



- Peer to Peer
- Plug & Play
- Low Power Consumption

plugCAM User Manual

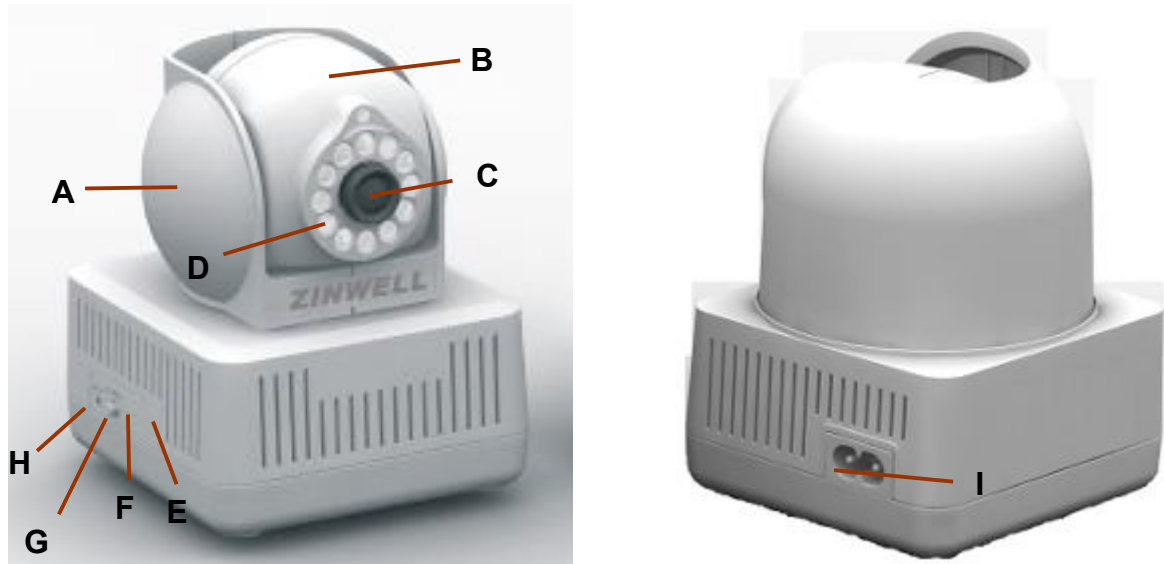
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Introduction

© Introducing plugCAM





Button/LED Descriptions



	Item name	Description
A	Eyeball cover	Can rotate horizontally 135 degree to the right and to the left.
B	Eyeball	Can rotate 0 to 90 degree, pointing the lens from horizontal to vertical.
C	Lens	Lens with IR reflection coating
D	IR light LED	For night vision
E	POWER LED	<p><u>ON</u>: Power on and ready.</p> <p><u>BLINKING</u>:</p> <ol style="list-style-type: none"> (blinking at 0.5s ON / 0.5s OFF) means the device is doing Security key exchange, the device joining or being joined into same logical network will continue 2 minutes' blinking, until the procedure succeeds or is canceled by pressing the group button 1 to 3 sec. <p><u>OFF</u>: Power off.</p>
F	PLC Act/Link LED	<p><u>OFF</u>:</p> <p>Sole member (either other devices in same network is too far or it is alone in its logical network).</p> <p><u>ON</u>: Powerline Link detected but no powerline traffic.</p> <p><u>BLINKING</u>:</p> <ol style="list-style-type: none"> Fast blinking (0.06 s ON/ 0.06 s OFF): Powerline UDP data rate higher than 60Mbps. Normal blinking (0.2 s ON/ 0.2 s OFF): Powerline UDP data rate between 10Mbps to 60Mbps. Slow blinking (1 s ON/ 1 s OFF): Powerline UDP data rate slower than 10Mbps.

G	GROUP button	<p><u>Press 1 to 3 seconds</u> - This will enter Group pairing procedure. In this procedure, the device starts joining into a logical network of other device or announcing its network group name for other devices to join. This maximum two-minute procedure automatically ends when it succeeds or is manually stopped. Press this button 1 to 3 seconds will manually stop the procedure.</p> <p><u>Press 10 seconds or more:</u> Clear the current and randomly generate a new network group name.</p>
H	RESET button	<p><u>Press over 1 second and release</u> -- reset to factory default (both Camera and PLC)</p>
I	Figure-8 AC connector socket	<p>This socket can connect with an AC cord which has "figure-8" connector. Plug the other end of this AC cord to a wall electric socket.</p>

Package Content

<p>1. Camera & PLC</p> 	<p>2. Power cord</p> 
<p>3. Ethernet cable</p> 	<p>4. Nails (x2 sets)</p> 

※ Hardware Installation

Camera:

1. Place your plugCAM camera anywhere in the house and power on camera.

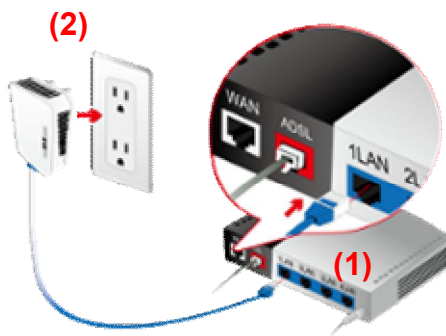


2. Plug power cord to camera.
3. Connect the cord to power outlet and camera will start working automatically.

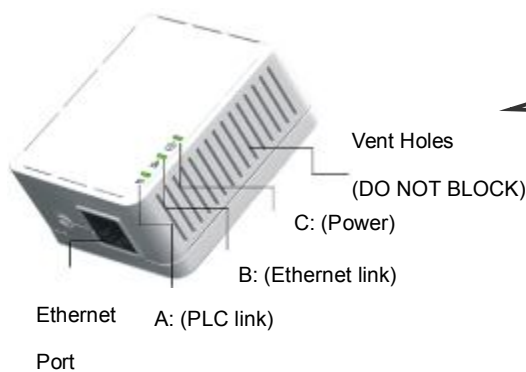


4. You can check that camera is working properly by covering the light sensor above lens and see if LED light bulbs dim red.

PLC:



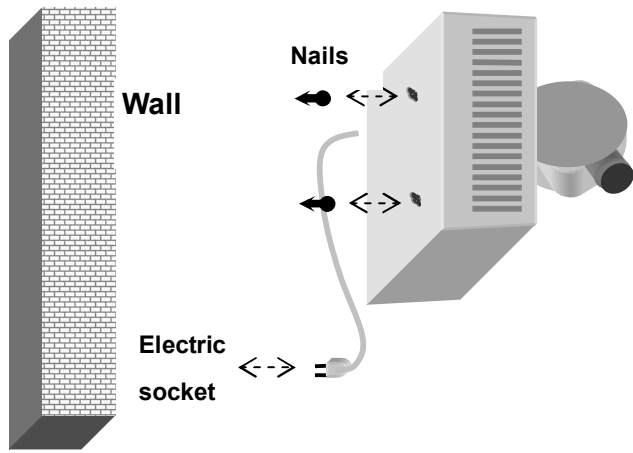
- (1) Connect Wi-Fi router and PLC with Ethernet cable
- (2) Plug PLC on power outlet



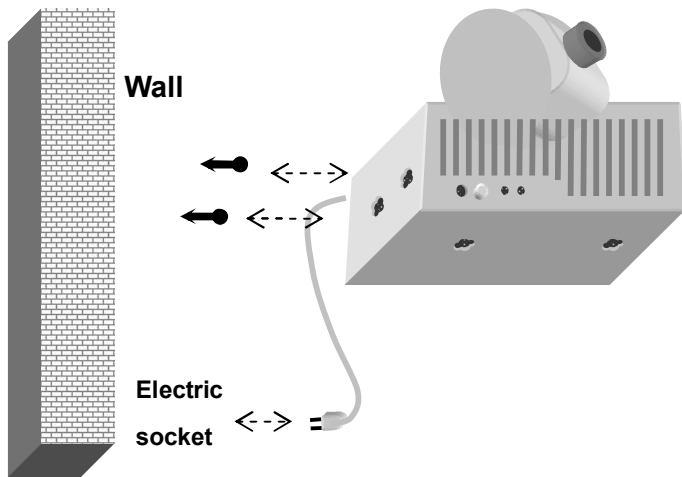
Make sure PLC work at **light A and C on, light B blinking** status.

※ Installation Scenarios

Wall mounting using bottom screw hanging hole

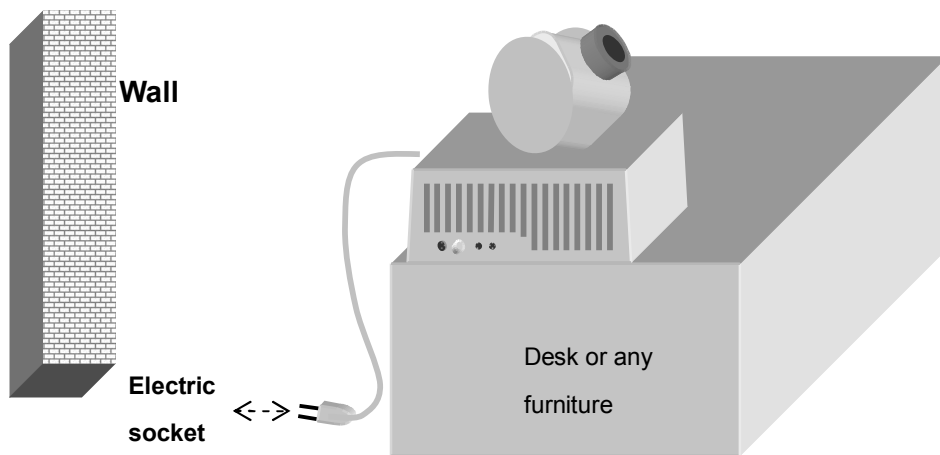


Wall mounted using side screw hanging hole



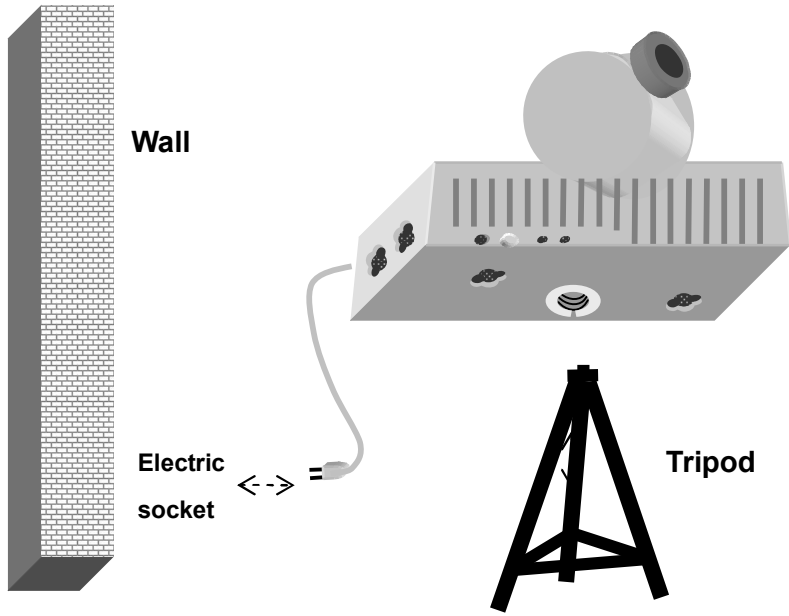
Put on desk top or top of furniture.

Please note the surface of furniture should have enough roughness to provide enough friction for this device. Otherwise, apply adhesive glue to fix the camera on the furniture.



Mount on tripod

Please note the surface of furniture should have enough roughness to provide enough friction for this device. Otherwise, apply adhesive glue to fix the camera on the furniture.



※ Installing plugCAM App

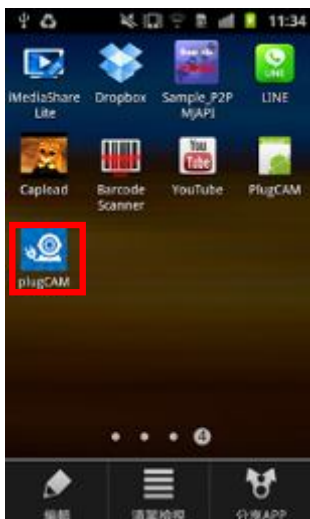
1. Search the free “ plugCAM “ program on **Apple App Store** or **Google Play**



※ Installing at iDevices

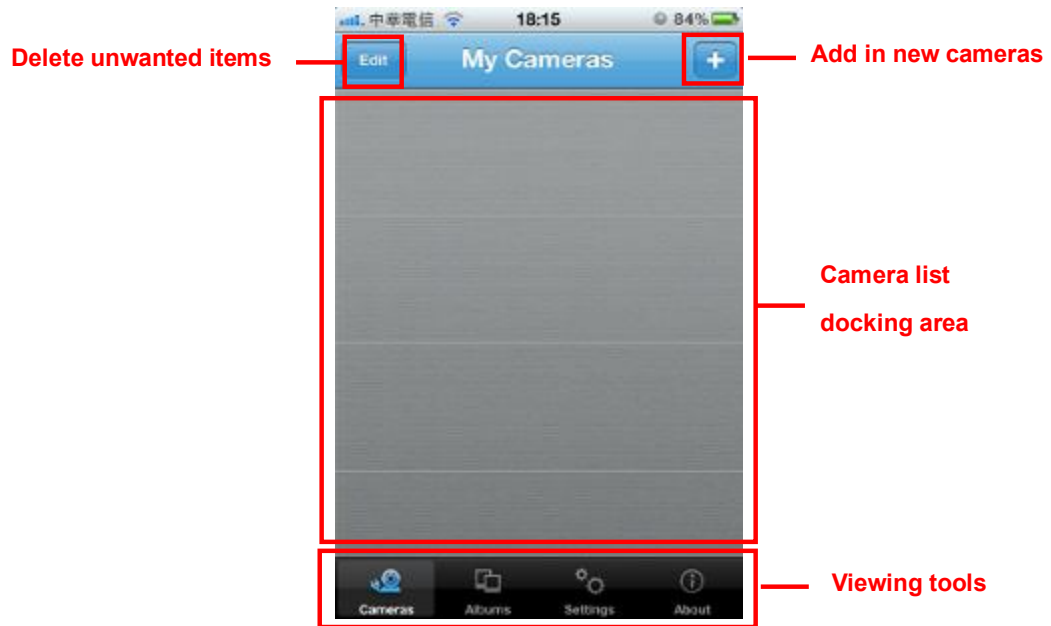


※ Installing at Android system







Overview

※Main screen - iOS



Tools

 Cameras	 Albums
Show camera list, delete or add in new cameras	Show albums list, view and delete pictures from individual cameras
 Settings	 About
Change App settings	Show App and plugCAM product information

Getting started

Getting started – iOS

Options of adding camera in camera list



⦿ Add camera

Scan QR code



1. Tap on **Scan QR code on the bottom of camera** to start QR code scan
2. Scan the QR code sticker on the bottom of plugCAM, ID and password will show up automatically if scan successful



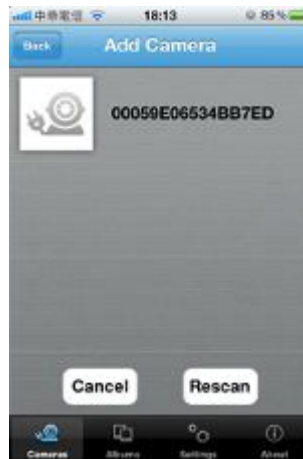
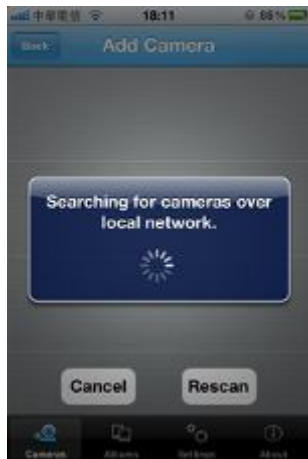
3. **“Save”** to add in camera list

Local search

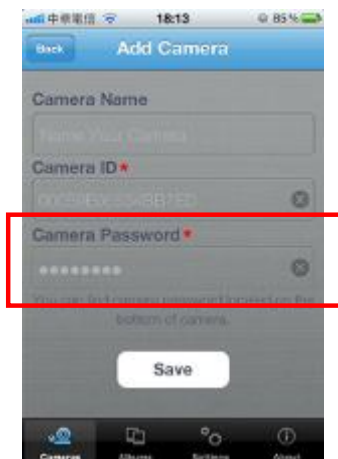
1. Make sure your camera and mobile device are under the same network, then tap on



to search new camera. Once found the new camera, you can choose the camera you want to add



3. Enter password of the just found camera and tap on **“Save”** to add in camera list

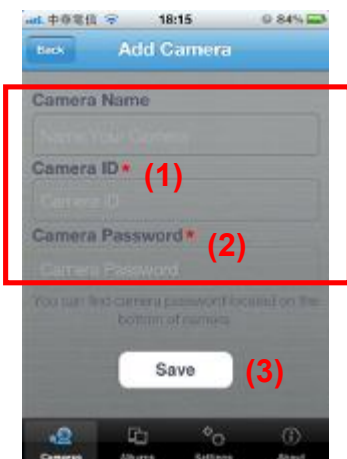


Add manually



1. Tap on

2.



(1) Input camera ID

(2) Input camera password

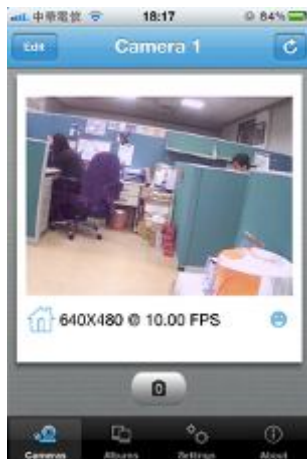
(3) Tap on **“Save”** to add in camera list

❌ View images

1. Tap on the camera you want to view on camera list
2. If ID and Password are all correct, program will start loading camera image
3. If the camera is shown offline, please check if you have installed the camera properly



4. If the camera is well-connected to network, you can view the image successfully. Rotate your device to see full screen image.




Select camera




Tap **Cameras** to show up camera list and choose the plugCAM you want to view



Take a snap shot

1. When successfully view the image, tap the icon  to take a quick shot of your view
2. The pictures will be saved in the albums

Reload camera

Tap  to reload the camera image

Getting started – Andriod OS

The startup screen when execute the plugCAM software




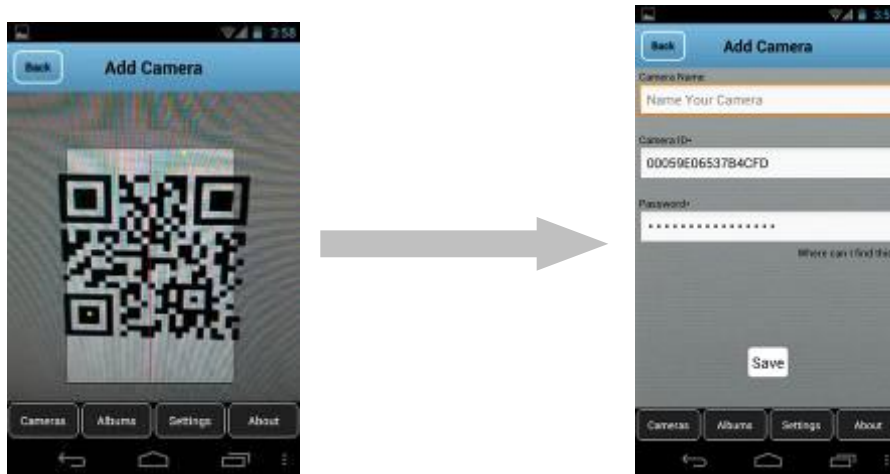
Tap on  to start the program

✳ Add camera

QR code scan



1. Tap on  to start QR code scan
2. Scan the QR code sticker on the bottom of plugCAM, ID and password will show up automatically if scan successful



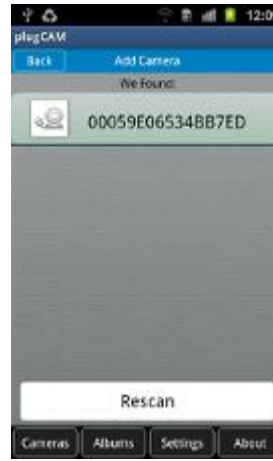
3. “**Save**” to add in camera list

Local search

1. Make sure your camera and mobile device are under the same network, then tap on



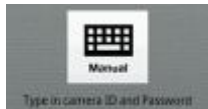
to search new camera. Once found the new camera, you can choose the camera you want to add



3. Enter password of the just found camera and tap on “**Save**” to add in camera list



Add Manually



1. Tap on

2.



(1) Input camera ID

(2) Input camera password

(3) Tap on “**Save**” to add in camera list

❖ View images

1. Tap on the camera you want to view on camera list




2. If ID and Password are all correct, program will start loading camera image



3. If the camera is well-connected to network, you can view the image successfully. Tap on the picture again to view larger image




Select camera

1. Tap  to show up camera list

2. Tap on the camera you want to view


Take a snap shot

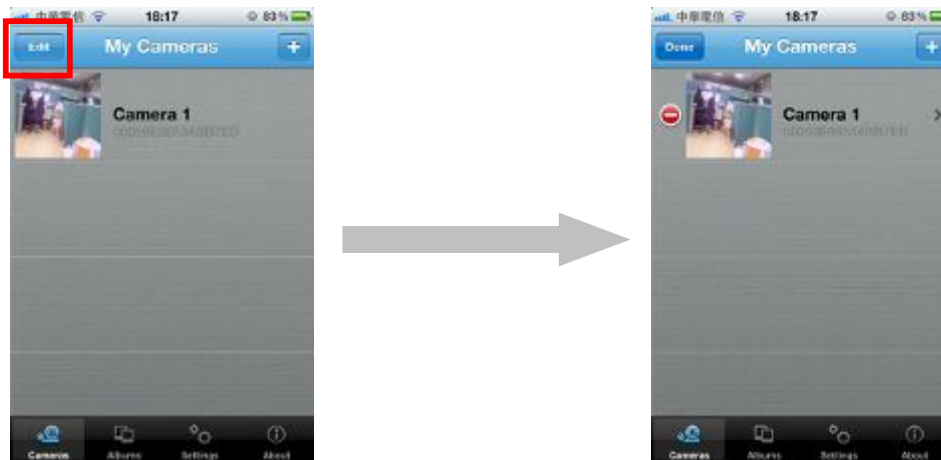
1. When successfully view the image, tap the icon  to take a quick shot of your view

2. The pictures will be saved in the albums

Edit Edit - iOS

Delete cameras

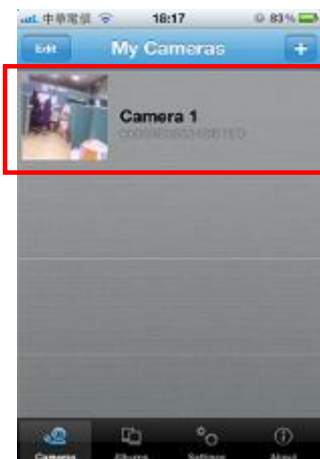
1. Tap  to show up camera list, Tap "Edit" to delete camera



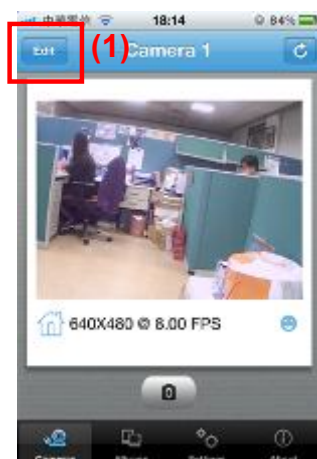
2. Tap "Done" to save changes

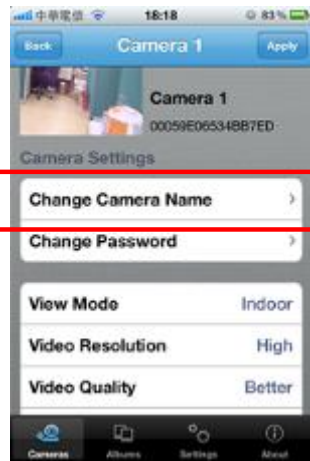
Change camera name

1. Tap to choose a camera



2.
(1) Tap "Edit" to enter the camera settings





(2)

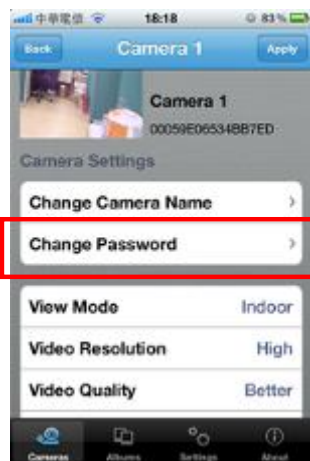


(3)

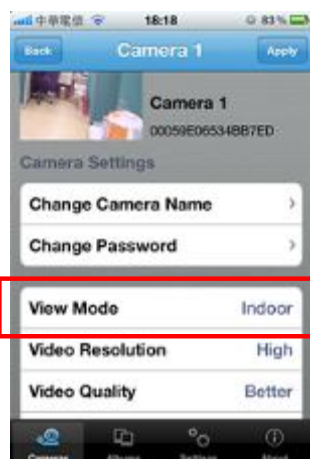
(2) Tap on the camera name to change it

(3) "Save" to save changes

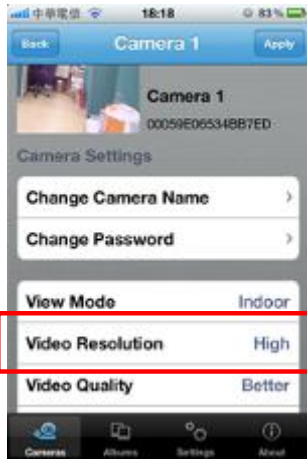
Change password



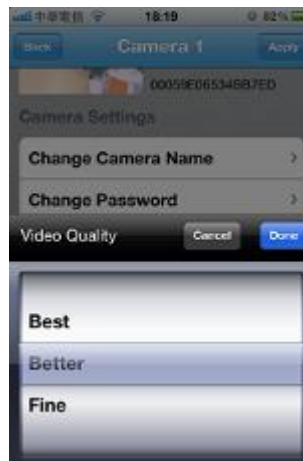
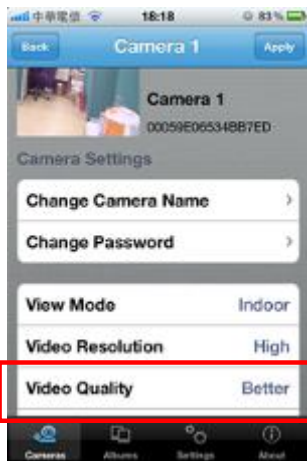
View mode



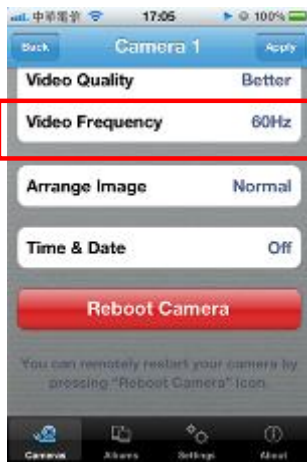
Video resolution



Video quality



Video frequency



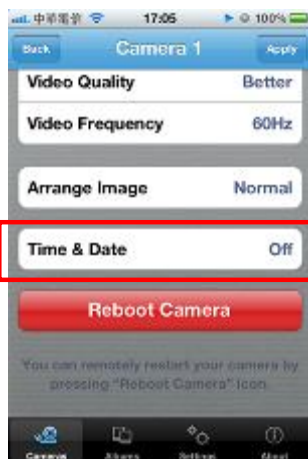
Arrange Image



i.e. Flip Vertical:





Time & date



1. The default setting is Off, tap **“On”** to turn on time & date information
2. Tap **“Done”** to confirm, then time & date will show up on the viewing screen



Save and apply the changes

You may tap on  to save each change, or tap on  after all settings are done.

1. Tap “YES” to confirm setting changes



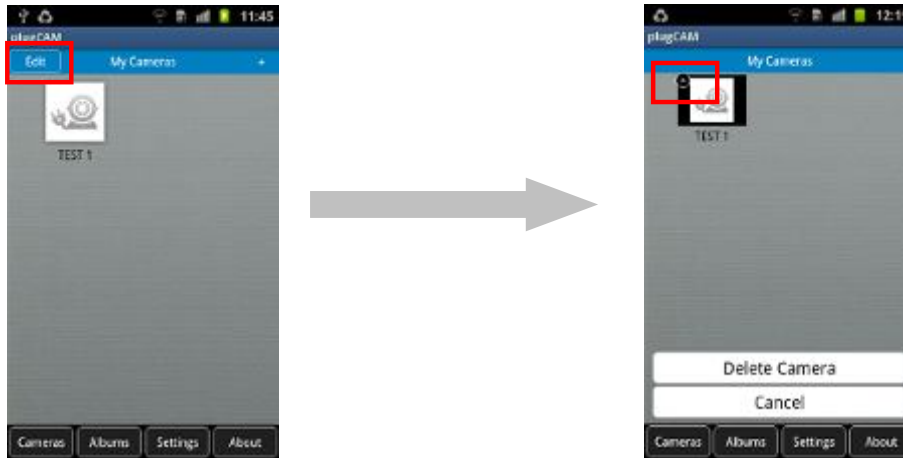
2.



Edit – Andriod OS

Delete cameras

1. Tap  to show up camera list, tap “Edit” to delete camera



Change camera name

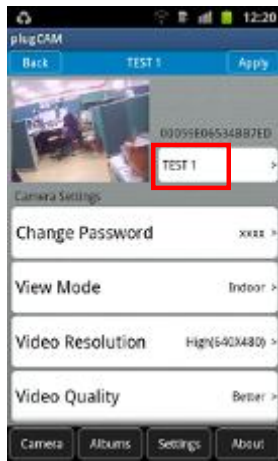
1. Tap to choose a camera



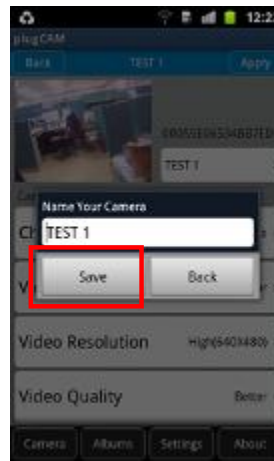
2.

- (1) Tap “Edit” to enter the camera settings





(2)

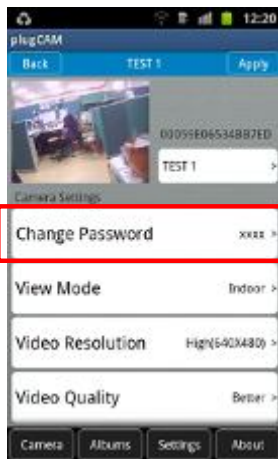


(3)

(2) Tap on the camera name to change it

(3) "Save" to save changes

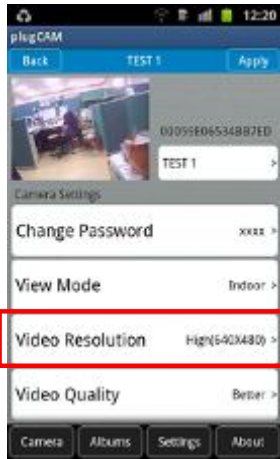
Change password



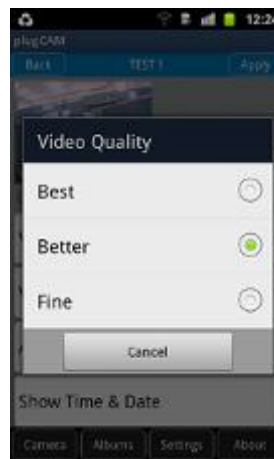
View Mode



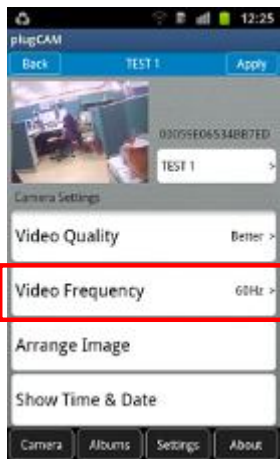
Video resolution



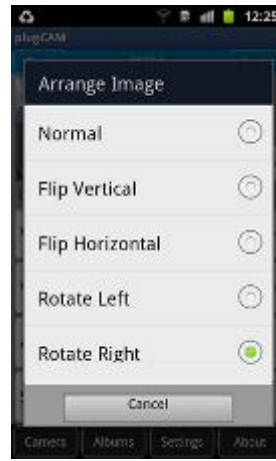
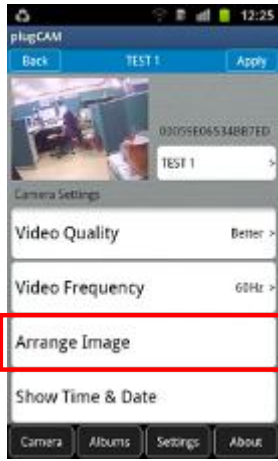
Video quality



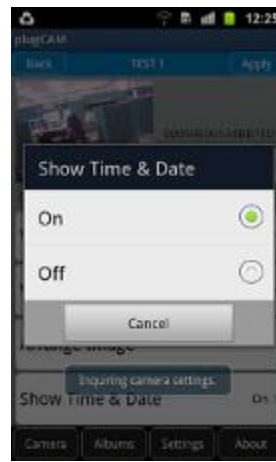
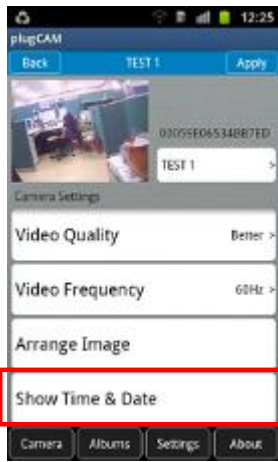
Video frequency



Arrange image



Show time & date



Albums

Albums - iOS

View albums

Tap  to start



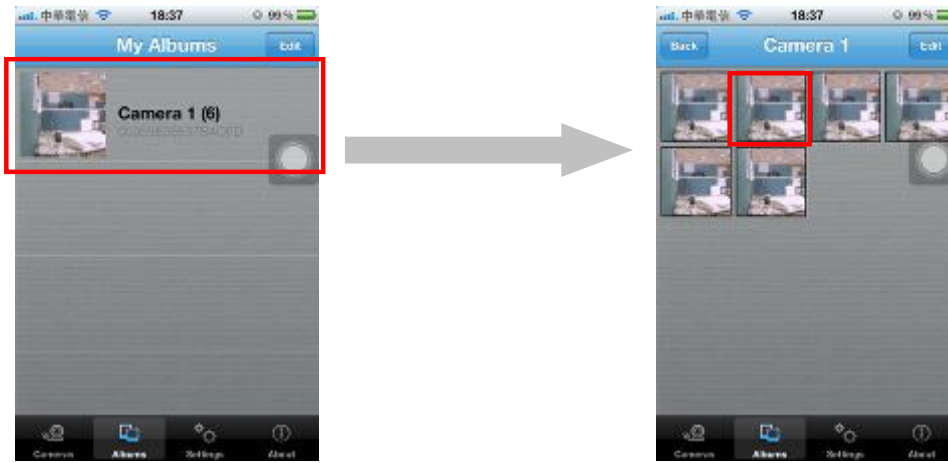
Delete albums

1. Tap “Edit”, then “Delete” -> “Done” to confirm

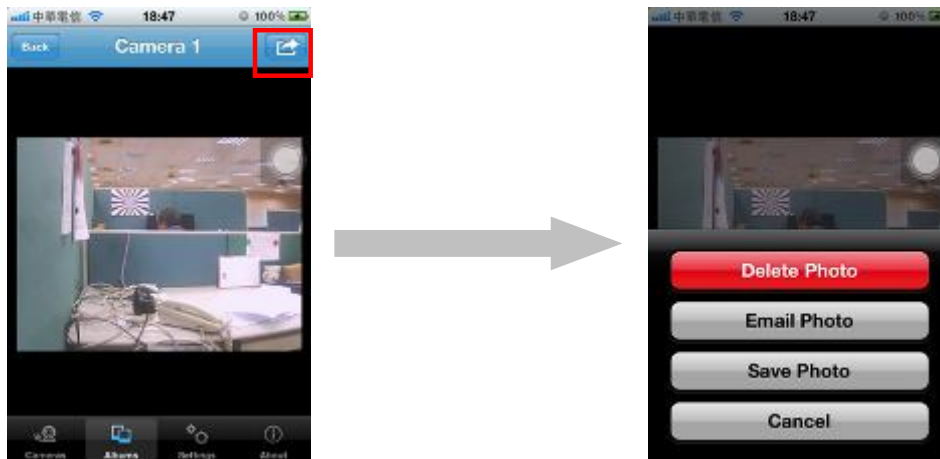


View pictures

1. Choose an album and tap on the picture you want to see for larger view



2. Tap on  to **Delete**, **Email**, and **Save** picture



You can only process one picture at a time

Albums – Android OS

View albums

Tap  to start



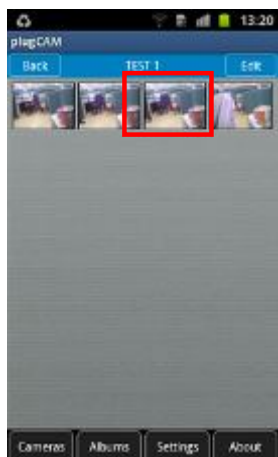
Delete albums

Tap “Edit”, then “Delete” -> “Delete Selected Album” to confirm



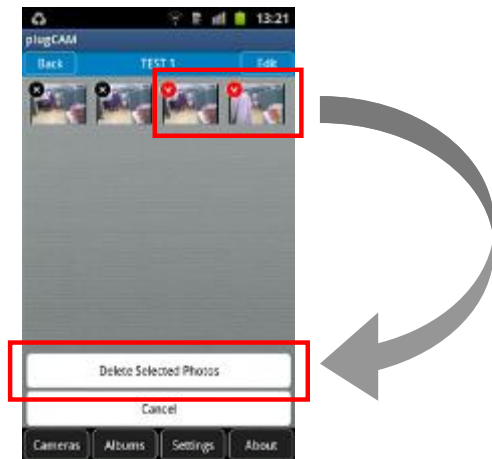
View pictures

1. Tap on the album you want to view
2. Tap on the picture you want to see to view larger image



Delete pictures


1. Tap “Edit” when you are in an album
2. Choose pictures you want to delete



You can only process one picture at a time

App Settings

App Settings – iOS

Tap  to start



Passcode lock

Default “Off”.

Turn on Passcode lock can help prevent others connect to your plugCAM without your permission.

You must enter correct passcode every time when starting the plugCAM program after turning on this function.

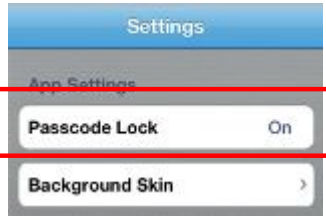


Turn on passcode

1. Tap on the Passcode Lock
2.
 - (1) Enter passcode
 - (2) Enter again to confirm passcode

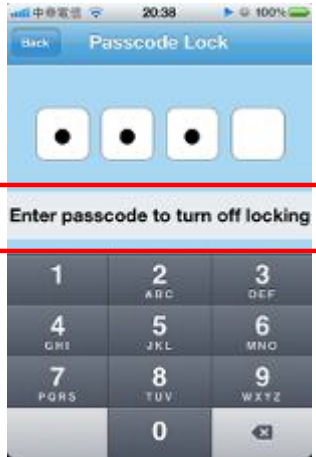


3. Status shows “On”

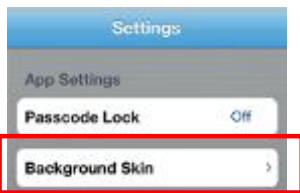


Turn off passcode

1. Tap on the passcode lock
2. Enter passcode again to turn off passcode lock



Background skin



1. Tap on Background skin
2. Default gray. Choose a color for your background.



App Settings – Andriod OS

Tap  to start

Passcode lock

Default “Off”.

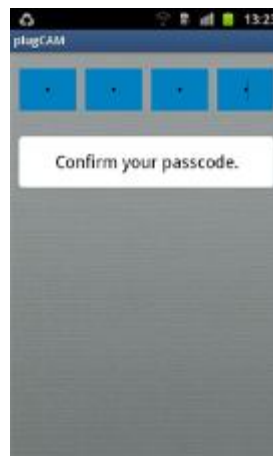
Turn on Passcode lock can help prevent others connect to your plugCAM without your permission.

You must enter correct passcode every time when starting the plugCAM program after turning on this function.



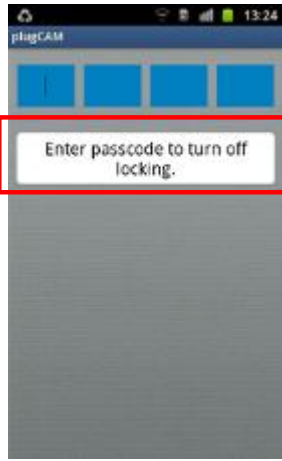
Turn on passcode

1. Tap on the Passcode Lock and choose “On”
2.
 - (1) Enter passcode
 - (2) Enter again to confirm passcode

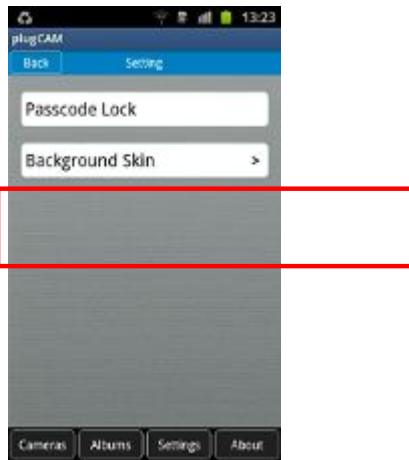


Turn off passcode

1. Tap on the passcode lock
2. Enter passcode to turn off passcode lock




Background skin



1. Tap on Background skin
2. Default gray. Choose a color for your background.



About About - iOS

Tap  to start

Show software version & Product information



About – Andriod OS

Tap  to start

Show software version & Product information



PC software instruction

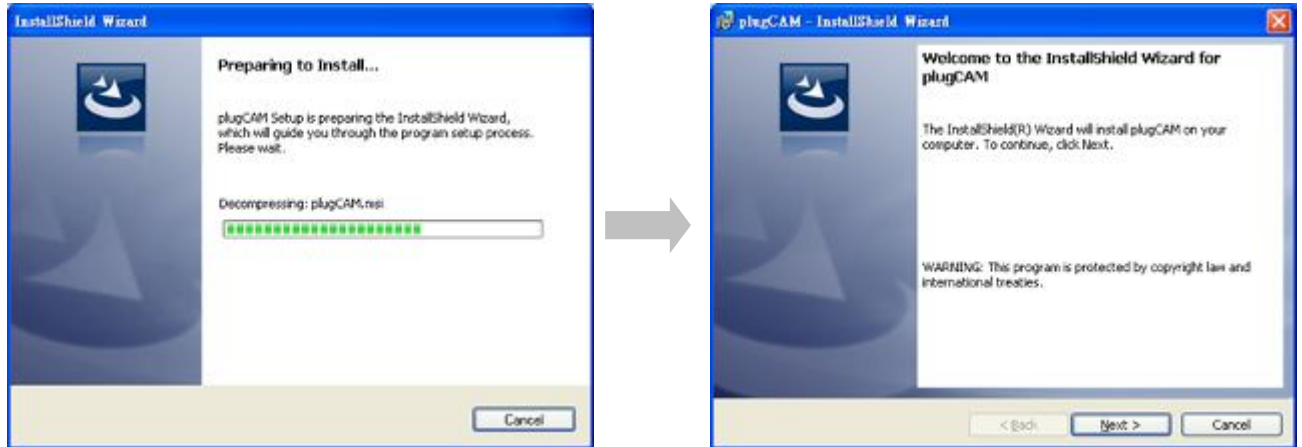
1. Install software

Insert the software CD to your CD-R device, start the installation according to your language.

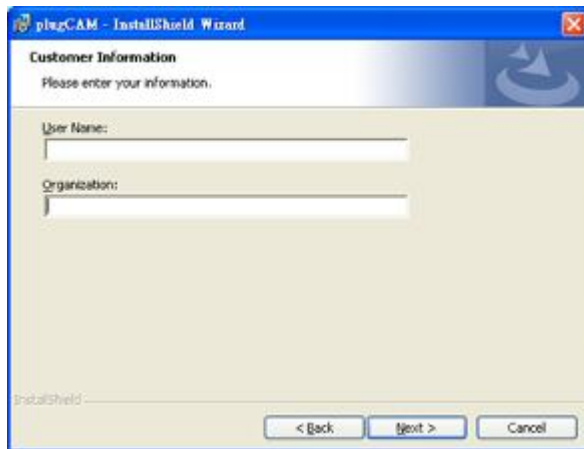


(1) Double click to start installation

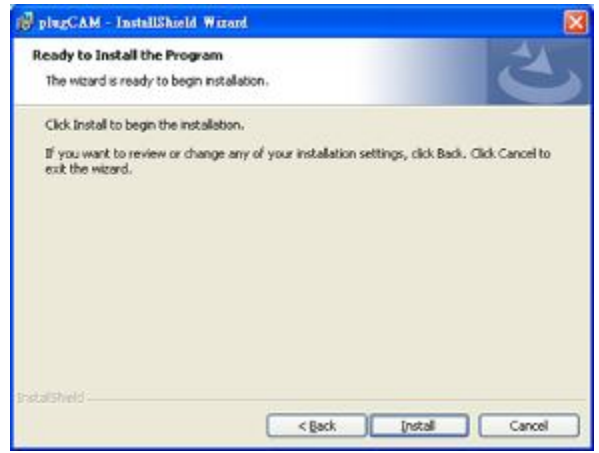
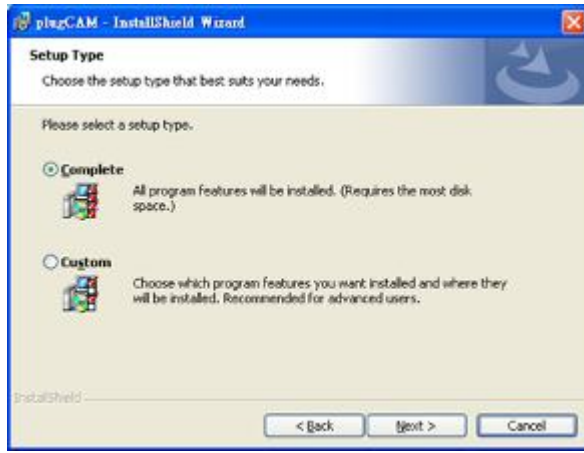
(2) Set-up will start automatically



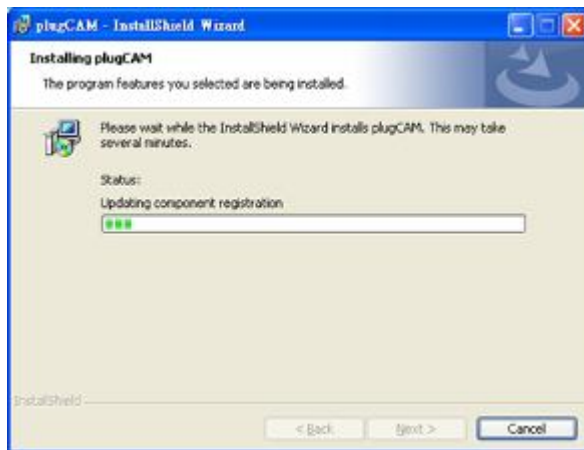
(3) Click “ **Next >** ” to enter PC information



(4) Choose set-up type and click “ **Next >** ” to enter installation procedure



(5) Procedure complete automatically



(6) You can see the plugCAM program and the icon after installation successfully

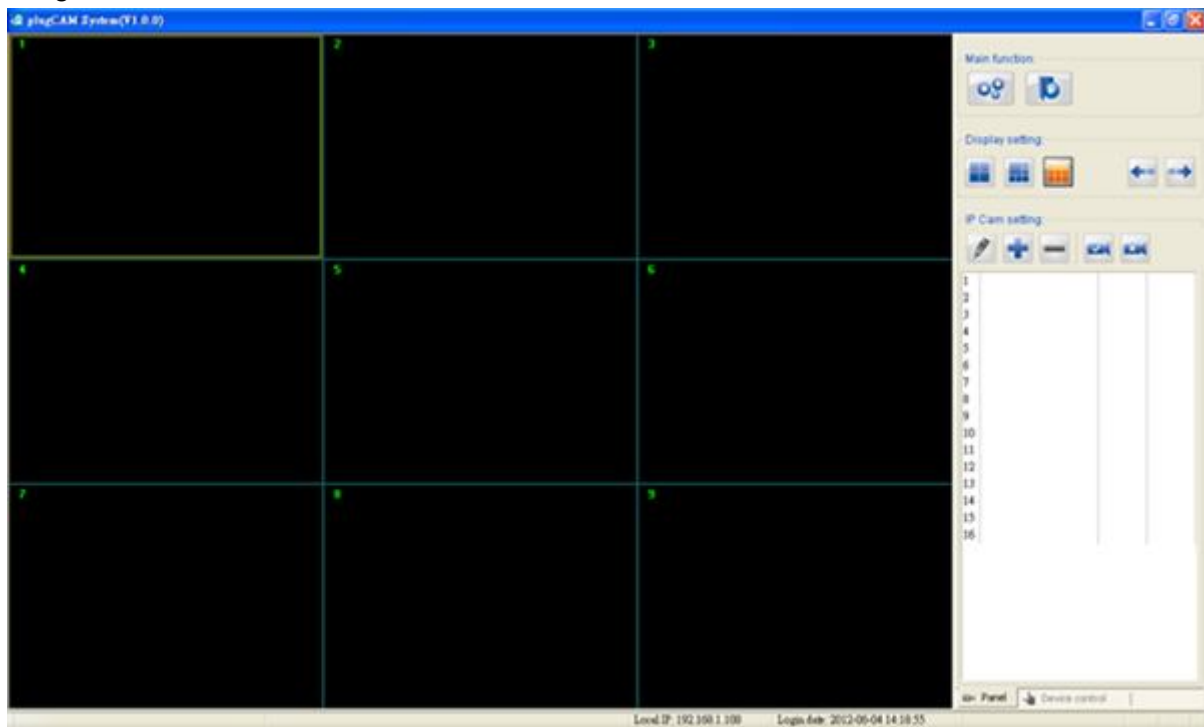
Startup menu



Short cut on desktop





Program main screen






Main function



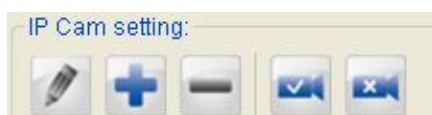
	Set snap shot and video recording path
	Playback video recording






Display setting



	4 channels
	6 channels
	9 channels (default)

plugCAM settings



Edit Device Setting: 	Edit device Basic Info/Alarm Setting /Schedule recording
Add in new device: 	Add a new device on display channel
Delete selected device: 	Delete the selected device from display channel
Start up camera: 	Start connection with camera device
Disconnect camera 	Stop connection with camera device

Display channel

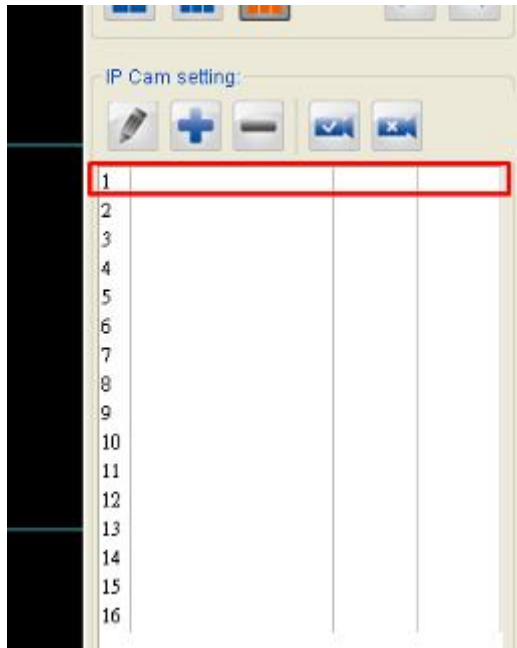



The screenshot shows a video feed of a room with a piano and a window. The interface includes several elements:

- Channel name:** A label pointing to the text '1[DH1]' in the top-left corner of the video frame.
- View via Internet:** A globe icon in the top-right corner of the video frame.
- Frame per second:** A label pointing to the text 'Display: 6 FPS' in the bottom-left corner of the video frame.
- Snap shot:** A camera icon in the bottom-right corner of the video frame.
- Video recording:** A red dot icon in the bottom-right corner of the video frame.

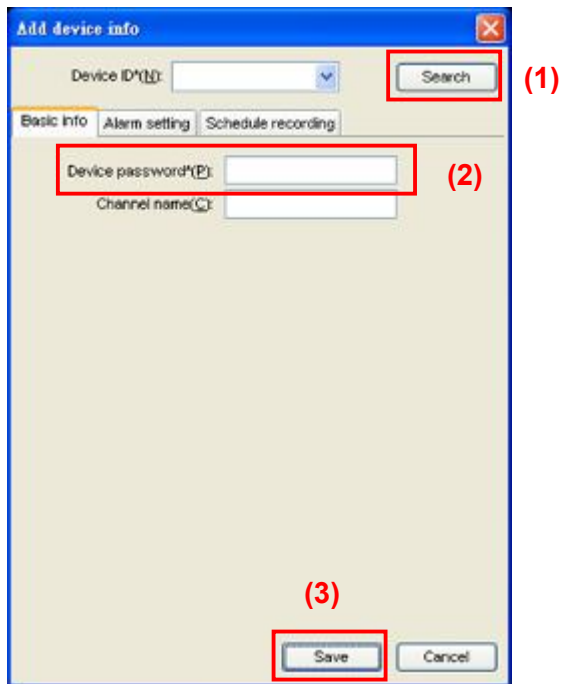
2. Search device in local network

(1) Select an empty channel



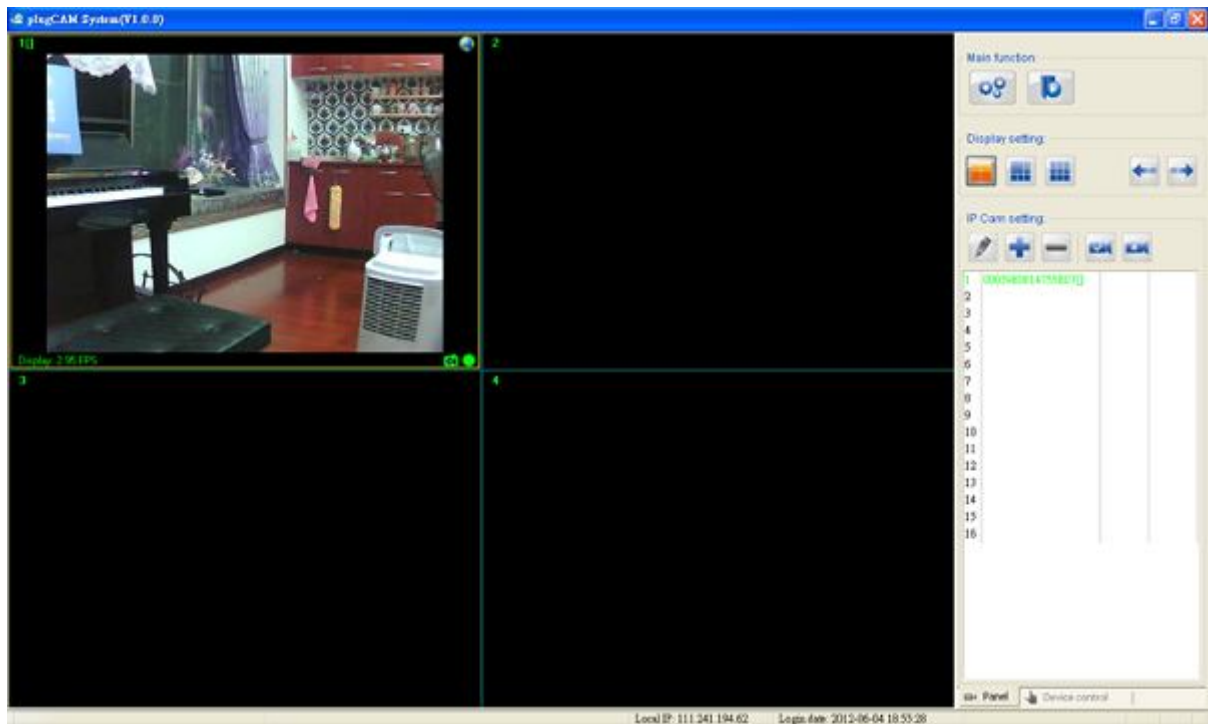
(2) Click  to add in a new plugCAM device

(3) Click search to find plugCAM in the same network, wait for plugCAM ID show then type in password, press " **Save** " to confirm



(4) Click  to start up camera


(5) plugCAM image will show on the display channel



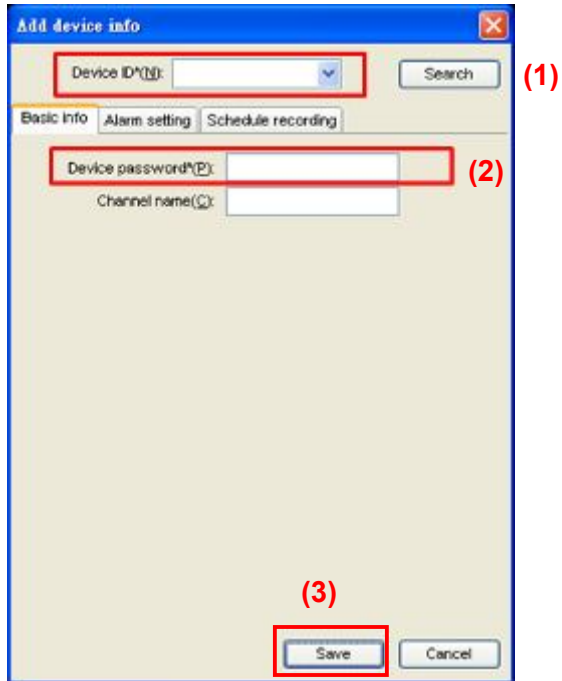
3. Add device in PC program manually

(1) Select an empty channel



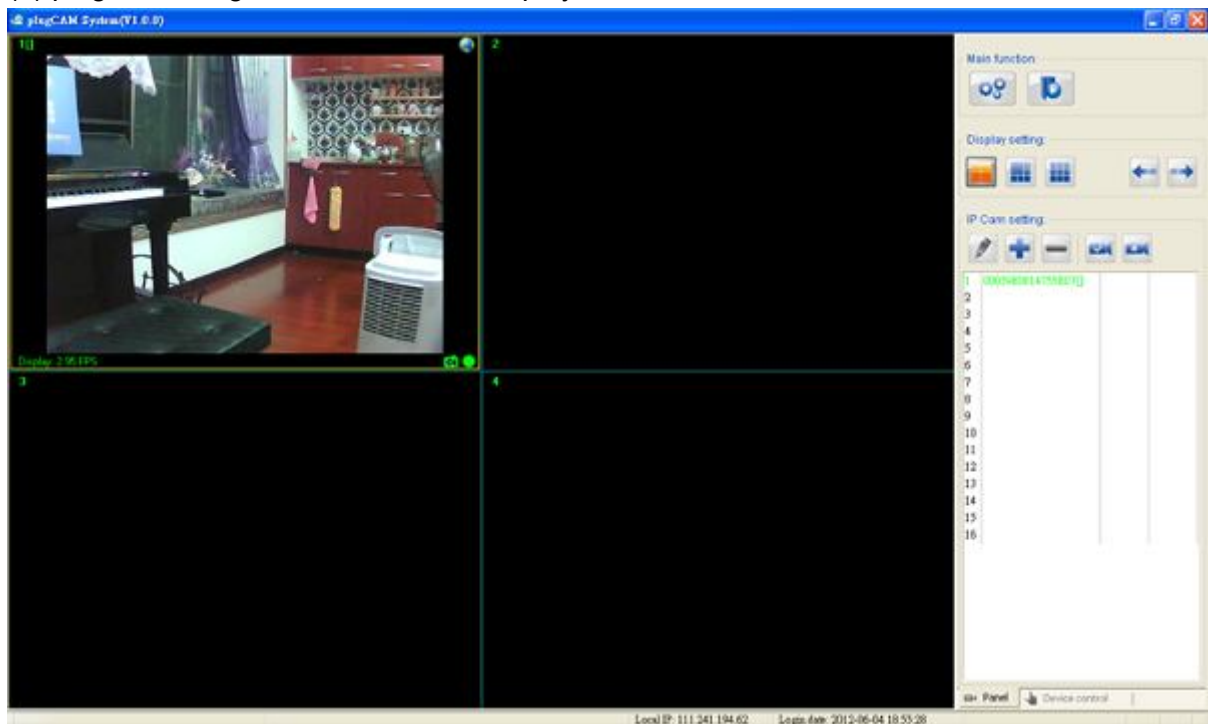
(2) Click  to add in a new plugCAM device

(3) Type in ID and password, press “ **Save** ” to confirm



(4) Click  to start up camera

(5) plugCAM image will show on the display channel



CREATE PRIVATE ENCRYPTED PLC NETWORK

This product is a HomePlug AV powerline device. Each powerline device has predefined attributes of Powerline network name. Multiple Powerline devices with same network names can communicate with one another, and thus belonging to a same PLC network group. Devices with different network name won't communicate. Max number of devices in a PLC network group is defined in the SPECIFICATIONS section of this manual.

Create a private encrypted network

Any 'Homeplug-AV' compliant PLC device newly from factories, including this device, has its default network name of **HomePlugAV**, and can communicate with other brands of new Homeplug-AV compliant devices, thus these new devices are so called belonging to the **public** network. Pushing the GROUP button of the device will change its network name. This way, users can create one or multiple private PLC network groups with this button, without complicated setup software involved, thus protect their data been transmitted over the powerline. Pressing the RESET button of a power-active powerline device will reset the network name back to its factory default.

By pushing GROUP button for more than 10 seconds, a random network name (different from HomePlugAV) for the device will be generated. This device can then ask other devices to join its PLC network to form private network group. Any other devices, device B, which want to join this device's (device A) PLC network group need to follow steps below: (NOTE: it is more convenient to bring devices, which are to be configured into same logical network group, side by side during this procedure. After network group is set, the devices can be deployed anywhere at home)

Step 1.(Clear group attribute) Firstly clear the original network group of device B by pressing its GROUP button more than 10 seconds until all LED lights simultaneously turns off and on once. At this moment, its network group name has been changed to a random name and thus, it is **(1) ready to be assigned another network name** or **(2) to be used as a seed device so other PLC devices can join it to form a private network group.**

Step 2.(Join) Press GROUP Button of device A and device B for 2 to 3 sec (make sure POWER LED starts blinking). The device (device B) which has cleared its group attribute will join to the device (device A) which hasn't. It doesn't matter which device's button is pushed earlier than the other, but please push the second device's Group button within two minutes after pushing first device's Group button.

This way, Powerline device B joins same encrypted network as device A. Users can join device C to device A's logical network with same procedure, thus make device A, B, and C all in the same encrypted network group.

Remove a device from a network Group

For example, device A and device B are in the same logical network group, if users want to remove device A from this logical network group, just follow the procedure in Step 1 by pressing GROUP button of device A for 10 seconds. This makes device A not able to communicate with device B.

Make two public network devices private

If users want to make two new public devices (network name HomePlugAV) become private, please carry out **Step 1** on both devices, then do **step 2** on these two devices. Finally, a private random network name is generated for these two devices.

Partition four devices into two network Groups

For example, A, B, C, and D four devices, originally are in same network group. Please carry out step 1 on device A and B, to remove them from this network group. Then carry out step 2 on A and B to form a new network group.

SPEC SHEET

Electric	
AC Input	100 to 240V AC, 50/60Hz
Ethernet port	N/A
power connector	Euro8 connector
Mounting	Screw inlets (side, bottom), Tripod mounting thread
Camera	
Sensor	(1) 1/4 -inch CMOS VGA sensor, (2) brightness sensor
Resolution	Up to 7 fps @ 640*480 in LAN Up to 20 fps @ 320*240 in LAN Up to 30 fps @ 160*120 in LAN
Video compression	MJPEG
Lens	3.6mm, F2.0, View angel 78 degrees 4 Glass w/ IR coating
Eyeball Pan/Tilt	Manual mode
Eyeball adjustment angle	Pan: 0~ 270 degree, Tilt: 0 ~ 90 degree
IR distance	5 m (IR LED x 12)
IR mode	Turns on under dark & being accessed
Video Setting	Resolution, Brightness, Quality, Environment Flip and Mirror setting
Security	User-defined ID/Password protection, Public-key encryption
Networks	
Network protocols	TCP/IP, uPnP, DHCP client, Static IP, P2P
Board band router	With DHCP and uPnP enabled
P2P - NAT traversal technology	Proprietary UDP
PLC (Power Line Communication)	Built-in 500 Mbps PLC adaptor
Max PLC Camera in a home	7 (w/ a PLC Ethernet adapter)
PLC standard	Homeplug AV 1.1
PLC transmission distance	Up to 300 m
PLC transmission security	AES 128 bit
PLC freq. band	2 to 28 MHz, 30 to 50 MHz, 50 to 68 MHz
Mechanical and electronics	
Work Temperature	0° C ~ 40° C
Storage Temperature	-40° C ~ 60° C
Relative Humidity	<u>Operating:</u> 10~85% Non-Condensing , <u>Storage:</u> 5~90% Non-Condensing