



# Quick Guide

## SN683D-WIR Outdoor PTZ Dome Camera

XX270-50-00



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# 1 Introduction

The SN683D network camera is designed for performance in the most demanding security installations. The 3 MP camera has an integral 36X optical zoom lens and integrated IR LEDs.

The camera provides quad-streaming video and supports H.265/H.264 compression technology, drastically reducing file sizes and conserving valuable network bandwidth; M-JPEG compression is also supported. By using its dedicated program, multiple users are able to have access to the network camera simultaneously, or a single user can monitor various network cameras at the same time. It also enable users to play, store and retrieve a monitoring image by using a PC. All the settings and real time monitoring screens are provided through access to the web.

## 1.1 Components

This system comes with the following components;

* Dome Camera .....	1
* Quick Installation Guide .....	1
* 2P screw type Connector .....	1
* 5P screw type Connector .....	1
* PoE Injector .....	1
* RJ-45 Waterproof Cover .....	1
* Install Adaptor .....	1

**NOTE:** Check your package to make sure that you received the complete system, including all components listed above.

**NOTE:** Adaptor for 12 VDC is not supplied.

## 1.2 Key Features

- **Brilliant video quality**

The network camera offers the highly efficient H.264/H.265 video compression, which drastically reduces bandwidth and storage requirements without compromising image quality. Motion JPEG is also supported for increased flexibility.

- **Quad Streams**

The network camera can deliver quad video streams simultaneously using H.264/H.265 and Motion JPEG. This means that several video streams can be configured with different compression formats, resolutions and frame rates for different needs.

- **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.

- **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 of type SDHC and SDXC.

- **Audio support**

The network camera also supports two-way audio.

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

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

## 2 Installation

### 2.1 Mounting the Camera

An optional mount kit, either a wall mount or a ceiling mount, is required for installation.

The wall or ceiling mount must be attached to a structural object such as hard wood or 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 the dome camera.
2. Attach the mounting base to wall using the supplied M8 tapping screw and plastic bushing. (For ceiling mounting use the supplied M6 tapping screw and bushing.)
3. To seal tightly, wrap the 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.

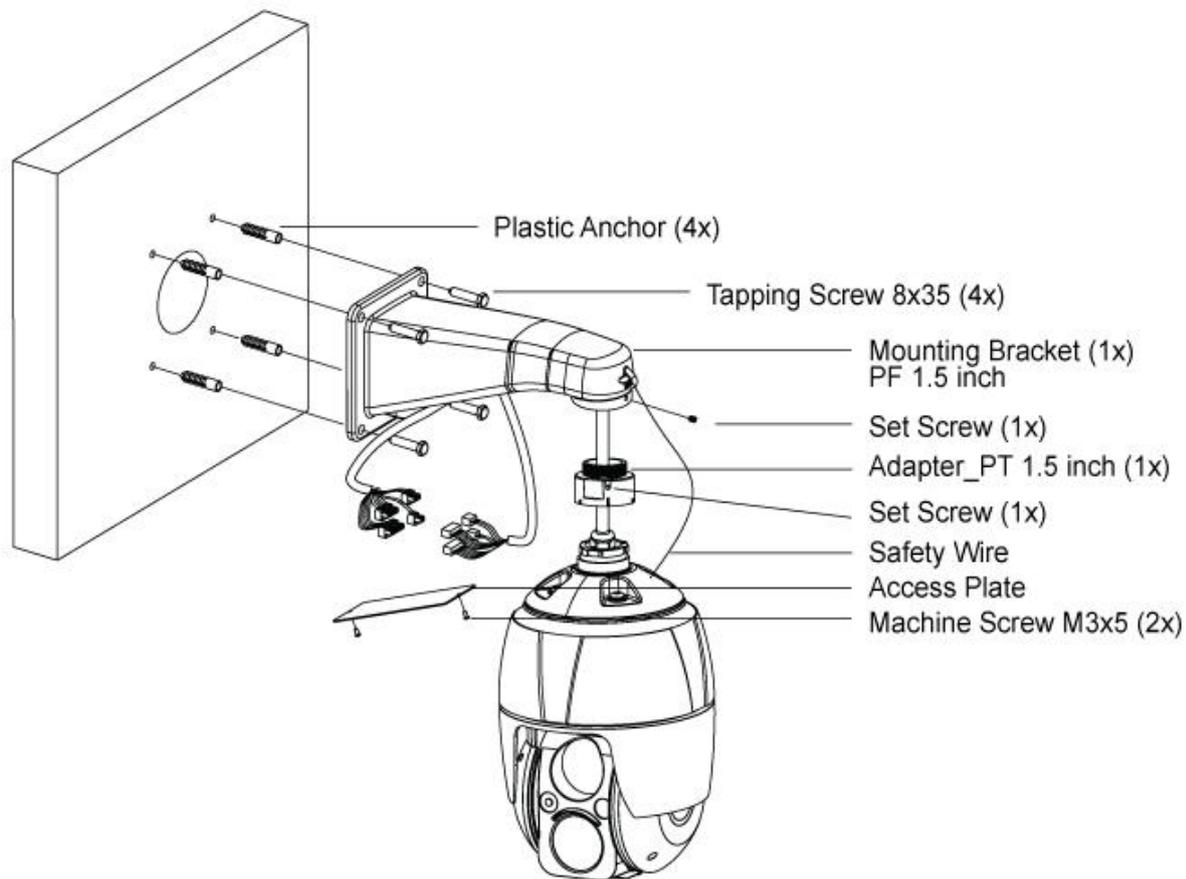
**CAUTION 1:** A silicone rubber sealant must be applied to seal the housing to secure waterproofing.

**CAUTION 2:** When installing, a mounting bracket must be used.

**CAUTION 3:** Please reset the camera after 30 ~ 60 minutes when installing it in situations colder than 14° F (-10°C).

## 2.1.1 Wall Mounting

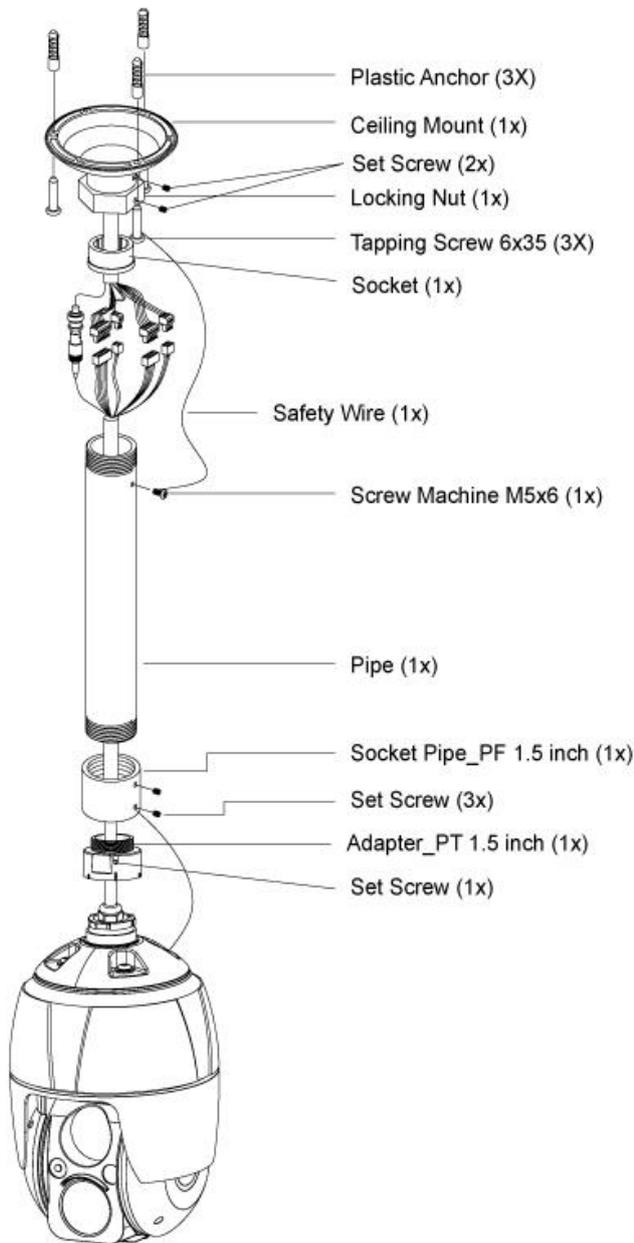
The wall mounting plate must be attached to a structural object such as concrete that will support the weight of the mount and dome camera.



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 as a template.
3. Secure the mounting plate to the wall using the hardware provided or appropriate for the mounting surface.
4. 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.
5. Remove the cable access plate from the underside of the wall mount bracket.
6. Attach the wall mount bracket using plastic anchors and M8x35 screws; route cables through the access plate hole.
7. Attach the 1.5 inch adapter to wall mount bracket and fix it using set screw.
8. Attach the camera's safety wire to the wall mount's latch.
9. Route cables on the dome through the wall mount bracket. Fix the housing to the wall mount bracket using the locking nut and tighten the housing set screw with the supplied wrench.
10. Reattach the access plate.
11. Push in and turn the camera clockwise into the adapter and fix it using set screw of the adapter.

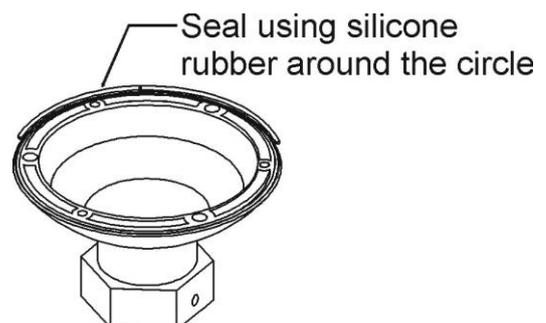
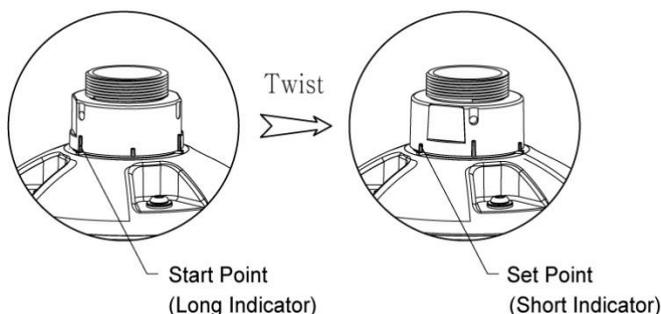
## 2.1.2 Ceiling Mounting

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.

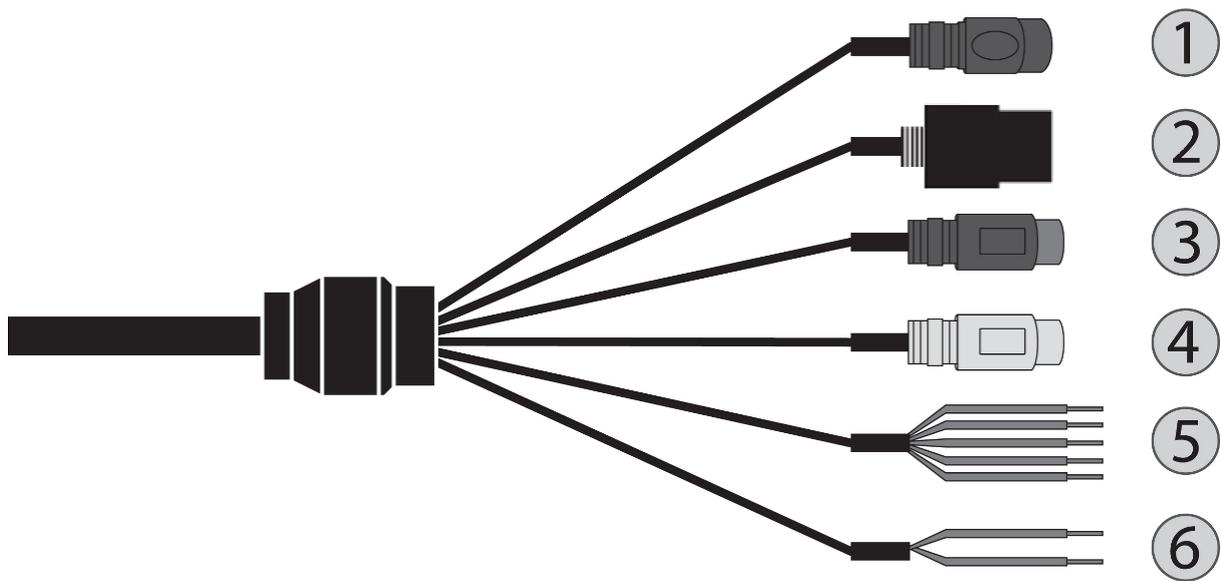


1. Select a suitable mounting location and verify there is sufficient cable to connect with cables from the housing.
2. Mark and drill mounting holes on the surface using the ceiling mount flange as a template.
3. Secure the mounting plate to the wall using the hardware provided or appropriate for the mounting surface.
4. Pull out cables required to connect to the dome camera from the ceiling.
5. Attach the ceiling mount plate using plastic anchors and screws; route cables through the locking nut.
6. Attach 1.5 inch adapter to the pipe and fix it using set screw on the adapter.
7. Route cables through the pipe. Tighten the housing with the pipe using the socket.
8. Attach the housing's safety wire to the ceiling mount's M6x35 tapping screw.
9. After connecting cables, fix the pipe to the ceiling mount using the locking nut.
10. Tighten set screws of the socket and locking nut with the supplied wrench.

**This figure shows how to twist and lock the housing with pipe.**



## 2.2 Basic Configuration of Camera System

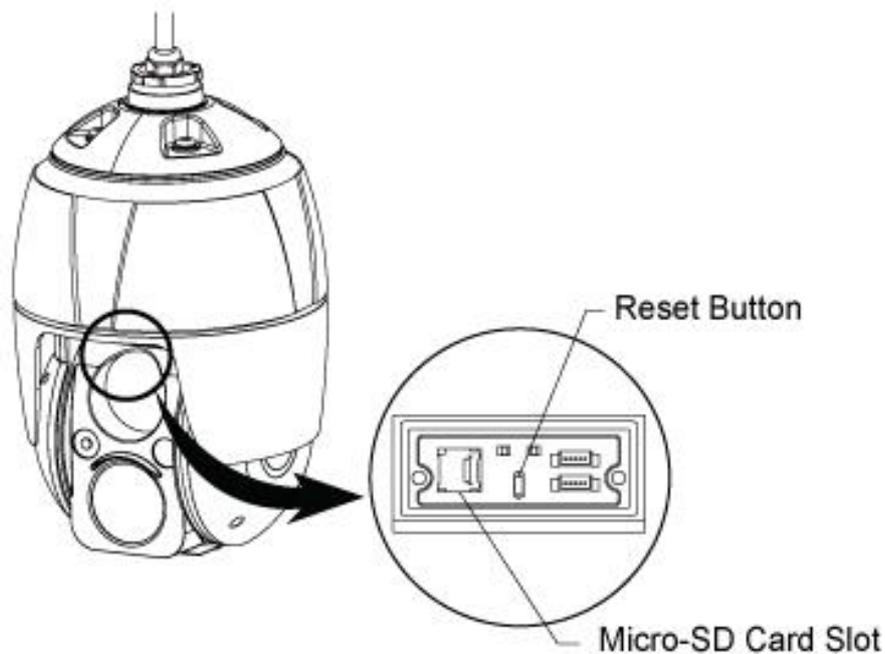


No.	Connector	Wire Color	Description
1	Power jack	BLACK	12 VDC CAMERA POWER
2	RJ-45	BLACK	Ethernet, RJ-45 port compatible with 10/100Mbps (Option PoE++ functionality)
3	RCA jack	BLACK	AUDIO INPUT
4	RCA jack	GRAY	AUDIO OUTPUT
5	5-pin cable	YELLOW	ALARM INPUT 1
		WHITE	ALARM INPUT 2
		VIOLET	ALARM INPUT 3
		BROWN	ALARM INPUT 4
		GRAY	GND
6	2-pin cable	RED	ALARM OUTPUT
		BLACK	GND

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

## 2.3 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 User 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 on the board with your finger while reconnecting the power.
4. Keep the Reset button pressed for about 2 seconds.
5. Release the Reset button.
6. The network camera resets to factory defaults and restarts after completing the factory reset. The unit now obtains the IP address automatically via DHCP.
7. Close the Micro-SD card cover tightly to ensure waterproofing.

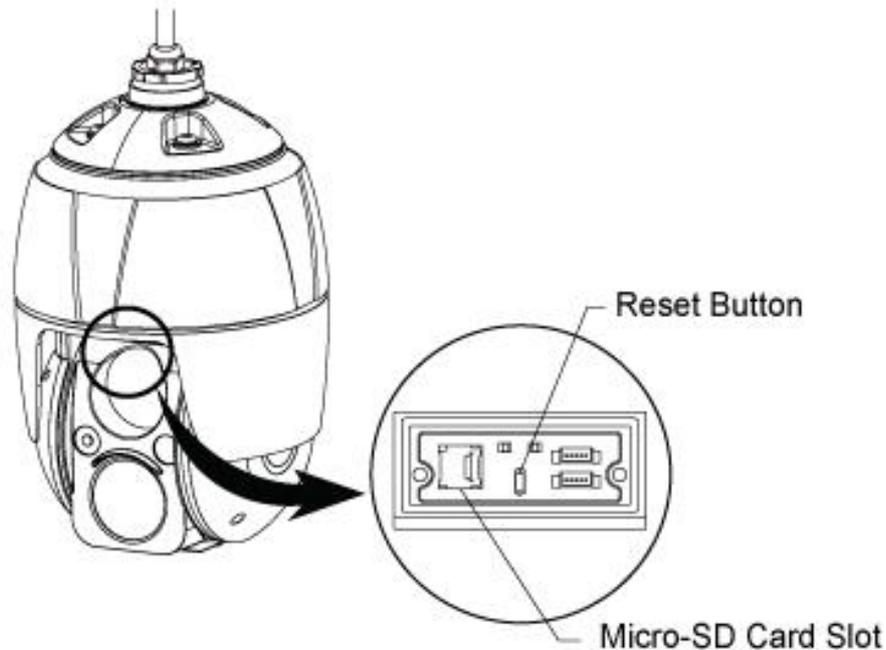
**CAUTION:** When performing a Factory Reset, you will lose any settings that have been saved.

## 2.4 Connections

### • 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. Close the Micro-SD card cover tightly to ensure waterproofing.



### • Connecting to the RJ-45

Connect a standard RJ-45 cable to the network port of the camera. Generally a crossover 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 Audio

Connect speaker to audio output line and external mic to audio input line.

## • **Connecting the Power**

Connect power of 12 VDC for the camera.

When using a 12 VDC 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.

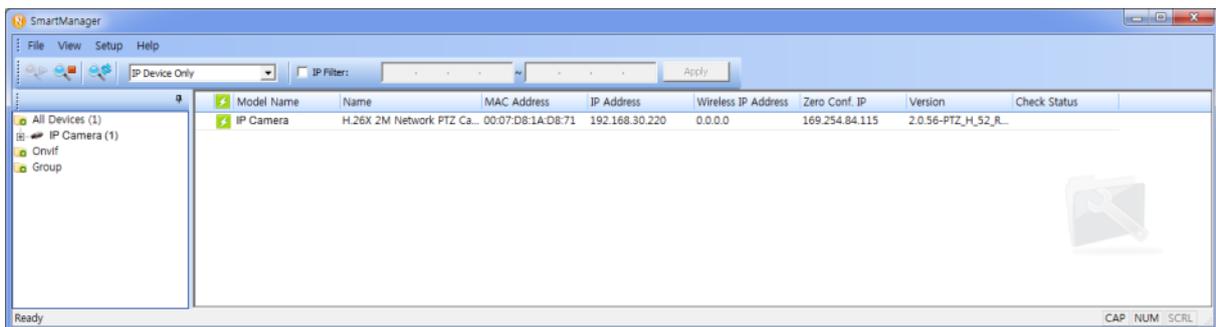
- Be careful not to reverse the polarity when you connect the power cable.
- You can also use a router featuring PoE (Power over Ethernet) to supply power to the camera. If you use PoE to supply power to the camera, you must use the PoE (Power over Ethernet) injector provided by the manufacturer for proper operation.

## 2.4.1 Network Connection & IP Assignment

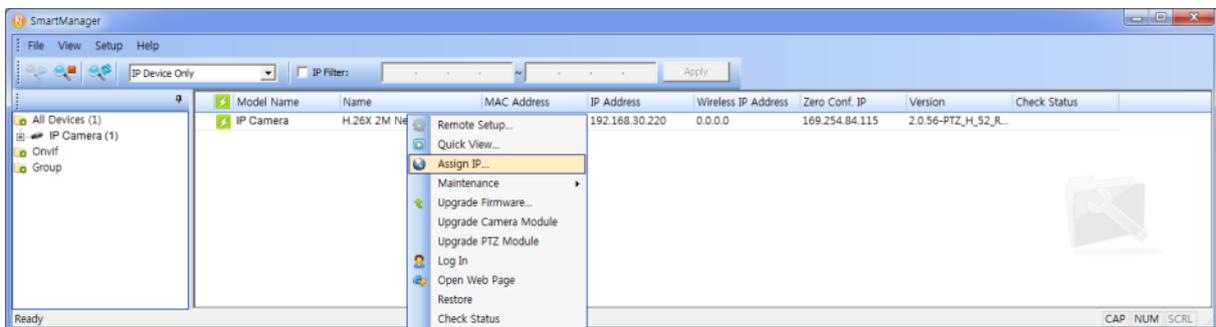
The network camera is designed for use on an Ethernet network and requires an IP address for access. Most networks today have a DHCP server that automatically assigns IP addresses to connected devices. By the factory default, your camera is set to obtain the IP address automatically via DHCP server. If your network does not have a DHCP server the network camera will use 192.168.1.100 as the default IP address.

If DHCP is enabled and the product cannot be accessed, run the SmartManager utility, which can be found on VIcon's website, to search and allocate an IP address, or reset the product to the factory default settings and then perform the installation again.

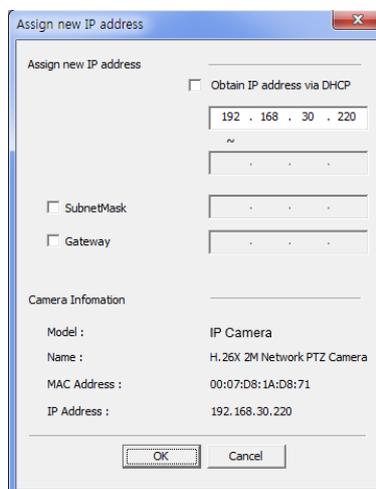
- 1) Connect the network camera/device to the network and power up.
- 2) Start SmartManager utility (Start > All programs > SmartManager > SmartManager).  
The main window will display, and after a short while any network devices connected to the network will be displayed in the list.



- 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 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.

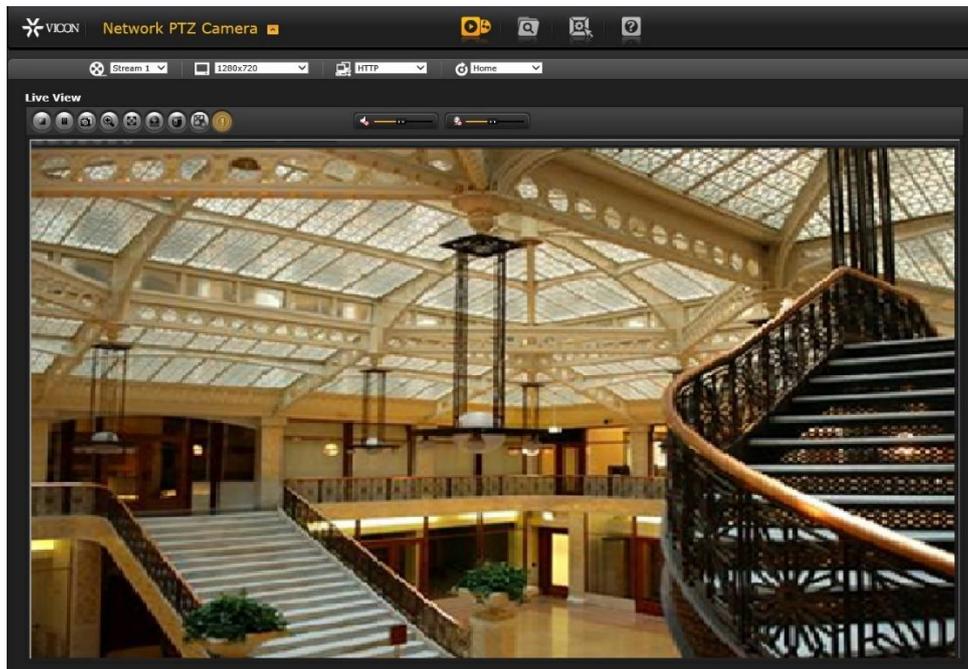
**NOTE:** To view streaming video in Microsoft Internet Explorer, set your browser to allow ActiveX controls.

#### 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 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.



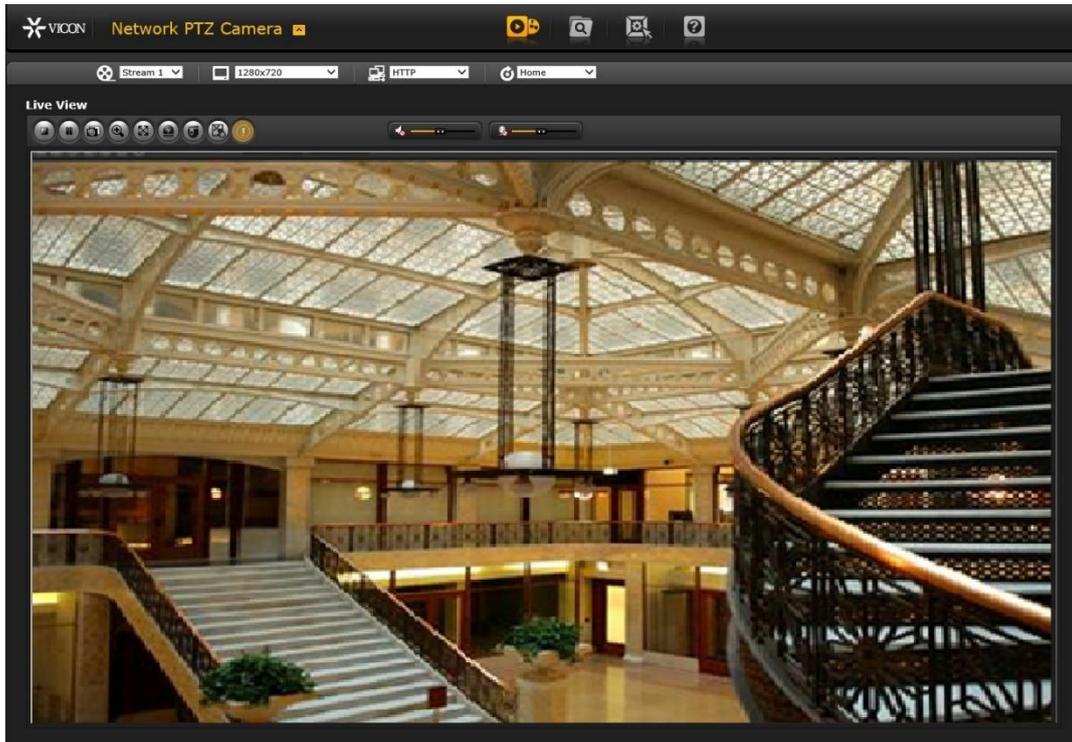
**NOTE:** The default administrator user name **ADMIN** and password is **1234**. If the password is lost, the network camera must be reset to the factory default settings. Please see “Resetting to the factory default settings”.

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 above. To set the password via an encrypted HTTPS connection, please see “System > Security > HTTPS” of User 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. 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



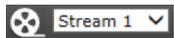
Playback Page



Setup Page



Help Page



The video drop-down list allows you to select a customized or preprogrammed 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 User Manual.



The resolution drop-down list allows you to select the most suitable video resolution 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 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 play and stop.



The **Play** 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 **Screen Move** button moves to the desired position on the screen. Move the clicked point to the center of the screen. When dragging, it moves to the center of the box and zooms in.



The **Relay Output** button manually triggers relay out. (This icon appears only if "Enable alarm out" is selected in "Event > Event Out > Alarm Out".)



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



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



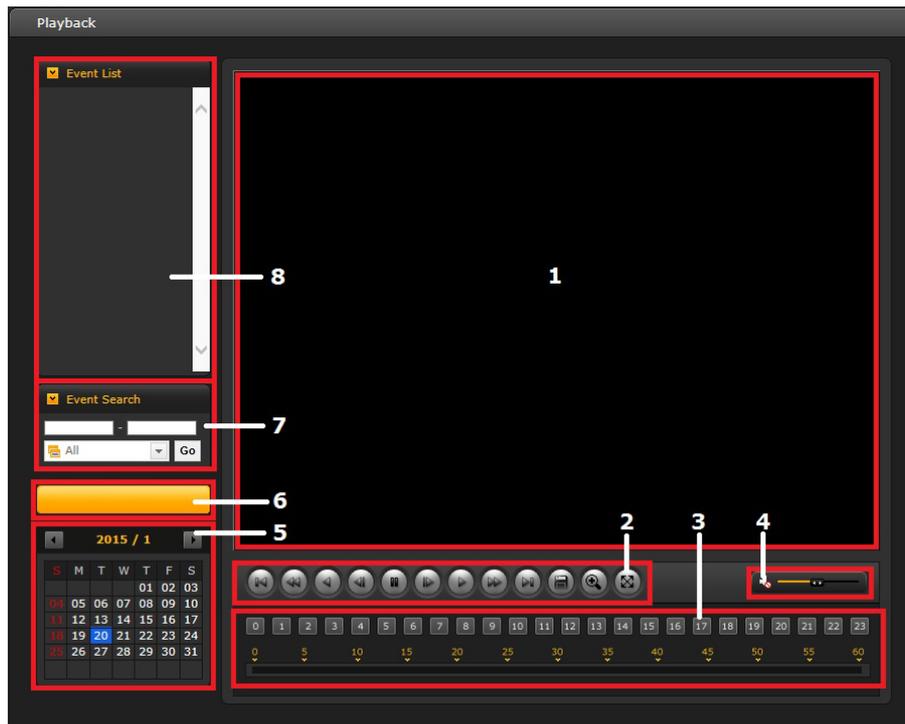
Use this scale to control the volume of the speakers and microphones.

## 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, H.265 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 (rewind) of the video clip.
-  Backward play: play backward (rewind) 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

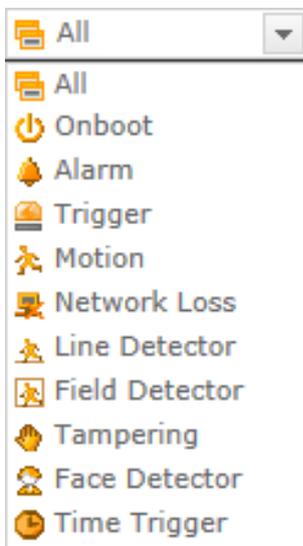
Search results from the SD local storage in the network camera connected are displayed monthly. If there is a recorded data for a particular date, a blue square on the date will be displayed. If you select a particular date in the calendar, a yellow square on the date will be displayed.

### 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".

## 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/H.265 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, see the network camera complete User Manual, which is available on Vicon's website, [www.vicon-security.com](http://www.vicon-security.com), under Documentation.



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For office locations, visit the website: [www.vicon-security.com](http://www.vicon-security.com)

