



## Installation Instructions Wireless Camera/Monitor System



### **WARNING!**

Failure to install or use this product according to manufacturers recommendations may result in property damage, serious bodily/personal injury, and/or death to you and those you are seeking to protect!



**Do not install and/or operate this safety product unless you have read and understand the safety information contained in this manual.**

1. Proper installation combined with operator training in the use, care, and maintenance of vehicle camera systems are essential to ensure the safety of you and those you are trying to protect.
2. Exercise caution when working with live electrical connections.
3. This product must be properly grounded. Inadequate grounding and/or shorting of electrical connections can cause high current arcing, which can cause personal injury and/or severe vehicle damage, including fire.
4. Proper placement and installation are vital to the performance of this device. Install this product so that output performance of the system is maximized and the controls are placed within convenient reach of the operator so that s/he can operate the system without losing eye contact with the roadway.
5. It is the responsibility of the vehicle operator to ensure during use that all features of this product work correctly. In use, the vehicle operator should ensure the projection of the signal is not blocked by vehicle components (i.e., open trunks or compartment doors), people, vehicles, or other obstructions.

### **Introduction:**

The Gemineye™ wireless camera system features 2.4GHZ digital signal transmission and offers quality and functionality equal to wired systems. Featuring a 5.6" LCD color monitor with touchscreen menu control and a CMOS infrared camera this system provides exceptional and consistently stable picture quality. The system is expandable to operate up to four separate cameras, each with independent trigger wires and all using a wireless signal to transmit image data to the monitor. This system dramatically reduces installation complexity and expense while eliminating the potential for wires being damaged during operation of the vehicle.



### **WARNING!**

1. High voltage is present within the monitor. The opening of the case should be by professionals.
2. Do not watch the video while driving unless you are monitoring the rear view camera display.

**IMPORTANT!** Occasionally, a few highlights or dark spots may occur on the LCD screen. This is a very common phenomenon in active matrix display technology, and doesn't necessarily indicate any defects or faults. Never try to repair this device by yourself. In case of any problems, please turn off the display at once and notify our company or authorized dealer. The monitor is a complex device. Any disassembly or modification may lead to damage and void the warranty.

## Specifications:

CAMERA SPECIFICATIONS / FEATURES	
Image Device	1/3" CMOS
Ingress Protection	IP69K
Night Vision	11 IR LEDs = MAX. 10M Distance
TV System	NTSC / PAL
Effective Pixels	728 x 488
Sensing Area	4.6228mm x 3.6112mm
Sync. System	Internal
Horizontal Resolution	500TV Lines
Mini. Illumination	0LUX / F2.0
Video Output	1.0VP-P, 750OHM
S/N Ratio	Better Than 48dB
White Balance	Auto
Electronic Shutter	NTSC: 1/60 ~ 1/100K Seconds PAL: 1/50 ~ 1/100K Seconds
Current Consumption	Max. 250mA
Lens	f-2.8mm / F=2.0
Lens	120°
Voltage	12-24V

SYSTEM SPECIFICATIONS / FEATURES	
Product	5.6" Digital TFT - LCE Color, 2.4 GHz Wireless
Resolution	800 x 3 (RGB) x480
Contrast	500:1
Brightness	400cd/m2
Viewing Angle	U: 50 / D: 60 / R-L: 70
Operation Freq.	2400-2483.5MHz
Line of Sight Range	120M
Receiving Sensitivity	-78dBm
Video Codec	MPEG4
RF Band Width	5MHz
Frame Rate	NTSC: 30f/s PAL: 25f/s
Output Power	18dbm
Spread Spectrum	FHSS
Hopping Rate	1200/S
Delay	200ms
RF Bit Rate	6Mbps
Audio Output	1.5W
Speaker	Yes
Voltage Range	10-32VDC
Power Consumption	8W
Monitor Dimension	6.32" (W) x 4.51" (H) x 1.06" (D) 160.5mm(W)x114.6mm(H)x27mm(D)
Operating Temp	-20° C to 70°C/-4°F to 158°F (RH90%)
Storage Temp	-30°C to 80°C/-22°F to 186°F (RH90%)

## Precautions:

### Storage and Keeping

1. Do not expose the monitor to excessive heat or cold. The storage temperature of this device is -30~+80°, and the operating temperature is -20~+70°. The humidity is RH90%.
2. Never use this device near a bathtub, wash basin, kitchen, damp basement, swimming pool or similar places.
3. Never use this device in environments with excessive moisture, dust or smoke.
4. Avoid dropping or striking this device.
5. Avoid using this device in enclosed spaces, areas with excessive vibration or subject to severe impacts.
6. Never puncture, scratch or use abrasive cleaning materials on this device.
7. Do not place cables where they may be pinched or stepped on.
8. Leave at least a 2" space between the monitor and walls, cabinets or other objects to allow adequate air circulation around the device.
9. The monitor is not designed to be waterproof.

### Operating Precautions

1. The device may be powered by a 12 or 24 volt automotive battery or vehicle electrical system.
2. Make sure all cables are connected properly. Observe polarity. Improper cable connections may damage the monitor. Remove the power cable connections when you do not intend to use the device.

## Maintenance:

1. Remove all the cable connections from the monitor before cleaning the device.
2. Use a mild household detergent and clean the unit with a slightly damp, soft cloth. Never use strong solvents such as thinner or benzene, as they might damage the finish of the device.



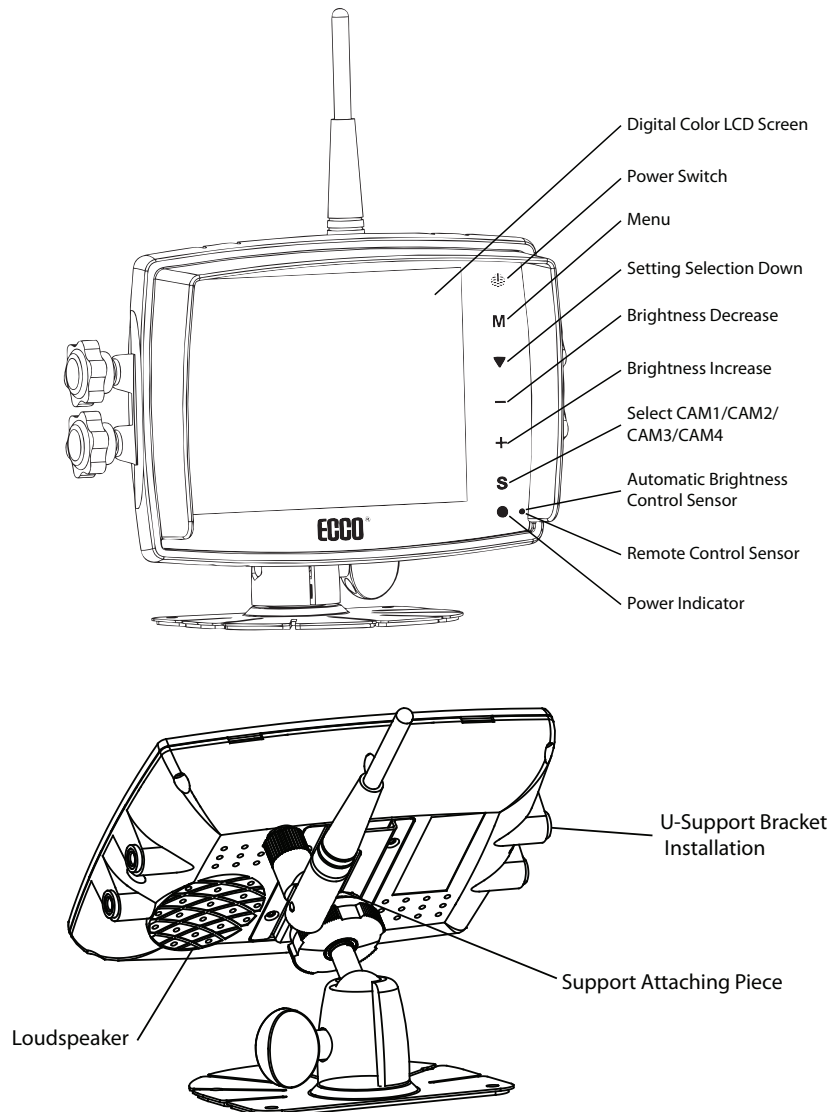
## WARNING!

To prevent accidental shock, DO NOT OPEN THE MONITOR CASE. Opening the monitor case will expose the inside of the monitor to conditions that could adversely affect performance. Any evidence of tampering with sealed components will void the warranty.

## Features:

1. TFT LCD monitor with wide angle view and high resolution display.
2. Picture image may be adjusted for Horizontal, Vertical, Mirror and Normal viewing.
3. Select from 8 languages for user operation.
4. Automatic back lighting for buttons.
5. Full-function remote control.
6. Multiple video formats: PAL/AUTO/NTSC.
7. Up to 4 wireless camera input, 1 video output and 1 audio output.
8. Operates from 10 -32V. Supports 12V or 24V vehicle systems.
9. On-board speaker.
10. Automatic scanning function.
11. The scale can be adjusted for left, right, up and down.
12. Automatically switches to back-up, left, right or front camera views.

## Parts Identification:



## Camera Installation:

**Important!** Mount the camera at a location that provides the best view of the area immediately behind the vehicle. Generally, mounting locations toward the top of the vehicle provide the best field of view. Lower mounting locations reduce the field of view and increase the likelihood of damage from road spray.

1. Find an appropriate location for installation.
2. Drill holes according to the size of U-bracket and fix the U-bracket.
3. Drill a 3/4" (19mm) hole next to U-bracket.
4. Install the camera on U-bracket.
5. Connect the camera tail with the extension cable from inside the vehicle.
6. Loosen the hex head screws and adjust the camera's position to get the best view angle in the monitor.

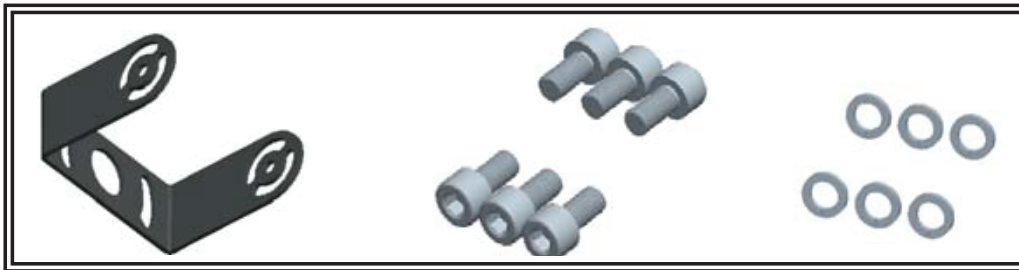


Figure 1

## Wiring:

**Important!** Waterproof all connections whether inside or outside the vehicle by using sealant and wrapping with insulation tape. Wrap tape tightly, overlapping by one-half widths so there are no gaps.

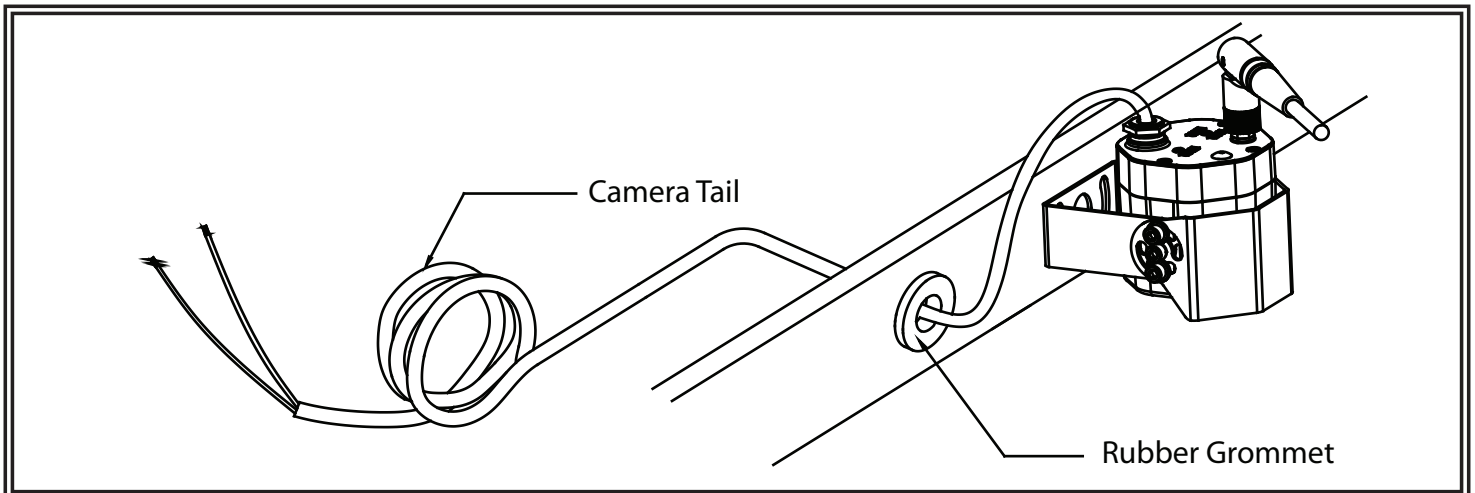
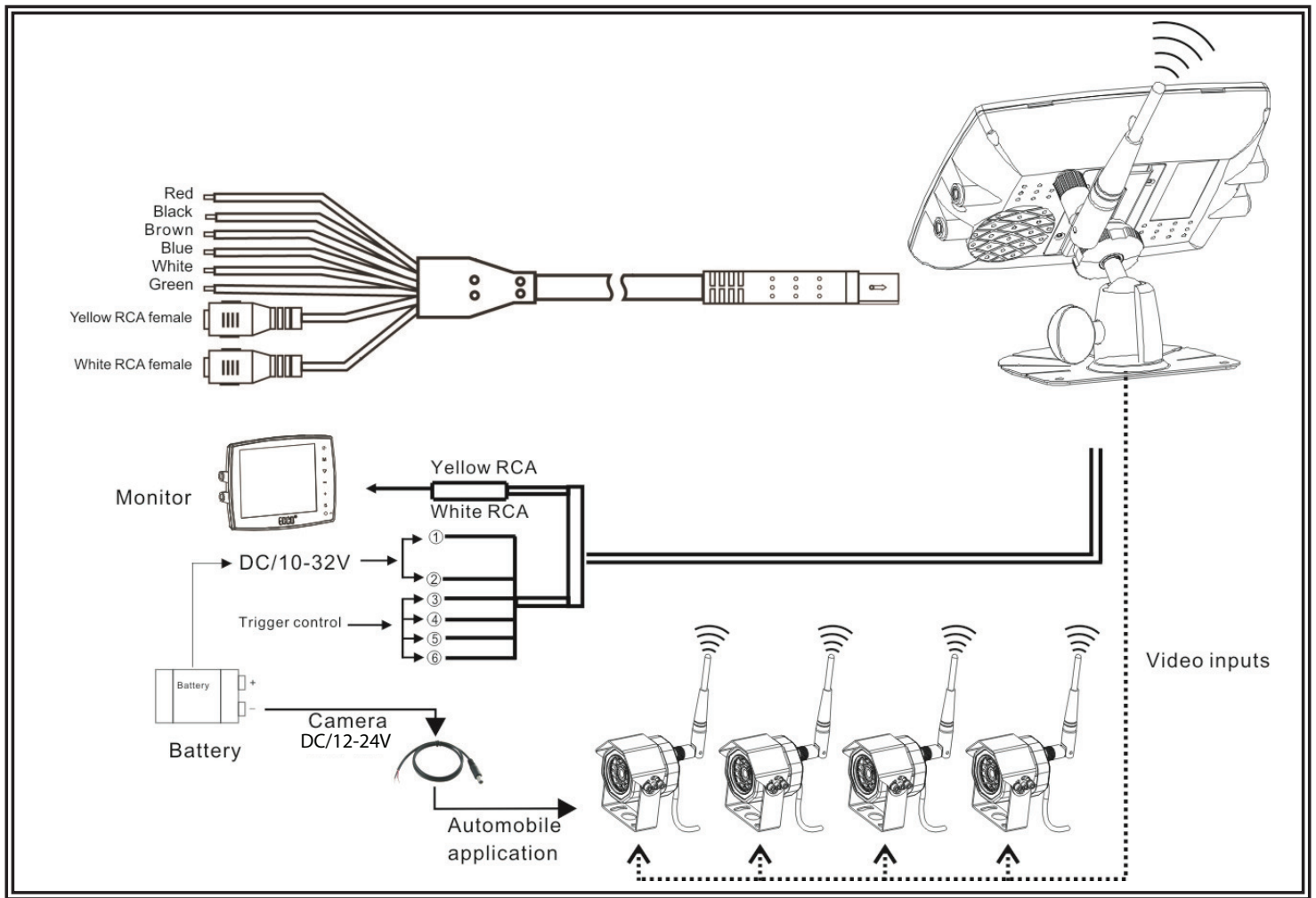


Figure 2

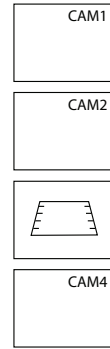


**Figure 3**

- Single red wire to positive power supply of DC/10-32V using a 3A fuse.
- Single black wire to GND.
- Single brown wire to positive power wire of back-up light.
- Single white wire to positive power wire of left light .
- Single blue wire to positive power wire of right light .
- Single green wire to any other trigger control.
- Yellow RCA female for video output .
- White RCA female for audio output.

## Reversing Display:

1. When the white wire is connected to the positive wire of the left turn light , the monitor automatically switches to CAM1 (left side camera) when the left turn indicator is activated.
2. When the blue wire is connected to the positive wire of the right turn light, the monitor automatically switches to CAM2 (right side camera) when the right turn indicator is activated.
3. When the brown wire is connected to the positive wire of back-up light, the monitor automatically switches to CAM 3 (back-up camera) when the back-up light is turned on. The distancing grid will also be displayed.
4. When the green wire is activated, the monitor automatically switches to CAM4.



## Bracket Installation:

Installation instruction of using U-support bracket

1. Select suitable position on vehicle and fix the U-support bracket with screws (Figure 4)
2. Fix the monitor to the U-support bracket with angle adjustment screws and adjust the view angle of the monitor (Figure 5)
3. Connect the monitor with the AV and power supply conversion cable (Figure 6)

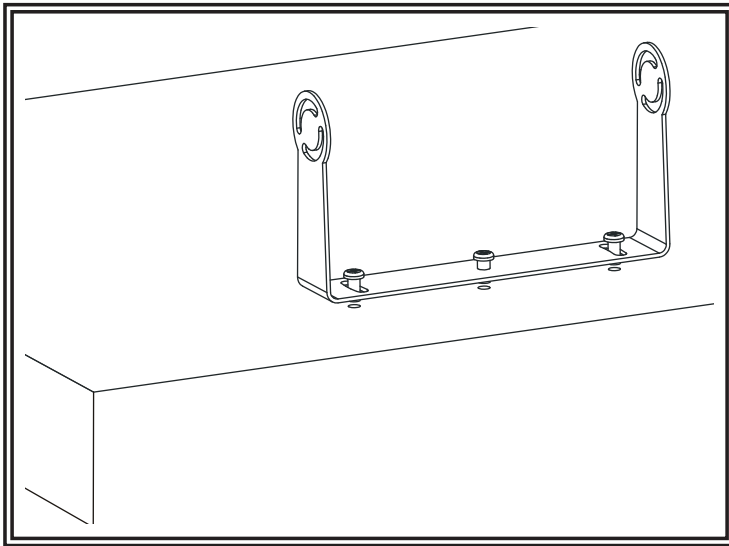


Figure 4

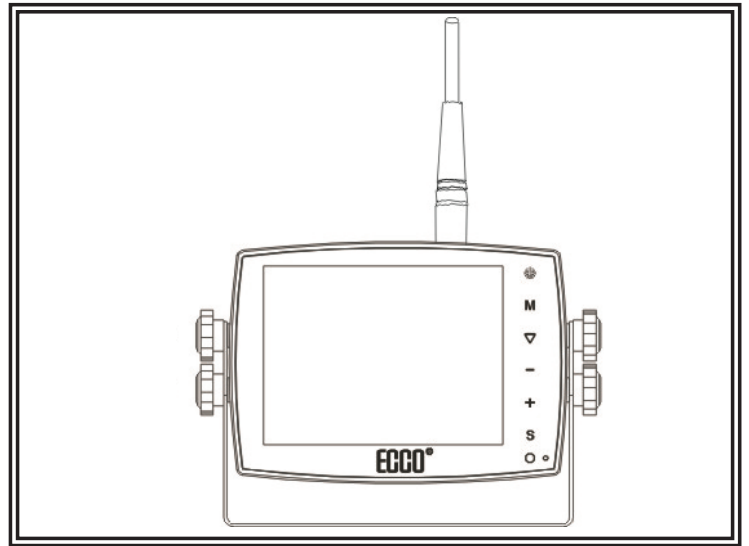


Figure 5

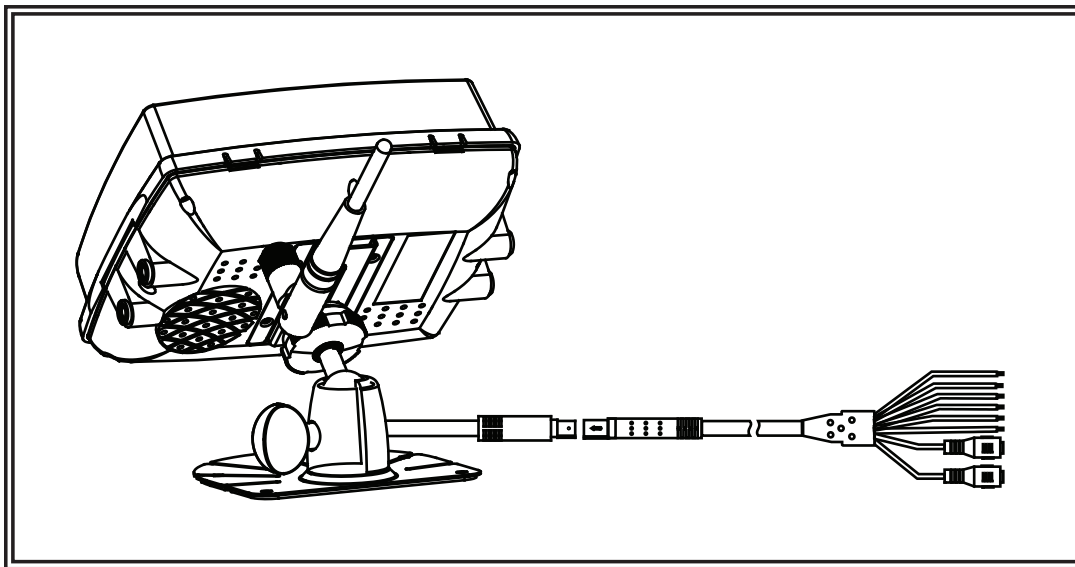


Figure 6

Installation instruction of using base support

1. Select suitable position on vehicle and fix the base support. (Figure 7)
2. Fix the monitor to the base support and adjust the view angle. (Figure 8)
3. Connect the monitor with the AV and power supply conversion cable (Figure 9)

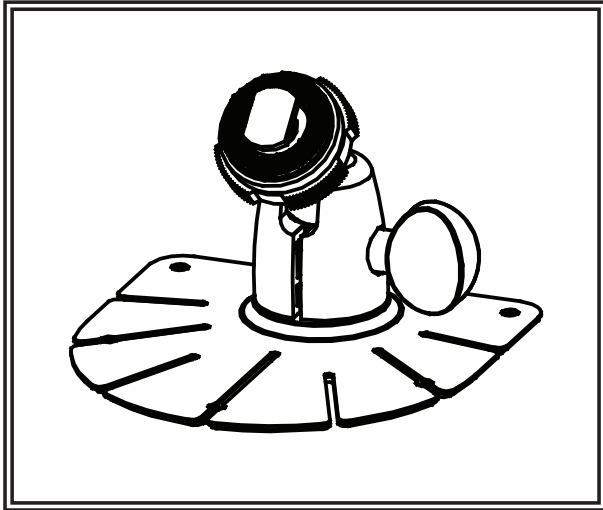


Figure 7

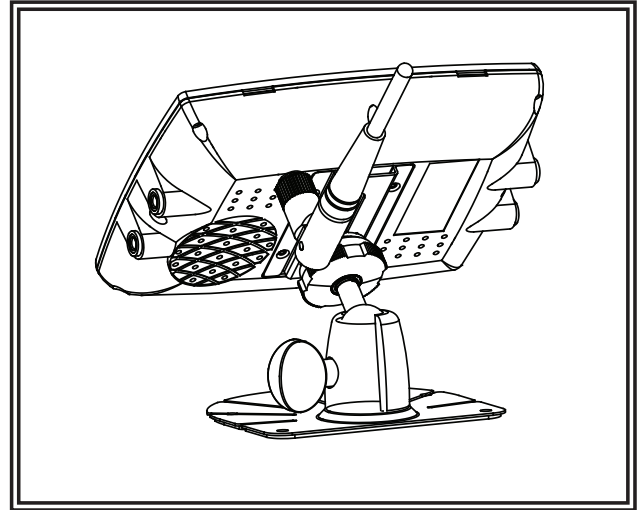


Figure 8

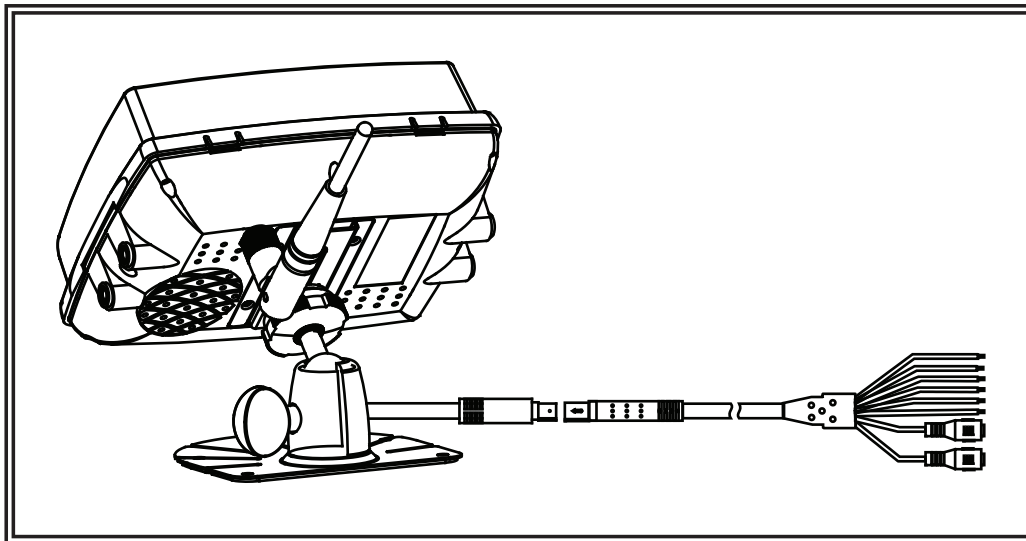
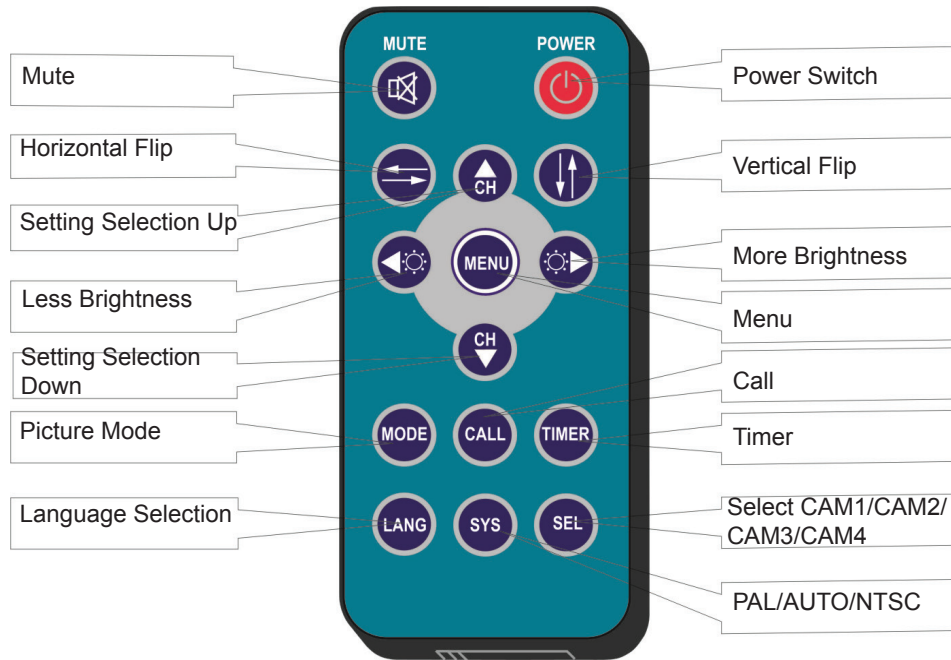


Figure 9

## Remote Control Operation:



### Important!

1. Align the remote control with the infrared-receiving window on the monitor to operate.
2. Never disassemble the remote control or allow it to drop, or become wet.
3. Press the control button firmly. Allow 2 seconds for the picture to change.

MUTE (Mute): Press to select ENABLE/MUTE sound

POWER(Power switch): Press to turn on/off the monitor.

↔ (Horizontal Turning of Picture): Press to turn the picture horizontally.

↕ (Vertical Turning of Picture): Press to turn the picture vertically.

CH+ (Channel Selection +): Press to select the upper setting.

CH- (Channel Selection -): Press to select the lower setting or display the scale.

◀☉ : Press to decrease brightness.

☉▶ : Press to increase brightness.

MENU: Press to show menu.

Mode(Picture Mode): Press to select different picture modes (PERSONAL/STANDARD/SOFT/VIVID/LIGHT).

CALL: Press to display video channel source.

TIMER: Press to set the time to shut down monitor (10,20,30,40,50,60,70,80 and max 90 minutes).

LANG(Languages Selection): Press to select language display of English, Deutsch, Français, Español, Português, Italiano, Nederlands or Русский options.

SYS: Press to select PAL/AUTO/NTSC.

SEL: Press to select CAM channels.





- Firstly press SEL to choose the channel to be paired, secondly press CH- to select PAIRING.

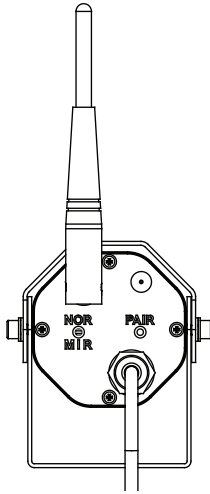
OPTION	
LANG	ENGLISH
SCALE	ON
<b>PAIRING</b>	<b>OFF</b>
CAM1	NORMAL
CAM2	NORMAL
CAM3	NORMAL
CAM4	NORMAL

Press ◀:○:○▶ to select OFF/ON.

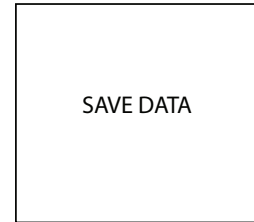
- Turn on the PAIRING function, the screen will display "PAIRING START". It counts down 50 seconds.



- Long press the "PAIR" on the camera for 5 seconds



- The screen shows "SAVE DATA" and picture, then code matching succeeds.



If code matching doesn't complete in 50 seconds, the screen will show "PAIRING FAIL" to tell you that code matching fails and you need to try again. Other channels can be paired in the same way above.

3. System: COLOR-SYS, HORIZONTAL, VERTICAL, ZOOM functions will display on the screen as illustrated below :

- Press CH- to select COLOR-SYS

SYSTEM	
<b>COLOR-SYS</b>	<b>AUTO</b>
HORIZONTAL	↔
VERTICAL	↑↓
ZOOM	16.9

Press ◀:○:○▶ to select PAL / AUTO / NTSC

- Press CH- to select ZOOM

SYSTEM	
COLOR-SYS	PAL
HORIZONTAL	↔
VERTICAL	↑↓
<b>ZOOM</b>	<b>16.9</b>

Press ◀:○:○▶ to select 16:9 or 4:3

4. Auto Scan: AUTO SCAN, SCAN TIME, CAM1, CAM2, CAM3 and CAM4 options will display on the screen as illustrated below :

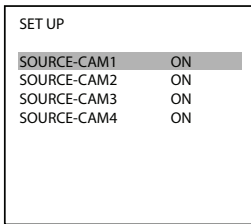
- Press CH- to select SCAN TIME

AUTO SCAN	
AUTO SCAN	OFF
<b>SCAN TIME</b>	<b>6S</b>
CAM1	OFF
CAM2	OFF
CAM3	OFF
CAM4	OFF

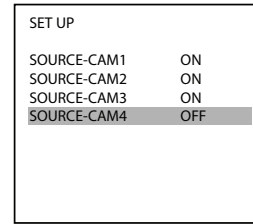
Press ◀:○:○▶ to select 6S-90S

5. Set Up: SOURCE-CAM1, SOURCE-CAM2, SOURCE-CAM3, SOURCE-CAM4 options will display on the screen as illustrated below :

- Press  $\nabla$   $\odot$  to select SOURCE-CAM1 to SOURCE-CAM4



Press - / + to select ON / OFF



E.g. Press  $\nabla$   $\odot$  to select SOURCE-CAM4 and press - / + to select OFF. CAM4 will be shut off. Press "S" to switch channels, CAM4 will not be displayed on the screen.

**Troubleshooting:**

The symptoms described below do not necessarily mean a failure within the display. Please check the following items before you initiate request for repair.

Symptoms	Possible Causes/Solutions
No picture, no sound	Improper connection of automobile adapter. Use of un-authorized power supply. Power switch is on OFF position.
No picture	Check whether AV cable is properly connected
No sound	Check whether audio wire is properly connected or the sound volume is turned off or set too low.
Dark picture	Check whether brightness and contrast are adjusted correctly; Check whether the environments temperature is too low.
No color	Adjust the color settings.
Upside down or lateral inverted picture	Use the remote control horizontal /vertical selection switch to set proper orientation
No reversing function (i.e.Picture)	The black wire of the monitor AV cable to the reversing light may be loose. The red wire from the monitor may be loose.

Declaration of conformity:



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.
- (2) This device must accept any interference received, including interference that may cause undesired operation.



**Manufacturer Limited Warranty and Limitation of Liability:**

Manufacturer warrants that on the date of purchase this product will conform to Manufacturer’s specifications for this product (which are available from the Manufacturer upon request), and Manufacturer further warrants that this product is free from defects in materials and workmanship. This Limited Warranty extends for 1 year/12 months from the date of purchase. Other warranties may apply, call Manufacturer for details. Manufacturer will, at its discretion, repair or replace any product found by the Manufacturer to be defective and subject to this Limited Warranty.

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