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REV 1 -9/15



ACA900 Backup Camera Ultrasonic Sensor



INTRODUCTION

Thank you for purchasing this 2 in 1 video parking sensor Part No.: ACA900

The 2 in1 video parking sensor works to detect obstacles while the camera is designed to show the image on the monitor screen when parking or when backing up. The system functions using an ultrasonic sensor and CMOS camera to provide an extra level of protection.

Please note that even with the latest technology it is always the driver's responsibility to check before reversing that it is safe to do so.

The ACA900 helps insure that no person or object has moved into or was in the way of your vehicle. The monitor will clearly show the area behind the vehicle and the sensor will determine the approximate distance to possible obstacles within its range. Still it is important to remember to use your mirrors, listen, look both ways, and double check for your safety.

The Ultrasonic sensor will detect objects directly behind the vehicle, it cannot detect objects to the side of the sensor or vehicle, so be sure to look twice. If someone or something moves into range the sensor will detect this object, display the range on your monitor and sound the buzzer to alert you. You should always backup slowly so you have time to react if needed.

NOTE: Ultrasonic sensors can be effected by weather and environmental hazards. It is important to keep the camera and sensor front surface clean. If they are obstructed your range will be limited, the sensor could sound a false signal, or may not operate at all.

LIMITED WARRANTY

Some states do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damage so the above limitations or exclusions may not apply to you. This Warranty gives you specific legal rights and you may also have other rights which vary from state to state.

Obtaining Warranty Service

- To obtain repair or replacement within the terms of this Warranty, call 1-800-323-4815 for the location of a warranty station serving your area.
- You must prepay the initial shipping charges to the Company. The Company will pay the return shipping charges for all warranted products returned to an address within the U.S.A., Puerto Rico or Canada.
- Please package the product securely to avoid shipping damage. We recommend using a carrier that provides tracking service to prevent lost packages. Lost or damaged packages are not covered by this warranty.
- Provide a detailed description of the problem(s) for which you require service.

SAFETY INSTRUCTIONS

Please read through the operating instructions completely before using the product for the first time; they include important information necessary for correct operation.

The warrantee will be rendered invalid if the product is damaged as a result of non-compliance with the operating instructions! Voxx International does not accept any liability for consequential damage! Always look twice and use all safety devices to help you determine if it is safe to backup.

- To ensure safe operation, the user should comply with the safety instructions and warnings contained in these operating instructions.
- The device is an aid to help the driver when reversing; it is always the driver's responsibility to check it is safe to reverse. It is possible that due to their size or construction certain obstacles may not be detected.
- The device will only fully function during slow reversing. The warning may not be signaled in time if the vehicle is moving at faster speeds.
- When installing and operating the system, always observe the applicable motor vehicle regulations and road traffic regulations. This device should not be installed where it could block or interfere with License plates or other safety devices and or lighting.

PRODUCT DESCRIPTION

This 2 in 1 video parking sensor emits ultrasound waves using one sensors and one CMOS camera mounted on the rear of the vehicle, when an obstacle is detected the ultrasound is reflected from it and the time period of this delay determines the distance of the obstacle.

The sound interval of the buzzer changes in relation to the distance to the obstacle, at the same time the camera will show the rear image on the screen, this will allow you to see the area behind the vehicle and the approximate distance of any object.

The 2 in 1 video parking sensor is switched on automatically when the driver shifts into reverse gear.

The ultrasonic sensors and camera are waterproof and dustproof and therefore require no maintenance other than cleaning their exterior is required. To clean use a mild detergent and a soft cloth, never scrape or scratch the front surface.

LIMITED WARRANTY

Limitations

THE EXTENT OF THE COMPANY'S LIABILITY UNDER THIS WARRANTY IS LIMITED TO THE REPAIR OR REPLACEMENT PROVIDED ABOVE AND, IN NO EVENT, SHALL THE COMPANY'S LIABILITY EXCEED THE PURCHASE PRICE PAID BY PURCHASER FOR THE PRODUCT.

This Warranty is in lieu of all other express warranties or liabilities. ANY IMPLIED WARRANTIES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY, SHALL BE LIMITED TO THE DURATION OF THIS WRITTEN WARRANTY. ANY ACTION FOR BREACH OF ANY WARRANTY HEREUNDER INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY MUST BE BROUGHT WITHIN A PERIOD OF 24 MONTHS FROM DATE OF ORIGINAL PURCHASE. IN NO CASE SHALL THE COMPANY BE LIABLE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES FOR BREACH OF THIS OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED. WHATSOEVER. No person or representative is authorized to assume for the Company any liability other than expressed herein in connection with the sale of this product.

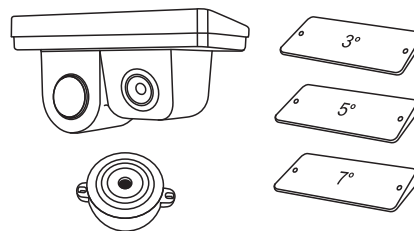
LIMITED WARRANTY

- Defects in cosmetic, decorative or non-operative structural parts
- Correction of antenna problems
- Costs incurred for installation, removal or reinstallation of the product
- Consequential damage to compact discs, USB devices, digital media cards, accessories or vehicle electrical systems
- Damage caused by improper installation, mishandling, misuse, neglect, accident, blown fuse, battery leakage, theft or improper storage
- Products whose factory serial number/bar code label(s) or markings have been removed or defaced
- Damage resulting from moisture, humidity, excessive temperature, extreme environmental conditions or external natural causes

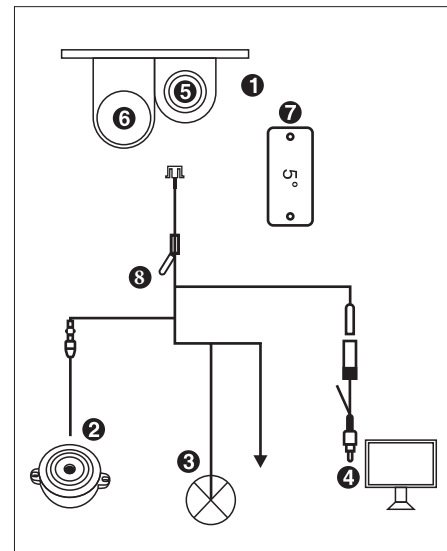
Please review the "Care and Maintenance" section of your Installation and Operation Manual for additional information regarding the proper use of your product.

DESCRIPTION

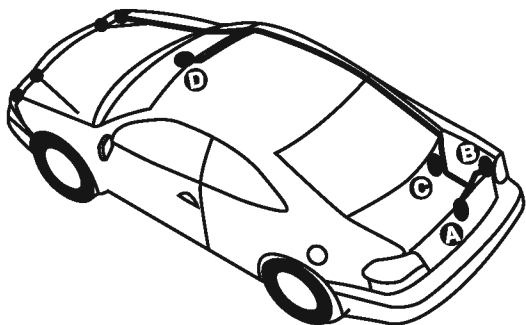
Products picture



- 1 Main unit, size: 67.8x30x31.3mm
- 2 Buzzer, size: 58x42x17mm
- 3 Connect cable for voltage supply
-Red
-Black
- 4 Output RCA connector
- 5 Camera lens
- 6 Ultrasonic sensor
- 7 Compensation pads for systems
- 8 Reverse Image Loop - Cut to change to mirror image.



INSTALLATION



When mounting the camera make sure the surface is clean and oil free. Use the supplied angle wedges to adjust the sensor angle if needed. If the unit falses (beeps with no obstruction) adjust the angle upward away from the ground.

- A** Camera / Sensor unit. This should be installed at the rear center of the vehicle.
- B** Connect the red power wire to the +12 volt signal from the reverse tail lamp and connect the black ground wire to a metal surface for -12 volts. This device is not designed for use in other voltage ranges.
- C** Place the buzzer in the rear of the passenger compartment where it can be easily heard.
- D** Route the RCA video signal wire to the monitor location.

LIMITED WARRANTY

Voxx Electronics Corporation ("the Company") is committed to quality and customer service, and are pleased to offer you this Warranty. Please read it thoroughly and contact the Company at 1-800-323-4815 with any questions.

Who is covered?

The Company extends this warranty to the original retail purchaser of products purchased through an authorized Voxx retailer in the U.S.A., Puerto Rico or Canada. This warranty is not transferable or assignable. Proof of purchase is required in the form of an original sales receipt.

What is covered?

The Company warrants that should this product or any part thereof, under normal use, be proven defective in material or workmanship within 12 months from the date of original purchase, such defect(s) will be repaired or replaced with a new or reconditioned product (at the Company's option) without charge for parts and repair labor.

What is not covered?

This Warranty does not cover the following:

- Damage incurred during shipping or transporting the product to the Company or a service center
- Elimination of car static or motor noise

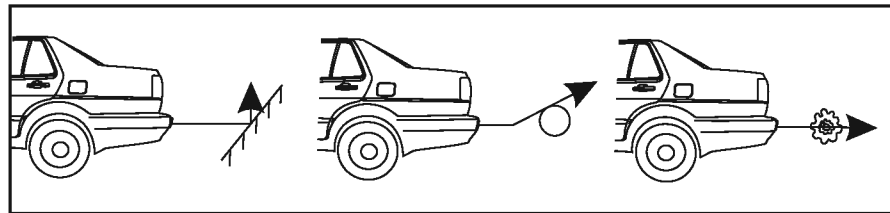
SPECIFICATIONS

1. Rated Voltage: 12V DC
2. Operating Range: 10.5V~ 16V DC
3. Rated Current: 60mA
4. Detecting Distance: 0.3—2.0M.
5. Ultrasonic Frequency: 40KHz
6. Image sensor: CMOS
7. Total pixels: 640 x 480
8. Resolution: 480 TV lines
9. Mini illumination: 0.1 lux
10. TV system: PAL/NTSC
11. Viewing Angle: 130 degrees
12. Video output: 1.0Vpp composite video at 75 ohms
13. Operating temperature: -20 - 70 deg. C
14. Adjustable bracket for better view angle

OPERATION

The ACA900 will turn on automatically and supply a video signal to you monitor connected each time the vehicle is in reverse gear. The picture will be shown and if an object is detected the range will be shown as well as the buzzer will alert with a series of beeps. The closer you are to the object the faster the buzzer will beep.

In certain situations or conditions, the ultrasound sensor may be not accurate. This may be the case on slight slopes, or when reversing towards soft objects, which absorb ultrasound waves. Also in severe weather or if covered in snow or ice. The combination of your camera, sensor, and mirrors helps make sure you always can see as much as possible.



DISPLAY OPERATION

Color OSD with digital distance reading.

Approximate Distance	Safe zone	Buzzer sound	OSD parking line
>6.5'	Safe	No sound	Green digit and parking line
5.25' – 6.5'	Safe	No sound	Green digit and parking line
3' – 5'	Alarm	BI--BI--BI	Green digit and parking line
2' – 3'	Alarm	BI--BI--	Yellow digit and parking line
1 ½' – 2'	Danger	BI-BI-	Red digit and parking line
0.9' – 1 ½'	Danger	BIBIBI	Red digit and parking line
<0.8'	Danger	BI-----	Red STOP

CLEANING

Clean the outer sensors regularly to avoid malfunctioning. Clean the display with a clean damp and lint-free cloth without abrasive chemical cleaners.

TROUBLE SHOOTING

If your ACA900 is not working correctly please check the following first, if you still have difficulties please call Technical Support at 800-323-4815.

Error	Possible cause	Solution
The ACA900 does not switch on	Reverse gear is not engaged	Engage the reverse gear
	No ignition voltage	Switch the ignition on
	Incorrect wiring or the fuse has blown	Check the plug connections and the fuse on the power supply leads.
	The monitor is not on or powered.	Check all monitor connections
The display shows incorrect distance values and activates erratically	Distance Read Error has occurred	Disengage the reverse gear and engage it again. This will reset the system. Range is approximate and not exact.
	The sensors are very dirty	Clean the sensors regularly