



 **valentine**  **One**<sup>®</sup>  
————— *RADAR LOCATOR*

With exclusive computer modes:

- **All-Bogeys**<sup>®</sup>
- **Logic**<sup>®</sup>
- **Advanced-Logic**<sup>®</sup>

**The only one with Full Coverage**

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▲ Mike Valentine: Electronics engineer, former president of Cincinnati Microwave, and co-inventor of Escort®

## Welcome to Full Coverage

Dear Owner:

When an interest lasts for a year to two, that's a hobby. When it goes on non-stop for more than 25 years, I think it fairly can be called an obsession.

My wife says I'm obsessed with traffic radar. She's right. Radar is out there, skulking (Stalking?) around, hiding in the bushes. And I really get a kick out of finding it, finding it first, finding it every time. This is a civilian version of what the military calls Electronic Warfare Support Measures (ESM). I find it compelling, I can't help it.

I'm pretty good at it too. That makes it more fun. Back in the seventies, Jim Jaeger and I invented Escort. It was the best radar finder on the market for a long time and I enjoyed running the company that made it, Cincinnati Microwave.

Since starting my own company, we've made other products and earned a reputation for innovation. But nothing is quite as much fun for me as finding radar.

Now V1 has enjoyed its ninth birthday. The magnesium case still looks identical to the original, but the electronics inside have been completely changed time and time again. I believe in continuous improvement. That's what keeps V1's performance ahead of the pack. I don't believe in planned obsolescence. Whenever we make a performance breakthrough, we offer it to past customers as an upgrade. Even the first V1 can be updated to today's protection. See [www.valentine1.com](http://www.valentine1.com) for details; you'll also find a wide variety of radar and laser information not available anywhere else.

I hope you enjoy your Valentine One as much as I enjoy mine. Thanks for trusting me to find radar and laser for you.

Sincerely,

Michael D. Valentine  
President

## What Full Coverage means for you

### Finds all radars

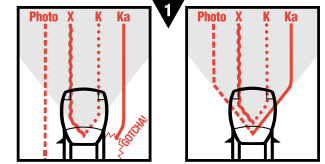
Valentine One covers all four bands.

X-band . . . . . most common for moving and stationary; can be used in "Instant-on" mode; this frequency is shared with burglar alarms and door openers.

K-band . . . . . moving and stationary radar; can be used in "Instant-on" mode.

Ka-band . . . . . widest of the radar bands; moving or stationary; can be used in "Instant-on."

Photo radar . . . K- or Ka-band; stationary only.



**Older detectors**  
find only two or three types of radar.

**Valentine One™**  
finds all radars, including Stalker.

### Tells Where

Valentine One is the only detector that locates radar. You are vulnerable to radar either ahead of you or behind you. But radar can't get you from the side.



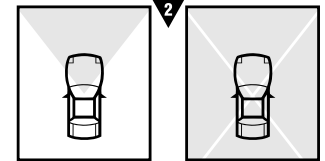
Radar ahead



Radar to the side



Radar behind



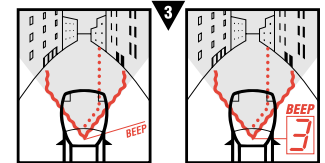
**Ordinary detectors**  
scan ahead of your car only.

**Valentine One™**  
scans all around your car.

### Tells How Many

Valentine One is the only detector that tracks multiple threats (bogeys). How many are out there? Consider:

Example 1: Let's say your detector is in full alert, then you see a radar unit. Naturally you assume the radar you saw is the cause of the alert. But what if there's *another* radar unit just up the road waiting for you?



**Ordinary detectors**  
give the same warning for one or multiple radar signals.

**Valentine One™**  
counts threats so you'll never be surprised.

Example 2: Let's say you're in an alert caused by a known X-band burglar alarm. What if a radar operator, using Instant-on, is simultaneously working the same territory?

In both cases, an ordinary radar detector would set you up for a big surprise because it would lead you to believe that only one bogey was out there. Valentine One is your insurance against surprises. It always tells you how many.

## Anything less is not Full Coverage

## Specifications

Operating Frequencies: 10.525 GHz (X-band)  
24.150 GHz (K-band)  
33.4 GHz - 36.0 GHz (Ka-band)  
13.45 GHz (Ku-band): not used in U.S. —to activate Ku-band,  
see valentine1.com (Ask Mike, Tech Reports, How to  
Reprogram V1).  
820-950 nanometers (Laser)

Power Requirements: 11.0-16.0 Volts DC negative ground  
225 mA typical standby, 425 mA maximum alarm condition

Dimensions: 4.5 in. L x 3.6 in. W x 1.0 in. H  
Weight: 6.4 ounces

Temperature Range: Operating: -20°C to +70°C (-4°F to +158°F)  
Storage: -30°C to +85°C (-22°F to +185°F)

## Parts & Accessories

The following items are available directly from us: Call toll-free 1-800-331-3030.

**Concealed Display** . . . . . enables operation of Valentine One with lights being visible to driver only

**Remote Audio Adapter** . . . enables remote control and audio operation of Valentine One with headphone or additional speaker

### Power Adapters

Lighter power adapter. . . . . powers Valentine One from car's lighter socket  
Direct-wire power adapter. . . powers Valentine One directly from car's wiring  
Fuse. . . . . replacement fuse for lighter power adapter or direct-wire power adapter  
Wiring-harness connector. . . provides simple, safe attachment to ignition wiring using ordinary hand tools

### Mounts

Windshield mount . . . . . mount with patented mechanism for easy one-hand release  
Visor mount . . . . . mount with spring clip for quick installation on visor  
Suction cups (2). . . . . replacement cups for use with mount

### Power Cords

Power cord, coiled . . . . . 1 ft. stretches to 6 ft.  
Power cord, straight . . . . . 8 ft.

### Additional Items

Owner's Manual . . . . . instructions for operation and troubleshooting  
Dual Lock®. . . . . extra fasteners for Concealed Display and power adapter

## What's Included

The following items are included with your order:


1. Valentine One Radar Locator
2. Windshield mount
3. Visor mount
4. Lighter adapter
5. Power cord, coiled
6. Power cord, straight
7. Spare suction cups
8. Direct-wire power adapter
9. Wiring-harness connector
10. Dual Lock® fastener
11. Owner's Manual
12. Spare fuse

The following items are included with the Concealed Display option, available at extra cost:

1. Concealed Display module
2. Straight power cord, 8-foot
3. Straight power cord, 3-inch
4. Display-module backplate, for mounting
5. Dual Lock® Fasteners

## Starting Up

Valentine One has been designed for easy operation. Please follow these steps:

1. Mount Valentine One so that it has a clear view ahead and behind your car, using one of the mounts supplied. For more information on mounting, see pages 15-17.
2. Plug lighter adapter into lighter socket and connect power cord to  jack. For more information on power connections, see pages 16-17.
3. Switch power "on" and adjust volume. For more information on control settings, see pages 12-14.
4. Enjoy Full Coverage radar protection. For more information on interpreting warnings, see pages 4-11.

## What you should know about radar

### How Traffic Radar Works

Traffic radar uses a radar beam to measure speed. Think of the beam as a searchlight. It's invisible because it's made of microwaves instead of light, but otherwise it acts very much like a light beam. It travels in straight lines. It's easily reflected. It scatters as it passes through dust and moisture in the air. And — this is essential — it has to hit your car before it can measure your speed.

Radar can't see around corners or through hills. It can't see you when you're blocked by another vehicle. When in the clear, how strongly your vehicle reflects the beam determines how far away the radar can read your speed. Generally, larger vehicles reflect more strongly than smaller vehicles. Trucks are "visible" on radar farther away than cars.

Radar reads your speed by sending out the microwave beam, bouncing it off your car, then analyzing the reflection that comes back to the radar. But it can only read oncoming speed or departing speed. It can't read speed from the side.

The principle on which radar operates is absolutely reliable. Radar equipment, on the other hand, is only as good as the quality of its design and manufacture. Traffic radars tend to be unreliable. They're cheaply made and therefore vulnerable to many interferences that cause false readings. And, compared to military and weather radar which have rotating antennas, traffic radars are vastly simplified. This simplification means that traffic radar cannot tell one car from another. The operator has to do that, and since the operator can't see an invisible beam any better than you can, he frequently doesn't know which vehicle's speed is being read. This is a source of many undeserved tickets.

### How Radar Detectors Work

In essence, a radar detector is a radio tuned to microwave frequencies. Valentine One is an extremely sensitive radio, and it's tuned exactly to the frequency bands used by all traffic radar in the U. S. — X-band, K-band, Ka-band, including photo. Moreover, it has two antennas, one aimed forward and one rearward, so that it can locate the radar. In principle, though, it's a radio that listens for radar microwaves.

Because Valentine One is so sensitive, it can easily find radar from the scattering of the beam, and it can find these scatters a long time before the actual beam hits your car. The only exception is Instant-on radar.

### How Instant-on (Pulse) Radar Works

As a defense against detectors, many radar units can be operated in the Instant-on mode, also called the Pulse mode. This means the radar is in position, but it is not transmitting a beam. So it cannot be detected. When the target is within range, the radar operator switches on the beam and the radar calculates speed, usually in less than a second. This calculation happens too quickly for the target (you) to respond in time.

Still, you can defend against Instant-on by recognizing it when the operator zaps traffic ahead of you. Valentine One's great sensitivity — and your attention to the nuances of its warnings — gives you at least a sporting chance.

### The Difference Between X-Band and the K-Bands

A weak X-band ("Beep") alert usually means you have plenty of time. Moreover, door openers and burglar alarms operate on X (occasionally on K also). K and Ka bands are usually detected at closer range, and alerts on those frequencies are much more likely to be radar. So Valentine One makes a different sound ("Brap") to warn you of these more urgent threats (bogeys).

### How To Identify Bogeys

Since all radar detectors are simply radios tuned to the microwave frequencies used by traffic radar, they automatically sound their alerts whenever they encounter known radar frequencies. Valentine One is an extremely high-performance radio so it alerts on those frequencies even when they are very weak.

The problem is, other devices that are not radar are also operating on radar frequencies. A detecting radio must respond to them too. Every response indicates a threat, a bogey. How can you tell the difference between radar and what people commonly refer to as false alarms?

Your judgment is the only way. But Valentine One provides information that simplifies identification of bogeys.

If you hear the “Brap” sound, assume that it’s radar until you make positive identification. Virtually every bogey on the K-bands is the real thing.

But many non-radar devices operate on X-band so when you hear “Beep,” look first at the Radar Locator. If it points to the side, the bogey is not threatening — radar can’t get you from the side. If the Locator points ahead or behind, try for visual identification. And when the Locator changes from Ahead to Beside and then Behind, you can be sure the bogey is safely behind you.

Also, when you hear “Beep,” check the Bogey Counter. Because many non-radar devices occur in multiples. For example, almost every microwave door opener has at least two transmitters, one for In and one for Out. Often such an installation will have multiple doors too, so there will be many transmitters. When you see numbers greater than 1 on the Bogey Counter, and particularly when you see it counting up quickly, you’ve probably found a door opener.

Burglar alarms are often multiples too because a single transmitter is not enough to safeguard an entire building. But microwaves from alarms tend to leak out of buildings far less than door-opener signals. So alarms may appear singly or in low multiples.

Single bogeys must be regarded as threats until you see them or put them safely behind you.

Remember too, that radar beams are easily reflected. Buildings, overhead signs and passing traffic are all good reflectors. When you have a strong signal from one direction, don’t be surprised if the Radar Locator shows brief flickers from another direction too if you’re driving by reflectors.

And never forget that a brief alert, acting alone, may be Instant-on radar zapping other traffic.

## Finding radar

### On-the-road situations

Valentine One gives you far more information about radar than any radar detector. Still, to achieve the best defense, you must interpret this information correctly. The following examples will help you get maximum protection.

**Situation 1:** You are driving toward a radar aimed at you.

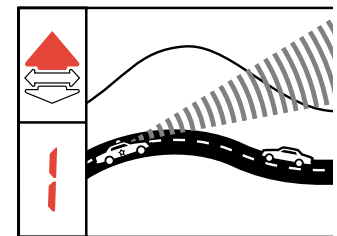
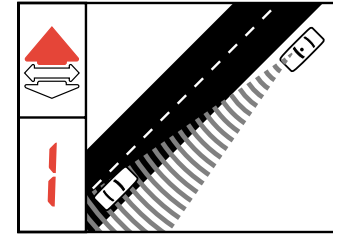
**Your Warning:** The Ahead arrow will glow. The Bogey Counter will show 1. You’ll hear a slow Beep for X-band or Brap for other radars. As you come close to the radar, the Beeps (or Braps) will become more frequent until they merge into a continuous tone. By this time you should see the radar.

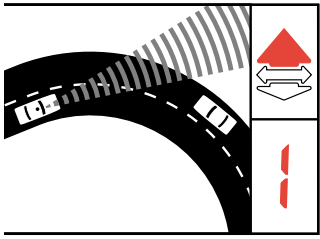
The Beside arrow and then the Behind arrow will glow as you pass the radar.

In this situation, moving radar and stationary radar will give the same alert, except the Beep rate will increase faster with moving radar because the closing speed is greater.

**Situation 2:** You’re driving on a hilly road. Radar is waiting over the next hill.

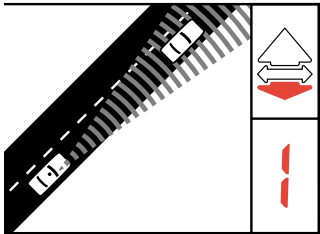
**Your Warning:** Well before you reach the hilltop, the Ahead arrow will glow. The Bogey Counter will show 1. You’ll hear a slow Beep or Brap, and the rate will increase very quickly as you near the hilltop. As soon as you can see over the hill, you will probably spot the radar.





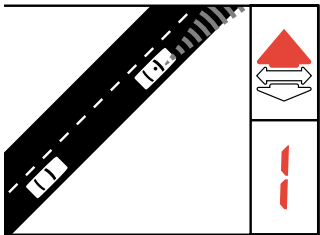
**Situation 3:** You're driving on a curvy road. Radar is waiting around the next curve.

**Your Warning:** The Ahead arrow will glow (because the radar is forward, not to the side, of your car). The Bogey Counter will show 1. You'll hear a slow Beep or Brap, and the rate will increase very quickly as you turn the corner. You should see the radar as soon as you're around the corner.



**Situation 4:** You're driving down the highway and moving radar is coming up behind you.

**Your Warning:** The Behind arrow will glow. The Bogey Counter will show 1. You'll hear a slow Beep or Brap, and the rate will increase very slowly. This sort of alert could last for miles because the closing rate is just a few mph. Finally, if you watch your mirrors, you'll see the radar. To mute the audio at any time, press the Control Knob.



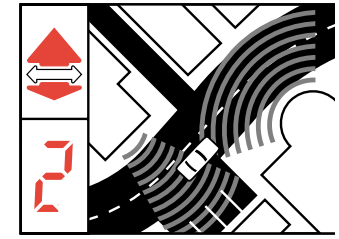
**Situation 5:** You're driving down the highway and closing on a moving radar ahead of you that's going in your direction.

**Your Warning:** The Ahead arrow will glow. The Bogey Counter will show 1. You'll hear a slow Beep or Brap that increases very slowly. As in Situation 4, your closing rate is very slow, so this alert could last for a long time.

Whenever you encounter an alert that lasts for an abnormally long time, it's probably radar moving along at about your speed. To mute the audio at any time, press the Control Knob.

**Situation 6:** You're driving through a metro area with the usual number of burglar alarms and microwave door openers.

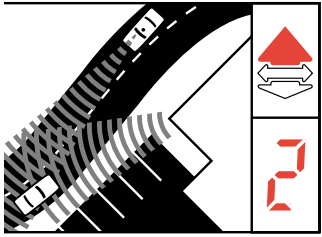
**Your Warning:** Because these signals are usually weak, you'll get slow Beep rates (if you hear Brap, it's probably radar, because burglar alarms and door openers are seldom on those frequencies). The Ahead arrow will quickly pass to the side. Or your first alert may be to the side, because these alarms are usually located well off the road.



You may also encounter overlapping alarms. During an alert, you'll hear Bogey ("Dee-Deet") Lock each time an additional bogey is detected. The Bogey Counter shows the total, which, in the case of overlapping alarms, will be 2 or more. If they are in different directions, more than one direction arrow will glow. When multiple directions are being monitored, the computer will decide which is most dangerous and that one will be indicated by a flashing arrow. The audio warning will correspond to that bogey.

The key thing to remember about non-radar alarms on X-band is this: they're weak and they pass to the side quickly. If you find a strong one Ahead, it's probably radar.

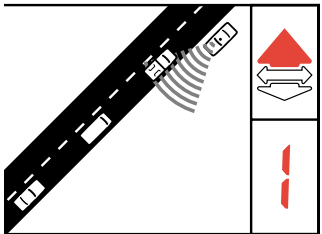
You can minimize the annoyance of these X-band alarms by selecting Logic® or Advanced-Logic® modes. See Controls & Functions (pages 13 and 14).



**Situation 7:** You're driving a route where you expect a burglar alarm, but this time there's radar hiding under the cover of the normal alert.

**Your Warning:** The Ahead arrow will glow. You'll hear a warning — the usual Beep or Brap if you detect the burglar alarm, possibly (but not necessarily) different sound if the radar is detected first. But when you hear the Bogey Lock ("Dee-Deet") warning, that's a sure indication that this day's situation is more threatening. The Bogey Lock warning is given whenever Valentine One locks onto an additional threat. In this case, the Bogey Counter will show 2, confirming the second threat. If the radar is X-band, same as the burglar alarm, you will hear a slow Beep, although it may strengthen faster than normal. If the radar is on one of the other frequencies, the audio will correspond to the bogey that the computer has determined to be most dangerous.

The key thing to remember is, any time you detect more bogeys than normal, watch out.



**Situation 8:** You're driving down a highway and Instant-on radar — a long way ahead — is zapping traffic as it passes.

**Your Warning:** The Ahead arrow will glow. The Bogey Counter will show 1. You'll hear a very slow Beep or Brap that will last just 3-5 seconds. Then the alerts ends.

What happens next depends on traffic and terrain. If there's light or medium traffic between you and the radar, you'll hear the same pattern again, maybe repeated several times, as the radar zaps each car ahead in turn. If you hear this pattern, watch out.

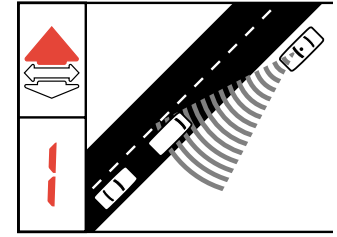
If there's no traffic within sight ahead, watch out, because you could be next.

With ordinary detectors, short, weak alerts are usually shrugged off as false alarms, leading the motorist to drive right into an Instant-on trap. The Radar Locator is critical to your defense in this circumstance. If it points off to the side, the bogey is not a threat. But if it points ahead, watch out.

**Situation 9:** You're driving down the highway and Instant-on radar is operating nearby.

**Your Warning:** The first thing you'll notice will be "Beeeee", or "Braaaaa" because the radar encounter will start instantly at high strength. If the radar is ahead, then the Ahead arrow will glow. Probably the radar is aimed in your direction, but maybe not. It might be aimed the same way you're going, zapping oncoming cars as they approach and ready to shoot you in the back after you've passed. In either case, watch out.

If the Behind arrow glows simultaneously with the "Beeeee" or "Braaaaa", probably you are being shot in the back.





## Controls & Functions

### How Valentine One Works

Everybody wants Full Coverage against radar; nobody wants to go to college to learn how to use his new radar detector. So I've worked extra hard to make Valentine One logical. It's far easier to operate than many ordinary detectors, yet it tells you far more about radar.

### A New Way to Set Loudness

Valentine One has two controls for loudness so you can take complete control of sound. The Control Knob sets what I call "initial" volume. This is the loudness you will normally hear on initial radar contact. Once you're aware of the threat, you can drop to a quieter, reminder sound which I call "muted" volume. Just press the Control Knob. How loud do you like your reminder? The choice is yours.

### Push To Mute

During any alert, press the Control Knob. Audio volume will drop to the muted level.

### What Long-Gradient audio does for you

Valentine One's audio warning indicates radar strength. It gives a very slow Beep for X-band (Brap for K-band, Brap-brap for Ka-band) when it encounters weak radar, then quickens as radar strength increases, and becomes a continuous tone about the time you're in range. This long gradient, from slow Beep to continuous tone, makes it easy to estimate radar proximity, which is very important during brief Instant-on encounters. In the case of multiple bogeys, the audio warning will always monitor the greatest threat.

### For Laser Warning

See page 22.

**Front Antenna, Radar and Laser**  
Needs unobstructed view ahead

**Rear Laser Sensor**  
Needs unobstructed view behind

**Speaker**

**Modular Jack**

**Control Knob**  
On – Turn clockwise  
Volume – Turn to adjust  
Off – Turn counter-clockwise past detent  
Mute – Press during radar alert  
Modes – Press and hold to change  
Brightness – Automatically matched to ambient lighting; no manual adjustment  
**(Unit powers up in the last mode selected)**

**Control Lever**  
Sets volume after mute takes place; clockwise is louder. Full clockwise makes muted volume same as initial volume

**Radar-strength Indicator**  
More LEDs glow as radar gets stronger

**Bogey Counter**  
blank – power off  
R – power on, All-Bogeys® mode  
L – power on, Logic® mode  
L̂ – power on, Advanced-Logic® mode  
1 – one bogey  
2, 3, 4, etc. – number of bogeys being tracked

### Radar Locator



Note: In the case of multiple bogeys from different directions, an arrow will glow for each direction. The strongest threat will be indicated by a blinking arrow. The audio warning will correspond to the blinking arrow

### Band Identification

Note: In the case of multiple bogeys on different bands, a blinking LED will indicate the strongest threat.

**Rear Antenna**  
Needs unobstructed view behind

### What the Bogey Counter does for you

Every alert, until you've positively identified the source, is an unknown, a bogey. But an alert may consist of more than one bogey. There could be many. Let's say you drive by a burglar alarm on the way to work every day that causes an alert. Then one day you pick up an additional bogey. This new bogey could be radar hiding under cover of the burglar alarm, picking off the unwary. You must assume each alert is radar until you've identified the bogey. For more information see pages 5-6.

### Computer Modes: A new way to interpret alarms

In the All-Bogeys® (R) mode, all bogeys will be reported as soon as they are detected. Use your judgment to decide whether or not they are threats.

In the Logic® (L) and Advanced-Logic® (L̂) modes, you are deferring to the internal computer which will use its own logic to screen bogeys before reporting them to you.

In Logic, X-band bogeys the computer judges to be non-threatening will be reported at the "muted" volume. If they become threatening, the audio warning will upgrade to the "initial" volume before you are within radar range.

In Advanced-Logic, X-band bogeys that the computer has reason to believe aren't radar will not be reported at all. One exception: To be failsafe, the computer will always pass extremely strong signals along for your judgment. This mode is particularly useful in metro areas.

The computer is smart: It never operates the receiving circuits at less than maximum sensitivity and it knows that Instant-on is a greater threat than ordinary radar. So it will always warn you immediately at the "initial" volume when those radars are detected, no matter what mode you've selected.

To change modes, press and hold the Control Knob for one second.

### What the Bogey Lock tone means

Valentine One is designed to track multiple threats. During an alert, when Valentine One locks on to an additional bogey, it notifies you with the Bogey Lock tone ("Dee-Deet"). This sound will never be heard at any other time, not even during the power-on ritual. Whenever you hear this sound, it means that another bogey has been detected and is being tracked. The bogey counter shows the number of bogeys being tracked at that time.

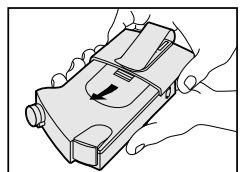
## Where to mount

Valentine One works best when mounted high in the windshield, and toward the center between the windshield pillars. Use your choice of windshield or visor mounts.

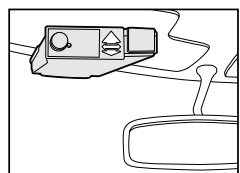
- When properly mounted, the **front antenna** will look forward through the glass. It must have an unobstructed view. Don't put it behind the parked windshield wipers, or directly behind an in-glass antenna. Don't position it so that it "looks" into the rearview mirror.
- The **rear antenna** will look rearward, between passengers and out the rear glass. It, too, must have an unobstructed view.
- **Detector performance is enhanced** by a high mounting position. Two reasons. For radar, a longer sight line to the horizon always helps. For laser, moving away from the hood and its sun reflections helps a lot.

**IMPORTANT NOTE:** Windshield heaters such as Ford's InstaClear® block radar from passing through the glass (look for a brown tint). So do **solar barrier** windshields of the type used on GM Venture-Montana-Silhouette-Trans Sport minivans and on some imported luxury sedans (look for a reddish or copper tint). Same for mirrored sun screens. Detector performance will be greatly reduced when V1 is mounted behind such metallic films.

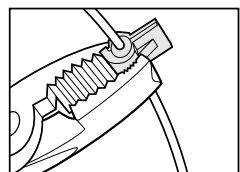
**SAFETY WARNING:** Because a detector on a windshield mount or visor mount is not permanently attached to the car, it could come loose in a crash, possibly causing injury. Also, a passenger may move forward on impact and contact the detector. Keep these possibilities in mind when you mount your Valentine One.



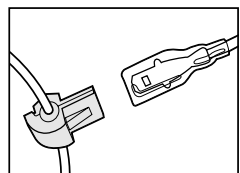
Visor mount slides on from front.



Install near center of windshield.



Pinch connector around power wire.



Connector plugs into red wire.

## How To Mount

### Mounting on visor

1. Slide visor mount on to Valentine One.
2. Clip to visor near center of windshield.
3. Adjust visor angle so unit is approximately level.
4. Connect power cord and plug into lighter socket.

### INSTALLATION: Direct-wire Power Adapter

An adapter has been provided so that you can wire Valentine One directly into your car's electrical system. If you are unfamiliar with automotive electrical systems, see a mechanic or car-stereo installer:

1. Valentine One works only with negative ground electrical systems. If your car is old, or is an unusual brand of import, make sure it's negative ground.
2. Select a "switched" wire, i.e., one that's off when the ignition is switched off, and has 12 volts when the ignition is switched on.
3. Position wiring-harness connector around "switched" wire and squeeze with pliers to install.
4. Plug red wire from Direct-wire Power Adapter into wiring-harness connector.
5. Make ground connection by clamping the end of the black wire under any grounded screw.
6. Plug power cord from Valentine One into the modular jack labeled "Main Unit" on the Direct-wire Power Adapter.

### Changing the Fuse

Fuse holder is in-line with the power wire (red) to the adapter. Unscrew fuse holder to change fuse. Use a 1 amp, 5mm x 20mm fuse.

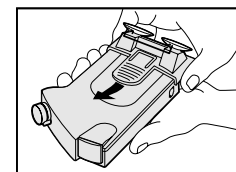
## Mounting on Windshield

1. Slide windshield mount onto Valentine One.
2. Press suction cups to glass near center of windshield.

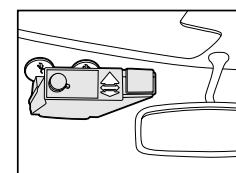
Hint: A. If suction cups don't stick, try rubbing your thumb a few times around the face of the cup with a circular motion.

B. If suction cups are distorted or misshapen, hold under hot tap water for 15-30 seconds.

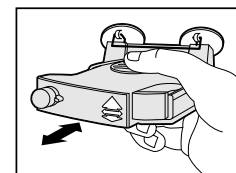
3. To adjust angle, press Thumb Tab and simultaneously slide unit within mount until level position is achieved.
4. Connect power cord and plug into lighter socket.
5. To release from windshield, gently press down the wire Release Bar connected to both suction cups.



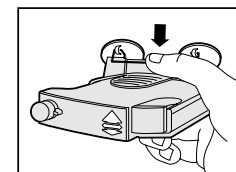
Windshield mount goes on from front.



Install near center of windshield.



Unit slides in mount to adjust angle.



Press bar to loosen suction cups.

## Concealing the Power Cord

For a neater installation, you may wish to route the power wire out of sight. Some knowledge of automotive electrical systems and of interior-trim removal is necessary to do it yourself. If you have doubts, see a mechanic or car-stereo installer.

## Making your own Power Cord

Valentine One uses standard RJ-11 (modular) telephone connectors. You can use any telephone cable (the one that runs from the wall jack to the phone) for a power cord. Complete cables are available in many lengths at electrical or building-supply stores.

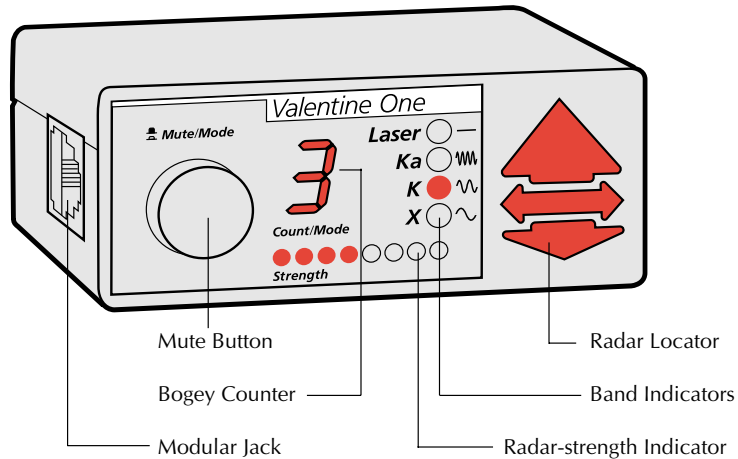
You can also make your own power cord using bulk phone cable cut to whatever length you choose. To attach the RJ-11 connectors, you will need a special attaching tool. Bulk phone cables, loose connectors, and the attaching tool are available in most electrical or building-supply stores.

**NOTE:** The sequence of wires must be reversed from one end to the other.

## Concealed Display

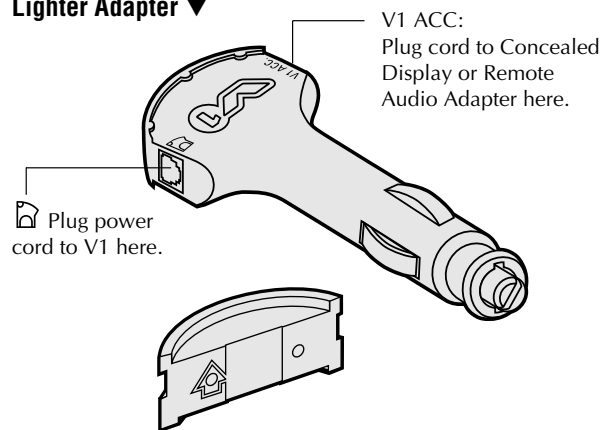
The Concealed Display Kit (optional) makes Valentine One less noticeable to others outside your car. It allows you to operate Valentine One with its lights blacked out, yet have a fully operational display module down low in the car where it's not visible outside.

### Concealed Display Module



Dimensions: 1.0-in. H x 2.5-in. W x 1.2-in. D

### Lighter Adapter



### Mounting plate

### INSTALLATION: Using Lighter Adapter

1. Slide Lighter Adapter (V1 symbol must be "up") into cavity on back of Concealed Display Module.
2. Connect V1 ACC on Lighter Adapter to Concealed Display with 3-inch cord.
3. Adjust angle on Lighter Adapter, then insert Lighter Adapter into lighter socket.
4. Run the power cord from the Jack on the Lighter Adapter to Valentine One.
5. To operate, adjust Control Knob and Control Lever on Valentine One to your desired settings.

**IMPORTANT NOTE:** Do not use Direct-wire Power Adapter with Lighter Adapter.

### Changing the Fuse

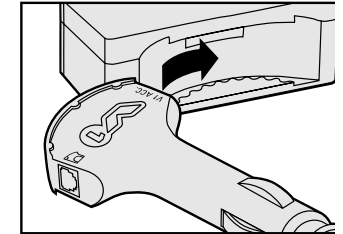
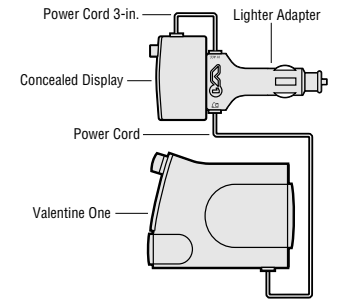
Engage a screwdriver in slitted metal tip of lighter adapter, press in, and turn counter-clockwise until metal tip can be removed. Fuse is under metal tip. Use a 1 amp. 5mm x 20 mm fuse.

### INSTALLATION: Using Mounting Plate

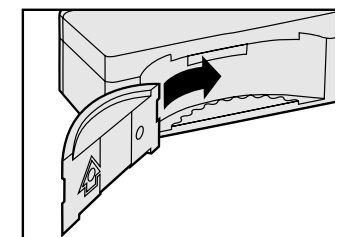
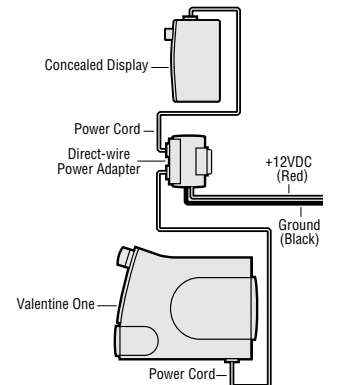
1. Slide Mounting Plate into cavity on back of Concealed Display Module.
2. If using Dual Lock®, adhere one square of Dual Lock® to the recess on the back of the Mounting Plate. Adhere mating Dual Lock® square to desired mounting location.
3. If using the Direct-wire Power Adapter, follow instructions on page 16.
4. Run a power cord from the V1 ACC jack on the Lighter Adapter, or the Accessory jack on the Direct-wire Power Adapter, to the Concealed Display Module.
5. Run a power cord from jack on the Lighter Adapter, or the Main Unit jack on the Direct-wire Power Adapter, to Valentine One.
6. To operate, adjust Control Knob and Control Lever on Valentine One to your desired settings.

**IMPORTANT NOTE:** Do not use Lighter Adapter with Direct-wire Power Adapter.

**You Can Make Your Own Power Cord** See instructions on page 17.



Lighter Adapter slides into place.

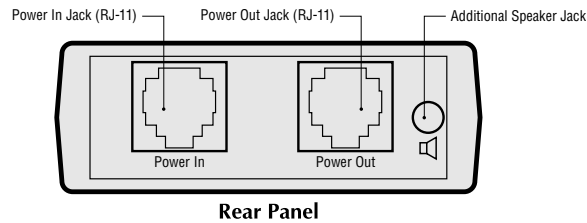
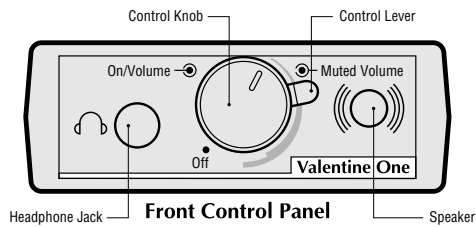


Mounting plate slides into place.

## Remote Audio Adapter

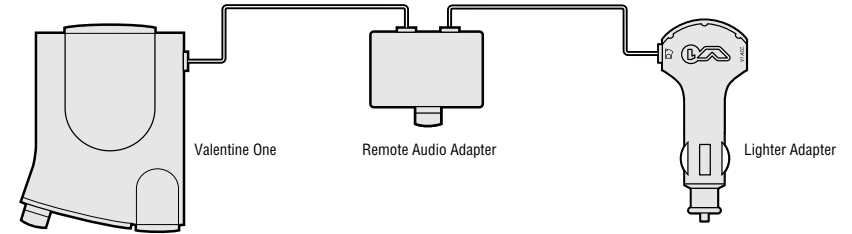
This module adapts Valentine One for the following installations:

- Provides remote control of on/off, volume, muted volume, muting, and computer mode.
- Provides remote speaker.
- Provides headphone mini jack 3.5mm (1/8").
- Provides micro jack 2.5mm (3/32") for additional remote speaker.

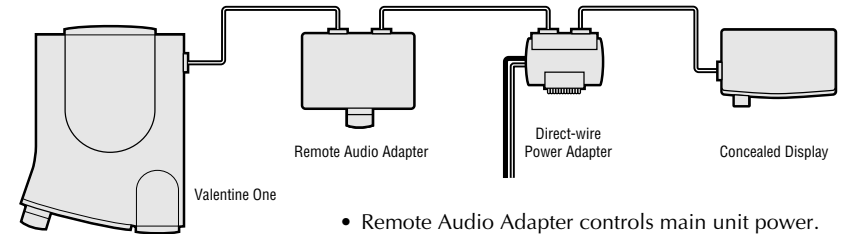


Dimensions: 0.87-in. H x 2.45-in. W x 2.00-in. D

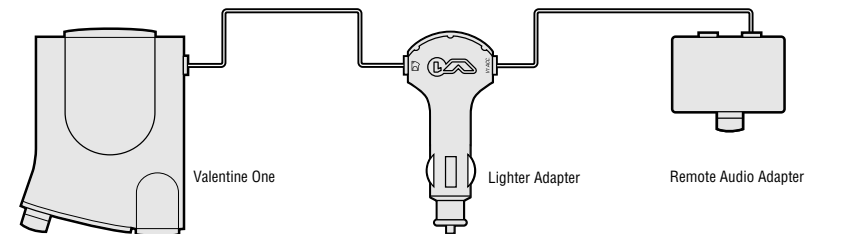
Install according to one of the following diagrams:



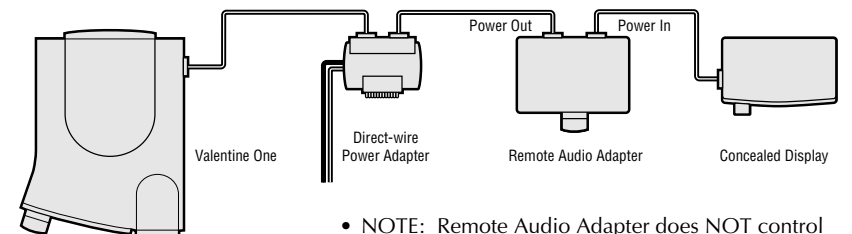
- Remote Audio Adapter controls main unit power.



- Remote Audio Adapter controls main unit power.



- NOTE: Remote Audio Adapter does NOT control power to the main unit.



- NOTE: Remote Audio Adapter does NOT control power to the main unit; but it will turn the Concealed Display off and on.

## Laser Warning

### How To Mount

Follow mounting instructions on pages 16-17. Laser Warning requires more care in mounting. Remember that laser is infrared light, and the light path to Valentine One could be blocked by certain materials that are transparent to radar. Consider:

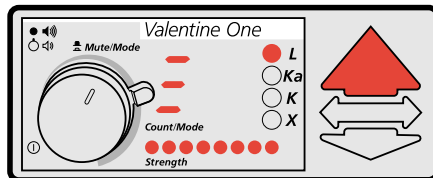
1. Important: position Valentine One so that it's level and pointed straight ahead.
2. Avoid locations blocked by wipers or windshield stickers. Make sure glass is clean.
3. Some windshields have a dark tint band across the top. Avoid mounting behind that band.

### How To Recognize A Laser Encounter

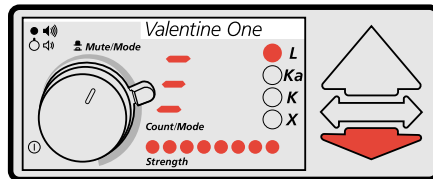
On laser contact, your warning will be:

1. European-siren warning sound.
2. When Ahead-arrow lights, laser is ahead. When the Behind-arrow lights, laser is behind.
3. Bogey counter displays three horizontal bars.
4. Strength-indicator bar graph shows full strength.
5. LED indicates laser.

NOTE: The same visual warnings will be seen on the optional Concealed Display.



Indicates laser ahead



Indicates laser behind

## What you should know about laser

### How Traffic Laser Works

To measure speed, traffic laser sends out a beam of pulsed infrared light. The beam is tightly focused: at a range of 1000 feet, it's only about four feet wide.

Infrared is invisible to the naked eye — the operator can't see it and neither can you. But it is light and it behaves accordingly. It travels in straight lines. And it's easily reflected.

Traffic laser works as a rangefinder. It sends a pulse, then waits for the reflection from the target car. From the time needed for the pulse to go out and back, and from the speed of light, it calculates distances to the car. These pulses are sent frequently, up to 500 times a second. The changing distance to the target over time is speed.

Laser can't see over hills or through opaque objects. The laser beam must hit your car directly, line-of-sight from the laser gun, to measure speed. Under ideal conditions, it can read speed in less than one second.

The pencil beam means that, in operation, laser is very different from radar. Radar cannot single out one vehicle in a pack, so the speed reading is usually attributed to the leader. The narrow laser beam reads only the vehicle it strikes.

### How Laser Detectors Work

A laser detector is an electronic sensor calibrated for the infrared wavelength used by traffic laser. It is extremely sensitive. And it responds in as little as .006 seconds.

It should be mounted inside the car with the sensor facing through the glass toward the laser. When the beam, or scatter from the beam, strikes the detector, it warns instantly.

## Finding laser

### How It Operates

Laser's narrow beam imposes significant limits on its use. It must be deliberately and carefully aimed. The operator can't be moving. He must have a clear shot, preferably not through glass.

So laser traps are always ambushes. The operator lies in wait. As with radar, he can't read speed from the side. He must have oncoming and departing traffic. Look for a cruiser angled to the road, or broadside. Watch overpasses and entrance ramps. He will likely rest the laser gun on a partially-down side window to steady his aim. He will pick off traffic as it comes. Or goes.

Our breakthrough Compound Parabolic Concentrator enables Valentine One to achieve both wide-angle coverage and unmatched sensitivity. Even so, the over-hills and around-curves warning you expect from a radar detector is not possible with laser. A laser warning requires immediate response.


### Details To Remember About Laser

1. There is no moving laser.
2. All laser encounters are like Instant-on radar; virtually no advanced warning.
3. Laser alarms are rare with the Valentine One, so be prepared to respond.

### Laser False Alarms

1. Red neon, from stores and occasionally from brake lights of other cars immediately ahead, can imitate the characteristics of speed laser. Solution: Move away from source.
2. The electrical systems of some cars generate electromagnetic interferences, triggering laser alerts. How to test: Try V1 in a different car. Possible solution: Try relocating detector within the interfering car; also, your dealer may have a factory fix.

## Troubleshooting

Problem	Cause	Solution
Seems dead, no display or audio.	No power.	<ol style="list-style-type: none"><li>1. Check power-cord connections. Check fuse inside Lighter Adapter.</li><li>2. Check contact of Adapter in lighter socket.</li><li>3. Make sure power is available at lighter socket. Does the lighter get hot? If not, check fuse in car lighter circuit.</li><li>4. Try another power cord.</li><li>5. Check fuse. See pages 16 &amp; 19.</li><li>6. Make sure the power cord to Valentine One is plugged into the  jack of the Lighter Adapter.</li></ol>
Sounds the power-on audio when you go over a bump.	Bad power connection.	<ol style="list-style-type: none"><li>1. Make sure Lighter Adapter has good electrical contact.</li><li>2. Check condition of power cord.</li><li>3. Car wiring to lighter socket may be faulty (common in rental cars).</li></ol>
Alerts when you use vehicle accessories or turn signals or brakes, etc.	Electrical problem in your car.	<ol style="list-style-type: none"><li>1. See your mechanic.</li></ol>
Weak or no radar detection.	Possible installation problem.	<ol style="list-style-type: none"><li>1. Make sure front and rear antennas are unobstructed.</li><li>2. Make sure unit is approximately level.</li><li>3. See page 26.</li></ol>
Weak detection in front but good behind.	Possible installation problem.	<ol style="list-style-type: none"><li>1. Make sure your windshield is not covered with a metallic film. Windshield de-icers such as Ford's InstaClear® block radar. So do some sun-blocking films.</li></ol>
Numerous false alerts.	Other super-heterodyne radar detectors mounted in same vehicle.	<ol style="list-style-type: none"><li>1. Do not operate Valentine One in close proximity to other detectors.</li></ol>

## Doubts . . . Maybe it's not working right

You bought Valentine One because you wanted the best radar protection. When you're really concerned about having the best, doubts come easily . . . "Is it really working right?" . . . "It didn't give much warning that time. Is it dying on me?"

Such doubts are not easily resolved by a few paragraphs in a manual. Still, radar behaves according to laws of physics. So does Valentine One. There are reasons for everything that happens. Please consider the following possibilities.

1. If you didn't get a radar alert from a radar car, was the radar turned on? Remember that Instant-on doesn't send out a detectable beam until it's triggered.
2. There are strong radars and weak ones. If you received a weak alert, could it have been a kind of radar that you're not used to?
3. The radar antenna can be pointed any direction inside the radar car. It doesn't have to point toward the front. Are you sure it was pointed at you? If it's pointed away, its strength as you approach is much less.
4. Traffic, particularly trucks, between you and the radar can block the beam. Were you blocked?
5. The radar beam travels in a straight line. Was there a hill or building in the way?
6. Rain, moisture, or dust in the air can shorten radar range. Could this be the reason for the weak alert?

Valentine One was designed to provide you with security. We don't want you to have doubts. If you still feel that your unit is not operating properly, call us at 1-800-331-3030. You can discuss your doubts with a technical expert who'll help you decide if your unit should be sent in for service.

## Service

### If your Valentine One needs repair:

Before sending your Valentine One back to us for service, please check TROUBLESHOOTING on page 25.

If it's completely dead, make sure it's connected to a reliable power source. Try another car.

If it still fails to function, follow these instructions to obtain factory service.

### Where to ship:

Return your Valentine One, both power cords and lighter adapter (don't send the mounts) to:

Valentine Research  
Customer Service  
10280 Alliance Road  
Cincinnati, Ohio 45242

### How to ship:

Ship your unit prepaid and *insured*, in its original packaging or something equally protective. You are responsible for your Valentine One until it is in our hands, so insist on a proof-of-delivery receipt.

Along with your Valentine One, please enclose the following:

- a) your name, billing address (for credit cards) and shipping address;
- b) description of the problem;
- c) your daytime telephone number; and
- d) if your Valentine One is out of warranty (older than one year), send \$45 or a credit card number with expiration date to cover cost of diagnosis and repair.

Your Valentine One will be repaired as soon as possible.

For units that have been abused or modified, a repair cost will be calculated based on parts and labor required. You will be contacted if the repair cost exceeds the \$45 basic charge.

**Note: We will not repair any Valentine One that has an unreadable serial number.**

Prices subject to change without notice.

## Limited Warranty

Valentine Research, Inc. warrants the Valentine One Radar Locator™ against all defects in materials and workmanship for a period of **one year** from the date of the original purchase, subject to the following terms and conditions.

This warranty is limited to the original owner, and is **Non-Transferable**.

This warranty does not apply if the serial number or housing of the product has been removed, or if the product has been subjected to physical abuse, improper installation, or modification.

To obtain warranty service, the product must be returned, insured and shipping prepaid, to Valentine Research, Inc., at the address below, in its original packaging or a suitable equivalent, along with a written description of the problem.

Valentine Research, Inc.'s responsibility under this warranty is limited to repair or replacement of the product or refund of its purchase price, at the sole discretion of Valentine Research, Inc.

Valentine Research, Inc. disclaims all other warranties, expressed or implied, including warranties of merchantability and fitness for any particular purposes whatsoever, and no other remedy shall be available, including without limitation, incidental or consequential damages. In no event shall Valentine Research, Inc.'s liability exceed the purchase price of the product in question.

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

This warranty gives you specific rights. You may have other legal rights which vary from state to state.

Valentine Research, Inc. wants you to be satisfied with its products. Should you have any difficulties with the operation or performance of your Valentine One Radar Locator, please contact:

Valentine Research  
Customer Service  
10280 Alliance Road  
Cincinnati, Ohio 45242  
1-800-331-3030



## A Few Things to Remember

1. Valentine One is defined as a radio by the FCC. It receives only. It's a passive device that in no way interferes with the communications or business of others.
2. The Federal Communication Act of 1934 guarantees the right to receive radio transmissions of all types on all frequencies. Traffic radar is not privileged communication: in fact, it's not communication of any sort because no information is conveyed to another party. It is surveillance by radio waves, and that is not protected by any laws.
3. Some states and municipalities have laws prohibiting the use, or the possession, or both, of radar detectors. Please check local regulations before using your Valentine One.
4. Leaving your Valentine One in plain sight in an unattended car is asking for a break-in.

We appreciate your confidence in Valentine Research.  
Please drive safely.

### For Your Records

<b>Serial No.</b>
<b>Purchase Date</b>

Manufactured under one or more of the following U.S. patents:

6175324	5250951	5116248	4878061
5917441	5206651	5083129	4631542
5900832	5164729	5068663	D338841
5856801	5151701	5020754	
5852417	5146226	4994775	
5300932	5125110	4973925	

Other U.S. patents pending

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Valentine Research

10280 Alliance Road  
Cincinnati, Ohio 45242  
513-984-8900  
1-800-331-3030