



AUDIOVOX®
ELECTRONICS CORP.

Model: ACA200W

Wired License Plate / Rear Mounted Camera

Installation Manual



Features

- High Resolution, 1/4 inch CMOS Color Camera
- Compact Zinc Alloy Die Cast Body
- Waterproof Housing
- 130 Degree Wide View Angle
- Selectable Image: Normal/Reverse
- Camera Mounts Behind License Plate – Does Not Obstruct Plate
- Adjustable Camera Angle

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Warnings

The product is intended to assist in safe driving and to allow the driver to have a broader rear view while the vehicle is in reverse. You, as the driver, are solely responsible for the safe operation of your vehicle and the safety of your passengers according to local traffic regulations. Do not use any features of this system to the extent it distracts you from safe driving. Your first priority while driving should always be the safe operation of your vehicle. Audiovox Electronics Corporation cannot accept any responsibility whatsoever for accidents resulting from failure to observe these precautions or safety instructions.

1. This product utilizes high voltage. Any unauthorized modifications or damage to the product may result in electrical shock. Handle all components with care. Inspect regularly for damage to components and cabling.
2. You are responsible for ensuring that the installation of this product does not void or affect the vehicle manufacturer's warranty. Audiovox Electronics Corporation or its subsidiaries are not liable in full or in part for improper installation resulting in loss or damage to your property, or for voiding all or part of the vehicle manufacturer's warranty.
3. Do not apply excessive force to any of the components contained within this kit. Excessive force used before, during or after installation that results in a damaged or non-functional part will void all warranties.
4. Please follow the procedures in this installation manual. Improper installation or modification of this product will void all warranties.

Product Description

This revolutionary camera design integrates a backup camera with your vehicle's rear license plate without covering the license plate. The camera is easy to mount on your car, truck, or van with the bracket being hidden by your license plate. We have also included a surface mount bracket to help with other installation methods.

This Wired Camera is compatible with most monitors/TFT screens and can be connected using a standard RCA connector.

Packing List

- CMOS Camera with License Plate Bracket –1 qty
- Surface Mounted Bracket – 1 qty
- Hardware Package – 1 qty
- RCA Video Extension Cable – 1 qty
- Owner's Manual – 1 qty

Camera Installation

License Plate Mounting Instructions



1. Remove the rear license plate.
2. Examine the vehicle to determine the best way to run the power wires to the reverse lights and the extension cable through the car.
3. The Camera can be mounted above or below the plate. (For surface mounting with the included bracket, see the next section.) Determine the mounting location that best suits your needs. Be sure to verify that your installation plan complies with local laws and requirements. Most states require that the state name, registration stickers, and license number are not obstructed in any way.
4. Place the camera bracket behind the license plate and line up the holes. Fasten the camera mounting bracket and the license plate to the vehicle using the anti-theft screws provided. After installation of screws with the tool provided, place the tool in the glove compartment or other safe place for future use.

NOTE: If you decide to mount the camera at the bottom of the license plate, you must first remove the two screws that hold the camera to the bracket and flip the camera over so the picture will not be displayed upside down.

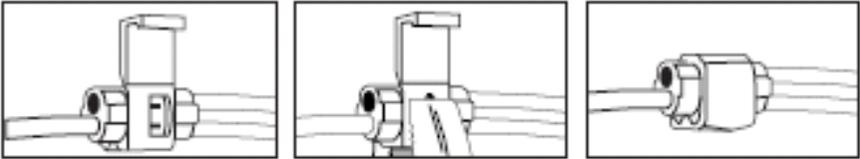
Surface Mounting Instructions



1. Find a suitable location on the vehicle where the bracket will not interfere with any equipment or doors, or block the line of sight. Verify that the planned mounting location is accessible from behind and that you have access to route the wiring inside the vehicle. Be sure that the mounting screws will not hit any wires or equipment inside the vehicle.
2. Attach the surface mounting bracket to the vehicle with the hardware included.
3. Route the camera wiring into the vehicle. The wire can be run through an existing grommet, behind a tail lamp, under the trunk molding, or if necessary, through a 5/8 inch hole drilled near the vehicle's rear license plate. **When choosing a wiring path, make sure the cable will not be damaged or pinched, as this may cause a short circuit that is not covered by the warranty.** If drilling a hole, perform the following steps:
 - a) Acquire a 5/8 inch drill bit, rust preventive, and a 5/8 inch rubber grommet, all of which can be purchased at a hardware store.
 - b) Check behind the intended drilling location before drilling to verify that no wires or mechanisms can interfere with or be damaged during drilling.
 - c) Check for interference with license plate lights and the hatch release switch and/or mechanism.
 - d) Drill a 5/8 inch hole at the selected location.
 - e) Coat the edge of the hole with rust preventative.
 - f) Route the camera cable through the grommet and then through the hole.
 - g) Insert the grommet in the hole to keep water from entering the vehicle.
4. Remove the camera from the license plate bracket and attach it to the surface mount bracket on the vehicle.

Wiring the Camera to the Vehicle's Reverse Lamp

1. Locate the reverse lamp in the tail light assembly.
2. Using the tap connector supplied, perform the following steps:
 - a) Place the un-stripped positive lead from the tail lamp in the run channel, which runs completely through the connector.
 - b) Insert the un-stripped red power wire from the camera completely into the other channel in the connector.
 - c) Make the connection between the wires by crimping down the metal connector with a pair of pliers, making sure the metal is flush with the plastic insulator.
 - d) Close the top plastic hinged cover until latched.
3. Attach the black wire to the ground (negative).
4. Repeat the above steps for the red wire.



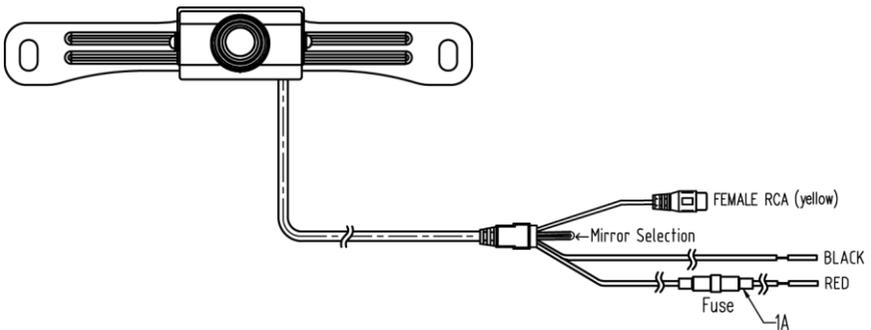
Connecting the Video Signal

1. Connect the included video extension cable to the Yellow RCA jack on the camera harness.
2. Run the extension cable to the monitor and connect to the Video input.

Reverse/Normal Image Adjustment

The camera comes standard with a reversed image, designed for mounting at the rear of the vehicle. If you need to change to a forward or normal image view, clip the blue jumper wire loop on the wiring cable (labeled "Mirror Selection" below) to change the camera image to normal. Secure the clipped wires with electrical tape. To change back to reverse image view, reconnect the blue wires and secure with electrical tape.

Camera Wiring



Specifications

1. Voltage: DC12V
2. Current: 50 mA
3. Signal System: NTSC
4. Image Sensor: 1/4" CMOS Sensor
5. Horizontal Resolution: 480 lines
6. Viewing Angle: 130 degrees
7. Minimum Illumination: 0.3Lux
8. Image Display: Selectable Normal/Reverse Image
9. Wireless Transmission Operating Frequency: 2.4GHz
10. Adjustable Viewing Angle
11. Dimensions:
 - Camera: 45mm W
 - License Plate Bracket: 196mm W x 36mm H

Troubleshooting

Symptom	Solution
No video signal appears while reversing the vehicle	<ol style="list-style-type: none">1. Check the rear view camera lens and clean if needed.2. Check the rear view camera wiring connection and RCA connection.
Video image is not sharp enough	Clean the camera lens.



AUDIOVOX®

12 MONTH LIMITED WARRANTY

Applies to Audiovox Series Control Modules and Sensors.

AUDIOVOX Electronics Corporation (the Company) warrants to the original retail purchaser of this product that should this product or any part thereof, (other than transmitters) under normal use and conditions, 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 new or reconditioned product, (at the Company's option) without charge for parts or repair labor.

To obtain repair or replacement within the terms of this Warranty, the product is to be delivered with proof of warranty coverage (e.g. dated bill of sale), specification of defect(s), transportation prepaid, to an approved warranty station. This Warranty is not assignable or transferable.

This Warranty does not cover damage to the vehicle's electrical system or costs incurred for removal or reinstallation of the product. This Warranty does not cover batteries nor apply to any product or part thereof which, in the opinion of the Company, has suffered or been damaged through alteration, improper installation, mishandling, misuse, abuse, neglect, accident, or by removal or defacement of the factory serial number/bar code label(s).

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 THE 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. 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.

The company does not warrant that this product cannot be compromised or circumvented. 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