LKC1050IR

Network Pancake Dome Camera

Directions

Be careful not to cause any physical damage by dropping or throwing LKC1050IR. Especially keep the device out of reach from children.

Do not disassemble LKC1050IR. No After Service is assumed when disassembled.

Use only the power adapter provided with LKC1050IR.

Be careful to prevent moisture or water penetration into the unit. Particular attention is needed when installing LKC1050IR. 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 authority to operate the equipment.

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1. Introduction

1.1. Overview

LKC1050IR is multi-codec (H.264, MJPEG) IP camera (or network camera) built with embedded software and hardware technology in pancake housing. It enables real time transmission of video of up to 1080P. Remote clients can connect to LKC1050IR for the real time video data through various client solutions running on PC or smart device.

LKC1050IR is specialized in video transmission which economic and practical products removing sensor, replay, etc and the videos can be only available in the field and place where needed.

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

Camera	
Image sensor	Progressive scan 1/2.9 inch CMOS 2.0M pixels
Full resolution	1,920 x 1,080 pixels (Full HD)
Min. illumination	0.2Lux (Color, DSS On), 0.00 Lux (IR LED On)
S/N Ratio	50dB or more
White Balance	Auto
DSS	Supported
WDR	Off/ON
Lens	Built-in Fixed Lens f=3.7mm F2.5
Day & Night	Supported (TDN & IR LED)
IR LED	12EA (850nm, 45°) Max. 12m
Video	
Compression method	Simultaneous Dual Codec (H.264 / MJPEG)
Resolution	1920x1080@30fps
Multi-Profile Streaming	- 3 simultaneous video profiles - Select the codec type, resolution and frame rates for each profile.
Intelligent Bit-Rate Control	Hybrid Bit Rate control (VBR+CBR)
Image Setting	Text overlay, Privacy mask
Motion detection	3 regions
Video Output	Select NTSC/PAL 1.0Vp-p (RCA type on board, 75Ω, composite)
Network	
Network Protocol	- IPv4/v6, TCP, UDP, IGMP, ICMP, ICMPv6, ARP, RARP, PPPoE, RTCP - RTP, RTSP, SDP, HTTP, HTTPS, SMTP, FTP, DHCP, UPnP - NTP, DNS, DynDNS, SOCKS
Dynamic IP	Supported (through management server)
Security	- User ID & Password protection, IP address filtering - HTTPS encryption, Digest Authentication, User Access Log
Streaming method	- RTSP streaming with proprietary format for control informations - Standard RTSP streaming - HTTP streaming
External Terminals	
LAN	10/100BaseT LAN (auto MDIX)
Power	DC 12V input
Factory Reset	Supported

Alternate Power	
Standard PoE	IEEE802.3af Supported
Alarm & Event	
Intelligent Video	Motion Detection
Alarm Triggers	Intelligent Video
Alarm Events	video file upload(FTP), still Image(Email)
Alarm Buffer (Video)	configurable Pre-alarm (5~10 sec) & Post-alarm (10~30 sec)
Client Software	
NVR2	64ch@D1 (free of charge)
Mobile App.	Android, iOS (free of charge)
Miscellaneous	
Operating Temperature	-10°C ~ 40°C
Operation Humidity	8~80% RH
Power	DC 12V Max. 5W
Dimensions	Ø122mm(4.8”) x 55mm(2.1”)
Weight	195g
Approvals	FCC, CE, KCC, RoHS
Package information	IP camera, CD (User’s guide, Software…)
Optional Items	
Adapter	DC 12V, 2A

1.3. Applications of LKC1050IR

- Small Office, Home environment, Personal user.
- Security surveillance (buildings, stores, manufacturing facilities, parking lots, banks, government facilities, military, etc.)
- Remote monitoring (hospitals, kindergartens, traffic, public areas, etc.)
- Weather and environmental observation

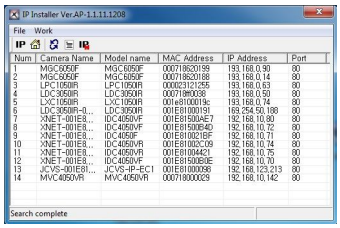
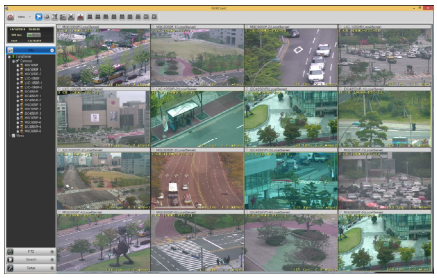
2. Product Description

2.1. Contents

The product package contains followings :

Contents	Description	Remarks
LKC1050IR	IP camera LKC1050IR main unit	
CD	Software & User's Guide	
Accessory	Wall Anchors 3ea, Screw 3ea	

2.2. Product Preview

LKC1050IR	IP-Installer	CMS Software (NVR2)
		
IP Camera	PC software to allocate an IP address to the IP Camera	PC software to view and record the streaming data transmitted from IP camera. (Simultaneous support of up to 64 IP cameras@D1)

2.3. Physical description

2.3.1. External View

Figure 2-1. External view of LKC1050IR

2.3.2. Dimension

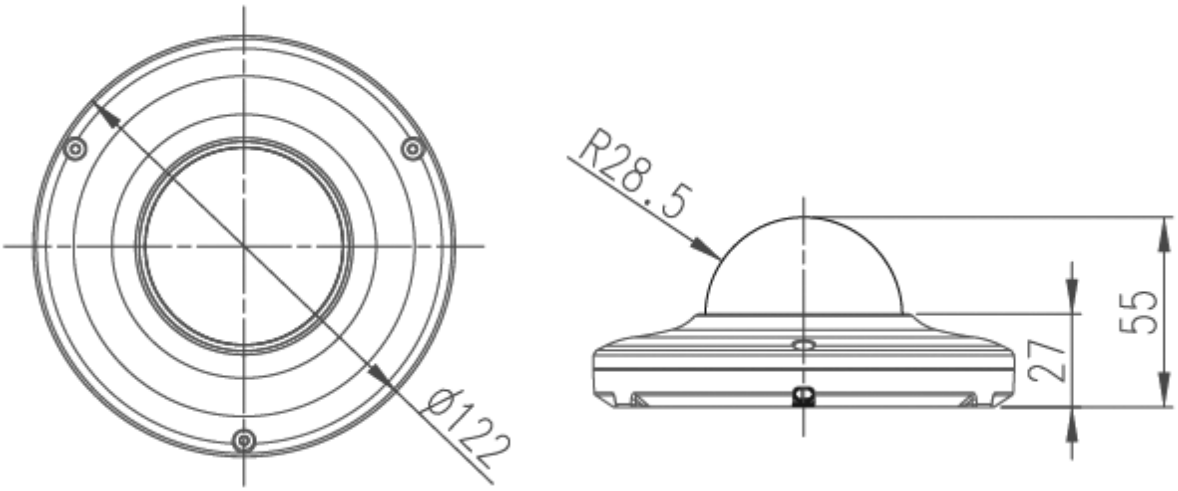


Figure 2-2. Dimension

2.3.3. Inside

- **Network (LAN)**

  100Mbps Ethernet connector (RJ-45) with PoE standard (802.3af). LED on the Ethernet connector shows the status of LKC1050IR as the followings:

  - **Status LED** (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.

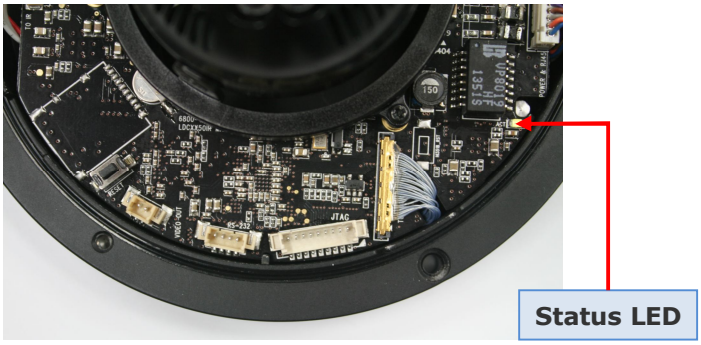


Figure 2-3. Status LED

- **Factory Default Switch**

  Factory default switch is provided for returning the IP camera to factory default state. Unscrew the cover to access the switch. Press the switch about 5 seconds while power is applied to return to factory default state

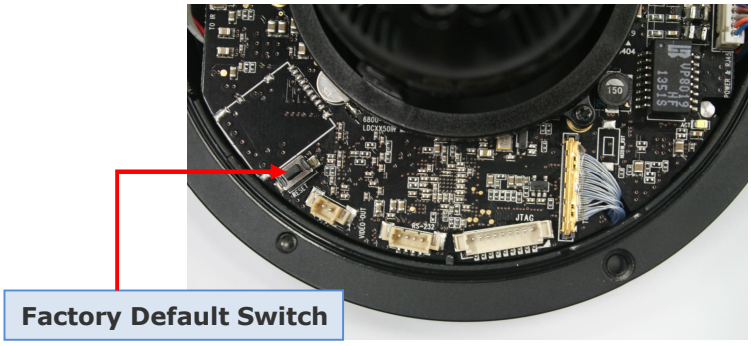


Figure 2-4. Factory Default Switch

2.3.4. External Connector

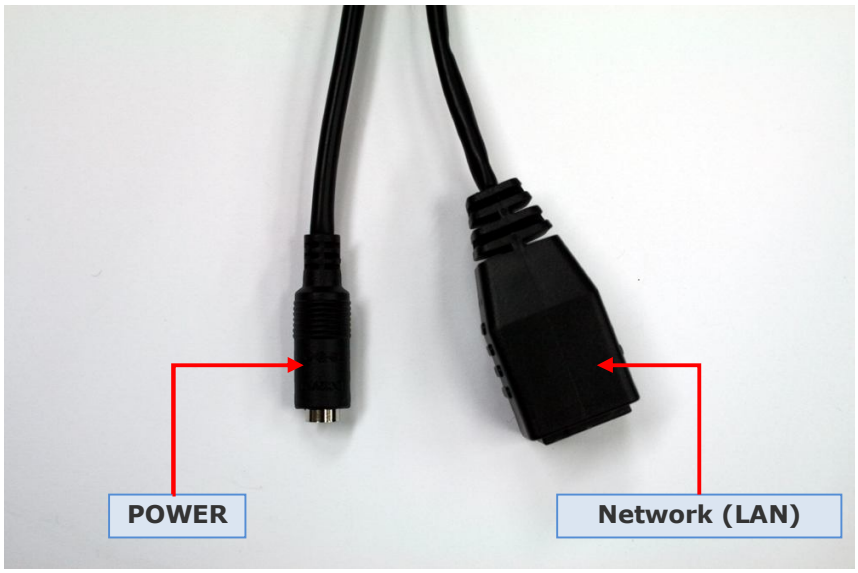


Figure 2-5. External Connector

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

Caution : If LKC1050IR is powered by PoE, do not plug in DC Jack with active DC power into DC power connector.

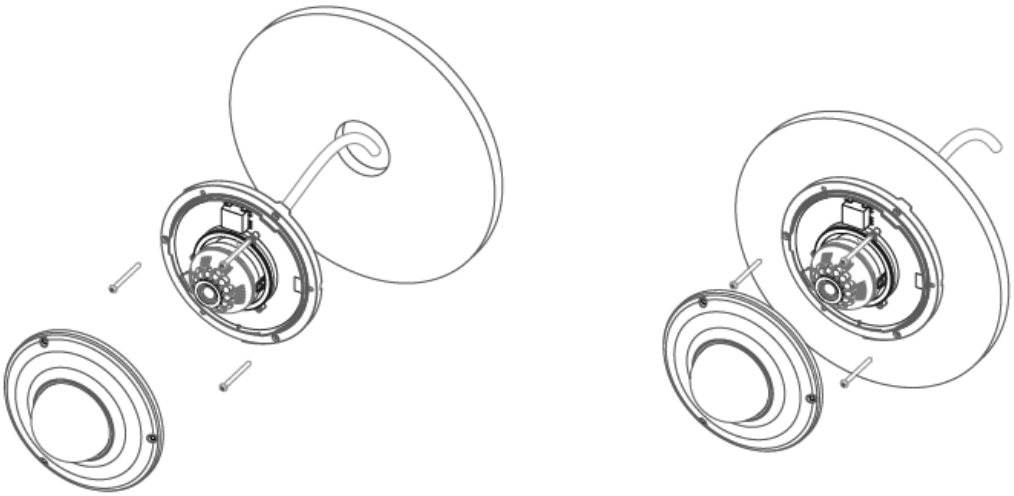
- **Network (LAN)**

  100Mbps Ethernet connector (RJ-45) with PoE standard (802.3af). LED on the Ethernet connector shows the status of LKC1050IR as the followings:

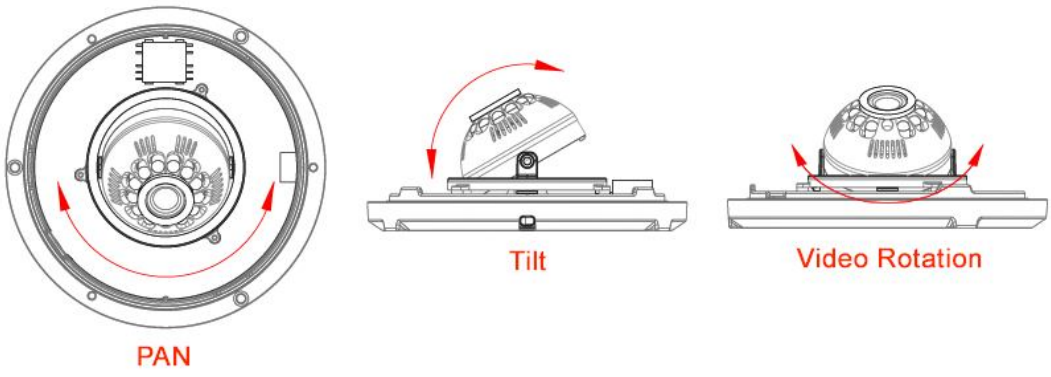
3. On Site Installation

Use cables and conduits that are suitable for the installation. 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

1. Remove the top cover.
2. Fix the base on the wall.



3. Adjust the rotational position of the camera for desired viewing of the site.



4. Place top cover.

4. Getting Started

4.1. PC Requirement

Video streaming data received from LKC1050IR 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 7,8 (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 2000 Professional, Windows XP / Windows Vista / Windows 7

4.2. Quick Installation Guide

4.2.1. Connect PC and LKC1050IR to network.

1. Prepare a PC to run programs for the installation and video connection
   (PC is needed to assign IP address to LKC1050IR)
2. Connect LKC1050IR as shown in dotted line in Figure 4-1. The DC power through DC adaptor is no need to connect if LAN switch supports PoE (IEEE802.3af).

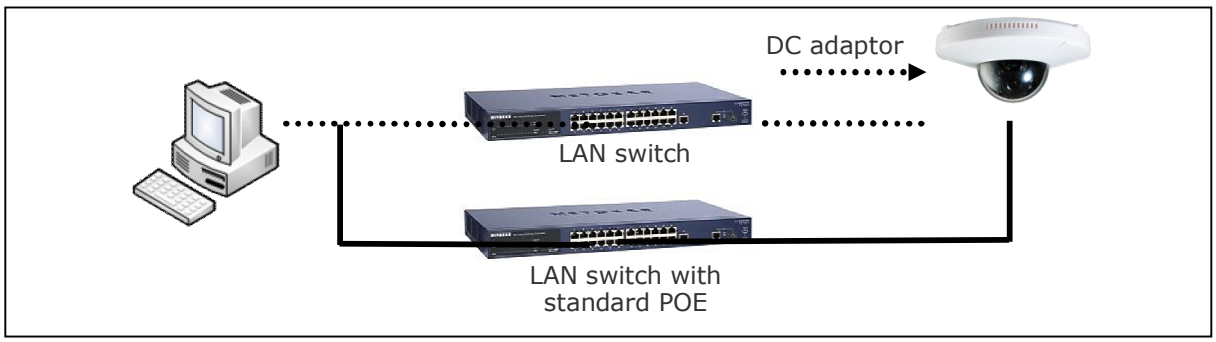


Figure 4-1. Power and network connection

4.2.2. Install IP installer and set IP parameters on LKC1050IR

1. Please insert the Setup CD into your CD-ROM drive, and then please setup

Figure 4-2-1. IP Installer Setup 1

2. Please click 'Install' button to begin the Installation.

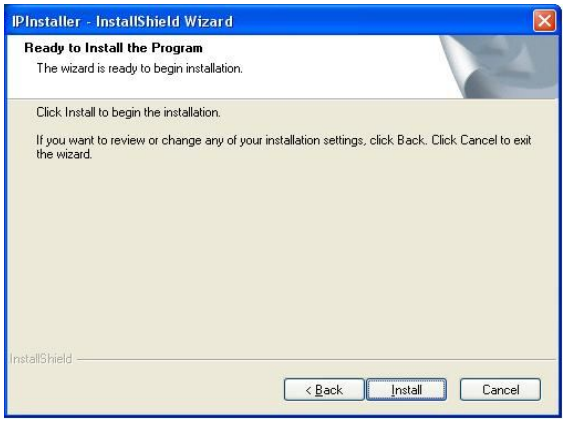


Figure 4-2-2. IP Installer Setup 2

3. Please click 'Finish' button to complete the installation.

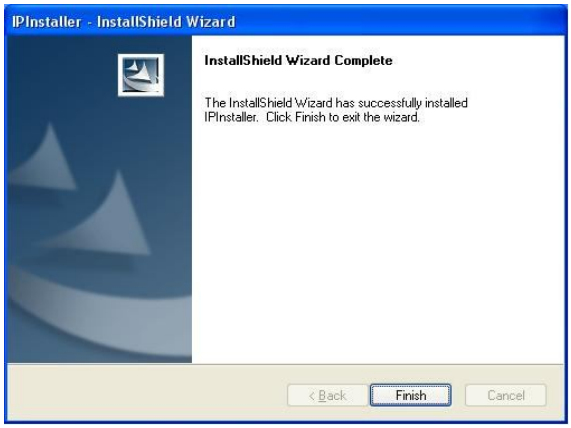


Figure 4-2-3. IP Installer Setup 3

4. XNET IP Installer program is automatically launched like below right after the program installation. Please double click XNET camera on the list.

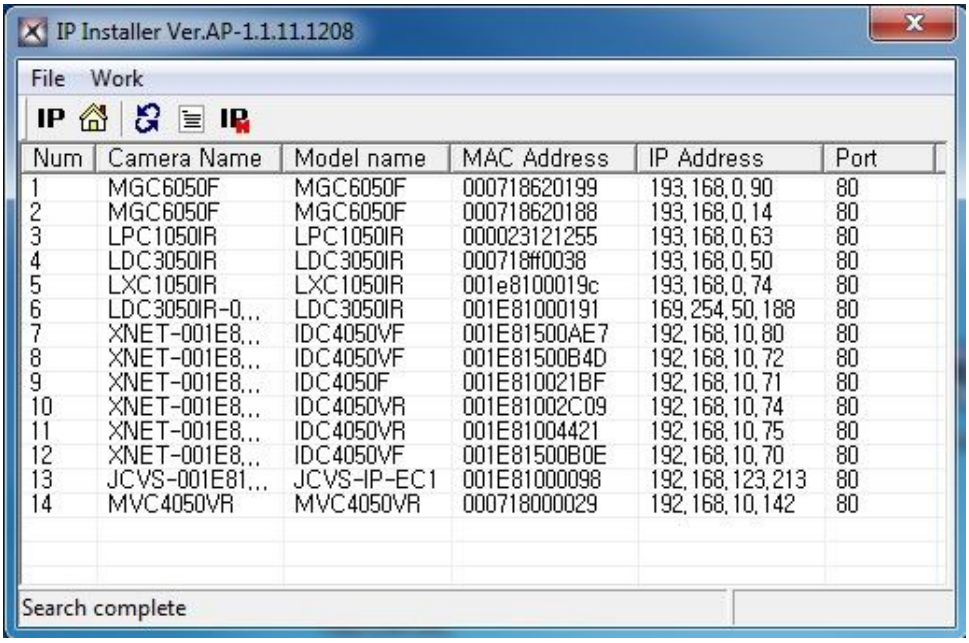


Figure 4-3. IP Installer Start box

5. Select the camera of which you wish to change the IP address and click IP (Set IP Address) button to bring up the following box in Figure 4-4.

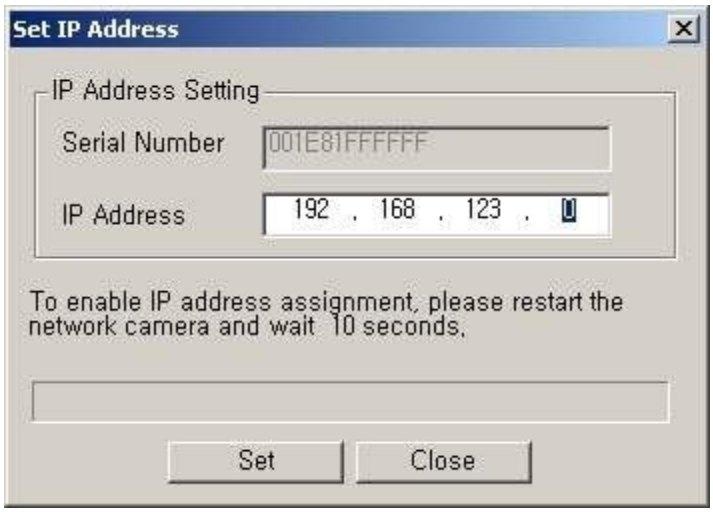


Figure 4-4. IP Address box

6. When you enter the IP address and click Set button, the box shown in Figure 4-4 will appear.

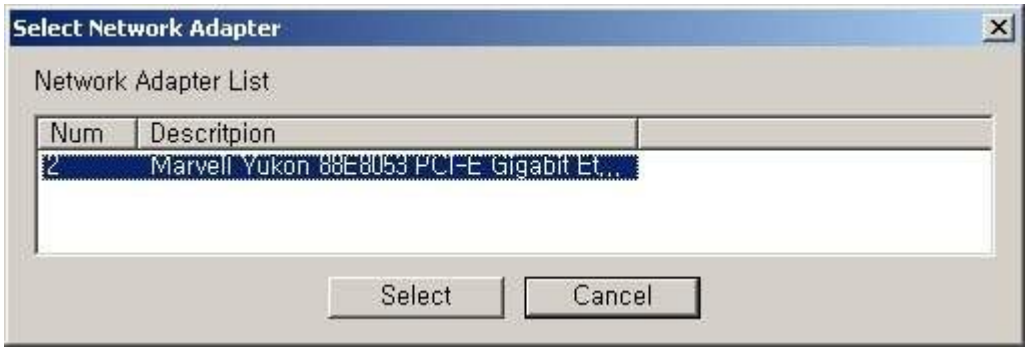


Figure 4-5. Select Network Adapter Box

7. Select the adapter and click select button to change the IP address of the camera.

4.2.3. Remote video connection to LKC1050IR

1. Connection through Web Viewer

   Web Viewer offers simplest way of video connection to LKC1050IR. For video connection, enter the IP address of LKC1050IR 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 NVR2 which is available from the CD or our web site.

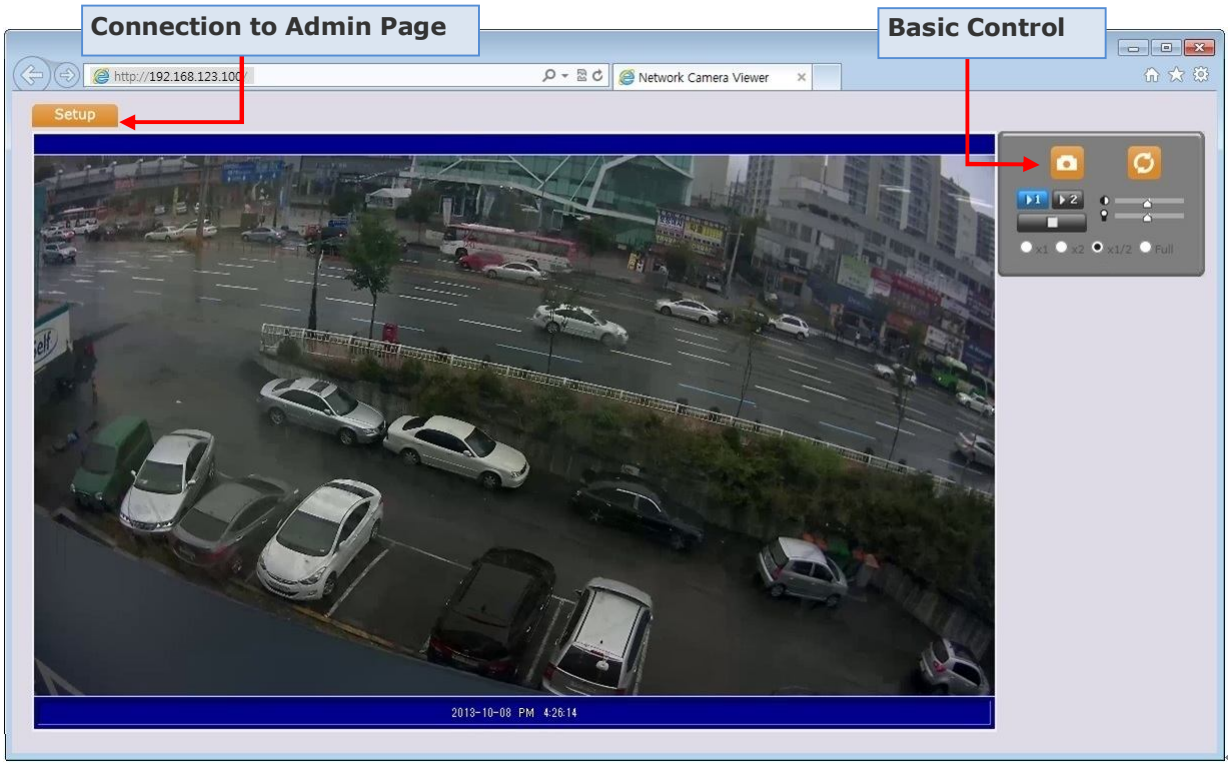


Figure 4-6. Web Viewer

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

2. Connection through NVR2

   NVR2 is a multi-channel CMS program for to IP camera or Video server. Install NVR2 on remote PC to connect to these products. It is needed to assign connection information to NVR2 program before connection. Details for the NVR2 can be found in **[NVR2 User's Guide]**.

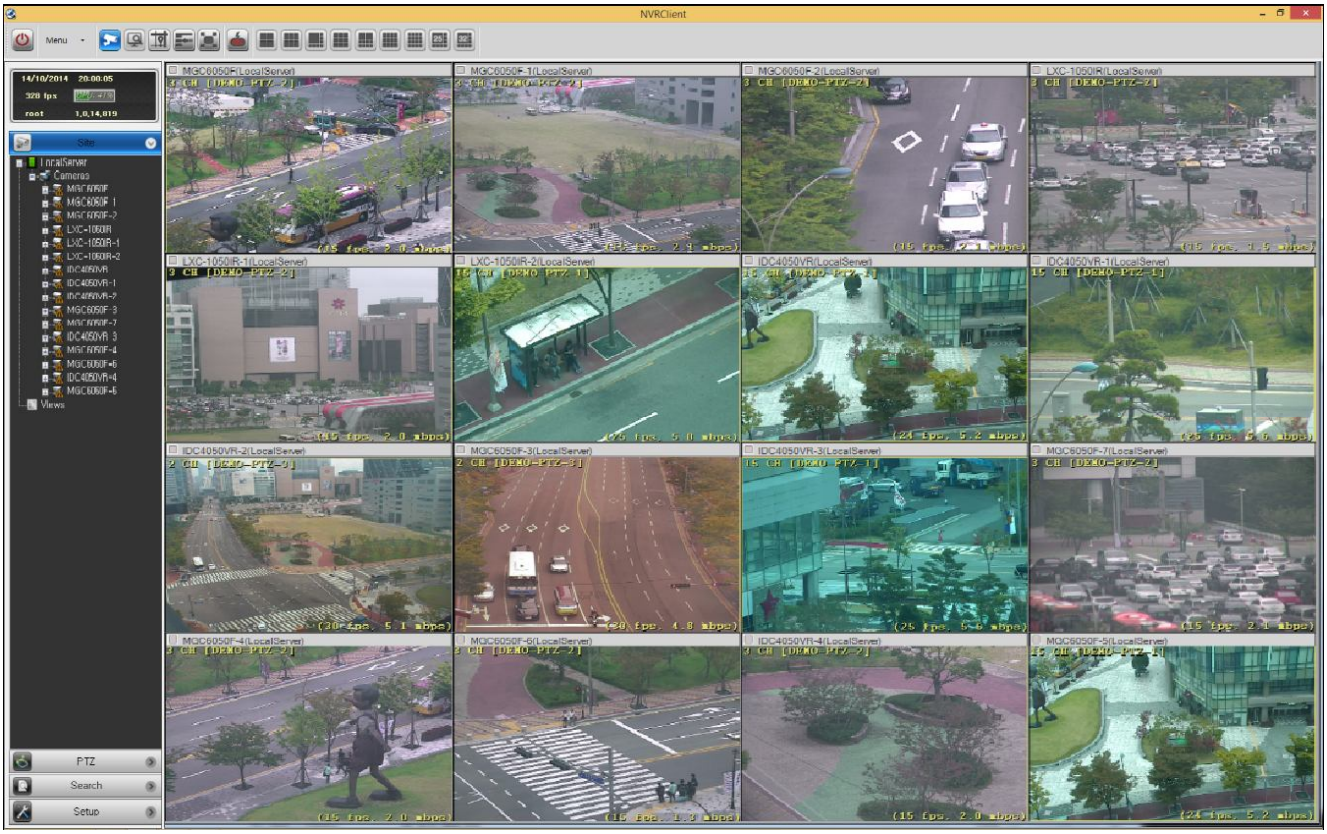


Figure 4-7. NVR2

4.2.4. 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:Port_Number/**admin.htm"

It is needed to enter ID and password of the administrator. Default ID and password are "**root**", "**admin**".

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

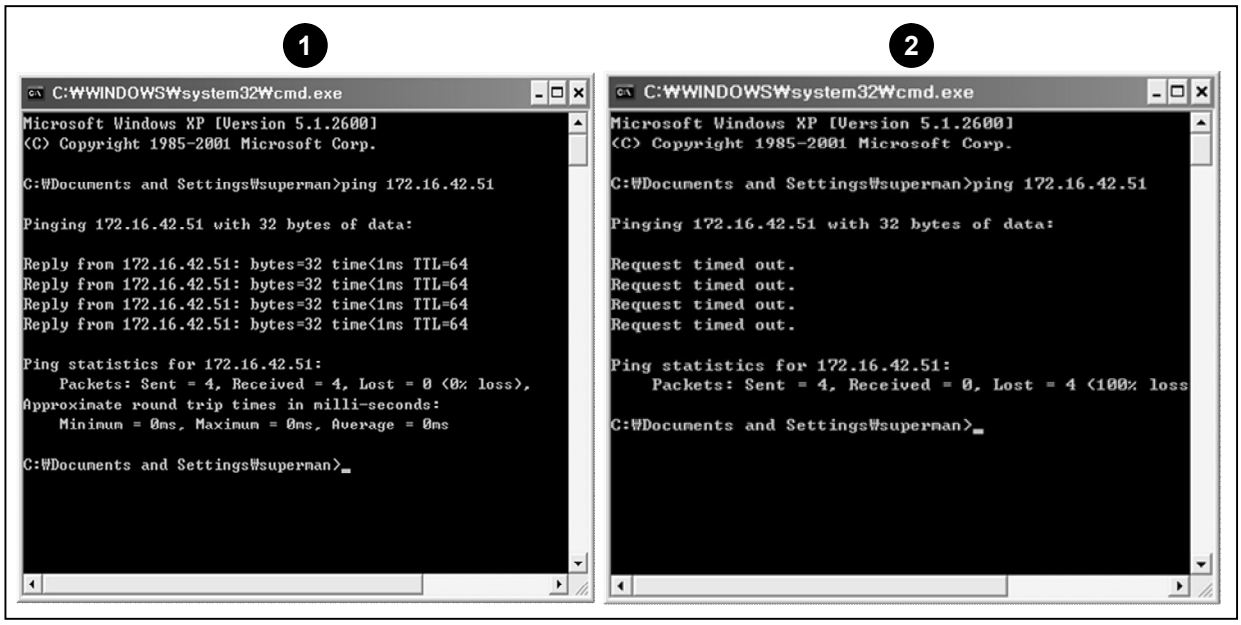
  If PoE is not applied, the power and network connection should be made through separate cables. It is recommended to use DC adaptor supplied by purchasing office for the feeding of the power. In case of replacing the DC power supply, make sure that the power supply meets with the power requirement of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



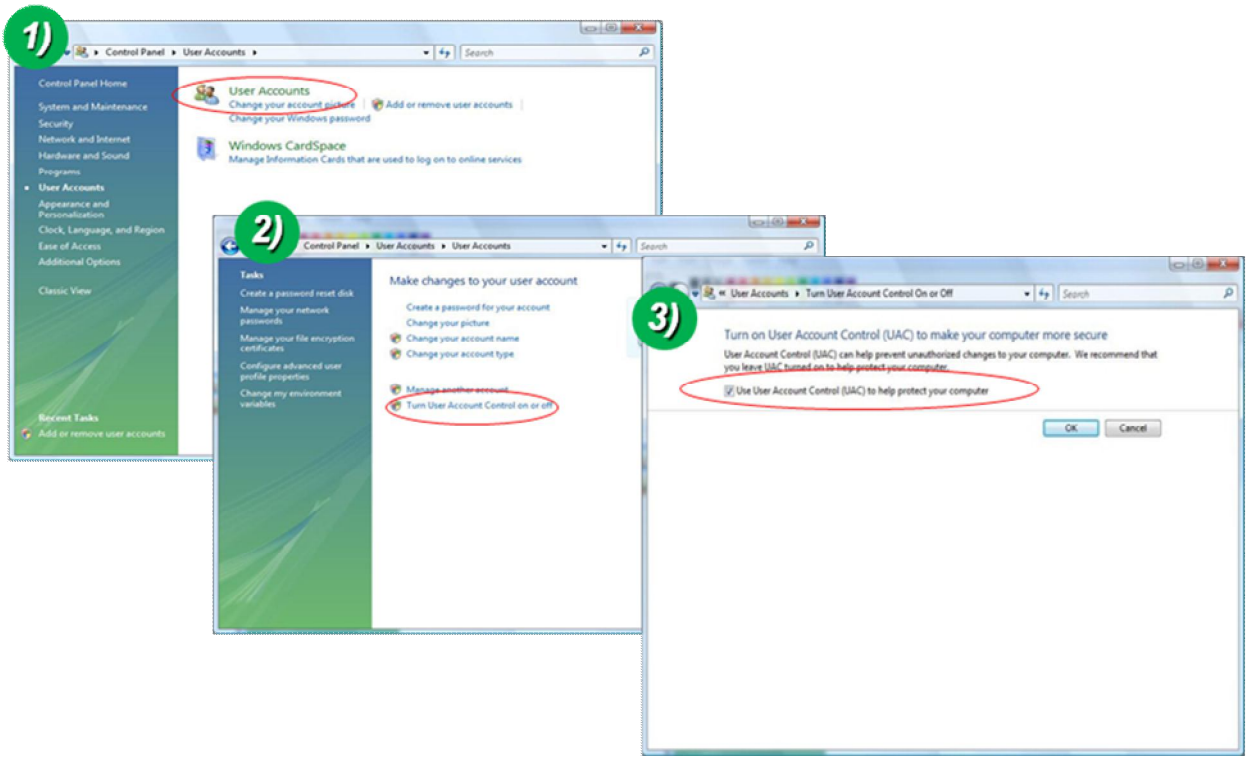
5.3. Windows Vista or Windows 7

Windows Vista and Windows 7 users need to configure UAC (User Access Control) and Privilege Level for proper recording and still video capture in NVR2 and Web Viewer.

<Windows Vista>

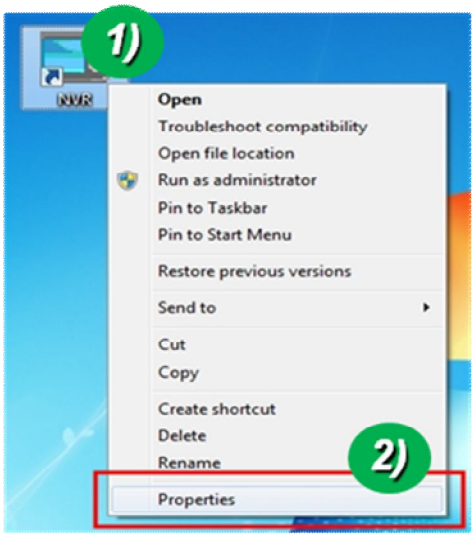
1. UAC (User Access Control) configuration

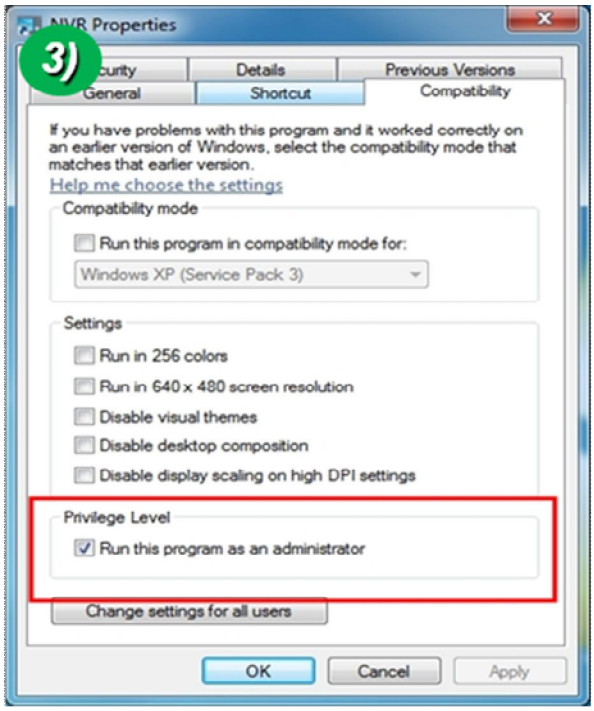
1) Double-click “User Accounts” in control panel
2) Double-click “Turn User Account Control on or off”
3) Uncheck “Use UAC to help protect your computer”



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





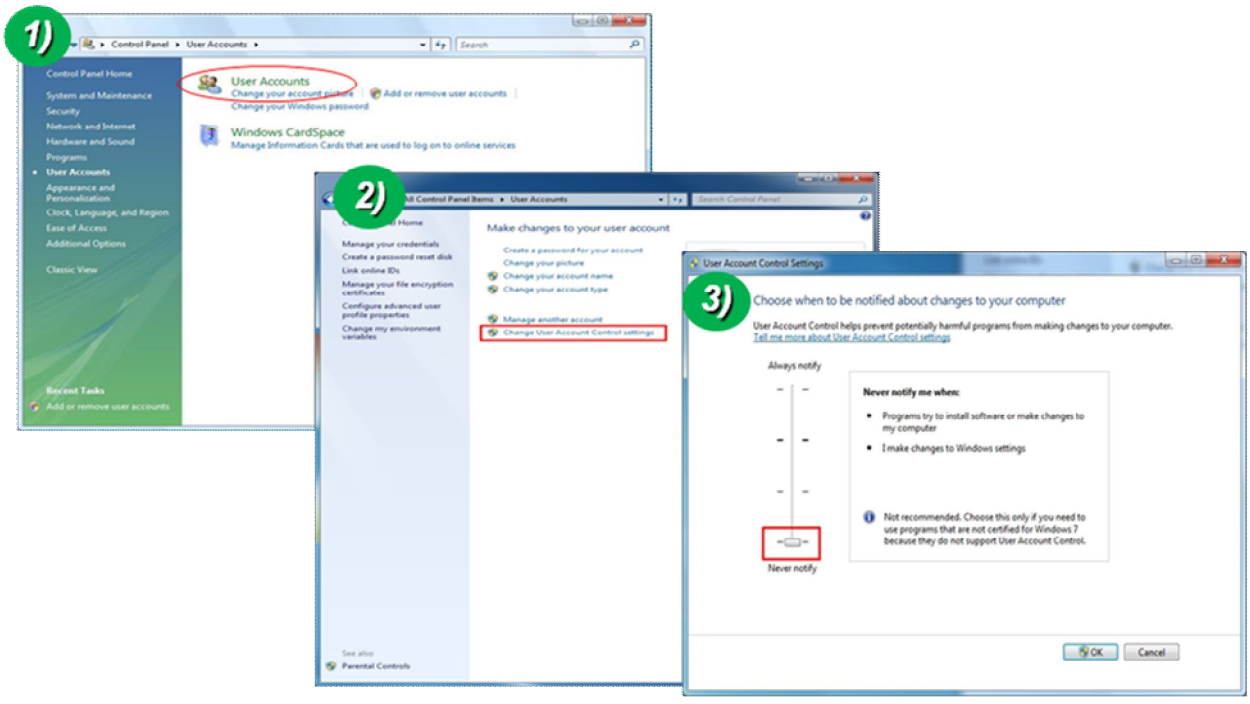
<Windows 7>

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”



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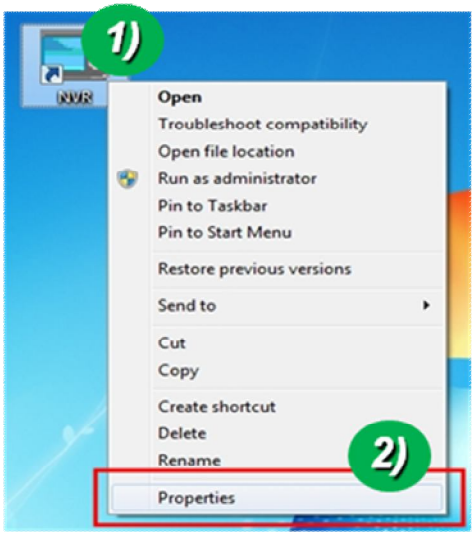

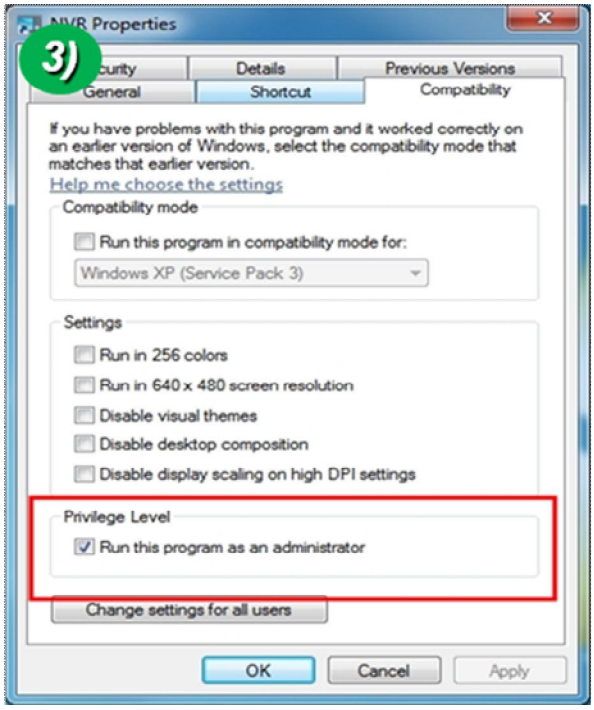

5.4. Technical Assistance

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**