



Orion DX 3
Network PTZ Camera

User's Manual

Ver. 1

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1. Overview

Orion DX 3 is a versatile outdoor PTZ camera that comes with 30x optical zoom module. It supports up to 4M real-time video in HDR mode. When the camera is operated in dual stream mode, the primary stream can be set at 720P, 1080P or 2M depending on models, and the secondary stream can be 720P or 1080p at 30 fps. Utilizing the latest technology, Orion DX 3 can stream out video in H.265, H.264 and MJPEG simultaneously.

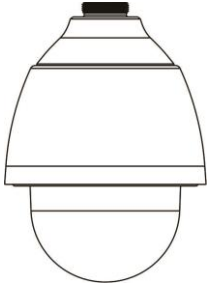
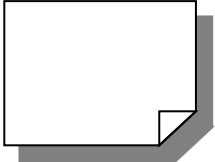

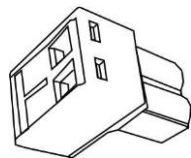
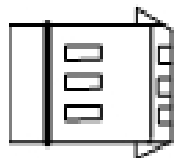
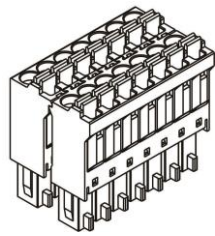
The new generation outdoor PTZ camera features servo feedback technology and electronic image stabilizer (EIS) technology. The servo feedback technology ensures the Orion DX 3 PTZ to return to the exact position immediately when encountering external force (e.g. human interference) or environmental vibration. EIS technology can effectively produce stable images by actively sensing directional movement of the images and compensating accordingly; this is particularly useful for PTZ cameras installed at places where environmental movement (e.g. strong wind, the passing-by heavy vehicles) is constant, and when high optical zoom is executed.

1.1 Features

- Multiple Progressive Scan CMOS Sensor Support up to 2MP Resolution
- Up to Powerful 30x Optical Zoom
- Multi Codec Support (H.265 / H.264 / MJPEG)
- Multi Exposure HDR
- Quad Streams Support
- BNC Analog Output for Installation Support
- RS-485 Support
- Electrical Image Stabilizer (EIS) Support
- 3D Motion Compensated Noise Reduction (MCTF)
- Smart Event Function- External Output/ Motion Detection/ Network Failure Detection/ Periodical Event/ Manual Trigger/ Audio Detection
- Text Overlay and Privacy Masks
- Micro SD/SDHC/SDXC Card Support
- ONVIF Profile S/G/Q Support
- Smart Low Bitrate Control
- Weatherproof (IP66)
- Vandal Proof (IK10 Rating)
- Servo Feedback- Improve the Mechanism from Stalling
- Zero-Down-Time(ZDT) Power Switching

1.2 Package Contents

Please check the box contains the items listed here. If any item is missing or has defects, DO NOT install or operate the product and contact the dealer for assistance.

 <p>Orion DX 3 Network PTZ Camera</p>	 <p>Quick Guide</p>
 <p>M4 Security Screw with Rubber</p>	 <p>2-Pin Power Terminal Block (DC12V Use)</p>
 <p>3-Pin Power Terminal Block (AC 24V Use)</p>	 <p>14-Pin Alarm/Audio I/O Terminal Block</p>

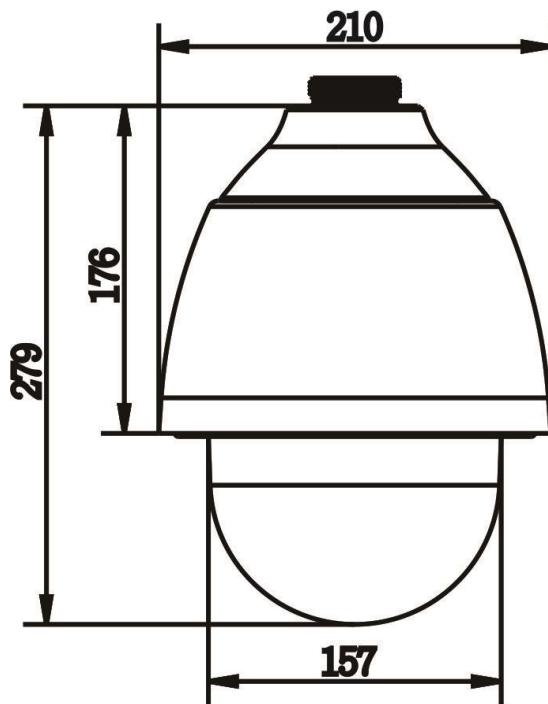


NOTE: To use an external power supply, please contact the camera manufacturer to confirm that the power supply uses the same power specifications as the camera. The power supply must comply with the LPS requirements.



NOTE: This camera contains replaceable batteries. To prevent explosion risks, confirm the battery type before replacement. Dispose of used batteries in accordance with the local regulations.

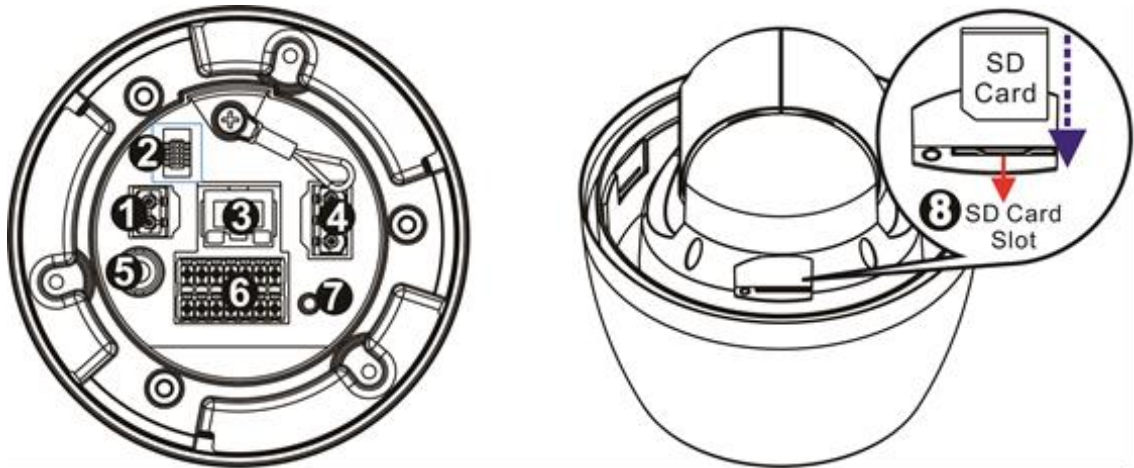
1.3 Dimensions



Unit: mm

1.4 Connectors

Refer to the diagrams below for the positions of the reset button and various connectors of the camera. Definition of the reset button and the connectors are given as follow.



No.	Connector	Definition
1	Power Connector (DC12V)	DC12V power connection
2	Console Connector	This connector is used to burn firmware into the camera when the camera is returned for repair/maintenance. Please contact the camera manufacturer for further information.
3	RJ-45 Port	For network and PoE+ connections
4	Power Connector (AC24V)	AC24V power connection
5	BNC	For analog video output
6	Audio/Alarm I/O & RS-485 Connector*	Audio/Alarm I/O & RS-485 connection
7	Reset Button	Press the button with a proper tool for at least 20 seconds to restore the system.
8	SD Card Slot	Open the dome cover to reveal the SD Card Slot. Insert the SD card into the card slot to store videos and snapshots. Do not remove the SD card when the camera is powered on.

*Do **NOT** connect external power supply to the alarm I/O connector of the camera.



NOTE: It is not recommended to record with the SD card for 24/7 continuously, as it may not be able to support long term continuous data read/write. Please contact the manufacturer of the SD card for information regarding the reliability and the life expectancy.

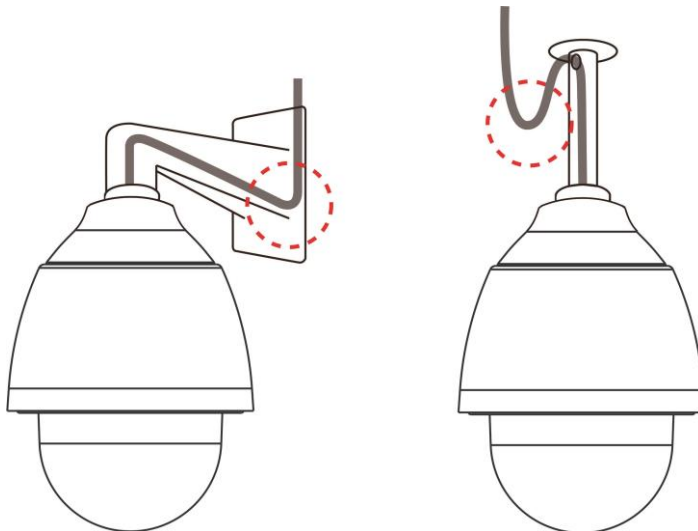
2. Camera Cabling

The outdoor models are being IP66-rated to prevent water from entering the camera. However, water might still enter the camera if it is being improperly installed. Please make sure the warnings below are strictly followed when installing the camera.

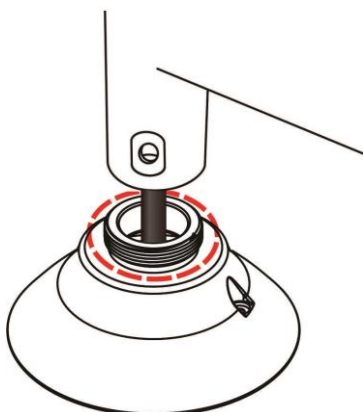


NOTE: This camera must be installed by qualified personnel and the installation should conform to all local codes.

- Place all cables and the adaptor in dry and well-waterproofed environments, e.g. waterproof boxes. The purpose is to prevent moisture accumulation inside the camera and moisture penetration into cables.
- While running cables, slightly bend the cables to a U-shaped curve to make a low point (as demonstrated in the figures below). The purpose is to prevent water from entering the camera along the cables from above.

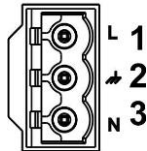


- The cable entry hole of the outdoor mounting kit (indicated in the figure below) needs to be sealed with thread seal tape to avoid water from entering the camera.



2.1 Power Connection

To power up the camera, connect the DC12V or AC24V power adaptor to the power connector of the camera and the power outlet. Refer to the diagram and pin definition below for AC24V power connection.



Pin	Definition
1	AC24V L
2	GND
3	AC24V N

Alternatively, users can use an Ethernet cable and connect it to the RJ-45 port of the camera and an IEEE 802.3at (PoE+) 2-Pair 30W switch.

Zero Downtime Power Switching (ZDT)

When users connect DC12V power jack and the RJ-45 port at the same time, the power input comes from the DC12V connector. If the DC12V power source fails, the camera will switch power input seamlessly to the RJ-45 port until the DC12V power source is restored.

2.2 Ethernet Cable Connection

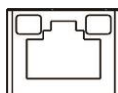
To connect one end of the Ethernet cable to the RJ-45 connector of the camera, and plug the other end of the cable to the network switch or PC.



NOTE: In some cases, Ethernet crossover cable might be needed when connecting the camera directly to the PC.



NOTE: Check the status of the link indicator and activity indicator LEDs. If the LEDs are unlit, please check the LAN connection.

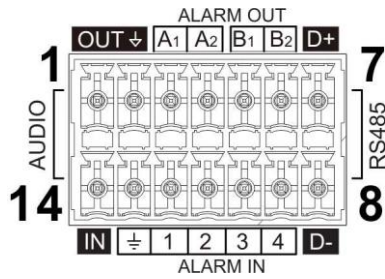


Green Link Light indicates good network connection.

Orange Activity Light flashes for network activity indication.

2.3 Audio / Alarm I/O & RS-485 Connection

Please refer to the diagram and pin definition tables below for audio/alarm I/O & RS-485 connection.



Pin	Definition	Pin	Definition	Pin	Definition	Pin	Definition
1	Audio Out	5	Alarm Out B1	9	Alarm In 4	13	GND (Alarm I/O & RS-485)
2	GND (Audio I/O)	6	Alarm Out B2	10	Alarm In 3	14	Audio In
3	Alarm Out A1	7	RS-485 D+	11	Alarm In 2		
4	Alarm Out A2	8	RS-485 D-	12	Alarm In 1		

3. System Requirements

To perform the camera via web browser, please ensure the PC is in good network connection, and meet the system requirement as described below.

Items	System Requirement
Personal Computer	Minimum : 1. Intel® Core™ i5-2430M @ 2.4 GHz 2. 4 GB RAM
	Recommended : 1. Intel® Core™ i7-3770 CPU@3.4GHz 2. 8 GB RAM
Operating System	Windows VISTA / Windows XP / Windows 7 / Windows 10
Web Browser	Microsoft Internet Explorer 11.0 (recommended) Chrome Firefox Safari
Network Card	10Base-T (10 Mbps), 100Base-TX (100 Mbps) or 1000Base-T (1000 Mbps) operation
Viewer	ActiveX control plug-in for Microsoft IE



NOTE: The ITE is to be connected only to PoE networks without routing to the outside plant or equivalent description.

4. Access Camera

For initial access to the camera, users can search the camera through the installer program: DeviceSearch.exe.

Accessing the Camera by Device Search Software

- Step 1:** Double click on the program Device Search.exe.
- Step 2:** After its window appears, click on the <Device Search> button on the top. All the finding IP devices will be listed in the page.
- Step 3:** Find the camera in the list by its IP address and click on it. The default IP address of the camera is: **192.168.0.250**.
- Step 4:** The default IP address of the camera may not be in the same LAN as the IP address of the PC. If so, the IP address of the camera needs to be changed. Right click on the camera and click <Network Setup>. Meanwhile, record the MAC address of the camera, for future identification.
- Step 5:** The <Network Setup> page will come out. Select <DHCP> and click <Apply> down the page. The camera will be assigned with a new IP address.
- Step 6:** Click <OK> on the Note of setting change. Wait for one minute to re-search the camera.
- Step 7:** Click on the <Device Search> button to re-search all the devices. Find the camera in the list by its MAC address. Then double click or right click and select <Browse> to access the camera directly via a web browser.

Step 8: A prompt window requesting for default username and password will appear. Enter the default username and password shown below to login to the camera.

Login ID	Password
Admin	1234



NOTE: ID and password are case sensitive.



NOTE: It is strongly advised that administrator's password be altered for the security concerns. Refer to the [Orion DX 3 Network PTZ Camera Menu Tree](#) for further details.

Installing DCViewer Software Online

For the initial access to the camera, a client program, DCViewer, will be automatically installed to the PC when connecting to the camera.

If the web browser doesn't allow Viewer installation, please check the Internet security settings or ActiveX controls and plug-ins settings (refer to section [Setup Internet Security](#)) to continue the process.

The Information Bar (just below the URL bar) may come out and ask for permission to install the ActiveX Control for displaying video in browser. Right click on the Information Bar and select <Install ActiveX Control...> to allow the installation. A security warning window will pop up. Click on <Install> to carry on software installation.

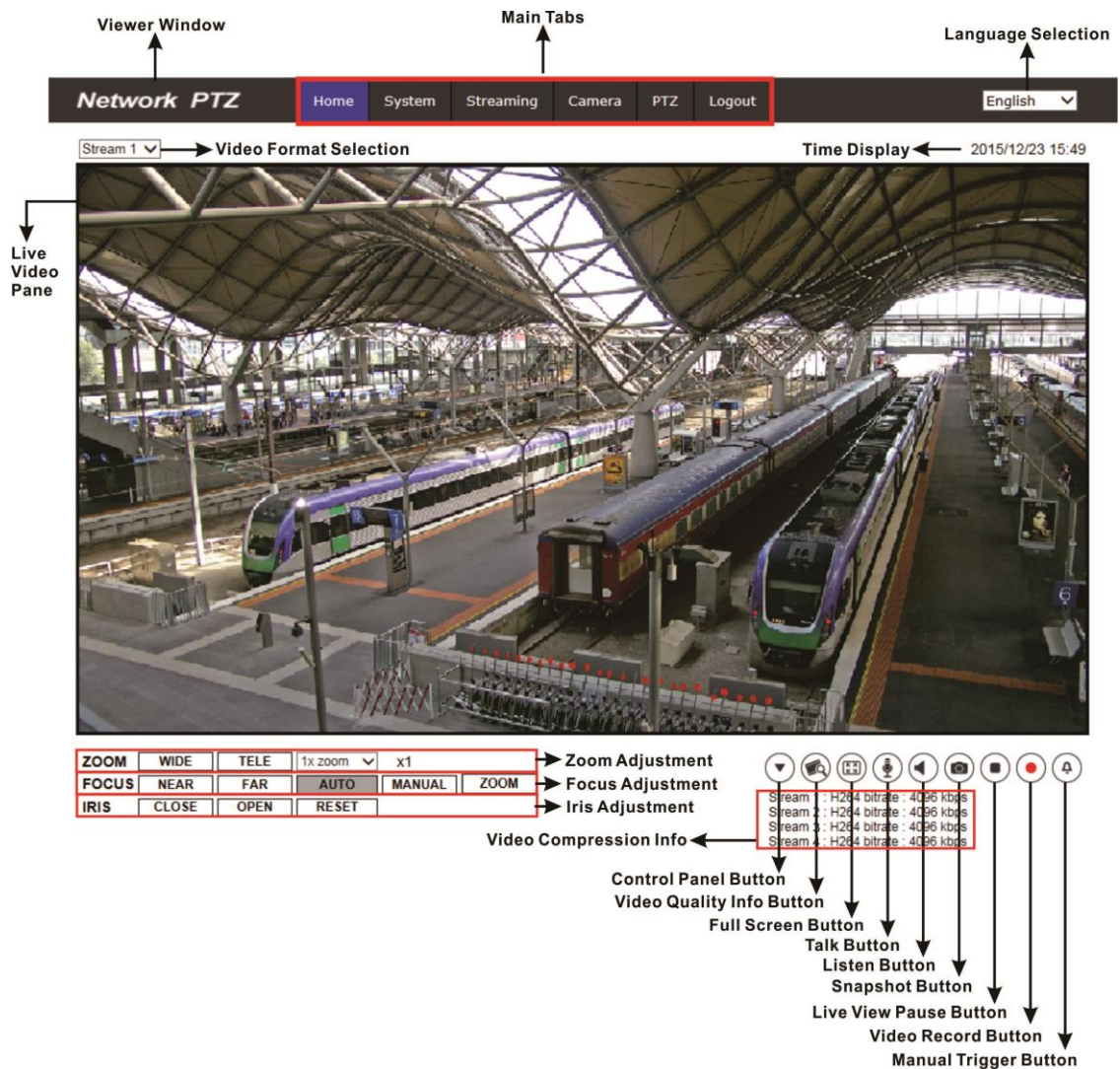
The download procedure of DCViewer software is specified as follows.

Step 1: In the DCViewer installation window, click on <Next> to start the installation.

Step 2: A status bar will be displayed to show the installation progress. After the installation is completed, click on <Finish> to exit the installation process.

Step 3: Click on <Finish> to close the DCViewer installation page.

Once the Viewer is successfully installed, the Home page of the camera will be shown as the figure below.



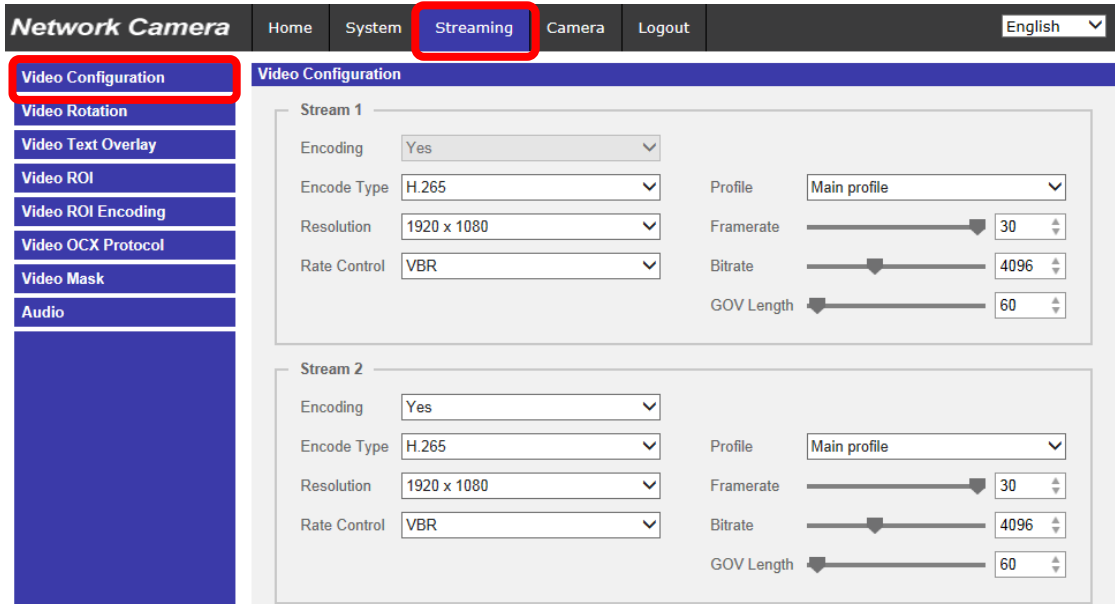
Zoom and Focus Adjustment

The live image will be displayed on the Home page when the camera is successfully accessed. If zoom or focus is not at the desired position, please use the function buttons on the Home page for adjustment. Refer to the [Orion DX 3 Network PTZ Camera Menu Tree](#) for more details about the function buttons.

5. Setup Video Resolution

Users can setup video resolution on Video Format page of the user-friendly browser-based configuration interface.

Video Format can be found under: **Streaming> Video Configuration**.



The default value of the video resolution is as below.

2M	Normal Mode	H.265- 1920 x 1080 (30/25 fps) + H.265- 1920 x 1080 (30/25 fps)
	HDR Mode	
	HDR Mode	

For more details about the combinations of video resolution, please refer to the [Orion DX 3 Network PTZ Camera Menu Tree](#).

6. Configuration Files Export / Import

To export / import configuration files, users can access the Maintenance page on the user-friendly browser-based configuration interface.

The Maintenance setting can be found under this path: **System> Maintenance**.

Users can export configuration files to a specified location and retrieve data by uploading an existing configuration file to the camera. It is especially convenient to make multiple cameras having the same configuration.

Export

Users can save the system settings by exporting the configuration file (.bin) to a specified location for future use. Click on the <Export> button, and the popup File Download window will come out. Click on <Save> and specify a desired location for saving the configuration file.

Upload

To upload a configuration file to the camera, click on <Browse> to select the configuration file, and then click on the <Upload> button for uploading.

7. Tech Support Information

This chapter will introduce how to delete previously-installed DCViewer in the PC and how to setup the Internet security.

7.1 Delete the Existing DCViewer

For users who have installed the DCViewer in the PC previously, please remove the existing DCViewer from the PC before accessing to the IP camera.

Deleting the DCViewer

In the Windows <Start Menu>, activate <Control Panel>, and then double click on <Add or Remove Programs>. In the <Currently installed programs> list, select <DCViewer> and click on the button <Remove> to uninstall the existing DCViewer.

Deleting Temporary Internet Files

To improve browser performance, it is suggested to clean up all the files in the <Temporary Internet Files>. The procedure is as follows.

Step 1: In the web browser, clicks on the <Tools> tab on the menu bar and select <Internet Options>.

Step 2: Click on the <Delete> button under the <Browsing History> section.

Step 3: In the appeared window, tick the box beside the <Temporary Internet Files> and click on <Delete> to start deleting the files.

7.2 Setup Internet Security

If ActiveX control installation is blocked, please either set Internet security level to default or change ActiveX controls and plug-ins settings.

Internet Security Level: Default

Step 1: Start the Internet Explorer (IE).

Step 2: Click on the <Tools> tab on the menu bar and select <Internet Options>.

Step 3: Click on the <Security> tab, and select <Internet> zone.

Step 4: Down the page, click on the <Default Level> button and click on <OK> to confirm the setting. Close the browser window, and restart a new one later to access the IP camera.

ActiveX Controls and Plug-ins Settings

Step 1: Repeat **Step 1 to Step 3** of the previous section above.

Step 2: Down the page, click on the <Custom Level> button to change ActiveX controls and plug-ins settings. The Security Settings window will pop up.

Step 3: Under <ActiveX controls and plug-ins>, set **ALL** items (as listed below) to <Enable> or <Prompt>. Please note that the items vary by IE version.

ActiveX controls and plug-ins settings:

1. Binary and script behaviors.
2. Download signed ActiveX controls.
3. Download unsigned ActiveX controls.
4. Allow previously unused ActiveX controls to run without prompt.
5. Allow Scriptlets.
6. Automatic prompting for ActiveX controls.
7. Initialize and script ActiveX controls not marked as safe for scripting.
8. Run ActiveX controls and plug-ins.
9. Only allow approved domains to use ActiveX without prompt.
10. Script ActiveX controls marked safe for scripting*.
11. Display video and animation on a webpage that does not use external media player.

Step 4: Click on <OK> to accept the settings. A prompt window will appear for confirming the setting changes, click <Yes(Y)> to close the Security Setting window.

Step 5: Click on <OK> to close the Internet Options screen.

Step 6: Close the browser window, and restart a new one later to access the IP camera.