

IMPORTANT! Read all instructions before installing and using. Installer: This manual must be delivered to the end user.

WARNING!
 Failure to install or use this product according to manufacturer's recommendations may result in property damage, serious injury, and/or death to those you are seeking to protect!

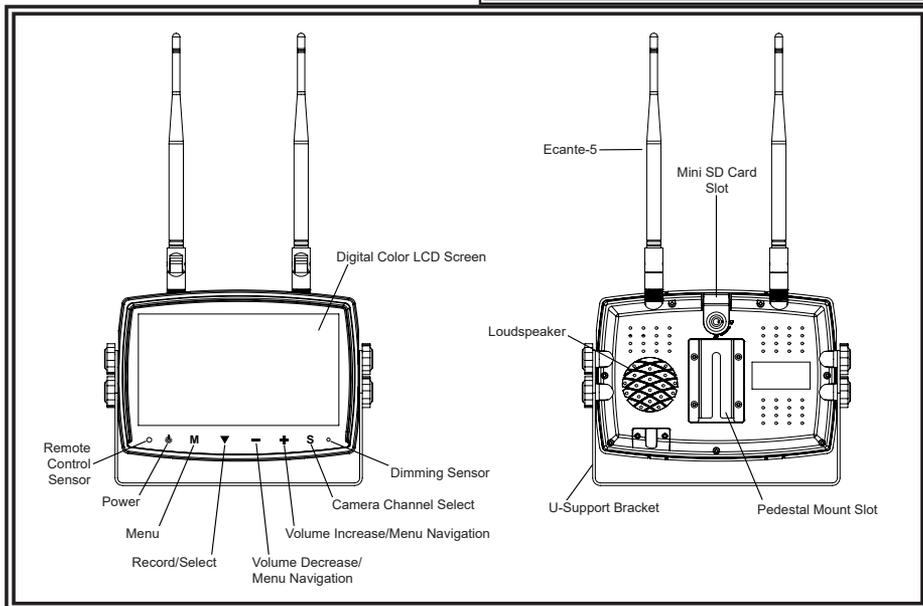
Do not install and/or operate this safety product unless you have read and understood the safety information contained in this manual.

- Proper installation combined with operator training in the use, care, and maintenance of emergency warning devices are essential to ensure the safety of emergency personnel and the public.
- Emergency warning devices often require high electrical voltages and/or currents. Exercise caution when working with live electrical connections.
- 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.
- Proper placement and installation is 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 they can operate the system without losing eye contact with the roadway.
- Do not install this product or route any wires in the deployment area of an air bag. Equipment mounted or located in an air bag deployment area may reduce the effectiveness of the air bag or become a projectile that could cause serious personal injury or death. Refer to the vehicle owner's manual for the air bag deployment area. It is the responsibility of the user/operator to determine a suitable mounting location ensuring the safety of all passengers inside the vehicle particularly avoiding areas of potential head impact.
- It is the responsibility of the vehicle operator to ensure daily 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.
- The use of this or any other warning device does not ensure all drivers can or will observe or react to an emergency warning signal. Never take the right-of-way for granted. It is the vehicle operator's responsibility to be sure they can proceed safely before entering an intersection, drive against traffic, respond at a high rate of speed, or walk on or around traffic lanes.
- This equipment is intended for use by authorized personnel only. The user is responsible for understanding and obeying all laws regarding emergency warning 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.

Installation, Wiring and Function

CAMERA SYSTEM MODEL EC7008-WK2 OPERATING INSTRUCTIONS:

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.



⚠ WARNING!

1. Please align the remote control with the remote signal receiver window to operate.
2. Never disassemble the remote control or allow it to drop or get wet.

WIRING INSTRUCTIONS:

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.

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. Loops, 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 be 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.

The unit is designed for electrical systems from 12 to 24 VDC (10 to 30 VDC extremes). Wiring options are as follows in Figure 1:

All wiring should be a minimum of 26 AWG. A 3-amp fuse in the positive line for the monitor is required.

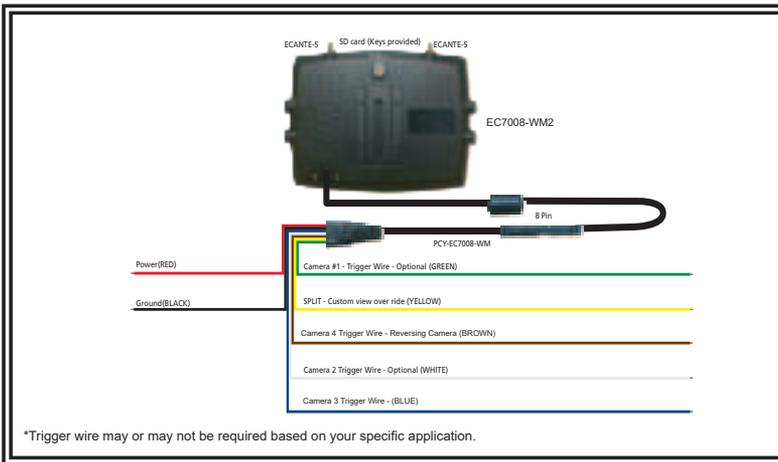


Figure 1



= no/low signal



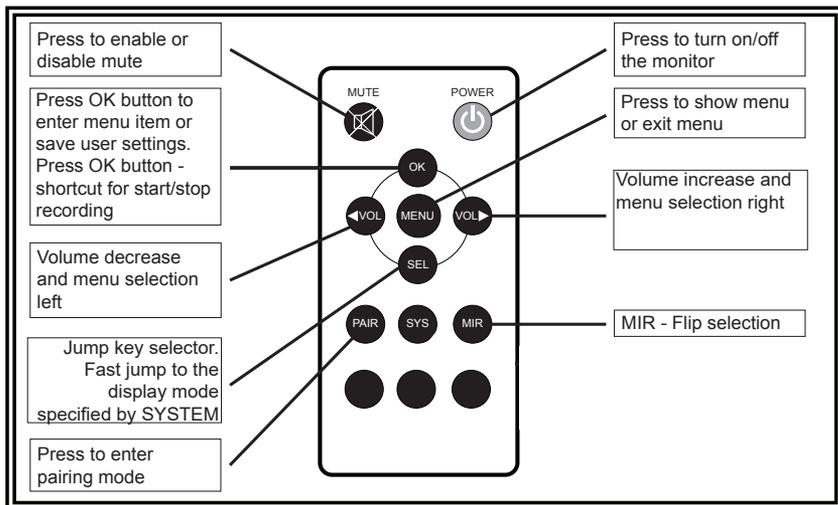
= full signal and you are ready to go to next step

INSTALLATION INSTRUCTIONS:

RECOMMENDED TO BENCH TEST PRIOR TO INSTALL to establish placement/priority for cameras.

1. Trim the solder tips to improve connections.
2. Install antenna(s) onto the monitor - twist on.
3. Connect the monitor power cord to the harness by lining up the notches to fully seat over the knob.
4. Power on the monitor by connecting the red to power and black to ground.
5. Monitor will default to H-split view.
6. Follow instructions for pairing to pair the cameras.

MONITOR PARTS IDENTIFICATION

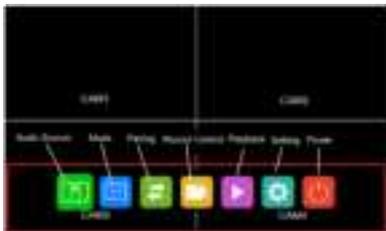


Menu Operation



- Press 'M' button on monitor or 'menu' button on remote control to show menu.
- Press '+' or '-' button on monitor or VOL +/- on remote control to select sub-menu.
- Press button on monitor or 'OK' on remote control to enter sub-menu.
- Press 'menu' button again to return to the main menu.

Main Menu



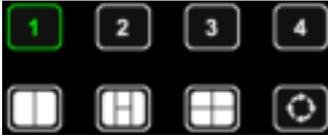
Audio Source



- Select the channel that you want to hear the audio under split view mode.
- Press '+' or '-' button on monitor or VOL +/- on remote control to switch option.
- Press on the monitor or 'OK' on the remote control to select the channel and exit the menu.



Display Mode



- Select display mode.
 - is auto-scan, automatically switch channel in circle from channel 1 through to through to .
- Press '+' or '-' button on monitor or VOL +/- on remote control to switch option. Press on monitor or 'OK' on remote control to select the channel and exit the menu.



Pairing



- Pairing Camera: select the channel you want to pair.
- Press '+' or '-' button on monitor or VOL +/- on remote control to switch option.
- Press button on monitor or 'OK' on remote control to start pairing.



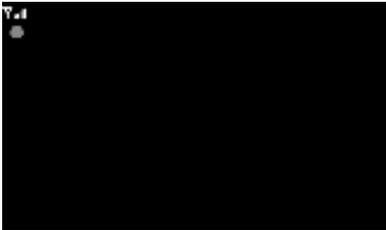
When pairing is in process, there will be pairing icon on top of the correspondent channel.
 Pairing icon will be replaced with a check mark when pairing is successful. If no camera pairs successfully in 20 seconds, the pairing icon will disappear and the pairing process will stop.
 Delete Camera: remove the camera that is already paired to the selected channel.



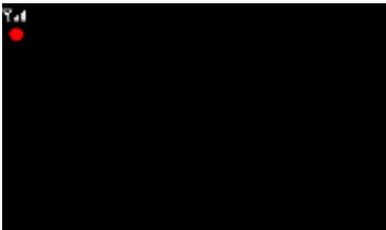
Record Control

- Select to start and stop record.
- Press button on monitor to start record or stop record.

When camera is not connected, press record, a grey dot will appear on the top left, and nothing will be recorded.



When camera is connected, press record, a red dot will appear on the top left, and video is recorded.



Playback



Folder will be automatically increased as record files increase, one folder will contain max. 997 video files, automatically create new folder when one folder is full. The greater the file number, the newer the file, when SD card is full, will start overwrite from the oldest file.

- Press '+' or '-' button on monitor or VOL +/- on remote control to switch option.
- Press button on monitor or 'OK' on remote control to start playback.

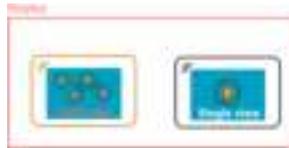
Camera	Name	Created	Group Num
CAM1	REC0002.MP4	2021-05-27 15:16	Grp2
CAM1	REC0001.MP4	2021-05-27 15:12	Grp1

Camera: show the channel that record file belongs to

Name: file name

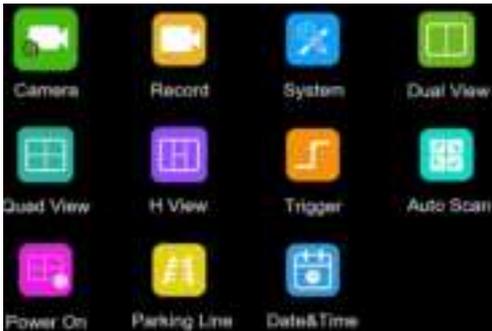
Created: date and time that the file created

Group Num: group num increases every time start new record, files with same group num are from the same record, eg: 4 channels recorded in quad view at the same time, the four video files for each channel will have the same group num.



When playback file is recorded under split view, a window will appear to select playback in multiple channel view or single channel view.

Setting



Camera



Please note that these parameters can only be adjusted when camera is connected to correspondent channel

- To select channel, press 'M' button on monitor or 'Menu' on remote control, when the icon background turns green, press '+' or '-' button on monitor or VOL +/- on remote control to switch to the channel you want to set.
- Press ▾ button on monitor or 'OK' on remote control to enter the channel's parameter.
- Press '+' or '-' button on monitor or VOL +/- on remote control to select the parameter to change. A GREEN outline will show on the current selected parameter.
- Press ▾ button on monitor or 'OK' on remote control to select the current parameter. When the outline turns RED, Press (or long press) '+' or '-' button on monitor or VOL +/- on remote control to adjust value, press ▾ button on monitor or 'OK' on remote control, cursor return to green.
- Press 'M' button on monitor or 'Menu' on remote control to return to select channel.
- Press 'M' on monitor or 'menu' on remote control to save and exit menu.

Record



Currently displayed channels are indicated by green lettering. The new selection is indicated by a green background.

- Press '+' or '-' button on monitor or VOL +/- on remote control to switch on options.
- Press ▾ button on monitor or 'OK' on remote control to select.
- Press 'M' on monitor or 'menu' on remote control to save and exit menu.

Record time: Record duration of each file.

Formatted SD card: It is suggested to format all SD card when first time use on the monitor.

Power on record: Start recording upon power on monitor.

System



Dimmer value can be adjusted only when Auto is off.

- Select ⚙️ to set day and night dimmer value. Press 'M' on monitor or 'menu' on remote control to save and exit menu.



Day: Adjust the panel brightness in normal light condition.

Night: Adjust the panel brightness in low light condition.

Dual View



- Set camera combination in dual view mode. Currently displayed channels are indicated by green lettering. The new selection is indicated by a green background.
- Press '+' or '-' button on monitor or VOL +/- on remote control to switch channel display in dual view.
- Press ▾ button on monitor or 'OK' on remote control to save selection.

Quad View and H View

Same way of operation as Dual View.

Trigger



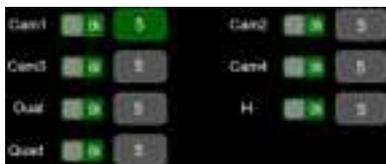
Trigger Delay: Setting range is 1~60s, The trigger delay indicates how long it will take after the trigger wire is disconnected, before the monitor goes back to the original view.

Priority: Setting range is 1~5.

Trigger is in priority over auto scan
Support trigger under standby mode

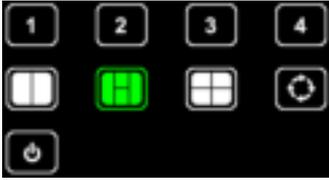
Display: Set trigger to show specific view mode when yellow trigger wire is activated.

AutoScan



Auto scan duration range is 5~60s, The duration indicates how long a camera view will be shown when the monitor is set to auto scan, before cycling to the next camera view. Each camera view can be turned on or off to be included or removed from the auto scan rotation.

Power On



- Select the view you want to show upon power on.



Start auto scan upon power on.



Enter standby mode (black screen) upon power on.

Icon in green is the one currently selected.

- Press '+' or '-' button on monitor or VOL +/- on remote control to switch option.
- Press ▾ button on monitor or 'OK' on remote control to cancel option, icon turns white if option is canceled, when all options are white, monitor will show the picture from the last time when it was powered off.
- Press 'M' on monitor or 'menu' on remote control to save and exit menu.

Parking Line



If set on, show reverse label upon trigger the correspondent channel.

-  Enter setting to move the label.
-  Press '+' or '-' button on monitor or VOL +/- on remote control to move the label right or left.
-  Press '+' or '-' button on monitor or VOL +/- on remote control to move the label up or down.
-  Press '+' or '-' button on monitor or VOL +/- on remote control to adjust size of label.
- Press ▾ button on monitor or 'OK' on remote control to switch mode.

Date & Time



- Select the correspondent icon to call up keyboard to set date and time.
- Press '+' or '-' button on monitor or VOL +/- on remote control to switch to the number that needs to be adjusted.
- Press ▾ button on monitor or 'OK' on remote control to call up keyboard.
- Press '+' or '-' button on monitor or VOL +/- on remote control to select number one by one.
- Select enter to confirm.



- Touch to select number, touch enter to exit and save.

Power Off



-  Select screen off to enter standby mode, monitor will respond upon trigger.
-  Select sleep to enter sleep mode, monitor will not respond to trigger.

MONITOR MODEL EC7008-WM2 INSTALLATION AND MOUNTING:



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.

Carefully remove the unit from its packaging. Examine the unit for transit damage. If damage is found, return the product to your local dealer for warranty replacement. Do not use damaged or broken parts.

U-Bracket Monitor Mounting Instructions

1. Select a level surface for installation.
2. Drill mounting holes using the lower U-bracket as a template and attach the U-bracket with user supplied hardware.
3. Install the monitor on the U-bracket as shown in Figure 2. Adjust the monitor's position for the best viewing angle before tightening the two screws on each end.
4. Attach the sun-visor as shown. Attach the antennas so they point upward as shown in Figure 3.

CAMERA MODEL EC2027-WC2 INSTALLATION AND MOUNTING:

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.

Carefully remove the unit from its packaging. Examine the unit for transit damage. If damage is found, return the product to your local dealer for warranty replacement. Do not use damaged or broken parts.

U-BRACKET CAMERA MOUNTING INSTRUCTIONS:

1. Select a level surface for installation.
2. Drill mounting holes using the lower U-bracket as a template and attach the U-bracket with user supplied hardware.
3. Install the camera and sun-visor on the U-bracket as shown in Figure 6.
4. Adjust the camera's position for the best viewing angle before tightening the two screws on each end.
5. Attach the antenna so that it is vertical as shown in Figure 7.

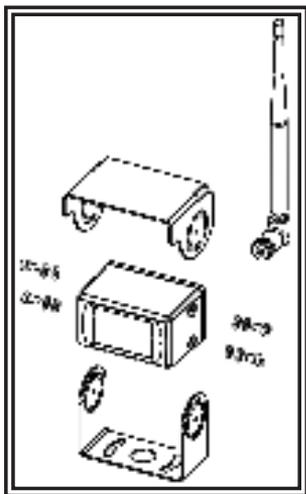


Figure 6

For reference only

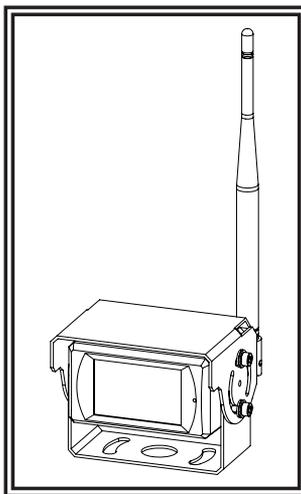


Figure 7

WIRING INSTRUCTIONS:

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.

The unit is designed for electrical systems from 12 to 24 VDC (10 to 30 VDC extremes). The wiring for all systems is:

- Red Wire Positive (+)
- Black Wire Negative (-)

All wiring should be a minimum of 20 AWG. A 3-amp fuse in the positive line is required (see Figure 8).

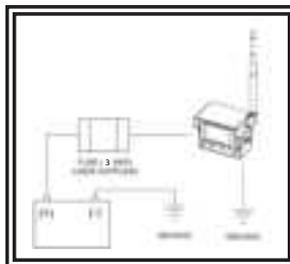


Figure 8

Replacement Parts and Accessories

Description	Part Number
CAMERA	HDW135871CAI
MONITOR	HDW700143QC
CABLE	PCY-7008-WM
LOW PROFILE ANTENNA	ECANTE-R
REMOTE STICK ANTENNA	ECANTE-8
PEDESTAL MOUNT	MB01
SUN-VISOR	AS7000SS

Specifications:

Camera	HDW135871CAI
Image Device	1/3" CMOS
TV System	PAL/NTSC
Array Size	728x488 Pixels
Sensing Area	4.6228mm x 3.6112mm
Scanning System	2:1 Interlace
Sync. System	Internal
Resolution	500 TV Lines
Min. Illumination	0.1 Lux (day), 0 Lux (with IR)
Microphone	Yes
Video Output	1.0 vp-p, 75 Ohm
AGC	Auto
S/N Ratio	Better than 48 dB
White Balance	Auto
BLC	Auto
Current Consumption	0.5A
Operating Frequency	2400-2483.5-MHz
Transmitting Distance	120M (barrier free)
Decompression Form	MPEG4
Transmit Output Power	17 dBm
RF Bit Rate	4Mbps
Operating Temperature	-20°C~70°C, RH 90% Max.
Storage Temperature	-30°C~80°C, RH 90% Max.

Monitor	HDW700143QC
LCD Size	7"
Resolution	1024 x 3 (RGB) x 600
Contrast	800:1
Brightness	600 cd/m ²
Viewing Angle	U: 70 / D: 75, R/L: 75
DOT Pitch	0.0642(W) x 0.1790(H)
Aspect Ratio	0.1506(W) x 0.1432(H)
Operating Frequency	2400 - 2483.5 MHz
Receiving Sensitivity	-78 dBm
Decompression Form	MPEG4
Modulation	2.4G FSK/GFSK/ Line of sight -unobstructed FHSS
Time Delay	170ms
Transmitting Distance	300m
Micro-SD/TF Card	Max. 128G
System Format	PAL/NTSC
Power Supply	DC 10-32V
Power Consumption	Max. 10W
Loudspeaker	1.5W/8
Operating Temperature	-20°~+70°C, RH90%
Storage Temperature	-30°~+80°C, RH90%

Electronics Controls Company "ECCO" (Manufacturer)

ECCO warrants that on the date of purchase, this product will conform to ECCO's specifications for this product (which are available from ECCO 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, UNAPPROVED MODIFICATIONS, FIRE OR OTHER HAZARD; IMPROPER INSTALLATION OR OPERATION; OR NOT BEING MAINTAINED IN ACCORDANCE WITH THE MAINTENANCE PROCEDURES SET FORTH IN ECCO'S INSTALLATION AND OPERATING INSTRUCTIONS VOIDS THIS LIMITED WARRANTY.

Exclusion of Other Warranties:

ECCO MAKES NO OTHER WARRANTIES, EXPRESSED OR IMPLIED. THE IMPLIED WARRANTIES FOR MERCHANTABILITY, QUALITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, USAGE OR TRADE PRACTICE ARE HEREBY EXCLUDED AND SHALL NOT APPLY TO THE PRODUCT AND ARE HEREBY DISCLAIMED, EXCEPT TO THE EXTENT PROHIBITED BY APPLICABLE LAW. ORAL STATEMENTS OR REPRESENTATIONS ABOUT THE PRODUCT DO NOT CONSTITUTE WARRANTIES.

Remedies and Limitation of Liability:

ECCO'S SOLE LIABILITY AND BUYER'S EXCLUSIVE REMEDY IN CONTRACT, TORT (INCLUDING NEGLIGENCE), OR UNDER ANY OTHER THEORY AGAINST ECCO REGARDING THE PRODUCT AND ITS USE SHALL BE, AT ECCO'S DISCRETION, THE REPLACEMENT OR REPAIR OF THE PRODUCT, OR THE REFUND OF THE PURCHASE PRICE PAID BY BUYER FOR NON-CONFORMING PRODUCT. IN NO EVENT SHALL ECCO'S LIABILITY ARISING OUT OF THIS LIMITED WARRANTY OR ANY OTHER CLAIM RELATED TO THE ECCO'S PRODUCTS EXCEED THE AMOUNT PAID FOR THE PRODUCT BY BUYER AT THE TIME OF THE ORIGINAL PURCHASE. IN NO EVENT SHALL ECCO BE LIABLE FOR LOST PROFITS, THE COST OF SUBSTITUTE EQUIPMENT OR LABOR, PROPERTY DAMAGE, OR OTHER SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES BASED UPON ANY CLAIM FOR BREACH OF CONTRACT, IMPROPER INSTALLATION, NEGLIGENCE, OR OTHER CLAIM, EVEN IF ECCO OR A REPRESENTATIVE OF ECCO HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. ECCO SHALL HAVE NO FURTHER OBLIGATION OR LIABILITY WITH RESPECT TO THE PRODUCT OR ITS SALE, OPERATION AND USE, AND ECCO NEITHER ASSUMES NOR AUTHORIZES THE ASSUMPTION OF ANY OTHER OBLIGATION OR LIABILITY IN CONNECTION WITH SUCH PRODUCT.

This Limited Warranty defines specific legal rights. You may have other legal rights which vary from jurisdiction to jurisdiction. Some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages.

FCC Warning

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.

NOTE 1: 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 one or more 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.

NOTE 2: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.



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