

BELTRONICS™

BELTRONICS™

M A G N E S I U M
C O N S T R U C T I O N

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Model: STi DRIVER

STi
DRIVER

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

Owner's Manual

Quick Reference Card

▼ Remove card along perforations ▼

BELTRONICS STi DRIVER Quick Reference Card

<p>Press the RWW button to go from one category to the next</p>	<p>Press the CHG button to change your setting within a category</p>	<p>Remove card along perforations</p>
<p>DISPLAY</p> <p>PILOT (Power-on indication)</p> <p>ALERT LAMP</p> <p>VOICE</p> <p>POWER-ON SEQUENCE</p> <p>SIGNAL STRENGTH METER</p> <p>AUTOMUTE</p> <p>BRIGHTNESS</p> <p>BANDS</p>	<p>Di sp STD Di sp INV</p> <p>Pi lot HWY Pi lot H Pi lot V</p> <p>Al amp ON Al amp OFF</p> <p>Voi ce ON Voi ce OFF</p> <p>PwrOn STD PwrOn FST</p> <p>Meter STD Meter THT Meter TEC</p> <p>aMute ON aMute OFF</p> <p>Br t Auto Br t Mi n Br t Med Br t Max Br t Dark</p> <p>Bands DFT Bands MOD</p>	<p>* Standard display Inverted display</p> <p>* Full word: Highway, AutoScan, etc. Letter: H, A, C, or Cnx Vehicle voltage</p> <p>* Alert lamp on Alert lamp off</p> <p>* Voice alerts on Voice alerts off</p> <p>* Standard power-on sequence Fast power-on sequence</p> <p>* Standard signal strength meter Threat Display Tech Display</p> <p>* AutoMute on AutoMute off</p> <p>* Automatic brightness Minimum brightness Medium brightness Maximum brightness All dark</p> <p>* Factory default settings Factory default settings modified</p> <p>▼ Turn bands "ON" or "OFF" by pressing the "SENS" button</p> <p>X ON or OFF (default is on) K ON or OFF (default is on) Ka ON or OFF (default is on) POP ON or OFF (default is off) LSR ON or OFF (default is on) SWS ON or OFF (default is off)</p>

* Factory Default Settings

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Quick Reference Guide

To begin using your STi DRIVER, just follow these simple steps

- 1 Plug the small end of the power cord into the side jack of the detector, and plug the large end of the power cord into your vehicle's lighter socket.
- 2 Mount your STi DRIVER on the windshield using the supplied windshield mount.
- 3 Press the PWR button, located on the left side of the front panel, to turn the STi DRIVER on.
- 4 Press and hold the VOLUME/MUTE button to adjust the volume level.

Please read the manual to fully understand STi DRIVER's operation and features.

QuickMount Slot

Insert STi DRIVER's adjustable Windshield mount into this slot. *Page 7*

QuickMount Button

Press the button, and slide the Windshield mount into one of its four locking positions. *Page 7*

Power

Press the PWR button to turn the STi DRIVER on or off.

AutoMute

STi DRIVER's patented AutoMute automatically reduces the volume level of the audio alert after a brief period. If you prefer, you can turn AutoMute off. *Page 8*

Programming

The STi DRIVER is ready to go, just plug it in and turn it on. But you can also easily change 9 features for your preferences. *Pages 12-16*

Radar Antenna and Laser Lens

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

Rear Laser Port

Receives laser signals from behind the vehicle.

Power Jack

Plug the power cord into this connector. *Page 6*

Earphone Jack

Accepts standard 3.5mm mono earphone.

VOLUME/MUTE Button

Press and hold the VOLUME/MUTE button (below the display) to adjust the alert volume level.

Briefly press this button to silence the audio for a specific alert. (The audio will alert you to the next encounter.) *Page 8*

Sensitivity Button (SENS)

Switches between Highway, AutoScan, City and City NoX settings. In general, we recommend the AutoScan mode. *Page 9*

Alphanumeric Display

The STi DRIVER's display will show Highway, AutoScan, City, or City NoX as its power-on indication. If you prefer, you can choose other power-on indications. *Pages 12-15*

During an alert, the display will indicate the radar or laser band, and a precise bar graph of signal strength. *Page 10*

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



Installation

Power Connection

To apply power to the STi DRIVER, plug the small end of the power cord, (telephone-type connector) into the modular jack on the STi DRIVER's right side, and plug the lighter plug adapter into your vehicle's lighter socket or accessory socket.

Your STi DRIVER operates on 12 volts DC negative ground only. The lighter plug provided is a standard size and will work in most vehicles. However, some vehicles may require the optional European sleeve to ensure a snug fit. If so, simply call our service department and we'll send you one. This sleeve slides over the power cord's lighter plug adapter. 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. We suggest using a direct-wire SmartPlug connected to a switched circuit at the fuse box if the lighter socket is continuously on.

Mounting Location

WARNING: BELTRONICS cannot anticipate the many ways STi DRIVER can be mounted. It is important that you mount STi DRIVER where it will not impair your view nor present a hazard in case of an accident.

Where to mount STi DRIVER

For optimum detection performance, we recommend the following:

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

Windshield QuickMount

The STi DRIVER's QuickMount windshield bracket is designed for unobtrusive and hassle-free mounting and removal.

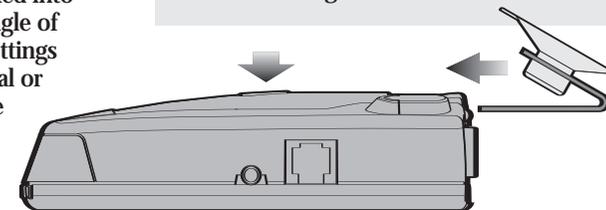
1 Depress the adjustment button on the top of the STi DRIVER (by the word BELTRONICS) and slide the QuickMount bracket into the slot until it is locked into the position which best fits the angle of your windshield (there are four settings available). For extremely horizontal or extremely sloped windshields, the QuickMount bracket can be bent.

To ensure that the suction cups adhere to the windshield firmly, be sure to keep both your windshield and the suction cups clean.

2 To adjust the STi DRIVER on your windshield, use the QuickMount adjustment button located on the top of the STi DRIVER, and slide the STi DRIVER forward or backward to obtain a level position.

NOTE: When installed and adjusted properly, the back top edge of the STi DRIVER should rest solidly against your windshield.

CAUTION: A few vehicles (including some Porsches) have windshields with a soft anti-lacerative coating on the inside surface. Use of suction cups will permanently mar this coating. Consult your dealership or the vehicle owner's manual to determine if your windshield has this coating.



User's Tip

You can leave the QuickMount bracket in place on your windshield, and easily remove STi DRIVER by pressing the adjustment button and sliding the STi DRIVER off the mount. Again, be sure to position the bracket where it won't present a hazard in the event of an accident. Additional mounts are available for other vehicles in your household.

Power

To turn STi DRIVER on or off, press the PWR button located on the front left side. When you turn STi DRIVER on, it goes through a sequence of alerts.

If you prefer, you may program your STi DRIVER for a shorter power-on sequence. See the Programming section for details.

Volume

Press and hold the VOLUME/MUTE button, (or Mute button on the SmartPlug) located in the center of the front panel, to adjust the STi DRIVER's alert volume level. The audio will ramp up and down, accompanied by a bar-graph on the display. Once you've reached your preferred audio level, simply release the button.

To change the direction of the audio ramping (down instead of up or vice versa) simply release the volume/mute button quickly press and hold it again to change its direction.

Power-on indication

After STi DRIVER's start-up sequence is complete, the alphanumeric display will show Highway, AutoScan, City or City NoX to indicate which sensitivity mode is selected.

If you prefer, you can select alternate power-on displays. See the Programming section for details.

Voice Alerts

The STi DRIVER provides digital voice announcements (factory default) for alerts.

If you prefer, you can turn off the voice announcement feature and have the STi DRIVER provide audible tones without the voice announcement. See programming section for details.

AutoMute

Your STi DRIVER has our patented AutoMute feature. After STi DRIVER alerts you to a radar encounter at the volume you have selected, the AutoMute feature will automatically reduce the volume to a lower level. This keeps you informed without the annoyance of a continuous full-volume alert.

If you prefer, you can turn the AutoMute feature off. See the Programming section for details.

Mute

The VOLUME/MUTE button, located in the center of the STi DRIVER's front panel, allows you to silence the audio alert during a radar encounter.

To mute the audio for a single specific signal, briefly press the VOLUME/MUTE button. After that radar encounter has passed, the mute will automatically reset and the audio will alert you to the next encounter.

Sensitivity Button (SENS)

The "SENS" button selects the STi DRIVER's sensitivity mode. We recommend AutoScan mode for most driving.

Highway Mode (Highway)

In this setting, the STi DRIVER will detect all signals at maximum range.

AutoScan Mode (AutoScan)

In this setting the STi DRIVER's internal computer continuously analyzes all incoming signals and intelligently filters out unwanted X and K-band false alarms from automatic door openers and motion sensors. Full sensitivity is maintained on all other bands

City (City STD)

In this setting, X and K-band sensitivity is further reduced to eliminate unwanted false alarms in congested urban areas.

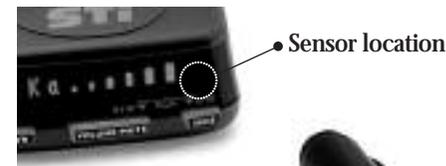
City NoX (City NoX)

In this setting, K-band sensitivity is the same as City STD, however, X-band is completely turned off.

WARNING: Do not use the STi DRIVER City NoX mode unless you are absolutely certain that there are no traffic radar guns using X-band in your area.

Brightness

The STi DRIVER's brightness is controlled by a sensor located behind the front display lens. This sensor will automatically adjust the display and backlit buttons based on the ambient light in your vehicle. If you prefer, you can select a fixed brightness level, including Full Dark Mode. See the programming section for details.



SmartPlug

SmartPlug is a special power cord that has a power-on indicator, a bright alert light that warns of radar or laser, and a convenient mute button right on the plug.

It's the perfect addition for any vehicle where reaching the detector mute button on the windshield is a stretch. And for discreet night driving, put STi DRIVER in the Dark Mode, and use the SmartPlug for your visual alerts. Other cars won't know you have a detector.

Two versions are included: A coiled SmartPlug that plugs into your lighter socket, and a Direct-wire SmartPlug module that's wired into the electrical system, with an 8 foot straight cord to route to your STi DRIVER.

Audible Alerts

For Radar signals:

The STi DRIVER uses a geiger-counter-like sound to indicate the signal strength and type of radar signal being encountered. When you encounter radar, a distinct audible alert will sound and occur faster as the signal gets stronger. This allows you to judge the distance from the signal source without taking your eyes from the road.

X-band = chirping

K-band = buzzing

Ka-band = double-chirp

POP = full double-chirp

SWS = double buzz

For Laser signals:

Since laser signals are a possible threat no matter how weak, the STi DRIVER alerts you to these bands at full signal strength.

For POP signals:

Since POP signals are extremely fast K or Ka bursts, and a possible threat no matter how weak, the STi DRIVER alerts you to these bands at full signal strength.

For Safety signals:

The STi DRIVER will alert you to these signals with a double-beep tone, and a corresponding text message. A complete listing of the text messages is on page 23.

Power Connector

The STi DRIVER's power jack uses a telephone-type connector. This 4-conductor connector only works with the included coiled SmartPlug or direct-wire cord.

Signal Strength Meter

The STi DRIVER's alphanumeric display consists of 280 individual LEDs, to provide an intuitive ultra-bright display of signal strength and text messages.

The STi DRIVER's standard bar-graph signal strength meter only displays information on a single radar signal. If there are multiple signals present, STi DRIVER's internal computer determines which is the most important threat to show on the bar-graph meter.

When STi detects radar, it displays the band (X, K, Ka), and a precise bar-graph of the signal strength. When the STi DRIVER detects a laser signal, the display will show "LASER." When it detects a POP signal, the display will show "POP."

NOTE: If you are operating the STi DRIVER in the Dark mode, the display will not display anything when a signal is detected. Only the audio, and the flashing alert lamp on the SmartPlug will be seen.

Threat Display

Your STi DRIVER's Threat Display option is an advanced display for experienced detector users. Please use the STi DRIVER for a few weeks to get familiar with its other features before using Threat Display.

To use the Threat Display instead of the bar graph signal strength meter, you must select Threat Display in the STi DRIVER's Programming (see pages 12-15).

The STi DRIVER's Threat Display simultaneously tracks multiple radar signals and their relative signal strength.

Threat Display can help you spot a change in your normal driving environment; for example, a traffic radar unit being operated in an area where there are normally other signals present.

The Threat Display is actually a miniature spectrum analyzer. It shows what band each signal is and its signal strength.

A black rectangular display showing the text "Ka9K2X1" in white. The "Ka" is larger than the "9", "K", and "2", and "X1" is smaller than the "9".

Above is the Threat Display if the STi DRIVER was detecting a strong Ka-band, a weak K-band, and a weak X-band signal.

A few more examples will help you better see how the Threat Display works.

A black rectangular display showing the text "K9 X1" in white. The "K9" is larger than the "X1".

Here Threat Display shows a strong K-band signal, and a weak X-band signal.

A black rectangular display showing the text "Ka1 X9" in white. The "Ka1" is larger than the "X9".

Here Threat Display shows a weak Ka-band signal, and a strong X-band signal.

Threat Display Details

The band designators (X, K, Ka) will stay on the display for a few seconds after the signal has passed. This allows you to see what the unit detected, even on very brief signals.

Tech Display

The STi DRIVER's Tech Display option is for the experienced detector user. In this mode, the STi DRIVER will display the actual numeric frequency of the radar signal being received.

A black rectangular display showing the text "K 24.150" in white. The "K" is larger than "24.150".

Tech Display shows one K-band signal at 24.150 gigahertz.

Even long-time detector users will require a significant amount of time to get familiar with this new level of information about detected signals.

Programming

There are 9 user-selectable options so you can customize your STi DRIVER for your own preferences. The buttons labeled VOLUME/MUTE and SENS are also used to enter the Programming Mode, REVIEW your current program settings, and to CHANGE any settings as desired. The words PGM, RVW, and CHG are located on the front of the display lens, and are highlighted in colored graphics. Pages 14-16 explain each option in more detail.

How to use Programming

1 To enter Program Mode, press and hold both the VOLUME/MUTE and SENS buttons down for 2 seconds. (The unit will beep twice, and will display the word Program).

2 Then press the RVW button to review the current settings. (You can either tap the button to change from item to item, or hold the button to scroll through the items).

3 Press the CHG button to change any setting. (You can either tap the button to change from setting to setting, or hold the button to scroll through all the options).

4 To leave the Program Mode, simply wait 8 seconds without pressing any button, or press the PWR button. (The unit will display Compl ete, beep 4 times, and return to normal operation).

An example

Here is how you would turn STi DRIVER's AutoMute feature off.

1 Enter the Program Mode by holding both the VOLUME/MUTE and SENS buttons down for 2 seconds. *The STi DRIVER will beep twice and display Program.*

2 Then hold the RVW button down. *The STi DRIVER will scroll through the categories, starting with Display (Di sp), Pilot (Pi lot), Alert Lamp (Al amp), Voice (Voi ce), Power-on sequence (PwrOn), signal strength meter (Meter), AutoMute (aMute), Brightness (Brt), and Bands (Bands).*

3 Release the RVW button when the STi DRIVER shows the AutoMute item. *Since the factory setting is for AutoMute to be on, STi DRIVER will display aMute ON. (If you accidentally don't release the RVW button in time, and STi DRIVER goes to the next category, simply hold the RVW button down again, the STi DRIVER will scroll through all of the categories.)*

4 Press the CHG button to change from aMute ON to aMute OFF.

5 To complete the Programming, simply wait 8 seconds without pressing any button, or press the PWR button. *The STi DRIVER will display Compl ete, beep 4 times, and return to normal operation.*

Overview of Programming

Press the REVIEW button to go from one category to the next		Press the CHANGE button to change your setting within a category
DISPLAY	Di sp STD Di sp INV	*Standard display Inverted display
PILOT (Power-on indication)	Pi lot HWY Pi lot H Pi lot V	*Full word: Highway, AutoScan, etc. Letter: H, A, C, or Cnx Vehicle voltage
ALERT LAMP	Al amp ON Al amp OFF	*Alert lamp on Alert lamp off
VOICE	Voi ce ON Voi ce OFF	*Voice alerts on Voice alerts off
POWER-ON SEQUENCE	PwrOn STD PwrOn FST	*Standard power-on sequence Fast power-on sequence
SIGNAL STRENGTH METER	Meter STD Meter THT Meter TEC	*Standard signal strength meter Threat Display Tech Display
AUTOMUTE	aMute ON aMute OFF	*AutoMute on AutoMute off
BRIGHTNESS	Brt Auto Brt Min Brt Med Brt Max Brt Dark	*Automatic brightness Minimum brightness Medium brightness Maximum brightness All dark
BANDS	Bands DFT Bands MOD	*Factory default settings Factory default settings modified
<div style="background-color: #e0e0e0; padding: 5px;"> <p>* Factory Default Settings To reset STi DRIVER to its original factory settings, press and hold the "VOLUME/MUTE" and "SENS" buttons while turning the power on. The STi DRIVER's display will provide a "Reset" message, accompanied by an audible alert, acknowledging the reset.</p> </div>		
	X ON K ON Ka ON POP ON LSR ON SWS ON	or OFF (default is on) or OFF (default is on) or OFF (default is on) or OFF (default is off) or OFF (default is on) or OFF (default is off)
		<p>↓ Turn bands "ON" or "OFF" by pressing and holding the "SENS" button</p>

Display

Di sp STD

In this setting, the display will provide all information in its normal orientation.



◀ Standard Orientation

Di sp INV

In this setting, the detector can be mounted upside down and all information will be inverted so it's readable.



◀ Inverted Orientation

Pilot (Power-on indication)

Pi lot HWY (Full description)

In this setting, the STi DRIVER will display “Highway,” “AutoScan,” “City,” or “CityNox” as its power-on indication. (factory default)

Pi lot H (Letter)

In this setting, the STi DRIVER will display “H” for Highway, “A” for AutoScan, “C” for City, and “Cnx” for City NoX.

Pi lot V (Vehicle voltage)

In this setting, the STi DRIVER will continually display “H” for Highway, A” for AutoScan, “C” for City, and “Cnx” for City NoX, and the vehicle’s voltage.

NOTE: When you are using the Dark mode, the display will not display anything. Only the power-on indication on the SmartPlug will illuminate.

NOTE: A high or low voltage warning is given any time the vehicle’s voltage drops below 10.5 volts, or goes above 16.5 volts. This feature is always on, regardless of the Pilot setting.

Alamp

Al amp On (alert lamp on)

In this setting, the backlit VOLUME/MUTE will flash on and off during an alert.

Al ampOFF (alert lamp off)

In this setting, the VOLUME/MUTE backlit button will not flash on and off during an alert.

Voice

Voi ce On (Voice announcements on)

In this setting, all radar, laser, and SWS messages (if programmed) will be announced using a digital voice.

Voi ce Off (Voice announcements off)

In this setting, only the distinct audio tone will be heard when a radar, Laser, or SWS message is detected.

Power-on Sequence

PwrOnSTD (Standard)

In this setting, each time you turn on the STi DRIVER, it will display “Bel STi,” “LASER,” “Ka-band,” “K-band,” “X-band,” followed by a brief SWS alert. (factory default)

If any of the factory default bands have been disabled, a double X-band tone and corresponding message (i.e. “X OFF”), will alert you that one or more bands have been turned off.

PwrOnFST (Fast power-on)

In this setting, the STi DRIVER will provide a single X-band tone if the factory default settings have not been changed. If any of the factory default band settings have been disabled, a double X-band tone and corresponding message (i.e. “X OFF”), will alert you that one or more bands have been turned off.

Signal Strength Meter



MeterSTD (Standard meter)

In this setting, the meter displays the band of the received signal, and a bar graph shows the relative signal strength. (factory default)

Ka9 X2

MeterTH (Threat Display)

In this setting, the meter will simultaneously track multiple radar signals, including relative signal strength for each.

K 24.150

MeterTEC (Tech Display meter)

In this setting, the meter displays the actual numeric frequency of the radar signal received.

NOTE: The Tech Display feature is explained in more detail on page 11.

AutoMute

aMute ON (AutoMute on)

In this setting, the STi DRIVER’s audio alerts will initially be at the volume you set, but after a few seconds, the STi DRIVER will automatically reduce the volume level, to keep you informed, but not annoyed. (factory default)

aMuteOFF (AutoMute off)

With AutoMute off, the STi DRIVER’s audio alerts will remain at the volume you set for the duration of the radar encounter.

Brightness

BrAuto

In this setting, the brightness for the display and backlit buttons are controlled automatically by a sensor that measures the ambient light in the vehicle. Sunlight will increase the brightness level, while dim or no light (night driving) will decrease the brightness.

BrMin

In this setting, the display and backlit buttons are set to a minimum light level. This setting is retained in memory even if the power is turned off.

BrMed

In this setting, the display and backlit buttons are set to a medium light level. This setting is retained in memory even if the power is turned off.

BrMax

In this setting, the display and backlit buttons are set to a maximum light level. This setting is retained in memory even if the power is turned off.

BrDark

In this setting, the display and backlit buttons will be totally dark. The supplied SmartPlug will provide the only visual indication that the Sti DRIVER is operational.

Bands

BandsDFT

In this setting, the factory default settings for radar and laser are monitored.

This is the factory setting, and it is highly recommended that you use your STi DRIVER in this mode.

BandsMOD

In this setting, STi DRIVER will warn you with an audible alert, and associated text message stating which band has changed from the original factory setting (i.e. "SWS ON"). This warning is displayed during the start up sequence (standard or fast).

WARNING: Do not turn off a band unless you are absolutely certain that there are no traffic radar guns using that specific band in your area.

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, \pm 33nm

Radar Receiver

- Dual-Horn Antenna Casting
- Superheterodyne, dual LNA's
- Scanning Frequency Discriminator
- Digital Signal Processing (DSP)

Laser Detection

- Quantum Limited Video Receiver
- (5) Optical Laser Sensors

Display Type

- 280 LED Alphanumeric
- Bar Graph, Threat Display™ or Tech Display™
- Automatic, plus 4 levels of fixed brightness including full Dark

Power Requirement

- 12VDC, Negative Ground
- Coiled SmartPlug™ with Mute Button (included)
- Direct-wire SmartPlug™ (included)

Programmable Features

- Display
- Power-On Indication
- Alert Lamp
- Voice Alerts
- Power-On Sequence
- Signal Strength Meter
- AutoMute
- Display Brightness
- Bands

Sensitivity Control

- AutoScan
- Highway
- City
- CityNoX

Additional Patented Technology

- Auto Calibration Circuitry
- Mute/AutoMute™/SmartMute™
- TotalShield™ Technology

Dimensions (Inches)

- 1.25 H x 2.75 W x 4.75 L

Patented Technology

US patents:

6,836,238 6,693,578 6,614,385 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

Canadian patents:

2,330,964 1,295,715 1,295,714 1,187,602
 1,187,586

European patent:

1,145,030

Other patents pending. Additional patents may be listed inside the product.

Interpreting Alerts

Although the STi DRIVER has 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 STi DRIVER 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 STi DRIVER's warning system for radar, laser and safety alerts.

Alert

Explanation

The STi DRIVER begins to sound slowly, then the rate of alert increases. The Signal Meter ramps accordingly.

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

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

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

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

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

A brief laser alert.

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

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

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.

Alert

Explanation

STi DRIVER alerts slowly for a while and then abruptly jumps to a strong alert.

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

STi DRIVER alerts intermittently. Rate and strength of alerts may be consistent or vary wildly.

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.

STi DRIVER alerts intermittently. Rate and strength of signal increases with each alert.

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

STi DRIVER gives an X-band or K-band alert intermittently.

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 or K-band radar, your STi DRIVER will occasionally receive non-police radar signals. Since these 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 STi DRIVER's radar detection abilities are fully operational.

How "POP" Works

"POP" mode is a relatively new feature for radar gun manufacturers. It works by transmitting an extremely short burst, within the allocated band, to identify speeding vehicles in traffic. Once the target is identified, or "POPPED," the gun is then turned to its normal operating mode to provide a vehicle tracking history, (required by law).

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 TotalShield™ Technology Works

Beltronic's TotalShield Technology keeps RF signals from radiating from the detector. Unlike other radar and laser detectors, which merely move their RF signals (local oscillators) to another frequency (which will be detectable by future detector-detectors), this revolutionary design keeps you unseen by current radar detector-detectors, including VG-2 and Spectre. This unique design will also keep you unseen from any future radar detector detectors as well.

Although the BELTRONICS STi DRIVER is a completely undetectable radar, laser and safety detector, driving techniques and reactions to alerts can still draw unwanted attention. Here are a few examples:

1. Hitting the brakes immediately when the STi DRIVER provides an alert can broadcast use of a detector.
2. Visible power cords, brackets and suction cup marks on the glass can also advertise to others that you have a detector.
3. Traveling at night with a glow from a radar detector's display visible from outside your vehicle can also draw unwanted attention. The STi DRIVER offers adjustable brightness, including a full dark mode which will provide audio alerts, but no visual indication except for the alert LED on the SmartPlug.

How Safety Radar Works

Safety Warning System, or SWS, uses a modified K-band radar signal. The SWS safety radar system has 64 possible messages (60 currently allocated). The SWS messages your STi DRIVER can display are listed on the facing page.

From the factory, your STi DRIVER is programmed with SWS decoding OFF. If you wish to detect this system, use the Programming feature to turn STi DRIVER's SWS decoding ON.

Note: Some of the safety messages have been condensed, so that each message can be displayed on one or two screens on STi DRIVER's eight-character display.

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. If Safety transmitters become more prevalent, these Safety radar signals will become more common.

SWS Text Messages

Highway Construction or Maintenance

- 1 WorkZone
- 2 Road Closed
- 3 Bridge Closed
- 4 WorkCrew Highway
- 5 WorkCrew Utility
- 6 Detour
- 7 Truck Detour
- 8 MustExit
- 9 Rtlane Closed
- 10 CntrLane Closed
- 11 LeftLane Closed
- 12 *Future use*

Highway Hazard Zone Advisory

- 13 Police
- 14 Train
- 15 Low Overpass
- 16 BridgeUp
- 17 Bridge Wt Limit
- 18 RockSlid Area
- 19 School Zone
- 20 Road Narrows
- 21 Sharp Curve
- 22 Crosswalk
- 23 Deer Crossing
- 24 Blind or Deaf Kid
- 25 SteepUse LowGear
- 26 Accident
- 27 PoorRoad Surface
- 28 Loading School Bus
- 29 DontPass
- 30 Dangrous Intrsect
- 31 Emergency Vehi cle
- 32 *Future use*

Weather Related Hazards

- 33 HighWind
- 34 Severe Weather
- 35 HeavyFog
- 36 Flooding
- 37 BridgIce
- 38 RoadIce
- 39 Dust Blowing
- 40 Sand Blowing
- 41 Blinding Snow
- 42 *Future use*

Travel Information/Convenience

- 43 RestArea
- 44 RestArea w/servi c
- 45 24hrFuel
- 46 Insp Stn Open
- 47 Insp Stn Closed
- 48 Reduced Speed
- 49 Speed Enforced
- 50 HazMatIs Exit
- 51 Expect Delay
- 52 10 Min Delay
- 53 20 Min Delay
- 54 30 Min Delay
- 55 1 Hour Delay
- 56 Traffic TunRadi o
- 57 Pay Toll
- 58 Trucks ExitRight
- 59 Trucks ExitLeft
- 60 *Future use*

Fast/Slow Moving Vehicles

- 61 Emerg Veh Movi ng
- 62 Police Pursui t
- 63 Oversize Vehi cle
- 64 Sl oMvng Vehi cle

Problem	Possible Cause
STi DRIVER beeps briefly at the same location every day, but no radar source is in sight.	<ul style="list-style-type: none"> • An X-band or K-band motion sensor or intrusion alarm is located within range of your route. With time, you will learn predictable patterns of these signals.
STi DRIVER does not seem sensitive to radar or laser.	<ul style="list-style-type: none"> • Make sure that windshield wipers do not block STi DRIVER'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. • STi DRIVER may be in City Mode.
STi DRIVER did not alert when a police car was in view.	<ul style="list-style-type: none"> • 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.
STi DRIVER did not provide a Safety signal while within range of an emergency vehicle.	<ul style="list-style-type: none"> • Safety transmitters may not be commonly used in your area.
STi DRIVER's display is not working.	<ul style="list-style-type: none"> • Check programming to be sure the STi Driver is not in Dark Mode.
STi DRIVER's audible alerts are less loud after the first few alerts.	<ul style="list-style-type: none"> • STi DRIVER is in AutoMute Mode. See page 8 for details.
STi DRIVER bounces or sags on windshield.	<ul style="list-style-type: none"> • STi DRIVER is not making contact with the windshield to provide stability. While holding down STi DRIVER's QuickMount button, slide STi DRIVER toward the windshield so that the back top edge makes firm contact.
STi DRIVER's power-on sequence reoccurs while you are driving.	<ul style="list-style-type: none"> • A loose power connection or dirty lighter socket can cause STi DRIVER to be briefly disconnected.

Problem	Possible Cause
STi DRIVER will not turn on.	<ul style="list-style-type: none"> • Check the PWR is on. • Check that vehicle ignition is ON. • Check that vehicle lighter socket is functional. • Try STi DRIVER in another vehicle.
STi DRIVER feels very warm.	<ul style="list-style-type: none"> • It is normal for STi DRIVER to feel warm.
Your 14-year old son has changed all 9 of the Programming options.	<ul style="list-style-type: none"> • You can return all of the programming options to the factory defaults by holding down the VOLUME/MUTE and SENS buttons while you turn the STi DRIVER on.

Explanation of Displays

<i>No display</i>	STi DRIVER is in the Dark mode (pages 9, 16)
Pi l o t H W Y	One of the many programming messages (pages 12-16)
WorkZone	One of the many Safety Radar messages (pages 22-23)
Cauti on	STi DRIVER has detected a Safety Radar Signal, but the signal isn't yet strong enough to decode the specific safety message (pages 22-23)
Servi ce Requi red	STi DRIVER has failed the calibration test. Contact Beltronics for repair

Service Procedure

If your STi DRIVER 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 STi DRIVER 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 STi DRIVER:

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

Beltronics Extended Service Plan

Beltronics offers an optional extended service plan. Contact Beltronics for details at 1-800-341-2288.

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 STi DRIVER repaired at the price quoted), your STi DRIVER will be returned, without repair. Payment can be made by check, money order, or credit card.

Ship STi DRIVER and power cord to:

BELTRONICS
 Customer Service Department
 Service Order Number _____
 5442 West Chester Road
 West Chester OH 45069

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

Register
 online:
 @
 www.
 beltronics
 .com

Remove card along perforations

PRODUCT REGISTRATION CARD

BELTRONICS™

- ▲ 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.

1. First Name _____ Middle Initial _____ Last Name _____
 Address _____
 City _____ State _____ ZIP _____
 Phone Number (In case we have a question) _____
2. Product Purchased **BELTRONICS STi DRIVER** Serial Number _____
3. Place of Purchase _____ Date _____ Price _____
4. Primary reason for purchasing this BELTRONICS product _____

BELTRONICS One Year Limited Warranty

What this warranty covers: BELTRONICS warrants your Product against all defects in materials and workmanship.

For how long: One (1) year from the date of the original purchase.

What we will do: BELTRONICS, at our discretion, will either repair or replace your Product free of charge.

What we will not do: BELTRONICS will not pay shipping charges that you incur for sending your product to us.

What you must do to maintain this warranty: Show original proof of purchase from an authorized BELTRONICS dealer.

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

To obtain service: 1. Contact BELTRONICS (1-800-341-2288) to obtain a Return Authorization number. 2. Properly pack your product and include: your name, complete return address, written description of the problem with your product, daytime telephone number, and a copy of the original purchase receipt. 3. Label the outside of the package clearly with your Return Authorization number. Ship the product pre-paid (insured, for your protection) to: Beltronics Inc, 5442 West Chester Rd., West Chester, OH 45069.

LIMITATION OF WARRANTY: EXCEPT AS EXPRESSLY PROVIDED HEREIN, YOU ARE ACQUIRING THE PRODUCT "AS IS" AND

"WHERE IS," WITHOUT REPRESENTATION OR WARRANTY. BELTRONICS SPECIFICALLY DISCLAIMS ANY REPRESENTATION OR WARRANTY INCLUDING, BUT NOT LIMITED TO THOSE CONCERNING THE MERCHANTABILITY AND SUITABILITY OF THE PRODUCT FOR A PARTICULAR PURPOSE. BELTRONICS SHALL NOT BE LIABLE FOR CONSEQUENTIAL, SPECIAL OR INCIDENTAL DAMAGES INCLUDING, WITHOUT LIMITATION, DAMAGES ARISING OUT OF THE USE, MISUSE OR MOUNTING OF THE PRODUCT.

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

Other legal rights: This Warranty gives you specific rights. You may have other legal rights, which vary, from state to state.

Accessories

The following accessories and replacement parts are available for the BELTRONICS STI DRIVER:

Standard Coiled Power Cord

\$14.00

Direct-wire Power Cord

\$10.00

Coiled SmartPlug

\$29.95

Direct-wire SmartPlug

\$29.95

Accessory Kit

\$19.95

Extra Windshield Mount

\$4.00

Carrying Case

\$29.95

Remove card along perforations

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

NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES