

English

User's Manual

2.4GHz Wireless Transceiver
Signal relay station
Model:870VL



Please read this manual 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 purchasing our car back view monitor. 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 product is made of alloyed shell and special weather-proof enclosure that protect it against power and water sprays. It passed the IP65 testing. The product offers a new solution and experience for drivers. Drivers can check the back situations through the camera mounted on the rear car, and does not need to look back and forth.

This product is only for accessorial reminding tool, thus we will not take any responsibility for resulting accident.

Please read the manual thoroughly before using, and following the instruction accordingly.

Notice

Notice: This product may cause interferences with other wireless equipment that operates at 2.4GHz ISM band. Please turn off one of the equipments to eliminate the interference.

Product Assurance: This camera will emit electromagnetic wave, just like other wireless products, however, its transmitting power 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 or CE, and are granted the FCC or CE certification. They are authorized to bear FCC or CE mark.

FCC

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 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.
- To assure continued compliance, any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. (Example- use only shielded interface cables when connecting to computer or peripheral devices).

FCC Radiation Exposure Statement

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

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.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

The antennas used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

Channel

This equipment marketed in USA is restricted by firmware to only operate on 2.4G channel 1-11.

CE

This product complies with standards including **Low Voltage Device Directive 2006/95/EC**; **EMC Directive 2004/108/EC** and **R&TTE Directive 1999/5/EC**. It passed the subject tests by the authority concerned and is authorized to bear **CE** mark.

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 will not be responsible for any consequences of illegal acts committed by the user.

Maintenance

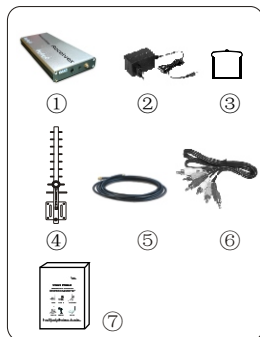
1. Ensure the sufficient ventilation space is available;
2. Do not shake or strike the product;
3. Keep it dry and dustless and avoid exposing it to direct sunlight;
4. Do not place product near any magnetic objects;
5. Avoid putting the product in places where the constantly changed temperature or humidity 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 this camera near water, for example, near a bath tub, wash bowl, kitchen sink or laundry tub, in a wet basement or near a swimming pool and the like;
9. Do not use the camera in the places which are enclosed by metal. The surrounding metal like lifter, cabin, may shield the electromagnetic wave, and result in failure of signal reception;
10. Please obey the local government's environment protection policy;
11. Please turn off the power when left unused;
12. Do not disassemble or repair the camera or receiver; 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.

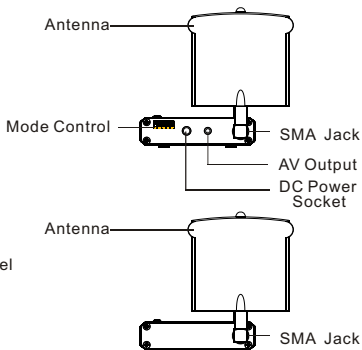
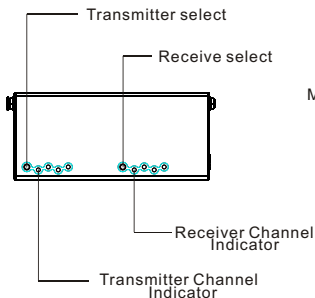
- ① 2.4GHz Wireless Repeater X 1
- ② DC 8V Power Adapter X 1
- ③ Antenna for the Transmitter X 2
- ④ Antenna X 1
- ⑤ Cable X 1
- ⑥ AV Cable X 1
- ⑦ User's Manual X 1



Note:

The picture may vary from the actual object.

Feature Locations



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



BS Mark

British power supply authentication

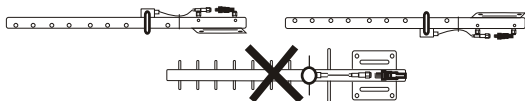
Note: When using the power adapter, make sure the rating voltage is compatible with that of the device to avoid potential damages resulting from incorrect usage of power supply.

INSTALLATION & USAGE

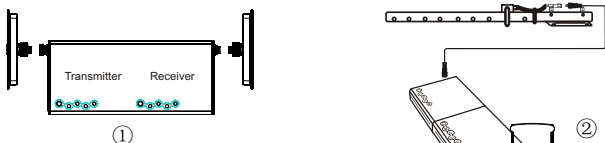
Installation

1. Installing the transmitting antenna

Fixed the antenna to the wall for suitable location with the screw. The antenna should be point to the camera.



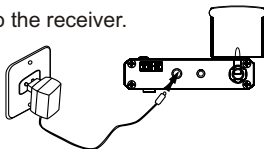
2. Connect the antenna to Wireless Transceiver. Use the cable connect the transmitter and the antenna for picture two.



Note: Installing the antenna there are two ways.

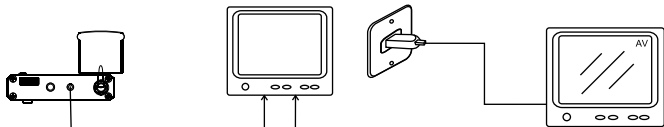
- ① You can use the same antenna for the transmitter and the receiver of the transceiver
- ② You can use the different antennas for the transmitter and the receiver of the transceiver.

3. Connect the adapter to the receiver.



USAGE 1

- 1. Connect the receiver to a monitor/TV with AV cable (yellow for video and red for audio.)
- 2. Power on the monitor/TV and select AV mode.

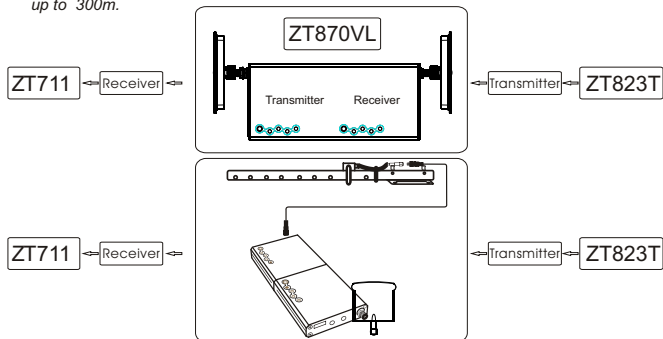


USAGE 2

Locate the Transceiver between the Camera(ZT83T) and the receiver (ZT711).

Note:

1. The ZT870VL's receiver antenna should be point to the ZT823T's transmitter antenna, and the ZT870VL's transmitter antenna should be point to the ZT711's receiver.
2. Recommended: From ZT823T to ZT870VL is 150m to 200m; From ZT823T to ZT711 is up to 300m.

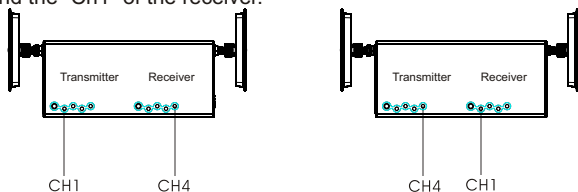


Transfer approach

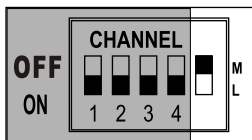
When use the Wireless Transceiver , recommended that:

After installation ,connect the power, generally speaking, the “Ch1” indicator of the transmitter is on, and the “Ch4” indicator of the receiver is on. At this time, this is the best reception.

However, you can also select the channel ,use “Ch4” of the transmitter and the “Ch1” of the receiver.



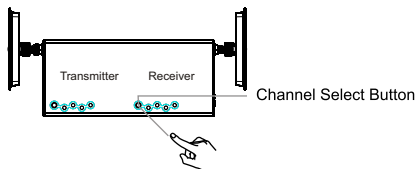
Channel-scan Set



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;



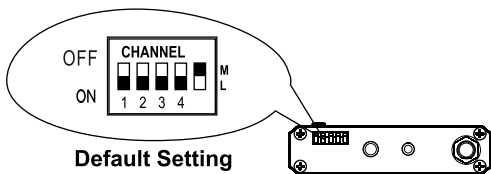
2. Channel Scan mode: Slide Mode Control switch to L to enter channel scan mode. In this mode, all the available channels will display one by one looping in turn per 5s. So you can watch the situations from up to 4 different cameras via one receiver.

Notes:

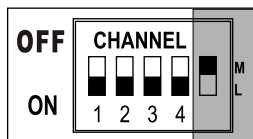
- Press the **Channel Select Button** at the channel scan mode, the current channel will be looped to the next one immediately (less than 5s).
- At the channel scan mode, slide the **Mode Control** switch to **M** to exit.

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.



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.

Note:

*If all channels are on **OFF** position, the default setting is **CH1**.*

SPECIFICATIONS













Transmission Frequency	2,400~2,483MHz
Work Transmission	2414MHz/2432MHz/2450MHz/2468MHz
Modulation Type	FM
Color standard	PAL/NTSC(AUTO)
Voice standard	6.5MHz
Sound Control Sensitivity	40dB(AGC Off)
Transmission Power	7~10mW(Nominal value FCC:2mW CE:10mW)
Unobstructed Effective Range	100m(min)
Channel Select	Pushbutton Switches choice
Channel Indicator	LED
Frequency Stability	±100KHz
Receiving Sensitivity	≤ -85dBm
Video Output Impedance	75ohm
Video Output Level	1.0±0.2Vp-p(Nominal value 1Vp-p)
Audio Frequency Range	100~20KHz
Audio Output Impedance	10kohm
Audio Output Level	1.2±0.4Vp-p(Nominal value 1Vp-p)
SNR Audio	50dB
AV Output	Φ3.5mm (AUDIO+VIDEO)
Antenna Input	SMA
RF Input Impedance	50ohm
Consumption Current	260mA(Max.)
Power Input	Φ3. 5mm
Power Supply	8V/300mA
Operating Temperature	-10°C~+50°C/-14°F~122°F
Storage Temperature	-20°C~+60°C/-4°F~140°F
Storage Humidity	85%
Dimensions(W*D*H)	156mm*68mm*19mm(MAINBODY)

*Actual transmission range may vary according to the weather, location, interference and building construction.

*All the 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.
 No image	 Noisy	Check whether the li-battery runs out
 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.
 No color	 Normal sound	Mismatching the TV system of PAL or NTSC.
 Normal image	 Noisy	Interfered with other devices nearby; Remove or turn off such devices.