RAD 490i

Owner's Manual



Connected Radar & Laser Detector

Extreme Mode

USB-C Connectivity

Adhesive Mount

Bluetooth Connectivity

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INTRODUCTION

Congratulations on your purchase of your Cobra radar/laser detector!

This booklet describes the simple steps for mounting and setting up your detector. It also provides helpful information about how radar and laser guns are used and how you can interpret the alerts you receive.

RAD 490i FEATURES

Your new Cobra RAD 490i includes a variety of useful and sophisticated features and capabilities:

Radar/Laser Protection - Detects all radar and laser guns

3rd Generation IVT Filter™ - User updatable system automatically reduces false alerts from moving In-Vehicle Technology sources such as collision avoidance systems and adaptive cruise control, automatic door openers, and traffic flow monitoring systems

Drive Smarter® - Wirelessly connects to the Cobra Drive Smarter® app to access shared radar and laser alerts, red light cameras, speed cameras, and live police activity

LaserEye® - Detects laser signals from both front and rear

White OLED Display - Bright display with band identification icons and numeric signal strength meter

VoiceAlert - Digital voice announcements keep your eyes on the road

Dual Language - English and Spanish voice and text alerts

QuietDrive - A muted driving mode for times when a driver wants less audible feedback while talking with passengers, on the phone, etc

Sensitivity Modes - Multiple sensitivity modes to reduce false alerts

Auto Mute - Automatically mutes audio for sustained alerts

User Updates - USB-C port allows users to access future software updates

PRODUCT SERVICE AND SUPPORT

For any questions about operating or installing this new Cobra product, PLEASE CONTACT COBRA FIRST…do not return this product to the retail store. The contact information for Cobra will vary depending on the country in which you purchased and utilize the product. For the latest contact information, please go to www.cobra.com/support or call 1-800-543-1608.

If your product should require factory service, please go to www.cobra.com/support and follow the instructions for returning your product to the Cobra Factory Service Department.

YOUR DEVICE

WHAT'S IN THE BOX

- RAD 490i radar/laser detector
- USB type C power cord with optional 12V Cigarette Lighter Adapter
- Adhesive windshield mount with electrostatic temporary film

OPTIONAL ACCESSORIES – available at www.cobra.com

CONTROLS AND CONNECTIONS

Release Button
Windshield bracket quick release

LaserEye® Module
For detection of laser signals

SEN Button
Toggles sensitivity modes

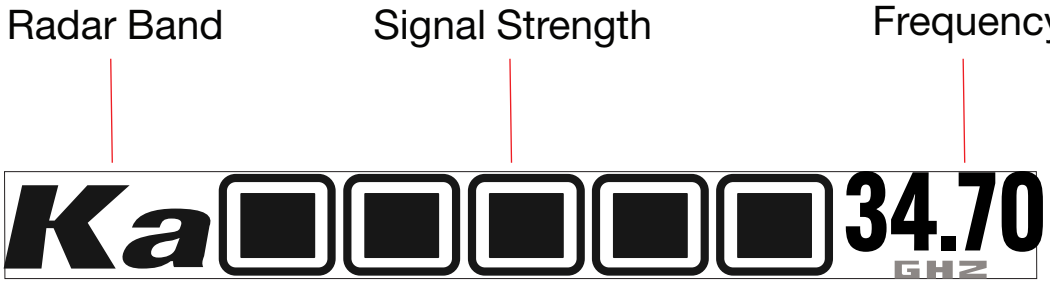


On/Off Volume Control
Power and alert volume control dial

Dim Button
Adjusts display brightness

Mute Button
Select either manual or auto mute to silence alerts

Intuitive Display



INSTALLATION

WHERE TO MOUNT YOUR DETECTOR

For optimum performance, mount your radar detector close to the center of your vehicle, keeping its position as low as possible on the front windshield. Ensure you retain line-of-sight of the road both front and rear.

The detector's lens must not be blocked and the LaserEye module should have a clear view out the back window to allow maximum detection.

Radar and laser signals pass through glass but not through other materials and objects. Objects that can block or weaken incoming signals include:

- Windshield wiper blades
- Mirrored sunscreens
- Dark tint at the top of the windshield
- Heated windshields on some vehicles (Instaclear for Ford, Electriclear for GM). Consult your dealer to see if you have this option.

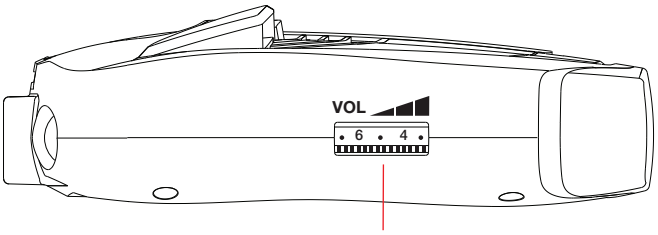
WINDSHIELD MOUNTING

1. Make sure your windshield is clean
2. Attach electrostatic film to the windshield
3. Remove backing from adhesive film on mount and apply to electrostatic film on windshield. Please make sure the mount is level
4. Attach radar detector to the bracket
5. To ensure the unit is parallel to the road's surface, turn the knob on the mount to loosen and adjust
6. Plug the USB-C power cord into the detector and the other end into your vehicle's USB-C power port or cigarette lighter power socket (using the supplied adapter)

BASIC OPERATION

POWER & VOLUME ADJUSTMENT

To turn on the unit and adjust the audio volume, rotate the On-Off/ Volume control clockwise (away from you).



Volume Up/Down/Power

NOTE: In some vehicles, power is supplied to the cigarette lighter even while the ignition is Off. If this is the case with your vehicle, you should unplug or turn the detector to “Off” when parked for long periods of time.

SENSITIVITY MODES

Setting your detector to Low or Medium sensitivity delays the audio alerts for weak X band and K band signals until they become stronger. (A single beep will sound when the signal is first detected.) Also, additional filtering is done to reduce false alerts while you are driving in, or near, urban areas where there are many sources for conflicting X and K band signals such as microwave towers and automatic door openers. To change the sensitivity mode, press the SEN button

Display	Setting	Description
	High	No filtering for maximum sensitivity
	Medium	Minimal filtering to reduce unwanted alerts
	Low	Maximum filtering to reduce unwanted alerts
	Auto*	When connected to Drive Smarter, Auto sensitivity will automatically adjust the sensitivity level based upon your speed
	Extreme	No filtering for maximum sensitivity and fastest response time for quick trigger

* Drive Smarter®-based features require connection to a smartphone running the Cobra Drive Smarter® app

ANTI-FALSING CIRCUITRY

Your RAD 490i is designed to provide you the truest alerts and minimize the distraction of erroneous signals from radar-based fixed-position and moving sources.

• Adjustable Sensitivity: allows driver to adjust sensitivity to driving environment, reducing false alarms from fixed position sources such as automatic door openers. When using Drive Smarter, Auto mode automatically adjusts sensitivity based on vehicle speed.

• 3rd generation IVT Filter: automatically reduces false alerts for a quieter, more confident ride.

MUTE

Manual Mute

Allows you to quickly turn OFF an audio alert by momentarily pressing the MUTE button. If you press the MUTE button a second time during the alert, the audio alert will be turned back ON. When an alert is being muted, the audio icon on the display will change to 

Quiet Drive

A muted driving mode for times when a driver wants less audible feedback while talking with passengers, on the phone, etc. Only the first few seconds of audio will be heard. This mode is Off by default.

This mode can be changed in the User Settings menu or by pressing and holding the MUTE button for two seconds. When Quiet Drive is on the audio icon on the display will change to 

AUTO MUTE

Auto Mute will automatically reduce the audio volume of all alerts after four seconds for as long as the signal is detected. The factory setting for Auto Mute is On.

DISPLAY BRIGHTNESS

You can choose between four brightness settings by repeatedly pushing the DIM button.

MENU

The Menu is broken up into **User** and **Alert** settings.

USER SETTINGS

To change the User settings, enter the Menu by pressing the MENU button. A voice announces "Menu" and the display will change to



Press the DIM button to enter the User settings menu.

Press the MARK and MENU buttons to switch between User settings.

Press the DIM or SEN buttons to change the selected User setting's value.

User Setting	Value
Detail	More*/Less
Quiet Drive	Off*/On
Auto Mute	Off/On*
Voice	Off/On*
Language	English*/Spanish
Screen Saver	Off / 1 Minute* / 3 Minute
System Info	Press the SEN button to display system information
Restore Defaults	Press the SEN button to restore factory default settings then press SEN button again to confirm (not displayed until a setting has changed)
Exit Menu	Press the MENU button to exit the Menu

*= Factory default setting

Detail

Select between detail modes to see more or less information regarding radar band, signal strength, and frequency, to user preference.

Auto Mute

Automatically reduces the audio volume of alerts after four seconds for as long as the signal is detected.

Language

Can be set to either English or Spanish for all text and voice audio.

Screen Saver
Your detector has a screen saver mode. When screen saver is turned on, the screen will change to Dark after the selected time interval (factory default is 3 minutes). While the screen is Dark, the scanner will be displayed dimly.
NOTE: While SCREEN SAVER is activated, any alert will turn the display back on at the last brightness setting (Bright, Dim or Dimmer). Touching any button will also turn on the display.

Smart Power
Your detector includes the Smart Power feature that, when turned On, will put the unit into Low Power mode 15 minutes after the car's engine has been turned Off.
Before Smart Power enters Low Power mode, you will hear three beeps and Smart Power will flash on the display. To return the unit to Normal Power mode and exit Low Power mode, start the car, press any button or turn the unit Off and then On again.

System Info
Displays information about the versions of firmware that are installed on your detector.

Restore Defaults
To return your detector to factory default settings, press the SEN Button. Press the SEN Button again to confirm that you want to restore factory settings.

Exit Menu
Pressing the MENU button exits the Menu.

ALERT SETTINGS

To change the Alert settings, enter the Menu by pressing the MENU button. A voice announces "Menu" and the display will change to



Press the SEN button to enter the Alert settings menu.
Press the MARK and MENU buttons to switch between Alert settings.
Press the DIM or SEN buttons to change the selected Alert setting's value.

Alert Setting	Value
X Band	Off/On*
K Band	Off/On*
K LOW Band	Off*/On
Ka Band	Off/On*
Laser	Off/On*
Exit Menu	Press the MENU button to exit the Menu

DETECTION

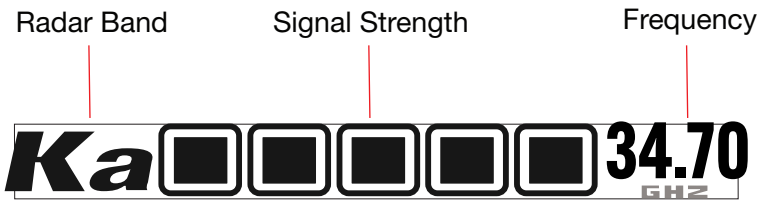
AUDIO ALERTS

A distinctly different tone is used for each type of signal detected (including separate tones for each laser signal). For X, K and Ka band radar signals, the tones will repeat faster as you approach the signal source. The repeat rate of the tones gives you useful information about the signal detected.

RADAR ALERTS

More Detail

In **More** Detail mode the radar band, signal strength and frequency of the detected radar signal will be displayed.



Less Detail

If you are a new user of radar detectors, you may want to use the **Less** Detail mode. In this mode the display will only show one, two, or three bars which indicate how likely the alert is to be a police radar or laser gun. This threat level indication takes into account the laser or radar band, strength, and frequency of the detected signal.

Level	Display	Threat
1	LOW	Low
2	MED	Medium
3	HIGH	High

LASER ALERTS

With Laser signals you will always receive a full-strength alert.
In **More** Detail mode the word Laser will be shown on the display along with the pulse rate of the Laser signal.
In **Less** Detail mode three signal strength bars will be shown.

INSTANT-ON DETECTION

Your detector is designed to detect Instant-On speed monitoring signals, which can suddenly appear at full strength.

NOTE: When your radar detector alerts you to an Instant-On radar threat, you should take appropriate action immediately.

RESPONDING TO ALERTS

Description	Interpretation	Recommended Response
Tone repeats slowly at first, then speeds up rapidly	Possible police radar threat	FULL ALERT
Tone sounds one time only	Probably a false alarm, but possibly pulsed radar or VG-2 nearby	Exercise caution
Tone instantly begins repeating rapidly	Police Radar has been activated nearby	FULL ALERT
Tone repeats slowly as you approach a hill or bridge, then speeds up sharply as you reach it	Police potentially located beyond the environmental obstruction	FULL ALERT
Tone repeats slowly for a short period	Potential false alarm	Exercise caution
Any type of laser alert	Police laser enforcement likely ahead. Laser is line of sight. False alerts can happen in rare circumstances.	FULL ALERT

UNDERSTANDING RADAR AND LASER

RADAR SPEED MONITORING SYSTEMS

Three band frequencies have been approved by the Federal Communications Commission (FCC) for use by speed monitoring radar equipment:

X band	10.525 GHz
K band	24.150 GHz
Ka band	33.400-36.00 GHz

LIDAR (LASER)

The correct name for the technology that most people refer to as laser is actually LIDAR, which stands for Light Detection and Ranging. LIDAR operates much like radar. Its signal spreads out like a radar signal, though not as widely.

Unlike radar, LIDAR must have a clear line of sight to its target vehicle throughout the entire measurement interval. Obstructions such as signposts, utility poles, tree branches, etc., will prevent valid speed measurement.

Some common questions about LIDAR include:

Does weather have any effect on LIDAR?
Yes. Rain, snow, smoke, fog or airborne dust particles will reduce the effective range of LIDAR and can, if dense enough, prevent its operation.

Can LIDAR operate through glass?
Yes. Newer LIDAR guns can obtain readings through most types of glass. However, the laser pulse also can be received through glass to trigger an alarm by your detector.

Can LIDAR operate while in motion?
No. Because LIDAR operates by line of sight, the person using it cannot drive the vehicle, aim and operate the gun all at the same time.

Is it legal for police to use LIDAR?
Yes, LIDAR is allowed to be used in all 50 states by police. Your detector will alert you to these signals.

DRIVE SMARTER COMMUNITY ALERTS

The Drive Smarter feature in your radar detector goes beyond traditional radar and laser detection by utilizing crowdsourced, real-time data from connected radar detectors on the road. While standard detection can be limited by line of sight, obstructions, and even terrain, Drive Smarter gathers and shares threat information from a vast network of users, keeping you better informed about potential threats wherever you travel.

This exclusive system provides more up-to-date and comprehensive threat alerts than any other brand, without requiring you to manually report threats like other apps. By seamlessly integrating intelligence from connected detectors, Drive Smarter ensures you receive the most reliable and timely alerts—helping you stay protected and confident on every drive.

CONNECTING TO DRIVE SMARTER



1. **Power on RAD 490i - Make sure the unit is powered on.**
   Note: the first time RAD 490i is powered on, you will be prompted to select your time zone and daylight saving time

2. **Install and run the Cobra Drive Smarter® app on your smartphone**
   Note: the first time you run the app, you will be prompted to register a new account

3. In the Drive Smarter® app, press the Menu button then select "Devices"

4. Select "**RAD 490i**" from the list

5. In the Drive Smarter® app, the RAD 490i entry will display "Connected" when it has paired Press the “Menu” button then “Home” to return to the Map screen.

6. **You’re all set!**

Download on the App Store

ANDROID APP ON Google play

Drive Smarter® ALERTS

While connected to the Drive Smarter® app, Drive Smarter® based alerts are displayed on the detector. The distance will count down as you approach the alert.

Only Drive Smarter® Alert



Far Away | Getting Closer | Close

If both radar and Drive Smarter® alerts happen at the same time, both will be displayed side by side.

Drive Smarter® and Radar Alert



The alert types are:


Photo Enforced


Red Light Camera


Speed Camera


Speed Trap


Caution Area

USING THE MARK BUTTON

You can report alerts to the Drive Smarter Community when you see an active police speed enforcement by pressing the MARK button and holding for 2 seconds.

MAINTENANCE

Your detector is designed and built to give you years of trouble-free performance without the need for service. No routine Maintenance is required.

If your unit does not appear to be operating properly, please follow these troubleshooting steps:

- Make sure the power cord is properly seated in the detector
- Visually check all connection points, cable, and vehicle ports for corrosion
- Check the connection of the power cord to the USB-C port or cigarette lighter adapter
- Confirm that the cigarette lighter adapter is properly seated in the connection port (if applicable)

SPECIFICATIONS

BANDS AND FREQUENCIES

Band	Frequencies
X Band	10.525 ± 0.050 GHz
K Band	24.125 ± 0.125 GHz
Ka Band	34.700 ± 1.300 GHz

WARNING

Modifications or parts substitutions not approved by Cobra Electronics Corporation may violate FCC Rules and void your authority to operate this equipment.

U.S. Patent Number: 6,078,279

WARRANTY

LIMITED 1-YEAR WARRANTY

Cobra warrants your product against all defects in materials and workmanship for a period of one (1) year from the date of original purchase.

Cobra, at our sole discretion, will repair or replace your product (with the same or comparable product) free of charge.

Cobra will not pay shipping charges that you incur for sending your product to us. Products received COD will be refused.

To make a warranty claim, we will require proof or purchase in the form of an invoice or receipt. No proof of purchase is required for factory direct purchases.

Warranty Exclusions: Warranty does not apply to your product under any of the following conditions: **1.** The serial number has been removed or modified. **2.** Your product has been subjected to misuse or damage (including water damage, physical abuse, and/or improper installation). **3.** Your product has been modified in any way. **4.** Your receipt or proof-of-purchase is from a non-authorized dealer or internet auction site including E-bay, U-bid, or other non-authorized resellers.

LIMITATION OF WARRANTY: EXCEPT AS EXPRESSLY PROVIDED HEREIN, YOU ARE ACQUIRING THE PRODUCT "AS IS" AND "WHERE IS", WITHOUT REPRESENTATION OR WARRANTY. COBRA SPECIFICALLY DISCLAIMS ANY REPRESENTATION OR WARRANTY INCLUDING, BUT NOT LIMITED TO THOSE CONCERNING THE MERCHANTABILITY AND SUITABILITY OF THE PRODUCT FOR A PARTICULAR PURPOSE. COBRA SHALL NOT BE LIABLE FOR CONSEQUENTIAL, SPECIAL OR INCIDENTAL DAMAGES INCLUDING, WITHOUT LIMITATION, DAMAGES ARISING OUT OF THE USE, MISUSE OR MOUNTING OF THE PRODUCT.

The above limitations or exclusions shall be limited to the extent they violate the laws of any particular state. Cobra is not responsible for products lost in shipment between the owner and our service center.

General Warranty Information
Each product we manufacture is covered by our factory warranty. While each product may have unique components, the general guideline below will apply to most Cobra products.

All Cobra products purchased factory-direct or from our Authorized Resellers will come with a full one to three (1-3) year warranty from the date of the original retail purchase (see policy statement above for full warranty details and exclusions).

Standard accessories packaged with each model will have a one-year factory warranty.

Accessory items have a one-year factory warranty.

Shipping to our facility is not covered in our warranty. Return shipping is included within the US.

This warranty is non-transferrable.

For the sake of clarity, 'repair or replace the Product or its defective part' does not include removal or installation work, costs or expenses which include but are not limited to labor costs or expenses.

Cobra will not be responsible for lost packages.

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CAUTION: Modifications or parts not approved by Cobra Electronics Corporation may violate FCC Rules and void authority to operate this equipment. This device complies with RSS-310 of Industry Canada. Operation is subject to the condition that this device does not cause harmful interference.

FCC STATEMENT

FCC STATEMENT

FCC Part 15.19 Warning Statement- (Required for all Part 15 devices)
This device complies with part 15 of FCC rules: 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.

FCC Part 15.21 Warning Statement-
Note: The Grantee is not responsible for any changes or modifications not expressly approved by the party responsible for compliance. Such modifications could void the user's authority to operate the equipment.

FCC Part 15.105(b) Warning Statement- (ONLY Required for 15.109-JBP devices)
WARNING: This device should be installed and operated with minimum 20 cm between the radiator and your body.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device , pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
This device should be installed and operated with minimum 20 cm between the radiator and your body.