



Rocky Mountain™ **RADAR**

RMR-8RDS

Remote Radar and Laser Detector
Radar and Laser Scrambler

Owners Manual

INTRODUCTION

Dear Rocky Mountain Radar Owner,

Congratulations on your purchase of this sophisticated remote radar and laser detector with remote radar and laser scrambling. The Rocky Mountain Radar remote is a completely integrated modular radar and laser detector that responds not only to all the radar guns in use today, but also to the other latest development in speed monitoring devices – the laser guns. The RMR-8RDS scrambling modules are full featured radar and laser scramblers combining the highest technological advances in a remote modular package.

The RMR-8RDS provides distinct visual and voice alerts to warn you of the presence of X, K, and Ka Band radar guns towards the front and rear of the vehicle. This remote also provides the benefit of being undetectable to VG2 and VG3.

It incorporates a new safety feature Safety Alert (SA) and Safety Warning System (SWS). This safety feature warns you of the presence of potential emergency vehicles and road hazards by detecting signals from safety radar transmitting devices.

Federal and Local Regulations

This product has been designed and certified to comply with Part 15 of the FCC Rules. Any changes or modifications not expressly approved by Rocky Mountain Radar may void your authority to use this product. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Radar detectors are **not** legal in Washington D.C., Virginia or most provinces in Canada.

The Rocky Mountain Radar scramblers are **not** legal in Colorado, Utah, California, Nebraska, Oklahoma, Minnesota, Illinois (*unless the remote scramblers are unplugged*) and Virginia. The Rocky Mountain Radar detectors are **not** legal in commercial vehicles in most states. Use caution in these states.

Rocky Mountain Radar does not condone the use of excessive speed on the highways, nor does it endorse breaking the speed limit laws of the United States of America. Please drive safely when using this or any other electronic product in your vehicle.

COMPONENTS

Your RMR-8RDS remote consists of the following components:

- (1) Control module
 - (1) Velcro Tape for control module
- (1) Front Antenna for Radar and Laser detection
 - (1) Mounting Bracket for Front Antenna
 - (1) Dual Lock Tape for Front Antenna
 - (2) Special Screw for installation of the bracket with antenna
 - (10) Washer Screws for mounting the bracket
 - (10) Cable Tie
 - (1) Coiled 12V DC Power cord
- (2) Scrambler modules with Laser detection (identical)
 - (2) Dual Lock Tape for scrambler modules
- (1) Owners Manual
- (1) Ticket Registration Booklet

Before installation do a preliminary layout of the modules and cables for proper fit and length of cables.

INSTALLATION

Complete, sign, and mail Ticket Rebate Registration card.

NOTE: It is very important that the power on the Control Panel is not on while you plug and unplug the modules.

Front Antenna

It is very important that the front antenna is mounted properly. Determine the best location for the front antenna. The optimal location for mounting the front antenna depends on the

vehicle's type. In most vehicles the best mounting location is directly behind the grill through the slot openings. It should have a clear view of the road ahead. Other locations that provide concealment and/or protection of the antenna may be acceptable.

Using the supplied mounting bracket, mark location and drill pilot holes in the vehicle if necessary.

Fit the mounting bracket using the washer screws.

Verify the lens of the front antenna has a clear view of the road ahead.

You can use the included Dual Lock tape to attach the mounting bracket. Thoroughly clean any surface before the tape is applied.

Front Scrambler

It is very important that the scrambler is mounted properly. The scrambler scrambles the radar and laser signals received from the front and detect laser signals.

Determine the best location for the scrambler. For optimum performance, install the scrambler on either side of the front license plate on the bumper or in the front grill area.

Using the built in mounting bracket, mark location and drill pilot holes in the vehicle if necessary.

NOTE:

DO NOT drill holes in the front antenna or scrambler modules.

Thoroughly investigate the location before drilling any holes.

Keep all cables away from moving parts and hot surfaces (Radiator, hoses, engine, etc.)

Make certain that the modules are level and have a clear view of the road ahead.

Rear Scrambler

The rear scrambler detects and scrambles the laser signals received from the rear and scrambles all radar.

Determine the best location for the rear scrambler. For optimum performance, install the rear scrambler on either side of the rear license plate or above third brake light on the rear deck.

Control Module

Determine the best location for the control module in the vehicles interior.

Install the control module using the supplied Velcro tape.

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NOTE: It is very important that the power on the Control Panel is not on while you plug and unplug the modules.

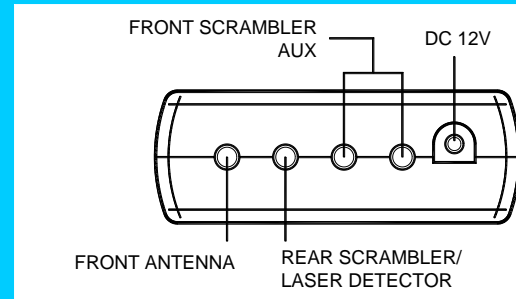
Route cable and plug into jack.

The front antenna cable plugs into the front jack on the Control module.

The scrambler cable from the front plugs into “AUX” jack on the Control module.

The scrambler from the rear goes into the rear jack on the Control module.

NOTE: Verify the Control module is clearly visible from the drivers position and that the controls can be easily accessed without interfering with normal driving.



NOTE: It is very important that the power on the Control Panel is not on while you plug and unplug the modules.

Front Antenna Cable

Route front antenna cable and secure with supplied cable ties.

Detour the cable away from moving parts and hot surfaces (Radiator, hoses, engine, etc.) and fasten secure with the supplied cable ties.

Route the cable into the vehicle's interior.

Pull the cable through firewall and plug into jack marked "Front" of the Control module.

Front Scrambler Cable

Route scrambler cable from the front and secure with supplied cable ties.

Detour the cable away from moving parts and hot surfaces (Radiator, hoses, engine, etc.) and fasten secure with the supplied cable ties.

Route the cable into the vehicle's interior.

Pull the cable through firewall and plug into jack marked "AUX" of the Control module.

NOTE: Keep the scrambler cable away from any areas in the engine compartment that may become very hot. Cable ties are provided to secure the scrambler cable at various points in the engine compartment.

Rear Scrambler Cable

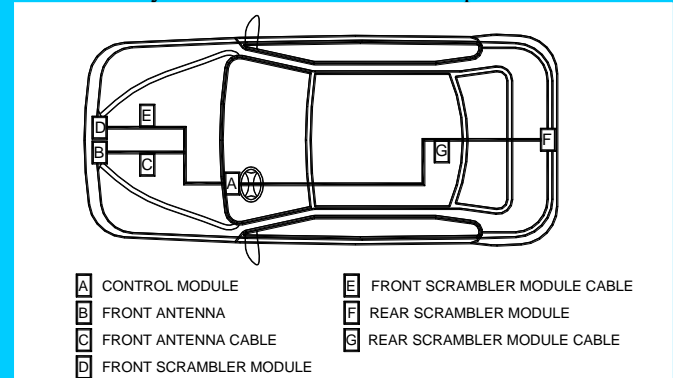
Route scrambler cable from the rear through trunk compartment and secure with supplied cable ties.

Route the cable into the vehicle's interior.

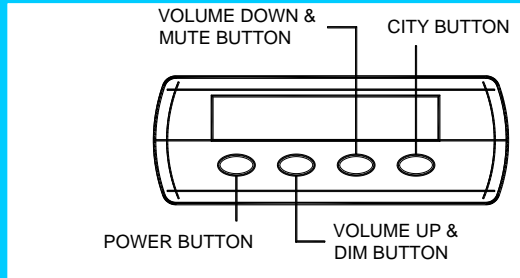
Pull the cable through and plug into jack marked "Rear" on the Control module.

Test

After all components are installed correctly, turn the Control module on by pressing the power button. The Self-Test mode will run every time the Control module is powered on.



OPERATION



Power Button

Press the power button to turn the remote on. The remote goes through a self-test sequence and returns to the previous settings in memory.

Volume Level Adjustment

Press Volume up button (V/U) to increase volume level.

Press Volume down button (V/D) to decrease volume level.

NOTE: Press the V/U (DIM) or V/D (MUTE) buttons for less than two seconds each time to adjust the volume level. Press and hold the V/U (DIM) and V/D (MUTE) buttons for more than two seconds each time to engage DIM and MUTE functions.

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Display Brightness Control

There are four levels of brightness for the display.

Hold down DIM button for two seconds. Each time you hold down the DIM button for two seconds the display brightness will change (Dim, Dimmer, Dark and Bright).

NOTE: The remote cannot activate Mute and Dark at the same time. If the MUTE is engaged the Dark cannot be activated and vice versa.

Mute Button

Hold down MUTE button for two seconds. This will silence the tone sound.

Hold down MUTE button for two seconds to engage the Auto Mute feature. The voice “Mute Two On” will alert you that Auto Mute has been engaged.

In Auto Mute mode, the remote will announce the radar bands then beep four times before going silent. It will remain silent for two minutes or until detects a new radar band(s). The remote will repeat this cycle in Auto Mute mode.

Hold down the MUTE button for two seconds to restore tone sound.

City and Highway Mode

City mode has two steps designed to reduce false alarms while you are driving in or near urban areas where there are many sources for conflicting “X” band signals such as microwave towers and automatic door openers.

Press the City button to engage “City 1” mode.

In “City 1” mode X band will be turned off without affecting K/Ka sensitivity.

Press the City button a second time to engage “City 2” mode.

In “City 2” mode X band will remain off and K/Ka sensitivity will be reduced by 50%.

Press the City button a third time to engage “Highway” mode.

Select Tone

Press and hold the Power and City buttons simultaneously the remote will change tone sound.

Language Selection (English and Spanish)

Factory default is “English”.

Press the Power and Dim (Volume up) buttons simultaneously to select either English or Spanish for your voice alert system.

Voice Selection

Factory default is “Voice On” mode.

Hold down the Power button for two seconds to select “Voice On” or “Voice Off” mode.

When you drive with “Voice Off” mode you will not be alerted by voice.

VG2 Selection

Factory default is “VG2 On”.

Hold down the City button for two seconds the remote will disengage the VG2 feature.

Press the City button a second time for two seconds the remote will engage the VG2 feature.

Tutorial Mode

The RMR-8RDS has a tutorial mode intended to familiarize you with the various visual display and distinct audible alerts this unit performs.

Press the Power and Mute (Volume down) buttons simultaneously to engage the tutorial mode.

Press any button to exit the All LED’s On status. That ends the tutorial mode.

Feature Memory

The memory will automatically remember your settings when the unit is turned off or removed from the power cord. All features selected are retained in memory.

Bright, Dim, Dimmer, Dark
Audio Tone
Mute On, Mute 2 On, Mute Off
Voice On, Voice Off
English, Spanish
VG2 On, VG2 Off
Volume level
City 1, City 2, Highway

Indicator and Visual

Power On: "P" LED turns on.

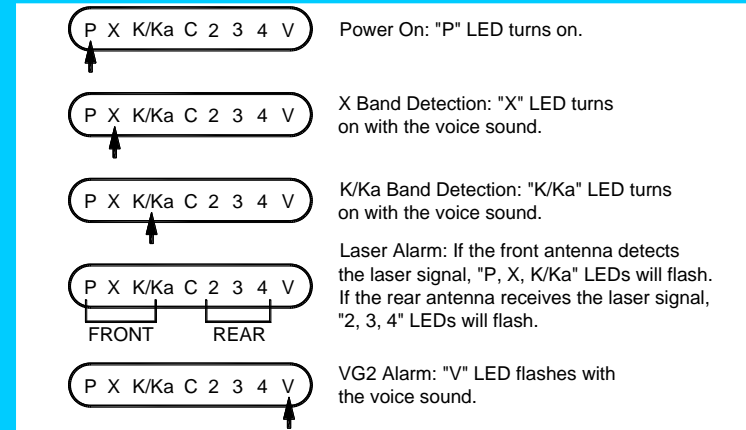
X Band detection: "X" LED turns on with voice sound.

K/Ka Band detection: "K/Ka" LED turns on with voice sound.

Laser Alarm: If the front antenna detects the laser signal, the "P, X, K/Ka" LED's will flash. If the rear scrambler detects the laser signal, the "2, 3, 4" LED's will flash.

VG2 Alarm: "V" LED flashes with voice sound.

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CARE AND MAINTENANCE

Your RMR-8RDS remote is an example of superior design and craftsmanship. The following suggestions will help you care for your remote so you can enjoy it for years.

Never leave your Control Module on the dashboard when your vehicle is left parked for an extended period of time. The temperature in the vehicle during the summer can reach levels above what is considered safe for the Control Module.

To make you less susceptible to break ins and theft, do not leave the Control Module in a visible location when leaving your vehicle unattended.

Try to avoid road splash or other liquids that can damage the internal components and reduce the performance of the detector. Periodically check and wipe off any dirt from the front antenna and scrambler modules. Use a soft cloth to avoid scratching the lens.

TROUBLESHOOTING

If the Control Module does not turn on:

Check the power cord. Be sure all power connectors are properly installed and pushed in all the way.

Check the fuse in the power cord that goes to the cigarette lighter socket.

The cigarette lighter socket may be dirty. Clean it with a soft cloth to ensure a good clean connection.

There may be a problem with the vehicle's electrical system.

Be sure to fully press the Power button.

CAUTION: Do not place any metal objects other than the cigarette lighter or a cigarette lighter plug in the cigarette lighter socket. Doing so could blow a fuse in your vehicle or cause the metal object to become very hot.

If the remote gives false alerts when the vehicle hits bumps: Check the vehicle's electrical system including main battery cable and alternator connections.

Install a filter capacitor (470uf, 35 volts) on the back of the cigarette lighter socket across the power connection.

Verify that the front antenna and scrambler modules are not obstructed.

Relocate the front antenna and both scrambler modules to a clear view of the road.

Verify the cables are correctly connected to the Control Module.

FUSE REPLACEMENT

The lighter socket adapter of the power cord has a replacement 2 amp SAG fuse located below the silver tip. To check or replace the fuse, slowly and carefully unscrew the tip of the plug. Make sure the spring and silver tip located inside the plug do not fly out when you remove the cap. Check fuse and replace if necessary.

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SPECIFICATIONS

RADAR Detector

Receiver Type: Dual conversion Superheterodyne

Antenna Type: Linear polarized Self Contained Antenna
Detector Type: Scanning Frequency Discriminator
Frequency of Operation: 10.525 GHz (X Band)
24.125 GHz (K Band)
34.700 GHz (Ka Band)

RADAR Scrambler

Frequency of Operation: 8.0-38.2 GHz
Antenna Type: Dual Ridge Cast Waveguide
Mixer Type: Custom MM wave Schottky
Doppler: FM Chirp 500-9000 Hz

LASER Detector

Receiver Type: Pulsed Laser Signal Receiver
Detector Type: Digital Signal Processor Pulse Width
Discriminator
Opto Sensor: Dual Convex Condenser Lens and High Speed
Photo Diode Detector
Spectral Response: 800-1,100nm

LIDAR Scrambler

Full laser coverage using asynchronous pulse position
modulation to confuse the lidar computer.
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GENERAL

Temperature Range: -4 to 158°F (-20 to 70°C)
Power Requirements: 12~15V DC, 80mA nominal (Negative
Ground)

Specifications are subject to change without notice.

WARRANTY

The RMR-8RDS is guaranteed against defects in workmanship and materials for 12 months from the date of purchase. Should any malfunction occur, the unit would be repaired or replaced by the factory at no charge. You may have your unit checked free of charge at the factory during this warranty period.

Returns should be sent freight prepaid with an explanation of the problem, your physical address (no PO Boxes), proof of purchase, and **telephone number**.

Send to:

ROCKY MOUNTAIN RADAR

6469 Doniphan Drive
El Paso, TX 79932
Phone: 915-587-0307 Fax: 915-587-6408

How does it work?

The Rocky Mountain Radar scramblers are full-featured radar and laser scramblers combining active laser and passive radar scrambling capabilities.

The radar scrambling circuit mixes a Doppler FM chirp with the incoming police radar signal and reflects it back to the radar gun. The computer in the radar gun must receive eight identical, consecutive readings before it will display your speed. All the different speeds contained in the FM chirp confuse the computer in the radar gun so it does not display any speed. This effect duplicates the normal operation that the officer usually sees.

Since it is normal to occasionally lose the target speed, the officer is not suspicious. Reasonable care should be used as flagrant violators could still be caught with an estimated speed.

The laser scrambling circuit transmits a series of pulses at the same wavelength used by the police laser guns (Lidar), which are electronically timed at about 100 feet apart. When the pulses pass through the windshield they will lose up to 50% of their power. The power output is four to eight times that needed to trigger the detector in the laser gun.

Lidar sends out laser pulses and measures how long it takes to hit your car and come back. From the speed of light it can determine your *range*. It sends out several more pulses and calculates your speed from the change in distance over time. The Rocky Mountain Radar scramblers only allow the Lidar to see up to 100 feet so it is unable to calculate your speed.

SCRAMBLER OPERATION:

Drive normally. When the detector sounds an alert, take your foot off the gas, check your speed, adjust if necessary, and resume driving. Do not apply brakes unless you are grossly exceeding the speed limit. The scrambler will disable the radar long enough for you to adjust speed safely, if necessary.

Rocky Mountain Radar does not condone the use of excessive speed on the highways, nor does it endorse breaking the speed limit laws of the United States of America. Please drive safely when using this or any other electronic product in your car.

IS IT LEGAL?

The Rocky Mountain Radar scramblers conform to all FCC rules and regulations. Part 15 of the FCC code regulates consumer products that may leak or transmit radio frequency energy into the atmosphere. Since the scramblers are not transmitters, these sections do not apply.

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The radar scrambler is a *reflective receiver* and has no emissions. It **does not transmit**, but uses the police radar gun's own signal as a carrier of its information.

The laser scrambler transmits a series of light pulses. There are no laws regarding the transmission of invisible light.

Frequently Asked Questions

The Rocky Mountain Radar model RMR-8RDS detector/scrambler is designed to give you radar and laser detecting and scrambling from the front and rear of the car.

Can I test it with roadside trailer radars?

The trailers you see on the side of the road, that show your speed, are not legal to use to write tickets. They do not contain the sophisticated sampling computers that are in police radar guns. Since our units confuse the computer and there is none, they will not work reliably against the trailers.

Can the police detect it?

The radar and laser scramblers do not have RF emissions and cannot be detected.

What states are they legal in?

The Rocky Mountain Radar scramblers are **not** legal in Colorado, Utah, California, Nebraska, Oklahoma, Minnesota, Illinois (*unless the scramblers are unplugged*) and Virginia. The Rocky Mountain Radar detectors are **not** legal in commercial vehicles in most states. Use caution in these states.

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What is Punch-Through?

The signal reflected by the car gets stronger the closer the target is to the radar gun. The Rocky Mountain Radar scrambler uses the radar signal as a carrier and reflects it through a high-gain antenna. It will work only as long as the scrambling signal is greater than the signal from the target. Punch-through is when these signals are equal or within 50-200 feet.

What is the effective range?

The radar scrambler works at four to six times the range of the radar gun. The laser scrambler is effective at more than two times the Lidar range.

Important information:

When driving in states that ban scramblers – unplug the front and rear scramblers. Detectors are legal in all states except Virginia and Washington D.C. With the scrambler off, this unit is only a detector.

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