9100.MANUAL 8/9/00 12:12 PM Page



How to Use Your Cobra ESD Radar/Laser Detector

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Features of This Product

 Safety Alert® Traffic Warning System
 Strobe Alert[™]

 Separate Visual and Audio Alarms

• Laser Eye 360° Detection

• VG-2 Undetectable

Auto and Manual Muting

• 3 Level Dim Button

• Superior Audio Volume

 Adjustable Windshield Mounting Bracket

Installation

Location

Location

2

Selecting the proper location to mount the Cobra ESD-9100 is very important for optimum performance. Both radar and laser transmissions pass through glass but not through other objects. For this reason the Cobra ESD-9100 lenses must not be blocked. It should have a view of the rear window to take advantage of Laser Eye 360° detection. It is best to locate your detector as low on the front windshield as possible.

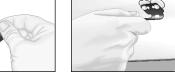
Examples of metal in the windshield area that can block or weaken incoming radar/laser signals:

1. Windshield wiper blades.

2. Mirrored sun screens.

- 3. Regular tinted glass does not affect radar reception, although the darker tint at the top of the tinted windshield prevents laser light from penetrating.
- 4. Heated windshields, currently available as an option for some Ford® (Instaclear) and GM® (Electriclear vehicles act as an impenetrable barrier to radar signals). If in doubt, check with your dealer to see if this applies to your vehicle.

Windshield Mounting



 Attach cups to bracket.



 Attach detector to bracket.

correct detection angle (if needed). Do not use the ESD-9100 to bend bracket.

Bend bracket for

2 Attach bracket to

windshield.



S Plug power cord into detector.S Plug power cord into detector.

 Plug power cord into cigarette lighter.

3

Installation

Windshield Mounting

Installation

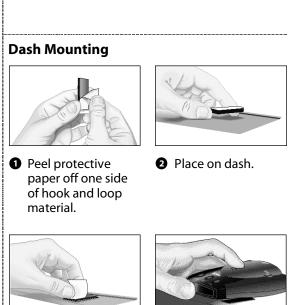
Dash Mounting

Note

It will be easy for you to remove and reinstall your Cobra ESD-9100 detector at any time using this hook and loop material on the dashboard.

Remember: Without the means to adjust the angle of the detector (when mounted as above), be sure you that your Cobra ESD-9100 has a level,clear view of the road before you attach the hook and loop material.

4



Peel top paper off.

Place detector on hook and loop pad.



Plug power cord into detector.Plug power cord into cigarette lighter.



Rotate ON-OFF Volume Control to left (away from you). An audible "tone" will indicate the unit is on. DPWR LED on front of unit is illuminated.

Quick Start

Turn On and Adjust Volume

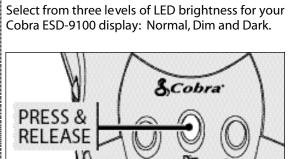
Quick Start

Set Display Brightness

LED Displays

Note

A three position Dim mode is provided for dusk or night driving (please see Dim Button,page 14 for details).



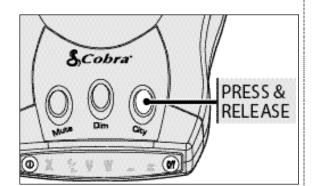
Set Display Brightness

Press and release O Dim button to select normal setting. Press and release O Dim button twice to select Dim setting. Press and release Dim button a third time to select Dark setting.

Set Highway/City Mode

City

For urban driving-reduces number of X-Band audible alerts.



• Press and release \bigcap_{m} CITY button.

(III CITY LED will illuminate orange while in City mode

Highway

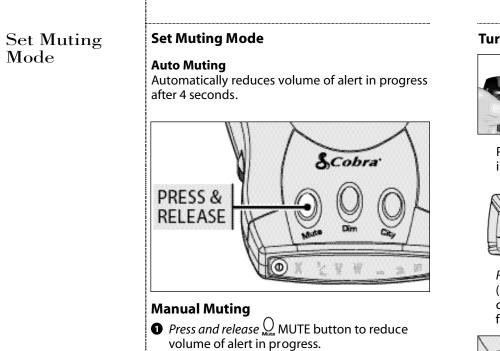
For all other driving.



Set Highway/ City Mode

7

Quick Start



To Switch Between Modes

Press and release Omega MUTE Button when no signal is being received.

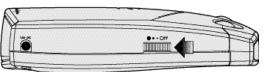
One "beep" = Mute Two "beep" = Auto Mute

8

Turning On Your ESD-9100



Plug power cord Plug power cord into cigarette lighter. into detector.



Rotate ON-OFF Volume Control to the left (away from you). An audible "tone" will indi-cate the unit is on and the **(1)** PWR LED on the front of the unit will illuminate orange.



Turning

Operation

9

On Your ESD-9100

Operation

Dim Button

Normal = "Beep-Beep"

The Normal (Bright) mode is

when the unit is powered up.

automatically engaged

Dim = "Beep"

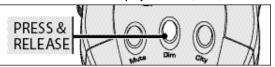
Dark = "Beep"

Note

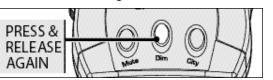
Note

Dim Button

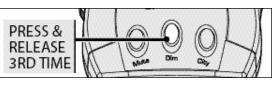
You may select from three levels of brightness for your Cobra ESD-9100 display: Normal, Dim, and Dark.



Press and release ODIM button to reduce the LED display brightness to Dim.A single beep confirms dim led brightness.



Press and release ODIM button again to turn LED display off. A single beep confirms no LED display. The power LED will stay on dim.

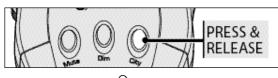


Press and release ODIM button a third time to return led display to Normal.A double beep confirms normal LED brightness.

Highway/City Mode

The Highway/City function is controlled by a 2-step button. The Highway mode is automatically engaged when the unit is powered up. In the City mode, false radar alerts will be reduced.

To engage City Mode:



• Press and release O CITY button and the III LED on the front of the unit will illuminate red. A single beep confirms City mode. The X LED will be visible showing you are receiving a signal.



To reactivate the Highway Mode:

Press and release OCITY button again. A double beep confirms Highway Mode.

Operation

Highway/City Mode

Note

Use City Mode in or near cities where there are many sources of false radar signals such as microwave relay towers and automatic door openers. This will filter out weak signals.

Note

City ="Beep" Highway ="Beep-Beep"





Operation

Detection

Muting Mode

Note

Muting Mode

The ESD-9100 offers two Mute Modes; Auto and Manual. To switch between these modes:

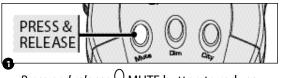
ep″

Mute="Beep" OR Auto Mute="Beep-Beep"



Press and release OMUTE button when no signal is being received. In Auto mode, the alarm will be reduced in volume after three seconds. AutoMute mode is automatically engaged when the unit is powered up.

Manual Mode



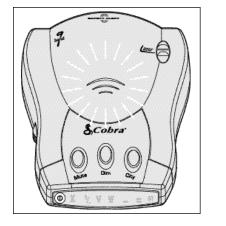
Press and release \bigcup_{Muts} MUTE button to reduce volume.

Band Detection

This detector is designed to detect X, K, Superwide Ka Band Radar, Laser (including LTI 20-20*, Ultra Lyte* and ProLaser* technologies), VG-2, Safety Alert and Strobe Alert* signals. *360° Detection

Audible Alarm Speaker

A different alert tone will sound for X, K, Ka,Laser (plus a distinctly different tone for each of the three laser signals: LTI 20-20, Ultra Lyte and ProLaser), VG-2, and Safety/Strobe Alert signals.



Begin Band Detection

Audible Alarm Speaker

13

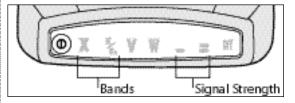
Detection

Detection

Radar

Radar

The display will show the band (X,K/Ka). The signal strength will first be indicated by the band being illuminated, then the band plus -, finally the band plus - and **z** will be illuminated. At the same time the frequency of the beeps will increase.



Instant-On Detection

The Cobra ESD-9100 is also designed to detect Instant-on speed monitoring signals. Immediate action is required when warning is given.

VG-2 Undetectable

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Note The display does not indicate signal strength.

VG-2 Alert

Th Cobra ESD 9100 is undetectable by police VG-2

detection devices. It will alert you when one is in use near your vehicle. During this time, the unit is still on full alert and able to detect other signals.



The **VG-2** LED on the front of the unit will illuminate yellow.

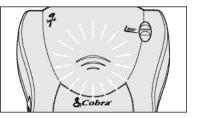
Safety Alert[®] Traffic Warning System and Strobe Alert™ Indicator "W" is illuminated.



Laser Indicator "W" is illuminated.



Laser will trigger 3 distinct audible signals;one each for LTI 20-20, Ultra Lyte and ProLaser.



Traffic Warning System and Strobe Alert[™]

Safety Alert[®]

Laser Detection with 360° Laser Eye

Note

The display does not indicate signal strength.

Detection

Radar/VG-2/ Laser Alerts

Radar/VG-2/Laser Alerts

Type of Audible Signal	Interpretation and Response
Your COBRA ESD-9100 starts to signal slowly, then increases in rate very rapidly.	Most likely police radar. FULL ALERT.
Your COBRA ESD-9100 signals just once.	Most likely a false sour ce, or could be pulsed radar. Exercise Caution .
Very fast signal rate instantly.	Radar or VG-2 close by has been suddenly switched on. FULL ALERT .
Slow signal rate as you approach hill or bridge. Sharp increase in signal rate as you reach hill or bridge.	Most likely police radar on other side of hill or bridge. FULL ALERT .
Short-term, weak signaling; series of such signals.	Most likely a false radar sour ce. Exercise Caution .
Laser will trigger 3 distinct audible signals;one each for LTI 20-20,Ultra Lyte and ProLaser.	Use Full Caution. There are no false laser signals.
Safety Alert and Strobe Alert have their own unique "European Emergency" signal.	An emergency vehicle is approaching, you are in the vicinity of a railroad crossing, or you are approaching a road hazard (construction site, acci- dent scene, etc.).

Facts About the Safety Alert® Traffic Warning System

FCC-approved Safety Alert Transmitters emit microwave radar signals to indicate the presence of a safety-related concern. Depending on the frequency of these signals, as set on the transmitter, the outgoing signal can indicate whether the transmitter is on a speeding emergency vehicle or train,or at a stationary road hazard location. These microwave signals are located in the K-band and as a result, any radar detector which detects K-band radar will detect these Safety signals as standard K-band radar alerts. However, unlike a standard radar detector, your Cobra ESD-9100 is designed to differentiate between a standard K-band alert and a Safety Alert warning.

Safety technology is relatively new so the number of transmitters in operation is still growing. You may not receive Safety Alert on a daily basis and should not be surprised to encounter some emergency vehicles, road hazards or trains not yet equipped with these transmitters, therefore failing to provide a signal. As Safety Transmitters become more prevalent (the number of operating transmitters is growing every day), these Safety Alerts will become more common. The Safety Alert Transmitter is in use in all 50 states in limited quantities.

Facts About Strobe Alert™

Alerts motorists to over 50,000 emergency vehicles equipped with strobe transmitters that activate red lights at traffic intersections in emergency high speed situations.

Detection

Facts About Safety Alert® Traffic Warning System

Note

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Strobe Alert[™] is a vailable in over 1,000 cities and works with Tomar and Opticom systems. Call your local Fire/Police department for your area coverage or area in which you will be traveling.

Detection

Detection

Radar Frequencies

Radar Frequencies

There are now three frequencies that have been approved by the FCC (Federal Communications Commission) for use in speed monitoring equipment. They are:

X Band (10.525 GHz),K Band (24.150 GHz) Ka Band (33.400-36.000 GHz)

Your Cobra ESD-9100 can detect signals in all three radar bands including photo radar and STALKER radar which use the Ka band, and Cobra's Safety Alert signals on the K band.

Facts About LIDAR (Laser)

LIDARs must have a clear line of sight to target a vehicle during the entire measurement interval. Intervening objects such as signposts, utility poles, tree branches, etc.,will prevent a valid speed reading.

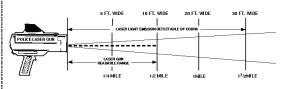
18

Facts About LIDAR (Laser) What is LIDAR?

LIDAR stands for Light Detection And Ranging. While everyone refers to it as LASER the correct name is LIDAR.

How does LIDAR work?

LIDAR operates a lot like RADAR.Like RADAR,it spreads out. Not as quickly, but it does spread, as shown on the diagram below.



Does weather have any effect on LIDAR?

Yes, rain, snow, smoke, fog, and airborne dust particles will all reduce the effective range, and if sufficiently dense, may prevent its operation.

Can LIDAR operate through glass?

No, LIDAR guns cannot obtain readings through any glass. But the laser pulse can be received through glass to easily and quickly trigger a laser detector's alarm.

Can LIDAR operate while moving? No, since LIDAR is line of sight, an officer cannot drive, aim, and shoot while driving.

Is a LIDAR DETECTOR legal to use? Yes, it is legal in all 50 states.

Maintenance

Your COBRA ESD-9100 RADAR/LASER DETECTOR will give you years of trouble-free service with minimum maintenance.

Replacing Power Cord Fuse

Unscrew cap of cigarette lighter adapter and remove fuse. Replace with 1-ampere fuse only.

Troubleshooting

If your COBRA LASER DETECTOR ESD-9100 isn't operating, we suggest you make the following checks:

- 1. Is the power cord properly connected?
- 2. Is the fuse OK?
- 3. Is the cigarette lighter socket clean and free from corrosion?



Facts About LIDAR (Laser)

Maintenance



Specifications

Specifications

GENERAL SPECIFICATIONS

1. X BAND	10.525 GHz \pm 50 MHz
2. K BAND	24.150 GHz \pm 100 MHz
3. Ka BAND	33.4 - 36.0 GHz
4. VG-2	11.4 GHz - 11.7 GHz
5. Safety Alert	24.07,24.11,24.19 GHz
6. LTI 20-20 Laser	300 THz - 375 THz
7. Strobe Alert	300 THz - 770 THz
8. Ultra Lyte Laser	300 THz - 375 THz
9. ProLaser	300 THz - 375 THz
B. UNIT DIMENSIONS	

3-3/16"W x 1-1/4"H x 5"D

Limited One Year Warranty

COBRA ELECTRONICS CORPORATION warrants that its COBRA 9 Band Radar/Laser Detectors, and the component parts thereof, will be free of defects in workmanship and materials for period of one (1) year from the date of first consumer purchase. This warranty may be enforced by the first consumer purchaser, provided that the product is utilized within the U.S.A.

COBRA will, without charge, repair or replace, at its option, defective 9 Band Radar/Laser Detectors, products or component parts upon delivery to the COBRA factory Service Department, accompanied by proof of the date of first consumer purchase, such as a duplicated copy of a sales receipt.

You must pay any initial shipping charges required to ship the product for warranty service, but the return charges will be at Cobra's expense, if the product is repaired or replaced under warranty.

Exclusions: This limited warranty does not apply; 1) to any product damaged by accident;2) in the event of misuse or abuse of the product or as a result of unauthorized alterations or repairs;3) if the serial number has been altered, defaced or removed;4) if the owner of the product resides outside the U.S.A.

All implied warranties, including warranties of merchantability and fitness for a particular purpose are limited in duration to the length of this warranty. COBRA shall not be liable for any incidental, consequential or other damages;including, without limitation, damages resulting from loss of use or cost of installation.

Some states do not allow limitations on how long an implied warranty lasts and/or do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations may not apply to you.



Cobra Electronics Corporation

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6500 West Cortland Street Chicago, Illinois 60707 www.cobraelec.com

Optional Accessories

Accessory Order Form



Straight 12V DC Power Cord Includes plug and fuse 420-080-N-001 \$10.00



Curled 12V DC Power Cord Includes plug and fuse 420-080-N-002 \$10.00



Ise Includes suction cups \$10.00 545-139-N-001 \$7.00

Item #	Description		Cost Ea.	Qty.	Amount
420-080-N-001	Straight 12V Power Cord		\$10.00		
420-080-N-002	Curled 12V Power Co	Curled 12V Power Cord			
545-139-N-001	Windshield Mounting	g Bracket	\$7.00		
Tax Table Illinois residents ac Cook Co. residents	add .75% (7.75% total) add 1% (8.75% total) (dd 5% s add 4 % ts add 6% 6%	(Ta Sh	btotal ax if applica ipping/har tal		\$4.00
For credit card orders fill out order form and fax to: 1.773.622.2269 or call 1.773.889.3087 (Press 1 from the main menu) 8:00 am - 8:00 pm,M-F, CST.					
and fax to: 1.773.6 or call 1.773.889.30 (Press 1 from the m	22.2269)87 nain menu)	payable to: Cobra Elect 6500 West Chicago, IL	rronics Cortland St. 60707	rder (no	stamps)
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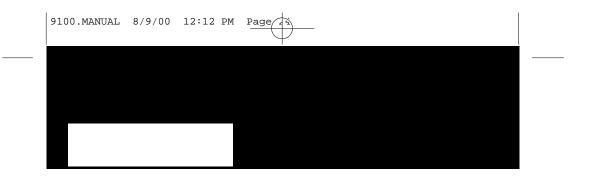
Order by phone Call 1.773.889.3087 (Press 1 from the main menu) 8 a.m.-8 p.m. M-F CST.)

order by mail or fax

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Please fill out order form on next page, and mail/fax directly to Cobra.





The Cobra line of quality products also includes:

- CB Radios
- MicroTalk[™] Radios
- Accessories
- SafetyAlert[™]
 Traffic Warning Systems

Nothing comes close to a Cobra™

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If You Think You Need Service

If you think you need service call 1.773.889.3087

ing in order to have the product serviced and returned.

and address of where the unit is to be returned.

This will ensure the fastest turn-around time on your repair."

6500 West Cortland Street

Chicago, IL 60707

www.cobraelec.com



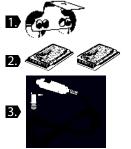
Introduction



Use of this product is not intended to, and does not, ensure that the motorist and any passenger will not be involved in a traffic accident. It is only intended to alert the motorist that an emergency or service vehicle equipped with a CODE 3,Strobe (Opticom or Tomar Preemption System) or Cobra Safety Alert Transmitter is in the area as defined by the range of the product. Please call your local Fire/Police department to verify if coverage exists in you area.Motorists are expected to exercise all due caution while using this product, and to observe and follow all applicable traffic laws. Operators of emer gency or service vehicles are also expected to exercise

all due caution while using this product, and to observe and follow all applicable traffic laws

*Opticom is a registered trademark of 3M Corporation



and Strobe Alert™





1. For Warranty Repair include some form of proof-of-purchase, such as a mechanical reproduction 3. Enclose a description of what is happening with the unit.Include a typed or clearly print name

Model ESD-9100

4. Pack unit securely to prevent damage in transit. If possible, use the original packing material.

or carbon or a sales receipt. If you send the original receipt it cannot be returned.

5. Ship prepaid and insured by way of a traceable carrier such as United Parcel Service (UPS) or First Class Mail to: Cobra Factory Service, Cobra Electronics Corporation, 6500 W. Cortland St., Chicago, IL 60707

For technical assistance, please call our Automated Help Desk which can assist

you by answering the most frequently asked questions about Cobra products.

(773) 889-3087

24 hours a day, 7 days a week.

A Consumer Service Representative can be reached through this same number 8:00 am - 8:00 pm,

Monday through Friday, CST.

Technical assistance is also available on-line in the Frequently Asked Questions (FAQ) section at

www.cobraelec.com or by e-mail to productinfo@cobraelec.com

"If your product should require factory service please call Cobra first before sending your unit in.

You may be asked to send your unit to the Cobra factory. It will be necessary to furnish the follow-

6. If the unit is in warranty, upon receipt of your unit it will either be repaired or exchanged depending on the model. Please allow approximately 3 to 4 weeks before contacting us for status. If the unit is out of warranty a letter will automatically be sent informing you of the repair charge or replacement charge. If you have any questions, please call 1.773.889.3087 for assistance

Cobra Electronics Corp.© 1999 Printed in Thailand

2. Send the entire product.

Part No. 480-297-P-001

<u>1642000</u>

Nothing comes close to a Cobra™



Operating Instructions for your Cobra

Radar/Laser Detector

9 Band Extra Sensory Detection



Introduction

Congratulations! You have just purchased the most sophisticated RADAR/LASER DETECTOR available today. This booklet contains instructions and information designed so that you will be able to understand how the Cobra ESD[™]-9100 works and how radar and (LIDAR) laser are used. Enjoy your Cobra ESD-9100 Radar/Laser Detector and drive safely.

Federal Law Governing Use of **Radar Detectors**

It is not against Federal Law to receive radar transmissions on your COBRA Radar Detector. The Communications Act of 1934 guarantees your right to receive radio transmissions on any frequency. Local laws that contravene the Communications Act of 1934, while illegal, may be enforced by your local law enforcement officials until and unless they are prohibited from doing so by Federal Court action.

WARNING: Before leaving your car, make sure that you conceal your radar detector. This will reduce the possibility of break-in and theft of your unit.

Included with your ESD-9100

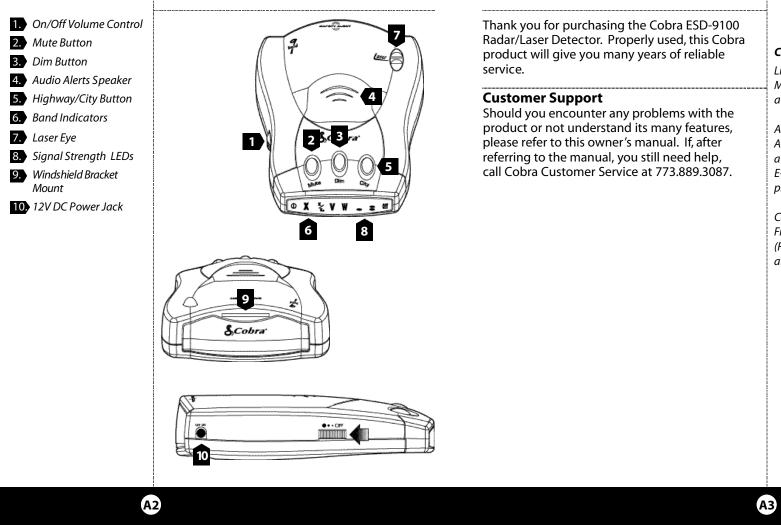
1. Windshield Bracket

- 2. Hook and Loop Material
- 3. Power Cord

A1



Controls and Indicators



Cobra Customer Service

Live operators are available M-F 8:00 am - 8:00 pm CST at: 773.889.3087

Automated Technical Assistance available 24 hours a day, seven days a week. E-mail questions to: productinfo@cobraelec.com

Cobra on the World Wide Web: Frequently Asked Questions (FAQ) can be found on-line at: www.cobraelec.com