

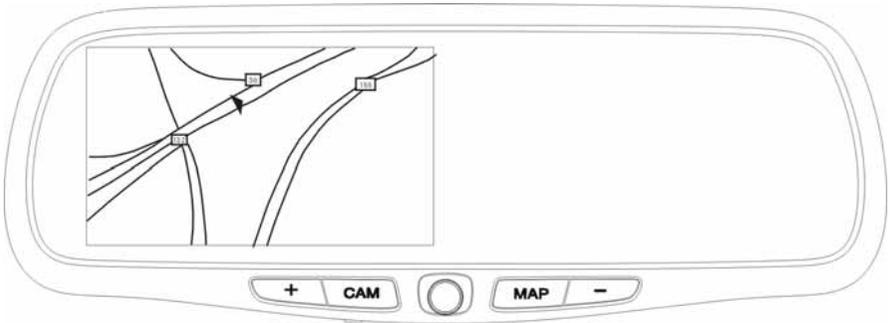


AUDIOVOX®
ELECTRONICS CORP.

**Rearview Mirror with 4.5" Color LCD with
Navigation and 2 Camera inputs**

Model: LCMR5RP

Installation Manual



Features:

- **Rearview Mirror with 4.5" LCD**
- **Rearview Camera Input**
- **Interior Camera Input**
- **Navigation Input**
- **NTSC /PAL Camera Compatible**

Cautions!

The product is intended to assist in safe driving and to allow the driver to have a broader rearview 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 the country and their 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 products may result in electrical shock. Handle all components with care. Inspect regularly for damage to components and cabling.
2. You shall be responsible to ensure that the installation of this product does not void or affect the vehicle manufacturer's warranty. Audiovox Electronics Corporation, or its branches 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 shall void all warranties.
4. Please follow the procedure from this installation manual. Improper installation or modification of this product shall void all warranties.

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Preface

This replacement mirror /monitor can display up to 3 different video inputs. The inputs are Navigation, Rear observation camera and Interior observation camera.

Not all rearview mirrors attach to the vehicle with the same style mount. Please consult the application guide for the appropriate mounting bracket for your vehicle or call Tech Service at 800-225-6074.

There is a blind spot that exists at the back of a vehicle while the vehicle is in reverse. Equipped with a camera, this electronic rearview mirror ensures safety by providing the driver with a clear and wide image of the area behind the vehicle while it is in reverse.

WARNING:

Backing up vehicle

Do not back up the vehicle while watching the mirror/monitor screen. Always look in the direction of vehicle motion. Use the mirror/monitor as an aid in safety confirmation. The distance looks different in the monitor.

Packing list

The Rear view mirror Model LCMR5RP consists of the following items:

1. Rear View Mirror-1
2. Camera Cable-2
3. Control Box-1
4. Control Box Monitor Cable -1

1. Installation Instructions

(1) Mount the mirror/monitor

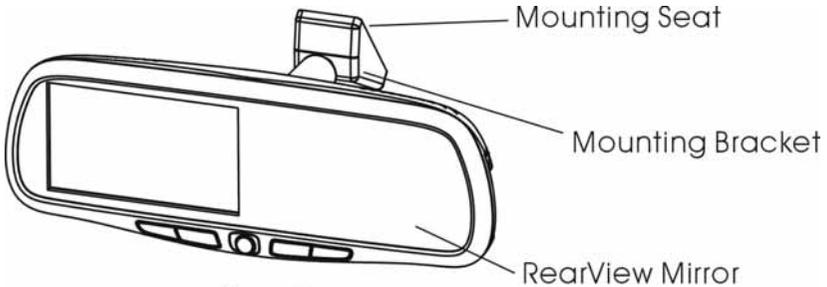


Figure 1

- a) Remove the original factory mirror. (Do not use excessive force when removing factory mirror.) Check to make sure that the factory mirror mount you remove matches the mirror mount on the replacement mirror. If it does not match, consult the application guide or call Technical Service at 800-225-6074.
 - b) Slide the receiving bracket on the back of the new mirror stalk onto the windshield mounting button. Move the bracket back and forth until completely seated.
 - c) Tighten the T-20 mounting bracket screw.
- (2) **Navigation monitor connection:** Insert the connector from the navigation monitor cable into the receptacle at the backside of the mirror/monitor. Route the rest of the monitor cable under the headliner, down the A pillar to the Navigation computer.
- (3) **Control box connection:** Connect the 8-pin extension cable to the rearview mirror/monitor 8 pin cable. Route the cable under the headliner of the windshield then down the A pillar behind the plastic shroud to the under dash area. Connect the 8-pin cable to the control box 8 pin connector.

(4) **Electrical Connections:** Connect the 4 wires in the following manner.

- a) **Red wire** - 12 volt constant (positive)
- b) **Black wire** - Chassis ground (negative)
- c) **Blue wire** - 12-volt ignition (12 volt with ignition on)
- d) **Green wire** - Reverse light switch (12 volt when vehicle is in the reverse gear)

WARNING: Observe polarity when connecting the wires.

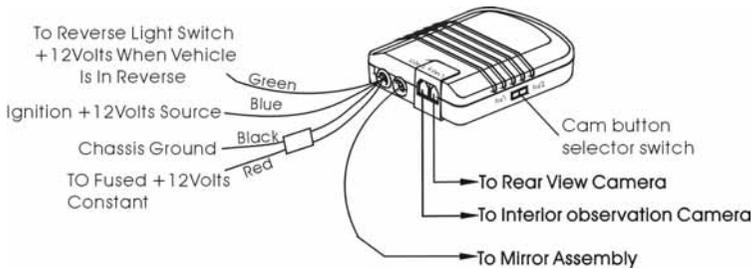


Figure 2

2. Signal Inputs

The signal input connections for the system include:

- (1) **Rear Camera:** Plug the RJ 11 camera cable end into the control box AVin-1 location, route the cable to the rear camera and plug the 4-pin connector into camera 4 pin connector. Users can see the rearview camera image when the car is shifted into reverse.
- (2) **Interior Camera:** Plug the RJ 11 camera cable end into the control box AVin-2, Users can see the interior camera image when the “CAM” button is pressed.
- (3) **Navigation:** The navigation signal is supplied via the monitor cable plugged directly into the rear of the mirror.
- (4) **Navigation Image (optional Navigation System required)**
The Navigation Image is the default mode, and will only be overridden when the vehicle gear selector is moved into reverse, or if the CAM button on the mirror is pressed.

Some operators may find that leaving the Navigation Image on the LCD monitor at all times becomes a distraction while operating their motor vehicle. For the convenience of those operators, a 'Display Timer Slide Control Switch' has been added to the mirror.

A. When the Slide Control Switch is moved to the far right end position, the Navigation image will remain on at all times.

B. When the Slide Control Switch is moved to the far left end position, the Navigation image will remain off at all times.

C. Positioning the Slide Control Switch anywhere in the center area will automatically enable an internal timer. The timer is adjustable between 10 Seconds (further left) to 3 minutes (further right).

D. When the Navigation System is in guidance mode, every time a turn-by-turn voice guidance command is received, the Navigation image will automatically turn on and remain on for the pre-selected time set by the Slide Switch. After the pre-set time has expired, the Navigation display will turn off and remain off until the next voice command is received.

HINT 1: When entering a new address into the Navigation Address Book, it will be easier to move the Slide Control Switch all the way to the right to keep the LCD display on until the address has been completed.

HINT 2: When in Timed Display Mode, you can press the "+" or "-" button on the mirror to turn the Navigation image on for the full extent of the pre-set time.

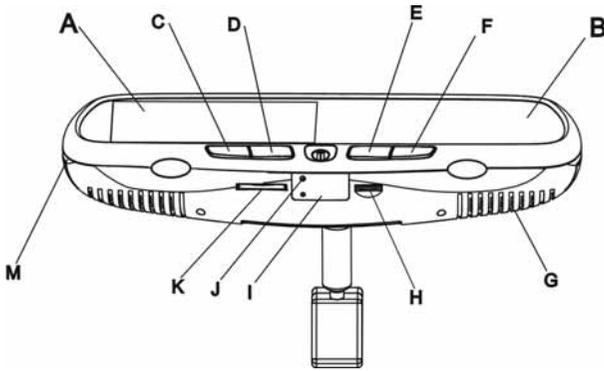


Figure 5

3. Controls and Indicators

Figure 5 shows the function controls of the rear view mirror.

A: 4.5" LCD Panel

B: Rearview Mirror Glass

C: “+”Button (optional Navigation System required)

Incrementally increase volume level of the navigation voice command when pressed.

Note: Will only operate when the Navigation System remote control is removed from the cradle.

D: “CAM”Button

- If you have installed an optional interior view camera, pressing the CAM button will display the image from the interior view camera on the LCD panel. - If you do not have an interior view camera installed, but have installed a back up camera, then pressing the CAM button will display the image from the back up camera on the LCD panel.

- Either image will be displayed for as long as the CAM button is held on. As soon as the button is released, the LCD will automatically switch back to the original setting.

E: “MAP”Button (optional Navigation System required)

Each time the “MAP” button is pressed, the navigation display will toggle between Map, Icon only and split screen while in navigation mode.

Note: Will only operate when the Navigation System remote control is removed from the cradle.

F: “-” Button (optional Navigation System required)

Incrementally decrease volume level of the navigation voice command when pressed.

Note: Will only operate when the Navigation System remote control is removed from the cradle.

G: Internal Speaker

H: LCD Brightness Control

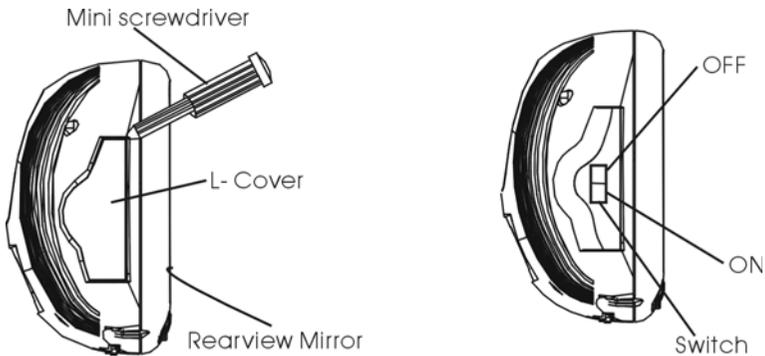
I: Internal Infra-RED Receiver for use with Navigation System Remote Control.

J: Power LED (Red when Power is on)

K: Display Timer Slide Control Switch : (optional Navigation System required)

Refer to page 5 Signal Inputs #4 for detailed operation notes.

M: Internal Speaker Switch: Used to turn mirror speaker on/off. Move this switch to the Off position when using the external speaker interface included with the optional Navigation System.



Specifications

General

Power Supply	12VDC
Power Consumption	<12W
Current Draw	<800mA
Video Input	1Vp-p/ 75 Impedance
Audio Input	<=1V
Audio Power Output	0.5W × 1 (16Ω)
Operating Temperature Range	0°C to 50°C

Display System

Screen	4.5" TFT Color LCD
Brightness	400 cd/m ²
Contrast Ratio	150 : 1
Backlight Life	10000 hours
Resolution	960 × 234
Video Format	PAL/NTSC auto detect
Display Format	16 : 9
Navigation input	RGB

Maintenance

Though your Rearview mirror requires little care, you can still maintain its condition and performance by following the procedures below.

- Keep your system away from excessive moisture, extreme heat or cold, and magnetic fields.
- Keep liquids away from the display and mirror.
- To avoid damage, do not place external devices or other objects on the top of the mirror.
- Occasionally wipe the rearview mirror set with a soft, damp cloth.
- Occasionally clean the surface of the mirror with a soft cloth moistened with water or window cleaner.

Troubleshooting

Symptoms	Solutions
The ON/OFF signal light <E> is not on after the car is started?	<ol style="list-style-type: none">1. Check the installation-wiring diagram.2. Ensure that the parallel red and black line from the control box is connected properly.3. Check for 12 volts on the blue wire while the ignition on.
No video signal appears while reversing the car?	<ol style="list-style-type: none">1. Check the rearview Camera lens.2. Check the rearview Camera wiring and connection.3. Check the cable from the rearview mirror is connected to the control box.4. Check out the wire connection (to find out whether the system's reverse wire cable is connected to the reverse switch gear of the car)
Video image is not sharp enough?	Clean the lens of the camera.

Illustration of Connections

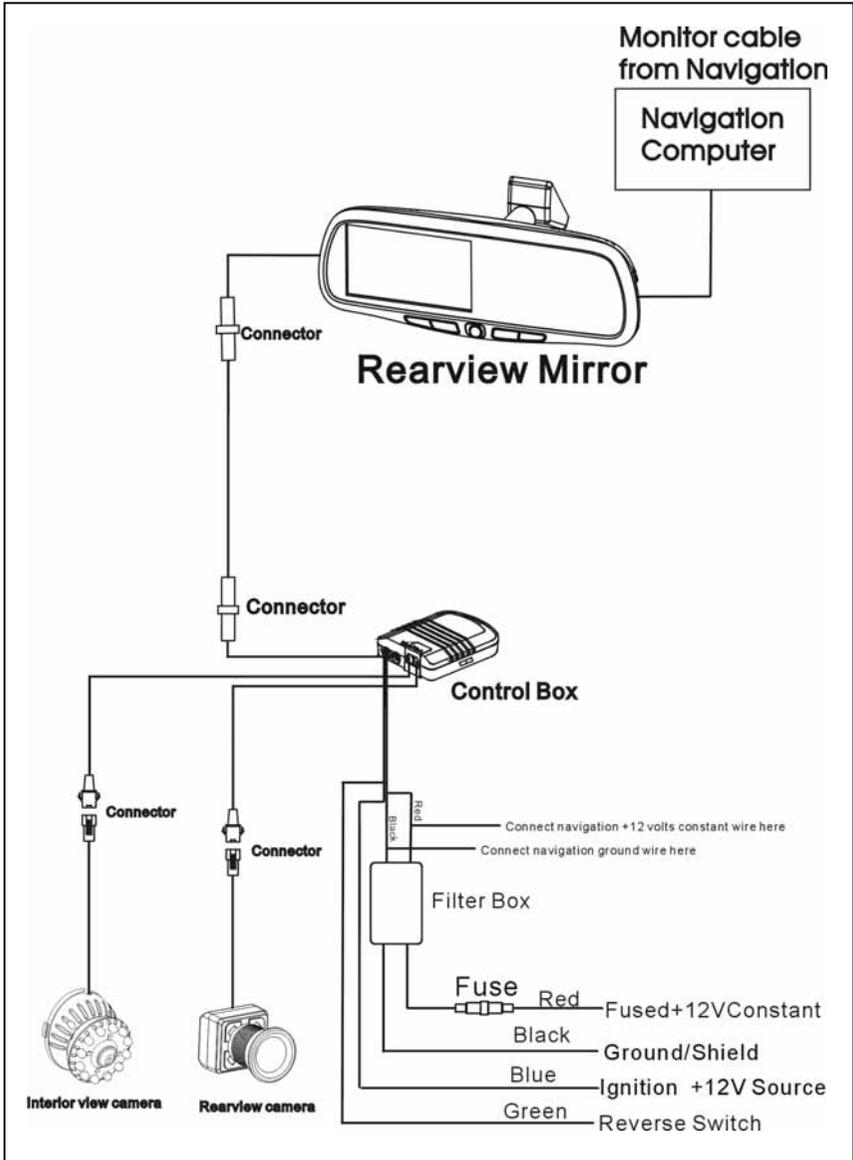


Figure 6



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