

## Installation

This camera is designed to be applicable to long vehicles such as bus, truck and trailer.

Find a suitable location to mount the camera. Once you have the camera mounted in your location of choice, route the camera wiring into the vehicle. It is best to find an existing grommet to run the wiring through, if necessary, drill a hole to run the wiring into the vehicle. If you use this method, be sure to use a rubber grommet to protect the wiring.

Find a suitable location to mount the receiver and use the double side tape to stick it to the location.

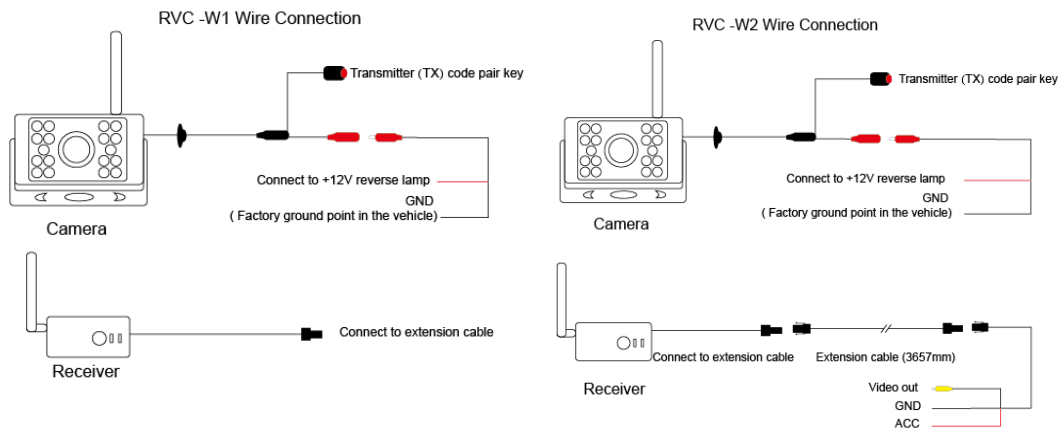
## Wiring

### Camera wiring

Red (Power) – Locate the **+Reverse Lamp wire** in the vehicle. Connect this wire to the camera red power cable

Black (Ground) – Locate a suitable location to ground (negative) the Black wire in the wiring harness. You may connect this wire to a factory ground point in the vehicle, or attach a ring terminal to the black wire and screw into the body of the vehicle. If you choose to screw into the body, clean the area of any paint or adhesives to allow for good metal-to-metal contact.

Wire connection is illustrated in below figures



### (RVC-W1) Package Contains

- 1 X Camera (with built in TX)
- 1 X Receiver
- 1 x camera power cable
- 2 x red t-tap
- 2 x red male spade
- 2 x 10mm screws
- 2 x antenna caps
- 3 x zip tie
- 1 x hole saw for grommet
- 1 x double side tape
- 1 x user's manual

### (RVC-W2) Package Contains

- 1 X Camera (with built in TX)
- 1 X Receiver
- 1 X receiver power & video cable (Length 150mm)**

**1 x receiver extension cable (Length3657mm)**

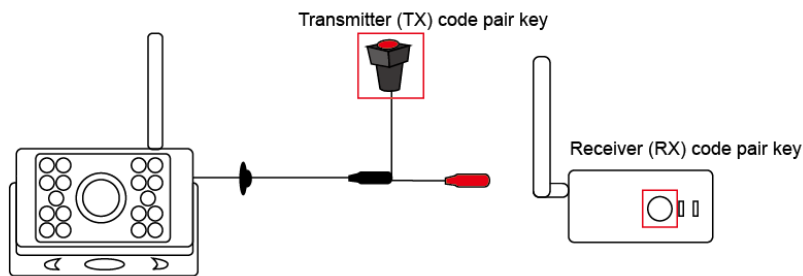
- 1 x camera power cable
- 2 x red t-tap
- 2 x red male spade
- 2 x 10mm screws
- 2 x antenna caps
- 3 x zip tie
- 1 x hole saw for grommet
- 1 x double side tape
- 1 x user's manual

**When to pair the code for RX and TX**

1. Code pair is completed as factory setting. No need to pair the code unless you need to replace the RX or the camera (with built-in TX)
2. Code pair is needed in the event of code losing due to extreme weak signal, but it rarely happens

**How to pair**

Press and hold the **receiver (RX) code pair key** for 1-3 seconds, the sentence **"Please press pair key on tx side"** appear on the screen. Within 30 seconds, press and hold the **transmitter (TX) code pair key** for 1-3 seconds, code pairing starts. **PAIR OK** will appear on the screen in case pair is completed.



**Specifications**

Camera (with built-in TX)

Image device	1/3 inch color sony CCD
TV system	NTSC, Effective pixels: 811*494pixels
Sensing area:	5.59mm x4.68mm
Sync. System:	Internal.
Resolution:	480 TV lines
Minimum illumination:	0 Lux/(infrared LED on)
Night Vision range:	More than 8M.
Lens angle	120 degree
S/N ratio:	more than 48db (AGC-OFF).
Current consumption:	≤350mA
Power supply	DC 12V±10%
Operating temperature	-20 to 65 degrees centigrade, RH95% Max.
Storage temperature:	"-35 to 85 degrees centigrade, RH95% Max.

Other items:	automatic white balance, AGC and BLC
<b>Specifications for TX</b>	
<b>DC Characteristics</b>	
POWER SUPPLY	DC 12V±10%
<b>Environmental Specification</b>	
Operating Temperature	"-20~+65 °C
Storing Temperature	"-35~+85 °C
Operating humidity	85%RH
<b>BASEBAND SPEC.</b>	
POWER ON	2S Max.
Latency	150mS Max.
Resolution	VGA: 640X480/D1: 720X480
Frame Rate	VGA:30f/s/D1: 25f/s
Video Codec	MPEG4
Video in System	PAL/NTSC Auto detection
Voice Sample Rate	16KHz/12BIT ADC ADPCM/PCM
Voice Frequency Band	20Hz~20KHz
ID BIT	Pairing / 22(4KK)
SYSTEM Architecture	RISC(32Bit) SOC
<b>RF SPEC.</b>	
Operation Frequency	2409.5 ~ 2465.5MHz
RF Impedance	50E, Typ.
Voltage Standing Wave Ratio	2:01
Output Power	≧ 17dBm with Power control
RF (RF Bit Rate)	4Mbps
Modulation	FSK/GFSK
Spread Spectrum	( FHSS )
Overlapping Hopping Channel	17
Hopping Rate	1200/S
CRC (CRC Check Bit)	16
Line of Sight Range	>200M
Receiving Sensitivity	--88dBm@4MHZ
RSSI (RSSI Level)	4
<b>Video Characteristics</b>	
Video Output impedance	75E, Typ.
Video Output Level	c
Video Polarity	NEGATIVE
Video Frequency Response	±5 dB, Max. 50Hz ~ 6MHz
<b>Audio</b>	
Audio Output impedance	200KE, Typ.

Audio Output Level	5mv~0.2Vp-p, Typ.
S/N(340Hz ~ 3.4kHz)	63dB, Min
THD:(340Hz~ 3.4kHz,0.5p-p )	5 %, Max
<b>Specification for RX</b>	
<b>DC Characteristics</b>	
POWER SUPPLY	DC 12V±10%
Current Consumption	Max.160mA
<b>Environmental Specification</b>	
Operating Temperature	"-20~+65 °C
Storing Temperature	"-35~+85 °C
Operating humidity	85%RH
<b>BASEBAND SPEC.</b>	
POWER ON	2S Max.
Latency	150mS Max.
Resolution	VGA: 640X480/D1: 720X480
Frame Rate	VGA:30f/s/D1: 25f/s
Video Decode	MPEG4
Video in System	PAL/NTSC Auto detection
Voice Sample Rate	16KHz/16BIT DAC ADPCM/PCM
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<b>RF SPEC.</b>	
Operation Frequency	2409.5~ 2465.5MHz
RF Impedance	50Ω, Typ.
Voltage Standing Wave Ratio	2:01
Output Power	≥17dBm with Power control
RF Bit Rate	4Mbps
Modulation	FSK/GFSK
Spread Spectrum	( FHSS )
Overlapping Hopping Channel	17
Hopping Rate	1200/S
CRC (CRC Check Bit)	16
Line of Sight Range	>200M
Receiving Sensitivity	--88dBm@4MHZ
RSSI (RSSI Level)	4

## Federal Communications Commission (FCC) Interference

### Statement

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 generate, 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 of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and 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.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

### **RF exposure warning**

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment must be installed and operated in accordance with provided instructions and the to provide a separation distance of at least 20 cm antenna(s) used for this transmitter must be installed from all persons and must not be collocated or operating in conjunction with any other antenna or transmitter.