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Model V945

**BELTRONICS™**

Owner's Manual



**D I G I T A L   R A D A R • L A S E R • S A F E T Y   D E T E C T O R**

**VECTOR 945**

# Congratulations

BEL **V945** is an advanced radar/laser/safety detector from BELTRONICS - the technology leader. **V945** includes X, K and Super Wideband Ka radar detection, front and rear laser detection and alerts to the Safety Warning System. In addition, **V945** includes:

- 9 Digital Voice Messages (X, K, Ka, Laser and 5 SWS™ Category Messages)
- Customization of features depending upon your area of travel.
- AutoScan™ mode intelligently reduces unwanted false alarms, plus Highway and two City settings.
- Ultra-bright text display for easy to read information from any angle

If you've used a radar detector before, the Quick Overview on pages 4 and 5, and the Programming information on pages 12 and 13 will briefly explain all features.

If this is your first detector, please read the manual in detail to get the most out of your **V945**'s outstanding performance and innovative features.

Remember, a radar detector is not a license to speed. Please drive safely.

## **FCC Note:**

Modifications not expressly approved by the manufacturer could void the user's FCC granted authority to operate the equipment.

# Detachable Quick Reference Card

▼ Remove card along perforations ▼

## VECTOR 945 Quick Reference Card

Out-of-the-box, **V945** will operate as follows. However, these features can be customized to your driving preference (see reverse side for programming instructions).

### Operating VECTOR 945 using factory settings:

**Operating Mode:** *Normal* - **V945** will engage a lengthy power up test sequence when turned on and identify all alerts with Text Message and Digital Voice.

**Auto Mute:** *OFF* - **V945** will track the signal with a continuous, full audio and visual alert.

**Radar/Laser/SWS™ Digital Voice:** *ON* - **V945** will present Digital Voice announcements of detected signals.

**Safety Warning System®:** *ON* - **V945** will alert to SWS™ signals if transmitters are operating.

**Audio/Visual Scroll Rate:** *SLOW* - all information in the display will scroll slowly in the display for your convenience.

**Inverted Display Option:** *OFF* - **V945** will display all information “right reading” in the display.

**Selectivity Mode:** *AutoScan™* - Reduces false signals. Suitable for ALL driving environments.

Remove card along perforations

Programming Details ►

# Detachable Quick Reference Card

Remove card along perforations

## VECTOR 945 Quick Reference Card

**Operating Mode**/Press and hold **PWR** button when unit is **ON**.

- NORMAL** \*Standard, displays all information plus lengthy power up test sequence.
- MODS** \*Full power-up test sequence followed by Features changed from factory pre-settings
- Q-START** \*No power up test sequence when turned on. Unit displays only travel mode selected: **AutoScan**, **Highway**, **City X** or **City ALL**.

To access Programmable Features, with the unit **OFF**, press and hold the **PWR** and **CITY** button simultaneously.

Press the **AUDIO** button to select feature;

Press **CITY** button to move forward in the list;

Press **DARK** to move backward in the list;

Press **PWR** to save your selections.

**AutoMute** \*When **ON**, unit will sound an alert only two or three times before engaging a clicking tone to quietly monitor the signal. When **OFF**, unit will sound continuous X/K/Ka alerts.

**Radar/Laser/SWS™**

**Digital Voice** \*When **ON**, unit will sound Digital Voice alerts; when **OFF**, unit will sound unique audio tones only.

**SWS™** \*When **ON**, unit will alert to SWS™ signals, providing SWS™ transmitting devices are in use.

**Audio/Visual** \*Choose **FAST** or **SLOW Scroll Rate**.

**Inverted Display** \*When **ON**, display can be read if unit is mounted upside down.

*Note: To re-set V945 to factory default, press and hold CITY button until display shows: **RESET***

Remove card along perforations

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## Quick Overview

### To begin using your VECTOR 945, just follow these simple steps

- 1** Plug the angled end of the power cord into the side jack of the detector. Plug the opposite end into the cigarette barrel; plug this portion into your vehicles lighter socket.
- 2** Mount **V945** on the windshield using the supplied windshield mount.
- 3** Press the **PWR** button, located top left, to turn **V945** on.
- 4** Press and hold the **PWR** button to adjust the volume.

Please read the manual to fully understand operations and features.

#### **POWER JACK**

Plug the Cord into this connector. *Page 6*

#### **PWR BUTTON**

Press the **PWR** button to turn **V945** on or off. Press and hold to select operating mode. *Page 8*

#### **DARK BUTTON**

Press to adjust text display from full bright to dim, plus Dark Mode.

In the Dark Mode, the power-on indication will be changed to a dim “AD,” “HD,” or “CD” (indicating AutoScan™, Dark, Highway Dark, or City Dark). In the Dark Mode, **V945**'s meter will not display during an alert, only the audio will alert you. *Page 9*

# Quick Overview

## RADAR ANTENNA AND LASER LENS

The rear lens of your **V945** should have a clear view of the road ahead. For best performance, do not mount the **V945** directly behind windshield wipers or tinted areas. *Page 6*

## REAR LASER PORT

Receives laser signals from behind the vehicle.

## WINDSHIELD/VISOR MOUNT

Remove cover on top of the detector to insert windshield or visor mount into this slot. *Page 7*

## AUTO MUTE/VOLUME CONTROL

Press and hold to adjust the volume level. Briefly press this button (above the display) to silence the audio for a specific alert. *Page 10*

## CITY BUTTON

Switches between AutoScan™/Highway City X, City X/K/Ka settings. In general, we recommend AutoScan™. *Page 10*

## ALPHANUMERIC TEXT DISPLAY

**V945**'s display will show Highway, AutoScan™, City X or City All as its power-on indication.

During an alert, the display will indicate radar band, and a precise bar graph of signal strength. *Page 24*

Note: In the Dark Mode the display will not light during an alert. *Page 9*

The display will also show Safety Radar Category messages. *Page 24*



# Installation

## POWER CONNECTION

To power **V945**, plug the elbow shaped jack into the receptacle on the side of the detector; the opposite end of the cord connects to the cigarette barrel. Plug the cigarette barrel into your vehicle's cigarette plug.

**V945** operates on 12 volts DC negative ground only. The lighter plug provided is a standard size and will work in most vehicles. Of course, your lighter socket must be clean and properly connected for proper operation.

Note: depending on your vehicle, the lighter socket power may either be continuously on, or it may be switched on and off with your ignition switch.

In case your vehicle has continues power, remember to remove power cord from lighter socket when unit is not in use.

## MOUNTING LOCATION

**WARNING:** BELTRONICS cannot anticipate the many ways **V945** can be mounted.

It is important that you mount **V945** where it will not impair your view nor present a hazard in case of an accident.

### *Where to mount VECTOR 945*

For optimum detection performance, we recommend the following:

- Using the Windshield Mount, mount your **V945** level, and high enough on your front windshield to provide a clear view of the road from the front and rear.
- Mount **V945** away from windshield wipers, other solid objects, and heavily tinted areas that might obstruct the radar antenna or laser lens.

# Installation

## WINDSHIELD MOUNTING

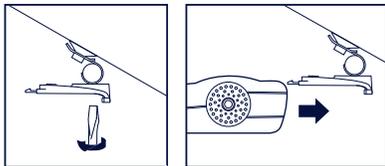
**1** Remove the mounting bracket cover on top of the unit by pressing on the raised dots and pushing outward. Store the cover in a safe place.

**2** Clean the selected windshield area, position the suction-cup mount on the windshield, and press firmly on each suction cup to secure it in place.

**3** Use a screw driver or a small coin to adjust the angle of the suction-cup mount until the base plate is level.

**4** Slide detector onto base plate unit, it snaps into place.

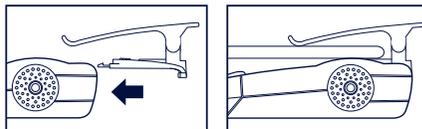
*Note: Some vehicles (including some Porsches) have a plastic coating on the inside of the windshield designed to protect occupants in case of an accident. Use of the windshield bracket on this type of windshield can permanently mark the surface. Check with your dealer if you are unsure whether your vehicle is equipped with this type of windshield.*



## VISOR MOUNTING

**1** Remove the mounting bracket cover by pressing on the raised dots and pushing outward. Store the cover in a safe place.

**2** Slide the visor clip onto the top of the detector until it snaps into place. Clip the detector to the edge of the sun visor nearest the windshield.



# Controls and Features

## POWER-UP TEST SEQUENCE/ START-UP MODE

Press the **PWR** button to turn the unit **ON**. Depending upon the Operating Mode selected, the power up test sequence and confirmation of Radar/Laser/SWS™ alerts will be relayed to you as follows:

### NORMAL (Factory Pre-Set Mode)

A lengthy, power up test sequence that displays audio and text messages for laser, Ka, K, X and Safety Warning System® (SWS™) followed by the status of the General Selectable Features each time the unit is turned on. When complete, unit is ready for operation and will display Radar, Laser and SWS™ messages when signals are detected. Normal Mode is recommended when first using your **V945**.

### MODS (Modifications Mode)

Presents audio and text messages for Laser, Ka, K, X and Safety Warning System® (SWS™), followed by **ONLY** those Selectable Features which have been modified by the user from their

Factory pre-set state each time unit is turned on. Unit is ready for operation and will display Radar, Laser and SWS™ messages when signals are detected.

### Q-START (Quick-Start Mode)

Unit will bypass the power up test sequence and will display the last selected traveling mode: "AutoScan"™ (factory default) "Highway", "City X" or "CityALL". Q-Start is recommended when you are comfortable with the detector and do not require a rundown of sample messages. Unit is ready for operation and will display Radar, Laser and SWS™ messages when signals are detected.

*Whichever Operating mode you select, **V945** will be in standby mode and ready to detect traffic Radar, Laser and SWS™ signals. The display will show "AutoScan" (factory pre-set which is suitable for ALL driving conditions, unless you change this to "Highway", "City X" or "City ALL" (see page 12).*

# Controls and Features

## TUTORIAL MODE

The Tutorial Mode allows you to become more familiar with all audible and visual alerts. The message “TUTORIAL” appears in the display followed by the audio and corresponding Text Message for “LASER”, “K=AUDIO”, “K AUDIO”, “X AUDIO”, sample Radar alert and “SAFETY WARNING SYSTEM SAMPLE ALERTS”. Three sample SWS™ messages are then presented in the display along with the corresponding Digital Voice Messages.

You can access all five SWS™ category messages by pressing the **AUDIO** button. “MSG 1” will appear in the display once **AUDIO** is pressed. To move forward in the list, press the **CITY** button; to move backward in the list, press the **DARK** button. Continue the steps above to play all 5 SWS™ category messages.

To exit Tutorial Mode, press the **PWR** button and your unit will be on and ready to receive signals.

## Set and Forget Memory

Any time your unit is turned off or

unplugged from the cigarette lighter socket, all feature settings you have selected are retained in the unit’s memory. Set and Forget Memory eliminates the need to reset your preferred feature settings each time your unit is turned off and then back on.

## Reset to Factory Settings

You can reset your unit to factory settings for Start-Up mode, volume, **DARK**, **AUDIO**, **CITY** and Selectable Features. To reset, press and hold the **CITY** button until the display shows “RESET”. Two “beeps” will sound and your unit will cycle through the **NORMAL** Start-Up Mode.

## DARK (Bright/Dim/Dark) Button

The **DARK** button allows selection of a bright, fully adjustable dim or dark mode. Your unit is factory preset to full bright display. To engage dim mode, press and hold the **DARK** button. The display will cycle through various levels of dim illumination. Release the button at your chosen level. To engage dark mode, press the **DARK** button a second time. A single “beep” coupled with the brief illumination of “DARK” on the display confirms your selection.

# Controls and Features

You'll notice an "AS" (AutoScan™), "H" (Highway mode), "CX" (City mode) or "CA" (City ALL) remains dim to confirm your unit is receiving power. To return to a full bright setting, press the **DARK** button a third time; two "beeps" confirm this selection. Use of the **DARK** button does not affect audio alerts.

*Important—if you press the the DARK button and do not receive audible confirmation, the audio level has been set too low.*

## **AUDIO (Auto-Mute/Volume Control) Button**

### **Manual Muting of Audio Alerts (Radar and SWS™)**

Whether Auto-Mute is selected on or off in Selectable Features, the audio alerts can be completely muted by pressing the AUDIO button during an alert. The display will briefly show "QUIET". No audible alert will be heard as long as the signal is present. The unit will remain in manual mute mode for approximately 12 seconds from the last received alert.

*Note—because Laser alerts are not lengthy or sustained, muting is not required (see page 21)*

## **Volume Control**

Press and hold the **AUDIO** button to engage the volume control; the volume will cycle high to low.

Release the **AUDIO** button when you have reached your desired audio setting.

## **CITY (City/Highway) Button**

The CITY button has four functions:

1. AutoScan™ Mode
2. Highway Mode
3. City X Filtration Mode
4. City X/K/Ka Filtration Mode

## **AutoScan™ Mode**

**V945** is factory shipped with AutoScan™ engaged. Autoscan™ is designed to automatically adjust sensitivity to X and K Band Radar whatever your driving environment. Whether driving in densely populated urban areas or "wide open" rural areas, AutoScan™ will automatically reject virtually all false signals which are shared with traffic Radar on X and K Bands such as door openers and security systems. AutoScan™ is a "no-fuss" means of achieving optimum signal selectivity.

# Controls and Features

## Highway

Select Highway mode when traveling in rural or highway environments for maximum X, K, Super Wideband Ka sensitivity.

## City X Mode

Select City X mode when traveling in moderate city conditions of travel, and some level of X band filtration is required. Once engaged, weak X band signals encountered will produce no audible alert until the signal strength reaches a preset level. However, visual alerts will be processed the instant an X band signal is detected, keeping you quietly informed. Since most “false” X band signals are weak, the use of the CITY mode allows you to drive out of their range before they reach the preset level and trigger a full audio alert.

## City All Mode (X, K, Super Wideband Ka)

This mode is ideal for use in areas where a high level of microwave transmissions can cause falsing on all three Radar bands. In City All mode, your unit will provide an initial short alert coupled with visual confirmation of the band detected and signal strength in the display. No further audible alert is provided until the signal strength reaches a preset level. When no audio alert is provided, the visual alert keeps you quietly informed.

# Programming

## WHICH SELECTABLE FEATURES CAN I PROGRAM?

The following features may be changed depending upon your driving environment and preference.

1. AutoMute **ON** or **OFF**
2. Radar/Laser/ **SWS™** Digital **Voice** or **Tone**
3. Safety Warning System® **ON/OFF**
4. Audio/Visual Scroll Rate **FAST** or **SLOW**
5. Inverted Display Option **ON/OFF**

*\*Display references Radar and Laser only, but does include SWS™ voice as well.*

## How to program

**1** With the unit **OFF**, press and hold the **PWR** and **CITY** buttons simultaneously. The word “**FEATURES**” will appear in the display, followed by the status of the first Selectable Feature.

**2** Press the **AUDIO** button to make your selection.

**3** Press the **CITY** button to move to the next Selectable Feature. To move backward in the list, press the **DARK** button.

**4** Press the **PWR** button to exit Selectable Features mode. To confirm your unit is ready for operation, and what mode of travel your unit is operating, the display will read: “AutoScan”, “Highway”, “City X” or “City ALL”.

# Programming

## Feature 1 – AutoMute On or Off

With “Amute on”, your unit will provide several X, K or Super Wideband Ka audio alerts followed by the Digital Voice announcement of the signal detected. After the Digital Voice announcement, a “clicking” tone keeps you quietly informed for as long as the signal is present. This clicking becomes more rapid as the strength of the Radar signal increases. “Amute on” enables you to conveniently monitor extended encounters without having to manually mute or adjust the volume setting.

With “Amuteoff”, your unit will provide a continuous series of X, K, Super Wideband Ka audio alerts and Digital Voice announcements of the signal detected. Digital Voice prompts are provided once after the initial audio alert. This standard setting is often preferred when background noise in a vehicle is loud. Factory setting is “Amuteoff”.

*Note: because of its urgency, Laser alerts are not affected by this mode.*

## Feature 2 – Radar/Laser/SWS™ Digital Voice Prompts

With “Voice on”, unit will provide Digital Voice prompts followed by “beeps” when X/K/Ka and Laser signals are detected. With “Voiceoff”, unit will sound unique audio tones only. Factory setting is “Voice on”.

## Feature 3 – Safety Warning System® (SWS™)

With “SWSon”, unit will provide a message when signals from SWS™ transmitters are detected. Factory setting is “SWSon”.

## Feature 4 – Audio/Visual Scroll Rate

When “SCRslow” is selected, unit will provide a slow cycling of audio/visual messages. When “SCRfast” is selected, unit will provide a fast cycling of audio/visual messages. Factory setting is “SCRslow”.

## Feature 5 – Inverted Display Feature

When selected, your unit can be mounted to the visor using the hook & loop fastener upside down and the display will remain right reading. “Upside down” mounting may allow for easier access to the unit’s functions.

*Note: Inverted display is ON when the check mark symbol is FLASHING; inverted display is OFF when the underscore line is flashing.*

## FEATURES AND SPECIFICATIONS

### Operating Bands

- X-band 10.525 GHz  $\pm$  25 MHz
- K-band 24.150 GHz  $\pm$  100 MHz
- Ka-band 34.700 GHz  $\pm$  1300 MHz
- Laser 904nm

### Radar Receiver/Detector Type

- Superheterodyne, GaAs FET VCO
- Scanning Frequency Discriminator
- Digital Signal Processing (DSP)

### Laser Detection

- Quantum Limited Video Receiver
- Multiple Laser Sensing Diodes

### Power Requirement

- 12VDC, Negative Ground

### Sensitivity Control

- Highway, AutoScan™, City X and City X/K/Ka

### Auto Calibration Circuitry

### Shadow Technology® II for undetectability to Technosonic VG-2.

### Dimensions (Inches)

- 1.8" H x 3.1" W x 5.3" L

### Patented Technology

**V945** is covered by one or more of the following US patents.

6,587,068	6,400,305	6,249,218	6,069,580
5,668,554	5,600,132	5,587,916	5,559,508
5,365,055	5,347,120	5,446,923	5,402,087
5,305,007	5,206,500	5,164,729	5,134,406
5,111,207	5,079,553	5,049,885	5,049,884
4,961,074	4,954,828	4,952,937	4,952,936
4,939,521	4,896,855	4,887,753	4,862,175
4,750,215	4,686,499	4,631,542	4,630,054
4,625,210	4,613,989	4,604,529	4,583,057
4,581,769	4,571,593	4,313,216	D314,178
D313,365	D310,167	D308,837	D296,771
D288,418	D253,752		

**V945** is also covered by one or more of the following Canadian patents:

1,295,715	1,295,714	1,187,602	1,187,586
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Other patents pending. Additional patents may be listed inside the product.

# Technical Details

## INTERPRETING ALERTS

Although the **V945** is a comprehensive warning system and this handbook is as complete as we can make it, only experience will teach you what to expect from your **V945** and how to interpret what it tells you. The specific type of radar being used, the type of transmission

(continuous or instant-on) and the location of the radar source affect the radar alerts you receive.

The following examples will give you an introduction to understanding the **V945**'s warning system for radar, laser and safety alerts.

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### ALERT

The **V945** begins to sound slowly, then the rate of alert increases until the alert becomes a solid tone. The Signal Meter ramps accordingly.

**V945** emits short alerts for a few seconds and then falls silent only to briefly alert and fall silent again.

**V945** suddenly sounds a continuous tone for the appropriate band received. All segments in the Signal Strength Meter are lit.

A brief laser alert.

### EXPLANATION

You are approaching a continuous radar source aimed in your direction.

An instant-on radar source is being used ahead of you and out of your view.

An instant-on radar source or laser source is being used nearby. This kind of alert requires immediate attention!

Laser is being used in the area. Because laser is inherently difficult to detect, any laser alert may indicate a source very close by.

# Technical Details

## ALERT

**V945** receives weak signals. These signals may be a little stronger as you pass large, roadside objects. The signals increase in frequency.

**V945** alerts slowly for awhile and then abruptly jumps to a strong alert.

**V945** alerts intermittently. Rate and strength of alerts may be consistent or vary wildly.

**V945** alerts intermittently. Rate and strength of signal increases with each alert.

**V945** gives an X-band, or K-band alert intermittently.

## EXPLANATION

A moving patrol car with continuous radar is overtaking you from behind. Because these signals are reflected (reflections are increased by large objects), they may or may not eventually melt into a solid point even when the patrol car is directly behind you.

You are approaching a radar unit concealed by a hill or an obstructed curve.

A patrol car is traveling in front of you with a radar source aimed forward. Because signals are sometimes reflected off of large objects and sometimes not, the alerts may seem inconsistent.

A patrol car is approaching from the other direction, sampling traffic with instant-on radar. Such alerts should be taken seriously.

You are driving through an area populated with radar motion sensors (door openers, burglar alarms, etc.). Since these transmitters are usually contained inside buildings or aimed toward OR away from you, they are typically not as strong or lasting as a real radar encounter.

*CAUTION: Since the characteristics of these alerts may be similar to some of the preceding examples, overconfidence in an unfamiliar area can be dangerous. Likewise, if an alert in a commonly traveled area is suddenly stronger or on a different band than usual, speed radar may be set up nearby.*

## HOW RADAR WORKS

Traffic radar, which consists of microwaves, travels in straight lines and is easily reflected by objects such as cars, trucks, even guardrails and overpasses. Radar works by directing its microwave beam down the road. As your vehicle travels into range, the microwave beam bounces off your car, and the radar antenna looks for the reflections. Using the Doppler Principle, the radar equipment then calculates your speed by comparing the frequency of the reflection of your car to the original frequency of the beam sent out.

Traffic radar has limitations, the most significant of these being that it typically can monitor only one target at a time. If there is more than one vehicle within range, it is up to the radar operator to decide which target is producing the strongest reflection. Since the strength of the reflection is affected by both the size of the vehicle and its proximity to the antenna, it is difficult for the radar operator to determine if the signal is from a sports car nearby or a semi-truck several hundred feet away.

Radar range also depends on the power of the radar equipment itself. The strength of the radar unit's beam diminishes with distance. The farther the radar has to travel, the less energy it has for speed detection.

Because intrusion alarms and motion sensors often operate on the same frequency as X-Band radar, your **V945** will occasionally receive non-police radar signals. Since these X-Band transmitters are usually contained inside of a building, or aimed toward the ground, they will generally produce much weaker readings than will a true radar encounter. As you become familiar with the sources of these pseudo alarms in your daily driving, they will serve as confirmation that your **V945's** radar detection abilities are fully operational.

### HOW LASER (LIDAR) WORKS

Laser speed detection is actually LIDAR (Light Detection and Ranging). LIDAR guns project a beam of invisible infrared light. The signal is a series of very short infrared light energy pulses, which move, in a straight line, reflecting off your car and returning to the gun. LIDAR uses these light pulses to measure the distance to a vehicle. Speed is then calculated by measuring how quickly these pulses are reflected given the known speed of light.

LIDAR (or laser) is a newer technology and is not as widespread as conventional radar, therefore, you may not encounter laser on a daily basis. And unlike radar detection, laser detection is not prone to false alarms. Because LIDAR transmits a much narrower beam than does radar, it is much more accurate in its ability to distinguish between targets and is also more difficult to detect. **AS A RESULT, EVEN THE BRIEFEST LASER ALERT SHOULD BE TAKEN SERIOUSLY.**

There are limitations to LIDAR equipment. LIDAR is much more sensitive to weather conditions than RADAR, and a LIDAR gun's range will be decreased by anything affecting visibility such as rain, fog, or smoke. A LIDAR gun cannot operate through glass and it must be stationary in order to get an accurate reading. Because LIDAR must have a clear line of sight and is subject to cosine error (an inaccuracy, which increases as the angle between the gun and the vehicle, increases) police typically use LIDAR equipment parallel to the road or from an overpass. LIDAR can be used day or night.

### HOW SAFETY RADAR WORKS

Safety Warning System<sup>®</sup>, or SWS<sup>™</sup>, uses a modified K-band radar signal. The SWS<sup>™</sup> safety radar system is comprised of five categories. The SWS<sup>™</sup> message categories are listed on the facing page.

From the factory, your **V945** is programmed with SWS<sup>™</sup> decoding **ON**. If SWS<sup>™</sup> is used in your area, your **V945** will display the safety message categories associated with the signal.

Since Safety radar technology is relatively new, and the number of transmitters in operation is not yet widespread, you will not receive Safety signals on a daily basis. Do not be surprised if you encounter emergency vehicles, road hazards and railroad crossings that are unequipped with these transmitters. As Safety transmitters become more prevalent (the number of operating transmitters is growing every day), these Safety radar signals will become more common.

## List of Safety Warning System® SWS™ Alerts

### CATEGORY 1

#### **Highway Construction of Maintenance**

“Highway Work”

### CATEGORY 2

#### **Highway Hazard Zone Advisory**

“HazardZone”

### CATEGORY 3

#### **Weather Related Hazards**

“Weather”

### CATEGORY 4

#### **Travel Information/Convenience**

“TravelInfo”

### CATEGORY 5

#### **Fast/Slow Moving Vehicles**

“Moving”

Note: “MessageUnknown” confirms incomplete or unknown messages.

# Troubleshooting

## PROBLEM

**V945** beeps briefly at the same location every day, but no radar source is in sight.

**V945** does not seem sensitive to radar or laser.

**V945** did not alert when a police car was in view.

**V945** did not provide a Safety signal while within range of an emergency vehicle.

**V945**'s display is not working.

**V945**'s audible alerts are less loud after the first few alerts.

## SOLUTION

- An X-band motion sensor or intrusion alarm is located within range of your route. With time, you will learn predictable patterns of these signals.
- Make sure that windshield wipers do not block **V945**'s radar antenna and that the laser lens is not behind tinted areas.
- Determine if your vehicle has an Instaclear®, ElectriClear® or solar reflective windshield which may deflect radar or laser signals.
- **V945** may be in City All Mode.
- VASCAR (Visual Average Speed Computer and Recorder) a stopwatch method of speed detection, may be in use.
- Officer may not have radar or laser unit turned on.
- Safety transmitters may not be commonly used in your area.
- Press the **DARK** button to return to full Bright Mode.
- **V945** is in AutoMute Mode. *See page 8 for details.*

# Troubleshooting

## PROBLEM

**V945** bounces or sags on windshield.

**V945**'s power-on sequence reoccurs while you are driving.

Your 14-year old son has changed all 7 of the Programming options.

**V945** will not turn on.

**V945** feels very warm.

## SOLUTION

- **V945** is not making contact with the windshield to provide stability. While holding down **V945**'s QuickMount button, slide **V945** toward the windshield so that the back top edge makes firm contact.
- A loose power connection or dirty lighter socket can cause **V945** to be briefly disconnected.
- You can return all of the programming options to the factory defaults by pressing and holding down the CITY button.
- Check that the power is **ON**.
- Check that vehicle ignition is **ON**.
- Check that vehicle lighter socket is functional.
- Try **V945** in another vehicle.
- It is normal for **V945** to feel warm.

## Explanation of Displays

As	Sensitivity control is in AutoScan, display is in Dark mode (page 9)
H	Sensitivity control is in Highway mode, display is in Dark mode (page 9)
Cx	Sensitivity control is in City X mode, display is in Dark mode (page 9)
HwyWork	One of five Safety Warning System™ Category Messages (pages 21)
Caution	<b>V945</b> has detected a Safety Radar Signal, but the signal isn't yet strong enough to decode the specific safety message (page 20)
Ka 	<b>V945</b> has detected a full strength Ka Band signal
K 	<b>V945</b> has detected a full strength K Band signal
X 	<b>V945</b> has detected a full strength X Band signal

Note: There are 5 signal strength bars, depending upon the strength of the signal detected, 1, 2, 3, 4, or all 5 will illuminate.



# Service

## SERVICE PROCEDURE

If your **V945** ever needs service, please follow these simple steps:

- 1 Check the troubleshooting section of this manual. It may have a solution to your problem.
- 2 Call us at 1-800-341-2288. We may be able to solve your problem over the phone. If the problem requires that you send your **V945** to the factory for repair, we will provide you with a Service Order Number, which must be included on the outside of your shipping box.

Enclose the following information with your **V945**:

- Your Service Order Number
- Your name and return address
- Your daytime telephone number
- A description of the problem you are experiencing.

## OUT OF WARRANTY REPAIRS

For out of warranty repairs, include prepayment in the amount you were quoted by the Beltronics Customer Service Representative. If the detector has been damaged, abused or modified, the repair cost will be calculated on a parts and labor basis. If it exceeds the basic repair charge, you will be contacted with a quotation. If the additional payment is not received within 30 days (or if you notify us that you choose not to have your **V945** repaired at the price quoted), your **V945** will be returned, without repair. Payment can be made by check, money order, or credit card.

Ship complete **V945** to:

BELTRONICS  
Customer Service Department  
Service Order Number \_\_\_\_\_  
5442 West Chester Road  
West Chester, Ohio 45069

For your own protection, we recommend that you ship your **V945** postpaid and insured. Insist on a proof of delivery, and keep the receipt until the return of your **V945**.

**Register  
online:  
@  
www.  
beltronics  
.com**

▼ *Remove card along perforations* ▼

## **BELTRONICS<sup>™</sup> PRODUCT REGISTRATION CARD**

- ▶ If you purchased your detector directly from BELTRONICS, you do not need to fill this out.
- ▶ If you did not purchase your detector directly from BELTRONICS, please fill out this section and return to us, or register online at our web address: [www.beltronics.com](http://www.beltronics.com).

1. First Name: \_\_\_\_\_ Middle Initial \_\_\_\_\_ Last Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ ZIP \_\_\_\_\_

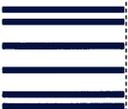
Phone Number (In case we have a question) \_\_\_\_\_

2. Product Purchased \_\_\_\_\_ Model \_\_\_\_\_ Serial Number \_\_\_\_\_

3. Place of Purchase \_\_\_\_\_ Date \_\_\_\_\_ Price \_\_\_\_\_

4. Primary reason for purchasing this BELTRONICS product \_\_\_\_\_

Remove card along perforations



NO POSTAGE  
NECESSARY  
IF MAILED  
IN THE  
UNITED STATES

# BUSINESS REPLY MAIL

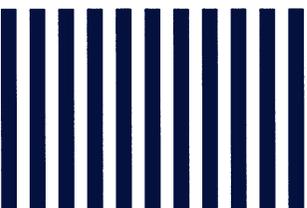
FIRST-CLASS MAIL

PERMIT NO 300

WEST CHESTER OH

POSTAGE WILL BE PAID BY ADDRESSEE

ATTN CUSTOMER SERVICE  
BELTRONICS INC  
5442 WEST CHESTER RD  
WEST CHESTER OH 45069-9789



# Warranty and Accessories

## **BELTRONICS One Year Limited Warranty**

BELTRONICS warrants your **V945** against all defects in materials and workmanship for a period of one (1) year from the date of the original purchase, subject to the following terms and conditions:

The sole responsibility of BELTRONICS under this Warranty is limited to either repair or, at the option of BELTRONICS, replacement of the **V945** detector. There are no expressed or implied warranties, including those of fitness for a particular purpose or merchantability, which extend beyond the face hereof. Some states do not allow limitations on how long an implied warranty lasts, so the above limitations may not apply to you.

BELTRONICS is not liable for any incidental or consequential damages arising from the use, misuse, or mounting of the **V945**. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

This Warranty gives you specific rights. You may have other legal rights which vary

from state to state. This Warranty does not apply if the serial number on the housing of the **V945** has been removed, or if your **V945** has been subjected to physical abuse, improper installation, or modification.

## **ACCESSORIES**

See all of our products and accessories at [www.beltronics.com](http://www.beltronics.com)