Quick Installation Guide
REHSPTZ30-1

REVO ELITE HD
30x Full-HD
IR SPEED DOME
NETWORK CAMERA

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

1. Description

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

This system comes with the following components;

Dome Camera 1
Installation Guide/CD 1
RJ-45 Coupler 1
2P screw type Connector 1
3P screw type Connector 1
12VDC Adaptor 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.

- **Triple Streams**

  The network camera can deliver triple video streams simultaneously at full frame rate in all resolutions up to 1920 x 1080 using Motion JPEG and H.264. 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 camera's 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.

- **Built-in Synchronized IR LED & Fixed IR LED**

  The camera is equipped with two built-in IR LED's, fixed one for wide view and zoom synchronized adjustable one for distant view.

- **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.

2. Installation

2.1 Installation

You need one optional mount kit of the wall mount and the ceiling mount to install.

The wall or ceiling mount must be attached to a structural object such as hard wood, concrete that will support the weight of the mount and dome camera.

The use of a solid backboard is recommended when attaching to gypsum walls.

1. Remove the Protection pad and the tape from attached the dome camera.

2. Attach the mounting base to wall using the supplied M8 tapping screw and plastic bushing. (Ceiling using the supplied M6 tapping screw and bushing)

3. Wind the both thread of the pipe end with Teflon tape about 20 times for sealing. Then use a silicone rubber sealant to seal the area where the wall (ceiling) mount and the pipe meet.

4. Place a bead of silicone sealant around the wall and ceiling mount mounting flange, press it to the surface and line up the flange hole with drilled holes.

CAUTION 1: A silicone rubber sealant must be applied to seal the housing to secure waterproofing.

CAUTION 2: When installing, a bracket must be applied.

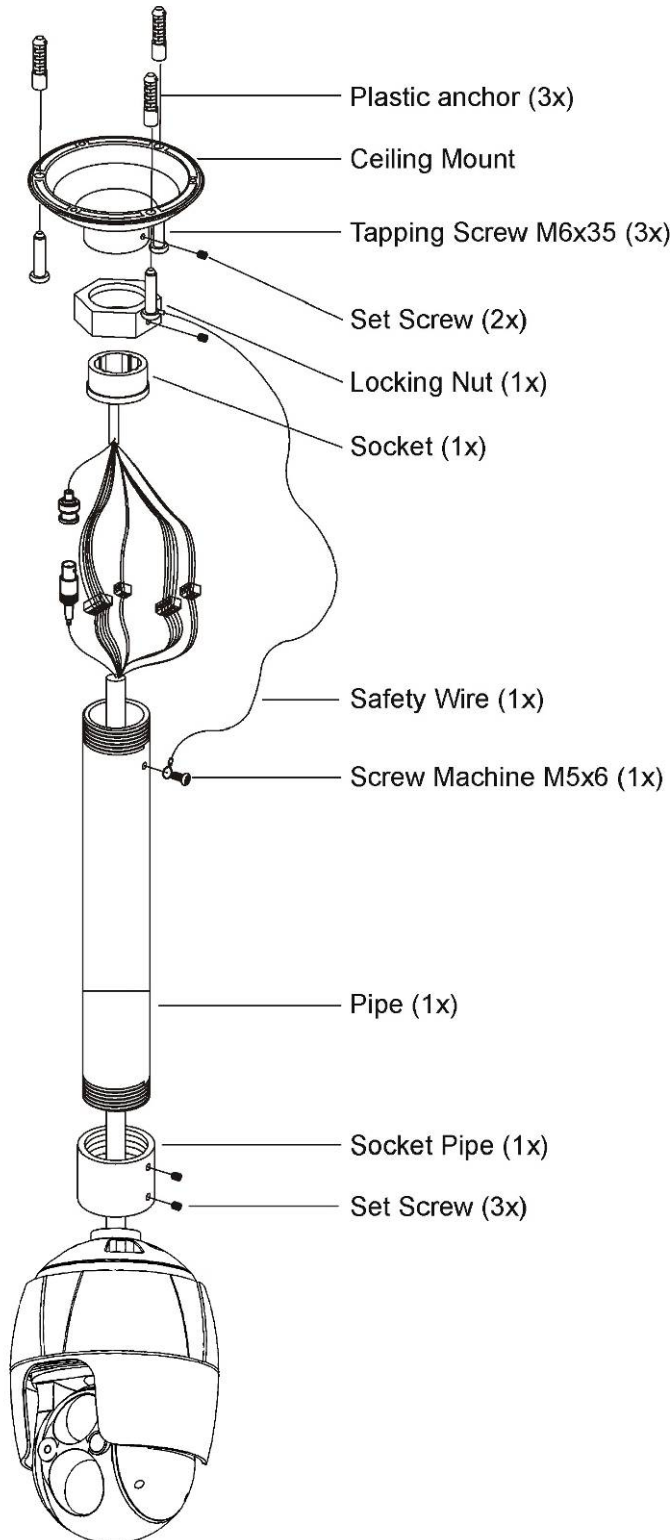## 2.1.1 Installation - Wall Mount

The wall mounting plate must be attached to a structural object such as concrete that will support the weight of the mount and Dome Camera.
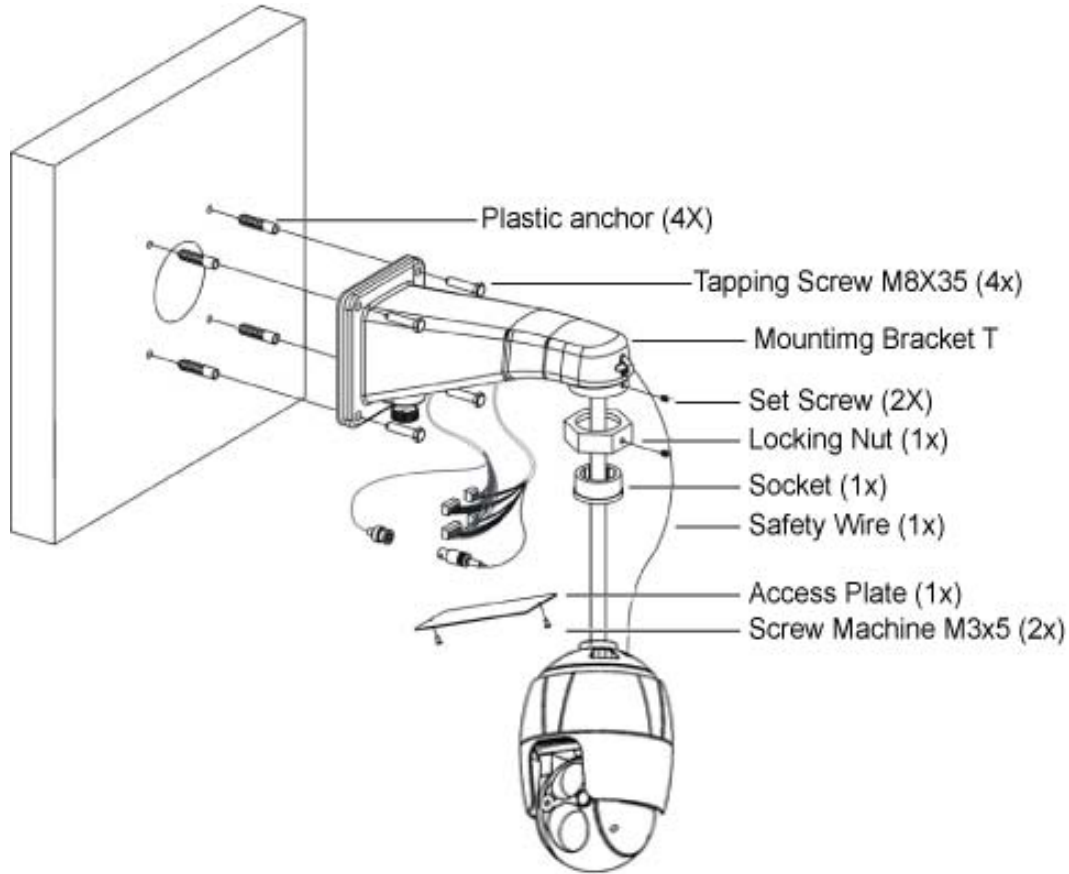

1. Select a suitable mounting location and verify there is sufficient cable to reach the middle of the Wall Mount.

2. Mark and drill mounting holes in the surface using the Wall Mount Flange.

3. Pull out cables required to connect to the dome camera from the wall or route cables through a section of 0.75 in. (19 mm) conduit pipe.

4. Remove the access plate from the wall mount bracket.

5. Attach the wall mount bracket using screws routing cables through the access plate's hole.

6. Attach the housing's safety wire to the wall mount's latch.

7. Fix the housing to the wall mount bracket using the locking nut after routing cables through the wall mount bracket and tighten the housing set screw with the supplied wrench.

8. After connecting cables, attach the access plate.

2.1.2 Installation - Ceiling Mount

The ceiling mounting plate must be attached to a structural object such as concrete that will support the weight of the mount and Dome Camera.

Plastic anchor (3x)

Ceiling Mount

Tapping Screw M6x35 (3x)

Set Screw (2x)

Locking Nut (1x)

Socket (1x)

Safety Wire (1x)

Screw Machine M5x6 (1x)

Pipe (1x)

Socket Pipe (1x)

Set Screw (3x)

1. Select a suitable mounting location and verify there is sufficient cable to connect with cables from the housing.

2. Mark and drill mounting holes in the surface using the ceiling mount flange.

3. Pull out cables required to connect to the dome camera from the ceiling.

4. Attach the ceiling mount bracket using screws routing cables through the locking nut.

5. Tighten the housing with the pipe using the socket after routing cables through the pipe.

6. Attach the housing's safety wire to the ceiling mount's m6X35 tapping screw.

7. After connecting cables, fix the pipe to the ceiling mount using the locking nut.

8. Tighten set screws of the socket and locking nut with the supplied wrench.

Seal using silicone rubber around the circle
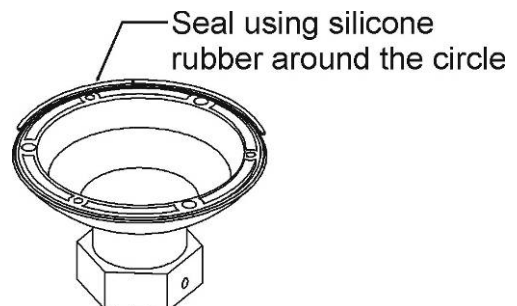
2.2 Basic Configuration of Camera System
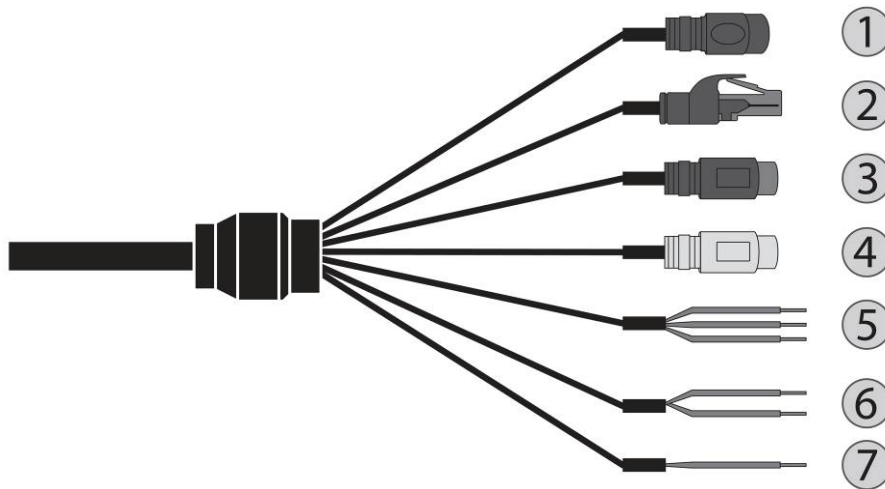
No.	CONNECTOR	COLOR	DESCRIPTION
1	DC JACK	BLACK	12VDC
2	RJ-45	BLACK	Ethernet, RJ-45 port compatible with 10/100Mbps
3	RCA	BLACK	AUDIO INPUT
4	RCA	GRAY	AUDIO OUTPUT
5	3P Cable	GRAY	GND
5	3P Cable	RED	ALARM INPUT
5	3P Cable	BLUE	ALARM OUTPUT
6	2P Cable	BROWN	RS485+(A)
6	2P Cable	BROWN/WHITE	RS485-(B)
7	1P Cable	YELLOW/GREEN	F_GND

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

2.3 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**

  - AI (Alarm Input)

  You can use external devices to signal the camera to react on events. Mechanical or electrical switches can be wired to the AI (Alarm Input) 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 to the RS485**

  The camera can be controlled remotely by an external device or control system, such as a control keyboard, using RS485 half-duplex serial communications signals.

- **Connecting the Power**

 Connect power of 12VDC 5A for the camera.

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

2.4 Network Connection & IP assignment

The camera supports the operation through the network. When a camera is first connected to the network, it has no IP address. So, 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.
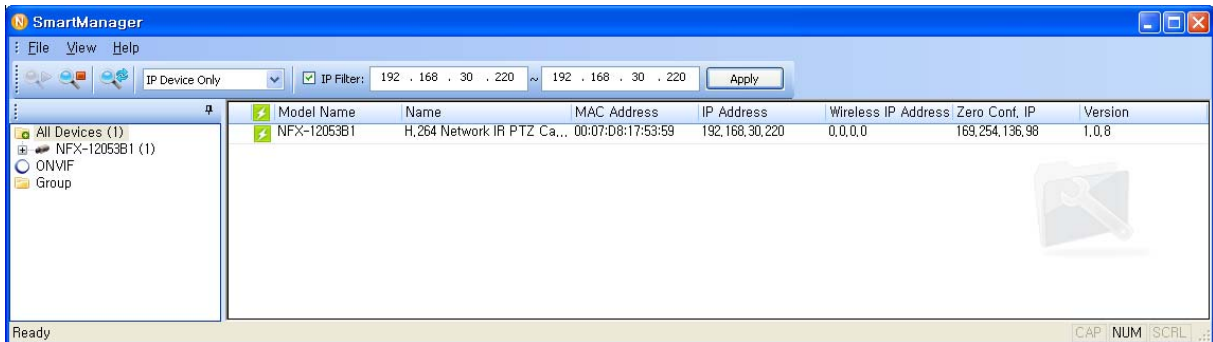
3) Select the camera on the list and click right button of the mouse. You can see the pop-up menu as below.
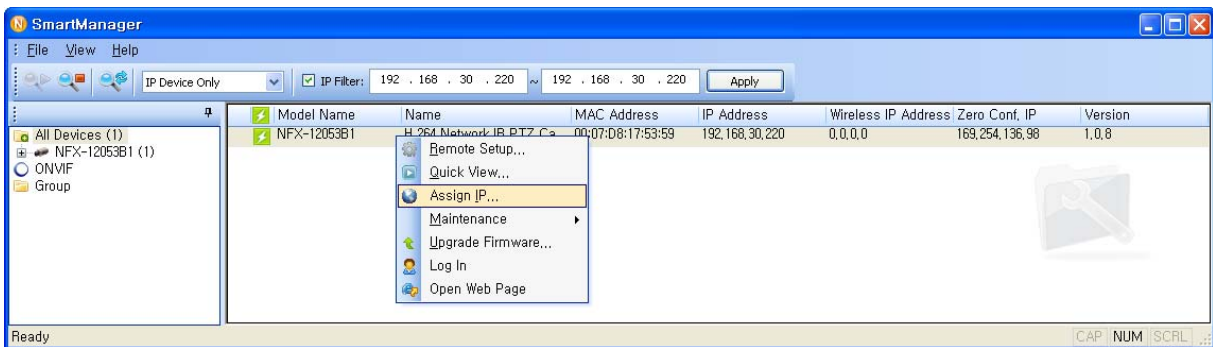
4) Select Assign IP Address. The Assign IP window will display. Enter the required IP address.
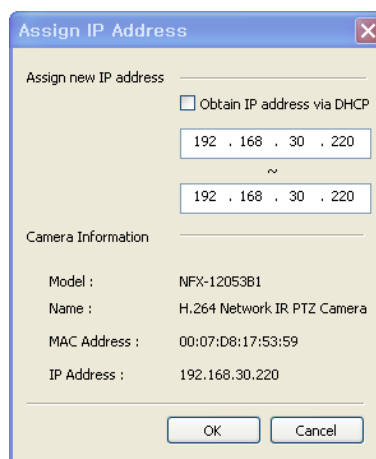
NOTE: For more information, refer to the SmartManager User's Manual.

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** or **Setup** to enter web page.
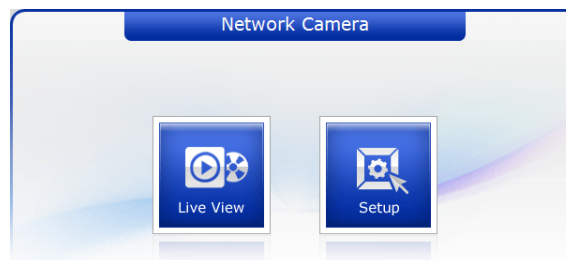
4) The network camera's **Live View** page appears in your browser.
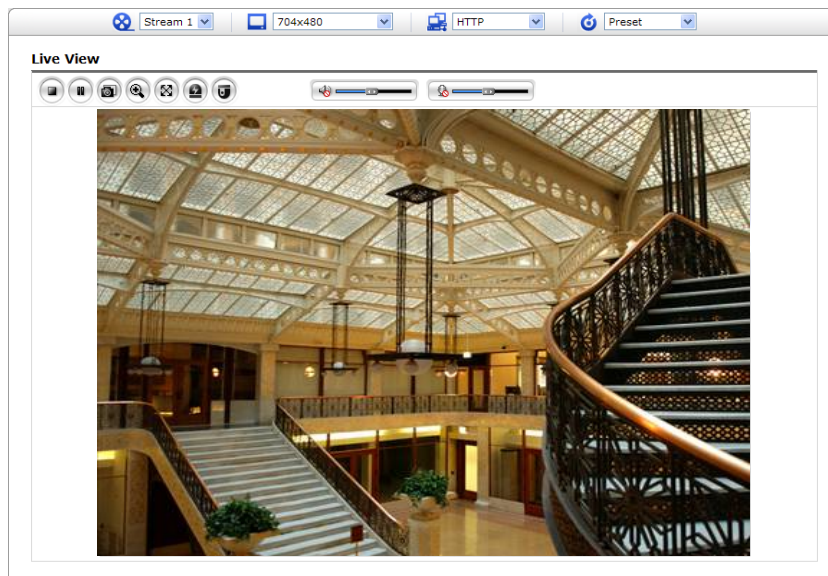
3.2 Access from the internet

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 "3.5.7 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 "3.5.7 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, 704x576, 704x480, 640x480 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.
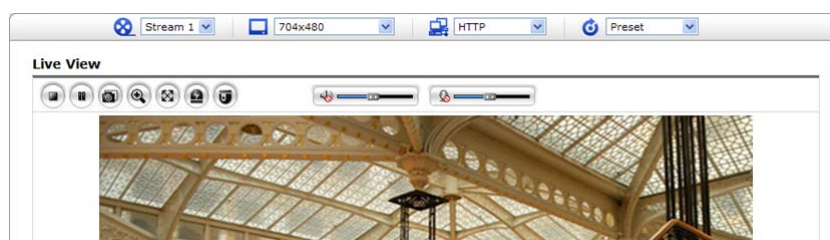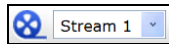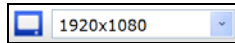
1) General controls

Live View Page   **Setup Page**   **Help Page**

Stream 1 — 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 "3.5.1 Basic Configuration > Video & Image" of User's Manual.

1920x1080 — The resolution drop-down list allows you to select the most suitable one out of video resolutions to be displayed on Live View page.

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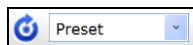
Preset — The preset drop-down list allows you to select the preset number for the PTZ camera being used. This icon is inactivated if the PTZ settings are not set.

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.

Use this scale to control the volume of the speakers.

Use this scale to control the volume of the microphone.

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

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 Network Camera Setup

This section describes how to configure the network camera, and is intended for product. Administrators, who have unrestricted access to all the Setup tools; and Operators, who have access to the settings for Basic Configuration, Live View, Video & Image, Audio, Event, Dome Configuration, System

You can configure the network camera by clicking Setup in the top right-hand corner of the Live View page. Click on this page to access the online help that explains the setup tools.

When accessing the network camera for the first time, the "Admin Password" dialog appears. Enter your admin name and password, set by the administrator.

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

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 "3.5.7 System > Maintenance" of User's 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. Press and hold the Reset button (SW1) on the board with your finger while reconnecting the power.

3. Keep the Reset button (SW1) pressed for about 2 seconds.

4. Release the Reset button (SW1).

5. The network camera resets to factory defaults and restarts after completing the factory reset.

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.

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