User's Manual

Weather-proof & Day/Night
2.4GHz Wireless Color Camera Kit
Model: 202AC

The users manual or instruction manual for an intentional or unintentional radiator shall caution the user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. In cases where the manual is provided only in a form other than paper, such as on a computer disk or over the Internet, the information required by this section may be included in the manual in that alternative form, provided the user can reasonably be expected to have the capability to access information in that form.

Please read this manual carefully and thoroughly before any attempt to install and operate this product and retain it for your future reference.

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EU Environmental Protection

Waste electrical products should not be disposed of with
household waste. Please recycle where facilities exist.
Check with your Local Authority or retailer for recycling
advice.

INTRODUCTION

Thank you for your interest and support in our product and purchasing this wireless camera kit. This product works at ISM-2.4GHz frequency band, which could be legally used worldwide without permission.
We feel confident that you will be pleased with the quality and features of this product.
The camera is made of alloyed shell and special weather-proof enclosure that protect it against powder and water sprays. It passed the **IP54** testing. This camera features one CMOS image sensor and a transmitting module to capture the image and transmit them wirelessly; the receiver features a receiving module to receive and output AV signals.

Notice

Notice: 2.4GHz wireless camera works at ISM band. It may cause interference with other wireless equipment that operates at the same band. Please turn off one of the equipments to eliminate the interference.

Product Assurance: 2.4GHz wireless camera will emit electromagnetic wave, just like other wireless products. But the output power of this products is less than other wireless products such as mobile phones. The 2.4GHz wireless camera meets wireless frequency security standards and recommended indexes while working. These standards and indexes are certificated by academic organization and represent the cogitative research of the scientific workers who continuously explore and annotate the involved fields. So we believe that our products are safe for customers**.**

Approval Information

All our products meet the requirements of approval FCC, and are granted the FCC certification. They are authorized to bear FCC mark.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
-Reorient or relocate the receiving antenna.
-Increase the separation between the equipment and the receiver.
-Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
-Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation Changes and modification not expressly approved by the manufacturer or registrant of this equipment can void your authority to operate this equipment under Federal Communications Commissions rules.

Restrictions

1. DO NOT use this product to violate one's privacy. Monitoring one's activities without consent is illegal and this product is not designed and manufactured for such purpose;
2. DO NOT put this product near any medical equipment. Radio waves might potentially cause breakdown of electrical medical equipment. So this product should be placed at least 1 feet away from any heart pacemaker. Radio waves might potentially influence heart pacemaker and lead to respiratory disturbance;
3. DO NOT use this product for any illegal activities. We shall not be responsible for any consequences of illegal acts committed by the user.

Maintenance

1. Ensure the sufficient ventilation space is available;
2. Do not shake or strike the product;
3. Keep it dry and dustless and avoid exposing it to direct sunlight;
4. Do not place product near any magnetic objects;
5. Avoid putting the product in places where the constantly changed temperature or humidity occurs;
6. Keep product away from heat sources such as electric heater;
7. Do not use the camera near aggressive chemicals;
8. Do not use the camera in the places which are enclosed by metal. The surrounding metal like lifter, cabin, may shield the electro-magnetic wave, and result in failure of signal reception;
9. Please obey the local government's environment protection policy;
10. Please turn off the power when left unused;
11. Do not disassemble or repair the camerar; doing so might cause damages to the product.

PRODUCT

Package Contents

This package comes with the following items. Please check whether they are all included in the packaging box, if one or some is missing, contact the retailer for replacement.

① 2.4GHz Wireless Camera×1

② 2.4GHz Wireless Receiver×1

③ Antenna for Receiver × 1

④ Adapter for Camera×1

⑤ Adapter for Receiver × 1

⑥ AV Cable × 1

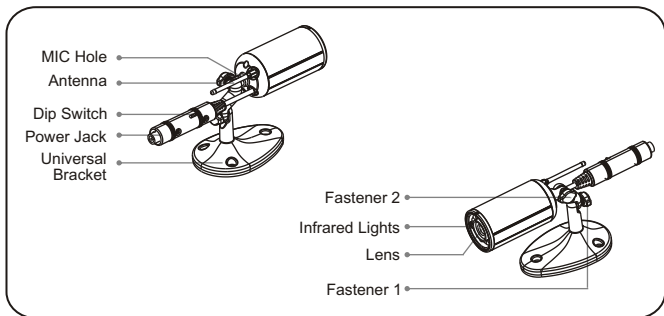⑦ User's Manual × 1
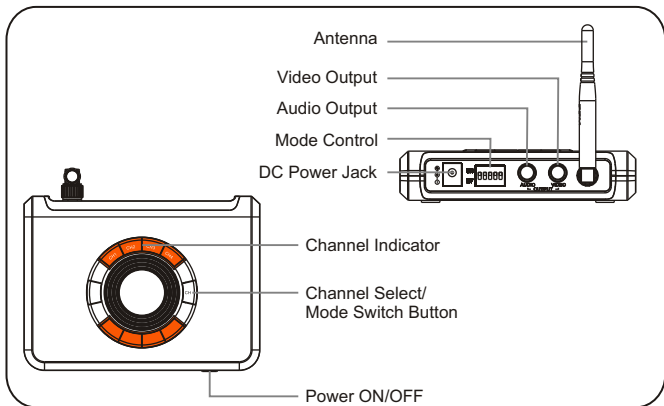
⑧ Mounting Screw × 3

⑨ Anchor for Screw × 3
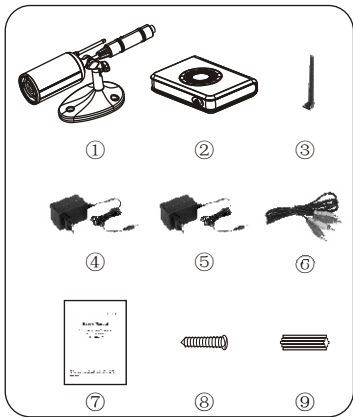
Note:
The pictures may vary from the actual objects.

Feature Locations

1. CAMERA

MIC Hole
Antenna
Dip Switch
Power Jack
Universal Bracket

Fastener 2
Infrared Lights
Lens
Fastener 1

2. RECEIVER

Antenna
Video Output
Audio Output
Mode Control
DC Power Jack

Channel Indicator

Channel Select/
Mode Switch Button

Power ON/OFF

Adapter

This product always conforms to the authenticated AC adapter. The adapter should be marked one of the following:

UL Mark
American power supply authentication

SAA Mark
Australia power supply authentication

CE Mark
European Union power supply authentication

PSE Mark
Japan power supply authentication

GS Mark
German power supply authentication

CCC Mark
China power supply authentication

Note:
When using the power adapter, make sure the rating voltage on it is compatible with that of the device to avoid potential damages resulting from incorrect usage of power supply.

INSTALLATION & USAGE

Installation

1. Connect the adapter (DC 8V 300mA) to the camera.
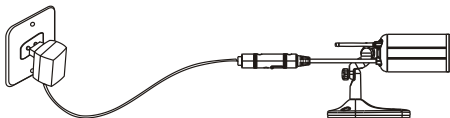
2. Set the camera to one desired channel.
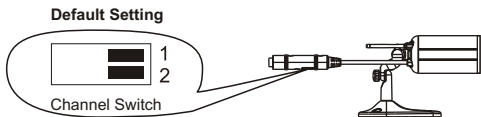
3. Connect the antenna to the receiver.
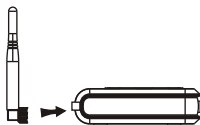
4. Connect the receiver to a monitor/TV with AV cable (yellow for video and red for audio). Turn on the monitor/TV and select AV mode.
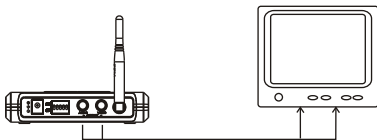
5. Connect the power jack of adapter (DC 7.5V 300mA) to receiver. Press the **Power ON/OFF "⏻"** button and the channel indicator lights up green.

Power ON/OFF Button
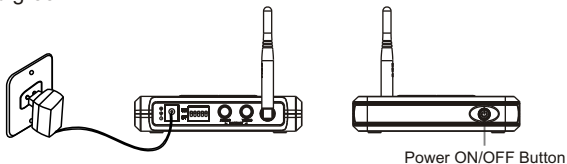
6. Press the Channel Select Button **"CH"** on the receiver until the channel indicator matches to the channel on the corresponding camera, and the monitor/TV will display pictures.

Channel Select Button "**CH**"
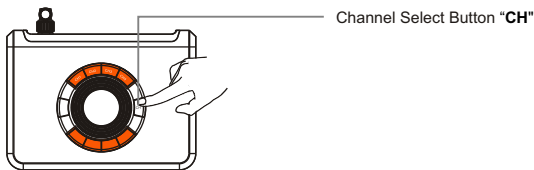
7. Adjust the brightness, contrast and color of the monitor/TV for the perfect effect.
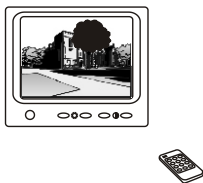
Fix the Camera

1. Locate the camera

Please follow the steps below if you want to fix the camera to wall or ceiling.

1.1 Secure the three screw anchors into wall (or ceiling) according holes in the camera bracket;

1.2 Align holes in the camera bracket and the anchors, and locate the camera on the wall with three screws.
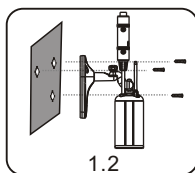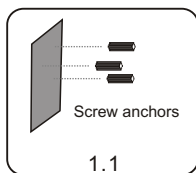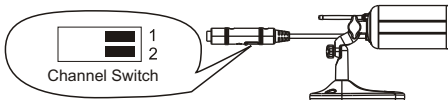

2. Adjust the angle

2.1 Unscrew **Fastener 1**, adjust the camera to an appropriate angle, and then fasten it.

2.2 Unscrew **Fastener 2** to adjust the camera to an appropriate angle, and then fasten it.
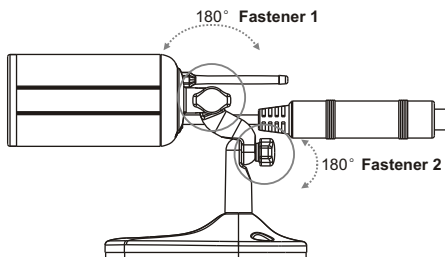
Camera Channel Setup

This camera has 4 selectable channels to avoid possible interference from other nearby wireless devices.

Default Setting

Channel Switch

Channel Switch Setup Diagram


CH1   CH2   CH3   CH4

Channel Frequency

CH1=2,414MHz;
CH2=2,432MHz;
CH3=2,450MHz;
CH4=2,468MHz

Night Vision

The built-in Infra-red lights in camera provide 7m night vision range for 24hrs surveillance. The Infra-red lights will be automatically activated at night or in dark places. The picture will turn Black & White (monochrome) in Night Vision status.

**Built-in IR lights for
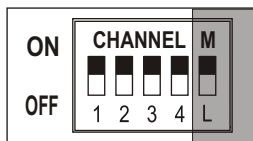7m Night Vision Range**
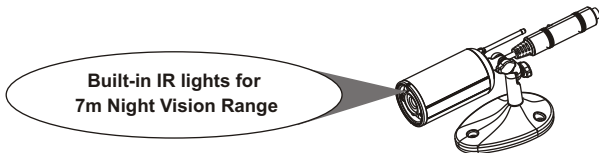
Receiver Mode Setup

The receiver can support up to 4 cameras working at the same time. You are allowed to set the **Mode Control** as described below. The **Mode Control** has the precedence over other buttons.

Default Setting
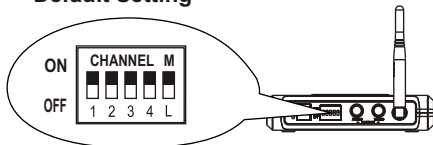
Channel Set

1 − **ON:** CH1 Enable (Default)
     OFF: CH1 Disable
2 − **ON:** CH2 Enable (Default)
     OFF: CH2 Disable
3 − **ON:** CH3 Enable (Default)
     OFF: CH3 Disable
4 − **ON:** CH4 Enable (Default)
     OFF: CH4 Disable

You can confirm which channel is set to receive signal from corresponding camera. With this function, you could set the unused channels to **OFF**, so that they will be skipped during the **Manual** mode or **Channel Scan** mode.
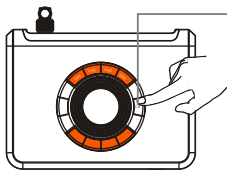
Channel-scan Set
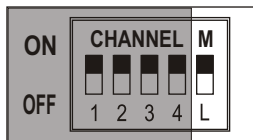
M: Manual Mode (Default)

L: Channel-scan Mode

1. **Manual** mode: Slide **Mode Control** switch to **M** to enter **Manual** mode. In this mode, the receiver channel won't change until you press the **Channel Select Button** "**CH**";

   Tip:
   *You could also activate channel-scan function by pressing and holding the **Channel Select Button "CH"** more than 5s at **Manual** mode and deactivate it by pressing the button again.*

Channel Select Button "**CH**"

Press and hold more than 5s to activate;
Press again to deactivate

2. **Channel Scan** mode: Slide **Mode Control** switch to **L** to enter channel scan mode. In this mode, all the available channels will display one by one looping in turn per 5s. So you can watch the situations from up to 4 different cameras via one receiver.

   Notes:
   *Press the **Channel Select Button "CH"** at the channel scan mode, the current channel will be looped to the next one immediately.*
   *Slide the **Mode Control** switch to **M** to exit the channel scan mode.*

SPECIFICATIONS

Items		Value
Transmission Frequency		ISM 2,400MHz~ 2,483MHz
Antenna Type		Omni
Transmission Distance		100m (Without Block)
Operating Temperature		-10°C~+50°C /+14°F~+122°F
Storage Temperature		-20°C~+60°C /-4°F~+140°F
Storage Humidity		≤85% RH
Camera	Imaging Sensor	CMOS
	CMOS Total Pixels	510×492 (NTSC)
	S/N Ratio	40dB (AGC OFF)
	Horizontal Resolution	380 TV Lines
	Minimum Illumination	5 Lux/F1.2(IR OFF) & 0 Lux (IR ON)
	Night Vision Range	7m
	Transmission Power	2mW (FCC)
	Power Supply	DC 8V 300mA
	Consumption Current	200mA (IR ON)/90mA(IR OFF)
	Weather-proof Level	IP54 (Main Body)
	Dimensions (WxDxH)	27mm x 27mm x 60mm (Main Body)
	Weight	Approx.200g (Main Body)
Receiver	Receiving Sensitivity	-85dBm
	Power Supply	DC 7.5V 300mA
	Consumption Current	240mA (Max.)
	Video Output Level	$1V_{p-p}$@75Ω
	Audio Output Level	$1V_{p-p}$@10kΩ
	Dimensions (WxDxH)	115mmx85mmx24mm (Main Body)
	Weight	Approx.126g (Main Body)

* Specifications are subject to minor change without prior notice.

TROUBLESHOOTING

When you experience the operation problems, please check and try the following yourself before claiming that it is the defective product or consulting the experienced technician.

Abnormal Phenomena		Possible Reasons/Solutions
No image	No sound	Check whether the camera/receiver is connected to power supply and powered on.
Snowflakes on image	Noisy	1. Check if the channel of receiver is the same as that of camera; 2. Check the distance & blocks.
Ghost image	Normal sound	1. Interfered with other devices; 2. Check the distance & blocks.
Normal image	Noisy	Interfered with other devices nearby; Remove or turn off such devices.