

User's Manual for ZKIR3 Series IR Day & Night Weatherproof Bullet IPC

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Introduction

This document mainly introduces the functional features, installation process and access methods of ZKIR3 series IPC.

Important Notices

Thanks for selecting our company's IPC. Before use, please read through the user's guide to avoid any unnecessary damage!

All functions depend on the actual product. Since the product is subject to updating, our company is not responsible for any difference from this guide and not liable for any dispute over different technical parameters from this guide. The project is subject to any change without notice.

To learn more, please visit our company's website www.zkivision.com or local office.

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1 Overview

1.1 Product Description

ZKIR3 colored 24h weather proof IPC employs the design of aluminum alloy up to the IP66 protection.

This product adopts two-megapixel CMOS sensor or high-quality SONY CCD sensor and is featured by IR lamp with long-distance and wide-range projection and favorable night viewing. The optimized H.264 coding algorithm ensures its clearer and smoother video transmission. The embedded Web Server allows a user's real-time monitoring and remote control of PTZ conveniently by means of browser.

This product has mega pixels (**high definition, HD**) or pixels (**standard definition, SD**) optional and is wall-mounted. It is easy to install, convenient to operate and universal indoor and outdoor. It is suitable for all-weather monitoring the short-distance wide-angle places with high protection rating, such as, communities, factories and banks, etc., and any cases in need of remote network video.

1.2 Product Features

- Hi3512 high-performance multimedia processor, supporting H.264 Main Profile video coding
- Dual code stream, suitable for various networks
- Support all kinds of protocols, such as, TCP/IP, HTTP, TCP, UDP, ARP, SMTP, FTP, DHCP, DNS, DDNS, NTP and UPNP, etc.
- Aluminum alloy with IP66 protection and extremely strong resistance to dust, water, corrosion and impact
- Large sunshade to well protect the machine from sunshine for cooling, and more suitable for outdoor application
- Snap-on base to simplify the installation

- Safe and reliable socket head lock screws
- Double-glass front cover for better optical isolation and mist prevention surface for better night viewing
- Three-layer shield +magnetic ring design to eliminate signal interference
- Numerous additional functions, e.g. alarm, audio talkback, 485 control, TF card and reset, etc.
- Support Ethernet power supply (PoE 802.3af regulation) (optional)
- Support WIFI (802.11b/g/n standard) wireless network module (optional)
- IR-Cut filters to automatically switch between day and night for optimal monitoring
- Double web indicator lamps for easy judgment of web status
- Analog video output interface (for HD) to facilitate site commissioning
- Self-recovery from abnormality and auto reconnection after network interruption
- Automatically capture images during an alarm and send them to the designated email
- Support motion detection and external detector alarm
- Allow setting several alarm times and support the remote alarm linkage
- Support dynamic IP (DHCP) and dynamic domain name system (DDNS)
- Network time synchronization (NTP)
- HD cam to support the browsing by 14 users simultaneously, 4 in primary code stream and 10 in secondary code stream
- SD cam to support the browsing by 20 users simultaneously, 10 in primary code stream and 10 in secondary code stream

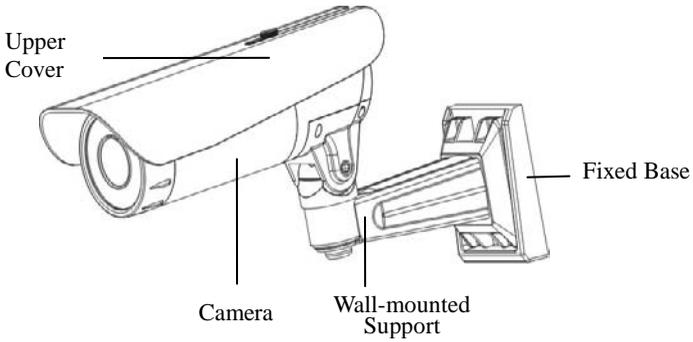
1.3 Technical Parameters

Product Name	IR Waterproof Bullet IPC			
Product Model	ZKIR372	ZKIR373	ZKIR352	ZKIR353
Cam Properties				
Image Sensor	1/3" Megapixel Progressive CMOS Sensor		1/3.2" Two-megapixel Progressive CMOS Sensor	
Image Resolution	WDR HD		HD	
	1280×720			
Day/Night Switch	IR-Cut filter switch			
Type of Lens	12mm fixed lens for ZKIR373/353/343/323, 4mm fixed lens for others			
Minimum Illumination	1 Lux (IR lamp off), 0 Lux (IR lamp on)			
IR Lamp	48 pcs Φ5 IR lamps			
Effective Projection Distance	10-15m	20-30m	10-15m	20-30m
IR Projection Angle	60°	25°	60°	25°
Video Coding				
Primary Processor	Hi3512			
Operating System	Embedded Linux			
Video Compression Algorithm	H.264 main profile level 3			
Audio Compression Algorithm	G.726/G.711			
Video Compression Code Rate	32~6114 Kbits/s adjustable			
Video Resolution	Primary Code Stream: 1280x720			
	Secondary Code Stream: 320x240			
Video Frame Rate	1~25 frames optional			
Video	WDR HD	Brightness, Saturation, Contrast, Illumination, Sensitivity, Shutter,		

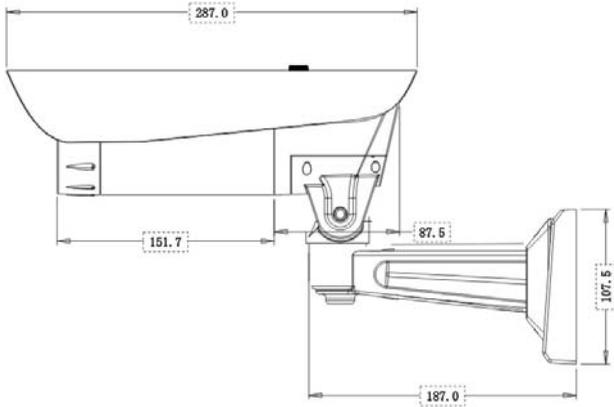
Parameters		Image Up/Down, Image Left/Right, Night Vision Mode, Wide Dynamic Mode adjustable
	HD	Brightness, Saturation, Contrast, Image Up/Down, Image Left/Right adjustable
Functional Interfaces		
Audio Interface	1 Mic input and 1 linear output (optional)	
Alarm Input	1 alarm input (normally opened or normally closed) (optional)	
Alarm Output	1 switch output, maximum working voltage: AC 120V/1A, DC 24V/1A	
Motion Detection	Allow 4 independent detection areas	
Control Interface	1 RS485	
Memory	Support TF card for video storage and image capture, 32G maximum (optimal)	
Network Interface	10Base-T/100Base-TX Ethernet interface	
	WiFi 802.11b/g wireless (optional)	
Supported Network Protocols	TCP/IP, HTTP, TCP, ICMP, UDP, ARP, IGMP, SMTP, FTP, DHCP, DNS, DDNS, NTP, UPNP and RTSP, etc.	
Working Environment		
Input Power	DC 12V, $\geq 1.5A$	
	PoE Ethernet power supply: comply with 802.3af regulation (optional)	
Max Power Consumption	10W	
Working Temperature	-20~+55 °C	
Working Humidity	10%~95% RH	
Level of Protection	IP66	
Installation Mode	Wall Mount	

1.4 Product Appearance

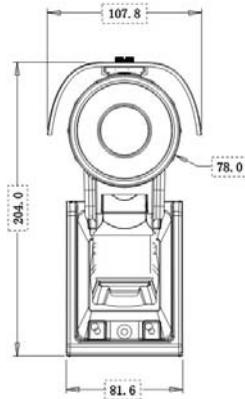
-Stereoscopic Drawing



-Dimensional Drawing (in mm)

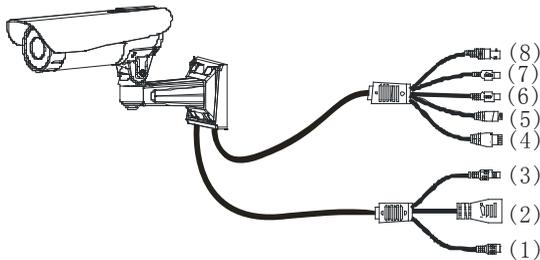


Left View



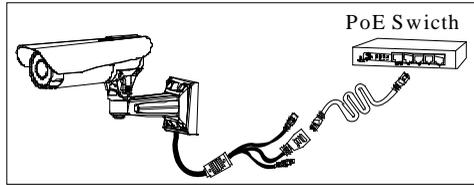
Front View

1.5 Connecting Terminal



1. **Power Interface:** Connect to the adapter. The device employs the power supply of DC 12V and no lower than 1.5A. Do not use any different power supply as it may damage the device.
2. **Network Interface:** 10/100M self-adapting Ethernet interface is used to connect the device with various network equipments, such as, switch, router and hub. When it is connected to 10M network, the orange lamp is on. When it is connected to 100M network, the green lamp is always on.

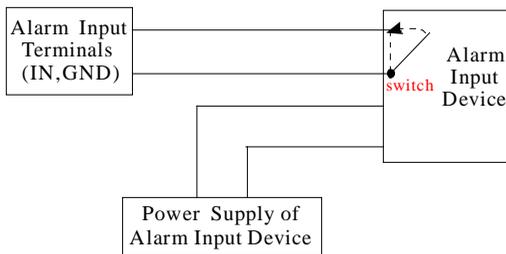
This interface can also employ Ethernet power supply (POE, optional) and allow the transmission of power and data through Ethernet cable.



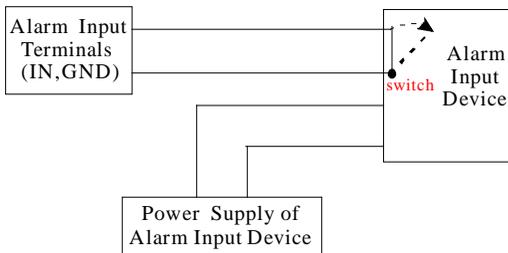
3. **Reset Button:** When the device fails to function during incorrect operation or accidental failure (e.g. forget IP address or password), or it is used in different scenes, press down the button for above 5s after a delay of 30s from powering on to restore the device to its factory default. The default user's name is "admin", the default password is "admin" and the default IP address is "192.168.1.88".
4. **Alarm Interface:** Connect to alarm input and alarm output. When the device receives an alarm from alarm output or Web motion detection, this interface can send a signal to alarm output to realize real-time monitoring and overall protection while triggering a remote alarm. The specific interfaces are presented in the following figure.



- 1) The schematic diagram of alarm input connection is as follows:



Schematic Diagram of Alarm Input (Normally Opened) Connection

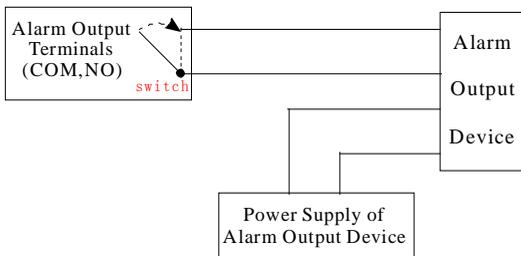


Schematic Diagram of Alarm Input (Normally Closed) Connection



Notice: When external alarm input is started, different alarm inputs have different software settings. Please select “Normally Opened” or “Normally Closed” on the Web page according to the type of alarm input, as detailed in *WEB Server User Manual*.

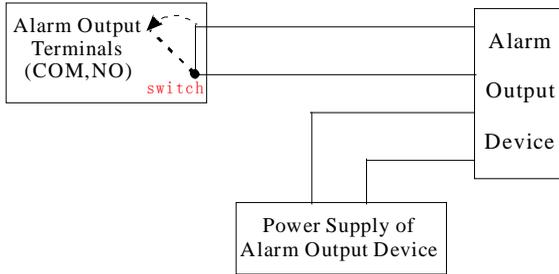
- 2) The schematic diagram of alarm output default connection is as follows:



Schematic Diagram of Alarm Output (Normally Opened) Connection

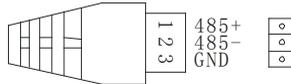


Notice: The connection with normally opened alarm output (e.g. normally opened lock) is performed as shown in the following schematic diagram.



Schematic Diagram of Alarm Output (Normally Closed) Connection

5. **RS485 Interface:** Supports standard 485 PTZ protocols, for remote device control. The device can be turned remotely and monitored in all directions. The relevant parameters are set as detailed in *WEB Server User Manual*. The specific interface is shown in following figure.



6. **Audio Input Interface:** Connect to external audio acquisition (e.g. MIC) for sound acquisition as detailed in *WEB Server User Manual*.
7. **Audio Output Interface:** Connect to audio player (e.g. active speaker) for sound broadcasting.
8. **Analog Video Output Interface:** Special for SD camera and engineering commissioning. After being installed and connected, this interface can be used locally to connect with the image display device and adjust the camera angle to the appropriate monitoring area according to the real-time video.

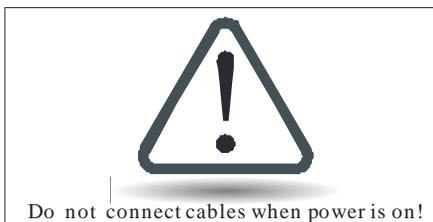
1.6 Basic Procedure

1. Unpack and check whether any component is missing;
2. Connect the device to computer by means of patch cable;
3. If your computer IP is in a network section different from device IP, please set it to the same network section as device IP, such as, 192.168.1.87.
4. Log in the device through client software or browser to check whether the video functions normally;
5. Adjust the code stream and other video parameters;
6. Modify the network parameters of device and reboot the device;
7. Repeat Step 3;
8. Revisit the device through client software or browser to check till the video functions normally;
9. Install the device and adjust the device angle to the appropriate area;
10. Visit the device through client software or browse for video monitoring.

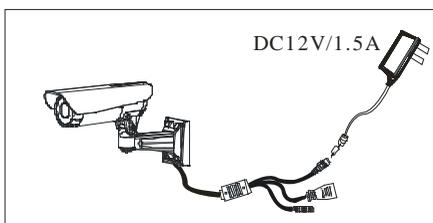
2 Installation and Network Configuration

2.1 Hardware Installation

- Installation Notices:
 1. Read through the guide for installation prior to installation.
 2. Check whether any component is missing against the packing list, if yes, please contact your supplier.
 3. Wire during power off. If the device does not function normally during operation, please cut off the power before check.

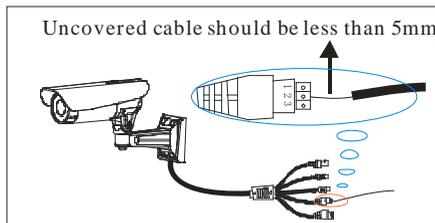


Note: The wiring during power on may seriously damage the device, which will be disqualified from the guarantee.

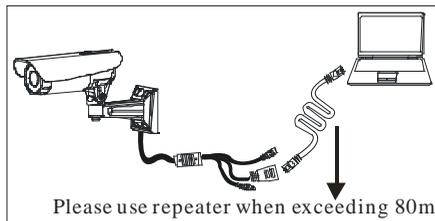


4. Use the power supply of DC12V and no lower than 1.5A for the device or PoE power supply (optional). Too high or low voltage, or AC power supply may cause the abnormal operation of the device.

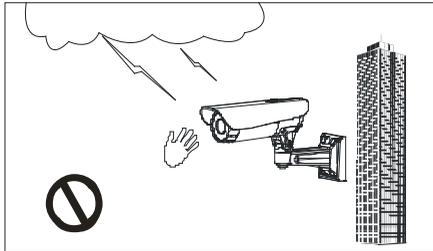
5. Use the standard power cord when the power supply is too far away from the device, and consider the voltage drop caused by long distance.
6. Read through the instructions for connecting terminal and wire strictly according to interfaces. Any damage to the device due to improper operation will be disqualified from the guarantee.
7. All the exposed parts of connecting terminal should not exceed 5mm, in order to prevent any accidental contact from damaging the device.



8. Mount the relay equipment in the middle to avoid signal attenuation when the straight communication distance from the device to the incoming equipment exceeds 80m.

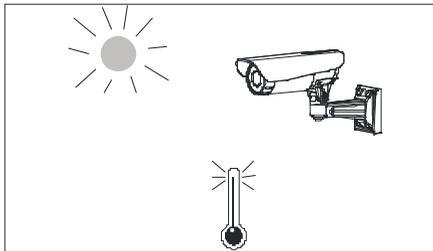


9. When RS485 is employed, if the communication distance exceeds 100m, the final equipment on the 485 bus must be connected to a $120\ \Omega$ terminal resistance in parallel.
10. Pay attention to provide lightning protection if the device is mounted outdoor. Do not touch the device during lightning.



11. Use the device in the working conditions:

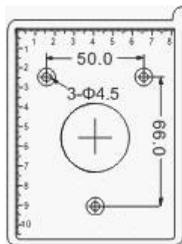
Ambient temperature: $-20\text{ }^{\circ}\text{C} \sim +55\text{ }^{\circ}\text{C}$; ambient relative humidity: 10% ~ 95%RH.



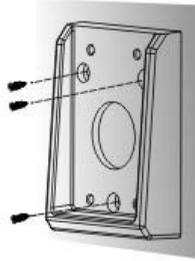
12. Keep the cleanness of double glasses in front of lens. If too dirty, clean them with soft fabric.

●Schematic Diagrams of Installation

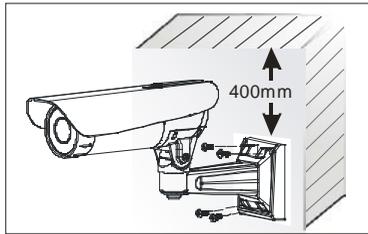
1. Press the installation template against the wall and make holes as marked on the template (including screw holes and lead wire hole). (in mm)



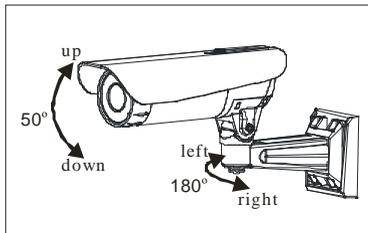
2. Align the screw holes of base with the holes on the wall and fix the base onto the wall.



3. Tighten the screws after hanging the camera on the base, and fix the camera onto the base.



4. Loosen the side and bottom screws with a screwdriver to adjust the camera angle to the appropriate area, and then tighten the screws.



2.2 Network Connection

The device can be connected to network in two ways. The first way is to connect to the network by means of Ethernet cable, and the second way is to connect to wireless network (optional).

●Connect by Ethernet Cable

- (1) Use Ethernet cables to connect the device to network or directly to computer.
- (2) Connect the power supply of the device.
- (3) During normal connection, if it is a 10M network, the orange lamp is always on; if it is a 100M network, the green lamp is also on. The physical connection with network is completed after the lamp shining.
- (4) In the “Start” menu, select “Programs”--“Accessories”--“Command Prompt”, and input the ping command to the device address (e.g.: type in “ping 192.168.1.88”). If “Request timed out” does not pop up, the device is successfully connected to network.



Notice: 1) The default IP address is “**192.168.1.88**” and the default HTTP port is 80. If needed to change IP address or port, refer to Network Setting in *WEB Server User Manual*.

2) If the device is in a network section different from computer, refer to How to Visit IPC on Internet in *WEB Server User Manual* for the connection during different network sections.

●Connect to Wireless Network

Before starting the wireless network, connect the IPC to network by Ethernet cable, visit the device through browser, enter “Network Setting” interface, and set the wireless network connection following the operating procedure, as detailed in Network Setting in *WEB Server User Manual*.

3 Accessing device

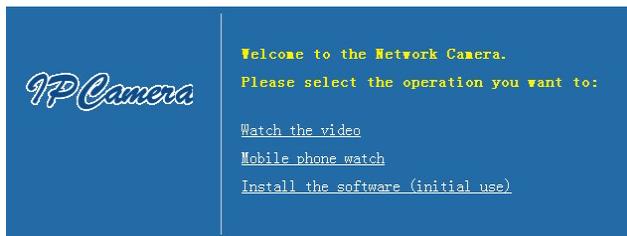
There are 4 methods can be used to access the device: WEB Browser, RTSP Media Player, Mobile Device and Video Surveillance Software (ZKiVision client software).

3.1 Using WEB Browser

1. Open a browser, type in the dynamic domain name or IP address of the device (e.g. <http://192.168.80.123>), press "OK" to open the following login interface:

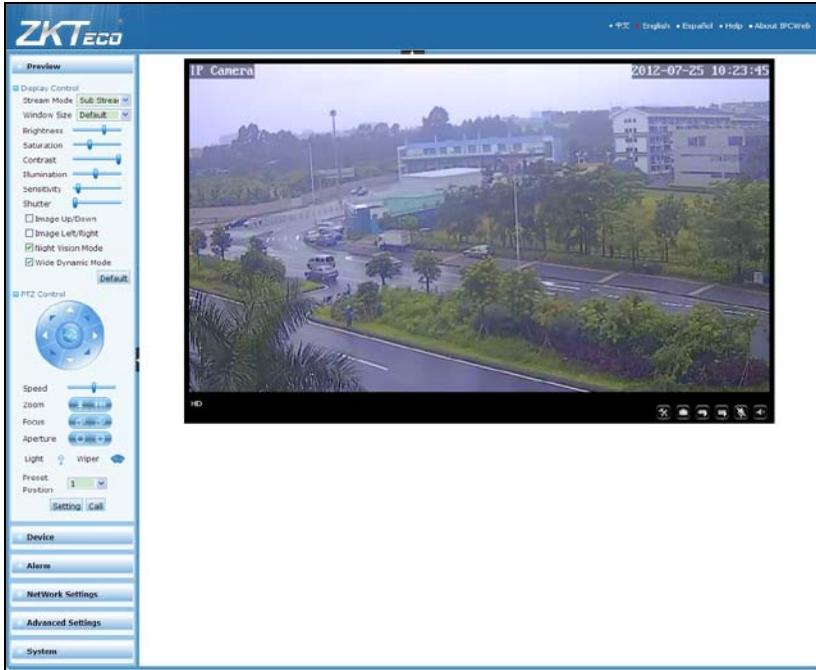


2. Type in user's name and password, and click "OK" and the guide page will show as below:



3. Click **Watch the video** to enter **Preview** interface:

Accessing device



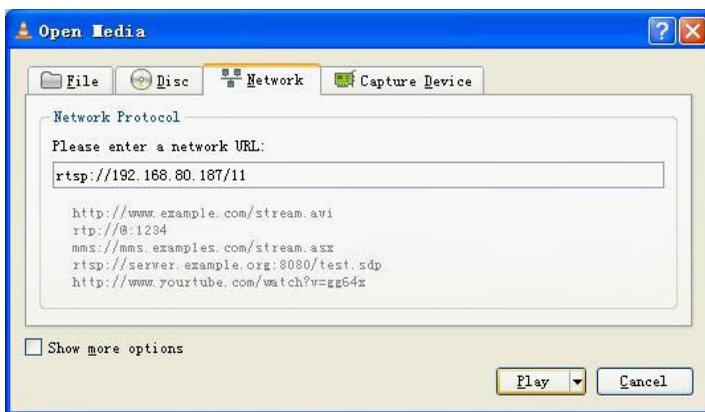
Note: When accessing the device via browser for the first time, it is necessary to download the control. More details about how to use browser for video surveillance, please refer to *WEB Server User Manual* in the supplied CD.

3.2 Using RTSP Media Player

1. Download and install a media player supporting RTSP protocol, e.g. **VLC media player**.
2. Open the media player, select the menu “Media”—“Open Network Stream”, pop up the input interface of URL.



3. Type in the network URL in the form of `rtsp://<IP address>:<RTSP port>/<stream code>`.



4. Click “Play” and the media player will play the real-time video of the device.



Note: 1) The default RTSP port of device is 554. If it must be modified, please refer to *WEB Server User Manual* in the supplied CD.

2) If it is necessary to learn about how to use RTSP media player for video surveillance, please refer to *WEB Server User Manual* in the supplied CD.

3.3 Using Mobile Devices

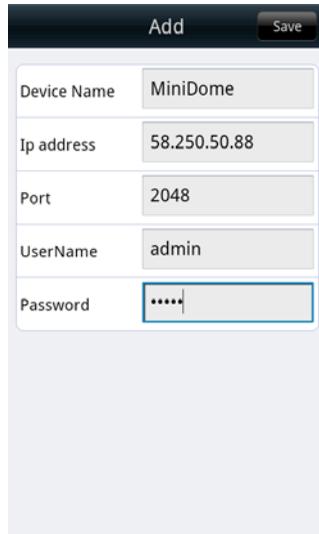
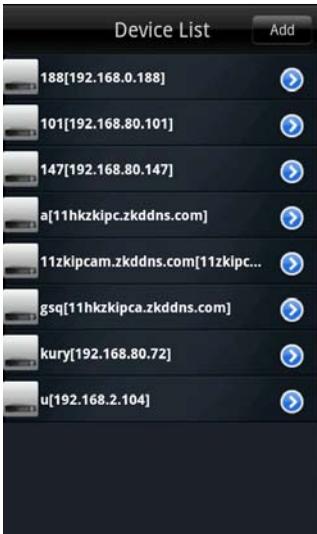
If it is necessary to use mobile phone for video surveillance, please firstly ensure the device can be accessed on Internet. Please refer to *ZKiVision User Manual (Mobile Version)*.

1. Install the surveillance software into your mobile phone.
2. Click the icon “ZKiVision” to enter the software.



3. Choose “Device List” and click “Add” to add devices, type in the user name, password, domain name and port of the device, click “Save” to complete it.

Accessing device



4. Choose "Live View" on the initial interface, click the cell and click again to select the device to play its live video.





Note: 1) The operating system of mobile device must be **Android** or **iOS** or **BlackBerry**.

2) As the internet service is required for watching video, please consult with your internet service provider for specific charges.

3) Please refer to *ZKiVision User Manual (Mobile Version)* in the supplied CD for more details.

3.4 Using Video Surveillance Software

ZKiVision Client Software is our company's free video surveillance software, which can help manage and monitor multiple devices in a real-time manner. Install the software in the supplied CD, and add devices to the software. Then the real-time monitoring can be started. If needed to learn about how to use the video surveillance software, refer to *ZKiVision Client Software User Manual* in the CD.

