



# Model 250

## Installation Guide

*Directed*<sup>®</sup>  
ELECTRONICS, INC.

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# what is included

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- |                                    |                                        |
|------------------------------------|----------------------------------------|
| ■ The control module               | ■ An on-board Doubleguard shock sensor |
| ■ Two 2-button remote transmitters | ■ A Revenger Soft Chirp siren          |
| ■ The plug-in status LED           | ■ The 12-pin primary harness           |
| ■ The plug-in Valet/Program switch | ■ The 2-pin starter kill harness       |

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# primary harness (H1), 12-pin connector

## primary harness (H1) wiring diagram

The primary harness is the standard 12-pin harness used by DEI security systems.

<b>H1/1</b>	<b>ORANGE</b>	<b>(-) 500 mA GROUND-WHEN-ARMED OUTPUT</b>
<b>H1/2</b>	<b>WHITE</b>	<b>(+) LIGHT FLASH OUTPUT</b>
<b>H1/3</b>	<b>WHITE/BLUE</b>	<b>(-) 200 mA CHANNEL 3 VALIDITY OUTPUT</b>
<b>H1/4</b>	<b>BLACK/WHITE</b>	<b>(-) 200 mA DOMELIGHT SUPERVISION OUTPUT</b>
<b>H1/5</b>	<b>GREEN</b>	<b>(-) DOOR TRIGGER INPUT, ZONE 3</b>
<b>H1/6</b>	<b>BLUE</b>	<b>(-) INSTANT TRIGGER, ZONE 1</b>
<b>H1/7</b>	<b>VIOLET</b>	<b>(+) DOOR TRIGGER INPUT, ZONE 3</b>
<b>H1/8</b>	<b>BLACK</b>	<b>(-) CHASSIS GROUND INPUT</b>
<b>H1/9</b>	<b>YELLOW</b>	<b>(+) IGNITION INPUT, ZONE 5</b>
<b>H1/10</b>	<b>BROWN</b>	<b>(+) SIREN OUTPUT</b>
<b>H1/11</b>	<b>RED</b>	<b>(+) 12V CONSTANT POWER INPUT</b>
<b>H1/12</b>	<b>RED/WHITE</b>	<b>(-) 200 mA CHANNEL 2 VALIDITY OUTPUT</b>

## primary harness (H1) wire connection guide

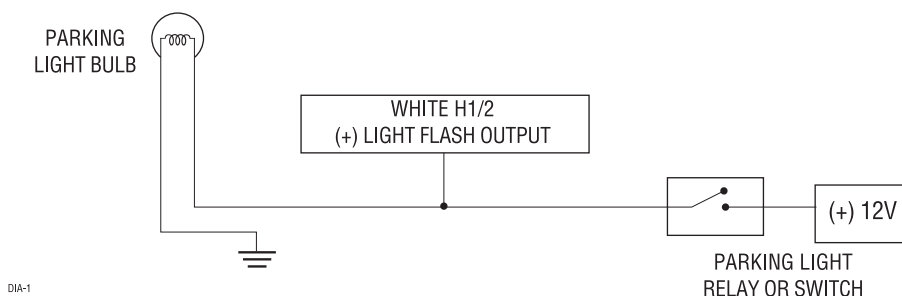
The functions of all the wires that are used in the primary harness are outlined in this section.

### H1/1 ORANGE (-) ground-when-armed 500 mA output

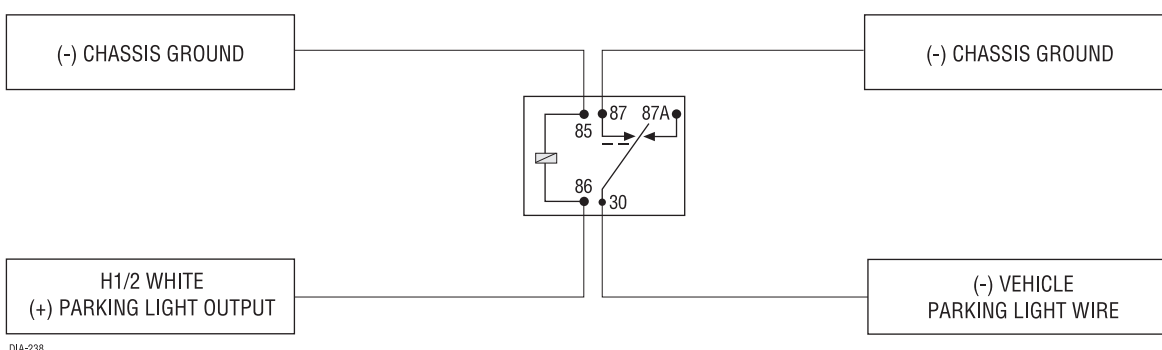
This wire supplies (-) ground as long as the system is armed. This output ceases as soon as the system is disarmed. This wire can be used to turn on an optional sensor or to control an optional accessory, such as a window module or pager.

### H1/2 WHITE (+) light flash output

This wire should be connected to the (+) parking light wire. This output is protected with a 10 amp fuse. Never increase the value of the light flash fuse. If more current is required, use an external relay.



**NOTE:** When connecting this wire to a (-) parking light wire, a relay is required. See the following diagram for the relay application.



### H1/3 WHITE/BLUE (-) channel 3 validity output

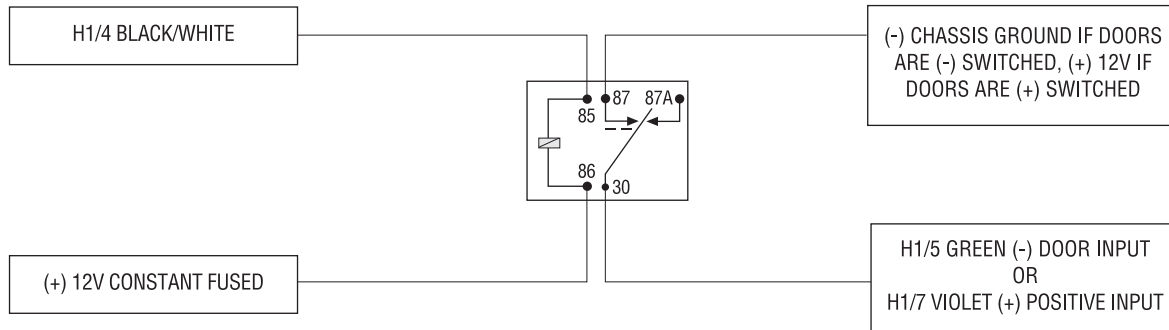
This wire provides a (-) 200 mA output whenever the transmitter code controlling Channel 3 is received. This output will continue as long as that transmission is received. Use for options such as 551T Valet Start system, 529T or 530T power window controllers, etc.

**IMPORTANT!** Never use this wire to drive anything except a relay or a low-current input! The transistorized output can only provide 200 mA of current, and connecting directly to a solenoid, motor, or other high-current device will cause it to fail.

### H1/4 BLACK/WHITE (-) domelight supervision relay output

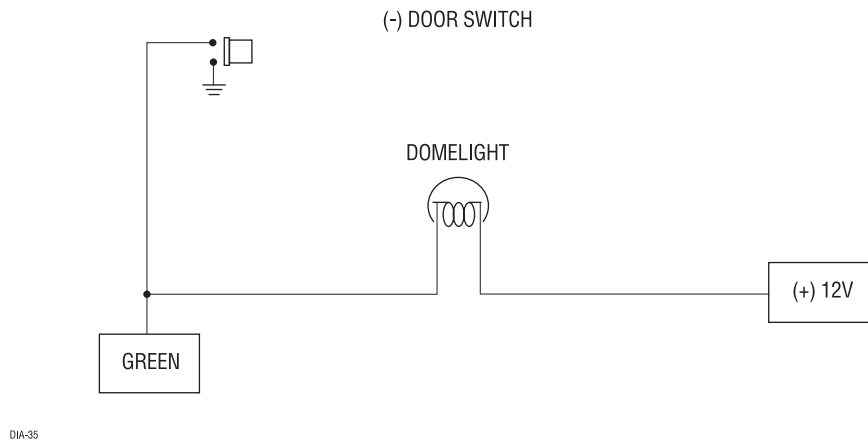
Connect this wire to the optional domelight supervision relay as shown in the following diagram.

**IMPORTANT!** This output is only intended to drive a relay. It cannot be connected directly to the domelight circuit, as the output cannot support the current draw of one or more light bulbs.



### H1/5 GREEN (-) door trigger input, zone 3

Most vehicles use negative door trigger circuits. Connect the green wire to a wire which shows ground when any door is opened. In vehicles with factory delays on the domelight circuit, there is usually a wire that is unaffected by the delay circuitry. This wire will report Zone 3.

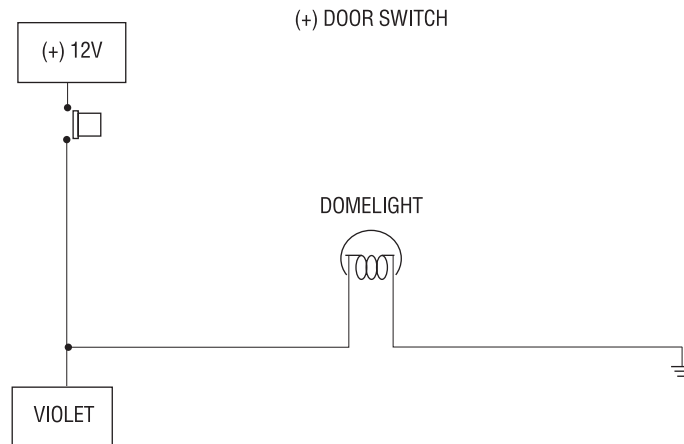


### H1/6 BLUE (-) instant trigger, zone 1

This input will respond to a negative input with an instant trigger. It is ideal for hood and trunk pins and will report on Zone 1. It can also be used with 506T Glass Breakage Sensor, as well as other DEI single stage sensors. The H1/6 BLUE instant trigger wire can be used to shunt sensors during operation, using the auxiliary channels. When any of the auxiliary channels are transmitted, the H1/6 BLUE wire monitors for a ground. If a ground is detected within 5 seconds of transmission, the sensors and the instant trigger input on the BLUE wire will be shunted until 5 seconds after the ground is removed. This allows the customer to access the trunk, remote start the vehicle or roll the windows down without first disarming the alarm. (See *Bypassing Sensor Inputs* section of this guide.)

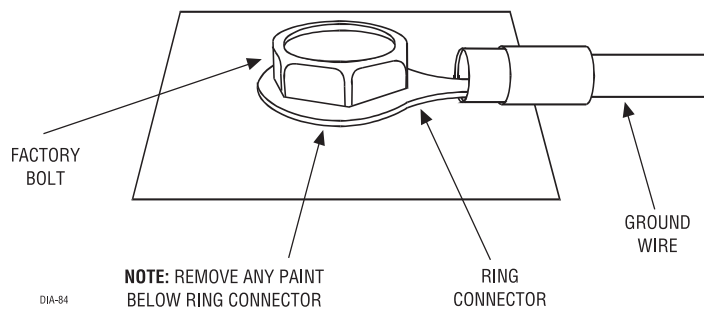
### H1/7 VIOLET (+) door trigger input, zone 3

This type of dome circuit is used in many Ford vehicles. Connect the violet wire to a wire that shows (+)12V when any door is opened, and ground when the door is closed. This wire will report Zone 3.



### H1/8 BLACK (-) chassis ground input

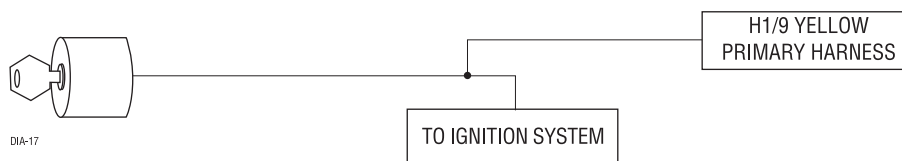
Remove any paint and connect this wire to bare metal, preferably with a factory bolt rather than your own screw. (Screws tend to either strip or loosen with time.) We recommend grounding all your components, including the siren, to the same point in the vehicle.



### H1/9 YELLOW (+) ignition input, zone 5

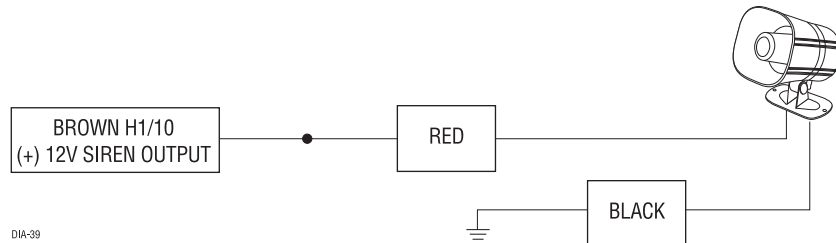
Connect this wire to an ignition source. This input must show (+)12V with the key in run position and during cranking. This wire will report Zone 5.

**CAUTION!** Make sure that the H1/9 wire cannot be shorted to the chassis at any point.



### H1/10 BROWN (+) siren output

Connect this to the red wire of the siren. Connect the black wire of the siren to (-) chassis ground, preferably at the same point you connect the control module's black ground wire.



### H1/11 RED (+) 12V constant power input

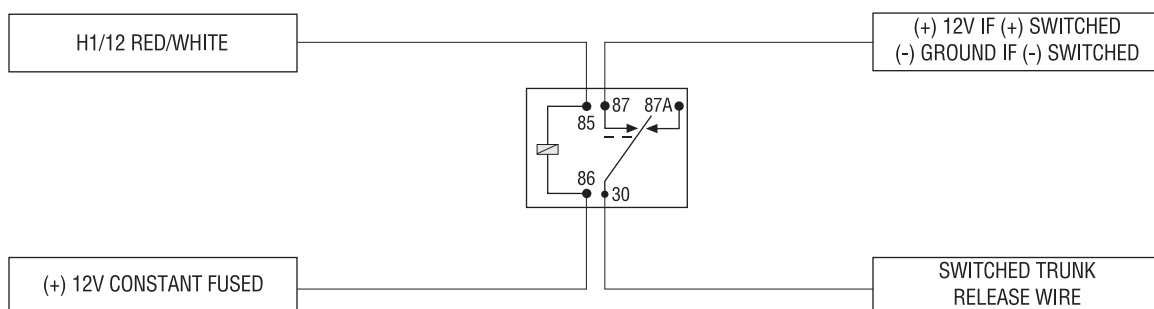
Before connecting this wire, remove the supplied fuse. Connect to the positive battery terminal or the constant 12V supply to the ignition switch.

**NOTE:** Always use a fuse within 12 inches of the point you obtain (+)12V power. Do not use the 15A fuse in the harness for this purpose. This fuse protects the module itself.

### H1/12 RED/WHITE (-) 200 mA channel 2 output

When the system receives the code controlling Channel 2, for longer than 1.5 seconds, the red/white wire will supply an output as long as the transmission continues. This is often used to operate a trunk/hatch release or other relay-driven function.

**IMPORTANT!** Never use this wire to drive anything but a relay or a low-current input! The transistorized output can only supply 200 mA of current. Connecting directly to a solenoid, motor, or other high-current device will cause it to fail.

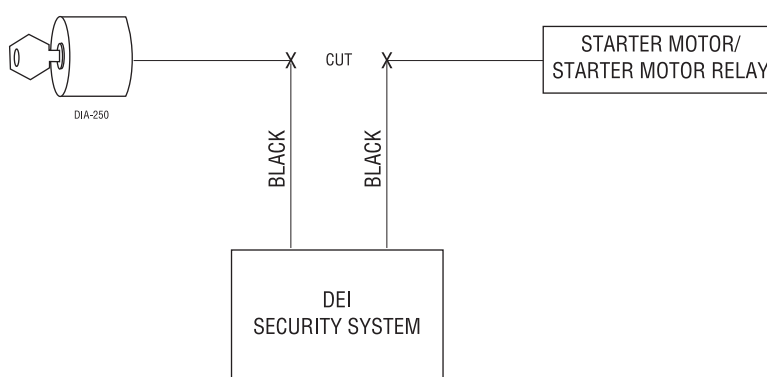


# starter kill harness (H2) wire connection guide

H2/1	BLACK	STARTER KILL INPUT
H2/2	BLACK	STARTER KILL OUTPUT

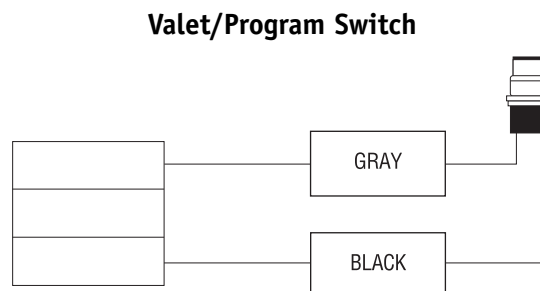
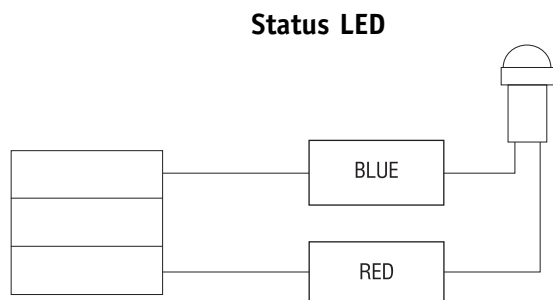
## H2/1 and H2/2 BLACK starter kill wires

Use one of these wire as a starter kill input and the other as a starter kill output wire (these wires are interchangeable).



# plug-in LED and valet/program switch

The LED and the Valet/Program switch both plug into the control module. The status LED plugs into the white two-pin port, while the Valet/Program switch should be plugged into the blue two-pin port. The status LED and Valet/Program switch each fit into  $\frac{9}{32}$ -inch holes.



# transmitter/receiver learn routine

The system comes with two transmitters that have been taught to the receiver. Use the following learn routine to add transmitters to the system or to change button assignments if desired.

The Valet/Program button, plugged into the blue port, is used for programming. There is a basic sequence to remember whenever programming this unit: Door, Key, Choose, Transmit and Release.



1. **Open a door.** (The GREEN wire, H1/5, or the VIOLET, H1/7 must be connected.)



2. **Key.** Turn the ignition on. (The H1/9 YELLOW switched ignition input must be connected.)



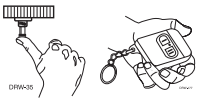
3. **Select the receiver channel.** Press and release the Valet/Program switch the number of times necessary to access the desired channel. Once you have selected a channel, press and **HOLD** the Valet/Program switch once more. The siren will chirp and the LED will blink the number of times corresponding to the channel that has been accessed.

**NOTE:** If adding a remote, a button must be taught to Channel One prior to programming other channels.

CHANNEL NUMBER	PRESS AND RELEASE THE VALET/PROGRAM SWITCH	TO PROGRAM FUNCTION
1	One Time	Arm/Disarm/Panic
2	Two Times	Channel 2
3	Three Times	Channel 3
4	Four Times	Auto Learn Standard Configuration*
5	Five Times	Delete all transmitters

**\*NOTE:** For Auto Learn Standard Configuration, see Transmitter Configuration section of this guide.

**NOTE:** If any transmitter button from a known transmitter is programmed to Channel Five, all transmitters will be erased from memory. This is useful in cases when one of the customer's transmitters is lost or stolen. This will erase any lost or stolen transmitters from the system's memory. It can also be used to start from scratch if the transmitter buttons were programmed incorrectly.



4. **Press the transmitter button.** While **HOLDING** the Valet/Program switch, press the transmitter button that you wish to assign to that channel. The unit will chirp indicating successful programming. You cannot teach a transmitter button to the system more than once.

**NOTE:** For Channel 4, press Button I to program the Auto Learn Standard Configuration on a two-button transmitter. If programming an optional four-button transmitter, then press Button I to assign the standard configuration to Buttons I and II; or press Button III to assign the standard configuration to Buttons III and IV, instead.



5. **Release.** Once the code is learned, the Valet/Program button can be released.

You can advance from one channel to another by releasing the Valet/Program button and tapping it to advance channels and then **HOLDING** it. For example, if you want to program Channel Three after programming Channel One, release the Valet/Program button. Press it twice and release it to advance to Channel Three. Then press it once more and **HOLD** it. The siren will chirp three times to confirm it is ready to receive the code from the transmitter.

**Learn Routine will be exited if any of the following occurs:**

- The ignition is turned off.
- The vehicle door is closed.
- The Valet/Program button is pressed too many times.
- More than 15 seconds elapses between steps.

One long chirp indicates that Learn Routine has been exited.

## transmitter configuration

The transmitters can be programmed with the Standard Configuration by using the Channel 4 Auto Learn Standard Configuration function in the Transmitter/Receiver Learn Routine. When programmed for Standard Configuration, the transmitter buttons are assigned to the following functions:

Button I (III*) .....	operates .....	Arm/Disarm/Panic
Button II (IV*) .....	operates .....	Channel Two
Buttons I and II (III and IV*) .....	operate .....	Channel Three

**\*NOTE:** If using an optional four-button remote, the Standard Configuration may alternately be taught to Buttons III and IV by pressing Button III in Step 4 of the Transmitter/Receiver Learn Routine.

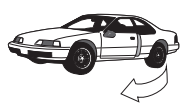
# operating settings learn routine

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Many of the operating settings of this unit are programmable. They can be changed whenever necessary through the Operating Settings Learn Routine. The Valet/Program push-button switch, plugged into the blue port, is used together with a programmed transmitter to change the settings.

The Operating Settings Learn Routine dictates how the unit operates. It is possible to access and change any of the feature settings using the Valet/Program switch.

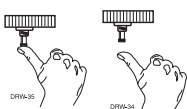
## To enter the System Features Learn Routine:



1. **Open a door.** (The GREEN wire, H1/5, or the VIOLET, H1/7 must be connected.)



2. **Ignition.** Turn the ignition on, then back off. (The H1/9 YELLOW switched ignition input must be connected.)



2. **Choose.** Within 10 seconds, press and release the Valet/Program switch the number of times corresponding to the feature number you want to program (see the *Features Menu* section of this guide). The LED ON settings listed in the *Features Menu* table are the factory default settings.

Once the Valet/Program switch has been pressed and released the number of times corresponding to the feature you wish to program, press it once more and **HOLD** it. After one second, the LED will flash to indicate which feature you have accessed. For example, groups of five flashes would indicate access to Feature 5. The siren will also chirp five times.



4. **Transmit.** While **HOLDING** the Valet/Program switch, you can select the desired feature settings using the remote transmitter. As shipped, the unit is configured to the default LED ON settings. Pressing Button I while **HOLDING** down the Valet/Program switch will program a feature to the LED ON setting. The siren will chirp once to indicate the one-chirp setting has been selected. Pressing Button II while **HOLDING** down the Valet/Program switch will change a setting to the LED OFF setting. The siren will chirp twice indicating that the LED OFF setting has been selected.



5. **Release.** Release the Valet/Program switch.

### to access another feature

You can advance from feature to feature by pressing and releasing the Valet/Program switch the number of times necessary to get from the feature you just programmed to the feature you wish to access. For example, if you just programmed Feature 1 and you want to program Feature 2:

1. Release the Valet/Program switch.
2. Press and release the Valet/Program switch once to advance from Feature 1 to Feature 2.
3. Press the Valet/Program switch once more and **HOLD** it.
4. The siren will chirp two times to confirm that you have accessed Feature 2.

### to exit the learn routine

To exit the learn routine, do one of the following:

1. Close the open vehicle door.
2. Turn the ignition on.
3. No activity for longer than 15 seconds.
4. Press the Valet/Program switch too many times.

## features menu

FEATURE NUMBER	DEFAULT LED ON SETTINGS (PRESS TRANSMITTER BUTTON I)	LED OFF SETTINGS (PRESS TRANSMITTER BUTTON II)
1	<b>Active Arming</b>	Passive Arming
2	<b>Confirmation Chirps ON</b>	Confirmation Chirps OFF
3	<b>No Feature</b>	
4	<b>No Feature</b>	
5	<b>No Feature</b>	
6	<b>No Feature</b>	
7	<b>Code Hopping ON</b>	Code Hopping OFF

**NOTE:** Factory defaults are indicated in **bold** type.

# feature descriptions

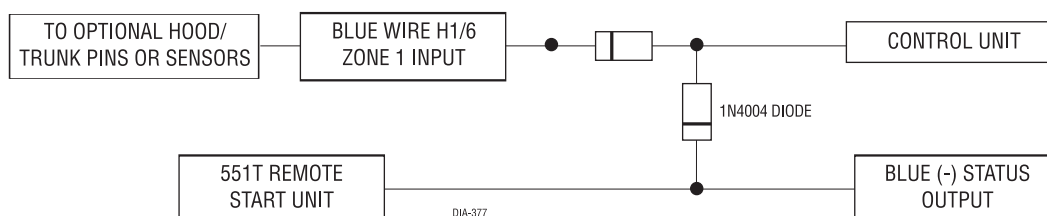
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- 1 ACTIVE/PASSIVE ARMING:** When active arming is selected, the system will only arm when the transmitter is used. When set to passive arming, the system will arm automatically 30 seconds after the last door is closed. Passive arming is indicated by the rapid flashing of the LED when the last protected entry point is closed.
- 2 CONFIRMATION CHIRPS ON/OFF:** This feature controls the chirps that confirm the arming and disarming of the system.
- 3 NO FEATURE**
- 4 NO FEATURE**
- 5 NO FEATURE**
- 6 NO FEATURE**
- 7 CODE HOPPING ON/OFF:** This system features Code Hopping as an option. Code Hopping is a feature that uses a mathematical formula to change the system's code each time the transmitter and receiver communicate. This makes the group of bits or "word" from the transmitter very long. The longer the word is, the easier it is to block its transmission to the unit. Disabling the Code Hopping feature lets the receiver ignore the Code Hopping part of the transmitted word. As a result, the unit may have better range with Code Hopping off.

# bypassing sensor inputs

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There are times when you need to temporarily bypass all sensor inputs to the unit, such as when remote starting the vehicle. Anytime an auxiliary channel output is used, all inputs are bypassed for 5 seconds. During the 5-second bypass period, ground can be supplied to the H1/6 Blue wire without triggering the unit. When the 5-second bypass period ends, if the unit sees ground on the H1/6 Blue wire, all trigger inputs except the door trigger input will remain bypassed until 5 seconds after ground is removed from the BLUE wire. This can be done using the status output of a 551T remote start unit as shown below:



# nuisance prevention circuitry

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Nuisance Prevention Circuitry (NPC) requires that you change the way you test the system, as NPC will bypass an input zone for 60 minutes. If the system “sees” the same zone trigger three times AND the triggers are spaced less than an hour apart, the system will bypass that input zone for 60 minutes. If that zone does not attempt to trigger the system during the 60-minute bypass period, the zone’s monitoring will begin again at the end of the hour. If it does attempt to trigger while bypassed, the 60-minute bypass starts over again.

Disarming and rearming the system does not reset NPC. The only way to reset NPC is for the 60 minutes to pass, without a trigger, or for the ignition to be turned on. This allows the system to be repeatedly triggered, disarmed and rearmed, and still allow NPC to bypass a faulty zone.

When disarming the system, 5 chirps indicate that NPC is activated. The LED will report the zone that has been bypassed. (See *Table of Zones* section of this guide.)

## table of zones

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When using the Diagnostic functions, use the Table of Zones to see which input has triggered the system. It is also helpful in deciding which input to use when connecting optional sensors and switches.

ZONE NO.	TRIGGER TYPE	INPUT DESCRIPTION
1	Instant	H1/6 BLUE wire. Connects to optional hood/trunk pins.
2	Multiplexed	Second-stage of on-board shock sensor.
3	Two-stage, progresses from warning to full alarm	Door switch circuit. H1/5 GREEN or H1/7 VIOLET.
5	Two-stage, progresses from warning to full alarm	Ignition. H1/9 YELLOW.

**NOTE:** The Warn Away response does not report on the LED.

# troubleshooting

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■ **Door input does not immediately trigger full alarm. Instead, first I hear chirps for 3 seconds:**

That's how the progressive two-stage door input works! This is a feature of this system. This is an instant trigger, remember, since even if the door is instantly re-closed, the progression from chirps to constant siren will continue.

■ **Closing the door triggers the system, but opening the door does not:**

Have you correctly identified the type of door switch system? This often happens when the wrong door input has been used. (See *H1/5 GREEN Door Trigger Input, Primary Harness Wire Connection Guide* section of this guide.)

■ **System will not passively arm until it is remotely armed and then disarmed:**

Are the door inputs connected? Is the H1/6 blue wire connected to the door trigger wire in the vehicle? Either the H1/5 green or the H1/7 violet should be used instead. (See *Primary Harness Wire Connection Guide* section of this guide.)

■ **Door input does not respond with the progressive trigger, but with immediate full alarm:**

Does the Status LED indicate that the trigger was caused by the shock sensor? (See *Table of Zones* section of this guide.) The shock sensor, if set to extreme sensitivity, may be detecting the door unlatching before the door switch sends its signal. Reducing the sensitivity can solve this problem.

■ **The Valet/Program switch does not work:**

Is it plugged into the correct socket? (See *Plug-In LED and Valet/Program Switch* section of this guide.)

■ **The status LED does not work:**

You've probably guessed already, but here goes: is it plugged in? Is the LED plugged into the correct socket? (See *Plug-In LED and Valet/Program Switch* section of this guide.)

# Wiring Quick Reference Guide

