



Installation Instructions

Camera/Monitor System

Introduction:

ECCO's Gemineye™ Camera Systems are designed to provide rear of the vehicle information that may not be available to a driver relying solely on a vehicle's standard rear view mirror system. A driver using a properly installed and maintained rear view camera system in conjunction with the standard mirror system, can be alerted to potential safety hazards and thus take the appropriate action to prevent an accident. This manual provides information about installation, function, safety, maintenance, replacement parts, and warranty.



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 emergency warning devices 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 warning 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 warning signal is not blocked by vehicle components (i.e., open trunks or compartment doors), people, vehicles, or other obstructions.
6. The use of this or any other warning device does not ensure all drivers can or will observe or react to a warning signal. Never take the right-of-way for granted. It is your responsibility to be sure you can proceed safely before entering an intersection, driving against traffic, responding at a high rate of speed, walking on or around traffic lanes.
7. This equipment is intended for use by authorized personnel only. The user is responsible for understanding and obeying all laws regarding warning signal devices. Therefore, the user should check all applicable city, state, and federal laws and regulations. The manufacturer assumes no liability for any loss resulting from the use of this warning device.

Specifications:

| Camera | EC2014-C |
|-------------------------|---|
| Image | 1/3" CMOS PC1089 Color Effective Pixels: 725 x 488 |
| Voltage Requirement | 12V |
| Power Consumption | 3 W |
| Lens | F=2.8mm / F=2.0 |
| Lens Angle | 120° |
| Audio | Yes |
| Light Sensor | Auto Switch B&W |
| Infrared LEDs | 11 (10M Max. Visibility) |
| Pigtail Connection: CAM | Male 4 Pin Threaded |
| Housing | Aluminum Alloy |
| Mech. Vibration | 10g |
| Weight | 0.74 lbs |
| Dimensions (WxHxD) | 2.87"x2.99"x2.60" |
| Operating Temp. | -22°F to 158°F |
| IP Rating | IP69K |
| Approvals | FCC, CE, C-Tick, E13/R10 |
| Current Consumption | 175mA Max |

| Monitors | EC5603-M 5.6" LCD Monitor | EC7003-M 7" LCD Monitor |
|------------------------------|--|--|
| Image | 5.6" LCD Color, 4:3 | 7" LCD Color, 16:9 |
| Controller | Internal/3 Camera | Internal/3 Camera |
| Voltage | 12/24VDC | 12/24VDC |
| Power Consumption | 5 W | 6 W |
| Mirror Imaging | Yes (via Camera and Monitor Switch) | Yes (via Camera and Monitor Switch) |
| Split Screen Feature | No | No |
| AV Compatible | No | No |
| DVR Compatible | No | No |
| Audio | Yes | Yes |
| Contrast/Brightness | Yes | Yes |
| Light Sensor | Day/Night Auto Dim | Day/Night Auto Dim |
| Camera Selection | 1-3 Via Trigger Wires | 1-3 Via Trigger Wires |
| Connection: CAM | Female 4 Pin Threaded | Female 4 Pin Threaded |
| Connection (Monitor Pigtail) | Male 13 Pin | Male 13 Pin |
| Connection: CB | N/A | N/A |
| Housing | Plastic | Plastic |
| Mounting | Permanent - HD (2 bracket options provided) | Permanent - HD (2 bracket options provided) |
| Mech. Vibration | Pedestal Bracket - 3g Cradle Bracket - 8g | Pedestal Bracket - 3g Cradle Bracket - 8g |
| Weight | 2.67 lbs | 3.34 lbs |
| Dimensions (WxHxD) | 6.32"x4.52"x1.07" | 7.28"x5.07"x1.06" |
| Operating Temp | -4°F to 158°F | -4°F to 158°F |
| Remote Control | Yes | Yes |
| Approvals | FCC, CE, C-Tick, E13/R10 | FCC, CE, C-Tick, E13/R10 |

Installation, Wiring and Function

Caution! When drilling into any vehicle surface, make sure that the area is free from any electrical wires, fuel lines, vehicle upholstery, etc. that could be damaged.

Notes:

1. Larger wires and tight connections will provide longer service life for components. For high current wires it is recommended that terminal blocks or soldered connections be used with shrink tubing to protect the connections. Do not use insulation displacement connectors (e.g., 3M Scotchlock type connectors)
2. Route wiring using grommets and sealant when passing through compartment walls. Minimize the number of splices to reduce voltage drop. High ambient temperatures (e.g., under-hood) will significantly reduce the current carrying capacity of wires, fuses, and circuit breakers. All wiring should conform to the minimum wire size and other recommendations of the manufacturer and be protected from moving parts and hot surfaces. Looms, grommets, cable ties, and similar installation hardware should be used to anchor and protect all wiring.
3. Fuses or circuit breakers should be located as close to the power takeoff points as possible and properly sized to protect the wiring and devices.
4. Particular attention should be paid to the location and method of making electrical connections and splices to protect these points from corrosion and loss of conductivity.
5. Ground termination should only be made to substantial chassis components, preferably directly to the vehicle battery.
6. Circuit breakers are very sensitive to high temperatures and will "false trip" when mounted in hot environments or operated close to their capacity.

Installation:

Camera Model EC2014-C

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 and sun-visor 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:
ECTC20-4

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.

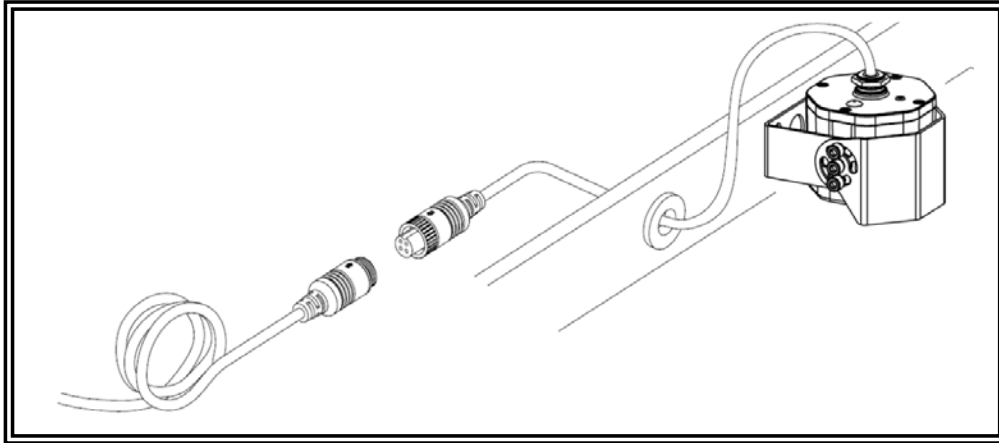
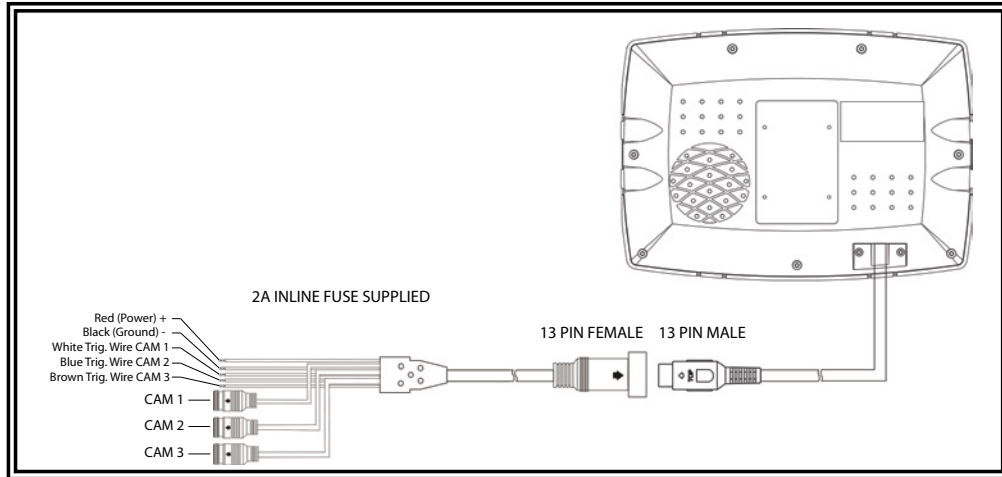


Figure 2



WIRING DEFINED

Monitors:

Models EC5603-M and EC7003-M



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.

Important! Do not expose the monitor to water, it is not waterproof. Any water that leaks into the monitor could cause extensive damage.

Installation: EC5603-M/EC7003-M

Installation instruction of using U-support bracket

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

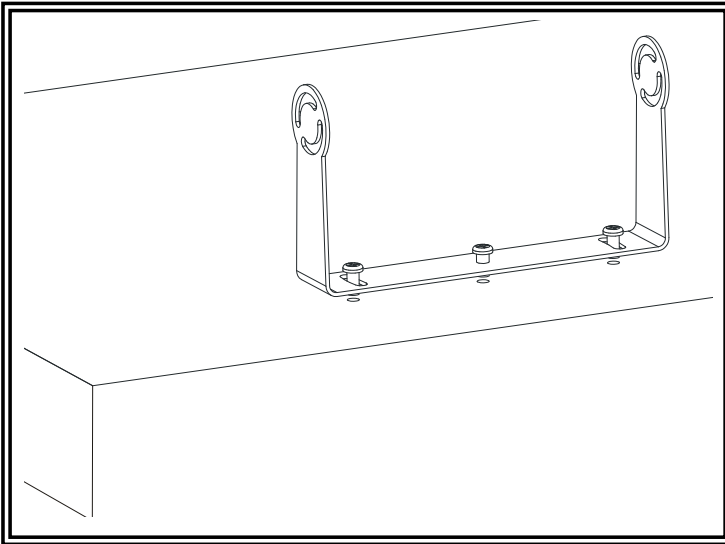


Figure 3

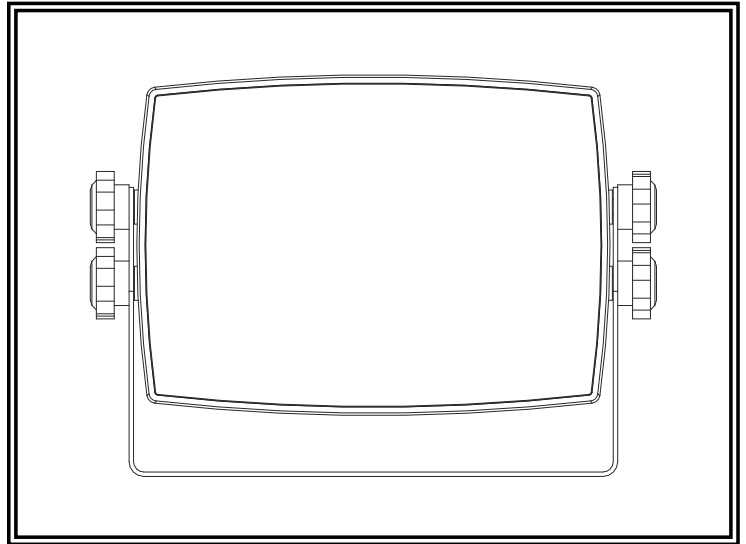


Figure 4

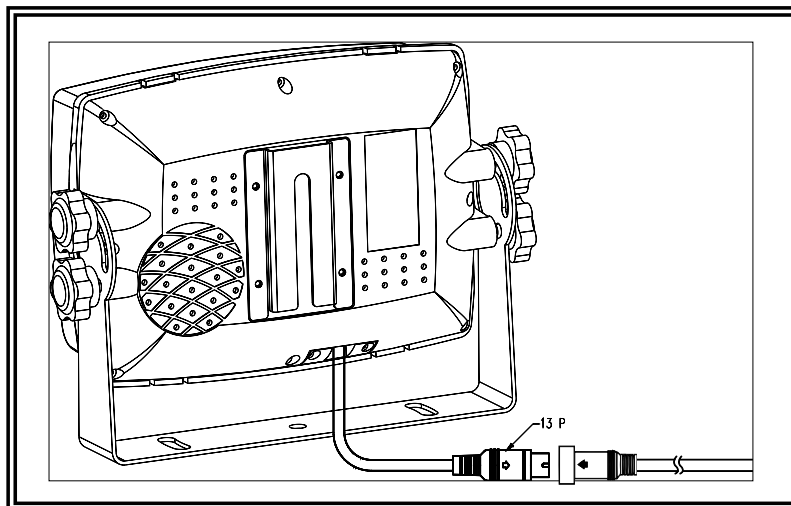


Figure 5

Installation instruction of using pedestal base

1. Select suitable position on vehicle and fix the base support. (Figure 6)
2. Fix the monitor to the base support and adjust the view angle. (Figure 7)
3. Put on the sun-visor and connect the monitor with the AV and power supply conversion cable (Figure 8)

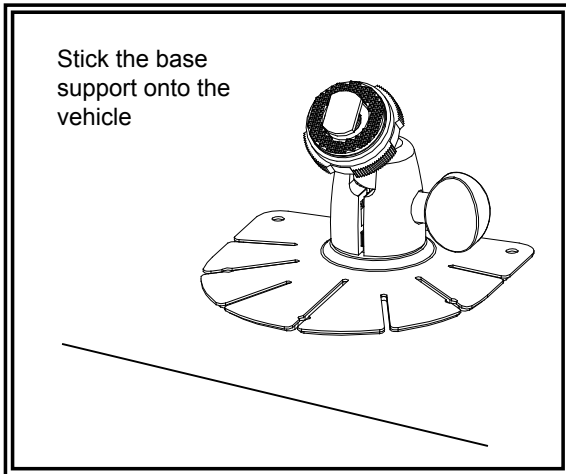


Figure 6

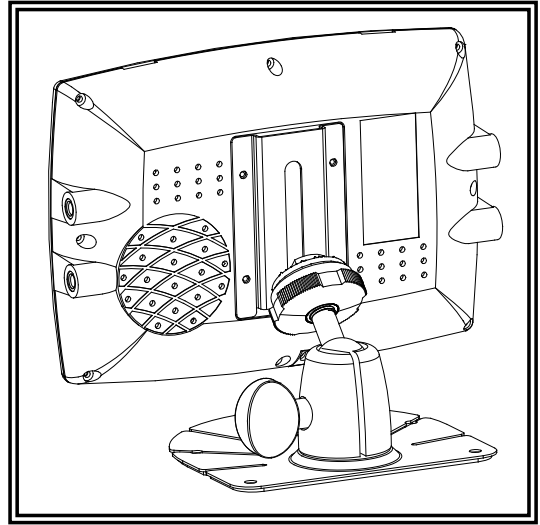


Figure 7

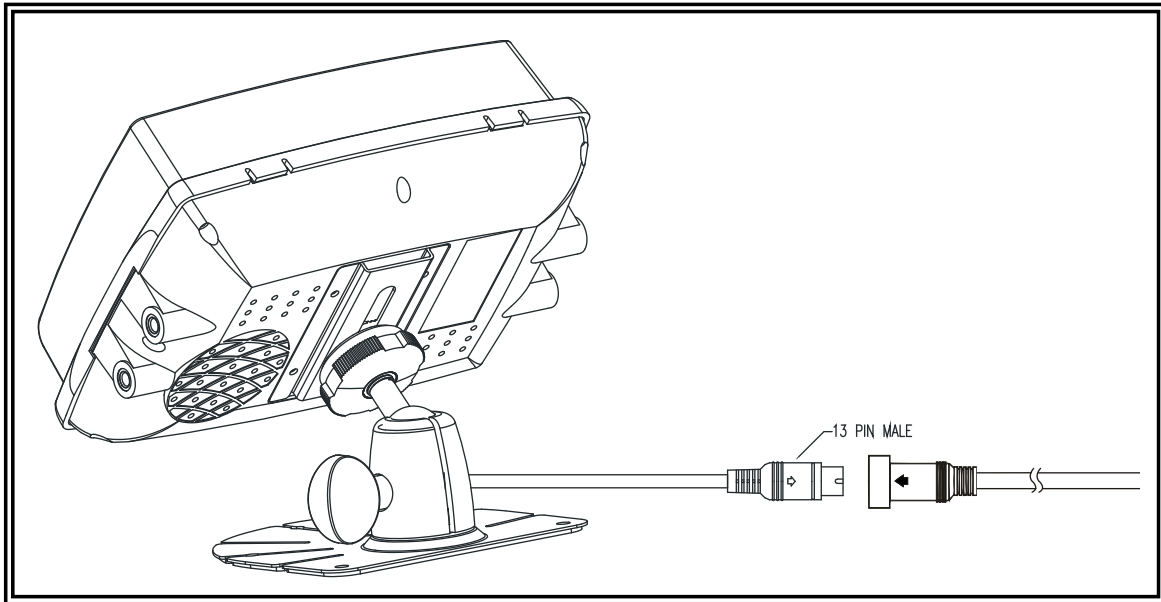
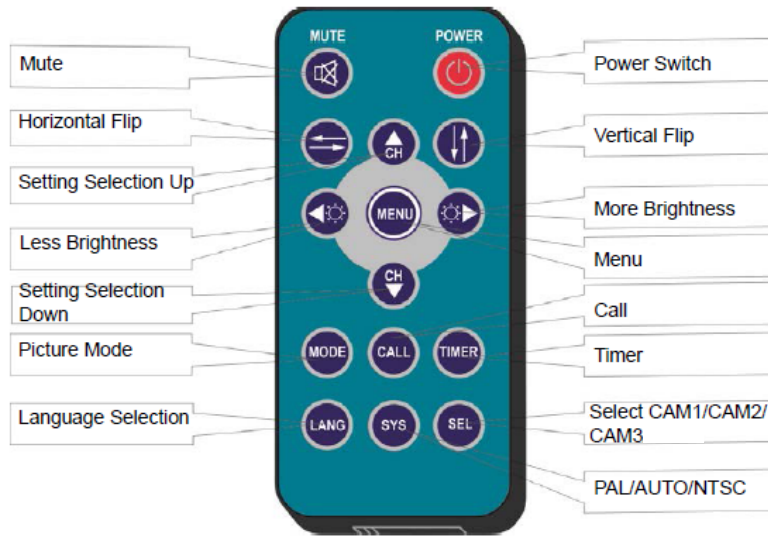


Figure 8

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).

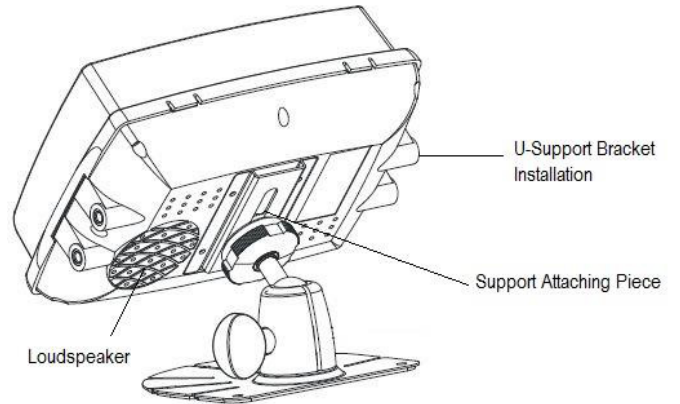
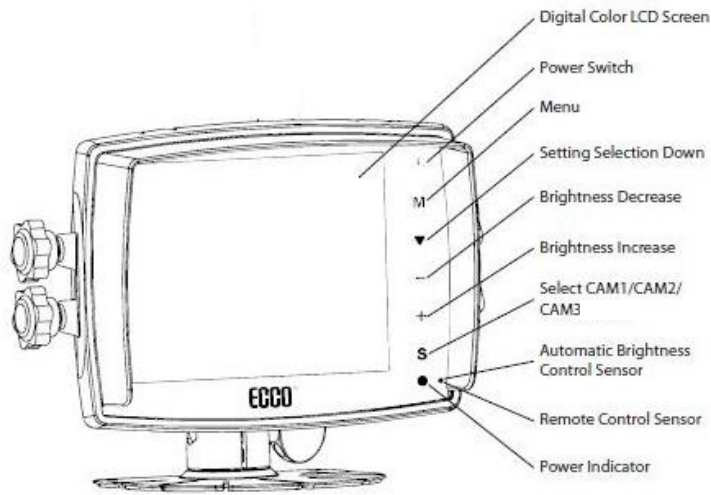
LANG(Languages Selection): Press to select language display of English, Deutsch, Français, Español, Português, Italiano, Nederlands or Русский options.

SYS: Press to select PAL/AUTO/NTSC.

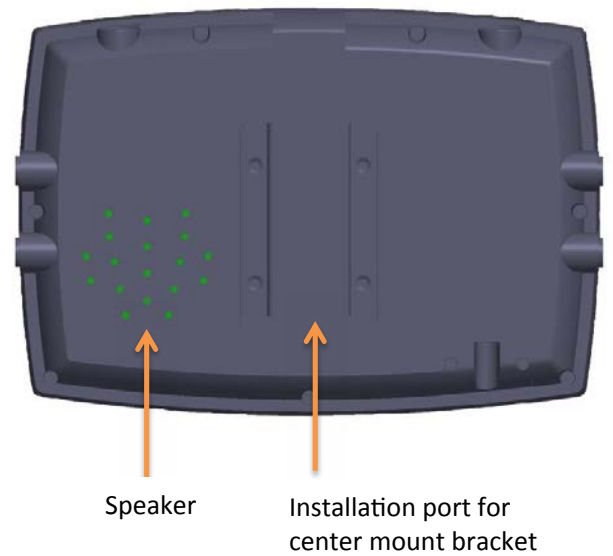
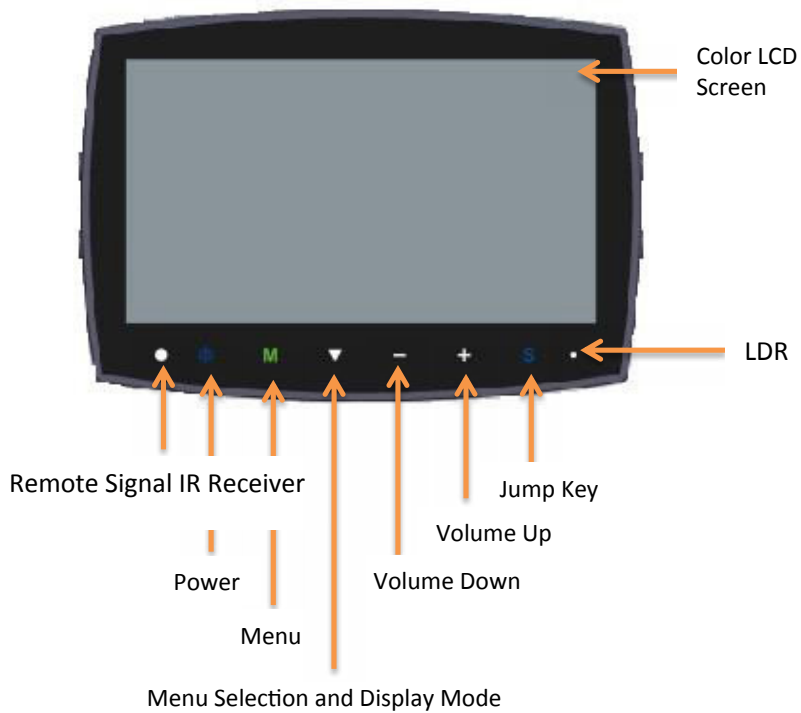
SEL: Press to select CAM channels.

Monitor Parts Identification

EC5603-M




EC7003-M



Menu Operations

Press the Menu button on the remote control  or the Menu button on the monitor screen. 

Press the Menu button several times to go from one menu to another. Use the channel up/down on the remote control or the down button  on the monitor screen highlight a menu.

To select the highlighted menu, either use the right brightness color on the remote control or the + button on the monitor screen. Press the less brightness button on the remote control or the – button on the monitor screen to go back to the previous menu.



| Main Menu | Menu | Options |
|---------------------------------|------------------------------|-------------------|
| Press Menu 1 time Picture | Bright | Adjust brightness |
| | Contrast | Adjust contrast |
| | Color | Adjust color |
| | Volume | Adjust volume |
| | Auto Dim | On/Off |
| | Scale Adjust | On/Off |
| | Press Menu 2 times Option | Language |
| | | Deutsch |
| | | Fran |
| | | Español |
| | | Português |
| | | Italiano |
| | | Nederlands |
| | | Русский |
| Scale | | On/Off |
| Cam 1 | | Normal/Mirror |
| Cam 2 | Normal/Mirror | |
| Cam 3 | Normal/Mirror | |
| Press Menu 3 times Systems | Color Sys | Auto/PAL/NTSC |
| | Blue Back | On/Off |
| | Horizontal | ← → |
| | Vertical | ↑ ↓ |
| | Zoom | 16:9/4:3 |
| Press Menu 4 times Auto Scan | Auto Scan | On/Off |
| | Scan Time | 1-90 seconds |
| | Cam1 | On/Off |
| | Cam 2 | On/Off |
| Press Menu 5 times Exit Menu | Cam 3 | On/Off |
| | | |