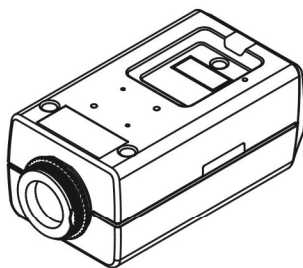


# NETWORK CAMERA

## Quick Reference Guide





**WARNING**

**RISK OF ELECTRIC SHOCK  
DO NOT OPEN**

**WARNING:** TO REDUCE THE RISK OF ELECTRIC SHOCK,  
DO NOT REMOVE COVER (OR BACK).  
NO USER-SERVICEABLE PARTS INSIDE.  
REFER SERVICING TO QUALIFIED  
SERVICE PERSONNEL.

**COMPLIANCE NOTICE OF FCC:**

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 WHEN THE EQUIPMENT IS OPERATED IN A COMMERCIAL ENVIRONMENT. THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE HARMFUL INTERFERENCE TO RADIO COMMUNICATIONS. OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE HARMFUL INTERFERENCE, IN WHICH CASE USERS WILL BE REQUIRED TO CORRECT THE INTERFERENCE AT THEIR OWN EXPENSE.

**WARNING:** CHANGES OR MODIFICATIONS NOT EXPRESSLY APPROVED BY THE PARTY RESPONSIBLE FOR COMPLIANCE COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

THIS CLASS OF DIGITAL APPARATUS MEETS ALL REQUIREMENTS OF THE CANADIAN INTERFERENCE-CAUSING EQUIPMENT REGULATIONS.

The information in this manual is believed to be accurate as of the date of publication. We are not responsible for any problems resulting from the use thereof. The information contained herein is subject to change without notice. Revisions or new editions to this publication may be issued to incorporate such changes.

The software included in this product contains some Open Sources. You may obtain the complete corresponding source code from us. See the Open Source Guide on the software CD (OpenSourceGuide\OpenSourceGuide.pdf) or as a printed document included along with the User's Manual.

**WEEE (Waste Electrical & Electronic Equipment)****Correct Disposal of This Product**

**(Applicable in the European Union and other European countries with separate collection systems)**



This marking shown on the product or its literature, indicates that it should not be disposed with other household wastes at the end of its working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources.

Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take this item for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract. This product should not be mixed with other commercial wastes for disposal.

## Important Safeguards

### 1. Read Instructions

All the safety and operating instructions should be read before the appliance is operated.

### 2. Retain Instructions

The safety and operating instructions should be retained for future reference.

### 3. Cleaning

Unplug this equipment from the wall outlet before cleaning it. Do not use liquid aerosol cleaners. Use a damp soft cloth for cleaning.

### 4. Attachments

Never add any attachments and/or equipment without the approval of the manufacturer as such additions may result in the risk of fire, electric shock or other personal injury.

### 5. Water and/or Moisture

Do not use this equipment near water or in contact with water.

### 6. Placing and Accessories

Do not place this equipment on an wall or ceiling that is not strong enough to sustain the camera. The equipment may fall, causing serious injury to a child or adult, and serious damage to the equipment. Wall or shelf mounting should follow the manufacturer's instructions, and should use a mounting kit approved by the manufacturer.



This equipment and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the equipment and cart combination to overturn.

Do not place this equipment in an enclosed space. Sufficient ventilation is required to prevent an increase in ambient temperature which can cause malfunction or the risk of fire.

### 7. Power Sources

This equipment should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power, please consult your equipment dealer or local power company.

### 8. Power Cord

Operator or installer must remove power and TNT connections before handling the equipment.

### 9. Lightning

For added protection for this equipment during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the equipment due to lightning and power-line surges. If thunder or lightning is common where the equipment is installed, use a surge protection device.

### 10. Overloading

Do not overload wall outlets and extension cords as this can result in the risk of fire or electric shock.

### 11. Objects and Liquids

Never push objects of any kind through openings of this equipment as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the equipment.

### 12. Servicing

Do not attempt to service this equipment yourself. Refer all servicing to qualified service personnel.

### 13. Damage requiring Service

Unplug this equipment from the wall outlet and refer servicing to qualified service personnel under the following conditions:

- A. When the power-supply cord or the plug has been damaged.
- B. If liquid is spilled, or objects have hit the equipment.
- C. If the equipment has been exposed to rain or water.
- D. If the equipment does not operate normally by following the operating instructions, adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the equipment to its normal operation.
- E. If the equipment has been dropped, or the cabinet damaged.
- F. When the equipment exhibits a distinct change in performance — this indicates a need for service.

### 14. Replacement Parts

When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or that have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock or other hazards.

### 15. Safety Check

Upon completion of any service or repairs to this equipment, ask the service technician to perform safety checks to determine that the equipment is in proper operating condition.

### 16. Field Installation

This installation should be made by a qualified service person and should conform to all local codes.

### 17. Correct Batteries

Warning: Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.

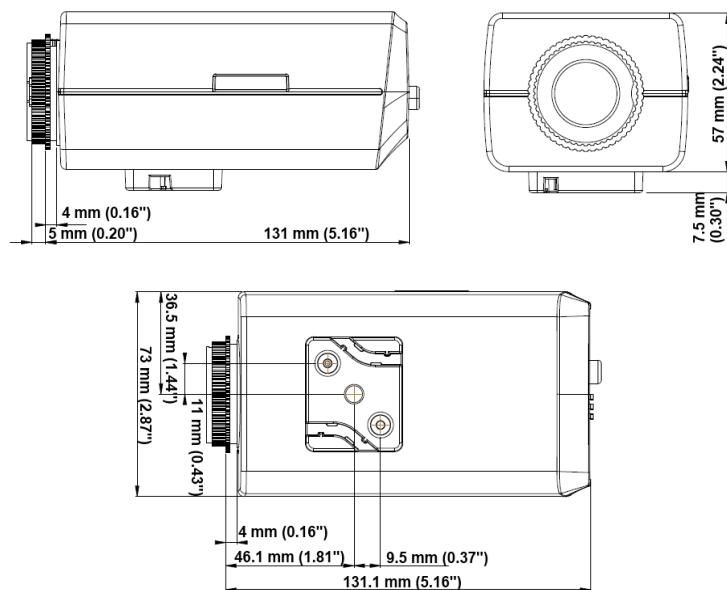
### 18. Tmra

A manufacturer's maximum recommended ambient temperature (Tmra) for the equipment must be specified so that the customer and installer may determine a suitable maximum operating environment for the equipment.

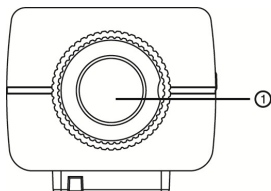
## Package Contents

- Network Camera
- C-Mount Ring
- DC-Type Auto Iris Lens Connector Socket
- Protective cover (attached to the unit)
- Installation CD (INIT/SiRiS Lite software and User's Manuals)
- Quick Reference Guide (This Document)
- Mount Kits

## Dimensions



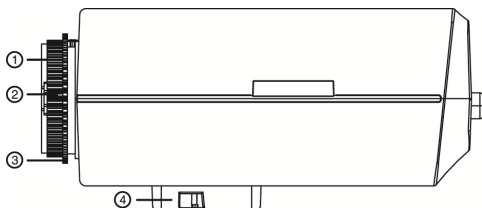
## Front Side View



- ① **Image Sensor:** Converts an optical image of the object to an electric signal.

**NOTE:** Cover the image sensor by using the protective cover provided with the camera when a lens is not mounted on the camera.

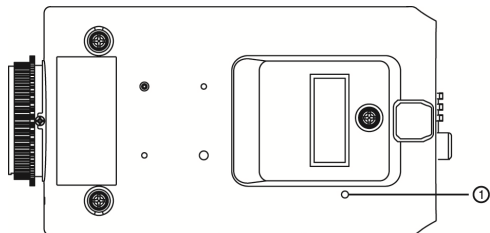
## Right Side View



- ① Protective cover  
 ② C-Mount Ring  
 ③ Back Focus Adjustment Ring  
 ④ Mount Bracket

- **Protective cover:** Attach when a lens is not installed to protect the image sensor.
- **C-Mount Ring:** Attach the ring provided with the camera to the camera when using the C-Mount lens.
- **Back Focus Adjustment Ring:** Loose screws and adjust the back focus by turning the ring clockwise or counter-clockwise, and then tighten the screws to fix the current back focus.
- **Mount Bracket:** You can attach a bracket to the bottom or top of the camera to mount it. Use 1/4–20 UNC (20 Thread), 2.5mm +/- 0.2 mm (ISO Standard) or 0.197 (ASA Standard) standard screws when attaching the bracket.

## Top View



- ① **Factory Reset Switch:** Use to return all settings to the original factory settings. See below for details.

## Factory Reset

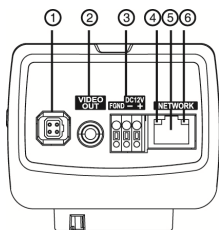
This will only be used on the rare occasions that you want to return all the settings to the original factory settings.

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

Cut off the power from the camera. → Poke a straightened paperclip into the factory reset switch hole. → Turn on the power while holding the reset switch → Release the switch in about 5 seconds after the Power LED blinks. → The camera resets to factory defaults and restarts after completing the factory reset.

You can perform a factory reset while the camera is turned on by pressing the factory reset switch and releasing the reset switch. A factory reset also can be performed remotely by running the INIT program. The camera restarts after completing the factory reset. Refer to the INIT User's Manual for details on remote factory resetting.

## Rear View



- ① Auto Iris Lens Connector
- ② Video Out
- ③ Power
- ④ Power LED
- ⑤ Network Port
- ⑥ Network LED

- **Auto Iris Lens Connector:** Connect the auto iris jack if the lens is a DC-type auto iris lens. Use the lens of which the auto iris jack is long.
- **Video Out:** Connect to a monitor. This is intended for video preview while adjusting the camera.
- **Power**
  - DC12V +/-: Connect two wires from the power adapter. You must distinguish power polarity when connecting the wires. The camera starts booting as soon as power is applied.
  - FGND (Frame GND): Ground the camera by using the grounding cable and screw.
- **Power LED:** Indicates system operation status. See **Appendix – LED Indicators** of the User's Manual for details. The LED will not light regardless of the status if the Status LED is disabled when configuring the **System – General** setup.
- **Network Port:** Connect a Cat5 cable with an RJ-45 connector. You can change the settings, manage the camera, upgrade the software or monitor video remotely via the network connection. Refer to the INIT User's Manual for details about network connection setup. When using a PoE switch, the camera can be supplied with power over Ethernet cable (supported for not every model) (Refer to the PoE switch manufacturer's manual for details).

- **Network LED:** Indicates network connection status. See Appendix – LED Indicators of the User's Manual for details. The LED will not light regardless of the status if the Status LED is disabled when configuring the System – General setup.

#### **NOTES:**

- Camera surveillance may be prohibited by laws that vary by region. Check the laws in your area before using this product for surveillance purposes.
- To make connections on the power connector strip, press and hold the button and insert the wire in the hole below the button. After releasing the button, tug gently on the wire to make certain it is connected. To disconnect a wire, press and hold the button above the wire and pull out the wire.

#### **CAUTIONS:**

- **The frame GND of the power should be grounded before using.**
- **The camera restarts after the power adaptor is disconnected from the camera when switching the power source from 12 VDC to PoE.**
- **The network connector is not designed to be connected directly with cable or wire intended for outdoor use.**

**WARNING: ROUTE POWER CORDS SO THAT THEY ARE NOT A TRIPPING HAZARD. MAKE CERTAIN THE POWER CORD WILL NOT BE PINCHED OR ABRADED BY FURNITURE. DO NOT INSTALL POWER CORDS UNDER RUGS OR CARPET. USE THE POWER CORD THAT HAS A GROUNDING PIN. IF YOUR POWER OUTLET DOES NOT HAVE A GROUNDING PIN RECEPTACLE, DO NOT MODIFY THE PLUG. DO NOT OVERLOAD THE CIRCUIT BY PLUGGING TOO MANY DEVICES INTO ONE CIRCUIT.**

## **Installation**

A lens is not supplied with the camera. Ask your dealer or distributor about purchasing one. The camera supports manual iris and the DC-type auto-iris lenses, and it accepts CS- and C-mount lenses.

#### **NOTES:**

- A mega-pixel lens is recommended for the best image resolution.
- Video-type auto-iris lenses are not supported.
- Use a lens that weighs less than 1.0 lbs. (450g). If the lens weighs too much, the camera might become unstable.

**WARNING: You might need to reinforce the wall or ceiling. If the wall or ceiling is not strong enough to support the camera, the camera might fall damaging the camera or causing injuries.**

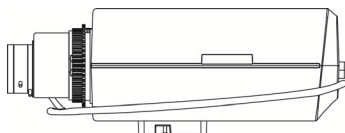
### **Manual Iris Lens**

1. Remove the protective cover from the camera.



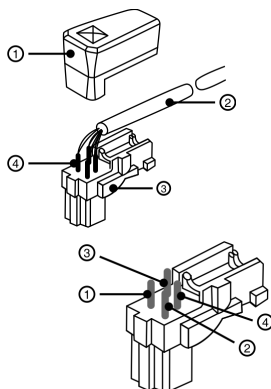
2. Mount the lens on the camera by turning the lens clockwise.
3. Turn the iris ring on the lens to the open position and adjust the iris properly.

## DC-Type Auto Iris Lens



1. If necessary, solder the lens control wires to the connector socket supplied with the lens.

**NOTE:** Please refer to the lens manufacturer's manual for soldering the lens control wires.

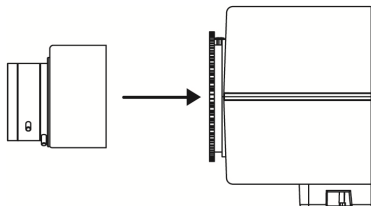


- ① Connector Socket Cover
- ② IRIS Control Cable
- ③ Connector Socket
- ④ Heat Shrink Tubing

PIN	Name
1	Damp Coil -
2	Damp Coil +
3	Drive Coil +
4	Drive Coil -

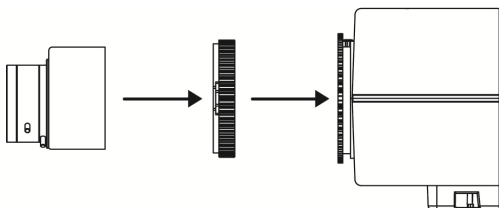
2. Remove the protective cover from the camera.
3. Mount the lens on the camera by turning the lens clockwise, and then connect the auto iris jack to the auto iris lens connector. Use the lens of which the auto iris jack is long.

## CS-Mount Lens



1. Remove the protective cover from the camera.
2. Mount the CS-mount lens on the camera by turning the lens clockwise.

## C-Mount Lens

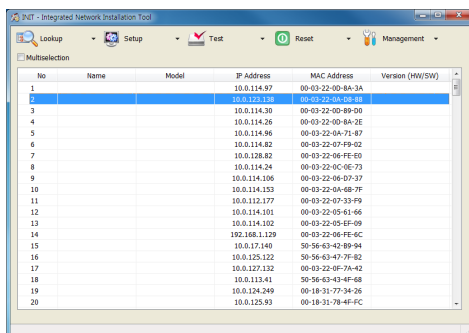


1. Remove the protective cover from the camera.
2. Mount the C-mount ring on the camera by turning the ring clockwise.
3. Mount the C-mount lens on the C-mount ring by tuning the lens clockwise.

## Running Installation Program (INIT)

The INIT (Integrated Network Installation Tool) program is provided with the product for connection to the product. You can connect to the product remotely via Ethernet to change its settings and manage it. Run the INIT program as follows.

1. Insert the program CD.
2. Run the INIT program by double clicking the INIT.exe file in the INIT folder.
3. Set the language option. You can change the language option after running the program.
4. The following Main screen appears, and you can connect to the camera and change its settings. Selecting the Multiselection option allows you to select multiple network devices and change their settings at the same time (The same model only). See the INIT User's Manual on the CD for details about each function.



### NOTES:

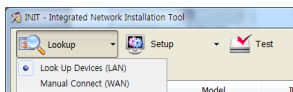
- Do not change the IP address of your computer manually while running the INIT program. If you do, the network connection between the network device and your computer might be cut off.
- This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (<http://www.openssl.org/>)

## Connecting to Network Camera

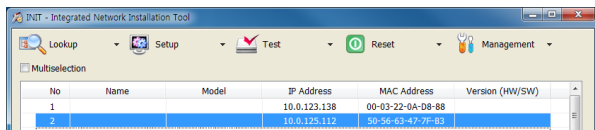
### Connecting from Local PC

The network camera is set to be automatically assigned a temporary IP address from a DHCP server by default. If there is no DHCP server, the IP address is set to 169.254.x.x. It allows you to connect to the network camera without additional installation procedure.

1. Run the INIT program on the local PC.
2. Click the Lookup icon and select Look Up Devices (LAN).



3. A list of network cameras within a local network is displayed. Check the MAC address of the network camera to connect. You can check the MAC address in the sticker adhered to the network camera.

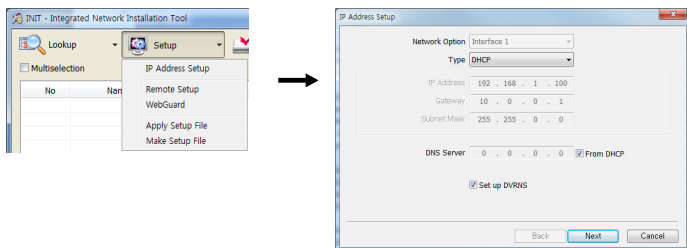


4. Check the IP address of the network camera to connect in the list of network cameras.
5. Run a remote program on the local PC and register the network camera on the remote program with the IP address.

### Connecting from Remote PC

If you want to connect to the network camera from a remote PC, it is required to change the network connection information of the network camera by connecting to the network camera from a local PC.

1. Find the network camera to connect. Refer to the explanation of procedures from 1 to 3 in the To connect from a local PC section above.
2. Select the network camera to connect and click the Setup icon. Select IP Address Setup and set up the network connection information as follows:



- **Type:** Select Manual, ADSL (with PPPoE) or DHCP depending on the network connection type. If you select Manual, you need to acquire the IP address, gateway and subnet mask from your network administrator or Internet service provider. The ADSL connection requires ID and password.
  - **DNS Server:** Enter the IP address of the DNS server. If you selected DHCP for the network connection type, selecting From DHCP automatically assigns the IP address of the DNS server.
  - **Set up DVRNS:** Enable the option by checking the box. When you check the box, the Next button at the bottom changes to Next. Click the Next button and enable the Use DVRNS option by checking the box. Set up the DVRNS function referring to the DVRNS Setup section below.
3. Set up the UPnP function in the NAT (Network Address Translation) device and the network camera. See the NAT device User's Manual for details about setting in the NAT device. See the UPnP Function Setup in Network Camera section below for details about setting in the network camera.

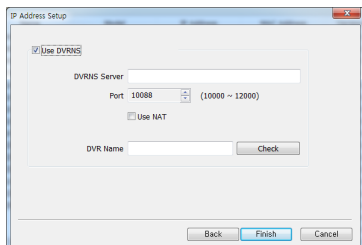
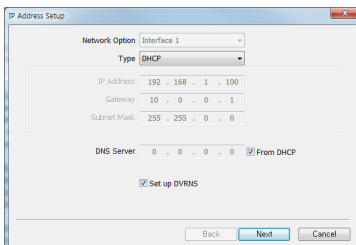
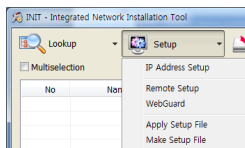
**NOTE:** If the NAT device does not support the UPnP function, you have to set up port forwarding manually. Also, if more than one network camera is connected to the NAT device, the port numbers of each network camera should be different. See the NAT device User's Manual for details about setting port forward in the NAT device. See the explanation of procedures from 1 to 3 in the *UPnP Function Setup in Network Camera* section below for details about checking port numbers of the network camera.

4. Run a remote program on a remote PC and register the network camera on the remote program with the name registered on the DVRNS server.

**NOTE:** Check that firewall is disabled in the router or NAT device. If firewall is enabled, you may not connect to the network camera. Ask your network administrator for details or see the NAT device User's Manual.

## DVRNS Setup

Run the INIT program on the local PC → Select the network camera → Click the Setup icon → Select IP Address Setup → Set up the network connection information and check the Set up DVRNS box → Click the Next button → Check the Use DVRNS box → Enter the DVRNS server information.



- **Use DVRNS:** Enter the IP address or domain name of the DVRNS server.
- **Port:** Set up the port number of the DVRNS server.
- **Use NAT:** Check the box when the camera uses a NAT (Network Address Translation) device for network connection.
- **DVR Name:** Enter the camera name to be registered on the DVRNS server. Check whether or not the name is available by clicking the Check button.

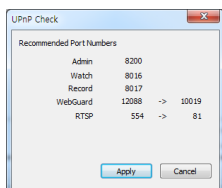
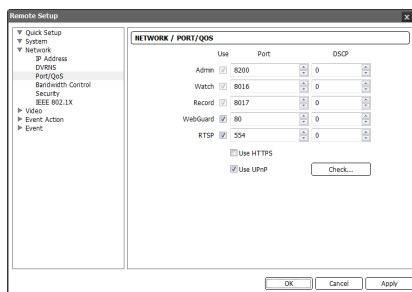
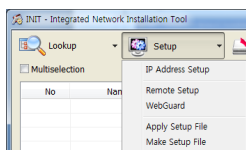
#### NOTES:

- The network camera supports DVRNS (DVR Name Service) function. The DVRNS function allows you to access the network camera remotely by using the camera name instead of its IP address and it allows the network camera to use dynamic IP addresses for remote connection. For the DVRNS function to work properly, the camera should be registered on the DVRNS server.
- You will need to get the IP address or domain name and the port number of the DVRNS server from your network administrator.

**CAUTION:** The DVRNS server that we support is for your convenience and it can stop operating unexpectedly for the server update or malfunction. We are not responsible for any problems caused by the DVRNS server stopping operation.


### UPnP Function Setup in Network Camera

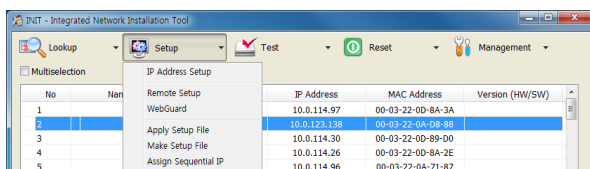
1. Run the INIT program on the local PC and find the network camera to connect. Refer to the Connecting from Local PC section.
2. Select the network camera to connect and click the Setup icon.
3. Select Remote Setup and select Network – Port/QoS from the menu on the left side.
4. Check the Use UPnP box at the bottom and click the Check button. The network camera checks the current port settings.



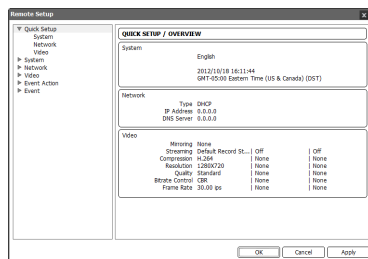
A success message is displayed if all the current port numbers are available, and recommended port numbers are displayed if any of the current port numbers are not available. Clicking the Apply button applies the recommended port numbers.

## Configuring Network Camera

Run the INIT program → Click a network camera from the device list → Click the Setup icon  on the Main screen → Select Remote Setup from the Setup menu.



The Remote Setup screen appears, and you can change the settings of the network camera. See the User's Manual on the CD for details about the configuring each settings.



## Monitoring

Monitoring video from the network camera is supported on remote programs: PDR-mobile, WebGuard, SiRiS Lite.


- aPDR-mobile, iPDR-mobile: Monitoring program on an Android or iOS based mobile device
- WebGuard: Web monitoring program
- SiRiS Lite: Monitoring, recording and playback program

See the User's Manual of each program on the CD for details.

### PDR-mobile

**CAUTION: This program uses large amounts of data and you are responsible for all data charges. Please contact your service provider's customer service to confirm or add an unlimited data plan.**

#### Android Based Mobile Devices

1. Run the  Play Store (Google Play) application in the mobile device.
2. Enter aPDR-mobile in the search field of the Play Store (Google Play) application.
3. Install the aPDR-mobile program and run the program.
4. Push the Menu button of the mobile device and the default menu is displayed.

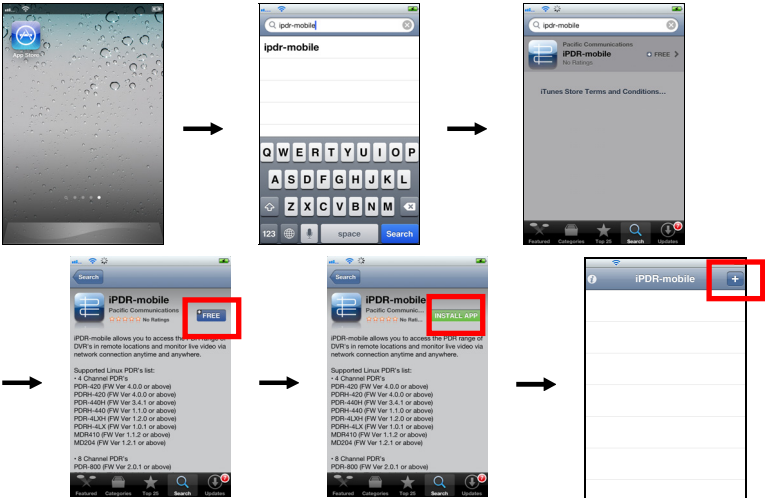


5. Tap the New site button and enter the device (network camera) information to register it.

- **Description:** Enter the device name to use in the aPDR-mobile program.
- **Use DVRNS:** If the device uses the DVRNS function, enable the Use DVRNS option. You can set up the information for the DVRNS server by tapping the Settings button in the default menu.
- **Address, Watch Port, Search Port, Audio Port:** Enter the IP address and port number of the device. If the device uses the DVRNS function, check that the Use DVRNS option is enabled and enter the device name registered on the DVRNS server instead of the IP address. The name you enter should match the name set during the DVRNS setup on the device.
- **User ID, Password:** Enter the user ID and password. The user ID and password you enter should match the user ID and password used to log on to the device.

## iOS Based Mobile Devices

1. Run the App Store application in the mobile device.
2. Enter iPDR-mobile in the search field of the App Store application.
3. Install the iPDR-mobile program and run the program.



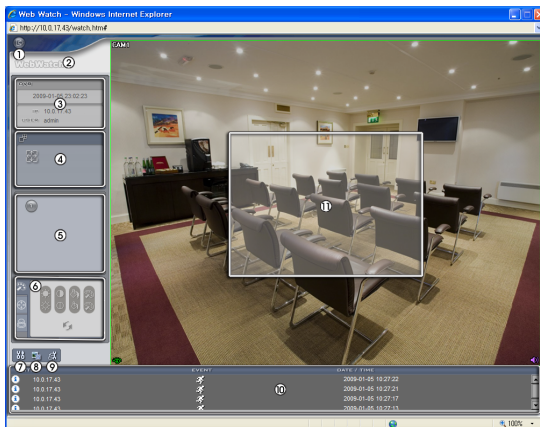
4. Tap the button and enter the device (network camera) information to register it.



- **General:** Enter the device name to use in the iPDR-mobile program.
- **Connection Info:** Enter the IP address and port number of the device. If the device uses the DVRNS function, enable the DVRNS option and enter the device name registered on the DVRNS server instead of the IP address. The name you enter should match the name set during the DVRNS setup on the device.
- **Login Info:** Enter the user ID and password set on the device. The user ID and password you enter should match the user ID and password used to log on to the device.

## WebGuard

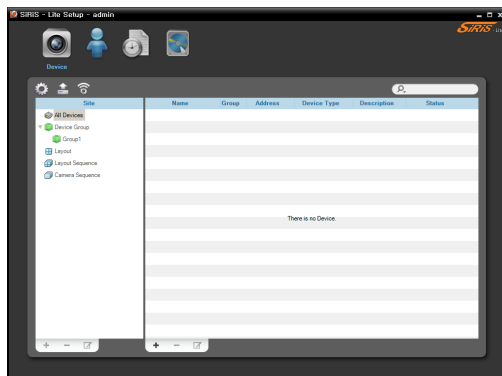
1. Start Internet Explorer on your PC.
2. Enter in the address field the network camera's IP address and WebGuard port number or DVRNS server address and camera name registered on the DVRNS server (e.g. <http://10.0.127.1:80> in the case that the IP address is 10.0.127.1 and the WebGuard port number is 80, or <http://dvrnames.net:camera1> in the case that the network camera uses the DVRNS function and the DVRNS server address is [dvrnames.net](http://dvrnames.net) and camera name is camera1)
3. Enter login information. The user ID and password you enter should match the user ID and password used to log on to the network camera (default user ID/password is admin with no password or pacom/pacom).



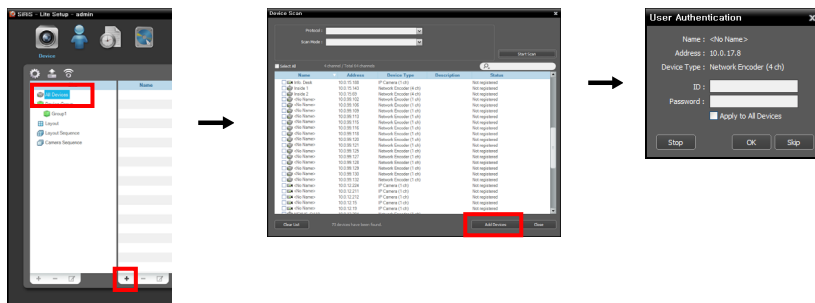
- ① Log Out
- ② Version
- ③ Information
- ④ Full Display
- ⑤ Camera Button
- ⑥ Image Adjustment
- ⑦ Setup
- ⑧ Save Image
- ⑨ Remote Setup
- ⑩ Event Status Window
- ⑪ Screen

## Recording and Playing Back

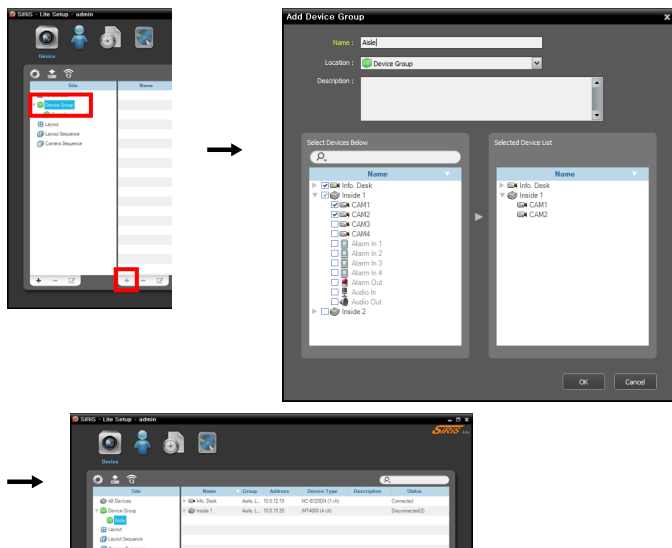
1. Insert the installation CD.
2. Install the SiRiS Lite installation file on the PC. See the User's Manual on the CD for details about installation.
3. Run the SiRiS Lite Setup program as follows: Go to the Start menu on the PC → Click SiRiS Lite and then SiRiS Lite Setup → Enter login information (default user ID is admin and password is 12345678).



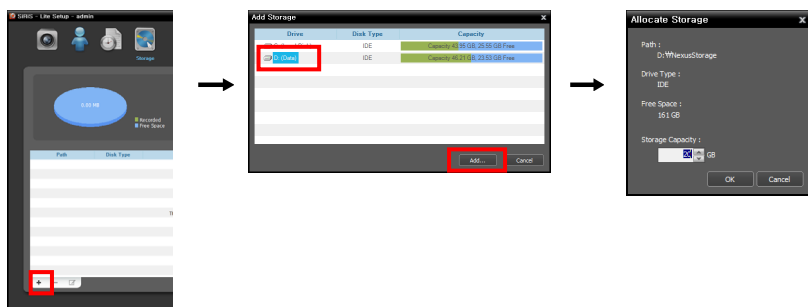
4. Register the device to record as follows: Go to the Device menu → Click All Devices in the Site panel, and then the **+** button at the bottom → Select the scan mode and find the device → Check the box beside the device name and click the Add Devices button at the bottom → Enter information set in the device.



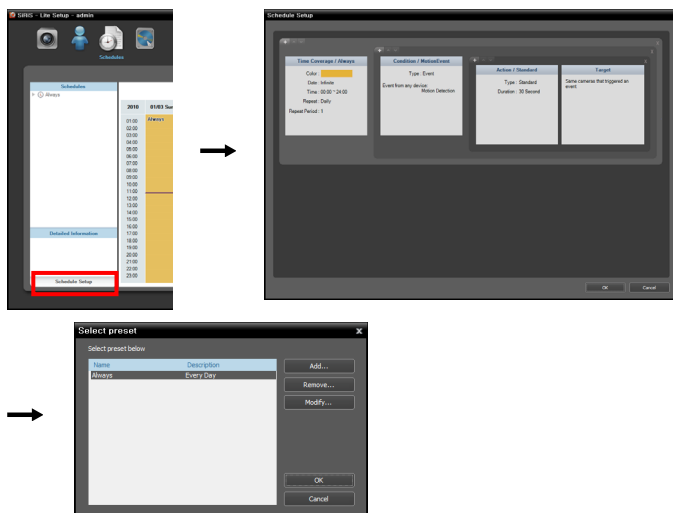
5. Add the device to Device Group as follows: Click Device Group in the Site panel, and then the **+** button at the bottom → A list of registered devices is displayed → Select the devices → The selected devices are displayed in Device Group.



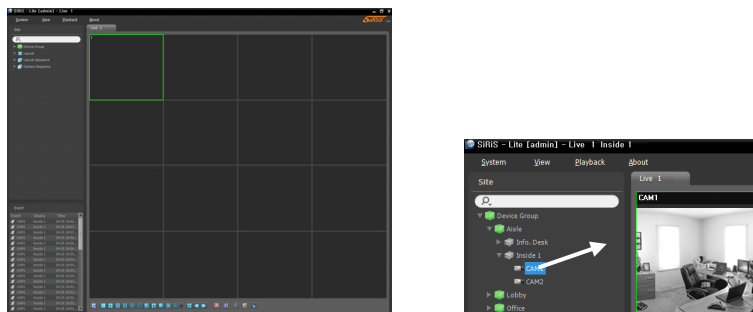
6. Allocate storage for recording as follows: Go to the **Storage** menu → Click the **+** button at the bottom → Select a hard disk drive from the list and click the **Add** button at the bottom → Allocate storage.



7. Configure recording schedule as follows: Go to the **Schedule** menu → Click the **Schedule Setup** button at the bottom. Schedule windows are displayed with the current settings for each Preset → Double click anywhere in the empty space of each schedule window, and the Preset setup window appears → Select a desired Preset from the Preset list or add a new Preset by clicking the **+** button.



8. Run the SiRIS Lite Client program to monitor or playing back recorded video as follows: Go to the Start menu on the PC → Click SiRIS Lite and then SiRIS Lite Client → Enter login information (Default user ID: Admin, Default password: 12345678) → Click the Live or Play tab on the screen → Click a device in the Site panel and drag and drop it on the screen → Video from the device will be displayed on the screen.



**NOTE:** See the User's Manual on the CD for details.