AVTECH

User Manual

Panoramic Navigation 1080P Wi-Fi IP Camera

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We are pleased to provide our modifications to the Linux Kernel, as well as a few new commands, and some tools to get you into the code.

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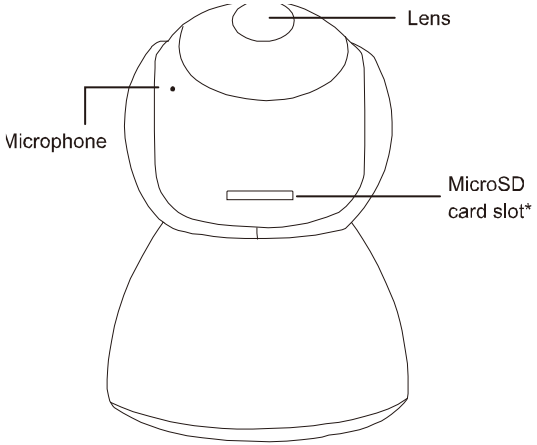
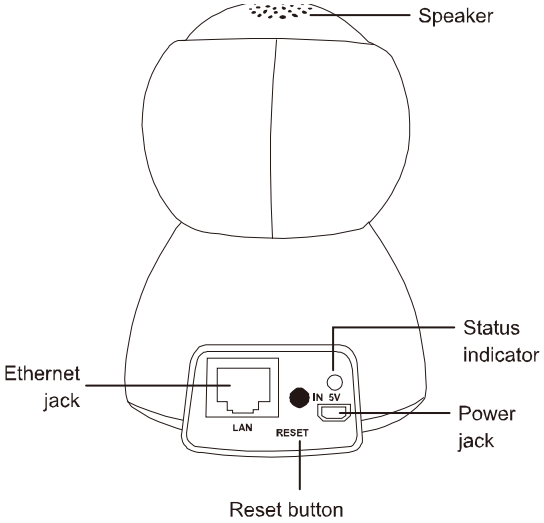
CAMERA OVERVIEW

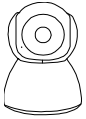
Hardware



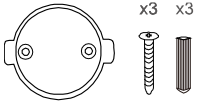
* Power off the camera first and insert a microSD card (up to 128GB).



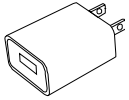
Package content



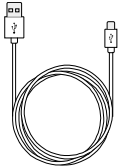
Camera



Wall mount accessories



USB Charger



USB Charger Cable

Quick Start

Status indicator

Color	Status	Meaning
■ During network setup		
Blue	Flashing	Setting camera…
Red	Flashing	Internet connection failed
Purple	Flashing	Wrong Wi-Fi password…
Blue	Flashing slowly	Connecting to Wi-Fi network
■ Wi-Fi signal strength*		
Blue	Stable	Strong
Purple	Stable	Normal
Red	Stable	Weak
■ Others		
Blue & red	Flashing	Resetting camera…
Red	Flashing	Internet connection failed

* When the signal strength is stable, the indicator will be off after one minute. The indicator will be on again in the color corresponding to its current signal strength when the signal strength is changed.

Default values

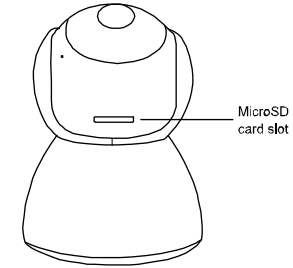
	Wired	Wireless
IP address	192.168.1.10	192.168.2.10
Port number	88	88
User name	admin	Admin
Password	Admin	admin
SSID	--	IPCAM-*mac_address*
SSID password	--	no

GETTING STARTED

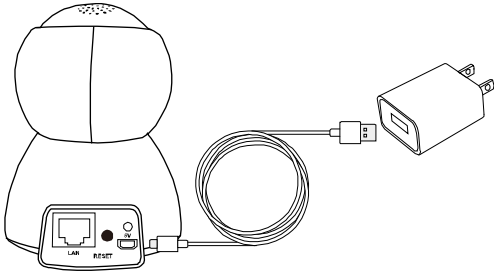
Getting camera ready

Insert a microSD card (up to 128GB) and connect your camera to power.

NOTE
This camera doesn't support plug and play. Please make sure the power is off before inserting or removing the microSD card.



Insert MicroSD card

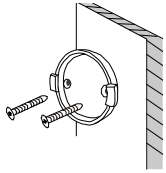


Connect camera to power

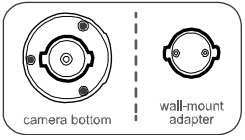
NOTE
If you want to mount this camera to a wall or ceiling, please check the next section, "Wall-mount installation", to know how to mount the camera with the supplied accessories.

Wall-mount installation

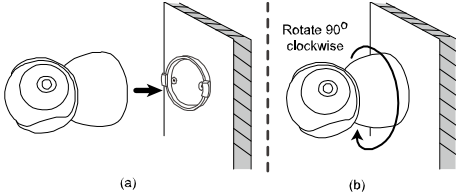
1. 1. Fasten wall-mount adapter to wall.
   Find the wall-mount accessories in the sales package, and fasten the black wall-mount adapter to where you want to install the camera.



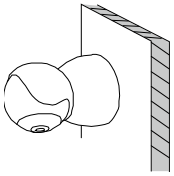
2. 2. Attach camera to wall.
   Align the bottom of the camera with the wall-mount adapter (a).



   Then, rotate the camera 90o clockwise to secure (b).



3. 3. Power on & configure camera.
   Follow the instructions in "Quick Start" to power on the camera and configure it via your smart phone / tablet.



Connecting camera to internet

By EaZy Networking (P2P cloud service)

Please check Quick Start or video demo to know more details.

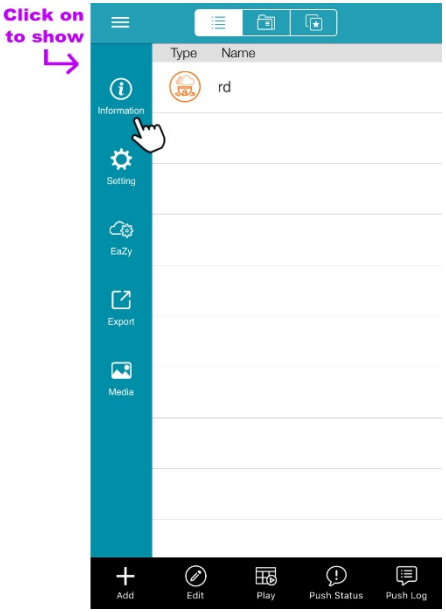
Quick Start

Video Demo

By configuring your router

Please check the advanced network setup to know more details.

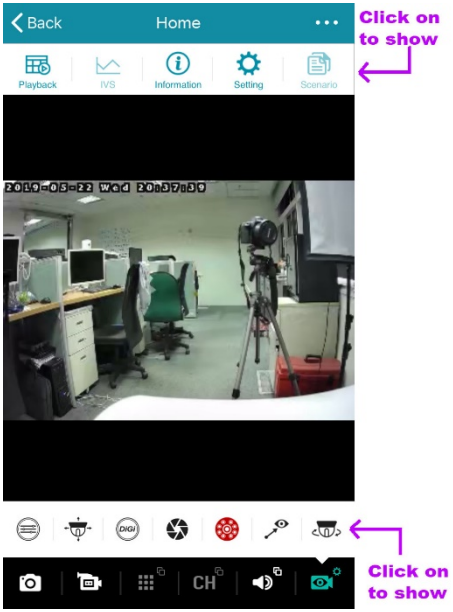
ADDRESS BOOK



For details about each element on this page:

1. Click on ☰ → ⓘ (**Information**), or
2. Scan the QR code below.

LIVE VIEW



The functions available depend on the user level of your account.

There are four user levels: **SUPERVISOR**, **POWER USER**, **NORMAL** and **GUEST**. Please check “Account user levels” at page 32 to know details.

Snapshot

Click on to take a snapshot of the current live image. The image will be saved to ➔ (**Media**), accessible from the address book.

NOTE
The resolution of the snapshot depends on the video profile you chose for live display. For details, please check “Video resolution change” at page 10.

Manual recording

Click on to start recording the current live feed and click on again to stop. The footage will be saved to ➔ (**Media**) , accessible from the address book.

NOTE
The resolution of the footage depends on the video profile you chose for video recording. For details, please check “Record Configuration” at page 24.

Audio

Click on to choose whether you want to hear the live audio ( ) or talk to someone there ( ).

If this function is not enabled in the live view, return to the address book, click on (**Edit**) and choose the camera to go to the setting page. Check the **OPTIONAL** section and see if **Audio** is switched on.

If you think the audio volume is small or loud and want to adjust the volume, click on • • • ➔ (**Setting**) on the top toolbar in the live view, and choose **Audio Configuration** to change the volume setting.

Video resolution change

Click on to show more operations for the camera, and choose to change the resolution of the live feed.

There are four default video profiles:
Profile1(H.265 / 1920 x 1080), **Profile2** (H.265 / 704 x 480), **Profile3** (H.265 / 352 x 240) and **Profile4** (JPEG / 352 x 240).

The more the resolution, the clearer the live feed but the more time you might need to wait for the live feed to show and even get a little big lag.

Pan / tilt control

This camera supports 350° horizontal and 45° vertical rotations to allow you moving to any area you want to see remotely.

Click on to show more operations for the camera and choose the one you want to use.

Vertical / horizontal movement manually

Click on and start moving the camera view by tapping or swiping with your finger on the screen:

- Tap once
  Quickly move to and center the area you want to see.
- Swipe left / right / up / down / left-up / right-up / left-down / right-down
  Touch and swipe with your finger to continuously move the camera view to the direction opposite to the one you swipe. For example, when you swipe left, the camera view will move to the right; when you swipe up, the camera view will move down.

Vertical / horizontal movement automatically

- Auto pan

  Click on to start panning 350° only once based on the current position.

- Preset point

  You can configure up to six preset points to move the camera view to the angles you specified.

  How to set a preset point

  Step1: Click on to move the camera view to the area you want.

  Step2: Click on , press and hold a numbering from 1 ~ 6 till you see the message **Set Success**.

  How to use a preset point

  When the camera view has been moving to other area, click on and choose the numbering which has configured a preset point.

Digital zoom

Click on to enable the digital zoom function.

- Zoom-in

  Place two finger on the screen and spread them apart to zoom out on the current view.

  Then, tap or swipe with your finger on the screen to move to the area you want to see more clearly.

- Zoom-out

- Place two fingers on the screen near each other to zoom in on the current view.

VIDEO SEARCH & BACKUP

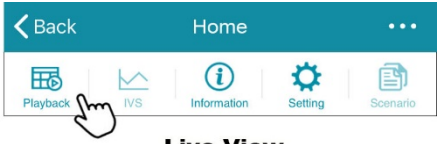
NOTE
This function is available only for **SUPERVISOR** and **POWER USER** accounts. For details, please check “Account user levels” at page 32.

NOTE
Before using this function, make sure you’ve enabled the recording function to get video footage. For details, please check “Record Configuration” at page 24.

There are two ways to go to the event search and backup pages:

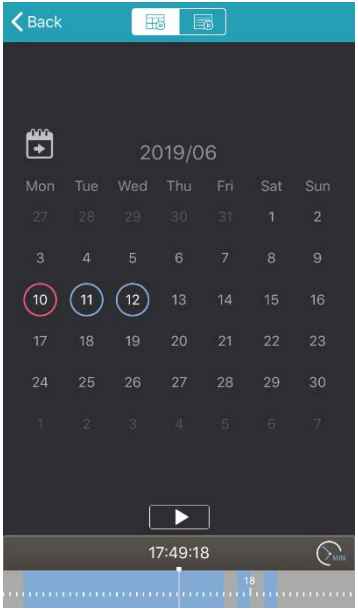
4. In the address book, click on (Play) at the bottom toolbar, and choose the camera you want to search for video footage.
5. In the live view, click on • • • ➔ (playback) on the top toolbar.

Address Book



Live View

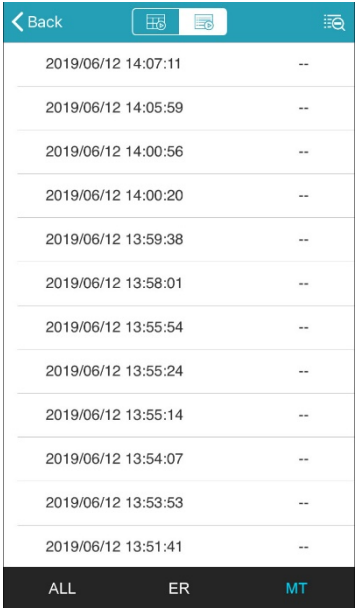
Search by calendar



In the calendar view ( ):

1. Choose the date within which includes the video footage you need. The date with video footage will be circled.
2. Tap and hold on the time bar to slide to the time you want.
3. Choose ► to start video playback.

Search by event



In the list view ( ):

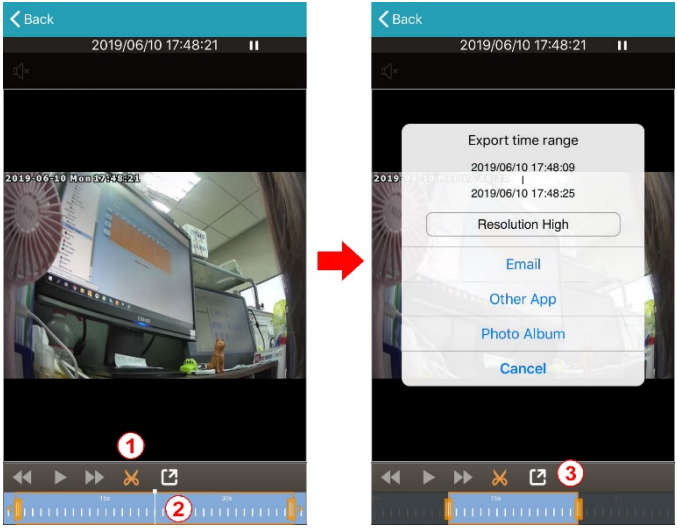
1. Choose from the two event types:

Type		Description
ALL	All events	List of all alarm and motion events
ER	Event Record	Record triggered by alarm detection
MT	Motion Trigger	Record triggered by motion detection

   To narrow down the list, select on the top right corner to specify the time and to specify the time.

2. Select one log from the list to start video playback.

Video backup



When you find the video footage you need, you can easily crop the specific segment and save it.

1. Tap ✂ to enter the edit mode.
2. Slide the time bar to specify the footage segment you want
3. tap ⧉ to select the video resolution and where to save the footage:

iOS Version	Android Version	Description
Email	Email	Email this footage with the Email account saved in your device.
Other App	Export	Send this footage to an App which supports this function, for example, Google Drive.
Photo Album	Save to EagleEyes Media	Save this footage to the album of your device. The footage could be found in the album of your device, and also in **Media** of EagleEyes.
--	Save to device	Save this footage to the download or microSD card folder in your device.

PUSH VIDEO

Push Video is used to help you get notified quickly when an event occurs. For this camera, you can configure the camera to send you Push Video when there's any motion event. You'll get notified via your smart phone / tablet as soon as possible when a motion event is detected. Once you open the message, you'll see video playback of the event to help you quickly know what just happened and respond if needed.

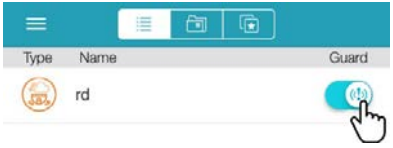
NOTE
This function is available only for **SUPERVISOR** and **POWER USER** accounts. For details, please check "Account user levels" at page 32.

NOTE
This function requires network transmission and the receipt of Push Video on your smart phone / tablet depends on the transmission speed of the network.

How to enable Push Video

In the address book, enable **Guard** and try to trigger a motion event to see if you can receive a push message successfully.

NOTE
Before using this function, make sure your device is configured to the internet as instructed in "Connecting camera to internet" at page 6 and a microSD card is inserted to this camera.

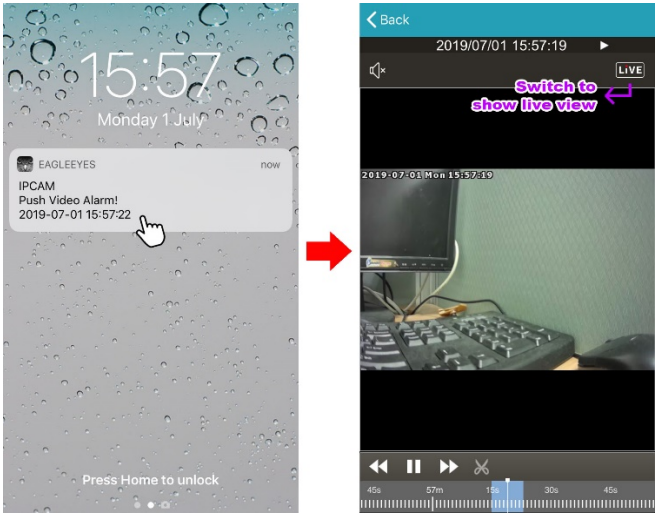


How to check Push Video

There are two ways to check Push Video events:

1. Directly open the push message you received.
2. In the address book, choose (**Push Log**) to see the log list about Push Video.

Check from push message



When you receive the push message, open the message, and EagleEyes will be opened automatically to play the event footage that triggers Push Video.

The footage will start from 3 seconds prior to the time that actually triggers Push Video (pre-alarm recording).

If you want to switch to the live view to see what's going on now, click on **LIVE** on the top right corner.

NOTE
In the video playback mode, you can also crop and save the footage for backup. For details, please refer to "Video backup" at page 15.

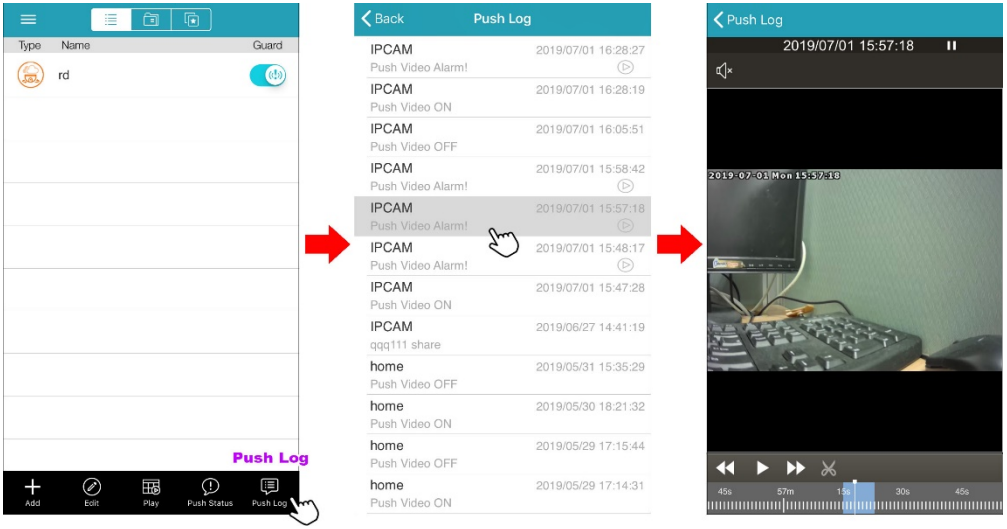
Check from Push Log

In the address book, click on (**Push Log**) at the bottom to enter the Push Video log list. In the list, choose the log that includes the footage you want to check to start video playback.

The footage will start 3 seconds prior to the time that actually triggers Push Video (pre-alarm recording).

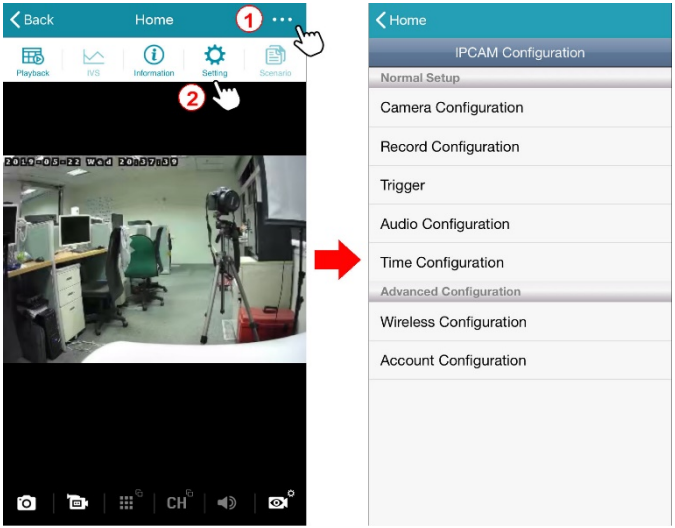
NOTE

In the video playback mode, you can also crop and save the footage for backup. For details, please refer to “Video backup” at page 15.



ADVANCED CONFIGURATIONS

In the advanced setting page, you can choose to change the default record resolution, enable motion detection, adjust audio volume, create an account and so on. For details, please check the following sections.



To access the advanced setting page, click on ••• ➔ ⚙ (**Setting**) on the top toolbar in the live view, and choose the configuration you'd like to modify.

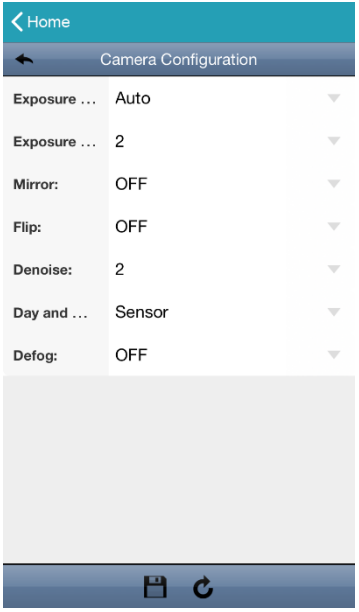
NOTE
Only the account with the highest user level, **SUPERVISOR**, can access this function.

Menu

Normal Setup	Camera Configuration	Exposure Control	Auto (default) / Flicker-free 50Hz / Flicker-free 60Hz
		Exposure Value	0 / 1 / 2 (default) / 3 / 4
		Mirror	OFF (default) / ON
		Flip	OFF (default) / ON
		Denoise	0 / 1 / 2 (default) / 3 / 4 / 5
		Day and Night	Sensor (default) / Day / Night
		Defog	OFF (default) / ON
	Record Configuration	Profile	Profile1 / Profile2 (default) / Profile3 / Profile4
		Motion	OFF (default) / ON
	Trigger	Motion	OFF (default) / ON
		Duration	1 Sec. / 5 Sec. / 10 Sec. (default) / 20 Sec. / 40 Sec.
	Audio Configuration	Microphone	1 ~ 10 (default: 5)
		Mute (Microphone)	
		Speaker	1 ~ 10 (default: 5)
		Mute (Speaker)	
		Audio Source	Built-in

Normal Setup	Time Configuration	OSD	Enable (default) / Disable
		Date	
		Hour	
		Min.	
		Sec.	
		GMT	
		NTP Server	
		Sync. Period	None (default) / Daily
Advanced Configuration	Wireless Configuration		
	Account Configuration	Add	
		Edit	
		Remove	

Camera Configuration



Exposure Control

This function is used to synchronize the shutter speed to the light frequency to suppress image flickering.

Choose **Auto** to allow the system to detect automatically; otherwise choose **Flicker-free 50Hz** or **Flicker-free 60Hz** to manually change it when needed.

Exposure Value

Choose the exposure level from **1** ~ **4**. The higher the value, the more the light to let into the camera. **0** means off.

Mirror

Select **ON** to rotate the images horizontally based on your installation situation when necessary.

Flip

Select **ON** to rotate the image 180° when necessary.

Denoise

Click and drag the slider to adjust the level to decrease the noise shown in the dark environment. The higher the value, the higher the denoise level. **0** means off.

Day and Night

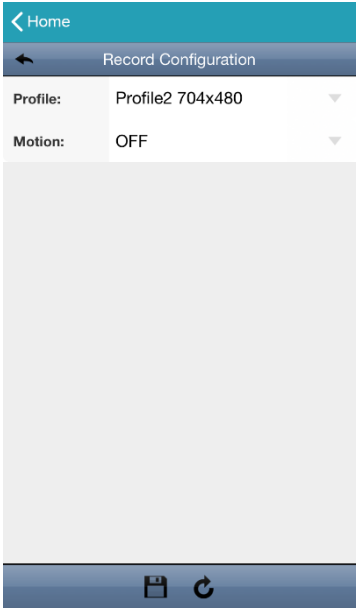
This function is used to configure the day and night mode:

- **Day**: Always stay in the day mode (color).
- **Night**: Always stay in the night mode (B/W).
- **Sensor**: Use the built-in light sensor for day and night detection.

Defog

Select **ON** or **OFF** to enable the defog function in poor weather conditions such as fog, smog or smoke. The captured image can be improved.

Record Configuration



Profile

Choose the record format and resolution from the default four profiles:

- **Profile1**: H.265 / 1920 x 1080
- **Profile2**: H.265 / 704 x 480
- **Profile3**: H.265 / 352 x 240
- **Profile4** JPEG / 352 x 240

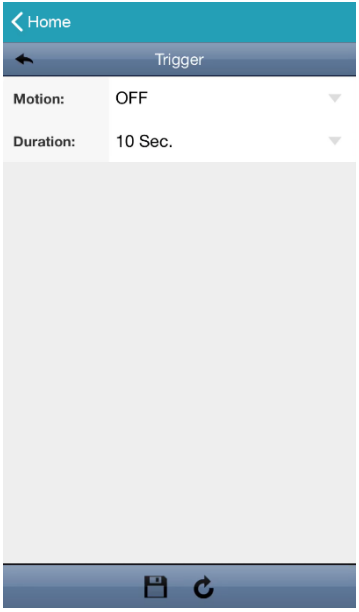
Motion

Choose **ON** to enable video recording for motion events.

NOTE
The motion detection function should also be set to **ON** in **Trigger** for this function to work properly.

NOTE
The video footage for motion events can be found in **Playback**. Please check “VIDEO SEARCH & BACKUP” at page 12.

Trigger



Motion

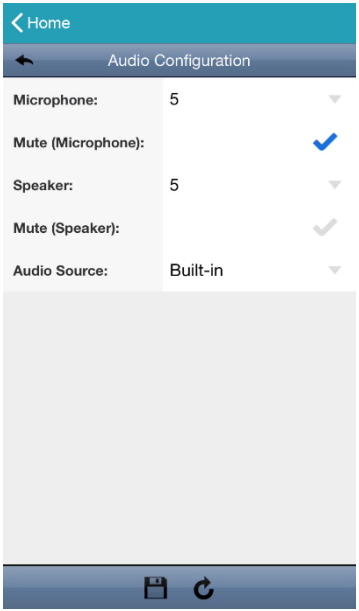
Choose **ON** to enable motion detection. The detection area is as follows:

If you want to record motion events, please go to **Record Configuration** to set **Motion** to **ON**.

Duration

Choose the duration between two motion events: **1 Sec.** / **5 Sec.** / **10 Sec.** (default) / **20 Sec.** / **40 Sec.**

Audio Configuration



Microphone

Choose the volume of the built-in microphone from **1** ~ **10**.

Mute (Microphone)

Check to mute the microphone even when the audio function is enabled.

Speaker

Choose the volume of the built-in speaker from **1** ~ **10**.

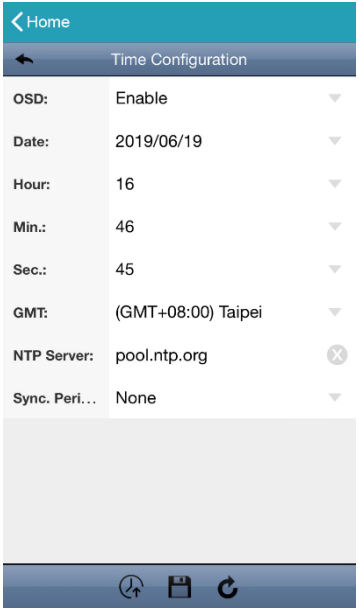
Mute (Speaker)

Check to mute the speaker even when the audio function is enabled.

Audio Source

Here shows how the microphone and speaker are connected to this camera.

Time Configuration



OSD

Choose to display the time stamp on live view or not.

Date / Hour / Min. / Sec.

Manually change the date and time to the current time when needed. Otherwise, when the time zone is chosen correctly, the camera will adjust the local area time of the system automatically.

GMT

Choose the correct time zone and the camera will adjust the local area time of the system automatically.

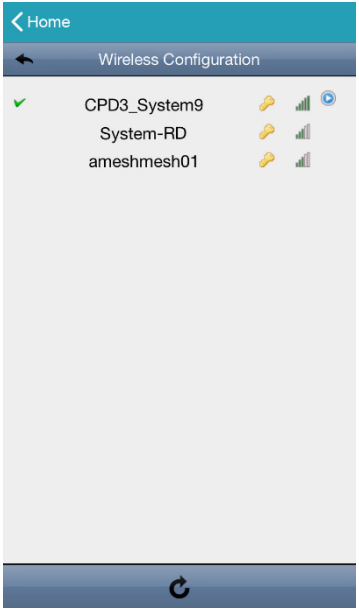
NTP Server

Simply use the default SNTP server (For example, pool.npt.gov) or change to another server with which users are familiar.

Sync. Period

Select **Daily** to synchronize the camera time with the network time every day or **None** to turn off this function.

Wireless Configuration



Here shows the available Wi-Fi networks around you and the one this camera is currently connected to, and you can change the network when necessary.

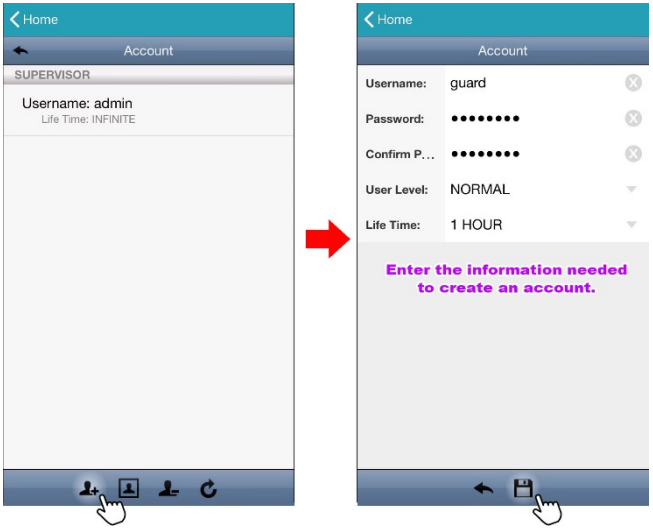
When the Wi-Fi network is changed, you'll need to reconfigure the network of the camera since the router used for internet access has changed.

Please check "Connecting camera to internet" at page 6 to know how to configure the camera to the internet.

Account Configuration

NOTE

When the camera is connected to the internet by EaZy Networking, you're unable to add, edit or remove any account from here. Please go to ☰ ➔ (**EaZy**) ➔ **Buddy** instead to share the access right with other EaZy cloud account(s).
To know how to use **Buddy**, please go to ☰ ➔ (**Information**).



Add account

Click on to create an account and enter the information needed.

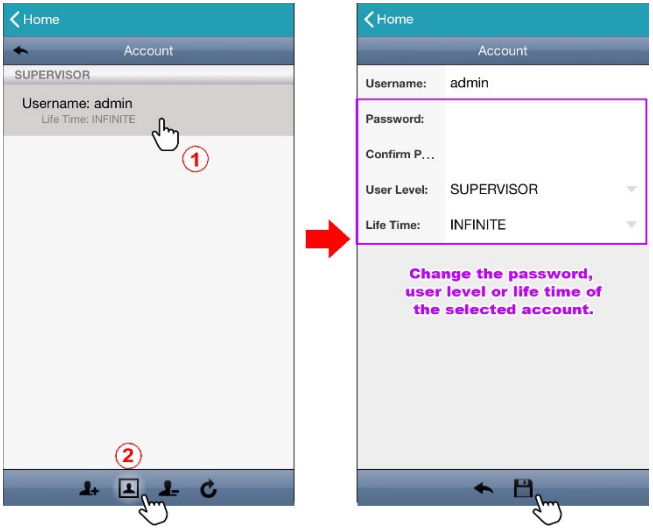
User Level defines how the account can do when it's been used to access this camera.

NOTE

For details about the access rights of each user level, please refer to "Account user levels" at page 32.

Life Time is how long this account can stay online per login.

Then, click on to save and return to the account page.

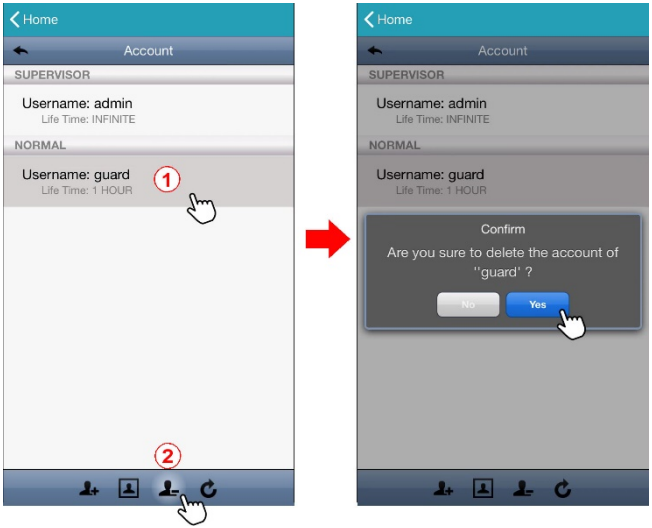


Modify account

Choose the account you'd like to modify first and click on . Change the password, user level or life time of the selected account, and click on to save and return to the account page.

NOTE

When there's only one account, the user level of this account cannot be changed and must be **SUPERVISOR**.



Delete account

Choose the account you'd like to modify first and click on . You'll be prompted to confirm the account deletion again.

NOTE
When there's only one account, the account can't be deleted.

APPENDIX

Account user levels

The account which has the highest user level, **SUPERVISOR**, has the permission to assign the user level for each account.

	SUPERVISOR	POWER USER	NORMAL	GUEST
■ **ADDRESS BOOK**				
Guard (Push Video) on / off	V	V		
Playback	V	V		
■ **LIVE**				
Playback	V	V		
Information	V	V	V	V
Setting (Advanced Configurations)	V			
Snapshot	V	V	V	V
Manual recording	V	V	V	V
Audio (microphone / speaker)	V	Microphone only	Microphone only	
Video resolution change	V	V	V	
P / T control	V	V	V	

Playing video footage saved in microSD card on PC

In addition to searching and playing video footage saved in the microSD card on EagleEyes, you can also do this on your laptop / PC as long as a microSD card is inserted to the camera for video recording.

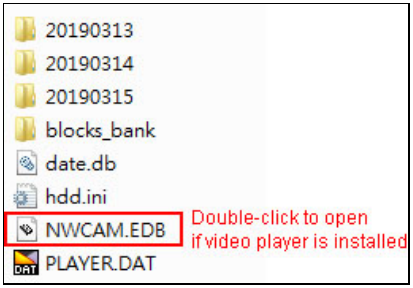
NOTE
This operation is only available on the Windows operating system.

Step1: Power off your camera and remove the microSD card.

Step2: Insert the card to your laptop / PC and access to the card.

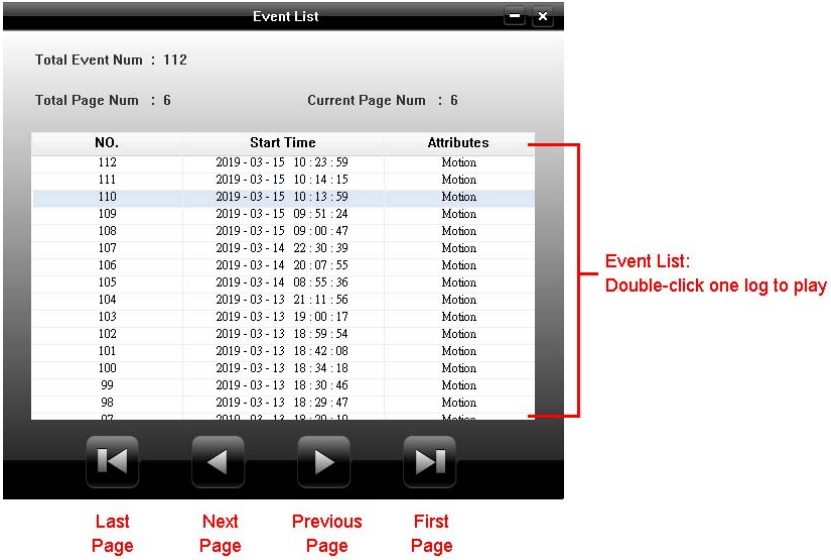
Step3: Download our video player from the link below and double-click it to start installation:
http://download.dvrtw.com.tw/AP/Video_Player/VideoPlayer_setup.zip

Step4: When you're prompted to browse the file to open after installation, choose **NWCAM.EDB** to open.



NOTE
You can also find and double-click **NWCAM.EDB** to open if you've already installed our video player. However, it's still recommended to always download the player from the link above to ensure you have the latest version.

Step4: You'll see the event list including the event logs saved in the microSD card. Find the log you want and double click it to play.



MicroSD card compatible list

Brand	Capacity	Class
SanDisk	32GB	Class 4
	128GB	Class 10
Samsung	128GB	Class 10
Silicon Power	64GB	--
Kingmax	64GB	--
Transcend	128GB	Class 10
Kingston	32GB	Class 4
	64GB	Class 10
	128GB	Class 10
TOSHIBA	128GB	Class 10
TOPRAM	32GB	Class 10

Specifications

Wireless	Wireless & Frequency	IEEE802.11b/g/n, 2.4GHz
	Wireless LAN Security	64/128-bit WEP / WPA-PSK / WPA2-PSK data encryption
Video	Video Compression	H.265
	Resolution	1920*1080 @ 30FPS
Audio	Audio Compression	G.711
	Two-way Intercom	YES
Software	Mobile APP	EagleEyes on iOS & android devices
	Alarm Notification	Push Video / Push Status
	Alarm Mode	Motion Detection
	Preset Position	YES (6 preset points)
	Hotpoint	YES
	Face Recognition	Optional

General	Image Sensor	1/2.9" SONY CMOS
	Lens	f3.6mm / F1.8
	Angle	89° (Horizontal) / 46° (Vertical) / 108° (Diagonal)
	Night Vision	IR-Cut, 6PCS IR LEDs
	Pan / Tilt	Pan: 0° ~ 350°; Tilt: 0° ~ 45°
	Socket	MicroSD Card Slot * 1 (up to 128GB microSD card)
	Working Condition	Temperature: 0°C ~ 40°C, Humidity: 90 or less relative humidity
	Power Supply	DC5V / 1.5A (Micro USB)
	Power Consumption	6.7W
	Net Weight (kg)	0.3

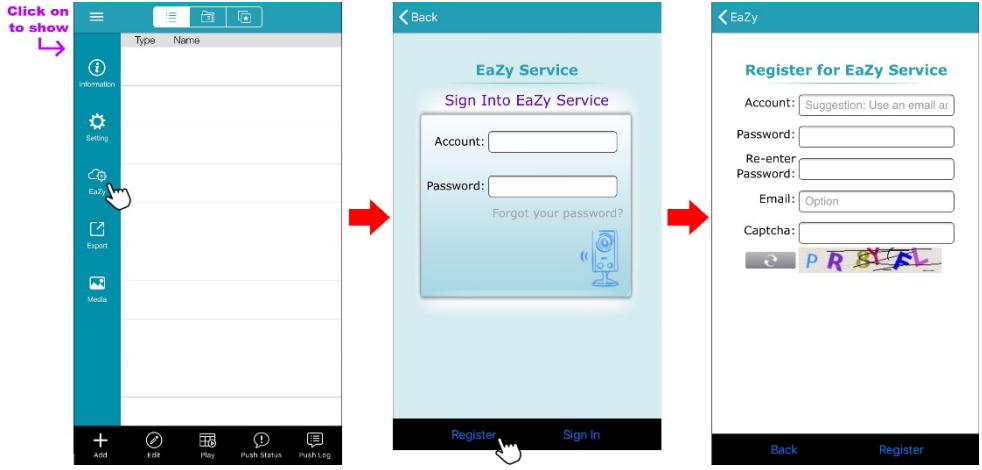
Sharing device access with other EaZy cloud account(s)

How to let other related persons, such as your family members or security guards, be able to access this device and see what's going on when the network setup is completed?

When this device is configured to the internet by EaZy Networking, you can easily share the device access with other cloud account(s) without memorizing any IP address, port number, user name and password to access this device.

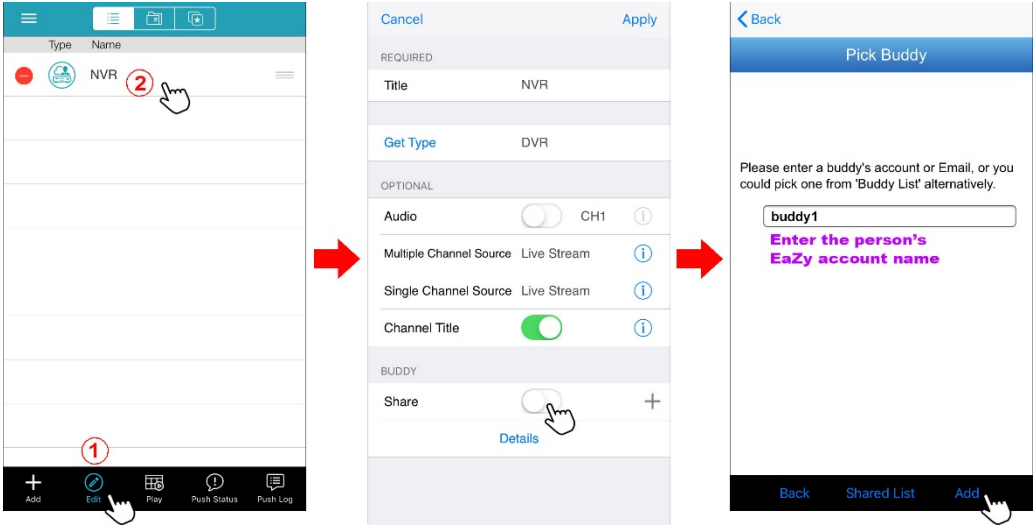
Before sharing device access with other cloud account(s), make sure the person with whom you'd like to share this device has completed the following things:

1. Download and install EagleEyes on the smart phone / tablet of the person with whom you'd like to share this device.
2. Click on ☰ ➔ ☁ (**EaZy**) to register the cloud service and create a cloud account.



On your smart phone / tablet:

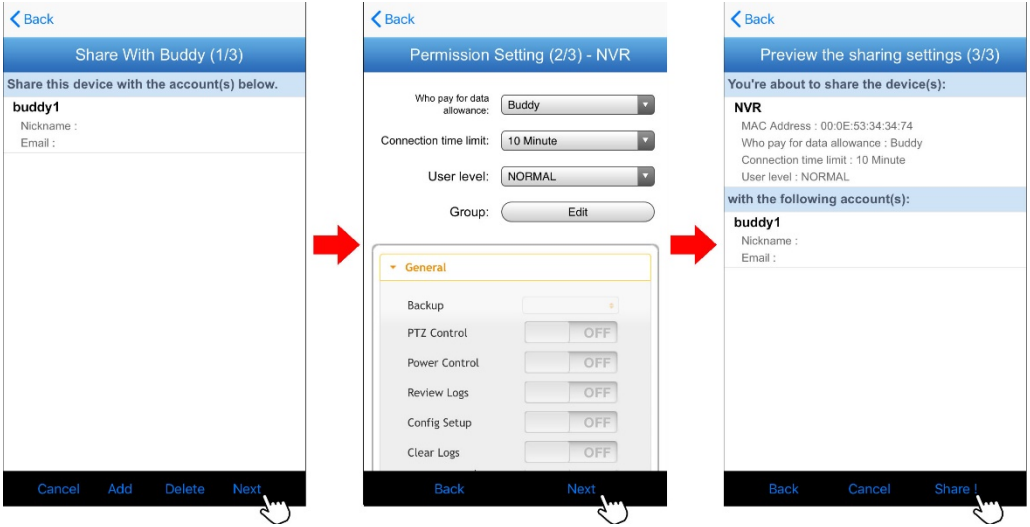
3. Click on (**Edit**) and select this device to enter the edit page.
4. Find the **BUDDY** section and switch **Share** on.
5. Enter the EaZy account name or Email of the person with whom you'd like to share this device, and choose **Add** to continue.



6. The account information will be shown here if the EaZy account name you just entered is correct. Choose **Next** to continue.
7. Specify the access permission of the specified account (**User level**), which account's data allowance should be consumed after access successfully (**Who pay for data allowance**), and how long the account is allowed to stay after access successfully (**Connection time limit**).

Function	Description
Who pay for data allowance	Data allowance is the data plan you additionally purchased via EagleEyes to keep the video transmission stable without being affected by the number of online users who are using EaZy Networking simultaneously when your device is connected to the internet via EaZy Networking. Each device will enclose a 2GB data plan for a free trial. The data plans you can purchase are 1GB, 7GB, 50GB and 200GB. If you've purchased a data plan, you can choose whether you want to share your data plan with the EaZy account (**I**) or not (**Buddy**).
Connection time limit	Assign how long the account is allowed to stay after access successfully. The options are **1 Minute**, **3 Minutes**, **5 Minutes**, **10 Minutes**, **30 Minutes** and **Unlimited**.
User level	The default four user levels are **SUPERVISOR**, **POWER USER**, **NORMAL** and **GUEST**. For details about how each user level can do, please refer to "Account user levels" at page 32.
Group	Choose **Edit** to revise the functions of default user levels if needed, or you can create a new group and customize the functions this group can do.

8. Review the sharing information again and choose **Share!** to confirm and complete.



9. Check the EagleEyes address book with the shared account and see if a device is shown. For details about the device icons, please refer to “Device icons on EagleEyes address book at page 42.

Device icons on EagleEyes address book

Icon	Color	Indication
	Teal	This device is a DVR or NVR.
	Blue	This device is an IP camera.
	Orange	This device is an IP speed dome camera.
	Red	This device is disconnected and unidentified.
or	Depending on the device color	This device is configured to the Internet via EaZy Networking (AVTECH EaZy cloud service). The cloud icon will be grayed out if the EaZy server can't be connected.
	Depending on the device color	You've shared the access right of the device with other cloud account via Buddy (AVTECH EaZy cloud service). The icon color will be faded out if you disable the device share.
	Depending on the device color	The icon color will be faded if the device share is disabled by the owner of the device.

For example, if you see as the device type, you'll know:

- This device is an IP camera.
- This device is connected to the Internet via EaZy Networking.
- You were shared with the access right of the device, but the device share is disabled now.