

radenso RC M



installation guide

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what's inside.



A. Front Radar Antenna

- Weatherproof radar antenna
- Universal mountin brackets with stainless steel
- Hardware
- 6-foot cable with waterproof connector
- 10-foot extension cable

B. GPS Antenna

- Weatherproof, magnetic mount GPS antenna

C. CPU

- Central CPU that all modules plug in to
- Connects to 12v power and ground

D. Display and Control Module

- Magnetically detachable display/control pad
- Flush-mountable base station
- Mounting hardware and adhesive pads
- Micro USB cable to display

E. USB Flash Drive

- USB flash drive allows firmware updates

F. USB Extension Cable

- USB extension cable allows easy access to USB ports for firmware updates

G. External Speaker

- External speaker provides loud, clear audio alert tones

additional accessories

RC M AL Priority Laser Defense Kit (optional)



- Three individual AL Priority laser sensors
- AL Priority CPU
- Radenso RC M bridge cable

RC M AL Priority Laser Rear Defense Kit (optional)



- Two individual AL Priority laser sensors

Please Note:

All intellectual property incorporated in AL PRIORITY product is reserved to its legal proprietor. Patents: US 8,309,926; EP2277060; AUS 2008355569; US 8,786,490; CA2939856A1, US 9,500,744 and others. Industrial designs: DM 079630-0001. Trademarks: US3222340, US4123648, US4280659, AUS1423337, EM-1073712, EM 1140797, CN 1140797, AUS153306, and others.

Rear Radar Antenna (optional)



- Weatherproof radar antenna
- Universal mounting brackets with stainless steel
- Hardware
- 6-foot cable with waterproof connector
- 10-foot extension cable

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Professional Installation Recommended

It is recommended that you have a professional install your new Radenso RC M. To properly install this system requires extensive experience with automotive electronics. If you are unfamiliar with 12v electronics, many authorized dealers can install your Radenso RC M system for you.

Attempting to install this product without expertise in automotive electronics may cause personal injury or damage do your vehicle.

WARNING:

The mounting location of your radar antennas and laser sensors is absolutely critical to determining the ultimate performance of your installation.

The best performance will always be given with a direct line of sight and a clear view of the road. Technically, radar waves can pass through certain types of plastic, so it is acceptable in certain cases to mount the radar antenna behind a bumper or grill. However, maximum performance will always be achieved with nothing physically blocking the radar antenna.

Laser is different than radar - it MUST have a clear line of sight. Since laser is light based, system performance is heavily dependent on an unobstructed view with level, square mounting. Please see further details in the "AL Priority Best Practices" section of the manual.

Best Installation Practices

Before beginning your installation, please review these tips to ensure a trouble-free installation:

1. Determine the best location for the front and rear radar antenna. For the front antenna, the best location is typically mounted horizontally in the slat of the grill of the vehicle, or alternately mounted behind a flat section of the plastic bumper.
2. DO NOT mount a radar antenna behind metal - performance will be seriously compromised.
3. It is usually possible to find an accessible interior entry point for the radar wiring in the vehicle's firewall. Look where the steering column passes through the firewall for an unused grommet or hole that might be convenient for passing wiring through.
4. Rear entry points can be more challenging to find, but include gaskets behind license plates, backup cameras, and near tail light wiring gaskets.
5. In some rare cases, it may be that no easily accessible interior entry points exist. In this scenario, a hole will need to be drilled through the firewall. If drilling a hole, please ensure that the hole is grommeted afterwards with a soft rubber grommet. This will prevent undue wear on the wires.
6. Cables coming into the car from rear-mounted antennas and sensors can usually be routed through the trunk/hatch compartment and concealed under trim panels.

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RC M CPU Installation

1. Install the CPU under the dash using the supplied zip ties or 3M Adhesive Tape
NOTE: Do not mount the CPU inside the vehicle's engine compartment. It is not weather-sealed.
2. Plug in the power harness to the CPU (it is the only wire with a plug that will physically fit), and connect the black wire (-) to ground, and the red wire to a switched 12-volt power supply. It is highly recommended to wire the CPU to a 12v power source that is turns on and off along with the car's ignition. Connecting directly to the battery may drain the vehicle's battery.
3. The cables for the front and rear radar antennas, front and rear AL Priority sensors, GPS antenna, RC M display, and AL Priority bridge box all plug into the CPU.
4. It is recommended that after the interface is installed and connected to power, all other components are plugged in and tested for proper operation before completing the installation.

Front Radar Receiver

1. Determine the best location for the front radar antenna. Typically, the best location is behind a flat portion of the plastic bumper. Alternately, the antenna can be mounted behind the grill.
2. Using the included stainless steel bolts and nuts, secure the antenna to the included black metal mounting plate.
3. Using the included hardware, secure the mounting plate/antenna assembly to a suitable structure on the car. You can use self tapping screws, or bolts with matching nuts.

4. Route the cable from the antenna through a safe location under the hood, and plug it into the matching extension cord.
5. The next step is to pass the extension cord through the firewall and into the cabin of the vehicle. Locate a suitable entry point (usually an unused grommet) and slide the cable gently through the opening and into the interior.
6. Plug the cable into the RC M CPU.

AL Priority CPU

1. Install the AL Priority CPU under the dash in a location that is close to the RC M CPU using the supplied zip ties or 3M Adhesive Tape.
2. Plug in the included bridge cable to the AL Priority CPU, and then plug the other end into the RC M CPU.
3. Plug the AL Priority CPU power harness into the port marked "power," and connect the black wire to ground and the red wire to a 12v power source.

AL Priority Front Sensors

1. It is absolutely critical that the AL Priority sensors be installed properly; since laser is line of sight, if the sensors are obscured they will not be able to defend against a laser encounter.
2. The sensors **MUST** be installed **IN FRONT** of any grilles, plastic, mesh, or other materials. They must have a clear and unobstructed view of the road.
3. Sensors must be installed level, perpendicular to the road surface. They must be pointed straight ahead and not toed in or out.

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4. Three sensors are provided; for a proper installation, visually section the front bumper of the car into three equal sections. Each sensor should be responsible for covering approximately one third of the bumper area.
5. Sensors can be mounted to the vehicle in one of two ways - with the included snap-in brackets, or with 3M tape. If the area on your bumper where you are mounting the AL Priority sensors is already perfectly level, you may opt to use 3M tape to stick the sensors directly to the bumper. If your mounting location is not level, use the bendable metal brackets to attach the AL Priority sensors.
6. Use the included bubble level to double-check the quality of your installation. Ensure the AL Priority sensors are level, pointed straight ahead, and are not toed in or out.
7. Route the wires through the same firewall pass-through that you previously ran the RC M front antenna wires through.
8. Plug the sensors into the AL Priority Bridge box. The middle AL Priority sensor **MUST** be plugged into the F2 port on the ALP Bridge Box, the left and the right sensors can be plugged into the F1 and F3 ports.

GPS Antenna

1. The GPS antenna requires a clear view of the sky to work ideally, but it can also be mounted behind plastic such as the underside of the top of the dashboard. Other locations include on top of the dashboard with 3M tape, on the back of the rear deck lid, or magnetically mounted on the roof.
2. After mounting the GPS antenna, carefully route the wire back to the RC M CPU and plug it into the port labeled "GPS."

Display and Control Module

1. The Display and Control Module on the RC M is designed with two components - a flush-mountable base that provides power, and a magnetically removable display/button module that can function as a kill switch for the entire system.
2. It is important to mount the display in a location that is both easy to see and touch while driving.
3. The power base of the display can be either flush mounted or attached to a surface with 3M adhesive tape. It is important that the base be mounted securely so when the user removes the magnetic display, the base station does not get removed as well.
4. If flush mounting the display, be sure to protect the area being cut with masking tape, and to provide provisions for the USB cord to pass through the opening and into the area where the RC M CPU is located.
5. Plug the USB end of the display cable into the base of the display module, and carefully route the other end back to the RC M CPU. Plug the cable into the port marked "Display."

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Rear Radar Antenna

1. Follow the same installation instructions as for the front radar antenna, but with the rear antenna oriented to point out the rear of the vehicle.

Rear AL Priority Laser Sensors

1. Follow the same installation instructions as for the front AL Priority Sensors, but with the sensors oriented to point out the rear of the vehicle.
2. As with the front sensors, they **MUST** be installed on the exterior of the vehicle, level with the ground, and pointed straight to the rear of the vehicle - not toed in or out horizontally.

After installation is complete, please proceed to the next section to update the software on the RC M and ALP.

YOU MUST UPDATE SOFTWARE BEFORE USE!

software updates

IMPORTANT:

Before powering on your device for the first time, we will be preparing to update the firmware on the RC M CPU and the ALP CPU (if present). Updating the firmware is mandatory before use.

The firmware update process is similar for both control units - we will be downloading firmware files from a website, placing them on a USB flash drive, and then plugging them into the control units. Once powered on, the control units will recognize the firmware files are present and automatically begin updating.

Updating the RC M firmware

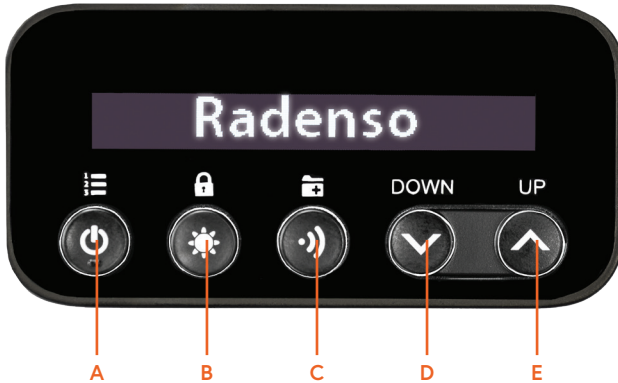
1. Take the included USB flash drive and plug it into a computer. Either Mac or PC is fine.
2. Point your browser to www.radenso.com/pages/firmware.
3. In the center of the page, you will see text that says "Or click here for manual serial number input." Click on the text "here" to go to the serial number entry page.
4. Enter the serial number of the RC M CPU into the "serial number" box. The serial number is just the last five digits of the sticker on the back of the CPU. For example, if the sticker reads "RR00763148" then the correct numbers to enter are, "63148"
5. For the drop-down boxes that say "front radar" and "rear radar" select HDM+ for the front, and do the same for rear if a rear antenna is present.
6. Click "upload and verify" and a box will pop up offering two download options - "Download all in one ZIP archive," or "Download files individually."
7. Click on the blue download icon next to the "Download all in one ZIP archive" text to download your firmware update.
8. When the download is complete, unzip all files in the archive to the USB Flash Drive.
9. Remove the flash drive from your computer and plug it into the RC M CPU's USB port.
10. Power on the RC M system while the USB flash drive is still plugged in. The RC M will automatically recognize the software update file and begin the update process. You will see several status messages on the screen as the unit cycles through updating the various modules (display, front antenna, rear antenna, etc). Once the firmware update is complete, the unit will reboot.
11. Manually power the RC M off and back on. Once the RC M boots back up, the update process is complete.

software updates

Updating the AL Priority.

1. Take the included USB flash drive and plug it back into your computer. Delete any existing files on it so you are starting with a blank flash drive.
2. Point your web browser to www.alpupdate.com and click on "I agree" to accept the Terms of Use.
3. You will see the option "Configure" in large text on the left side of the page. Click on the blue "Enter" button to enter the configuration file setup.
4. Select "North America" under the region drop-down. This will take you to a page with several options.
5. By default, the AL Priority system is shipped in parking sensor only mode. **If you wish to enable laser defense, you must choose the "PDC & LID" option.**
6. Choosing "PDC & LID" will present several more options below. **Leave everything default except for "LID" time. This must be set to "Unlimited."**
7. Click "Save & download" to download your configuration file. Move this file to the USB flash drive.
8. Point a new browser window back to www.alpupdate.com. This time, click on the blue "Enter" button under the "Firmware upgrade" text.
9. Enter the serial number of your ALP control unit (found on a sticker on the back of the unit) enter the prompt, and press "OK."
10. You will be prompted to answer a simple math problem as proof that you are human and not a bot. Solve the problem and hit "Press to Download."
11. A firmware file will be downloaded to your computer. Move this file onto the USB flash drive. The flash drive should now have two files on it; the config file as well as the firmware file.
12. Remove the flash drive from your computer and plug it into the AL Priority CPU unit's USB port. Make sure the RC M and ALP are both powered off when you plug it in.
13. Turn on the RC M system and wait several seconds. The RC M will automatically recognize that the ALP has the firmware update flash drive plugged in, and the CPU will begin updating.
14. Once the ALP has finished updating, the RC M display will give you a message indicating that the process has finished.
15. Remove the flash drive from the ALP control unit and manually power off the RC M system.
16. Power the RC M system back on and the process is complete.

RC M user interface



The Radenso RC M has an easy to use interface. The removable, magnetic display has five buttons - each with dual functionality depending on the length of the button press, and whether or not the user is in the settings menu.

A. Power Button

Short Press: (When no radar signal is received): Enter settings menu.

(When radar signal is presently being received): Mutes the RC M

Long Press: Power on/off

Function once in menu: Advance to next menu setting

B. Brightness Button

Short Press: Adjusts brightness, toggles SmartDark mode, which keeps the display blank until alert is received, except for a single moving "status" pixel

Long Press: GPS Lockout

Function once in menu: Advances cursor within sub-menu

C. Driving Mode Button

Short Press: Changes current driving mode

Long Press: Stores user GPS point of interest

Function once in menu: Saves and exits menu

D. Volume Down Button

Short Press: Reduces RC M volume

Long Press: N/A

Function once in menu: Lowers numerical value

E. Volume Up Button

Short Press: Raises RC M volume

Long Press: N/A

Function once in menu: Raises numerical value

menu settings and features

Front Radar On

Default setting: on

Recommended setting: on

All setting options: off, on

Description: Front radar antenna enabled or disabled

Rear Radar On

Default setting: on

Recommended setting: on

All setting options: off, on

Description: Rear radar antenna enabled or disabled

Highway

Default setting: Highway

Recommended setting: AutoCity

All setting options: AutoCity, Highway, City

Description: Default driving mode when the RC M is powered up

AutoCity Speed Limit

Default setting: 30 mph / 60 mph

Recommended setting: 30 mph / 60 mph

All setting options: n/a

Description: Low speed threshold beneath which K and X band signals will automatically mute / High speed threshold past which detector is automatically set to maximum sensitivity

City Level Front Antenna

Default setting: X 4, K 2, Ka 0

Recommended setting: X 4, K 2, Ka 0

All setting options: 0-9 for each band

Description: This setting allows the user to individually control sensitivity to each radar band for the front antenna while the detector is in City or AutoCity mode. The numbers represent the amount of signal attenuation; 0 is no attenuation, 9 is maximum attenuation

City Level Rear Antenna

Default setting: X 4, K 2, Ka 0

Recommended setting: X 4, K 2, Ka 0

All setting options: 0-9 for each band

Description: This setting allows the user to individually control sensitivity on each radar band for the rear antenna while the detector is in City or AutoCity mode. The numbers represent the amount of signal attenuation; 0 is no attenuation, 9 is maximum attenuation.

Front X Band

Default setting: off

Recommended setting: on

All setting options: off, on

Description: X band for front antenna enabled or disabled

Front K Band

Default setting: on

Recommended setting: on

All setting options: off, on

Description: Front radar antenna enabled or disabled

Front Ka Band

Default setting: on

Recommended setting: on

All setting options: off, on

Description: Front radar antenna enabled or disabled

F TS Reject

Default setting: low

Recommended setting: high

All setting options: off, low, high

Description: Traffic sensor rejection filter will reduce false alerts from traffic sensors. There is zero to minimal range impact, and the recommended setting is high for US and Canada.

menu settings and features

F Ka

Default setting: wide

Recommended setting: wide

All setting options: off, wide, narrow

Description: Ka band scanning width for front antenna. Wide setting recommended since Ka band detection is critical.

F Ka Filter

Default setting: off

Recommended setting: high

All setting options: off, normal, high

Description: Ka band false alert filter level for the front antenna. Zero to minimal impact on range, recommended setting to high.

F Ka Pop

Default setting: off

Recommended setting: off

All setting options: off, on

Description: Enhances Ka band POP detection for front antenna at the expense of more false alerts. POP is old and rarely used, so the recommended setting is off.

F-Laser

Default setting: on

Recommended setting: on

All setting options: off, on

Description: Enables or disables laser detection for the front antenna

F-MRCT

Default setting: off

Recommended setting: off

All setting options: off, wide, narrow

Description: Enables or disables MRCT band radar detection for the front antenna. Not currently used in the USA or Canada.

F-MRCD

Default setting: off

Recommended setting: off in US, on in Canada

All setting options: off, wide, narrow

Description: Enables or disables MRCD band radar detection for the front antenna.

Gatso

Default setting: off

Recommended setting: off in USA, on in Canada

All setting options: off, on

Description: Enables or disables Gatso radar detection for the front antenna.

F-MR Filter

Default setting: off

Recommended setting: high

All setting options: off, low, high

Description: False alert filter level for MRCD, MRCT, and Gatso. Zero to minimal impact on range.

Jammer

Default setting: off

Recommended setting: on if jammer is present

All setting options: off, ALP, FF

Description: Tells the RC M if there is a laser jammer present. If the AL Priority is present, please select ALP.

Parking Assistance

Default setting: on

Recommended setting: user preference

All setting options: off, on

Description: If laser jammer is connected, it can also function as a parking aid that emits a tone when an obstruction is encountered.

menu settings and features

Laser Jamming Timer

Default setting: 7s

Recommended setting: 7s

All setting options: 1-9 seconds, unlimited

Description: Sets the time after the RC M will automatically disable the laser jammer after an active laser encounter. Gives the user time to slow down and allow a speed reading on the car without inconveniencing the user by hitting a "jammer kill" button.

Display Mode

Default setting: speed/compass

Recommended setting: user preference

All setting options: speed/time, speed, speed/compass, speed/voltage, voltage, time

Description: Controls what information is shown on the display during regular driving

Units

Default setting: English

Recommended setting: user preference

All setting options: English, metric

Description: Controls what units the RC M displays in.

Alerts

Default setting: bar

Recommended setting: user preference

All setting options: bar, frequency

Description: Controls whether alerts are displayed with a frequency readout or with a bar graphic.

Voice

Default setting: on

Recommended setting: on

All setting options: off, on

Description: Voice alerts on or off.

Beep First

Default setting: beep first

Recommended setting: beep first

All setting options: beep first, voice first

Description: When an alert is received, controls whether or not the RC M beeps first (followed by a voice alert), or alerts the user with voice first (followed by a beep).

Auto Mute

Default setting: on

Recommended setting: on

All setting options: off, on

Description: Automatically mutes the RC M after a certain period of time at full alert volume.

One Beep

Default setting: on

Recommended setting: user preference

All setting options: off, on

Description: False alert filter level for MRCD, MRCT, and Gatso. Zero to minimal impact on range, recommended setting is high.

Startup Sound

Default setting: on

Recommended setting: user preference

All setting options: off, off

Description: controls whether or not the RC M emits a startup tone upon power-on.

warranty

Two (2) Years Limited Warranty

RADENSO warrants, for two years, to the original retail owner, this RADENSO product to be free from defects in materials and craftsmanship with only the limitations or exclusions set out below.

WARRANTY DURATION: This warranty to the original user is valid for 24 months after the date of the original retail sale.

SCOPE OF WARRANTY:

From the date of original consumer purchase and for the respective periods specified above, RADENSO agrees to repair or replace, at its sole expense, all RADENSO brand products purchased directly from RADENSO or from an Authorized RADENSO Dealer, which are defective in material and/or workmanship during ordinary consumer use. Repairs may be completed using new or refurbished parts that meet or exceed RADENSO specifications for new parts. RADENSO, at its sole discretion, may replace a product, with a refurbished or reconditioned unit having comparable features and a limited consumer warranty.

EXCLUSIONS:

IF YOU PURCHASE A RADENSO PRODUCT FROM AN UNAUTHORIZED DEALER, YOUR RADENSO WARRANTY WILL NOT BE VALID.

This Warranty does **not** apply with respect to the following:

1. Defects or damage cause by accident, fire/smoke, flood/water damage, power surge (or related electrical abnormalities), lightning or other acts of nature.
2. Defects or damage caused by abuse, misuse, negligence, accident, unauthorized product modification or service, or failure to observe the instructions.
3. Deterioration/failure due to corrosive atmosphere, including but not limited to; smoke, high humidity, or extreme temperature.
4. Damage caused during shipment or handling.
5. Products purchased from anyone other than RADENSO or an Independent RADENSO Authorized Dealer. If you are uncertain as to whether a dealer is authorized, please contact RADENSO's Customer Service.
6. Products that have had their serial numbers altered or removed.
7. Products purchased in "AS IS" condition or noted as "DEMO", "DISPLAY", "OPEN BOX", or "CLEARANCE".
8. Products that have been altered or repaired by anyone other than RADENSO or a RADENSO authorized service station in a manner that has affected their performance, stability, or reliability.
9. Any product attached to or used with the RADENSO product.
10. Packing materials or cosmetic items.
11. Installation and removal of RADENSO

- products from the vehicle.
12. Maintenance, cleaning or periodic check-ups.

OBTAINING OF WARRANTY SERVICE:

If, after contacting Radenso Customer Service, you are certain that the product is defective, pack the product carefully (preferably in its original packaging) and include evidence of original purchase and a note describing the defect. The product should be shipped freight prepaid, by traceable means, or delivered, to warrantor at:

RADENSO,
1100 Sycamore St. Floor 1
Cincinnati OH 45241

1-888-RADENSO (1-888-723-3676) 9 a.m. to 5 p.m., Eastern Time, Monday through Friday

support and contact

Contact Information

Thank you for purchasing the most advanced radar and laser defense in the world. Here at Radenso, we take your support very seriously; if you need support in any capacity, please contact us immediately.

Address

noLimits Enterprises
1100 Sycamore Street
Floor 1
Cincinnati, OH 45202

Phone

1-888-RADENSO
(1-888-723-3676)

9AM-5PM EST, Monday - Friday

Email

support@nolimitsenterprises.com

We hope you enjoy your product for many years, and thank you again for your patronage.

Regards,

The Radenso Team