ONSIP 02P3

Directions

Be careful not to cause any physical damage by dropping or throwing ONSIP O2D3. Especially keep the device out of reach from children.

Do not disassemble ONSIP O2D3. No After Service is assumed when disassembled.

Use only the power adapter provided with ONSIP O2D3.

Be careful to prevent moisture or water penetration into the unit. Particular attention is needed when installing ONSIP O2D3. The screw holes for the installation screws and pipe should be maintained water tight during the whole life time of the product.

All the electrical connection wires running into the unit should be prepared so that water from the outside cannot flow into the unit through the surface of the wires. Penetration of the moisture through the wire for extended period can cause malfunction of the unit or deteriorated image.

Note

This equipment has been tested and found to comply with the limits for a Class a digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generate, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into and outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help.

<div style="border:1px solid black; background:#ccffcc">

Caution

Any changes or modifications in construction of this device which are not explicitly approved by the party responsible for compliance could void the user's authority to operate the equipment.

</div>

Revision History

Date	Revision	Details
2011-11-01	1.0	First manual revision creation.

Contents

Contents

1. Introduction

1.1. Overview

The ONSIP O2D3 is a state-of-the-art mega-pixel, multi-codec (H.264, MJPEG) IP camera (or network camera) built with embedded software and hardware technology. It enables real time transmission of synchronized video of up to 2 M pixels and audio data. Remote clients can connect to ONSIP O2D3 for the real time video/audio data through various client solutions running on PC, PDA or mobile phones. Real time 2-way communication is available through bidirectional audio communication feature.

Designed to be a stand-alone streaming audio & video transmission device, ONSIP O2D3 can be applied to various application area such as video security, remote video monitoring, distance education, video conference or internet broadcasting system.

Vandal proof housing satisfying IP-66 and fan/heater will extend the application area to harsh environment of wide temperature range.

Embedded PoE (Power over Ethernet, IEEE 802.3af) will enable the owner to reduce TCO (Total Cost of Ownership) by reducing on-site wiring works for the installation.

1.2. Specification

Category	Sub-Category	Details	
Video	Compression	H.264 / MJPEG	
	Resolution	* Refer to the datasheet.	
Camera Module	Mounting Gimbal	3 Axis Gimbal (Manual Pan/Tilt adjustment & camera module rotation for rotating image)	
Audio (Bi-directional)	Up	32 Kbps G.726	
	Down	64 Kbps PCM	
Network	Interface	RJ-45, 10/100 Mbps, PoE (802.3af)	
	Access network	Static, DHCP, PPP/PPPoE	
	Application	RTP, RTSP, SMTP, FTP, HTTP, SDP, NTP, DNS	
I/O	Sensor In	1	NC, NO Selectable
	Relay Output	1	For alarm annunciation or remote ON/OFF control (30V, 1A)
	RS-232C	For factory use only	
	Mic/Line In	Selectable in Admin page	
	Line Out	1 V p-p output for amplified speaker	
	CVBS output	Temporary	
Power Supply	PoE	Power over Ethernet	
	DC Adaptor	12V DC adaptor (2 Amp)	
Housing	IP66 compliant Vandal Proof housing		
	Fan/Heater	Refer to Chapter 2 for operational environment	
Mounting	Bracket, Mounting	Wall, Ceiling, Embedded	
Motion Detection	3 zones	Arbitrary shape with independent sensitivity	
Upgrade	Firmware upgrade over IP network		
Administration	Remote administration over IP network		
Client & Viewer	Web Viewer	Simple viewing over internet explorer	
	Speco-NVR	Standard CMS software	

Dynamic IP support	DDNS support	Supported
Security	Video/Audio stream encryption	
	ID and Password protection	
	IP filtering for restricting administrative access for audio and bi-audio	
Time management	Sync to PC	Synchronize to PC
	Manual	Manual time setting
	Internet Time Server	Synchronize to Time Server
SDK support	Active-X	
	HTTP	

1.3. Applications of ONSIP O2D3

• Security surveillance (buildings, stores, manufacturing facilities, parking lots, banks, government facilities, military, etc.)

• Remote monitoring (hospitals, kindergartens, traffic, public areas, etc.)

• Teleconference (Bi-directional audio conference). Remote Learning, Internet broadcasting
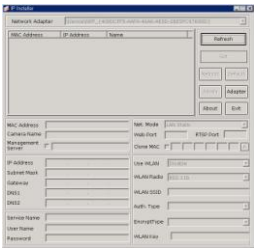
• Weather and environmental observation

2. Product Description

2.1. Contents

The product package contains followings:

Contents	Description	Remarks
ONSIP O2D3	IP camera ONSIP O2D3 main unit	
Power Adaptor	Default built in standard PoE module (IEEE802.3af)	12VDC Adaptor (Optional item)
Tools and Mounting Screws	Screws, Rubber rings, Mount cap, L-type wrench, Mount cap key	Basic tools and hardware (screws, rubber ring) needed for mounting ONSIP O2D3.
CD	Software & User's Guide	
Quick Reference Guide	Quick installation guide	

2.2. Product Preview

ONSIP O2D3	IP-Installer	CMS Software (NVR)
Vandal Proof (Megapixel) Mini Dome IP Camera	PC software to allocate an IP address to the IP Camera	PC software to view and record the A/V streaming data transmitted from IP camera. (Simultaneous support of up to 64 IP cameras)

2.3. Physical description

2.3.1. External View

Front

Rear

Figure 2-1. External view of ONSIP O2D3

2.3.2. Internal Structure
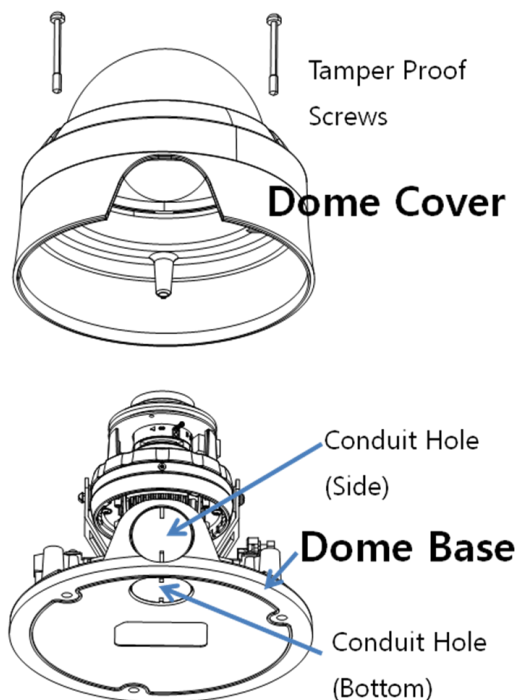
Figure 2-2. Internal structure of ONSIP O2D3
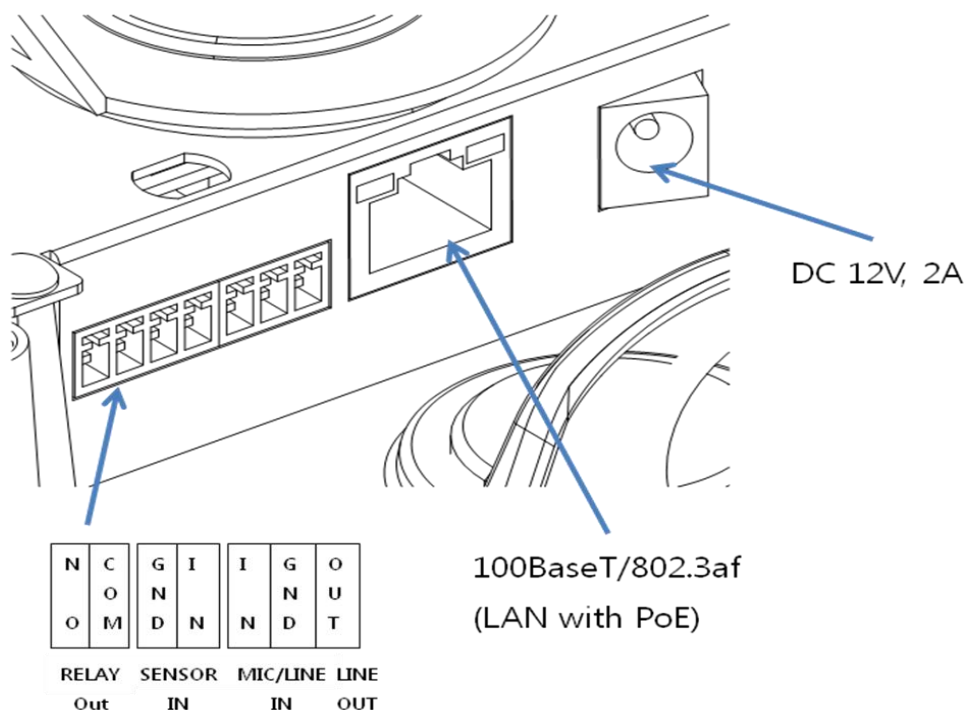
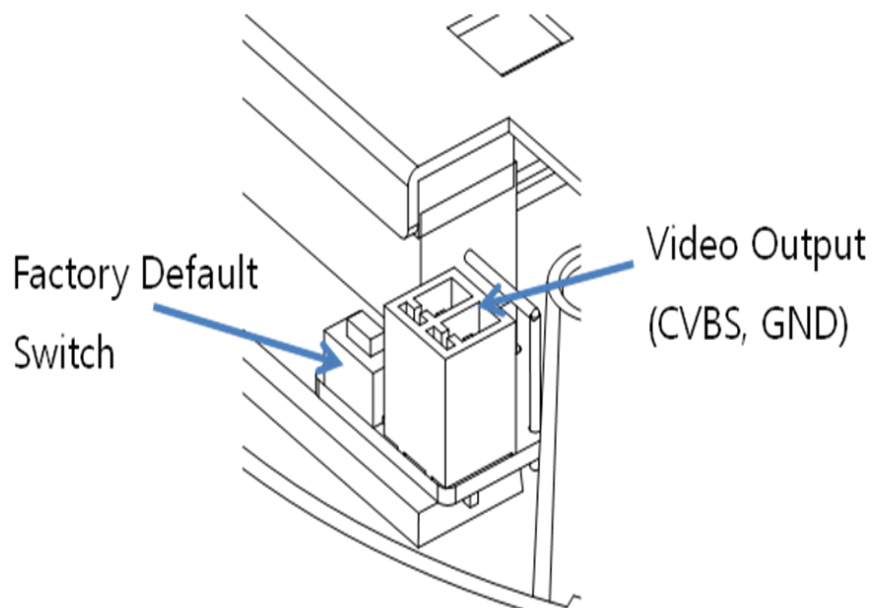**Figure 2-3. Terminal Block, LAN, and DC power connector**

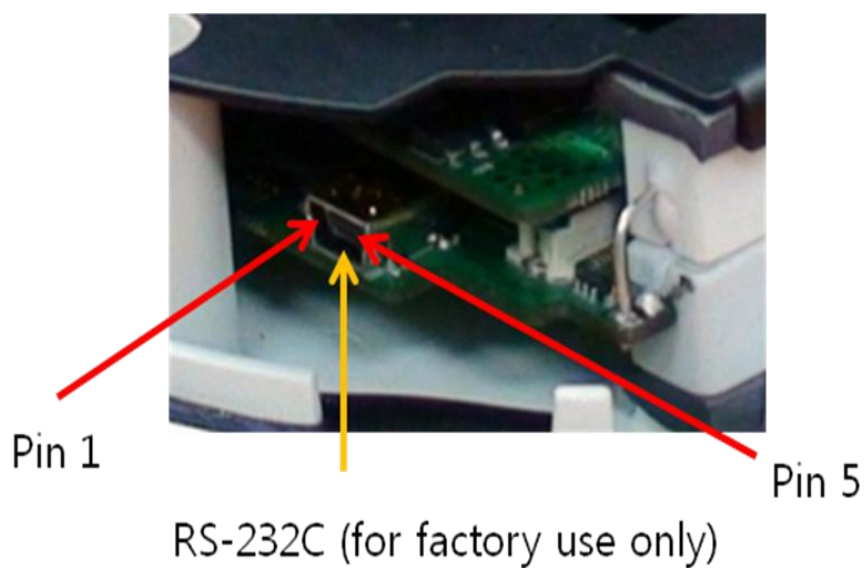**Figure 2-4. Factory Default switch and Video output connector**
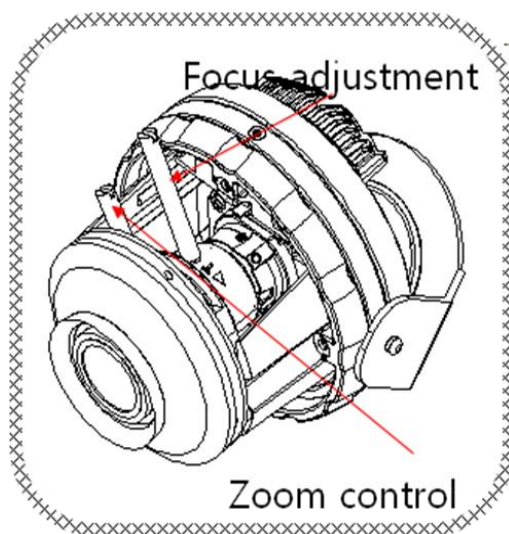

Figure 2-5. RS-232 connector

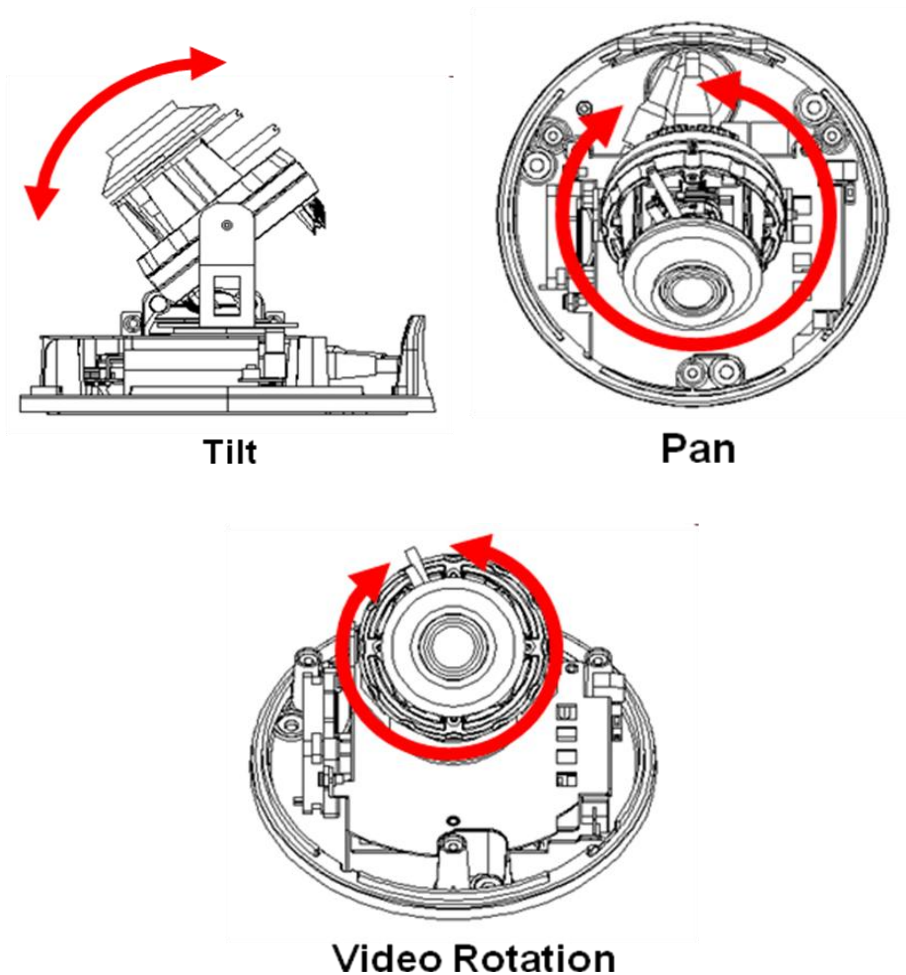**Figure 2-6. Adjustment knobs for the Camera**

Figure 2-7. 3 axis based camera position control (Manual adjustment of Pan, Tilt and Video rotation.)

2.4. Functional Description

• **DC 12V, 2A: Power input for supplying 12V DC power.**

> **Caution: If ONSIP O2D3 is powered by PoE, do not plug in DC Jack with active DC power into DC power connector.**

• **MIC/LINE IN**

Connect external audio source or microphone.

• **Line Out**

Connect speakers with built in amplifier. Audio from remote site is output through Line out in bi-directional audio mode.

• **100Base-T**

100Mbps Ethernet connector (RJ-45) with PoE standard (802.3af). 2 LEDs on the Ethernet connector shows the status of ONSIP O2D3 as the followings:

- **Status LED (Dual Color - Red/Green)**: It will be lit in green or red depending on the status.

① Green: Green color indicates that the camera is in normal operation mode. Continuous green indicates that data transmission is possible. Blinking green means that someone is connected to ONSIP O2D3.

② Red: Continuous or blinking red indicates that hardware is in abnormal condition.

> Red/Green LED will be lit with red momentarily and it will be lit with green after a while when power is applied into ONSIP O2D3

- **LINK/LAN LED (Orange)**

It will be lit with orange color when network cabling is all right. Blinking orange color indicates that normal data transmission is under way. Off state indicates that there is trouble in network connection.

• **RS-232C**

3 Pins on the right of the connector are assigned for RS-232 port. Please note that leftmost pin is numbered as 1.

Pin	Description	Misc.

1	Not used	
2	Not used	
3	RxD (Connect to TxD of the other end)	For debugging & factory use only.
4	TxD (RxD (Connect to RxD of the other end))	
5	Ground of RS-232C	

• Alarm In/Out and Audio In/Out

Used for connecting alarm sensor, alarm annunciation device, microphone and speaker to ONSIP O2D3.

	Description
LINE OUT (+)	1 V p-p audio signal output for amplified speaker.
MIC/LINE GND (-)	Ground for audio signals.
MIC/LINE IN (+)	Audio input: Can be used either for microphone or applying audio signals from other audio equipment.
SENSOR IN	Sensor In (+). NC/NO selectable in admin mode.
SENSOR IN GND	Ground for sensor
RLY OUT(COM)	Relay output : Circuit will be closed in alarm to indicate alarm status
RLY OUT(N.O)	

• RLY Out: Relay output is provided for connecting alarm devices or for remote on/off control of devices such as light. Relay is normal open and it will be closed upon alarm annunciation or remote on.   The relay is capable of switching 30V AC/DC, 2A. For the application which needs power switching beyond this limit, use additional relay switch as shown in the right of Figure 2-8.
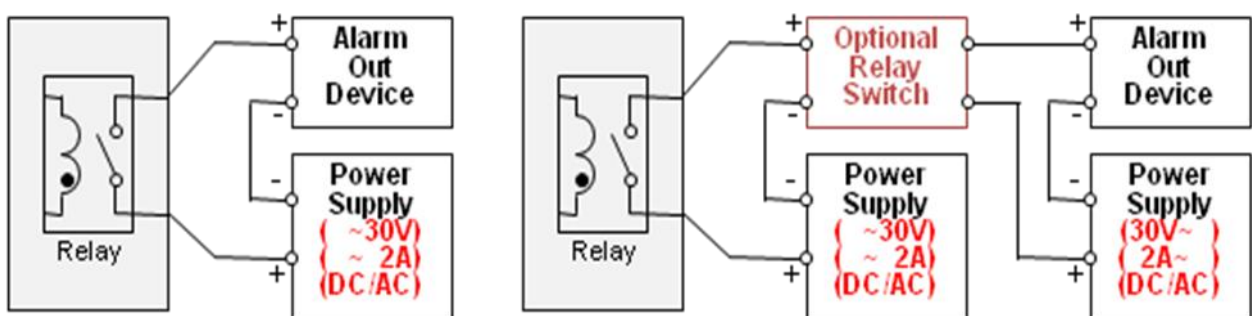

Figure 2-8. RELAY Output connection (left: switching requirement below 30V, 2A), (right: switching requirement higher than 30V, 2A. Apply this connection when either voltage or current exceed the limit.)

• SENSOR IN: Connect external alarm sensor. Examples of sensing devices are infrared sensor, motion sensor, heat/smoke sensor, magnetic sensor, etc.   Connect the two wires of the sensors to

"SNS In". The sensor type (NC/NO) can be set in admin page. 10 mA can be sunk into sensor device. Multiple sensor devices can be connected in parallel.
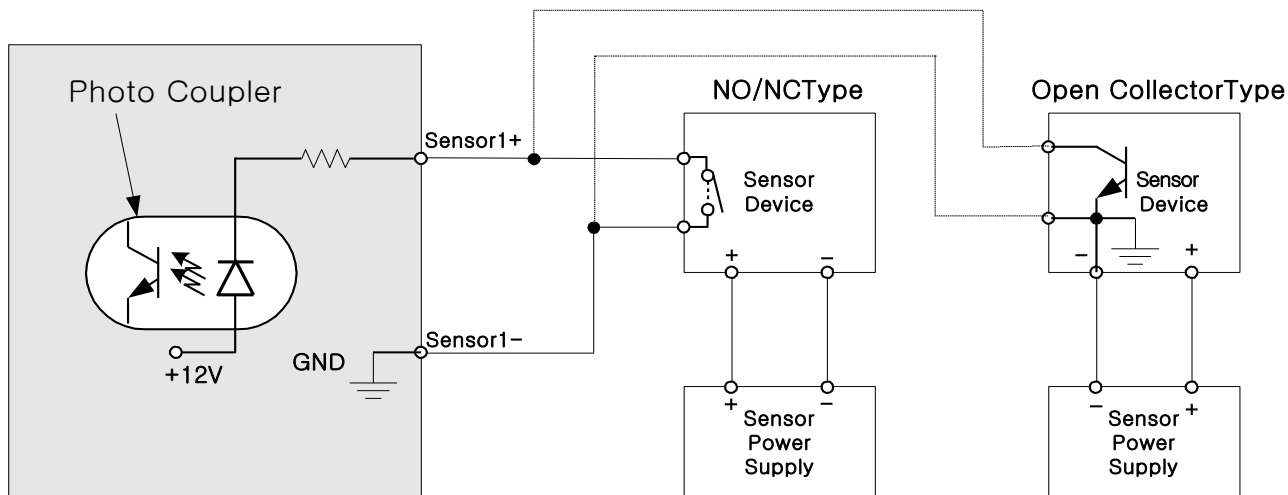

Figure 2-9. SENSOR input and connection of the sensor

• **Factory Default Switch**

A switch provided for returning the IP camera to factory default state. Open the dome cover to access the switch. Press the switch for a few seconds while power is applied.

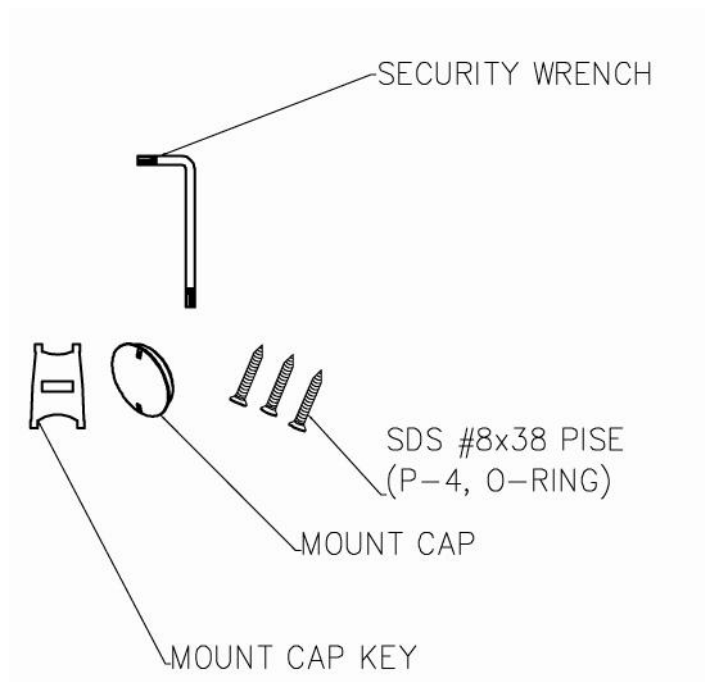
Figure 2-10. Factory Default Switch

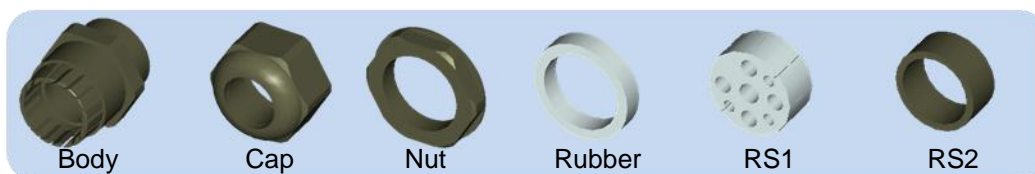## 2.5. Accessories for installation

Figure 2-11. Accessories for installation of ONSIP O2D3. Silica gel at the right is packaged in a vacuum sealed PVC bag.

It is recommended to use the Cable gland for achieving water tight cabling. Refer to the below.

- Component

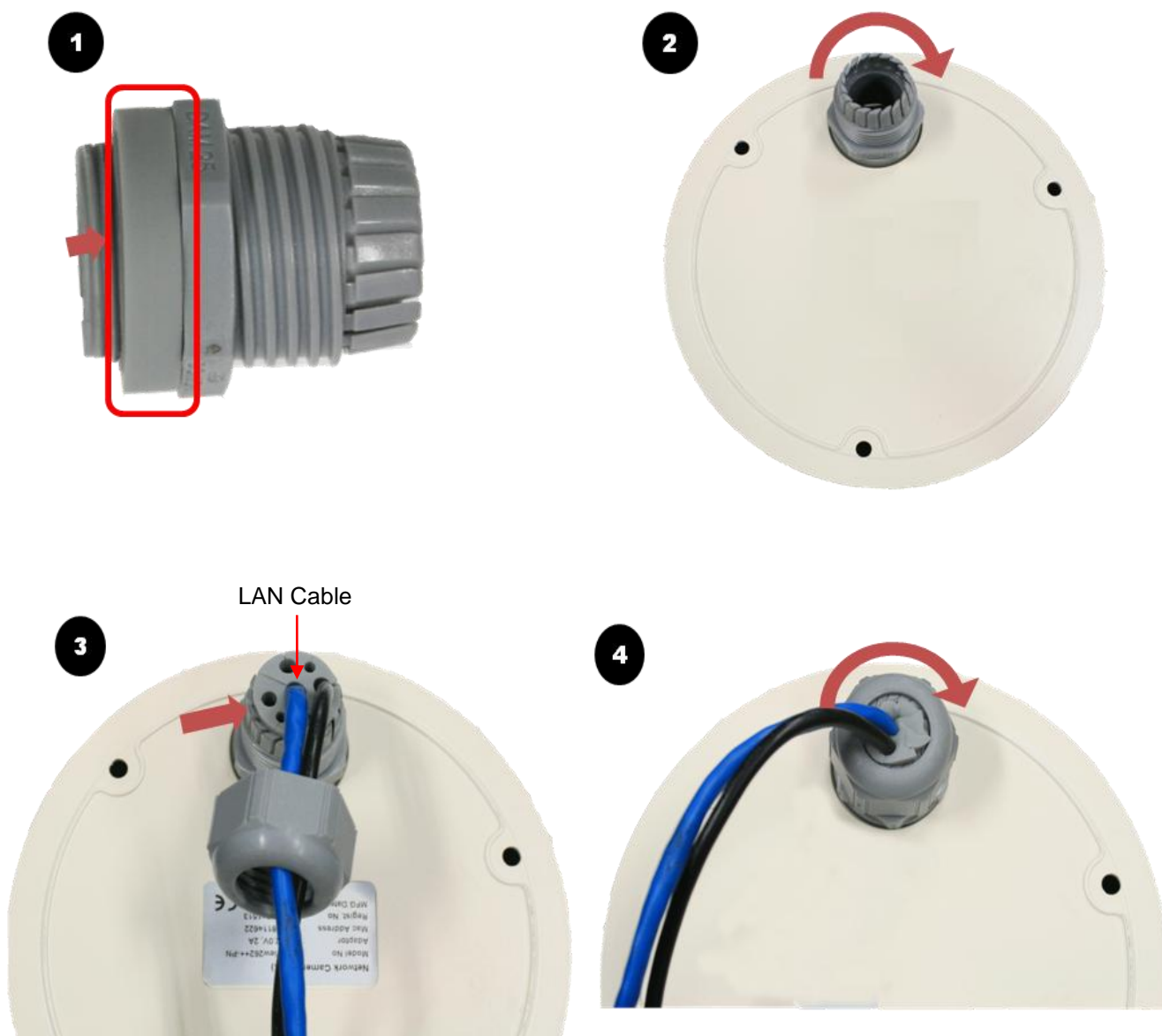| Body | Cap | Nut | Rubber | RS1 | RS2 |

- Installation

LAN Cable

Figure 2-13. Cable gland for water tight cabling

3.   On Site Installation

Use Cables and conduits that are suitable for the installation and that are compliant to IP-66. Particular attention should be paid in the installation so that no moisture is allowed to penetrate into the unit through the cables or conduits during the life time of the product. Products of which the internal parts are exposed to moisture because of improper installation are not covered by warranty.
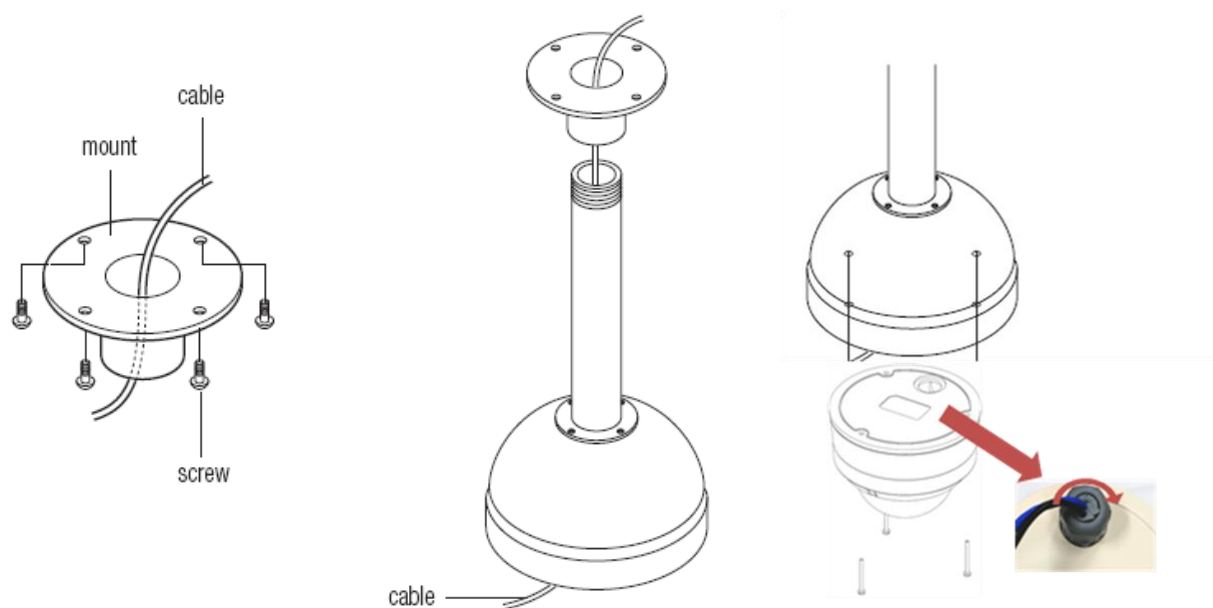
3.1. Ceiling mount
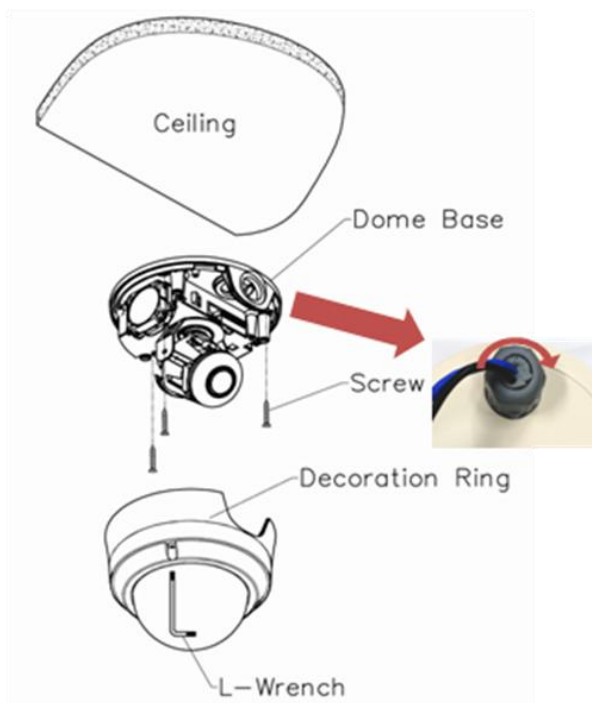
1.   **Fix the Dome Base on the ceiling panel. The rubber gasket should be placed properly to ensure water tightness after placing the Dome Cover.**
2.   **Connect the cables.**
3.   **Adjust the position of the lens for desired viewing of the site.**
4.   **Adjust the focus and zoom.**
5.   **Place the Dome Cover.**

3.2. Wall mount (option)
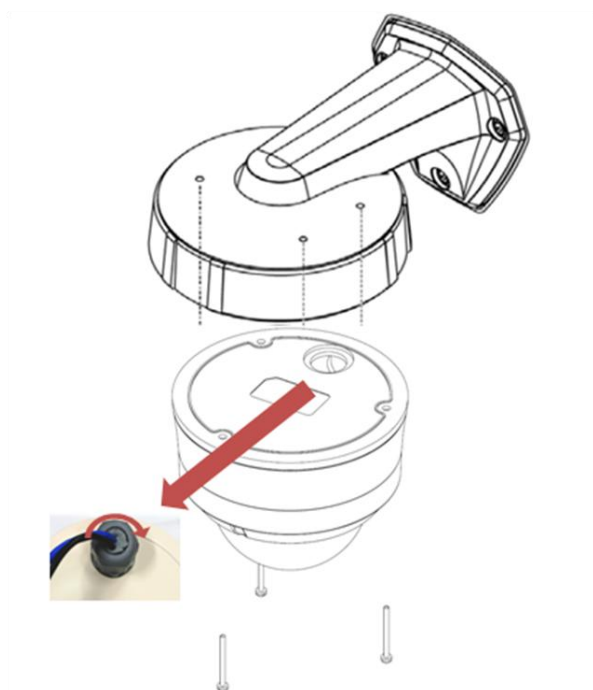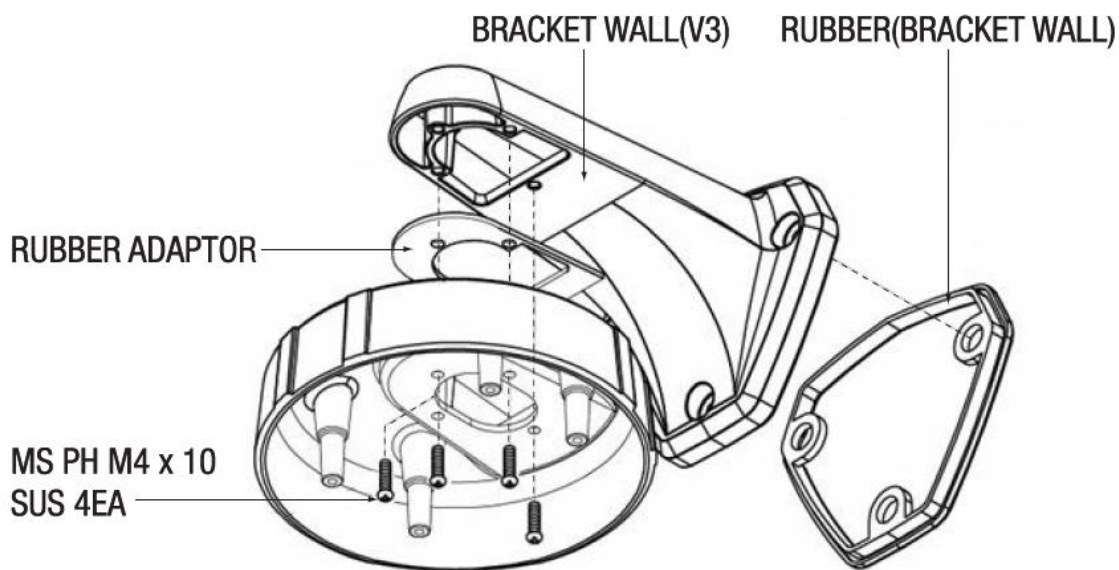
1. Assemble the wall mount bracket assembly.

2. Run the cable through the bracket and attach the mount onto the wall.

3. Fix the Dome Base into the bracket. **The rubber gasket should be placed properly to ensure water tightness after placing the Dome Cover.**

4. Connect the cables.

5. Adjust the position of the lens for desired viewing of the site.

6. Adjust the focus and zoom.

7. Place the Dome Cover.

3.3. Ceiling mount (option)

1. Fix the mount bracket onto the ceiling
2. Run the cable through the bracket.
3. Fix the Dome Base into the bracket. **The rubber gasket should be placed properly to ensure water tightness after placing the Dome Cover.**
4. Connect the cables.
5. Adjust the position of the lens for desired viewing of the site.
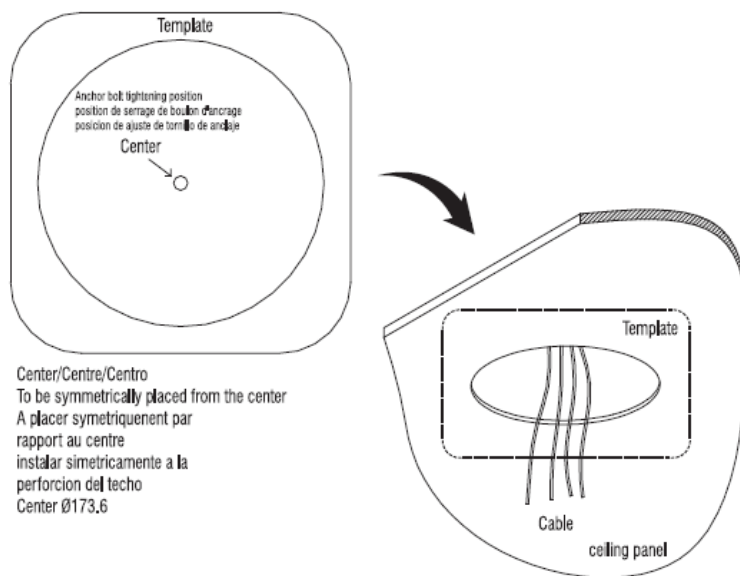6. Adjust the focus and zoom.
7. Place the Dome Cover.

3.4. Embedded Ceiling Mount (Option)

● Components
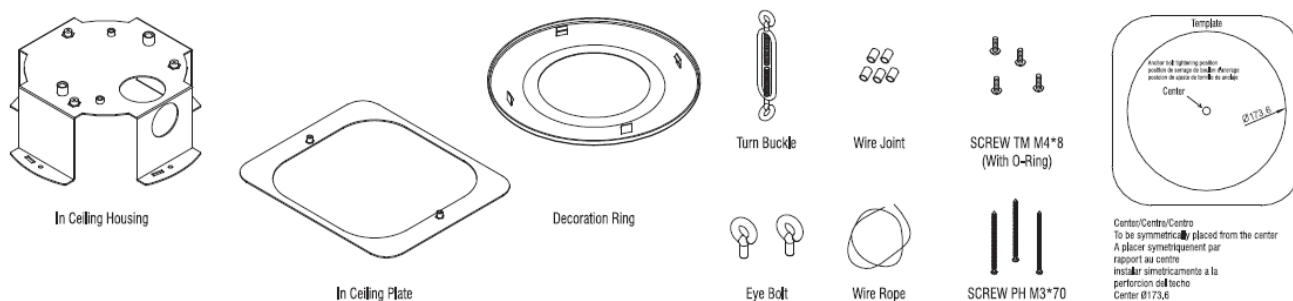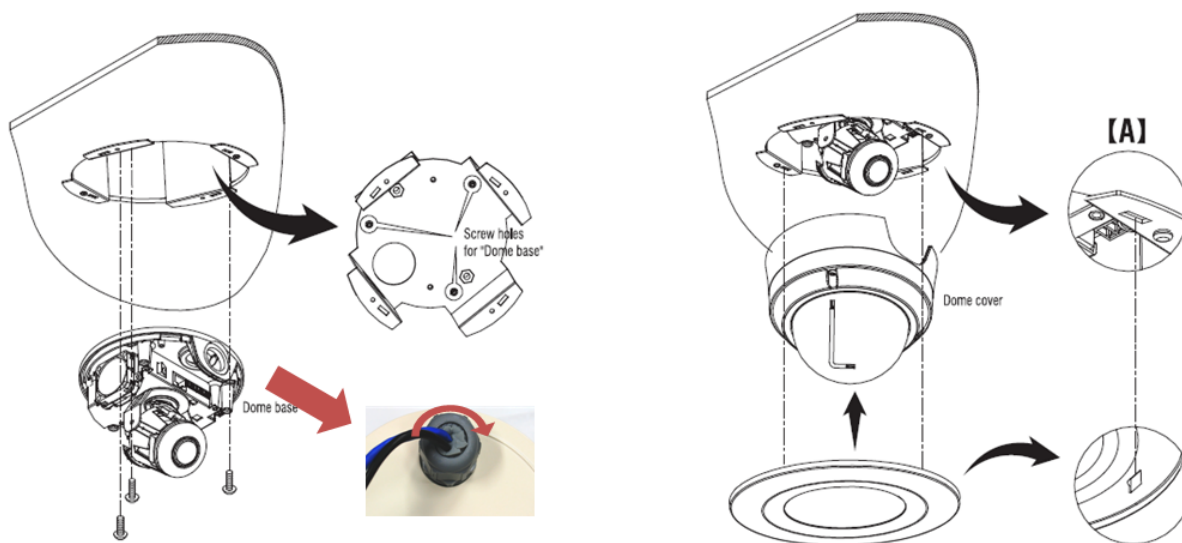

● **Installation**

1. **Prepare the connecting wires and pipes for the wires.**

2. **Prepare a round hole (173.6 +/- 5mm in diameter) for the installation of the product on the ceiling panel.**

3. **Place "In Ceiling Plate" on top surface of the ceiling panel.**

4. **Slide in "In Ceiling Housing" through the hole and assemble "In Ceiling Plate" and "In ceiling Housing" using screws.**
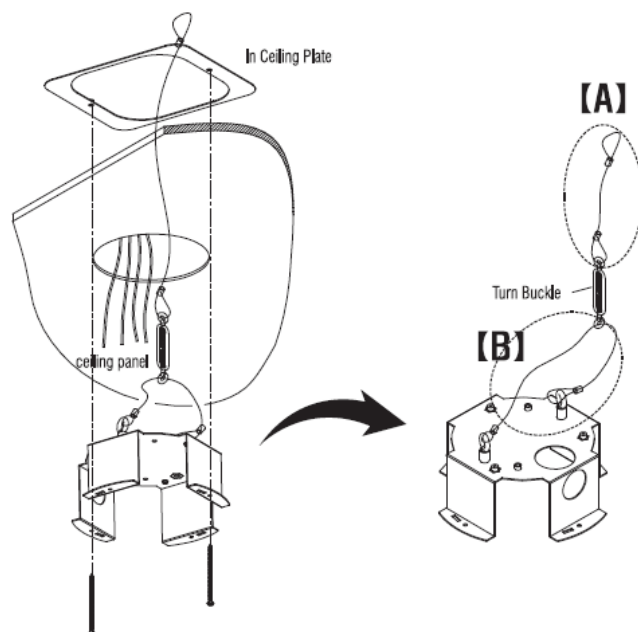
5. Sit "Dome Base" in "In Ceiling Housing"

6. Connect the wires and finish pipe works.

7. Adjust the manual Pan/Tilt/Video rotation for desired viewing of the site.

8. Adjust the focus and zoom.

9. Place the Dome Cover

10. Set the "Decoration Ring" to finish.

3.5. Installation Environment

ONSIP O2D3 has fan and heater installed inside the product for wide range of environmental temperature.

Refer to the tables below for the temperature range of operation.

Operational temperature range

Power Supply	Operational Temperature(^{o}C)		Humidity (% Relative Humidity)	Misc
	Low	High		
Standard PoE	-15	45	8-80%	**Operational temperature (Low)**: Lower limit of temperature for the equipment to start running. **Operational temperature (High)**: Upper limit of the temperature for the image sensor to provide defect free video.
DC Jack	-20	45	8-80%	

Starting operation in low temperature

If ONSIP O2D3 is powered up under low temperature environment, the internal heater will warm up the product until the temperature inside the product reach at proper operational temperature. The table below shows time required for the heater to warm up the product.

Note that warming up can take long time under low temperature below zero in Celsius.

Power Supply	Environmental Temperature (^{o}C)	Warming up Time (Max in minutes)	Misc
Standard PoE	-10	10	ONSIP O2D3 might not start running under temperature below -16 ^{o}C
	-15	20	
DC Jack (12V, x Amp)	-10	5	ONSIP O2D3 might not start running under temperature below -21 ^{o}C
	-15	10	
	-20	15	

Low temperature limit

If environmental temperature drops below certain limit the system will be shut down and the heater will warm up the system for protection of the ONSIP O2D3.   ONSIP O2D3 will be restarted once the temperature inside the product reaches at proper working temperature,

Power Supply	Environmental Temperature(^{o}C)	Status of ONSIP O2D3	Misc
Standard PoE	-25	Shut Down	System is shut down and the heater is turned on to warm up ONSIP O2D3.
DC Jack	-25	Shut Down	

4. Getting Started

Brief information for first time operation of ONSIP O2D3 is provided in this chapter.

4.1. PC Requirement

Audio/Video streaming data received from ONSIP O2D3 can be displayed or stored in a PC running client programs. Minimum requirement of the PC is described below:

	Recommended	Remark
CPU	Pentium IV 3G above	
Main Memory	1GB above	
Operating System*	Windows XP	
Web Browser	Internet Explorer 6.0 above	
Graphic Card	64M above	Higher than 1600x1200
Network	100 Base-T Ethernet	

* Operating Systems supported: Windows 2000 Professional, Windows XP / Vista / 7

4.2. Quick Installation Guide

1. **Connect PC and ONSIP O2D3 to network.**

    1) Prepare a PC to run programs for the installation and video connection

        (PC is needed to assign IP address to ONSIP O2D3)

    2) In the case of using PoE, connect the PC and ONSIP O2D3 to the network using one of the following ways.

        If your LAN Switch does not support standard PoE, connect ONSIP O2D3 as shown in dotted line in Figure 4-1. The DC power is applied through DC adaptor.
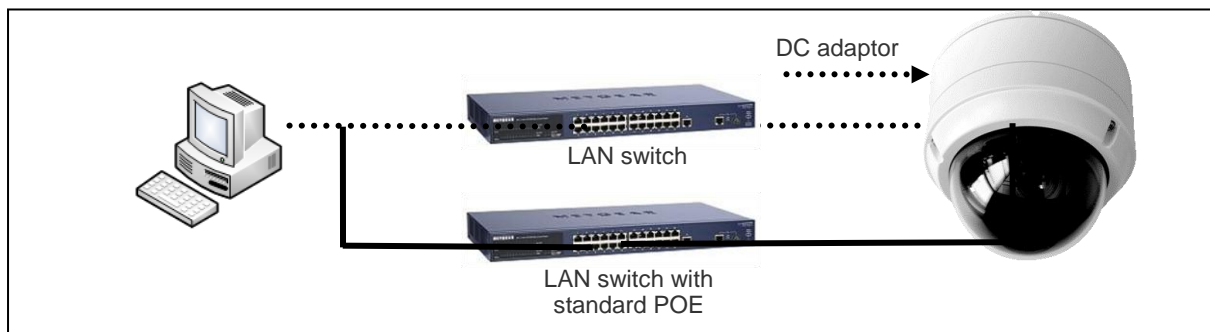

Figure 4-1. Power and network connection

2. Install Speco-NVR

Speco-NVR is a multi-channel CMS program for to IP camera or Video server. Install Speco-NVR on remote PC to connect to these products. It is needed to assign connection information to Speco-NVR program before connection.

Insert the CD provided with product into the PC and install the Speco-NVR.
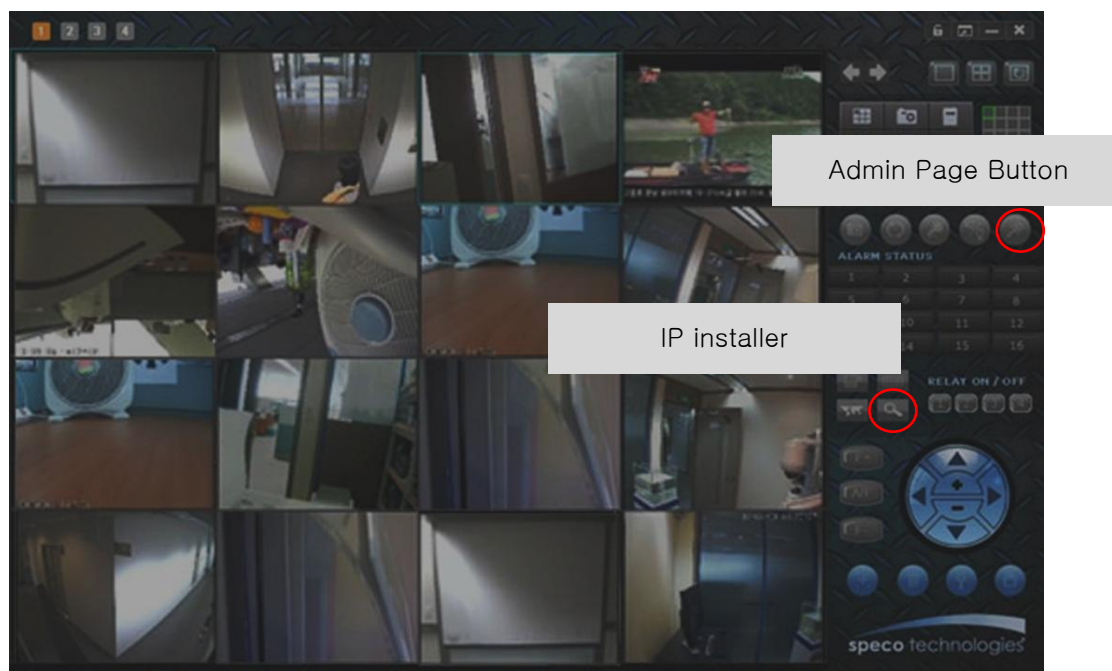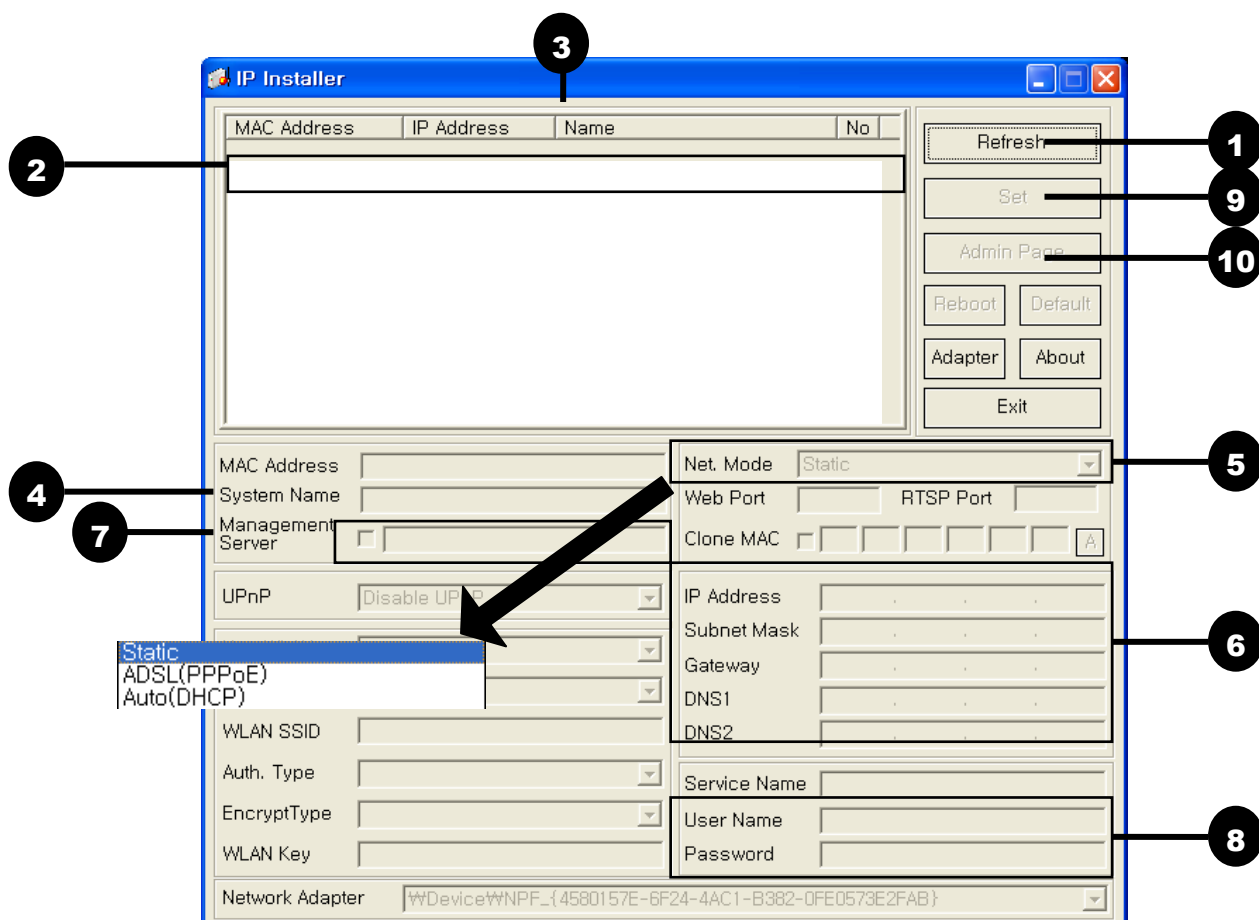

Figure   4-2. Speco-NVR

Follow the sequence below for setting the IP parameter

i)   Run IP installer

ii)   Click ① in IP installer window.> Double click on ② > Fill in ④ > make a selection in ⑤ > Fill the parameters in ⑥

iii) Click on ⑨ to apply the settings.

iv)   You can connect to admin page by clicking on ⑩.

Click on the field in ③ for sorting and rearranging the list.

Select network mode that best suits from the drop down list in ⑤. You can choose either Static or ADSL and Auto (DHCP), respectively. If ADSL and Auto are selected, the fields in ⑥ is deactivated.

In case of ADSL, fill the User Name and Password in ⑧ with the values provided by your ISP.

If DDNS service is needed, Check at the box and fill the empty field with hostname you want in ⑦.

3. Remote video connection to ONSIP O2D3

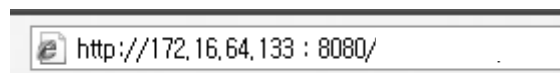   1)   Connection through Web Viewer

     Web Viewer offers simplest way of video connection to ONSIP O2D3 . For video connection, enter the IP address of ONSIP O2D3 in the URL window of Internet Explorer as:

［e.g.］Port 80   http://172.16.64.133/   Can be omitted the default port of 80

［e.g.］Port 8080   http://172.16.64.133 : 8080/

Note : Active-X module should be installed on your PC before actual connection. If your PC is not connected to the internet, you cannot download Active-X module. Most convenient way of installing the Active-X module is installing Speco-NVR which is available from the CD or our web site.

Connection to Admin Page   **Basic Control Buttons**
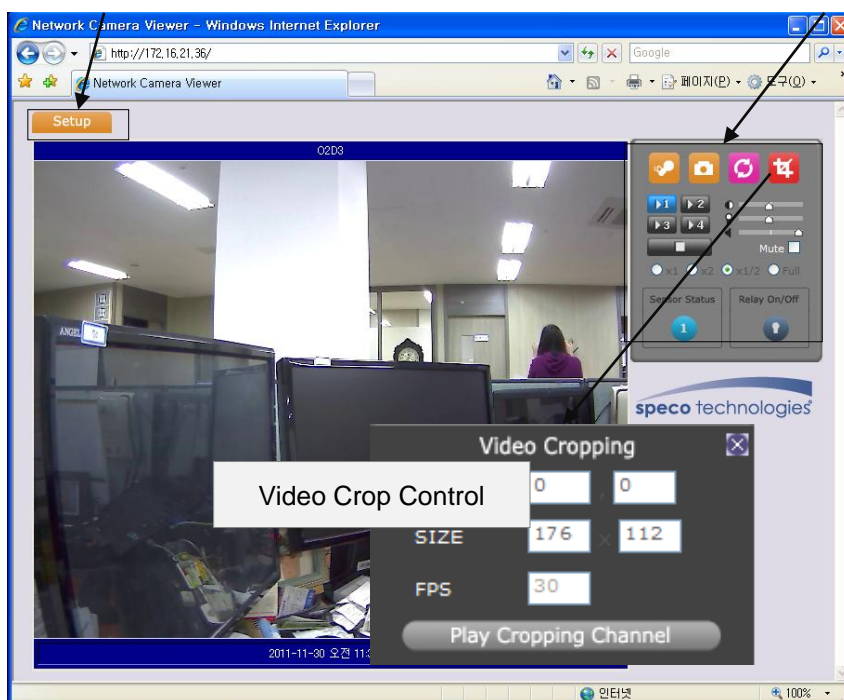
Video Crop Control

Figure 4-3. Web Viewer

Default ID and password of Admin Page are **root, admin**. For more detailed information, please refer to the [Configuration_Guide] Guide.

2) Connection through Speco-NVR

Click the camera assignment button for setting camera address. Input the description, address, Ch#, User ID, Password and port and then click the save button. After assignment procedure, you must click the SAVE button. You can see the live video when you click the live view button as below. When you exit Speco-NVR, you have to input the ID/PW, admin/1234. Details for the Speco-NVR can be found in **[Speco-NVR User's Guide]**.
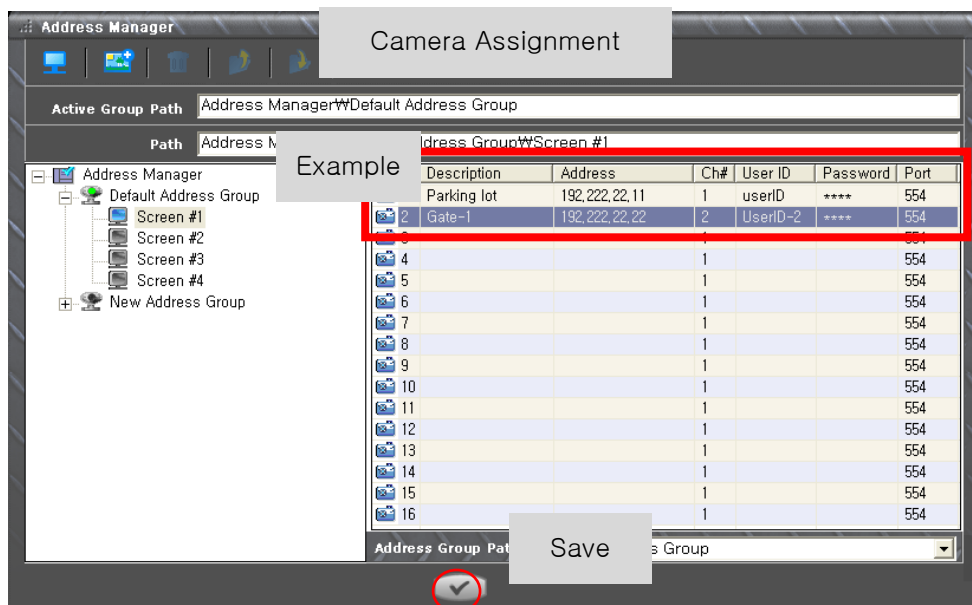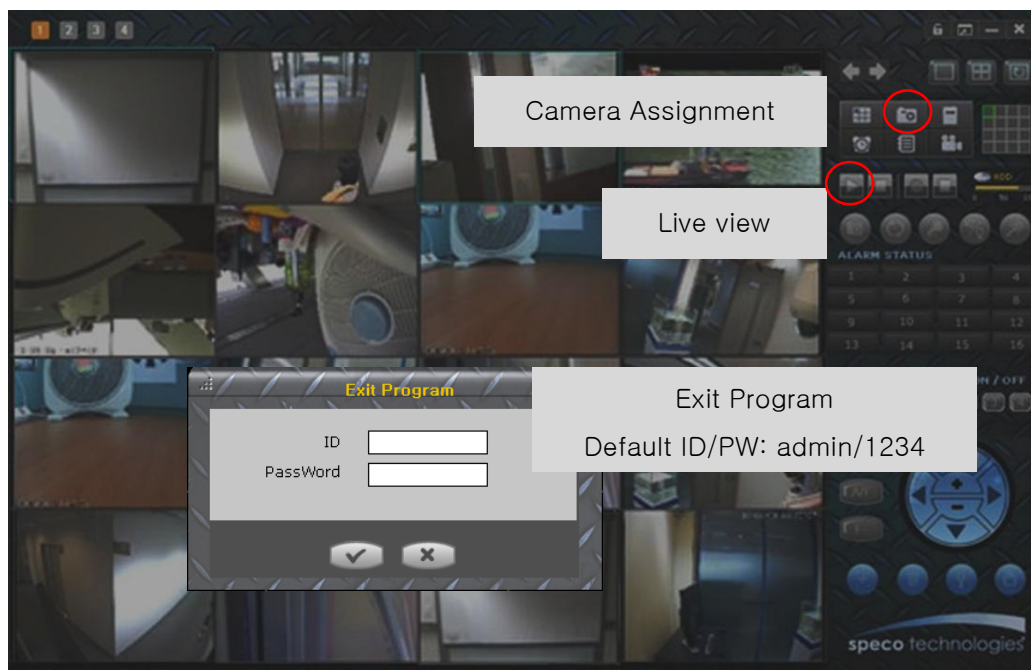

Figure 4-4. Speco-NVR

4. Additional settings through connection to the Admin Page

All the parameters of new IP camera follows factory default values. For more sophisticated target application it is needed to change parameters. The admin page can be connected through

"**http://IP_address:HTTP_port_number**"/admin.htm

It is needed to enter ID and password of the administrator. Default ID and password are **root, admin**. It is highly recommended to change the ID and password to prevent illegal access to the IP camera. For more detailed information, please refer to the [Configuration_Guide] Guide.

5. Trouble Shooting

5.1. No power is applied

- In case of Standard PoE (Power over Ethernet)

  Power supply through standard PoE is possible only when the following conditions are met.

  1. Standard PoE is supported on the product.

  2. The LAN switch supports standard PoE.

  Make sure that both the IP camera and the LAN switch support standard PoE (IEEE 802.3af)

- In case of DC adaptor

 If PoE is not applied, the power and network connection should be made through separate cables. It is recommended to use DC adaptor supplied by provider for the feeding of the power. In case of replacing the DC power supply, make sure that the power supply meets with the power requirement of the IP camera to prevent damage or malfunction.

5.2. Cannot connect to the Video

Check the status of the network connection through PING test.

Try the following on your PC :

- Start > Run > Cmd > Ping IP address (Ex : Ping 172.16.42.51)
- If "Reply from ~" message is returned (① in the figure below), the network connection is in normal state. Try connection to the video again. If the problem persists, or refer to other trouble shooting notes.
- If "Request timed out" message is returned. (② in the figure below), the network connection or network setting is not in normal state. Check the network cable and settings.
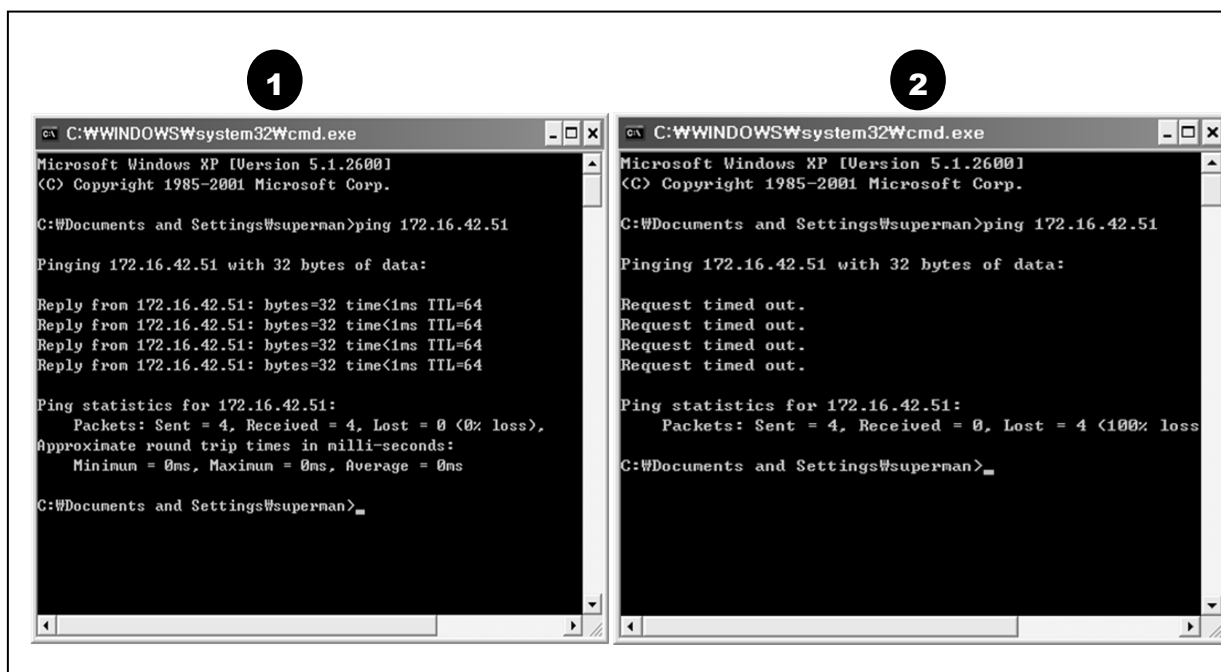
5.3. Windows Vista or Windows 7

Windows Vista and Windows 7 users need to configure UAC (User Access Control) and Privilege Level for proper recording and still video capture in Speco-NVR and Web Viewer.
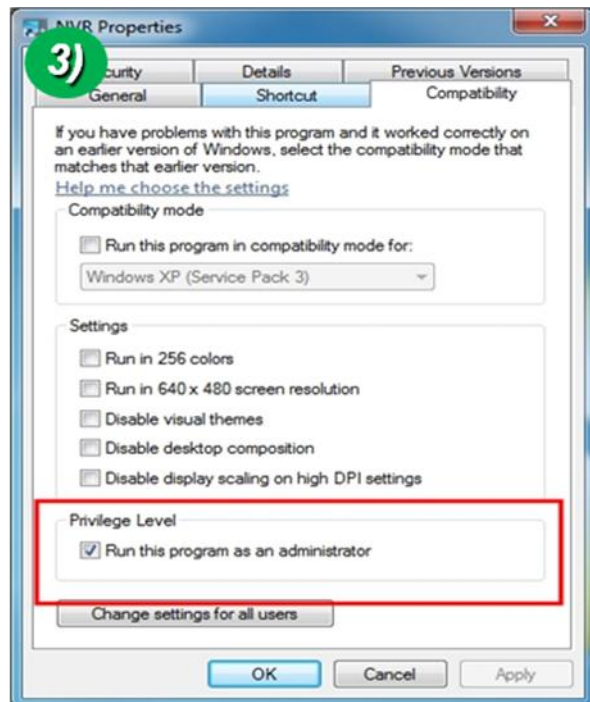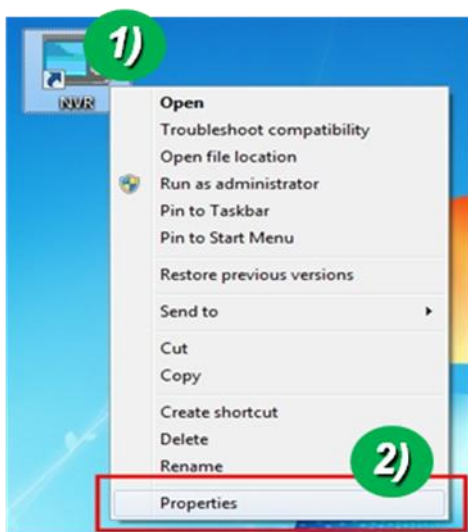
<Windows Vista>

1. UAC (User Access Control) configuration

1) Double-click "User Accounts" in control panel

2) Double-click "Turn User Account Control on or off"

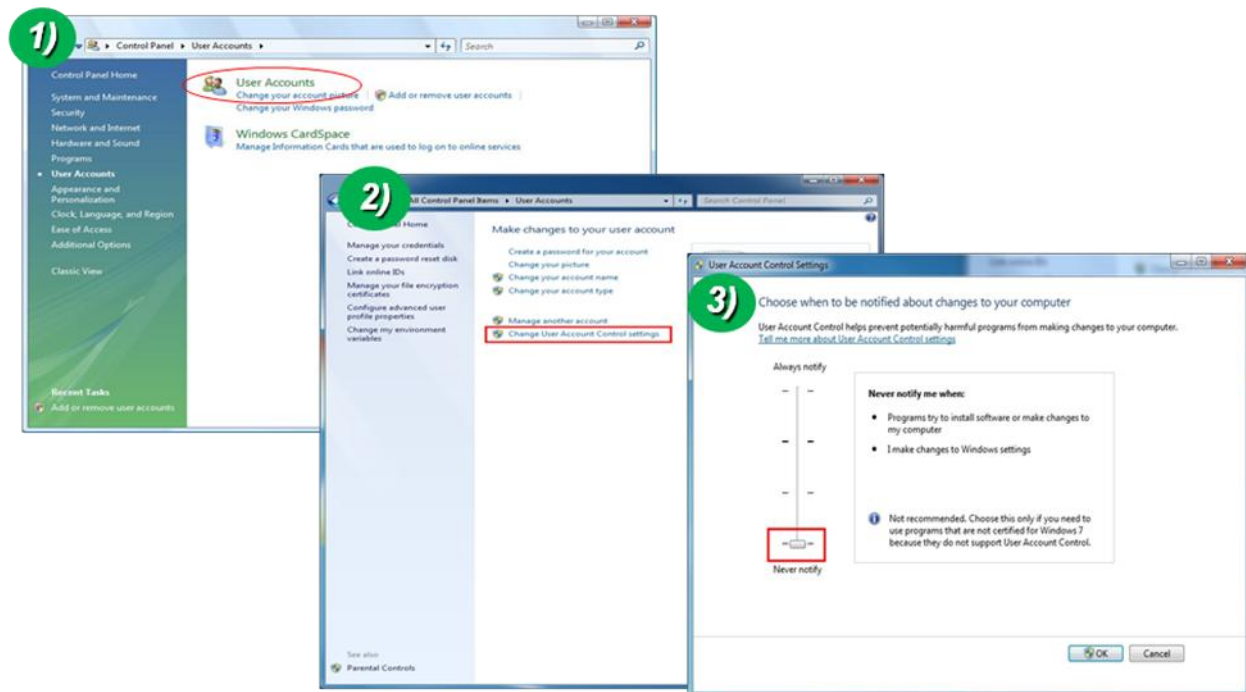3) Uncheck "Use UAC to help protect your computer"
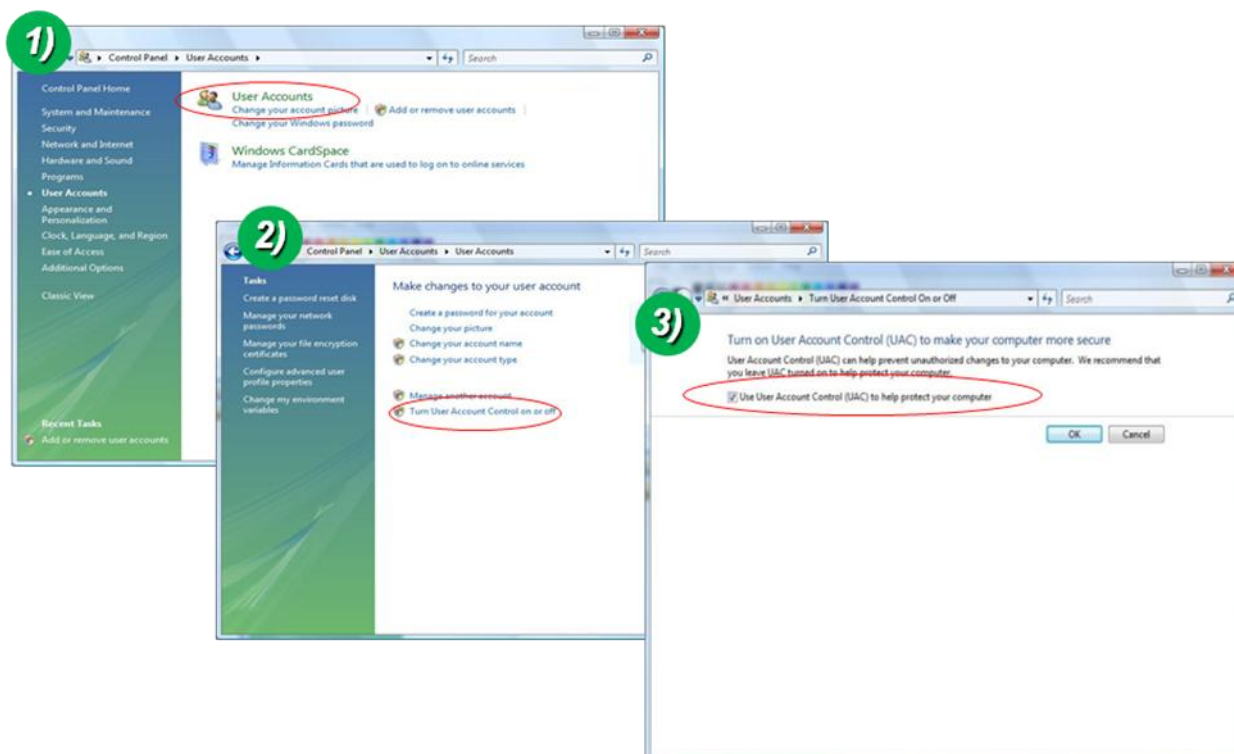
2. Privilege Level Control

1) Select "NVR" icon on the desktop

2) Click right mouse button and select "Properties"

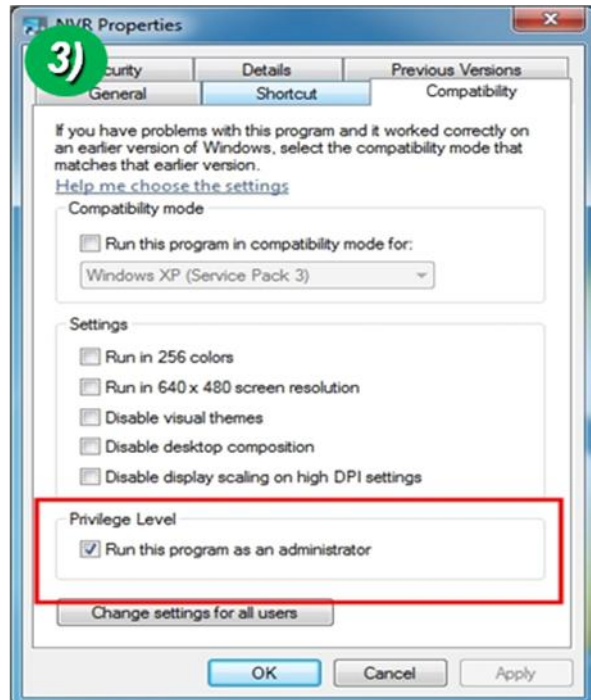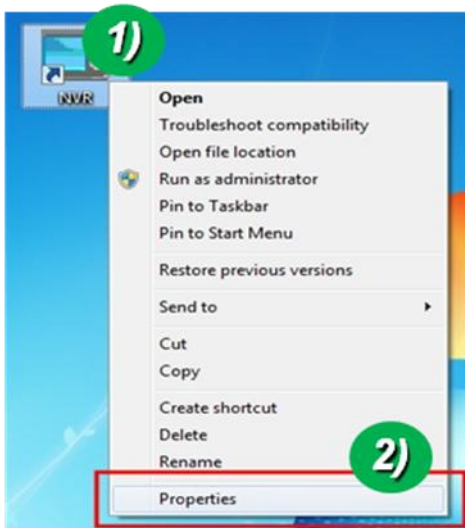3) Check "Privilege Level" in "Compatibility" tab

<Windows 7>

1. UAC (User Access Control) configuration

1) Double-click "User Accounts" in control panel

2) Double-click "Change User Account Control setting"

3) Set to "Never notify"

2. Privilege Level Control

 1) Select "NVR" icon on the desktop

 2) Click right mouse button and select "properties"

 3) Check "Privilege Level" in "Compatibility" tab

5.4. Technical Assistance

If you need any technical assistance, please contact your dealer. For immediate service please provide the following information.

1. **Model name**

2. **MAC address and Registration number**

3. **Purchase date**

4. **Description of the problem**

5. **Error message**