



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 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 Draw	0.25A

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	Trigger Wires and Monitor	Trigger Wires and Monitor
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
Current Draw	0.4A	0.5A
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.

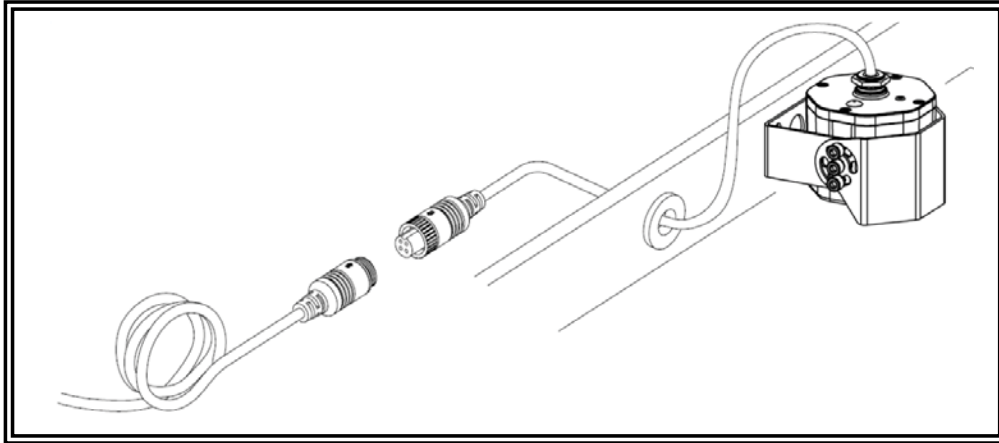
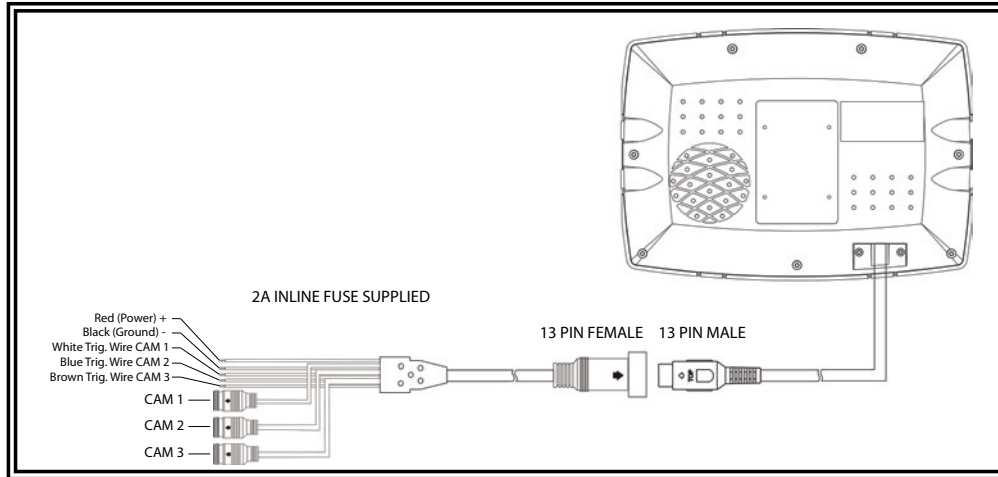


Figure 2



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
3. Put on the sun-visor and connect the monitor with the AV and power supply conversion cable (Figure 4)

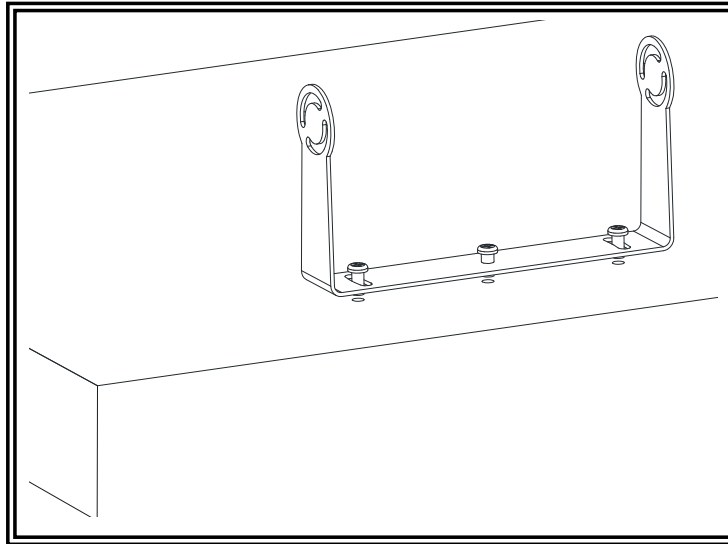


Figure 3

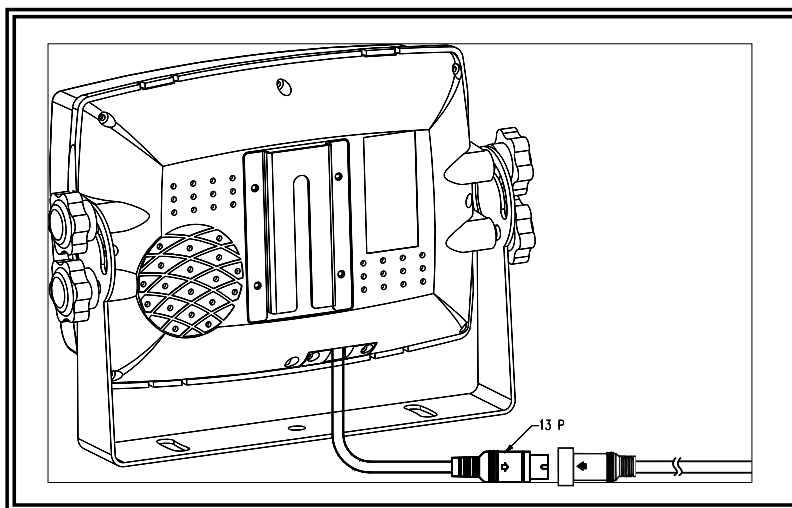


Figure 4

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.
3. Put on the sun-visor and connect the monitor with the AV and power supply conversion cable (Figure 7)

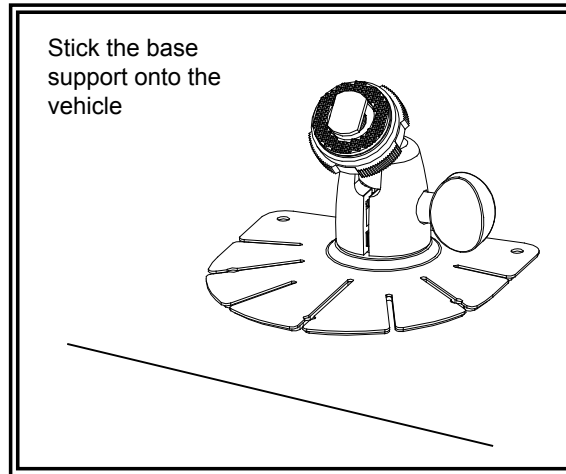


Figure 6

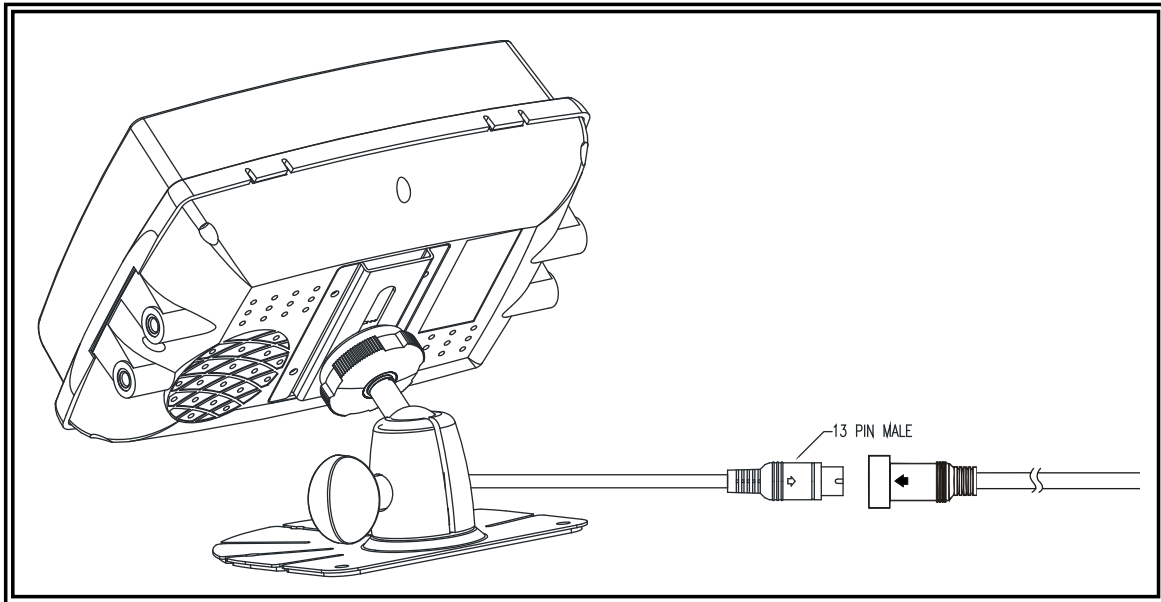
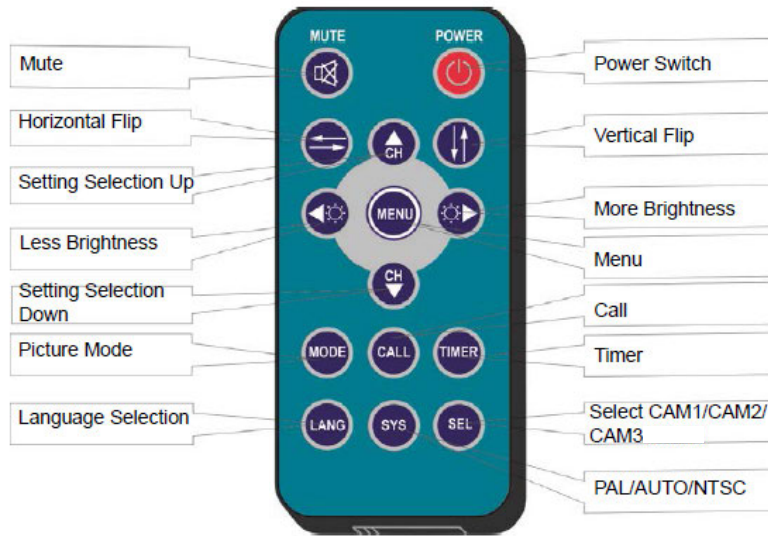


Figure 7

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).

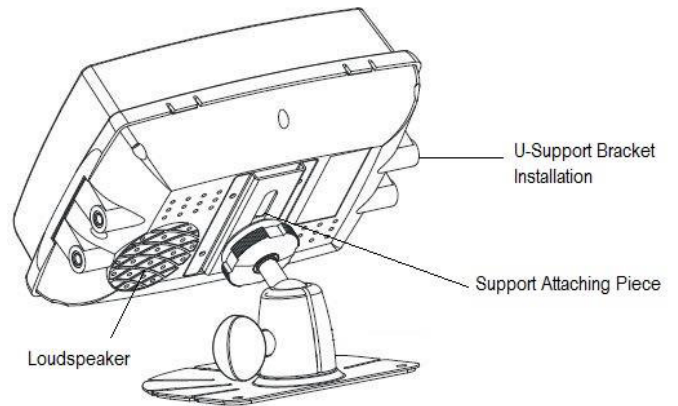
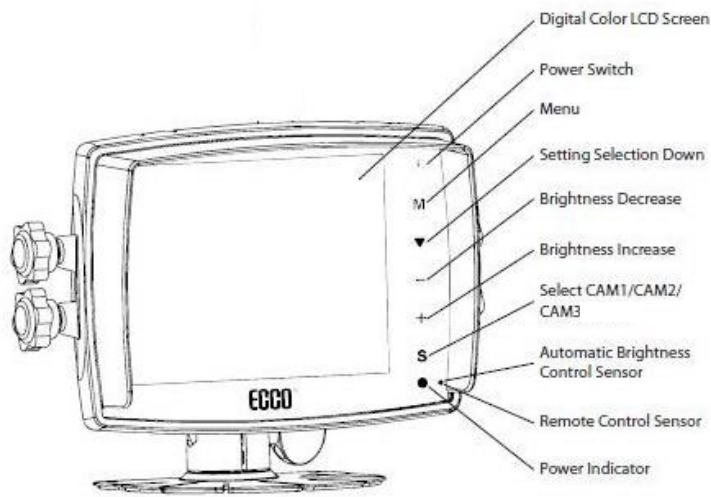
LANG(Languages Selection): Press to select language display of English, Deutsch, Français, Español, Português, Italiano, Nederlands or Русский options.

SYS: Press to select PAL/AUTO/NTSC.

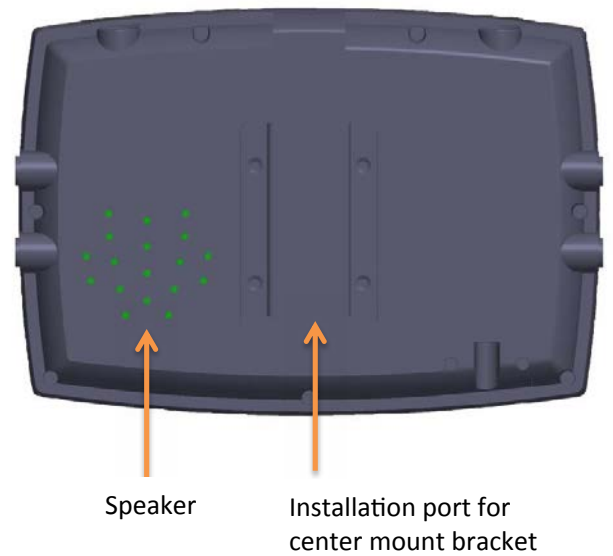
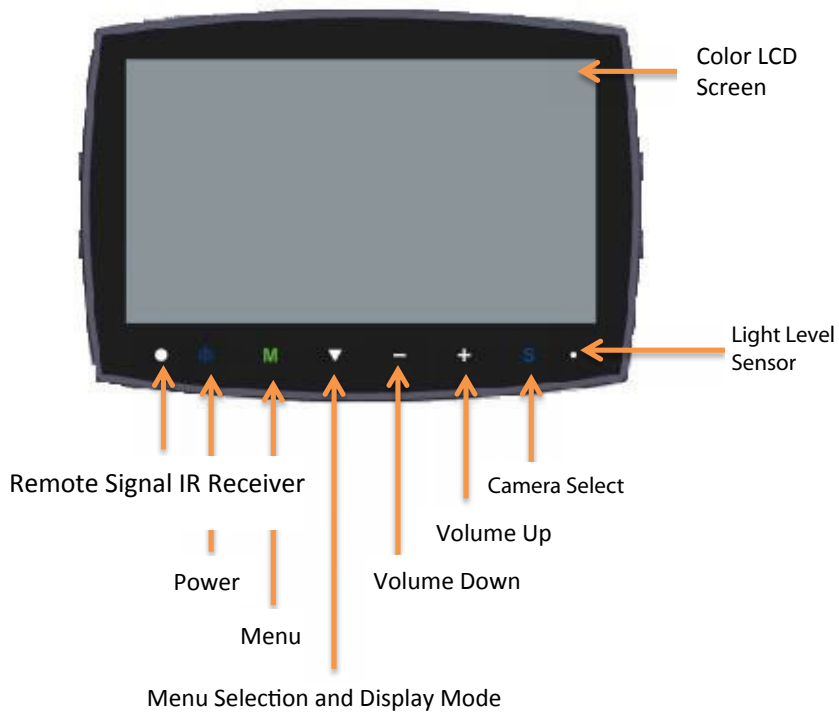
SEL: Press to select CAM channels.

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	English
		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	↑ ↓
Press Menu 4 times Auto Scan	Zoom	16:9/4:3
	Auto Scan	On/Off
	Scan Time	1-90 seconds
	Cam1	On/Off
Press Menu 5 times Exit Menu	Cam 2	On/Off
	Cam 3	On/Off

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). This Limited Warranty extends for twelve (12) months from the date of purchase.

DAMAGE TO PARTS OR PRODUCTS RESULTING FROM TAMPERING, ACCIDENT, ABUSE, MISUSE, NEGLIGENCE, UN-APPROVED MODIFICATIONS, FIRE OR OTHER HAZARD; IMPROPER INSTALLATION OR OPERATION; OR NOT BEING MAINTAINED IN ACCORDANCE WITH THE MAINTENANCE PROCEDURES SET FORTH IN MANUFACTURER'S INSTALLATION AND OPERATING INSTRUCTIONS VOIDS THIS LIMITED WARRANTY.

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