O2FD4M

Flexible Intensifier® Technology

Indoor/Outdoor Dome IP Camera

speco technologies®

Directions

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

Do not disassemble the camera. No after service is assumed when disassembled.

Use only power adapters compatible with the unit.

Be careful to prevent moisture or water penetration into the unit. Particular attention is needed when installing the unit. 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.

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 warranty.

Revision History

Date	Revision	Details
12/15/2015	1.0	Initial version

Contents

1. Introduction

1.1. Overview

The O2FD4M is a 1080p resolution, dual-codec (H.264, MJPEG) network camera. It enables real time transmission of synchronized video. Remote clients can connect to the O2FD4M for real time video/audio through PCs and smartphones. Real-time 2-way communication is available through the bidirectional audio communication feature.

Flexible Intensifier® Technology is the most optimized solution to handle any lighting condition to fit the installation environment. Intensifier® mode can be used to display a color image in low light. In extreme darkness, adaptive, super IR LEDs can be used to illuminate the scene without IR saturation of the scene. Lastly, when a monochrome image is desired without the assistance of IR LEDs, a clear image can be captured with just a little bit of ambient light.

Designed to be a stand-alone streaming audio & video transmission device, O2FB3M can be applied to various application area such as video security, remote video monitoring, distance education, video conference or internet broadcasting system.
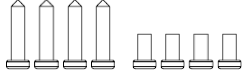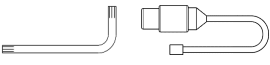
1.2. Specifications

Camera	
Image sensor	Progressive scan 1/3 inch CMOS 2M pixels
Full resolution	1,920 x 1,080 pixels (Full HD)
Sync System	Internal
Lens	2.8 ~ 11mm Motorized Focus & Zoom
Day & Night	AUTO, DAY, NIGHT
Sensitivity	Intensifier Max – 0.0005 Lux / IR LED on : 0.0 Lux
Back Light Compensation	ON / OFF
White Balance	ATW(2.000K ~ 10,000K) / MANUAL / PUSH
Exposure	DC / ESC
WDR	ON / OFF
3D-DNR	0 ~ 20
Intensifier	AUTO ON (Max 128x) / OFF
Privacy Mask	ON / OFF (10 Programmable Zones)
Motion Detection	ON / OFF (4 Programmable Zones)
Digital Zoom	1x ~ 12x
Mirror	H / V / Rotate
DEFOG	ON / OFF
OSD	BUILT IN
Heater	Yes
IR range	50 ft (depending on scene reflection)
Video	
Compression method	Simultaneous Dual Codec (H.264 / MJPEG)
Resolution	1,920 x 1,080@30fps
Multi-Profile Streaming	- 5 simultaneous video profiles - Select the codec type, resolution and frame rates for each profile.
Intelligent Bit-Rate Control	VBR or CBR
PTZ	Digital PTZ & Video crop
Image Setting	Text overlay, Privacy mask, De-interlace filter
Motion detection	Cell-based configuration
Audio	
Mono Upstream	32Kbps G.726 ADPCM, 64Kbps 16bit μ-law PCM ~ MIC/Line-in
Mono Downstream	64Kbps 16bit μ-law PCM ~ Line-out

Network	
Network Protocol	- IPv4, TCP, UDP, IGMP, ICMP, ARP, RARP, PPPoE, RTCP - RTP, RTSP, SDP, HTTP, SMTP, FTP, DHCP, UPnP - NTP, DNS, DynDNS
Dynamic IP	Speco DDNS (free of charge)
Security	- User ID & Password protection, IP address filtering - Digest Authentication, User Access Log
Streaming method	- RTSP streaming with proprietary format for control information - standard RTSP streaming - HTTP streaming
External Terminals	
LAN	10/100BaseT LAN (auto MDIX)
Analog output	1 channel D1 CVBS output
Alarm input / output	Alarm I/O (1 Sensor input & 1 Relay output)
Factory Reset	Supported
Audio	MIC/Line in, Line out
Power	DC 12V input
Alternate Power	
Standard PoE	IEEE802.3af
Alarm & Event	
Intelligent Video	Motion Detection
Alarm Triggers	Motion Detection + Sensor Input
Alarm Events	Video file upload(FTP), Still Image transmission(Email), Relay output
Alarm Buffer (Audio/Video)	Configurable Pre-alarm (5~15 sec) & Post-alarm (10~60 sec)
Miscellaneous	
Operating Temperature	-4°F ~ 122°F
Operation Humidity	8 ~ 80% RH
Power	DC 12V, 0.6A
Dimensions(H x Ø)	3.62 x 5.11"
Weight	2 lbs
Outdoor Rating	IP66
Approvals	FCC, RoHS
Package information	Unit, CD, mounting screws, chameleon cover
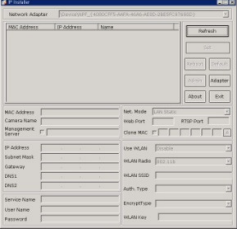
2. Product Description

2.1. Contents

The product package contains the following:

Contents	Description	Remarks
O2FD4M	O2FD4M main unit + chameleon cover	
Accessories	Screws (2 type)	
	L-type wrench, CVBS Cable	
CD	Software & User's Guide	
Reference Guide	Quick installation guide, Guide pattern	

2.2. Product Preview

O2FD4M	ONSIP Installer
Camera Unit	PC software to allocate an IP address to the IP Camera

2.3. Physical description

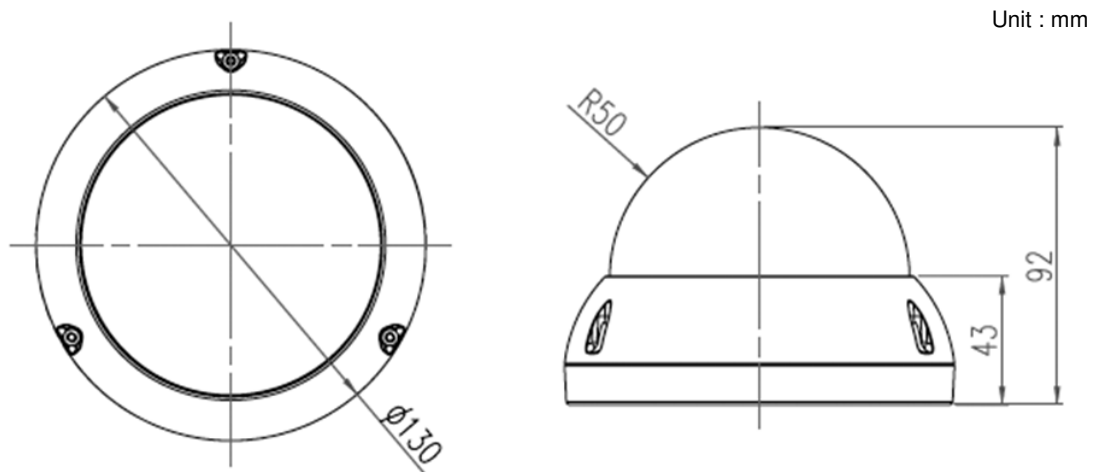### 2.3.1. External View

Figure 2-1. External view of O2FD4M

2.3.2. Dimensions

Unit : mm

Figure 2-2. Dimensions

2.3.3. External Connector

Sensor Input: white(+), Red(-)
Relay Output: Black(+), Yellow(-)

Line Output

Network (LAN)
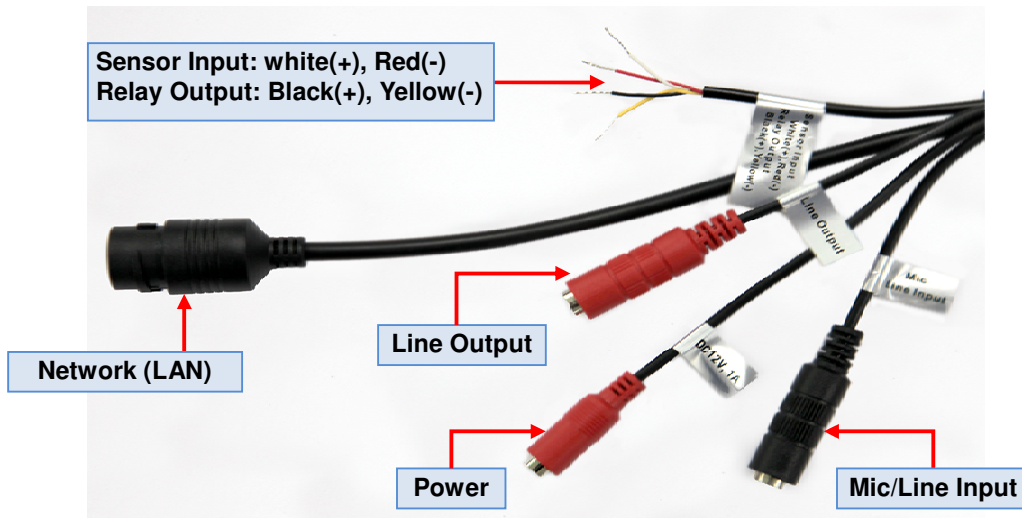
Power

Mic/Line Input

Figure 2-3. Connector for external connection

2.3.4. Factory Default Switch

Factory default switch is provided for returning the IP camera to factory default state. Unscrew the cover to access the switch. There are two functions assigned to factory default switch.

1. **Returning to Factory Default State**: Press the switch about 5 seconds while power is applied to return to factory default state.

2. **Safe Removal of Micro-SD Card**: Press the switch for 1 second to unmount the Micro SD Card for safe removal.
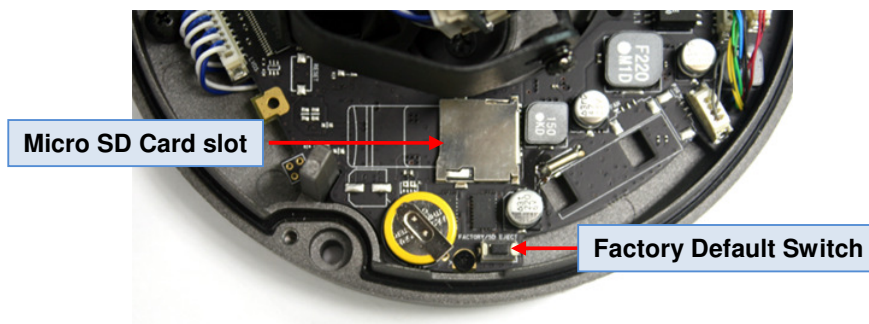

Micro SD Card slot

Factory Default Switch

Figure 2-4. Factory Default switch and Micro-SD Card slot

2.4. Functional Description

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

> **Caution : If O2FD4M is powered by PoE, do not plug in DC Jack with active DC power into DC power connector.**

• **Network (LAN)**

100Mbps Ethernet connector (RJ-45) with PoE standard (802.3af).

• **Micro SD Card slot**

Please insert SD memory card when you want to use SD memory card. In case of pulling out SD memory card, please push the SD card.

• **MIC/Line Input**

Connect external audio source or microphone.

• **Line Output**

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

- **Sensor Input**

  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 "Sensor Input".

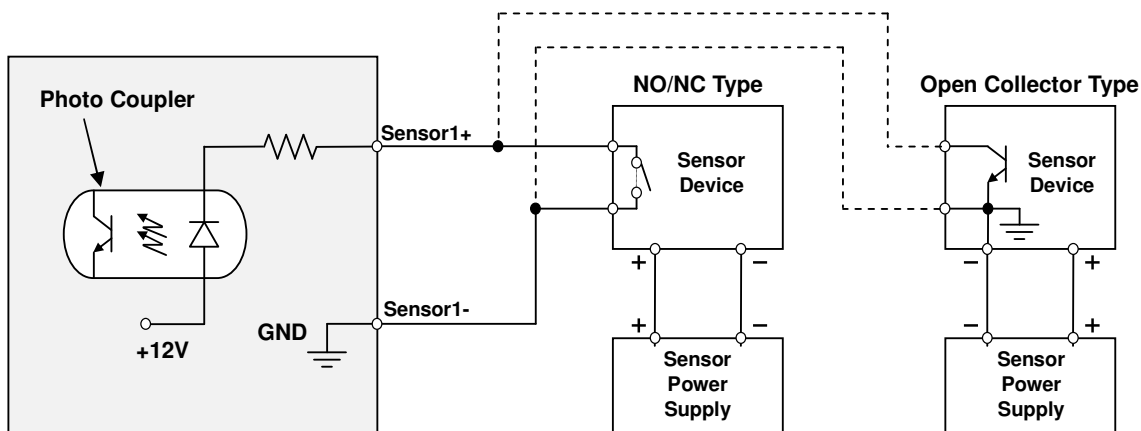 The sensor type (NC/NO) can be set in admin page. Multiple sensor devices can be connected in parallel.

Figure 2-6. SENSOR input and connection of the sensor

- **Relay Output**

  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.
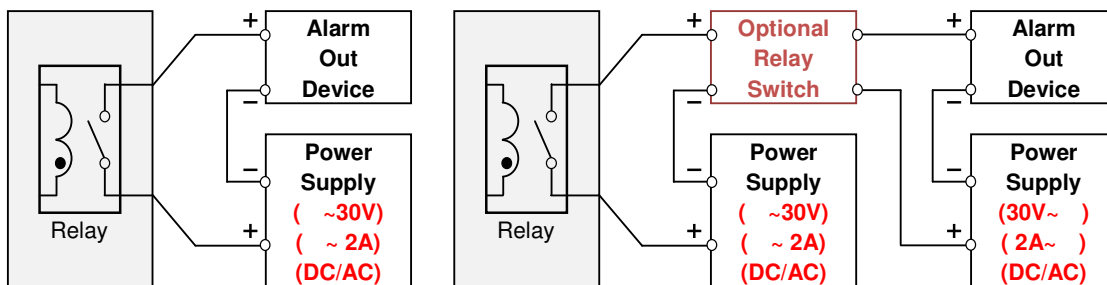

  * Left : switching requirement below 30V, 2A

  * Right : switching requirement higher than 30V, 2A. Apply this connection when either voltage or current exceed the limit.

**Figure 2-7. RELAY Output connection**

3. On Site Installation

Use cables and conduits that are suitable for the installation and are compliant to IP66. 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 lifetime of the product. Products where the internal parts are exposed to moisture because of improper installation are not covered by warranty.

1. Remove the top cover.
2. Fix the base on a flat surface.
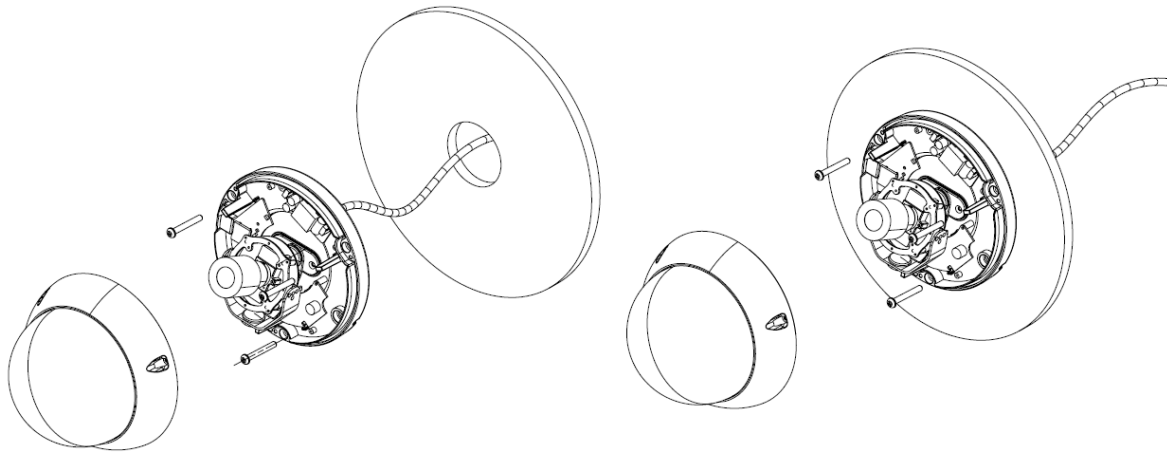
3. Adjust the rotational position of the camera for desired viewing of the site.

PAN   TILT
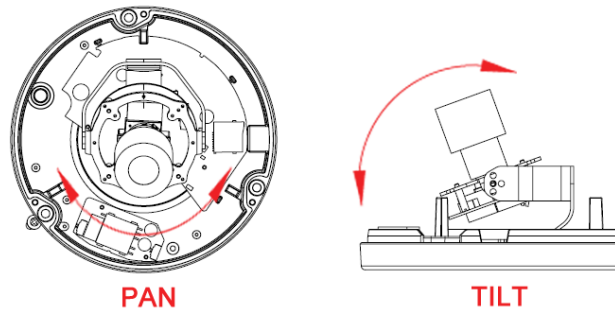
4. Place top cover.

4. Getting Started

Brief information for first time operation of O2FD4M is provided in this chapter.

4.1. PC Requirement

Audio/Video streaming data received from O2FD4M can be displayed or stored in a PC running client programs. Minimum requirement of the PC is described below:

ITEM	Minimum Requirement	Recommended Specification
CPU	Intel Core i3 3Ghz	Intel Core i7
Main Memory	2GB	4GB
Operating System[*]	Windows XP	Windows 7 (64bit)
Web Browser	Internet Explorer 8, 9	Internet Explorer 8, 9
Graphic Card	Video RAM 256MB Resolution 1920x1080	Video RAM 1GB Higher than 1920x1080
Network	10 Base-T Ethernet	100 Base-T Ethernet

* Operating Systems supported: Windows XP / Vista / 7

4.2. Quick Installation Guide

4.2.1. Connect PC and O2FD4M to network.

1. Prepare a PC to run programs for the installation and video connection
   (PC is needed to assign IP address to O2FD4M)

2. In the case of using PoE, connect the PC and O2FD4M to the network using one of the following ways.
   If your LAN Switch does not support standard PoE, connect O2FD4M as shown in dotted line in Figure.
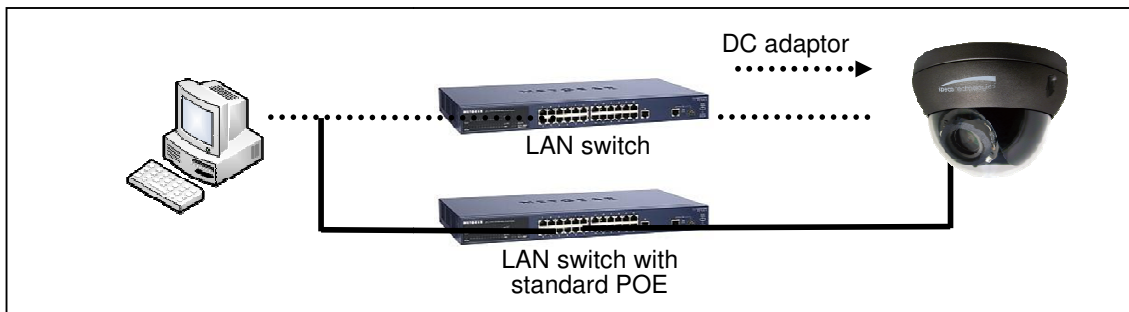   The DC power is applied through DC adapter.

Figure 4-1. Power and network connection

4.2.2. Set IP parameters on O2FD4M

Follow the sequence below for setting the IP parameter

i)   Run ONSIP installer

ii)   Click (1) in ONSIP 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).
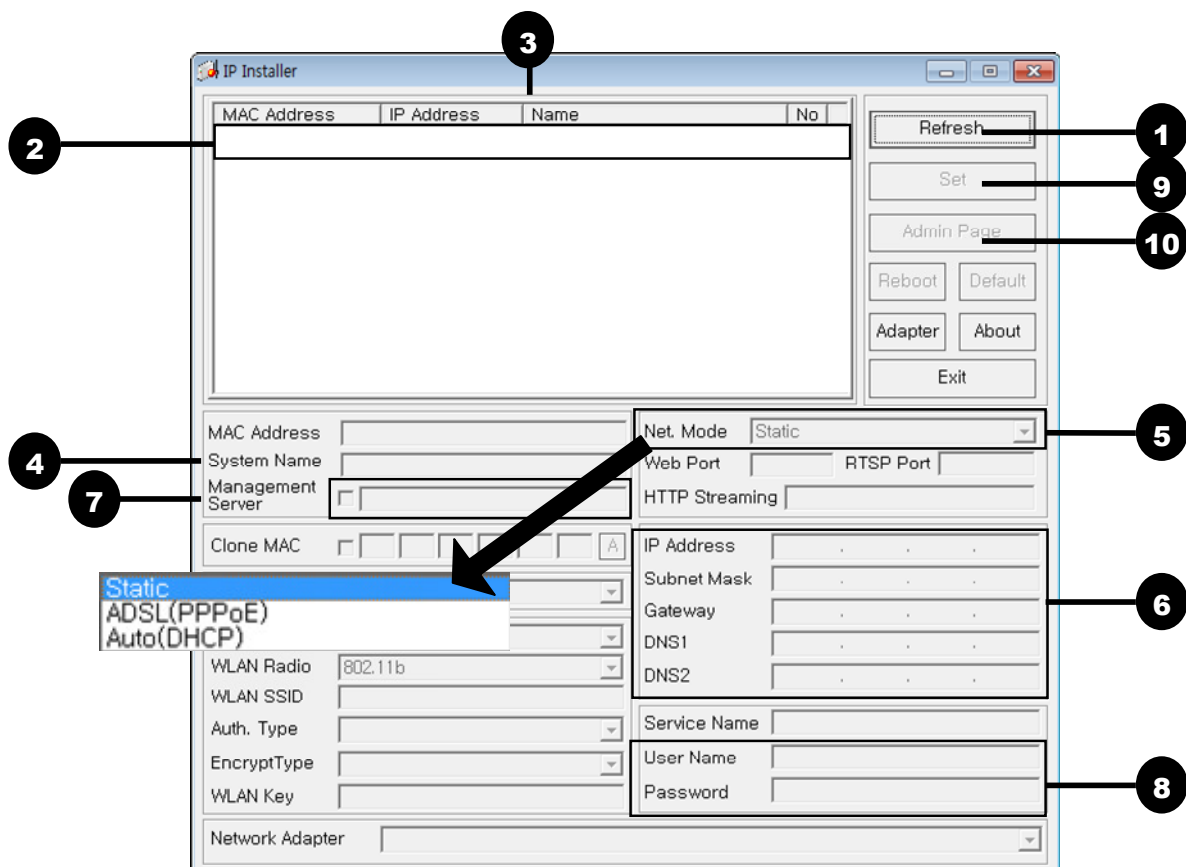
Click on the field in **(3)** for sorting and rearranging the list.

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) are 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 the box and fill the empty field with the hostname you want in **(7)**.

4.2.3. **Remote video connection to O2FD4M**

1. Connection through Web Viewer

    Web Viewer offers simplest way of video connection to O2FD4M. For video connection, enter the IP address of O2FD4M in the URL window of Internet Explorer as:

    [e.g.] Port 80   Default port 80 can be omitted

http://172.16.64.133/

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

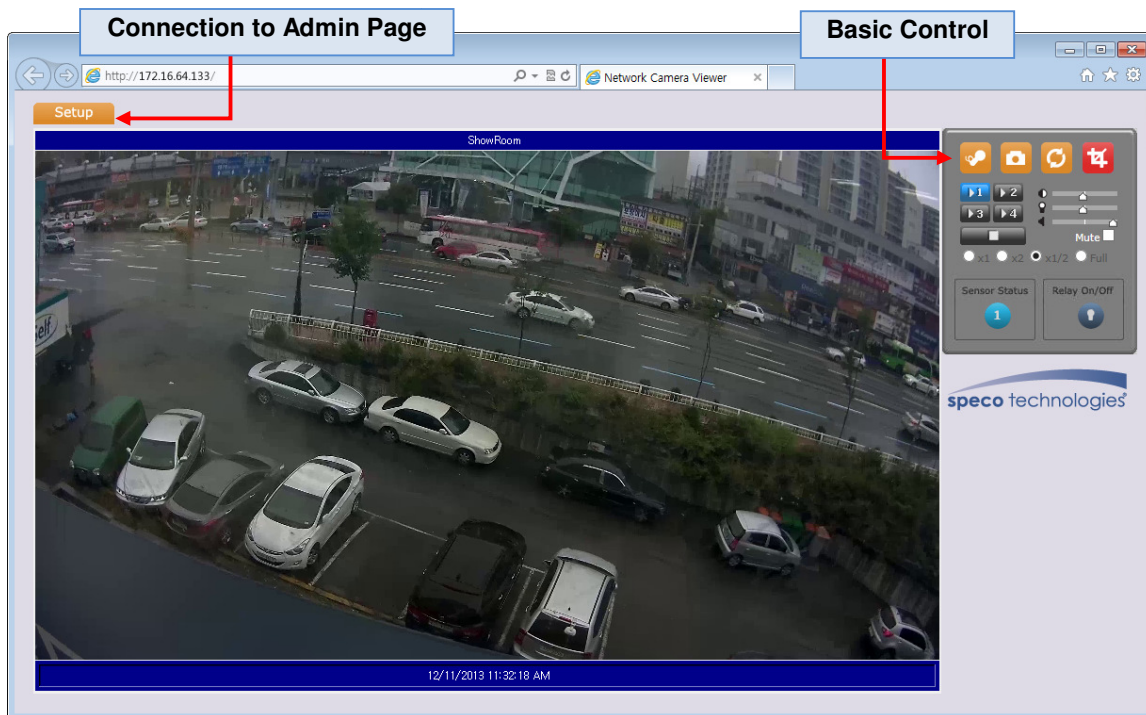**Connection to Admin Page**   **Basic Control**

Figure 4-3. Web Viewer

Default ID and password of Admin Page are **"admin", "1234"**.

For more detailed information, please refer to the **"Configuration Guide"**.

4.2.4. Additional settings through connection to the Admin Page

All parameters of the camera are factory default out of the box. For a more sophisticated target application, parameters need to be changed through the admin page. The admin page can be connected through

"http://**IP_Address:Port_Number**/admin.htm"

ID and password of the administrator are required. Default ID and password are **"admin"**, **"1234"**.
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".**

5. Troubleshooting

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 adapter

If PoE is not applied, the power and network connection should be made through separate cables. It is recommended to use DC adapter 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. (❷ in the figure below), the network connection or network setting is not in normal state. Check the network cable and settings.
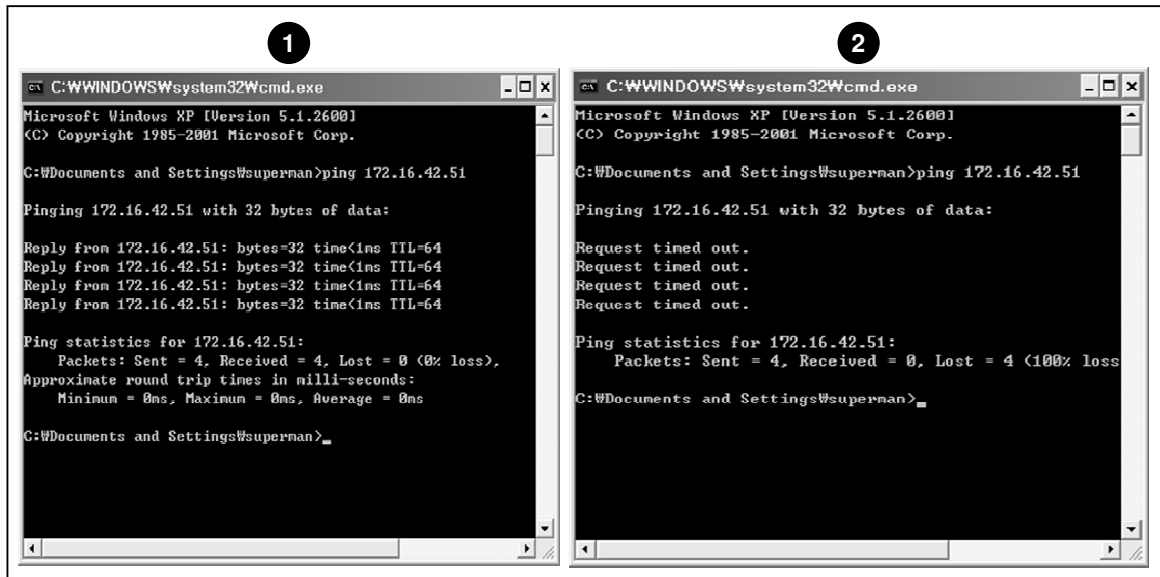
5.3. Technical Assistance

If you need any technical assistance, please contact technical support. 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**

Appendix A – Important Notice in Exchanging SD Card (Micro SD)

SD Card is a non-volatile memory device for storing video and audio data on the product. Note that continuous recording to the SD Card will cause the memory cell to wear out, eventually resulting in failure.

When you plug out the SD Card for replacement or other purpose, follow the steps below in order to prevent data loss or crash of the SD Card.

1. Press factory default button for 1 sec to unmount the SD Card .
   - SD Card can also be unmounted by going to Admin Page -> Sensor&Capture Setup and clicking on CONFIRM button at the right of SD Card Unmount menu.
2. Unplug the SD Card .
   - If no action is taken within 1 minute, SD Card will be mounted again.
3. Plug in new SD Card
4. If the SD Card is a new one for the IP camera, format the SD Card by following through the steps below.
   - Go to Admin Page -> Sensor & Capture Setup
   - In the SD Card management menu, click on CONFIRM button at the right of SD Card Format.

For more detailed information regarding connection to admin page,
please refer to the "Configuration Guide".