is a protocol used to encrypt the traffic between web browsers and servers. The HTTPS certificate controls the encrypted exchange of information.

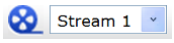
3.4 Live View Page

The Live View page comes in several screen modes: 1920x1080, 1280x1024, 1280x720(960), 1024x768, 704x480(576), 640x480(360) and 320x240. Users are allowed to select the most suitable one out of those modes. Adjust the mode in accordance with your PC specifications and monitoring purposes.

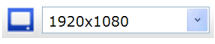


1) General controls

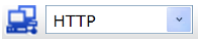
Live View Page Playback Page Setup Page Help Page



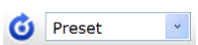
The video drop-down list allows you to select a customized or pre-programmed video stream on the Live View page. Stream profiles are configured under Setup > Basic Configuration > Video & Image. For more information, please see “Basic Configuration > Video & Image” of Users Manual.



The resolution drop-down list allows you to select the most suitable one out of video resolutions to be displayed on Live View page.



The protocol drop-down list allows you to select which combination of protocols and methods to use depending on your viewing requirements, and on the properties of your network.



The preset drop-down list allows you to select the preset number for the PTZ camera being used. This icon is inactivated if the PTZ settings are not set.

2) Control toolbar

The live viewer toolbar is available in the web browser page only. It displays the following buttons:

 The **Stop** button stops the video stream being played. Pressing the key again toggles the start and stop. The **Start** button connects to the network camera or starts playing a video stream.

 The **Pause** button pauses the video stream being played.

 The **Snapshot** button takes a snapshot of the current image. The location where the image is saved can be specified.

 The **Digital Zoom** button activates a zoom-in or zoom-out function for video image on the live screen.

 The **Full Screen** button causes the video image to fill the entire screen area. No other windows will be visible. Press the 'Esc' button on the computer keyboard to cancel full screen view.

 The **Manual Trigger** button activates a pop-up window to manually start or stop the event.

 The **PTZ** button activates a pop-up window for Pan, Tilt and Zoom control.

 The **VCA** button shows/hides VCA rule setting and detected objects.

 The **Face Detector** button shows/hides detected faces.

 The **Speaker** button activates/deactivates external speaker.

 The **Mic** button activates/deactivates microphone input.

 Use this scale to control the volume of the speakers and microphones.

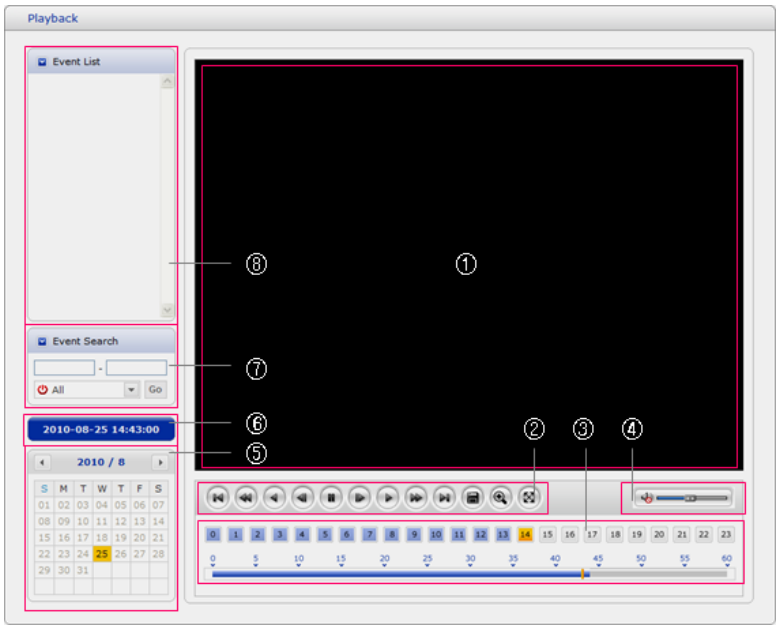
NOTE1: VCA and Face Detector buttons appear only when each function is activated.
NOTE2: VCA and Face Detector works exclusively to each other.

3) Video Streams

The network camera provides several images and video stream formats. Your requirements and the properties of your network will determine the type you use.

The Live View page in the network camera provides access to H.264 and Motion JPEG video streams, and to the list of available video streams. Other applications and clients can also access these video streams/images directly, without going via the Live View page.

3.5 Playback



The Playback window contains a list of recordings made to the memory card. It shows each recording's start time, length, the event type used to start the recording, calendar and time slice bar indicates if the recording is existed or not.

The description of playback window follows.

(1) Video Screen

You can see the video screen when playing the video clip in the Micro SD memory.

(2) Playback Buttons

To view a recording data in the SD local storage, select it from the list and click the Playback buttons.

Go to the first: go to the beginning of the video clip.

Fast backward play: fast play backward of the video clip.

Backward play: play backward of the video clip.

Step backward play: go back one frame of the video clip.

Pause: pause playback of the video clip.

Step forward play: go forward one frame of the video clip.

Forward Play: play forward the video clip.

Fast forward play: play fast forward of the video clip.

Go to the last: go to the end of the video clip.

Clip copy: copy the video clip.

Zoom In: zoom in the video clip.

Full Screen: display full screen of the video.

(3) Time Chart

Display an hour-based search screen for the chosen date. If there is recording data, a blue section will be displayed on a 24-hour basis. If you select a particular hour in the chart, a yellow square on the hour will be displayed.

(4) Speaker Control Bar

Use this scale to control the volume of the speakers.

(5) Search Calendar

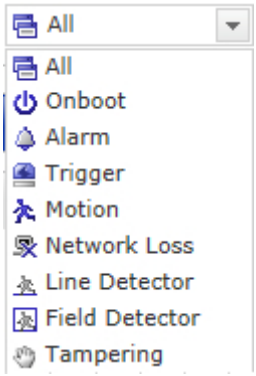
Search results from the SD local storage in the network camera connected are displayed monthly. If there is a recorded data for a particular date, a blue square on the date will be displayed. If you select a particular date in the calendar, a yellow square on the date will be displayed.

(6) Play Time

Displays time of the video playing.

(7) Event Search Window

Select a search option in the drop-down list and click GO button. You can also enter the time period for searching. If you click Start Date or End Date zone, displays Search Calendar.



(8) Event List Window

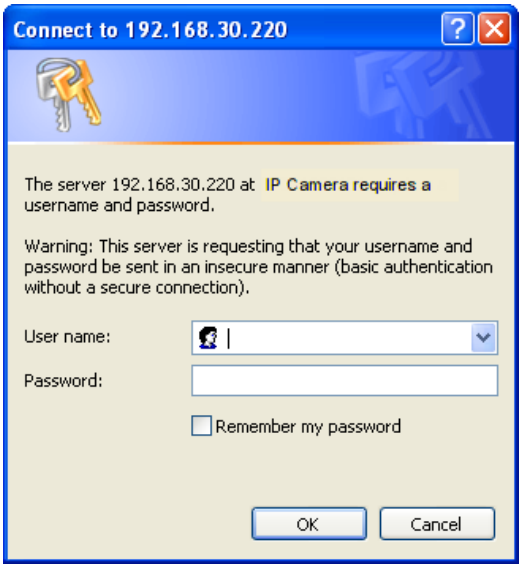
Event List displays the event(s) that were recorded in the SD local storage. Select a list and click the play button. The video clip will be played.

3.6 Network Camera Setup

This section describes how to configure the network camera.

Administrator has unrestricted access to all the Setup tools, whereas Operators have access to the settings of Basic Configuration, which are Live View, Video & Image, Audio, Event, Dome Configuration, and System.

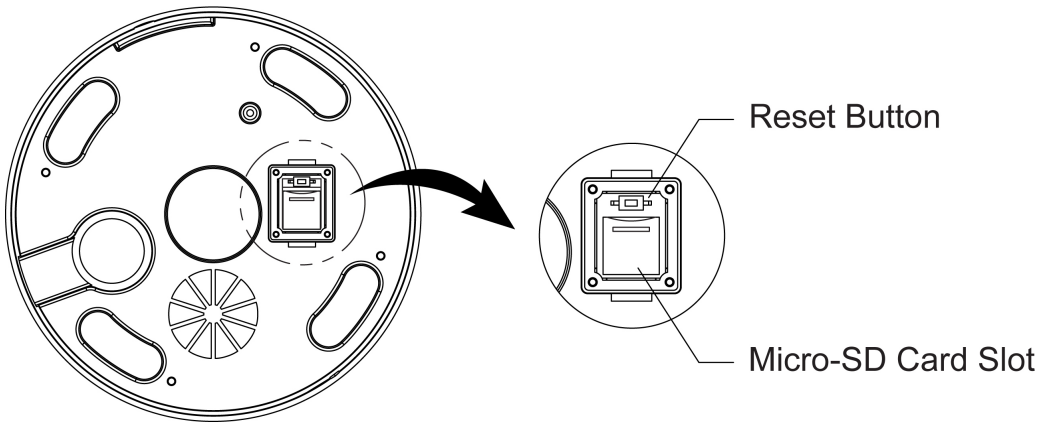
You can configure the network camera by clicking Setup either in the first connection page or the top second-right button of the Live View page. Accessing the network camera from a computer for the first time opens the Admin Password dialog box. Enter your administrator or operator id and password to get into setup page.



NOTE: If the password is lost, the network camera must be reset to the factory default settings. Please see “Resetting to the Factory Default Setting”.

Resetting to the factory default settings

To reset the network camera to the original factory settings, go to the Setup > System > Maintenance web page (described in "System > Maintenance" of Users Manual) or use the **Reset** button on the network camera, as described below:



• **Using the Reset button:**

Follow the instructions below to reset the network camera to the factory default settings using the Reset button.

1. Switch off the network camera by disconnecting the power adapter.
2. Open the Micro-SD card cover.
3. Press and hold the Reset button (SW1) on the board with your finger while reconnecting the power.
4. Keep the Reset button (SW1) pressed for about 2 seconds.
5. Release the Reset button (SW1).
6. The network camera resets to factory defaults and restarts after completing the factory reset.
7. Tightly close the Micro-SD card cover to ensure it is waterproof.

CAUTION: When performing a Factory Reset, you will lose any settings that have been saved. (Default IP 192.168.30.220)

System Requirement for Web Browser

- **Operating System:** Microsoft Windows OS Series
- **CPU:** Intel Core 2 Duo 2GHz or higher, 1GB RAM or more, 10GB free disk or higher
- **VGA:** AGP, Video RAM 32MB or higher (1024x768, 24bpp or higher)

General Performance Considerations

When setting up your system, it is important to consider how various settings and situations will affect performance. Some factors affect the amount of bandwidth (the bit rate) required, others can affect the frame rate, and some affect both. If the load on the CPU reaches its maximum, this will also affect the frame rate.

The following factors are among the most important to consider:

- High image resolutions and/or lower compression levels (or high bitrates) result in larger images. Frame rate and Bandwidth affected.
- Accessing both Motion JPEG and H.264 video streams simultaneously. Frame rate and bandwidth affected.
- Heavy network utilization due to poor infrastructure. Frame rate and Bandwidth affected.
- Heavy network utilization via wireless router due to poor infrastructure. Frame rate and bandwidth affected.
- Viewing on poorly performing client PCs lowers perceived performance. Frame rate affected.

More Information

For more information, please see the network camera Users Manual, which is available on the CD included in this package.

Full-HD NETWORK Mini-PTZ CAMERA

PLEASE RECYCLE

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