Omega C-5

Installation Instructions

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Installation

Mounting The Main Control Module: The Main Control Module contains the electronics necessary for the security system's operation. 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 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 Connections

Black Wire - (- Ground Input): The Black wire's function is to supply - Ground, which completes the circuitry and allows the security system to operate.
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 the wires that are connected to other circuits, but the alarm will not function correctly, giving the impression of a defective control module. The system can partially work, so a bad ground wire connection would be suspected. In some cases the alarm could arm and disarm properly -but not function
correctly otherwise.
The Black wire attached to the control module is the antenna wire. Do not connect this wire to anything or the transmitter's range will be reduced or eliminated. Stretch the Black antenna wire out and as high as possible for the best operating range.

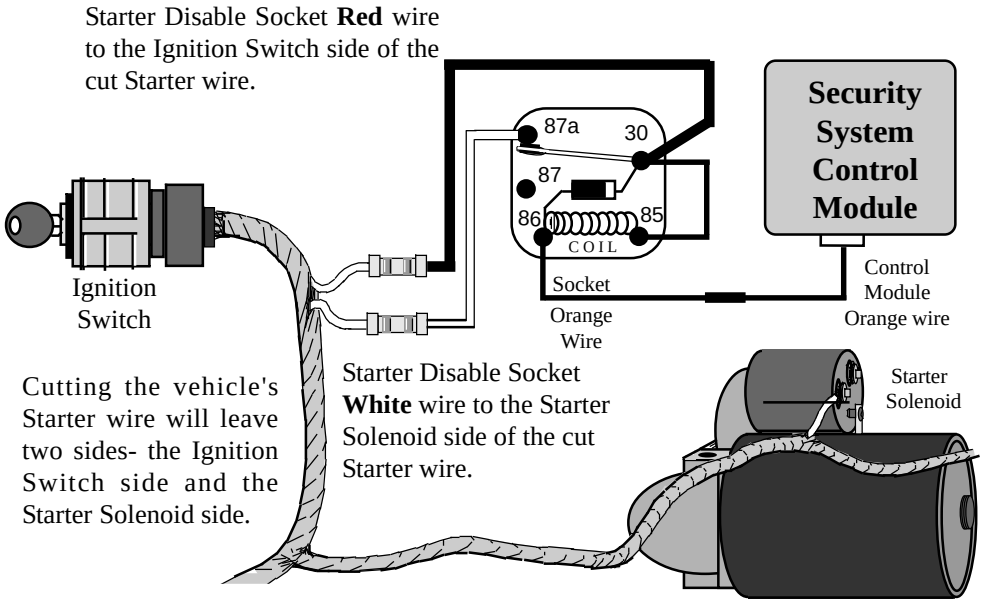
Red Wire - (+12 Volts Input): The Red wire's function is to supply Constant +12 Volts to the security system. When +12 Volts is first applied to the Red wire,

the system will revert to the state it was in previously. The Red wire also supplies +12 Volts to the built-in relay for flashing the parking lights.
CONNECTION: Connect the Red wire to a source which has +12 Volts at all times. Ensure that this source +12 Volts which is stable 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. The source connection must have at least a 15 Amp capacity at all times.

Yellow Wire - (+12 Volts Ignition Input): 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 operations.
CONNECTION: This wire supplies +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 +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. This connection is critical to the proper operation of "Enhanced 3rd Channel Operation".

Orange Wire - (Negative Output For Optional Starter Interrupt): The Orange wire is for a starter disable socket and relay. The function of this wire is to provide a 500mA - Ground Output whenever the security system is in an armed state. This output supplies - Ground to one side of the relay's coil. The other side of the relay coil will be supplied with +12 Volts 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 +12 Volts only when ignition key is in "start" 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.



Configuring a Starter Disable using the Socket & Relay.

Connect the 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. Connect the security system's Orange wire to the Orange wire of the starter disable socket. **Note:** If the Orange wire touches 12 volts positive directly or has more than a 500mA ground load, the circuit will be damaged.

Brown Wire - (Audible Output): The Brown wire is the system's audible output. It is capable of being configured for either +12 Volts or Negative output by a standup and jumper, and it can be programmed to be a steady output or pulsed output in the Features Programming Mode. When this output is configured +12 Volts it is a high amperage output to drive an electronic siren; configured Negative it is a low amperage output to operate a relay to sound the vehicle's existing horn. Typically, the siren configuration is programmed as steady, and the horn configuration is programmed as pulsed.

Using The Siren: Confirm that the control module is configured for its "as shipped" configuration of +12 Volts. The control module has 3-pin standup with shorting jumper next to the main wiring harness connector and inboard, which is marked "H/S". Ensure that the attached jumper is installed on the right two pins, in the "S"-marked position. This standup and jumper are shown in the Wiring Diagram Overview on pages 16-17.

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 last point is most important; it is advisable to seek a location for the siren which requires removal of engine compartment components, such as the battery, for example, to access the siren. This greatly reduces the "defeat-ability" of the security system. The siren must be pointed downward to avoid moisture collecting inside it and to enhance sound dispersal. The siren's wires should be carefully routed so as to be not easily detectable, and to ensure that the wires will not interfere with any moving parts in the engine compartment or underdash areas.

CONNECTION: The Brown wire must be connected directly to the siren's Red wire, and the siren's Black wire is connected to - Ground, which may be to any clean, bare metal point of the vehicle's chassis. The use of an existing grounding point is a good location. Do not configure the control module's 3-pin standup jumper for "(-) Horn" and connect the Brown wire to the siren's Black wire.

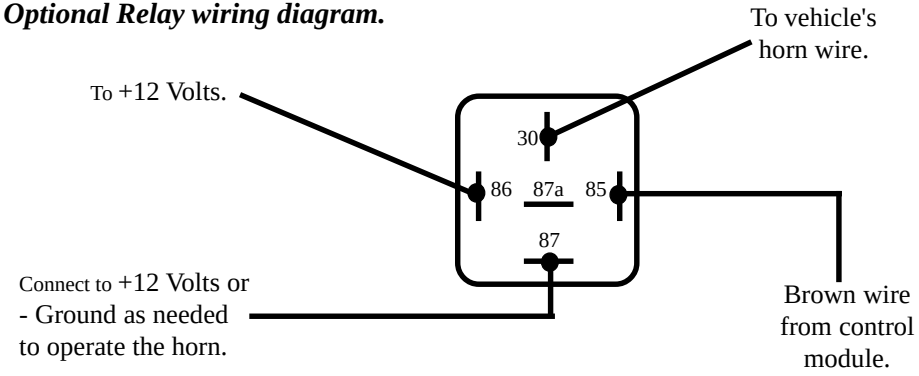
Using The Vehicle's Existing Horn: This will require that the control module be configured for "(-) Horn" and that programmable feature #7 be changed from "Steady Siren" to "Pulsed Horn. To change the Brown wire's polarity from the "as shipped" configuration of +12 Volts, locate the shorting jumper next to the main wiring harness marked "H/S". Remove this jumper, and reinstall it on the two left pins of the 3-pin

standup; this is the “H”-marked side of the standup. The standup and jumper are shown in the Wiring Diagram Overview on pageXXs 26-27. Upon completion of all wiring connections, consult the Operator’s Guide section of this manual and program feature #7 for the “Pulsed Horn” audible output setting.

CONNECTION: The Brown wire may be connected directly to the vehicle's horn switch wire, provided the circuit operates with .25 Amp of current or less. First, ensure that the vehicle’s horn operates with the ignition switch “off”; if not, an optional relay and the “direct to horn” method is needed. If the horn sounds when the ignition if “off”, the next step is to locate the vehicle’s horn switch wire to determine the presence of an existing horn relay. ***CAUTION!*** *Avoid the airbag circuit!* The target wire is typically found around the steering column; the correct wire will show +12 Volts normally, and no voltage when the horn is being sounded. Once the vehicle's horn wire is identified, the electrical switching load must be determined.

The most direct method is to cut the wire and measure the switching load with a digital multimeter (DMM). Connect the meter’s Black lead to the cut wire from the switch, and its Red lead to the cut wire to the horn. Set the meter to its highest scale first, then press the horn switch to obtain the switching load reading. If the results are a switching load of .25 Amp (250 milliamperes, or mA), then the control module’s Brown wire may be connected directly to the vehicle’s horn switch wire. Other alternative testing methods include disconnecting the horns, then operate the horn switch. Typically, a "clicking" sound from the vehicle can heard as the horn

Optional Relay wiring diagram.



button is pressed, and released, which confirms the presence of an existing horn relay. Yet another alternative is to consult a wiring schematic of the vehicle in question to determine if an existing horn relay is present. The least desirable testing method is the use of a standard +12 Volt test light. ***CAUTION!*** *Avoid the airbag circuit! This is one of the few uses left for a standard test light in a modern vehicle; use a digital multimeter (DMM) to identify the horn wire first.* ***Probing an airbag circuit with a standard test light can cause the Airbag to deploy!*** Connect

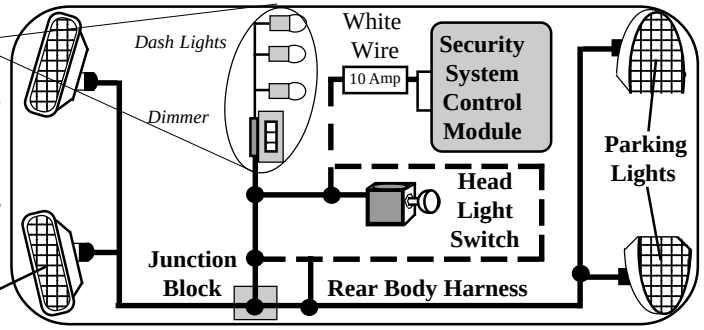
the test light clip to - Ground, and probe the wire. If the horn sounds when probed, a direct connection may be made. If not, use the following diagram to configure an optional relay. When the control module is configured for (-) Horn output, exceeding its .25 Amp capability will cause damage to the control module.

White Wire - (+12 Volts Flashing Light Output): This is a +12 Volt output for exterior flashing light confirmation and to attract attention to the vehicle if the security system is activated.

CONNECTION: Connect this wire to the vehicle's parking light circuit. The parking light 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. The correct wire or wires will typically show +12 Volts when the headlight switch is in the "Parking Light" and "Head Light" positions (sometimes - Ground is found). When such a wire or wires are 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. 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 cause damage to the vehicle or the system's control module. Also, if the White wire is shorted, the system's control module will be damaged. Some vehicles have a

Connection Hints for the Parking Lights Circuit.

3 Suggested Parking Light Connections: Do not connect to the dimmer circuit! Damage to the control unit or vehicle can occur!



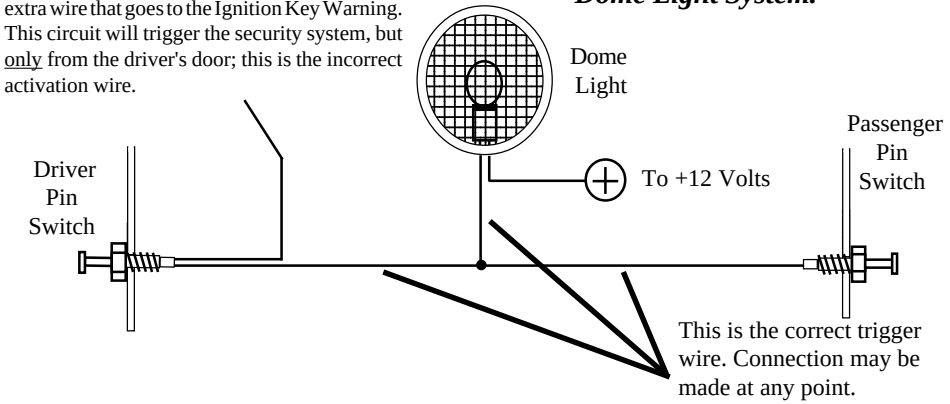
parking light relay which is triggered by a - Ground circuit wire from the headlight switch. When installing the system in these cars, connect the White wires to the vehicle's switch wire and simply connect the system's Red/White wire to - Ground. Flashing the headlights is not recommended- halogen headlights are not designed to be rapidly turned on and off.

Some vehicles have separate left and right side parking lights. When left & right parking lights are on separate circuits, the Domelight Supervision circuit can utilized- see pages 20-21.

Green Wire - (- Ground Door Trigger Input): The Green wire's function is an open door input to the control module for vehicles having - *Ground switching* door pin switches. This circuit has effects on many security system operations, the primary being the activation of the system (sounding the siren and flashing the parking lights) if it is in an armed state. If the Last Door Arming features is utilized, closing the door will cause the Last Door Arming sequence will begin, and which will be suspended if a door is reopened.

Typical - Ground Type Dome Light System.

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.

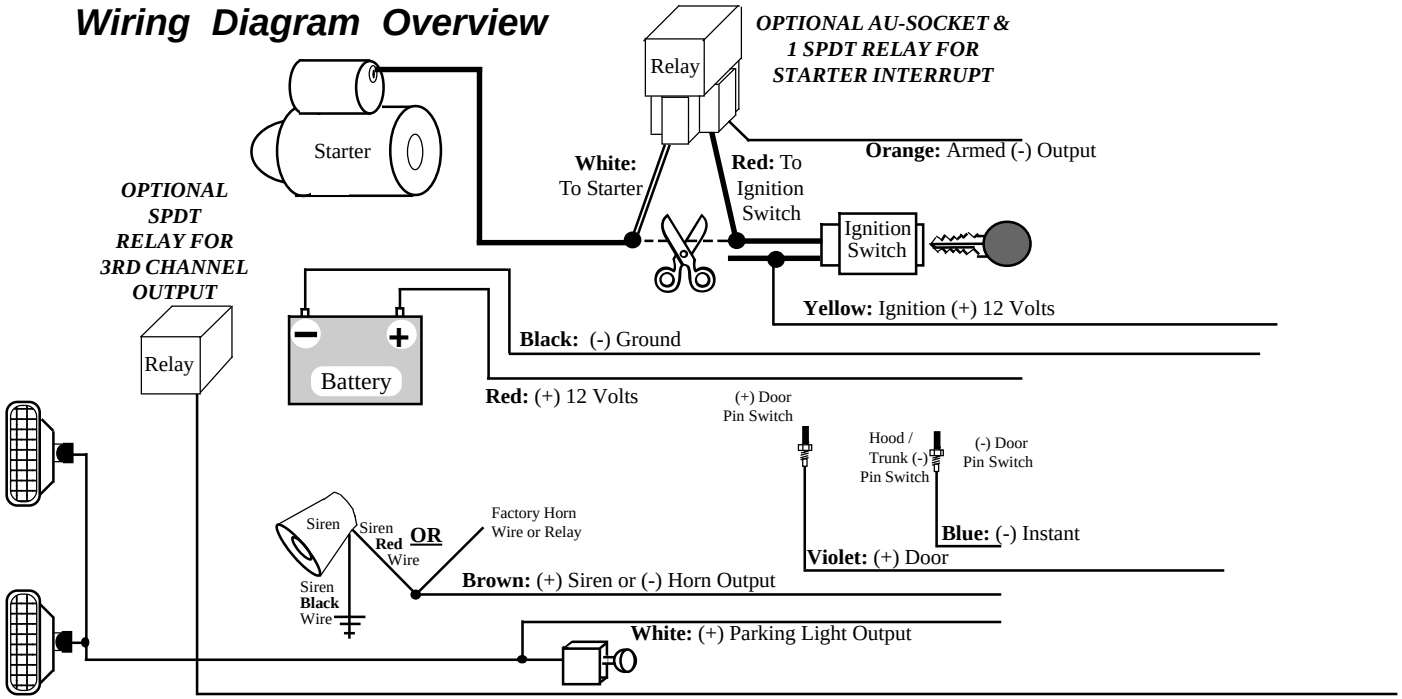


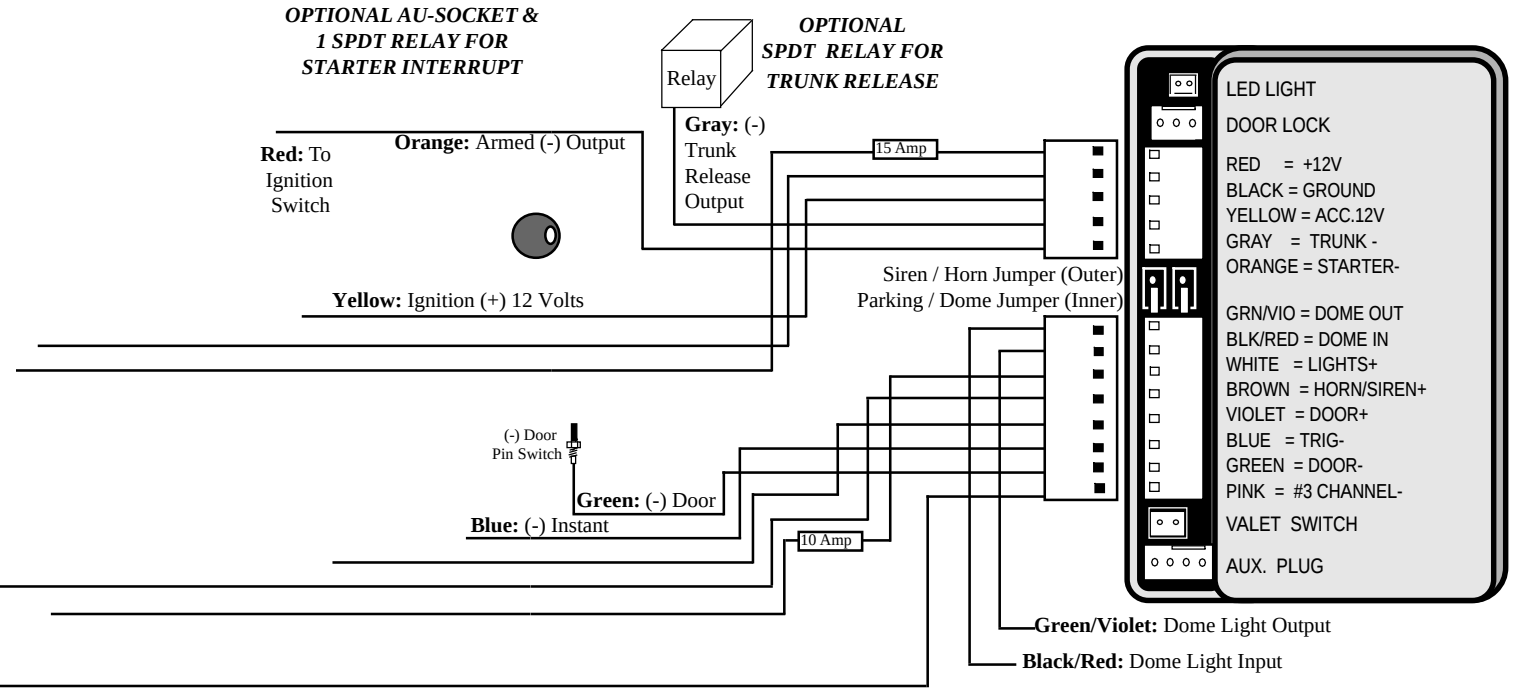
Opening a door during Automatic Rearming will also suspend that feature. If the system has been programmed to lock and unlock the doors with the ignition switch being turned "on" and "off", an open door will cancel the automatic locking or unlocking.

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 typically has no voltage present and will also show - Ground when the doors are opened, and also 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 the wire. If the car has a delay dome light the system can be armed from the transmitter, and will start protecting the Green wire circuit when the dome light turns off. In Last Door Arming mode, the system arms 30 seconds after the delay dome light turns off. The diagram illustrates a basic negative courtesy light system.

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. If the switch is mounted in plastic, a constant ground wire will also be present. 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.

Wiring Diagram Overview

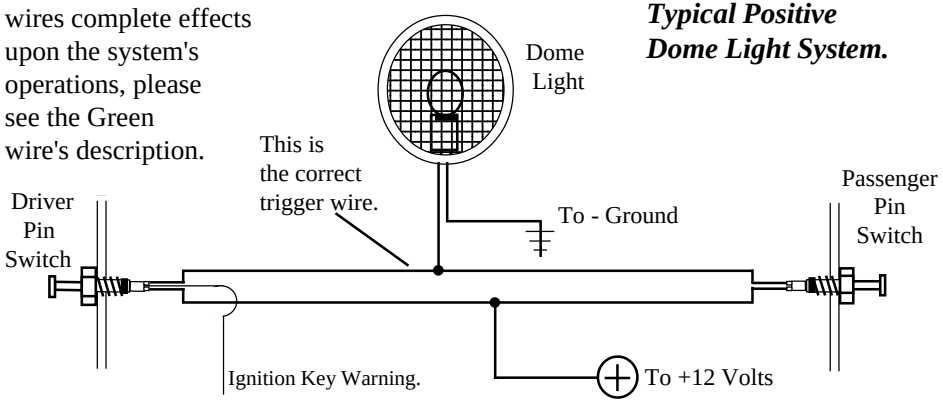



OPTIONAL AU-SOCKET & 1 SPDT RELAY FOR STARTER INTERRUPT
Relay
OPTIONAL SPDT RELAY FOR TRUNK RELEASE
Gray: (-) Trunk Release Output
Red: To Ignition Switch
Orange: Armed (-) Output
15 Amp
Siren / Horn Jumper (Outer)
Parking / Dome Jumper (Inner)
Yellow: Ignition (+) 12 Volts
(-) Door Pin Switch
Green: (-) Door
Blue: (-) Instant
10 Amp
LED LIGHT
DOOR LOCK
RED = +12V
BLACK = GROUND
YELLOW = ACC.12V
GRAY = TRUNK -
ORANGE = STARTER-
GRN/VIO = DOME OUT
BLK/RED = DOME IN
WHITE = LIGHTS+
BROWN = HORN/SIREN+
VIOLET = DOOR+
BLUE = TRIG-
GREEN = DOOR-
PINK = #3 CHANNEL-
VALET SWITCH
AUX. PLUG
Green/Violet: Dome Light Output
Black/Red: Dome Light Input

Also be aware of vehicles which diode-isolate each door. Typically, this is usually 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.

Violet Wire - (+12 Volts Door Trigger Input): The Violet wire's functions are 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 *+12 Volts* door pin switches. For a description of the Violet wires complete effects upon the system's operations, please see the Green wire's description.

Typical Positive Dome Light System.



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 - Ground when the doors are closed. The correct wire will show this change when any of the doors are opened.

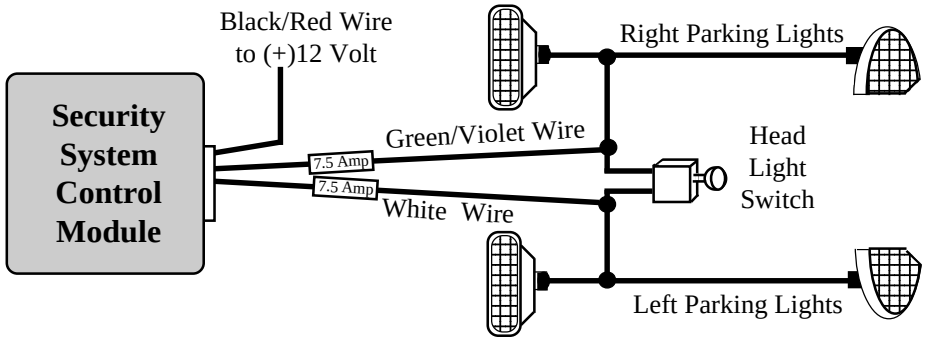
Green/Violet & Black/Red Wires - (Domelight Supervision Input/Output): The Black/Red and Green/Violet wires are provided for domelight supervision, which illuminates the interior lights of the vehicle upon disarming.

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.

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 domelights,

remember to take this into account when testing. In many cases, the Green/Violet wire is connected to the same wire in the vehicle as the Green or Violet Door Trigger wire.
ALTERNATIVE CONNECTION: If the vehicle has separate left and right parking light circuits, instead of being used for Domelight Supervision the Green/Violet and Black/Red wires may be used for one of the parking light circuits, with the White wire being used for the other parking light circuits.
PROGRAMMING: The operation of the Green/Violet wire output is programmable- it can have output for 30 seconds after disarming the system, for Domelight Supervi-

Connecting directly to Left & Right Parking Lights.



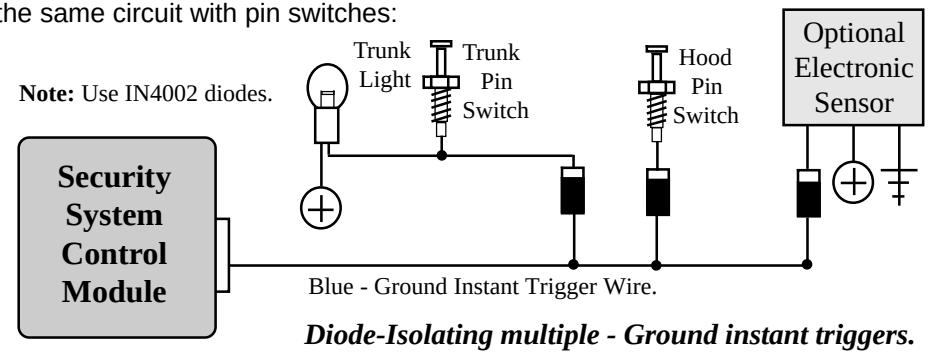
sion, or it can flash like the White Parking Lights wire. The control module has 3-pin standup with shorting jumper next to the main wiring harness connector and outboard, which is marked “L/D”. Placing the jumper on the “L” two pins is “parking light” operation, and placing it on the “D”-marked pins is “domelight” operation. See the Wiring Diagram Overview on pages 16-17.

Blue Wire - (- Ground Instant Trigger Input): The Blue wire is a - Ground instant trigger used to detect entry into the hood or trunk area of a vehicle. If the security system is armed, grounding the Blue will activate it.

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- 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 circuit 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, the trunk light will illuminate whenever the hood is raised. Also, diode-isolation is necessary when combining electronic sensors together, or, in the

the same circuit with pin switches:

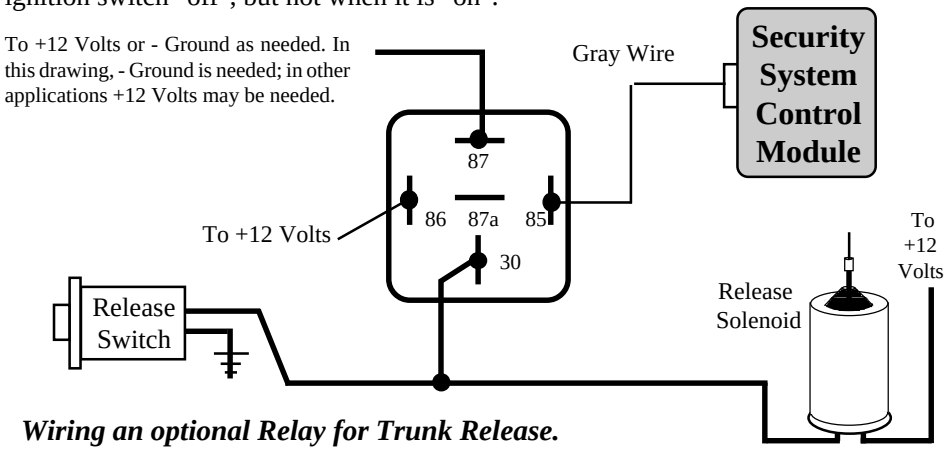


Diode-Isolating multiple - Ground instant triggers.

Gray Wire - (- Ground Output For Optional Trunk Release): The function of the Gray wire is to provide an optional output, the primary use being trunk release. Operating this output can also disarm the system, unlock the doors and flash the parking lights twice, then turning on the domelight for 30 seconds. Unless the vehicle's trunk release switch negatively triggers a release relay which draws no more than 250mA, an optional relay must be used.

Pink Wire - (3rd Channel - Ground Output For Other Devices): 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 therefore no audible or visual

confirmation is given. The Gray or Pink wire outputs can be operated anytime with the ignition switch "off", but not when it is "on".



Wiring an optional Relay for Trunk Release.

CONNECTION: An optional relay is required. Connect the Gray wire to relay pin 85, and connect +12 Volts to relay pin 86. Connect pins 87, 87a & 30 as indicated in the diagram. If the circuit that the Pink wire is connected to requires more than 250mA, an optional relay must be used, and the above diagram can be used as a guideline when configuring the relay.

Prewired Plug-in Features

LED Status Indicator: Mount the LED Status Indicator in a location where it can easily be seen by the driver, and preferably where it can be seen from outside, as the LED Status Light provides a level of visual deterrence. A 17/64" (6.5mm) hole must be drilled, and always check the mounting location for adequate depth. After mounting the LED Status Indicator, route its connector to the security system control module and insert it into the Red 2-pin port on the control module.

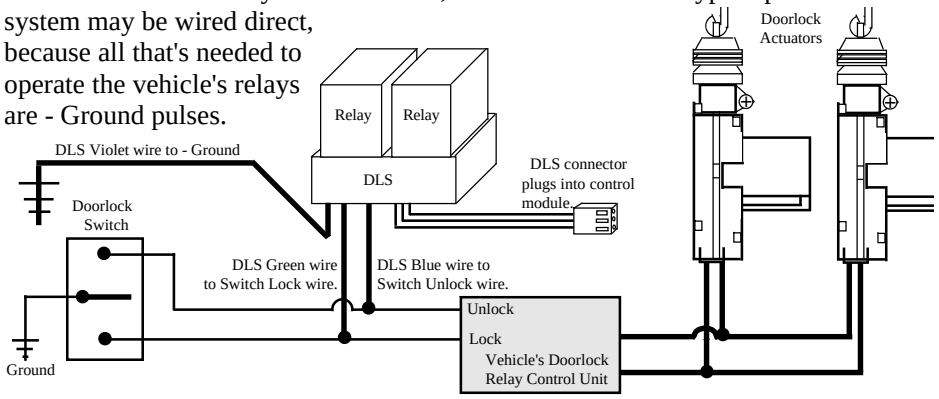
Valet Switch: Use the self-adhesive to mount the Valet/Override Switch in a hidden but accessible location. The Valet Switch allows the operator access to Valet Mode and allows an Emergency Override. The Valet Switch is also part of the programming operations for encoding transmitters and changing the 16 Programmable Features. After mounting the Valet/Override Switch, route the Blue connector to the security system control module and insert it into the Blue port on the control module.

Auxiliary Port For Optional Sensor: This security system features a plug-in port for an optional sensor device. This port supplies +12 Volts, - Ground output, a - Ground instant trigger input, and a - Ground prewarn trigger input. Most Omega Research and Development, Inc. sensors will plug directly into the control module.

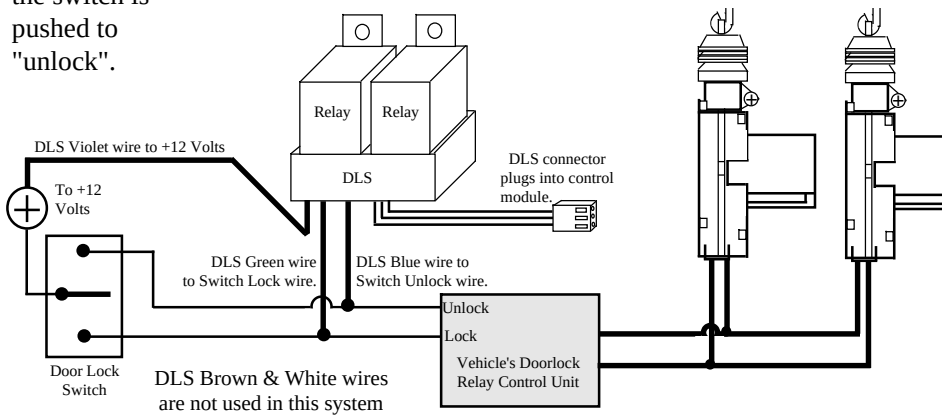
Omega sensors are available which detect shock to the vehicle and radar sensors that can detect motion inside and outside the vehicle. When adding an optional sensor, follow the installation instructions included with the sensor. After installing, route the harness and connector from the sensor to the system control module. Plug the sensor's connector into the module's White 4-pin port marked "Aux.".

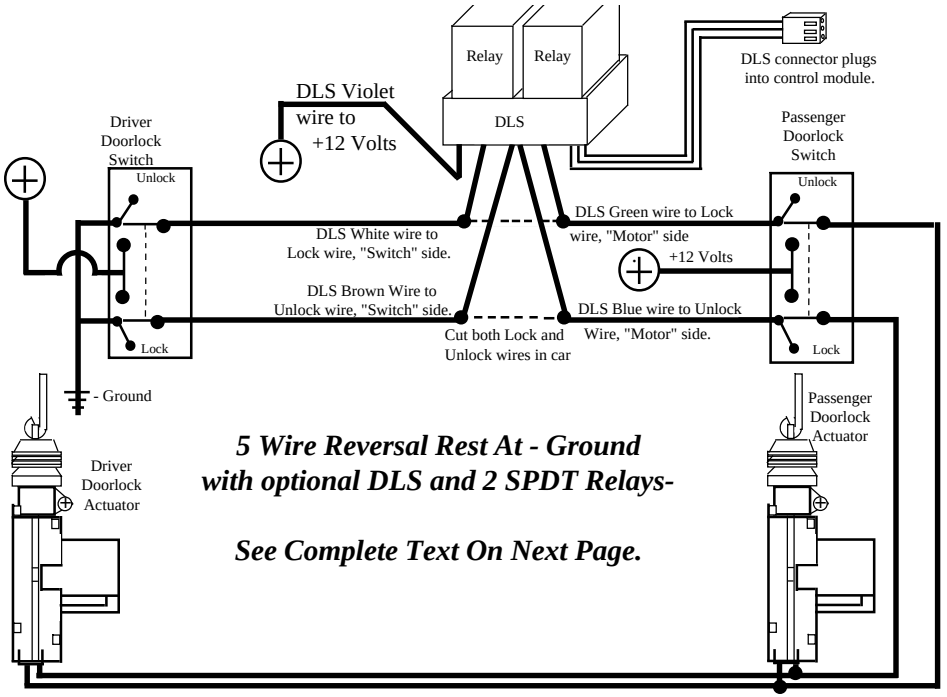
Plug-In Power Doorlock Interface Port: This security system features a plug-in port for an optional doorlock interface. The 3 pin port on the alarm control module produces a - Ground pulse for lock, a +12 Volts pin *for the optional relay coils only*, and a - Ground pulse for unlocking the doors. The doorlock connections needed will depend upon the type of power doorlocks the vehicle has. The vehicle must have existing power doorlocks. If not present, power doorlocks may be added to the vehicle by utilizing one of several Omega power doorlock kits. The vast majority of power doorlocks are found as three system types: 3 wire - Ground pulse, 3 wire +12 Volts pulse and 5 wire reversal. The best way to identify a doorlock system is to examine the doorlock switch's wiring. The following pages will show schematic diagrams of how to connect an optional DLS (also requires two relays) to these power doorlock systems. The DLS is a dual relay socket with a harness and connector to plug into the alarm 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.

3 Wire - Ground 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 Volts, 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. In most cases, vehicles that have this type of power doorlock system may be wired direct, because all that's needed to operate the vehicle's relays are - Ground pulses.



3 Wire +12 Volts Pulse Systems: This power doorlock system is very similar to the 3 wire - Ground pulse system except the vehicle's doorlock switches use +12 Volts pulses to operate the doorlock relays/control unit. Examine the wires on the back of the switch. Of the three wires, one will be +12 Volts, regardless of the switch's position. Of the two remaining wires, one will show +12 Volts when the switch is pushed to "lock", and the other will show +12 Volts when the switch is pushed to "unlock".




Relay
Relay
DLS
DLS connector plugs
into control module.
DLS Violet
wire to
+12 Volts
Driver
Doorlock
Switch
Unlock
Lock
Passenger
Doorlock
Switch
Unlock
Lock
DLS White wire to
Lock wire, "Switch" side.
DLS Green wire to Lock
wire, "Motor" side
+12 Volts
DLS Brown Wire to
Unlock wire, "Switch" side.
DLS Blue wire to Unlock
Wire, "Motor" side.
Cut both Lock and
Unlock wires in car
- Ground
Driver
Doorlock
Actuator
Passenger
Doorlock
Actuator
5 Wire Reversal Rest At - Ground
with optional DLS and 2 SPDT Relays-
See Complete Text On Next Page.

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 and 2 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 (preceding 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 toas 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.

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.