



Installation / Owner's Guide

Backup Camera / CAM336

# Warning

This 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. Voxx 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. VOXX 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

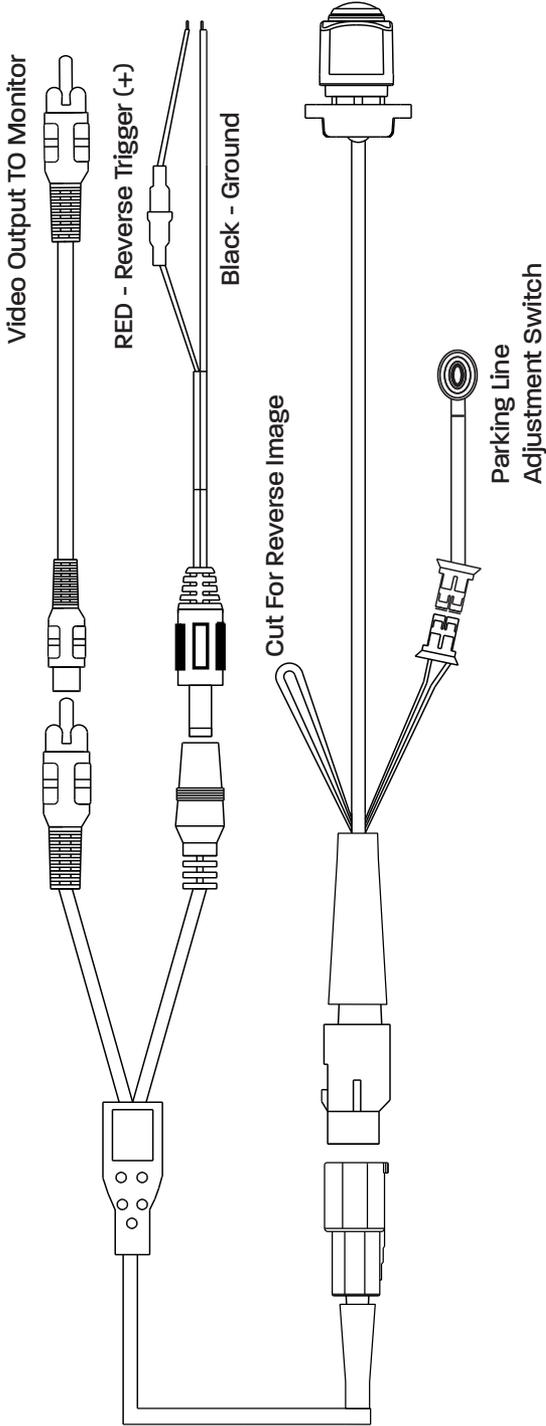
This camera design integrates a backup camera with your vehicle's rear license plate without covering the license plate. The camera is easy to mount on your car, truck, or van with the bracket being hidden by your license plate. A universal surface mount is included to assist with other mounting locations.

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

## Packing list

1	Camera with License Plate Bracket
2	Universal Mount
3	Parking Line Adjustment Switch
4	Camera Extension Y-Harness
5	Power Harness
6	Video Extension Cable
7	Hardware Kit
8	Install/Owners Guide

# System Layout



## License Plate Mounting



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 the 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 screw that holds the camera to the bracket and flip the camera over so the picture will not be displayed up side down.*

# Installation (CONT)

5. 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 and rust preventive, 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 will 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.

## 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 will 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 preventive.
  - 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.

# Installation (CONT)

## Camera Wiring

1. Locate the reverse lamp in the tail light assembly.
2. Using a Digital Multi-Meter, Locate the Reverse Trigger wire. This wire will test Ground (-) at rest and 12-Volt (+) when vehicle is in Reverse gear.
3. Connect the RED camera power wire the vehicle reverse trigger wire.

**NOTE:** *Some vehicles will not supply enough current to power the reverse light and the back-up camera. If this is the case an additional relay and wiring may be required.*

4. Connect the BLACK Ground (-) to chassis ground.

## Video Signal

1. Route the supplied video cable from the rear of the vehicle to the display monitor

**NOTE:** *When routing video cable be sure not to obstruct any vehicle airbag or safe features.*

2. Connect the camera video cable to the monitor camera input. This input will automatically turn on when the vehicle reverse gear is engaged.

## Reverse Image Loop

This camera can be mounted on the front or rear of the vehicle. If the images needs to be reversed due to mounting location or preference, the supplied reverse image loop allows for easy image mirroring. Cutting the loop will mirror the image on the horizontal (Left to Right) axis.

## Parking Line Adjustment

The CAM336 back-up camera includes 9 different parking line options. This allows for mounting on multiple different vehicle makes, models and styles. Please follow the instruction below to adjust the camera parking lines.

1. Press and hold button for two (2) Seconds. The system will display "Guide Lines Off".
2. Press button to cycle the parking line options. Each button press will advance to the next option.
3. Press and hold button to set desired parking line option.

# Specifications

1	Voltage	12-Volts DC
2	Current	37.4mA +/- 10mA
3	System Signal	NTSC
4	Image Sensor	CMOS
5	Resolution	3MP
6	Viewing Angle	160
7	Min. Illumination	.01 LUX
8	Image Display	9 Parking Line Types
9	Dimension	Camera: 23.2mm x 23.2mm LP Bracket: 198.5mm x 26.3mm x 1.0mm
12	Operating Temperature	-40C to 85C

## 3 YEAR LIMITED WARRANTY

### Applies to Audiovox Series Control Modules and Sensors

Voxx 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 36 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. A transmitter is warranted for 12 months from the date of original purchase.

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 re-installation of the product.

This Warranty does not cover batteries, broken LCD or OLED display screens, 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 48 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 PURCHASER FOR THE PRODUCT WITHOUT COST OF INSTALLATION.

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.



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