

**BACK COVER
PRINTER'S NOTE:**
This is a
place marker cover.
Production back cover
is to be printed with gray
scale cover; see separate file.

AL-1500-E

INSTALLATION MANUAL

**FRONT COVER
PRINTER'S NOTE:**
This is a place marker cover.
Production front cover
is to be printed with gray scale cover;
see separate file.

Contents

Installation Considerations	3
Wiring Overview	18-19
Black Wire (<i>Negative Ground</i>)	4
Red Wire (<i>Constant Power</i>)	4
Yellow Wire (<i>Ignition Power</i>)	5
Orange Wire (<i>Starter Interrupt Output</i>)	5-6
Gray Wire (<i>2nd Channel/Trunk Release Output</i>)	7
Brown Wire (<i>Positive Siren Output</i>)	8-9
White Wire (<i>Positive Flashing Parking Light Output</i>)	9-11
Black/Red & Green/Violet Wires (<i>Domelight Supervision Input/Output</i>)	13-15
Green & Violet Wires (<i>Negative & Positive Door Trigger</i>)	15-16
Blue Wire (<i>Negative Instant Trigger</i>)	17 & 20
Pink Wire (<i>3rd Channel Output</i>)	20
 "Smart Trigger" Connection	 11-13
Dual Zone Port For Sensor	20
Optional Backup Battery Port	20-21
Valet Switch & Status Light Options	21
Power Doorlock Connections	22-32
 Programming Transmitters	 33
Features Programmable Checklist	34-35

1	☐ SecureCode	1 & 0 (see page 25)
2	☐ Last Door Arming	OFF
3	☐ Automatic Rearming	OFF
4	☐ Automatic Starter Interrupt	OFF
5	☐ Doors Lock With Last Door Arming	OFF
6	☐ Doors Lock With Automatic Rearming	OFF
7	☐ Doors Lock With Ignition On	ON
8	☐ Ignition Off Unlock #1	ON
9	☐ Ignition Off Unlock #2	ON
10	☐ Open Door Bypass of Ignition Locking	ON
11	☐ Confirmation Chirps	ON
12	☐ Confirmation Chirps in Valet Mode	OFF
13	☐ 30 or 60 Second Alarm Duration	30 Seconds ("disarm/unlock")
14	☐ Parking Light Illumination Upon Disarm	ON
15	☐ 2nd Channel Also Disarms System	ON
16	☐ Double Unlock Pulse	OFF
17	☐ 3 or 45 Second Arming Delay	3 Seconds ("arm/lock")
18	☐ Steady Siren or Pulsed Horn	Steady Siren ("disarm/unlock")
19	☐ Confirmation Chirp Volume	Medium Loud ("II")
20	☐ Total Closure Lock Output	OFF
21	☐ Ignition Activated Anti-Carjacking Protection	OFF
22	☐ Door Activated Anti-Carjacking Protection	OFF
23	☐ Transmitter Activated Anti-Carjacking Protection	OFF
24	☐ Open Door Warning Upon Arming	OFF
25	☐ "III" Button Operates Panic or 3rd Channel	Panic ("arm/lock")

Features Programming Checklist

This checklist helps when programming features. Before attempting feature programming, please first carefully read pages 23-24 to become familiar with the programming procedure, and features' descriptions which start on page 25. Mark each applicable box with "\" next to the feature to be changed before entering Features Programming Mode. As each feature is programmed, change its mark to "X".

Step 1 - Turn the ignition "off", and press the Valet Switch 5 times.
(the system will respond by briefly sounding the siren)

Step 2 - Press the Valet Switch the same number of times as the feature number.
(the system will acknowledge the Valet Switch entry by repeating the same number of chirps)

Step 3 - Press the transmitter's "arm/lock" button to turn the feature "on", or press the "disarm/unlock" button to turn the feature "off". (turning the feature "on" is indicated by one siren chirp; turning the feature "off" is indicated by two siren chirps)

Repeat - Steps 2 and 3 for each feature to be changed

#	FEATURE	DEFAULT
---	---------	---------

Installation Considerations

Mounting The System Main Control Module: Always mount this module in the vehicle's interior compartment, in a secure location that is not easily accessible. Ensure that moisture, vibration and temperature extremes are minimized. Acceptable locations may include mounting behind the dash, behind the glovebox or other interior panels.

Mounting The System Transceiver Module: The 2-way AL-1500-E has a remotely-mounted transceiver section for superior range. The transceiver module may be mounted directly to the windshield or other interior glass by utilizing the attached adhesive pad (carefully clean the glass before adhering). To obtain the best operating range performance, mount the transceiver as high as possible in the vehicle, with the smaller rod-like end pointed upwards. Avoid mounting this unit close to metal parts or structure of the vehicle.

The **Status Light** and **Valet Switch** are contained within the transceiver unit, therefore requiring no special installation considerations and placing them within good view and reach to the user. The user may customize the switch presses required to override the system, and an optional light or switch may be substituted (see page 21).

Mounting The Siren: Find a location in the engine compartment away from the extreme heat of the engine and manifold. A suitable location will offer a firm mounting surface, will also allow sound dispersion out of the engine compartment, and not be accessible to a thief. The siren must be pointed downward to avoid moisture collecting inside it and to enhance sound dispersal.

Wiring Connections: The security system's wires should be securely connected to the appropriate vehicle wires with the proper terminals, connectors, or by soldering and insulating with quality vinyl electrical tape or heat shrink tubing. All wiring should be carefully routed to avoid the possibility of chaffing or otherwise being damaged. Make all required connections, then plug the harnesses into the control module.

Wiring

Negative Ground

The Black wire is the source of Negative ground which is necessary for the security system to operate. The proper connection of the Black grounding wire is vital.

CONNECTION: Using the correct sized crimp-on ring terminal, connect the Black wire to the metal frame of the vehicle, preferably using an existing machine-threaded fastener. Make sure that the ring terminal attached to the Black wire has contact with bright, clean metal. If necessary, scrape any paint, rust or grease away from the connection point until the metal is bright and clean. If the control module has an insufficient ground connection, the security system can find partial ground through its other circuits, but the alarm will not function correctly, giving the impression of a defective control module. The alarm can partially work, so a bad ground wire connection would not likely be suspected.

Black Wire

Constant Power

The Red wire supplies Constant Positive 12 Volts for the security system's operation. When 12 Volts is first applied to the Red wire, the system will revert to state in which it was in when power was taken away. If the vehicle is to be serviced, especially if it involves the battery, the system should be placed in Valet Mode. This will prevent the system from being activated if its power is interrupted.

CONNECTION: Connect the Red wire to a Constant Positive 12 Volt source. This source should have Positive 12 Volts with at least a 15 Amp capacity at all times and in all ignition key positions. Connection locations can be at the supply wire at the ignition switch, the supply wire *behind* the fuse block or the fuse/junction block. *Never* just insert the Red wire or any other security system wire behind a fuse. Also, please note that connecting directly to the battery's Positive terminal will expose this connection to failure due to a corrosive environment unless the connection has a protective coating.

Programming Transmitters

Transmitters must be programmed to operate the system; the transmitters included from the factory are already programmed. To program transmitters, such as when adding the optional Echo 2-way controller, or when adding an additional or replacement transmitter, follow this process:

Step 1- Turn the ignition "on".

Step 2- Within 5 seconds of turning "on" the ignition, press the Valet Switch 5 times. The siren will chirp, confirming that for the next 10 seconds the system is ready to learn a transmitter code. When the first transmitter code is learned all existing stored codes will be erased. To enter a transmitter code, simply press and release the "**arm/lock**" transmitter button.

Step 3- Repeat this procedure for each transmitter desired to operate the security system. The system will chirp the siren once to confirm that each transmitter code was learned. All of the other transmitter button's functions will automatically be learned when the "**arm/lock**" button is learned. If a code is not received within a 10 second period, the learning process will automatically terminate.

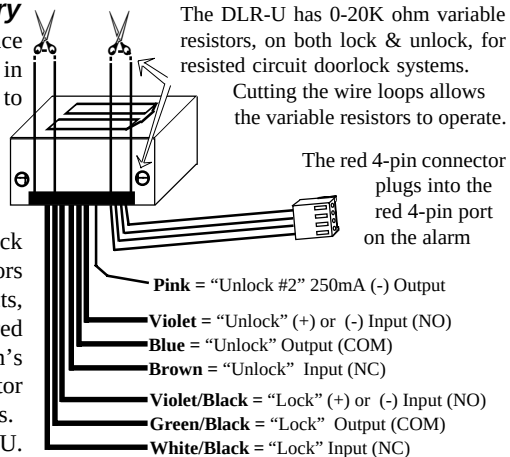
Programming a transmitter to the system will activate the Unauthorized Transmitter Alert warning and the extended Status Light visual display; for the next 48 hours the siren will sound a brief series of chirps every time the vehicle's ignition key is turned on.

Other Optional Doorlocking Accessories

DLR-U Universal Doorlock Accessory

The optional DLR-U can be used as an interface for every power doorlocking system described in this booklet, and further it is the only interface to use with resistor circuit power doorlocking systems. It can also be used in place of any other doorlock interface except the DLS-3 and the "DB" series databus modules.

The DLR-U contains a lock relay and an unlock relay. Its wiring colors are the same standard colors as used on all Omega doorlock interface products, and it is operated by the same Omega-standard red 4-pin connector which plugs into the host alarm's red doorlock port. The built-in resistors for resistor doorlock systems are high-quality 16-turn types. Detailed instructions are included with the DLR-U.



"DB" Series Databus Doorlock Accessory Modules

Omega Research and Development is pleased to offer a comprehensive line of optional databus doorlocking modules. This patented technology is the answer to the installation challenges presented by the latest vehicles, in which the power doorlocking system is controlled over the vehicle's databus system. Many models are available, including multiple-application models, and new models are constantly added. Please consult with your Omega products supplier for more details.

Ignition Power

The Yellow wire is an ignition "on" input to the security system. This connection is critical to the proper operation of many of the security system's features.

CONNECTION: This wire supplies Positive 12 Volts to the control module whenever the ignition switch is "on". This connection should be made at the ignition switch harness, to the primary ignition circuit. Primary ignition has 0 Volts when the ignition key is in the "Lock", "Off" and "Accessory" positions; and Positive 12 Volts in the "Run" and "Start" positions. Locate the correct wire at the ignition switch harness and securely splice the Yellow wire to it.

Starter Interrupt Output

The Orange wire is prewired to the starter disable socket and relay. The function of this wire is to provide a Constant 500mA Ground Output whenever the security system is in an armed state. This output supplies Negative Ground to one side of the relay's coil. The other side of the relay coil will be supplied with Positive Voltage from the ignition switch, but only if the ignition switch is turned to the "start" position. If this occurs, the coil will energize, activating the relay, which in turn will open the starter circuit. The starter interrupt prevents the vehicle from starting only if the alarm is armed (including while the alarm is activated), and will draw current from the vehicle's electrical system only if an attempt is made to start the vehicle.

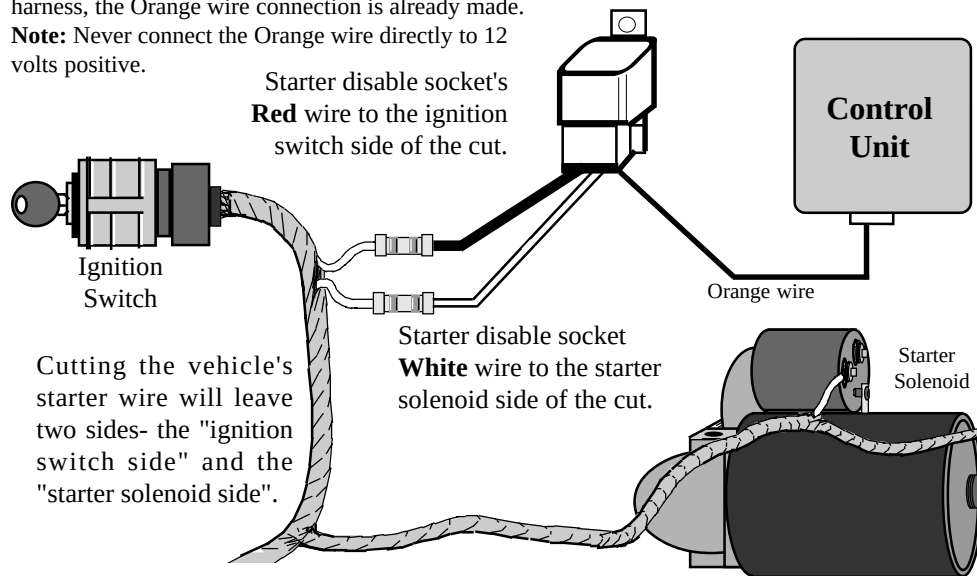
CONNECTION: To interrupt the vehicle's starter circuit, the starter wire must be located and cut. It is recommended that this connection be done as close to the ignition switch as possible. Use a voltmeter, not a test light, to find the correct wire, which is the wire from the ignition switch to the starter solenoid. **CAUTION!** Avoid the airbag circuit! Improper use of a test light can cause deployment of the airbag, which may result in bodily injury! Test lights can also damage on-board computers and associated sensors. The starter wire will read Positive 12 Volts only when ignition key is in "start"

Yellow Wire

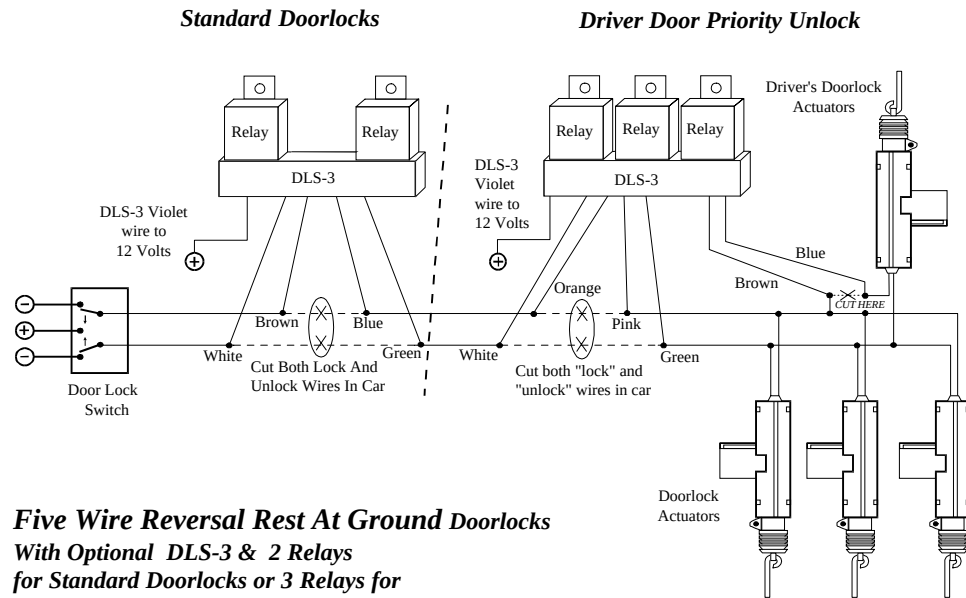
Orange Wire

position (cranking the engine). Cut this wire at a suitable location. Confirm that this is the correct wire by turning the ignition switch to the "start" position. The starter should not engage. Connect the optional starter disable socket's Red wire to the ignition switch side, and its White wire to the starter solenoid side. Be sure that good, solid electrical connections are made as this generally is a high amperage circuit. As the starter interrupt socket is prewired to the control module's main wiring harness, the Orange wire connection is already made.

Note: Never connect the Orange wire directly to 12 volts positive.



Optional DLS-3 and 2 or 3 SPDT Relays continued

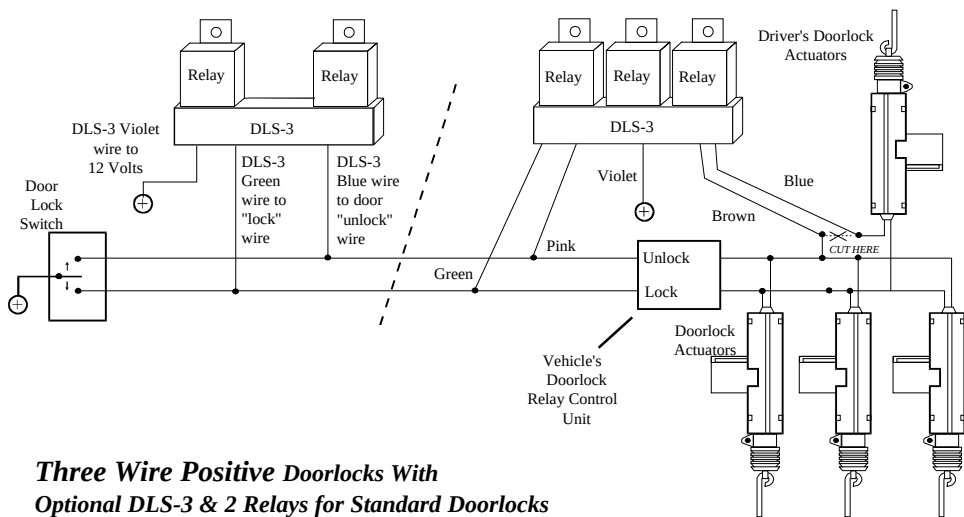


Five Wire Reversal Rest At Ground Doorlocks
With Optional DLS-3 & 2 Relays
for Standard Doorlocks or 3 Relays for
Driver Door Priority Unlock

Optional DLS-3 and 2 or 3 SPDT Relays continued

Standard Doorlocks

Driver Door Priority Unlock



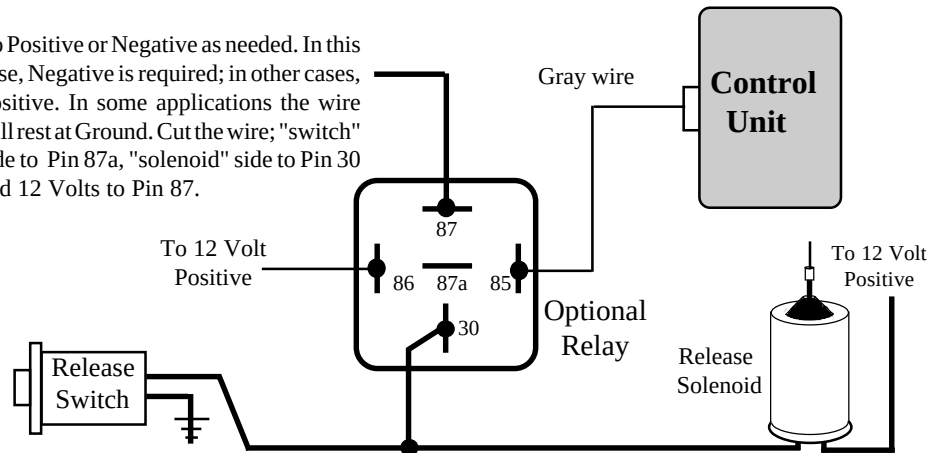
**Three Wire Positive Doorlocks With
Optional DLS-3 & 2 Relays for Standard Doorlocks
or 3 Relays for Driver Door Priority Unlock**

2nd Channel / Trunk Release Output

Gray Wire

The function of the Gray wire is to provide an optional output, the primary use being trunk release. Press and hold the transmitter's "II" button for two seconds to activate this output. When activated the Gray wire will provide a 250mA Negative Ground pulse for 1 second; or, stay grounded for as long as the "II" transmitter button is depressed, for up to 15 seconds. The siren will chirp twice for a confirmation and the doors will also unlock.

To Positive or Negative as needed. In this case, Negative is required; in other cases, Positive. In some applications the wire will rest at Ground. Cut the wire; "switch" side to Pin 87a, "solenoid" side to Pin 30 and 12 Volts to Pin 87.



Wiring an optional Relay for Trunk Release.

Positive Siren Output

The Brown wire is a 1 Amp Positive output designed to operate the electronic siren for audible confirmations, and also to sound if the alarm is triggered. An alternative to the siren is to program the alarm to pulse this output to sound the vehicle's horn by adding a relay and diode. This would require changing Programmable Feature #18 from the preset steady output to a pulsed output.

SIREN CONNECTION: The Brown wire may be connected directly to the siren's Red wire, and the siren's Black wire is connected to (-) Ground.

Mounting The Siren: Find a location in the engine compartment away from the extreme heat of the engine and manifold. A suitable location will offer a firm mounting surface, will also allow sound dispersion out of the engine compartment, and not be accessible to a thief. The siren must be pointed downward to avoid moisture collecting inside it and to enhance sound dispersal.

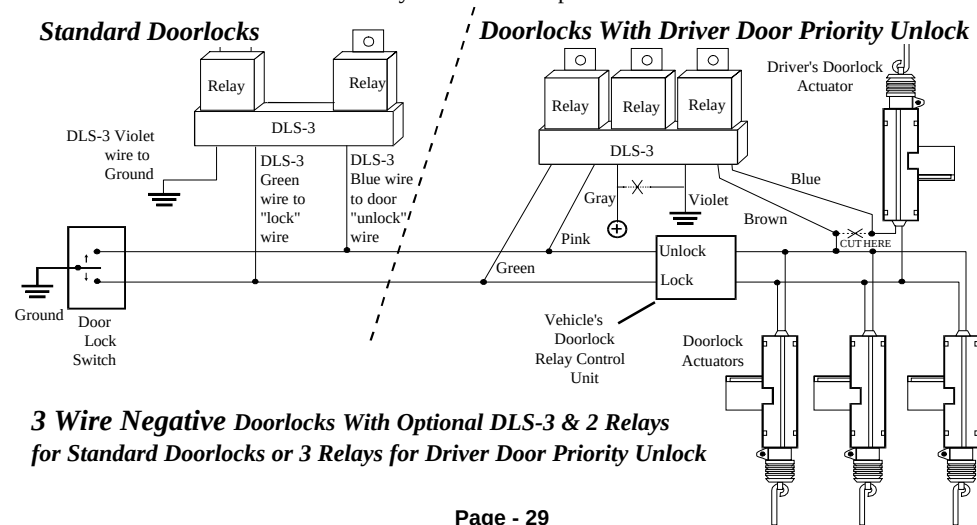
HORN CONNECTION: The Brown wire may be connected to the vehicle's existing horn wire, but a relay and diode must be used to switch the polarity to Negative. The horn switch wire is typically found at the steering column. Use a digital multimeter (DMM) to identify the horn wire. **CAUTION! Avoid the Airbag circuit!** The correct wire will show Positive 12 Volts normally, and no voltage when the horn is honked. Direct connection of the Brown wire to the horn itself is not recommended because the average horn requires more than the 1 amp output that the Brown wire supplies. One alternative is to disconnect the horns, then operate the horn switch. A clicking sound from the vehicle will confirm the presence of a horn relay. Another alternative is to check a wiring schematic of the vehicle in question.

Configuring An Optional Relay: The Brown Siren / Horn output wire has a 1 Amp capacity, which, if exceeded, can damage the security system control module. In certain situations, among them multiple optional sirens or utilizing the vehicle's horn, an optional SPDT relay is required. When

Brown Wire

each door, which would remotely unlock all of the vehicle's doors when the AL-1500-E is disarmed. All of the added actuators would simply be wired in parallel.

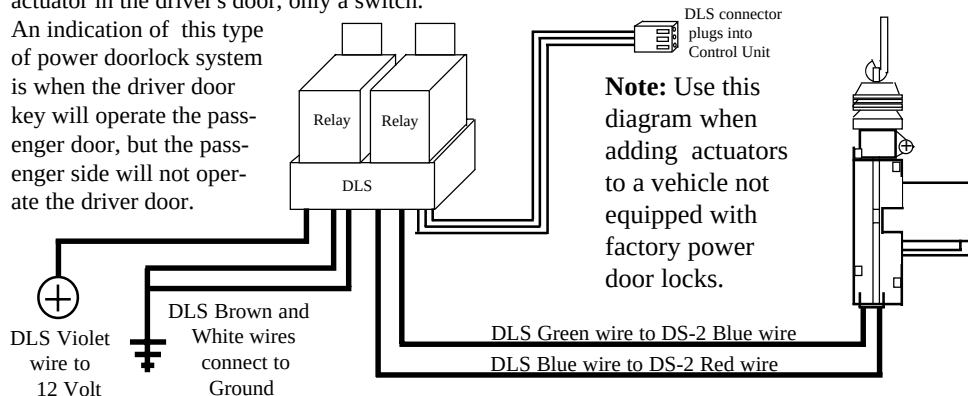
Optional DLS -3 and 2 or 3 Relays - Driver Door Priority Unlock: The DLS-3 is a triple relay socket (3 or 2 relays are also needed) and is a universal interface which allows the security system to lock the vehicle's doors, unlock only the driver's upon disarming (driver's door unlock priority) and, if desired, a second press of the transmitter's button within 5 seconds of disarming will unlock all of the doors. The DLS-3 used with two relays can be used in place of the DLS to lock and unlock all doors.



the key in the exterior doorlock cylinders. The polarity supplied by the switch determines if the pump sends vacuum or pressure through hoses to the actuator. The optional DM-1V is operated by the Excalibur module's Orange wire. An alternative interface for vacuum doorlock systems is to add an actuator to one of the doors.

Adding the Optional DS-2 Actuator and the DLS and 2 Relays: Some vehicles have a type of power doorlock system in which mechanically locking and unlocking the driver's door will operate an electrical switch in the door which supplies voltage to actuators in the other doors. There is no actuator in the driver's door, only a switch.

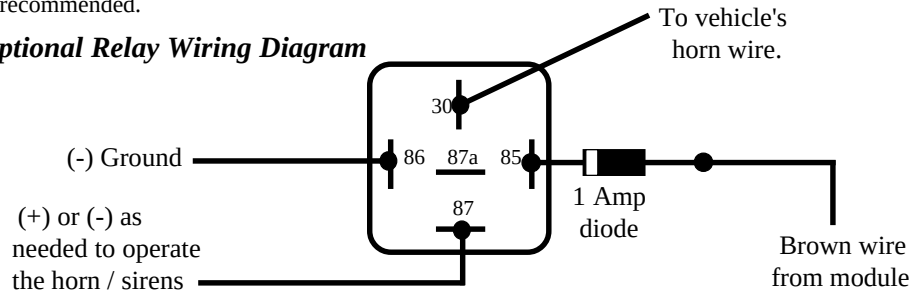
An indication of this type of power doorlock system is when the driver door key will operate the passenger door, but the passenger side will not operate the driver door.



Vehicles Not Equipped With Power Doorlocks: This same type of interface can be used, with two variations: as shown, thus remotely unlocking the driver's door only, or with a DS-2 actuator in

adding a relay, a protection circuit in the form of a 1 Amp diode on the Brown Siren / Horn output wire is recommended.

Optional Relay Wiring Diagram



Positive Flashing Parking Light Output

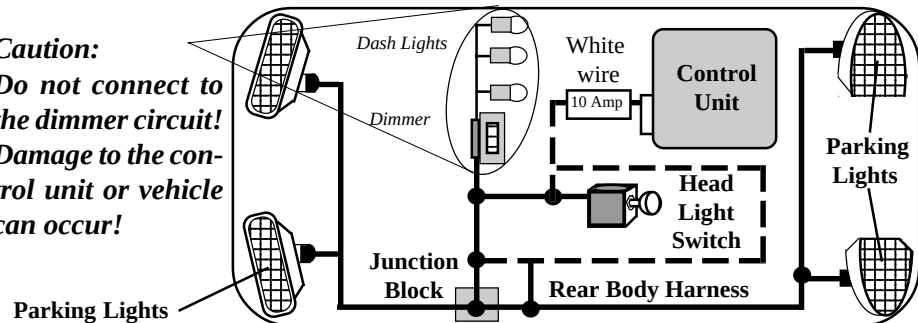
White Wire

This is a Positive 12 Volt output for flashing parking light confirmation and to attract attention to the vehicle if the security system is activated. Also, upon disarming, the lights will stay on for 30 seconds to confirm disarming and to illuminate the way to the vehicle. This feature gives added security when approaching the vehicle at night.

CONNECTION: Connect this wire to the vehicle's Positive 12 Volt parking light circuit. This wire can usually be found at the following locations: at the headlight switch, at the fuse/junction block, or in the rear body harness in the driver kick panel. **Note:** Some vehicles, notably Toyota, have a parking light relay which is triggered by a Negative Ground circuit from the headlight switch. These cars can still be connected directly to the White wire by finding the parking light circuit after the relay, usually at the Fuse/Junction Block.

3 suggested Parking Light connection points

Caution:
Do not connect to the dimmer circuit! Damage to the control unit or vehicle can occur!

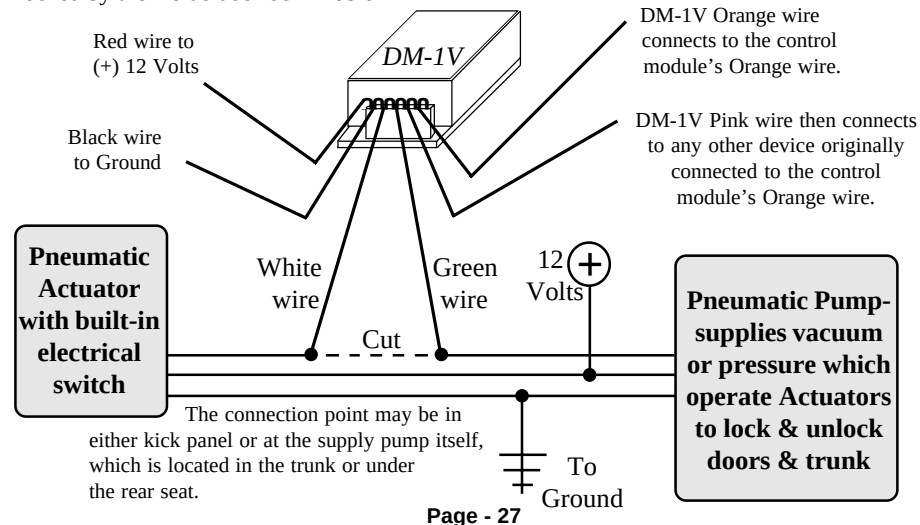


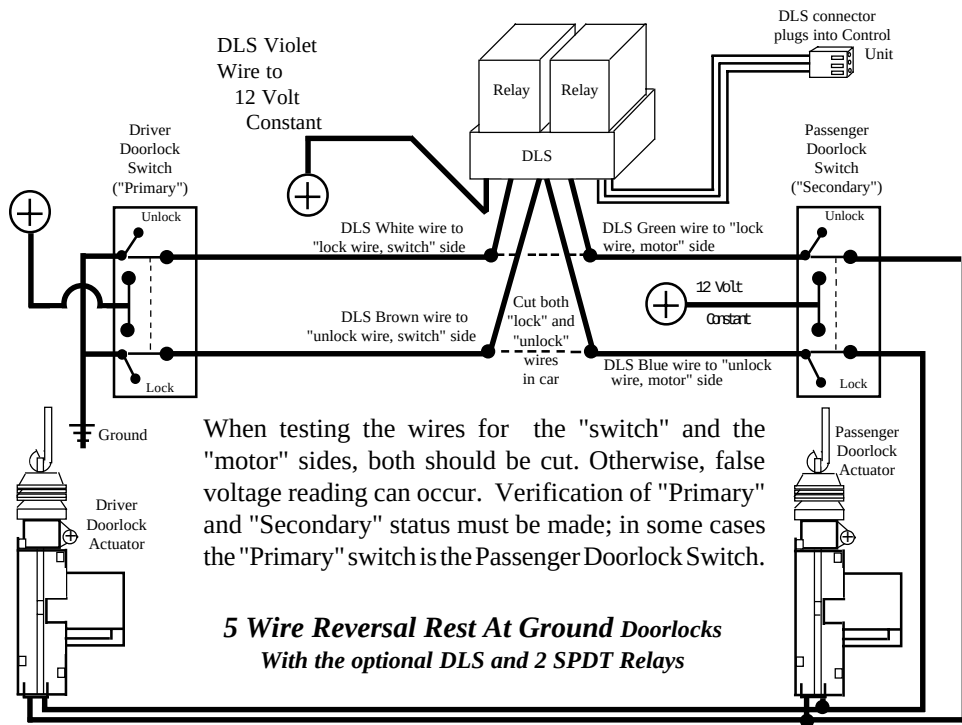
The correct wire will show Positive 12 Volts when the headlight switch is in the "Parking Light" and "Head Light" positions. When such a wire is located, be sure to also test that it is non-rheostated: while metering the wire, operate the dash light dimmer control. The correct wire will show no change in voltage when the dimmer is operated. **Note:** Do not attempt to flash the parking lights by connecting the White wire to a rheostated (dimmer) circuit! This will backfeed the parking lights through the rheostat or illumination control module, and possibly cause damage to the vehicle or alarm control unit. Also, if the White wire touches chassis ground, the Printed Circuit Board and on-board relay may be damaged.

Many European imports have separate left and right side parking lights. When left & right parking lights are on separate circuits, a pair of 6 to 10 amp diodes must be used to connect the White wire to each parking light side. **Note:** Flashing the headlights is not recommended. The halogen

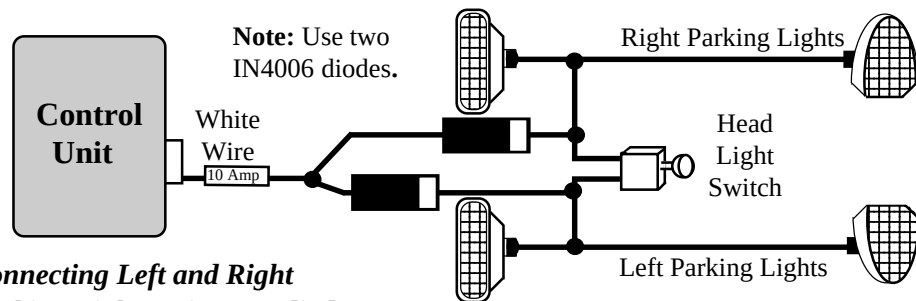
control module and non-terminated wires to splice into the vehicle's wiring. The DLS and two relays are the most universal doorlock interface available. The relays used with it are standard 30 amp single pole, double throw (SPDT) automotive relays.

Vacuum Doorlocks and the optional DM-1V: This doorlock system is used on older Mercedes Benz vehicles and consists of electrical switches (built into pneumatic actuators) which supply 12 volts or ground to a pneumatic pump. The switches are operated when the doors are locked or unlocked by the inside doorlock knob or





headlights found in modern vehicles are not designed to be rapidly turned on and off. If connected to the security system, a reduction of their useful life may be noticed. If flashing the headlights is still desired, a relay must be used, since the headlight's current draw exceeds the 7 amp rating of the built-in relay. If flashing headlights and parking lights are desired, use two relays - one relay will supply the parking lights and the other relay will supply the headlights.



Connecting Left and Right Parking Lights using two diodes.

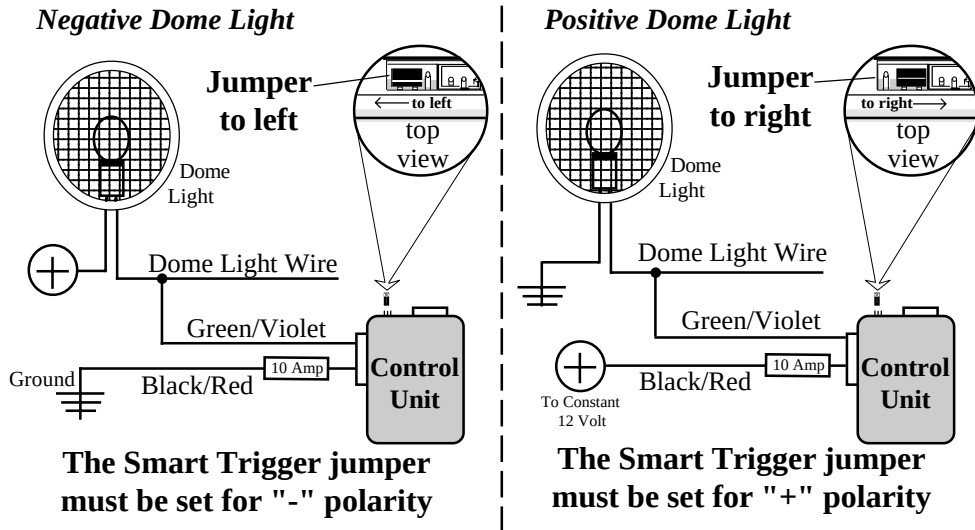
"Smart Trigger" Connection

This unit has unique "Smart Trigger" feature which saves installation time while offering enhanced integration flexibility. The Green/Violet Domelight Supervision output wire has an additional function; it is also a door trigger input circuit, serving the same purpose as either the Green or Violet door trigger wires.

To use the Smart Trigger feature, **it is not necessary to connect either the Green Negative Door**

Trigger or the Violet Positive Door Trigger wire, provided the Green/Violet Domelight Supervision output wire is connected correctly.

The Smart Trigger feature may be used or not used, as desired by the installer. If Smart Trigger is utilized, please note that **the polarity must be programmed** (via the jumper connector on the side of the control module) for "positive switching dome light" or "negative switching dome light".



simply reverse the DLP-N3 "lock" and "unlock" wire colors. To install driver door priority unlock, the optional DLS-3 with three SPDT relays must be used, which is discussed in detail later.

5 Wire Reversal Rest At Ground Systems: This power doorlock system differs from the negative and positive pulse systems in the fact that there are no relays or doorlock control unit. In this type of system, the switches themselves supply the positive voltage directly to the doorlock actuators, and, more importantly, provide the return ground path. The correct doorlock interface for this type of system is the optional DLS or DLS-3 and 2 or 3 relays. The important thing to remember is the wires in this system *rest at ground*, which means that the wires must be "opened", or cut, to make the connections.

Examine the wires on the back of the switch. Normally five wires will be found. Of these wires, one will be constant 12 volts positive, regardless of the switch's position. Two wires will be grounded regardless of the switch's position. Of the two remaining wires, one will show 12 volts positive when the switch is pushed to "lock", and the other will show 12 volts positive when the switch is pushed to "unlock".

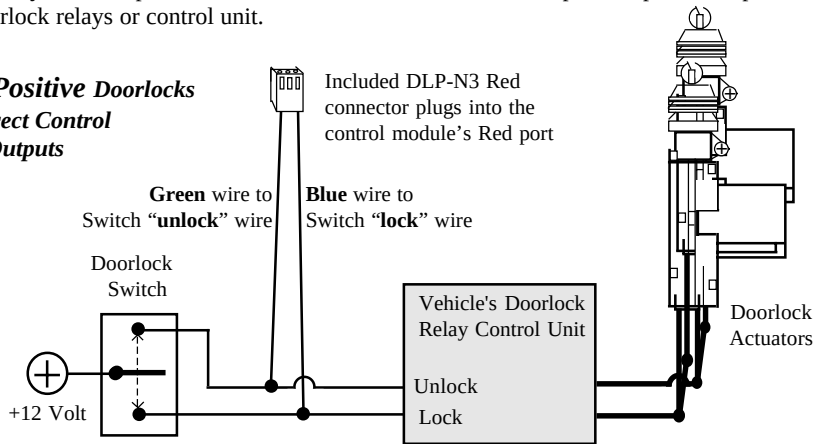
These two wires are both routed to the doorlock actuators and are connected to either end of the actuator's motor winding. When the switch is pushed to one position, one of these two wires will have 12 volts. This voltage flows through the wire to the actuator's motor winding, and since the other wire is still *resting at ground* an electrical circuit is completed. When the switch is pushed to the opposite position the electrical flow is *reversed*. When the correct wires are found, they must be cut. Notice in the diagram (previous page) that the driver's switch is the primary switch and referred to as the "switch" wires. The wires that go to the secondary switch are referred to as the "motor" wires. Even though the cut is made between the switches, the two sides are still correctly called the "switch" and the "motor" sides, with consideration of "Primary" and "Secondary" switch; please see the diagram.

Model DLS- The DLS is a dual relay socket with a harness and connector to plug into the alarm

cases the optional model DLS and two relays must be used. When driver's door unlock priority is desired, the correct interface is the optional DLS-3 and three relays.

3 Wire Positive Pulse Systems: This power doorlock system is very similar to the 3 Wire Negative pulse system except the vehicle's doorlock switches use 12 volt positive pulses to operate the vehicle's doorlock relays or control unit.

3 Wire Positive Doorlocks Using Direct Control Module Outputs



Examine the wires on the back of the switch. Of the three wires, one will be constant 12 volt positive, regardless of the switch's position. Of the two remaining wires, one will show 12 volt positive when the switch is pushed to "lock", and the other will show 12 volt positive when the switch is pushed to "unlock". Because of the dual polarity outputs, the included DLP-N3 harness can allow direct connection of the security system to the "lock" and "unlock" wires of the 3 Wire Positive Pulse system-

If use of the Smart Trigger feature is not desired, remove completely the polarity selection jumper. Doing so separates the dome light supervision circuit from the door trigger circuits. The Black/Red and Green/Violet wires may then be connected for the Domelight Supervision only, and either the Green Negative Door Trigger or the Violet Positive Door Trigger wire must be connected for the system's door trigger. In some cases, when opting for automatic rearming or last door arming, it may be preferable to not use the Smart Trigger, and connect the appropriate door trigger wire for the best operation of the automatic arming or rearming feature.

Domelight Supervision Input/Output

Black/Red & Green/Violet Wires

The Black/Red and Green/Violet wires are provided for domelight supervision, which illuminates the interior lights of the vehicle upon disarming.

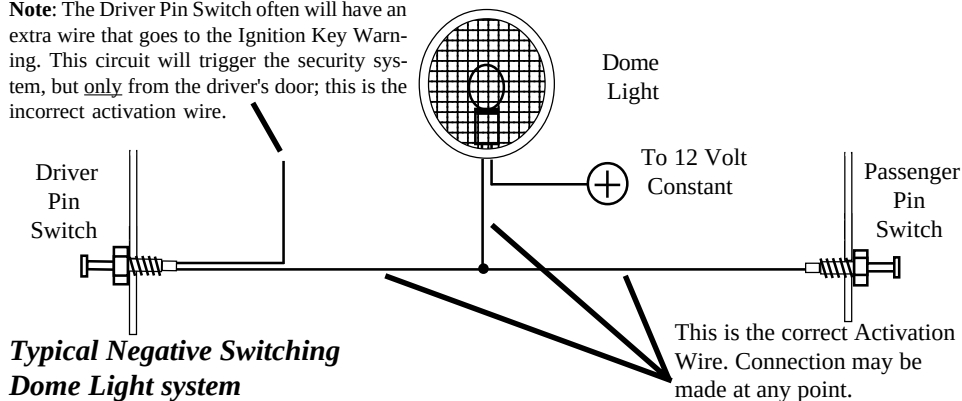
CONNECTION: The polarity of the dome light supervision output must be selected by the connection of the Black/Red wire to Positive or Negative. Determine which polarity the vehicle uses to operate the dome light; this is either "Negative switching" or "Positive switching"; the following pages explain more on how to determine which type is present. Then, connect the Black/Red wire to Positive or Negative as needed.

After connection of the Black/Red wire is completed, the next step is to **configure the Smart Trigger jumper to the correct polarity setting**. The Smart Trigger jumper, which is in the parts bag, must be installed on the control module as either Positive or Negative polarity. If the Black/Red wire was connected to Negative polarity, the Smart Trigger jumper should be aligned toward the rear of the control module; if the Black/Red wire was connected to Positive polarity, the Smart Trigger jumper should be aligned toward the front of the control module. **If desired, the Smart Trigger feature may not be used; simply do not install the jumper.** If this option is taken, either

the Green Negative door trigger wire or the Violet Positive door trigger wire **must be connected** in order for the control unit to detect an open door. Once the Smart Trigger jumper has been properly configured, the Green/Violet wire may be connected to the vehicle's dome light activation wire.

The proper vehicle wire to connect the Green/Violet wire to, the dome light activation wire, is common to all the door pin switches. The correct wire will change polarity as the doors are opened and closed. If the vehicle uses a Negative switching dome light system, the activation wire will have no voltage present and show chassis ground when the doors are opened, and up to 12 volts when the doors are closed. The correct wire will show this change when any of the doors are opened. If the vehicle has delay dome lights, remember to take this into account when testing.

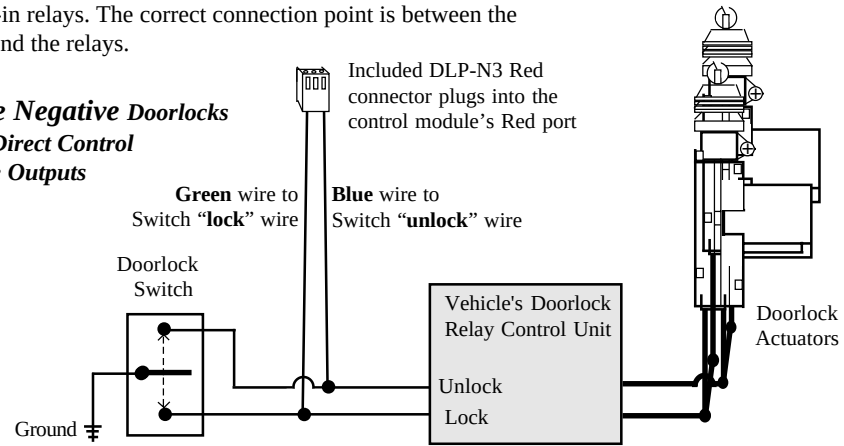
Note: The Driver Pin Switch often will have an extra wire that goes to the Ignition Key Warning. This circuit will trigger the security system, but only from the driver's door; this is the incorrect activation wire.



Typical Negative Switching Dome Light system

3 Wire Negative Pulse Systems: This power doorlock system is indicated by the presence of three wires at the switch. Of these, one will show constant ground, regardless of whether the switch is being operated or not (at rest). Of the remaining two wires, one will show ground when the switch is pushed to the "lock" position, and the other wire will show ground when the switch is pushed to the "unlock" position. With the switch at rest, these two wires will read voltage, usually 12 volt positive but in some cases less. The wires from the switches operate doorlock relays or a doorlock control unit with built-in relays. The correct connection point is between the switches and the relays.

3 Wire Negative Doorlocks Using Direct Control Module Outputs



The included DLP-N3 harness can allow direct connection of the security system to the "lock" and "unlock" wires of the 3 Wire Negative Pulse system. Some doorlock systems, however, require more than the 500mA ground output that the security system's control module can accommodate. In these

Power Doorlock Connections

Power Doorlock Interface Port: The control module has a 4-pin plug-in port for an optional doorlock interface, allowing it to operate the vehicle's existing power doorlocks.

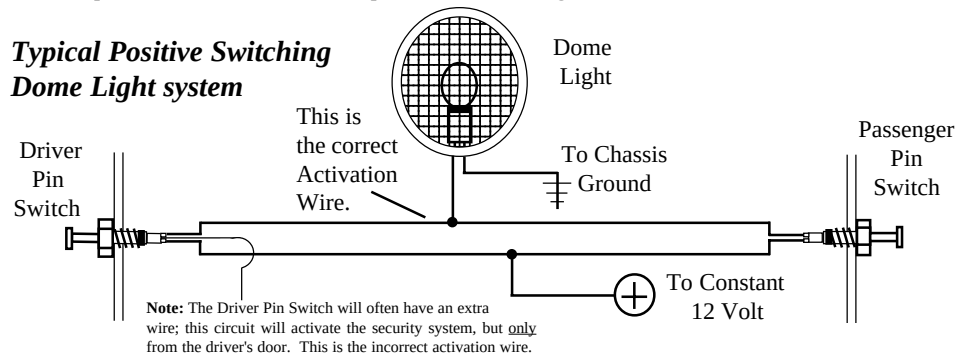
Dual Polarity Outputs: The lock and unlock #1 outputs are dual polarity, which allows the AL-1500-E to operate both 3 Wire Negative and 3 Wire Positive doorlocks “out-of-the box” with the included DLP-N3 doorlock harness. In installations which require an optional interface, such as the DLS or the DLS-3 (which is used for driver door priority unlock applications), the negative pulses are used. For these applications, and the 3 Wire Negative doorlocking systems, the 4-pin port’s layout is: locking the doors (inside pin), a constant 12 volt pin *for the optional relay coils only* (second pin from inside), a first negative pulse for driver door unlock (second pin from outside), and a second negative pulse for unlocking all other doors (outside pin). When connecting 3 Wire Positive doorlocks, simply reverse the DLP-N3 wire colors to be “blue is lock, green is unlock”. The doorlock connection and/or the interface needed will depend upon the type of power doorlocks the vehicle has.

CONNECTION: Quick Interconnect Harnesses are available for power doorlock applications, and provide the necessary wiring connections; each has its own detailed, illustrated instructions. If using a universal interface, of which several models are offered, identify the type of doorlock system and obtain the correct interface. Connections, which are shown in the following pages, should be with proper terminals, connectors, or by soldering and insulating with quality vinyl electrical tape or heat shrink tubing. All wiring should be carefully routed to avoid the possibility of chaffing or otherwise being damaged.

Most power doorlocks are found as three system types: 3 Wire Negative (pulse), 3 Wire Positive (pulse) and 5 Wire Reversal (rest at ground). Other power doorlock systems which may be encountered are the vacuum pump types found in older Mercedes vehicles and resistor circuits in some newer vehicles. The best way to identify a doorlock system is to examine the doorlock switch's wiring.

The correct wire for a Positive switching type of dome light/door jamb pin switch system will have 12 volts present when the doors are opened, and chassis ground when the doors are closed.

Typical Positive Switching Dome Light system



Negative & Positive Door Triggers

Green & Violet Wires

If not using the Smart Trigger feature, either the Green Negative Door Trigger or the Violet Positive Door Trigger wire must be connected. If the Smart Trigger feature is being utilized, do not connect the Green Negative Door Trigger or the Violet Positive Door Trigger; insulate the ends and secure the wires. Or, remove these wires from the 8-pin harness completely by depressing the lock tabs on each wire's terminal, and then pulling the wire and terminal from the 8-pin connector.

Green Wire - (Negative Door Trigger): The Green wire is an "open door" input to the control module for vehicles having *Negative switching* door pin switches.

CONNECTION: Connect the Green wire to a wire in the vehicle which is common to all the door pin switches; the correct wire in this type of dome light/door jamb pin switch system will have no voltage present and will also show chassis ground when the doors are opened, and up to 12 volts when the doors are closed.

Violet Wire - (Positive Door Trigger): The Violet wire is identical to the Green Door Trigger wire, with the sole exception that it is an open door input to the control module for vehicles having *Positive 12 volt* door pin switches.

CONNECTION: Connect the Violet wire to a wire in the vehicle which is common to all the door pin switches; the correct wire for this type of dome light/door jamb pin switch system will have 12 volts present when the doors are opened, and chassis ground when the doors are closed.

Notes, both types: The correct wire will show this change when any of the doors are opened. If the vehicle has delay dome lights, remember to take this into account when testing the wire. If the pin switch is mounted in the metal structure of the vehicle, and the dome light goes out when the switch is removed, suspect a grounding-type dome light system. While the traditional pin switch is mounted in the front door jamb area, also be aware that many vehicles utilize other types of switch devices to operate the interior lights. Some imports have a sliding type of switch and many have the pin or sliding switches in the rear door jamb area. In addition, some vehicles utilize switches in the doors, either connected to the exterior door handles or to the latching mechanism. A vehicle which has the dome lights illuminating when the exterior door handle is lifted is an example of this type of switching system. Also be aware of vehicles which diode-isolate each door. Typically, this is encountered with dash displays that indicate individual doors being ajar. The proper wire to connect to in this type of system is the common wire which is routed to the dome light itself.

control module is disconnected. A built-in protection circuit will not allow the 9 volt battery to back feed voltage into the vehicle's electrical system. While on backup battery power, to conserve the backup battery, the system will not have some functions - the Parking Light output, Status Light output, the Doorlock outputs, Auxiliary Sensor output and Current Sensing input. The Starter Interrupt will operate, when the system is armed, from battery backup, along with the following: Aux. Trigger input (although the sensor itself will not be on), Negative Instant Trigger Input, Negative and Positive Door Trigger input, and the Remote Panic feature.

Valet Switch & Status Light Options: The Valet Switch and Status Light are both built-in to the system transceiver module, which is suggested to be mounted to the windshield, in plain view easy reach to the user. As the Valet Switch may be used to override the system when it is armed or in an activated alarm condition, the user can opt to program their own customized "code" of Valet Switch presses which would be required to successfully override the system.

However, should the system user or installer wish to not use either the transceiver-mounted Status Light or Valet Switch, these items plug into the system control module with the same 2-pin connectors as used by Omega's standard individual Status Light and Valet Switch, and one or both of these optional items may be substituted for the built-in ones. Simply option the desired optional parts, plug them into the appropriate 2-pin ports in place of the transceiver's 2-pin connectors, and mount the replacement Valet Switch and/or Status Light as desired.

the trunk light will illuminate whenever the hood is raised. Diode-isolation is necessary when combining electronic sensors together, or when adding a sensor in the same circuit as the pin switches.

3rd Channel Output

The Pink wire is an optional output similar to the Gray trunk release wire; however, this output is not capable of disarming the system when it is used and has no audible or visual confirmation.

CONNECTION: For most applications an optional relay will be needed; connect the Pink wire to relay pin #85, and connect Constant Positive 12 Volts to relay pin #86. Connect pin #30 to power, or ground, as needed. Pin #87 is the output, and connected to the target wire.

Pink Wire

Plug-In Accessories And Options

Dual Zone Port For Sensor: This system includes an electronic sensor device, which enhances the effectiveness of the system. The control module has a plug-in "Auxiliary" port for the sensor. This port is dual-zoned: the first zone will respond by chirping the siren only; and the second zone will respond by triggering the system. The port supplies constant 12 volt power, grounded output when the system is armed, a negative instant trigger, and a negative prewarn trigger. When adding a sensor, follow the installation instructions included with the sensor. After installing, route the harness and connector from the sensor to the security system control module and plug the sensor's connector into the module's White port marked "AUX".

Optional Backup Battery Port: This port allows the plug-in addition of an optional 9 volt alkaline battery (not included) to provide alternative power source to operate the system if power to the

Negative Instant Trigger

Blue Wire

The Blue wire is a Negative instant trigger used primarily to detect entry into the hood or trunk area of a vehicle.

CONNECTION: The included pin switches may be installed to provide this trigger circuit; or, if there are existing switches (example: a light in the luggage compartment or a "Trunk Ajar" light in the dash), the Blue wire may be connected directly, provided this is a negative ground switching circuit. An indication of such a circuit is the wire having no voltage present when the hood or trunk is open, and up to 12 volts when the hood or trunk is closed. This wire cannot be used with mercury switch types of hood or trunk lights. If the vehicle is equipped with a usable trunk or hood circuit, locate the proper wire and splice the Blue wire directly to the vehicle's wire.

When wiring more than one of the vehicle's circuits and/or additional circuits to this wire, diode-isolation may be required to maintain each circuit's proper operation. An example would be wiring a hood pin switch and trunk light switch together. Without isolating,

Note: Use IN4002 Diodes, which are available at most electronics stores.

