

CAM-TGL



**Back-up Camera  
with Moving Guidelines**  
**User Manual**



ECHOMASTER

## **Thank you for purchasing the EchoMaster Back-up Camera with Moving Guidelines**

EchoMaster Cameras are designed to improve safety by providing high quality images of surrounding areas and obstacles in the vicinity of the vehicle. This may help improve vehicle maneuvering capabilities by displaying blind spots or areas not normally visible to the driver.

Please ensure you read and understand all aspects of this manual before installing or using your EchoMaster products.



### **PLEASE NOTE**

Before use, remove plastic cover on the camera lens

## What's Included:

- ▶ Camera
- ▶ License Plate Bracket
- ▶ Installation Hardware
- ▶ Wiring Harness (39")
- ▶ RCA Cable (20')
- ▶ User Manual

## Features:

- ▶ 1/3" CMOS sensor
- ▶ Operates at 0.5 LUX
- ▶ 170° viewing angle
- ▶ Dynamic parking guidelines
- ▶ Water/Debris-proof rating: IP67

## Out of the Box: License Plate Bracket

The license plate bracket is mounted to the camera when you take it out of the box.



## To Use Lip Mount Bracket:

Follow these steps to replace the License Plate Bracket with the Lip Mount Bracket.

### Step 1

Remove the screws on each side of the camera to remove the license plate bracket.

-Screwdriver not included



## Step 2

Out of the Box: Lip Mount Bracket

Unscrew the screws on each side of the lip mount bracket.

-Be careful to not lose the lock washers!



## Step 3

Align the brackets and replace the screws and lock washers.



## Lip Mount Bracket is Now Ready for Install

The camera is now ready to mount to the vehicle's lip.

-Screws and adhesive provided



## Installing the Camera

### - License Plate Mount

#### Step 1

Remove the screws that hold the license plate to the vehicle and remove the license plate.

#### Step 2

Find an opening (or drill a small hole) to feed the camera cable into the vehicle.



## Step 3

Position the camera mounting bracket behind the license plate.

Insert the screws to hold the camera and license plate in place.

## Step 4

The camera angle should be mounted at 30 - 40 degrees downward for dynamic guidelines to perform correctly.

## Step 5

Connect to the monitor.

(see instructions on page 12)





# SAFETY



**Incorrect**

**30-40°**



**Correct**

## Installing the Camera

### - Lip Mount

#### Step 1

Find an opening (or drill a small hole) to feed the camera cable into the vehicle.

#### Step 2

Position the camera mounting bracket on vehicle lip and screw into place.

#### Step 3

The camera angle should be mounted at 30 - 40 degrees downward for dynamic guidelines to perform correctly.

#### Step 4

Connect to the monitor.  
(see instructions on page 12)



Mounts to vehicle lip



**Incorrect**

30-40°

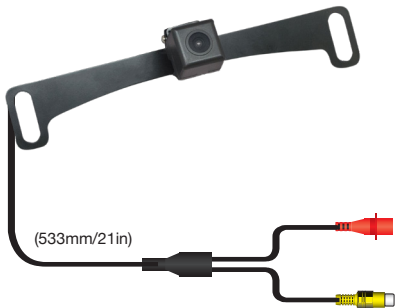


**Correct**

For both License Plate and Lip Mount

## Connect to Monitor

Use harness and RCA cable to connect the camera to your monitor with a standard video input.

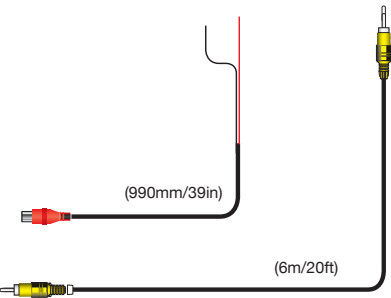


Compatible with aftermarket radios, factory radios, and rearview mirror monitors.



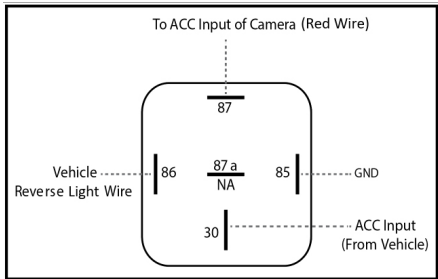
**GND (Black) +12V (Red)**

**VIDEO**



## Installer Notes

Some vehicles' reverse lamp wires are now variable voltage wires, and may cause a fuzzy or distorted image. If you experience this, please use a relay to power your camera, as shown in the diagram.



## PLEASE NOTE

These instructions are only a general guide. If more assistance is needed, please consult with a professional installer.

## Camera

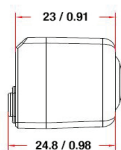
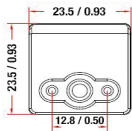
<b>Sensor Type</b>	1.3" CMOS PC3089
<b>LEDs</b>	N/A
<b>Illumination</b>	0.5 LUX
<b>Viewing Angle</b>	170°
<b>Mirror Image</b>	Yes
<b>Normal View</b>	No
<b>Water/Debris-Proof</b>	IP67
<b>Audio</b>	No
<b>Power Supply</b>	12V DC
<b>Current</b>	<180 mA
<b>Operating Temp</b>	-4°F -+158°F/-20°C -+70°C
<b>Dimensions - (mm/in)</b>	D (24.8/0.93) x W (23.5/0.93)x H (23.5/0.93)



## Camera

<b>Dynamic Guidance Trajectory</b>	Embedded
<b>AGC</b>	Auto
<b>BLC</b>	Auto
<b>System</b>	NTSC
<b>TV Lines</b>	600
<b>Resolution</b>	762x504

## Camera Dimensions (mm/in)



## NOTES:





ECHOMASTER

email - [support@aampglobal.com](mailto:support@aampglobal.com) (US)

tel - 800-477-2267



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