Step 3C Within 10 seconds of step B, press the transmitter button that is desired for remote valet, optional sensor bypass and remote chirp delete code (Factory coded as the small transmitter button on the left) until three siren chirps are heard to confirm that the code was learned and that the system is ready to learn the 2nd, 3rd or 4th transmitter codes, the process for each restarting at step 3A.

4) To program the second, third or fourth transmitter codes, repeat steps 3A, 3B, & 3C.

5) Turning off the ignition, or 10 seconds of no activity, will automatically turn off the transmitter learning code program, which is confirmed by one siren burst. Since prior codes will be erased, all transmitters desired to operate the system must be present and relearned.

This device complies with FCC Rules part 15. Operation is subject to the following two conditions, (1) This device may not cause harmful interference and, (2) This device must accept any interference that may be received, including interference that may cause undesired operation.

Crime Guard
Keyless Entry and Security®

INSTALLATION MANUAL

MODEL: CG 745i

switch 7 times and then follow step #5. **Note:** During the arming delay if any protected circuit should go into a triggered state, the system will arm, but that circuit will be unprotected until it reverts back to an untriggered state.

#8 Arm And Disarm Confirmation Chirps

Note: The security system comes with this feature turned "On".

With Feature #8 "On": The security system will have siren chirps for the arming and disarming confirmation.

With Feature #8 "Off": The security system will not have siren chirps for the arming and disarming confirmation.

To program, follow the instructions on page 41, and at step #4 press the valet button switch 8 times and then follow step #5. **Note:** Turning this feature off will also eliminate the three chirps upon arming if the negative instant trigger circuit is grounded, and the four chirps upon disarming if the system was triggered and reset. However, the Prewarn Feature and the Learning Code Programmable Features chirps will still operate.

#9 Remote Confirmation Chirp Delete Bypass

Note: The security system comes with this feature turned "On".

With Feature #9 "On": This feature will not work.

With Feature #9 "Off": Upon arming and disarming, if the small left transmitter button is pressed, then the large transmitter button is pressed, the security system will not have siren chirps for the arming and disarming confirmation.

To program, follow the instructions on page 41, and at step #4 press the valet button switch 8 times and then follow step #5.

CONTENTS

Chassis Ground **BLACK WIRE**

The Black wire's function is to supply chassis ground to the CPU (Central Processing Unit or control module) for the security system's operation. We recommend that this wire be connected before any of the security system's other wires.

CONNECTION: If you are using an Omega Research and Development Quick Interconnect Harness, ground for the Black wire may be provided from an existing ground circuit within the vehicle or the Black wire may have a ring terminal already attached. A Quick Interconnect Harness is an adapter wiring harness which plugs into an existing pair of the vehicle's connectors.

Using the correct sized soldered or crimp-on ring terminal, securely connect the Black wire to the metal structure of the vehicle, preferably using an existing machine-threaded fastener. The battery's negative post is a very poor choice for a grounding point due to the differences in the CPU and vehicle wire and terminal sizes, and because of the very corrosive environment around the battery. Make sure that the Black wire's ring terminal 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. The security system should be given its own ground. Never splice your alarms ground wire with an existing ground connection. Avoid grounding to sheet metal if possible

In some cases, however, grounding to sheet-metal may be the only choice. To properly use a sheet-metal screw, locate a hidden area where two of the vehicle's sheet metal panels are overlapped and welded together. After ensuring that there is adequate depth behind this spot, drill an appropriate-sized hole. A Drill Bit or a good quality Self-Tapping Screw may be used. Wrapping a length of adhesive tape around the Drill Bit will reduce excessive Drill Bit penetration. At this point, grind the surface of the metal around the drilled hole, as the

Continued Next Page

#5 System Disarms With Trunk Release

Note: The security system comes with this feature turned "On".

With Feature #5 "On": When the trunk release feature is utilized, the security system will also disarm at the same time, chirping the siren twice, unlocking the doors, and turning the lights on for thirty or sixty seconds.

To program, follow the instructions on page 41, and at step #4 press the valet button switch 5 times and then follow step #5.

#6 Door Lock Timing

Note: The security system comes with this feature turned "On".

With Feature #6 "On": The doorlock outputs have a .8 second negative pulse to a optional doorlock interface to operate the vehicle's door locking system.

With Feature #6 "Off": The doorlock outputs have a 3 second negative pulse to a optional doorlock interface to operate the vehicle's vacuum door locking system.

To program, follow the instructions on page 41, and at step #4 press the valet button switch 6 times and then follow step #5.

#7 3 Or 45 Second Fully Armed Delay

Note: The security system comes with this feature turned "On".

With Feature #7 "On": The security system will be become fully armed 3 seconds after the arming siren chirp confirmation.

With Feature #7 "Off": The security system will be become fully armed 45 seconds after the arming siren chirp confirmation.

To program, follow the instructions on page 41, and at step #4 press the valet button

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seconds the system is ready for you to select what feature code you want to enter and turn "on" or "off". Note: This programming mode will deactivate if a feature programming selection is not made within 10 seconds.

Step #4: Within 10 seconds of entering the feature programming mode, press the Easy Valet™ button switch the number of times that equal the feature number you want. After pressing the button switch multiple times the siren will chirp the same number of times to confirm which feature you are now in for changing. Example: Press valet switch 8 times and the siren will chirp 8 times.

Step #5: Turning Feature #8 in the example above "on" or "off":

Turning "on" Feature #8: Press the large transmitter button. The siren will chirp once to confirm that the feature is turned on.

Turning "off" Feature #8: Press the small transmitter button. The siren will chirp twice to confirm the feature turned "off".

Note: If you keep turning Feature #8 in the example on and off, the programming activity is extended. Remember, 10 seconds without any program activity will result in the system exiting this programming mode automatically.

Step #6 Repeat steps 4 & 5 to enter into another feature number to program the "on" or "off" condition.

Step #7 Turning on the ignition, or 10 seconds of no program activity, will automatically turn off this feature programming mode. Exiting the program is confirmed by one long warbling chirp.

List Of 9 Programmable Features:

Feature #1 -Doors Will Lock At Ignition "On", Unlock At Ignition "Off".

Feature #2 -Adding Open Door Bypass To Feature #1

Continued Next Page

insert this wire behind a fuse. Connecting directly to the battery's positive terminal is not recommended ***Caution:*** *The Constant 12 Volt wire at the ignition switch may not be fused! Extreme care must be taken not to short this wire!* If you plan on disconnecting the battery, *always* check the car's owner manual for any cautions or special procedures involved when disconnecting the vehicle's battery. The complexity of a modern vehicle's engine management and body computer systems, in addition to the presence of air bag systems, may have an effect on how the battery is disconnected, how long it is disconnected, how it is reconnected, and what, such as computer learning procedures, should be done after reconnecting. Also check the vehicle's owner's manual section on fuses. If the Constant 12 Volt wire to the ignition switch is fused, the fuse or fuses will be identified in that section of the owner's manual.

Access to the ignition switch harness on most cars is obtainable by removing the underdash "hush panels" and/ or the lower dash trim panels. On some vehicles, notably General Motors and Ford/Lincoln/Mercury products, the *electrical* part of the ignition switch is mounted on top of the steering column, near its base. This switch is connected to the *mechanical* part (where the key is inserted) by a linkage rod. Other vehicles, such as Chrysler, Dodge, Plymouth and the vast majority of imports, the electrical and mechanical parts are together, which means that the ignition switch is high in the steering column, and that the lower steering column trim may need to be removed. If soldering this connection, as recommended, solder quickly with the proper iron and be aware that a heat sink may be needed to prevent excess heat in the wire from damaging the ignition switch.

DIP Switch Programmable Functions*

Note: The DIP switches are located beneath the removable panel on the security system's control module.

DIP Switch #1 (Hi-Jack): With the DIP switch in the on position the Hi-Jack feature is active. In the active position the security system will trigger 60 seconds after the ignition is turned to the run position if the valet switch is not pressed. When the security system is triggered through the Hi-Jack feature the remote will not work to disarm the system, the valet switch must be used at that time. With the DIP switch in the off position the Hi-Jack feature is not active. **Note:** For more details on the Hi-Jack feature please see the owners manual.

DIP Switch #2 (Automatic Last Door Arming): When the DIP switch is in the on position the security system will be allowed to arm itself automatically when the vehicle's last door is closed. At the moment the last door is closed the siren will chirp, the exterior lights will flash once, and the Status LED will flash fast. Thirty seconds later the siren will chirp once again, the lights will flash, and the Status LED will flash slow, indicating that the security system is fully armed. If the Blue negative instant trigger is grounded at any time during the thirty second countdown (Example: opening the trunk), the Automatic Last Door Arming feature will be interrupted. When the Blue negative instant trigger wire becomes ungrounded, the security system will become fully armed thirty seconds later. If the DIP switch is in the off position, this feature will be turned off. **Note:** All doors and trunk must have the proper connection of the control module's Green or Violet and Blue wires to activate the Automatic Last Door Arming timer.

*Dual In-line Pin- a term for a commonly used miniature switch.

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E) Trunk release will only remotely operate while a door is open. This prevents activating the trunk release while driving.

F) Upon disarming, the parking lights stay on for 30 seconds. If the ignition is turned "on" during this time, the parking lights will instantly turn off.

CONNECTION: This connection, like the Constant Power and Starter Disable, are best done as close to the ignition switch as possible. We urge you to use an Omega Research and Development Quick Interconnect Harness. If you're not using a Quick Interconnect Harness, follow these steps:

At the ignition switch wiring harness, locate 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. When the correct wire is located at the ignition switch harness, securely splice the Yellow wire to it. **Note:** Not using the primary ignition wire can cause problems with features such as Last Door Arming and Doors Lock At Ignition "On", Unlock At Ignition "Off".

Positive Siren Output **BROWN WIRE**

The Brown wire is a 12 volt positive output for the electronic siren. This circuit will have steady output to sound the siren if the security system is triggered, and pulses for the confirmation chirps. **Caution:** If the brown wire touches ground directly without a load it will damage the alarm control module.

CONNECTION: The Brown wire is connected directly to the electronic siren's Red wire, and the siren's Black wire is connected to chassis ground. Note**:** For louder Confirmation Chirps, cut the Black loop wire on the siren.

Note: We Do Not Generally Recommend Using Air Horns Or The Vehicle's Stock Horns.

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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". When the correct wires are identified, they can usually be found at a location easier accessible for the interface connections. In most cases, this is in the driver kick panel area. When the *same* wires found at the switch are accessed at the interface location, cut both. When *both* of the wires have been cut, operate the switch. The wire which shows 12 volts when the switch is pushed to the lock position is connected to the DLS-3R's White wire. The wire which shows 12 volts when the switch is pressed to the unlock position is connected to the DLS-3R's Brown wire.

The remaining unconnected lock wire is connected to the DLS-3R's Green wire, and the remaining unconnected unlock wire is connected to the DLS-3R's Blue wire. In a standard doorlock interface, the Orange and Pink wires are not used and may be taped to the harness to secure them.

Driver Door Unlock Priority Interface: Perform the Standard Doorlock Interface with the following two exceptions:

1) Substitute the Orange wire for the Brown.
2) Substitute the Pink wire for the Blue.

When the interface installation is completed to this point, locate a wire that shows a Positive 12 Volt pulse when the doors are unlocked. Although this wire is usually found in the driver's kick panel area, the doorlock systems in some vehicles will require connection in the driver's door. When such a wire is located, test by cutting the wire. If it is the correct wire, operating the doorlock switch will result all doors locking and unlocking *except* the driver's door. The current flow for this circuit is going toward the driver door actuator. To test, meter both wires and press the doorlock switch to the *unlock* position only. The wire that shows Positive 12 Volts is connected to the DLS-3R's Orange wire, and the wire not showing

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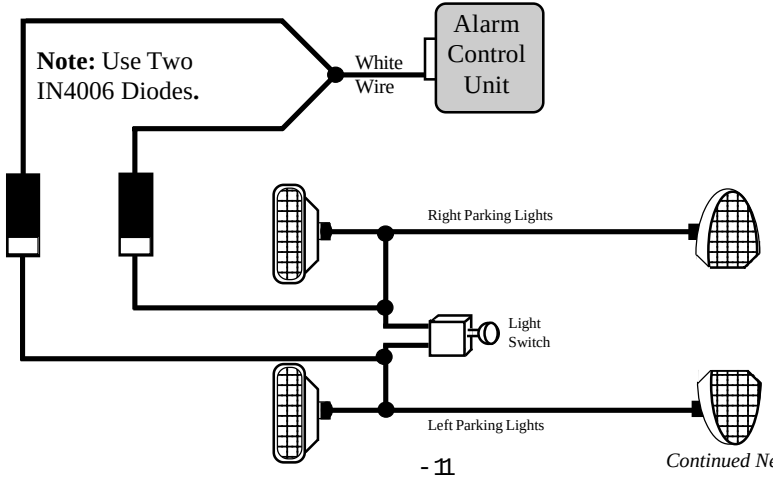
modern vehicles are not designed to be rapidly turned on and off. If connected to the alarm system, a reduction of their useful life may be noticed. If flashing the headlights is still desired, a relay must be used, since the headlight's current draw exceeds the 7 amp rating of the on-board relay. If flashing headlights and parking lights are desired, use the diagram for left and right parking lights using two relays. Any application that requires more than 7 amps of output must use an external relay. **Note:** If the White/Black wires on the security system are not being used for domelight supervision they can be used with the white wire for left and right parking lights.

LEFT AND RIGHT PARKING LIGHTS USING TWO DIODES



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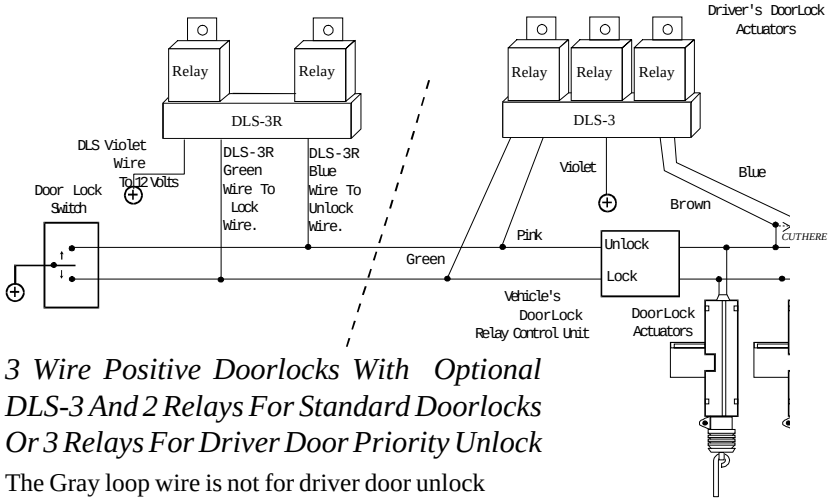

3 Wire Positive Doorlocks With Optional DLS-3 And 2 Relays For Standard Doorlocks Or 3 Relays For Driver Door Priority Unlock

The Gray loop wire is not for driver door unlock priority. Connect the Violet wire to Positive 12 Volts. Locate and cut the driver door unlock actuator wire. Connect the Blue to the actuator side and the Brown wire away from the actuator.

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 path to ground. The

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Starter Interrupt Output **ORANGE WIRE**

The Orange wire is for the starter disable socket and relay. The function of this wire is to provide a constant 500ma ground output whenever the alarm is armed. This ground output supplies 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, triggering 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 triggered) 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. We recommend that this 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! *Improper use of a test light can cause deployment of the airbag, which may result in bodily injury! Test lights can also damage expensive 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. Now that the starter wire has been cut, there are two sides - the ignition switch side and the starter solenoid side. 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 you make good, solid electrical connections as this is a high amperage circuit. Connect the alarm's Orange wire to the Orange wire of the starter disable socket.

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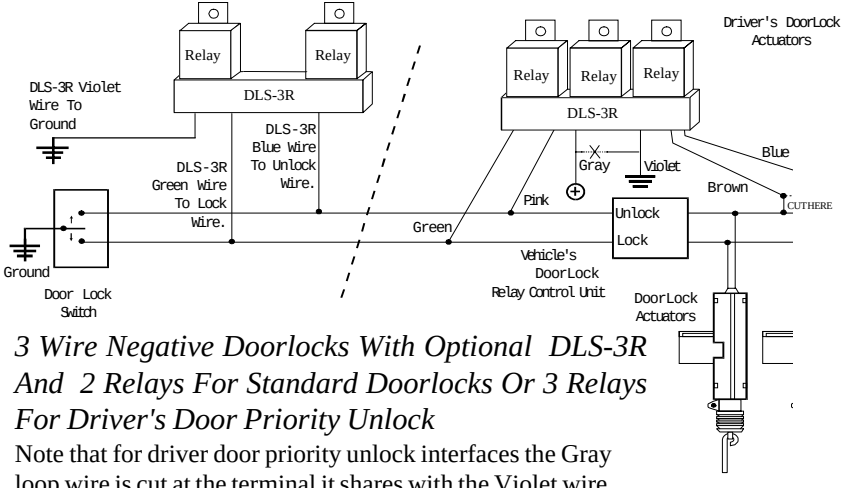

3 Wire Negative Doorlocks With Optional DLS-3R And 2 Relays For Standard Doorlocks Or 3 Relays For Driver's Door Priority Unlock

Note that for driver door priority unlock interfaces the Gray loop wire is cut at the terminal it shares with the Violet wire. Connect the Violet wire to ground and the Gray wire to Positive 12 Volts. Locate and cut the driver door unlock actuator wire. Connect the Blue to the actuator side and the Brown wire away from the actuator.

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 doorlock relays / control unit. 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, one

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Negative Door Trigger **GREEN WIRE**

The Green wire's function is an open door input to the control module for vehicles having *negative switching* door pin switches.. An open or closing door will affect the following operations:

A) Opening a door will trigger an armed alarm, causing the siren to sound and the exterior lights to flash, and also relocking the doors.

B) With DIP Switch #2 on, after turning "off" the ignition switch and closing the door, the Last Door Arming sequence will begin. This is indicated by one siren chirp, exterior light flash and a fast flashing LED Status Light. Thirty seconds after this occurs, the siren will chirp again, the lights will flash again and the LED Status Light will slow flash, indicating that the alarm is fully armed.

C) Opening a door while the exterior lights are on after disarming the alarm will cause the exterior lights to turn off 10 seconds after the opening of the door. **Note:** If the Last Door Arming feature is utilized, closing the door will initiate Last Door Arming.

D) If Programmable features #1 and #2 are turned on, and if a door is open when the ignition switch is turned "on", the doors will not automatically lock; if a door is open when the ignition switch is turned "off", the doors will not automatically unlock.

E) Opening a door during the 90 second automatic rearming cycle (Programmable Feature #4), or the 30 second last door arming cycle (DIP Switch #2) will suspend that automatic function for as long as the door is open. When the door is closed, these features will restart.

F) If the green wire is grounded at the time alarm becomes armed from the transmitter, the circuit bypass feature will leave the Green wire circuit unprotected until the circuit becomes ungrounded.

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Optional Plug-In Power Doorlock Interface

Please see owner's manual for complete operation details

The alarm system features a plug-in port for an optional doorlock interface. The 4 pin port on the system's control module produces a negative pulse for locking the doors (outside pin), a constant 12 volt pin *for the optional relay coils only* (second pin from outside), a first negative pulse for driver door unlock (second pin from inside), and a second negative pulse for unlocking all other doors (inside pin).

The doorlock interface needed will depend upon the type of power doorlocks the vehicle has. **Note:** The vehicle must have existing power doorlocks. The addition of a power doorlock interface to a vehicle with non-power locks will not allow the alarm system to operate the doorlocks. However, power doorlocks may be added to the vehicle by adding a Crime Guard model DS-KIT to the vehicle. This will also allow the security system to operate the doorlocks.

The vast majority of 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 most Mercedes vehicles and the single wire, dual-voltage which has appeared in some late model vehicles. The best way to identify a doorlock system is to examine the doorlock switch's wiring.

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 volts positive but in some cases less.

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Positive Door Trigger **VIOLET WIRE**

The Violet wire's function is an open door input to the control module for vehicles having positive 12 volt door pin switches. An open or closed door will affect the following operations:

A) Opening a door will trigger an armed system, causing the siren to sound, the exterior lights to flash, and the relocking of the doors.

B) If DIP Switch #2 is on, turning "off" the ignition switch and closing the door will start the Last Door Arming sequence, which is indicated by a siren chirp, exterior light flash and a fast flashing LED Status Light. 30 seconds after this occurs, the siren will chirp again, the lights will flash again and the LED Status Light will slow flash, indicating that the alarm is fully armed.

C) Opening a door while the exterior lights are on after disarming the system will cause the exterior lights to turn off 10 seconds after the opening of the door. **Note:** If the Last Door Arming feature is utilized, closing the door will initiate Last Door Arming.

D) If Programmable features #1 and #2 are turned on, if a door is open when the ignition switch is turned "on", the doors will not automatically lock; if a door is open when the ignition switch is turned "off", the doors will not automatically unlock.

E) Opening a door during the 90 second automatic rearming cycle (Programmable Feature #4), or the 30 second last door arming cycle (DIP Switch #2) will suspend that automatic function for as long as the door is open. When the door is closed, these features will restart.

F) If the Violet wire has 12 volts at the time alarm becomes armed from the transmitter, the

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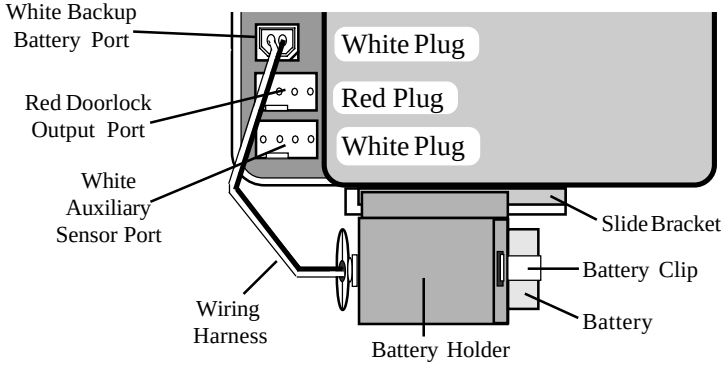
3. 100 separate transmitter arm and disarm activations.
4. 2 years if the 9 volt battery circuit has not been activated.

Installation Of The Backup Battery.



Dual Auxiliary Plug-In Sensor Ports

The CG 745i security system features two plug-in ports for electronic sensors. Both of these ports supply constant 12 volt, grounded output when the alarm is armed, a negative instant trigger, and a negative prewarn trigger. When the prewarn is triggered, the security system will respond by chirping the siren 3 times and relocking all the doors. After this

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Note: If the car has a delay dome light the Circuit Bypass feature will allow alarm to be armed from the transmitter instantly and will start protecting the Violet wire circuit when the dome light turns off. In Last Door Arming mode, the alarm arms 30 seconds after the dome light turn off. The following diagram illustrates a basic positive courtesy light system.

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. Complete functions are:

A) If the blue wire is grounded after alarm has armed, the alarm will trigger.

B) If the blue wire is grounded when the alarm is armed, the arming confirmation will change to 3 siren chirps and 3 light flashes to confirm that the circuit bypass feature will leave the blue wire circuit unprotected until it becomes ungrounded.

C) If the Blue wire becomes grounded during the 90 second Automatic Rearming cycle (Programmable Feature #4), or the 30 second Last Door Arming cycle (DIP Switch #2), the automatic function's countdown will stop for as long as the Blue wire is grounded. When the Blue wire is ungrounded, the countdown will restart at the beginning.

Note: If the Blue wire is grounded, Last Door Arming will not start until the Blue wire is ungrounded.

D) If the alarm is triggered by the Blue wire, the LED Status Light will flash 2 times and pause until the ignition switch is turned “on”.

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The function of the Easy Valet™ switch is to keep the system from arming during extended stopovers for fueling, maintenance, valet parking, car washing, etc.; and, in conjunction with the ignition key, to disarm the system if the transmitter is lost or inoperable.

To turn on the Easy Valet™ , simply press the valet button switch for two seconds to activate the valet mode. The system will confirm it is in the valet mode by responding with two siren chirps, the LED Status Light coming on constant and the exterior lights flashing twice. The alarm will retain memory of the valet condition while the ignition is "on" or "off". While in the valet mode, the transmitters can still operate panic, doorlocks, trunk release; the doors will lock when the ignition switch is turned "on" and unlock when it is turned "off"'. **Note:** While the security system is in valet mode, every time the ignition switch is turned "off", the siren will chirp once as a reminder.

To turn off the Easy Valet™, Simply press the valet switch and instantly the system will be out of valet mode. To confirm that the valet mode is turned off, the LED Status Light will turn off. Note**:** Easy Valet™, feature will only operate if the security system is in any condition other than armed.

Disarming The Alarm If The Transmitter Is Lost: In the event the transmitter is lost, damaged, or its batteries become exhausted, the Easy Valet™ switch and the ignition key can be used to disarm the security system

STEP 1. With the system in the armed condition, enter via the driver's door (be aware that the security system will trigger the instant the door is opened).

STEP 2. Use the ignition key to turn "on" the ignition.

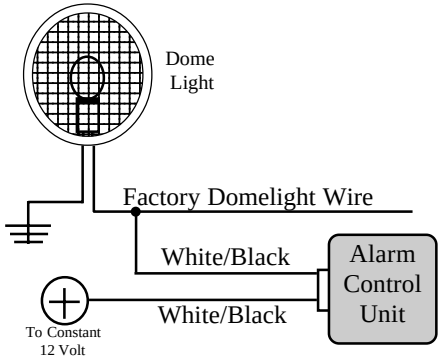
STEP 3. Within 10 seconds, press the Easy Valet™ switch and the system will instantly disarm.

Domelight Supervision Output **WHITE/BLACK WIRE**

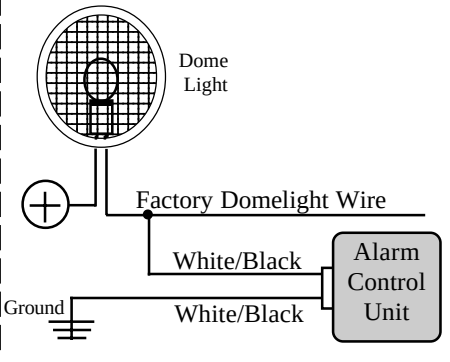
The two White/Black wires are intended for domelight supervision. This feature will turn on the domelight of your vehicle upon disarm to illuminate the interior of your vehicle. This output is very similar to the White wire output except the polarity is selectable to be positive or negative.

CONNECTION: Connect one of the White/Black wires to the vehicle's domelight trigger wire. The other wire will be connected to 12 volts positive or ground, which ever polarity is required to activate the vehicle's domelight (See page 10 or page 13 to determine domelight polarity).

POSITIVE DOMELIGHT



NEGATIVE DOMELIGHT



Transmitter Code Verification™ (Patent Pending): After the ignition is turned "on", the LED Status Light will flash to indicate the number of transmitters programmed to operate the security system. For example: two flashes and a pause indicates that only two transmitters are coded to operate the system. This feature works for 10 second period every time the ignition switch is turned "on".

5) Flash one time and pause = 1 transmitter code is stored in the system's memory.
6) Flash two times and pause = 2 transmitter codes are stored in the system's memory.
7) Flash three times and pause = 3 transmitter codes are stored in the system's memory.
8) Flash four times and pause = 4 transmitter codes are stored in the system's memory.

Zone Violation: If the system is triggered the LED Status Light will start to flash and pause the #9 through #12 sequences to indicate which protected circuit triggered the system. This is seen while the system is armed, and after disarming, until the ignition switch is turned "on", which will clear the security system's memory. The unit's memory can store two different codes, and if dual violations involving different zones occurred, the different zones will be shown in the order of the violation.

9) Flash one time and pause = The system was triggered from the current sensing circuit.
10) Flash two times and pause = The system was triggered from the hood or trunk circuit wire.
11) Flash three times and pause = The system was triggered from the door circuit wire.
12) Flash four times and pause = The system was triggered from the auxiliary sensor input.

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3rd Channel Output **PINK WIRE**

The function of the Pink wire is to provide an optional output similar to the Gray trunk release wire. This output activates for one second or, for as long as you hold down the small left transmitter button, for up to 15 seconds. This function can be used to activate other optional modules (Example: car starting equipment or power window roll up units). For most applications a relay will be needed. Use the same configuration as found on page 6 for trunk release and substitute the Pink wire for the Gray trunk release wire.

The transmitter button used to activate the third channel is the small button on the left.

Plug-In Red LED Status Light

The Crime Guard 745i is available with two types of LED Status Lights. This section includes instructions for the mounting of both types. Mount the Red LED Status Light in a location where it can easily be seen by the driver, and where it can be seen from outside, as the LED Status Light provides a level of visual deterrence. Good locations differ from vehicle to vehicle, but generally a spot on the driver side or optimally on the center of the dash will suffice.

The Type 1 LED Status Light includes its own holder bracket, which allows mounting without drilling a hole in the vehicle's dash panel. The holder bracket can be used to mount the LED Status Light under the dash overhang over the instrument cluster, allowing better visibility in daylight. Double-sided adhesive tape is provided for this purpose.

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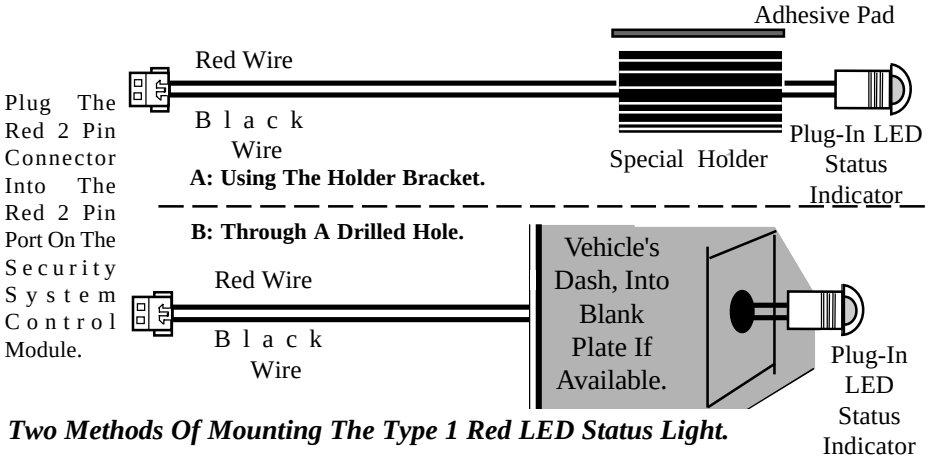


Two Methods Of Mounting The Type 1 Red LED Status Light.

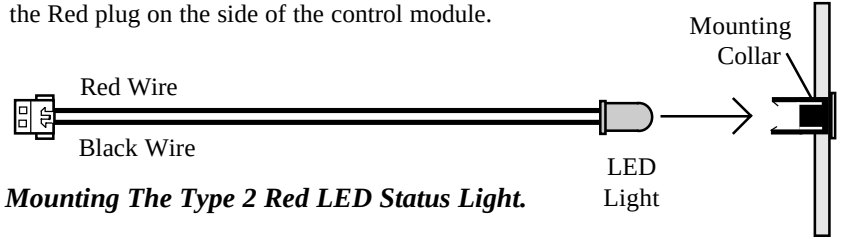
If a hole will be drilled, we suggest checking for a blank, or "dummy" plate, such as used to fill an opening where optional switches, accessories, etc. would normally be located. Drilling into a large, expensive to replace piece of the dash should be avoided.

CAUTION! *Check behind the panel being drilled into for obstructions before drilling! Taping the bit will prevent excess penetration.* After mounting, route the Red connector to security system control module and insert it into the Red plug on the control module.

The Type 2 LED Status Light includes its own mounting collar, and access from behind the mounting area is required to properly mount the LED Status Light.

Continued Next Page

A blank, or "dummy" plate, such as used to fill an opening where optional switches, accessories, etc. would normally be located, is again suggested as the optimum mounting location. Such blank plates are usually easily removable, which will make mounting the Status LED Light easier. Drilling into the dash is also an option. ***CAUTION!*** *Check behind the panel being drilled into for obstructions before drilling! Taping the bit will prevent excess penetration.* Carefully drill a 1/4" hole at the desired mounting location. Insert the mounting collar from the front, then snap the LED light into collar from behind the dash. After mounting, route the Red connector to security system control module and insert it into the Red plug on the side of the control module.



Mounting The Type 2 Red LED Status Light.

The LED Status Light is a visual indicator of what state the security system is in at any given time. It is normally positioned in a location that is easily observed by the driver. There are 16 possible conditions that the system can be in, and are reflected by the LED Status Light:

1) Off = The system is disarmed and not performing any automatic functions.
2) On Constant = The system is in the valet mode.
3) Flashing Slow = The system is Fully Armed.
4) Flashing Fast = 30 second Last Door Arming or 90 second Automatic Rearming is in progress.

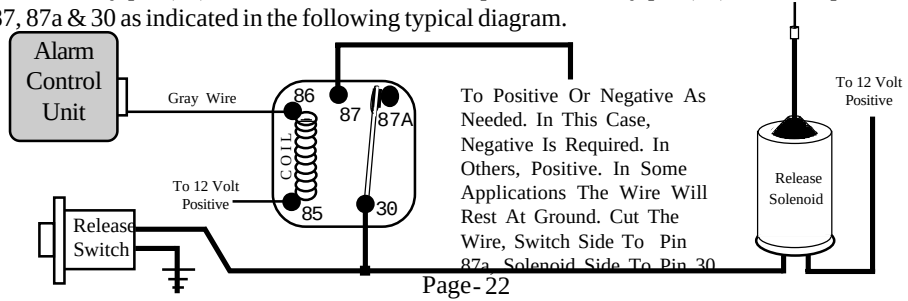
Continued Next Page

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 small right transmitter button for two seconds to activate this output. When activated the Gray wire will provide a 250ma ground pulse for 1 second; or, stay grounded for as long as you depress the small right transmitter button, for up to 15 seconds. Also, when programmable feature #5 is turned on the system will automatically disarm the system, unlock the doors and turn the lights on for 30 or 60 seconds (programmable) unless a door is opened or the ignition switch is turned "on".

Note: The trunk release feature can be operated anytime with the ignition switch "off", or it may also be operated while ignition key is "on", but you must have a door open at the same time. This prevents the trunk or rear hatch from being opened from the transmitter while driving. Whenever this output is used, the siren will chirp twice.

CONNECTION: Unless the vehicle's trunk release switch negatively triggers a release relay which draws no more than 250ma, an optional relay must be used. Connect the Gray wire to relay pin (86), and connect constant 12v positive to relay pin (85). Connect pins 87, 87a & 30 as indicated in the following typical diagram.



Zone Testing: Every time the ignition key is turned off , the LED Status Light will flash and pause the #13 through #16 code to indicate what protected circuit is in a triggered state. As an example, open a door and the LED Status Light will start flashing 3 times and pause until the door is closed, or, if another protected entry point is triggered while the door is still open, then the LED Status Light will indicate the most recent zone triggered. Current sensing can only detect a "spike", so the LED Status Light will flash once, that being only when the current spike occurs.

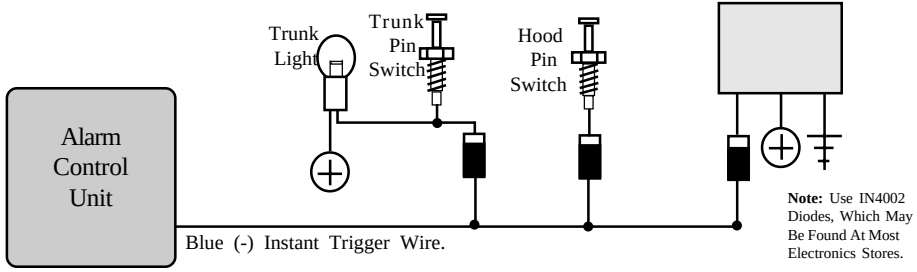
13) Flash one time and pause = The system is detecting a trigger from the current sensing circuit.
14) Flash two times and pause = The system is detecting a trigger from the Blue wire.
15) Flash three times and pause = The system is detecting a trigger from the door circuit wire.
16) Flash four times and pause = The system is detecting a trigger from the auxiliary sensor input.

Plug-In Easy Valet™ Switch

Mount the Easy Valet™ switch in hidden a location that is accessible to the driver. Use the adhesive pad on the back of the switch to mount it to a flat surface. Although it is not absolutely necessary to mount the switch in a hidden location, because the ignition key is needed to disarm the alarm, a hidden switch makes it more difficult for a thief who has copied the ignition key. Route the wires to the system control module, and insert the Blue connector into the Blue plug on the side of the control module. **Note:** The system's valet circuit is designed so that a toggle type switch may also be used.

Continued Next Page

CONNECTION: The included pin switches may be installed to provide this trigger, or, if there are existing switches (example: luggage compartment light or "Trunk Ajar" light in the dash), the Blue wire may be connected directly, provided this is a (-) negative 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 Blue wire direct.



Note: When wiring more than one vehicle circuit to this wire, you may need to diode-isolate the circuits. An example would be wiring a hood pin switch and trunk switch together. Without isolating, the trunk light will turn "on" whenever the hood is raised. Also, diode-isolation is necessary when combining electronic sensors together or in the same circuit with pin switches.

Plug-In Back-Up Battery

This system includes a 9 volt alkaline battery and a slide bracket holder which attaches to the security system control module. The 9 volt battery is all that is required to provide alternative power to operate the system if the vehicle's battery is disconnected. A built-in protection circuit will not allow the 9 volt battery to backfeed voltage into the vehicle's electrical system.

While on backup battery power, to conserve the backup battery, the system will not have some functions - flashing exterior lights and the LED Status Light. The siren will still have full output, and all trigger circuits will be active, except, of course, current sensing. **Note:** Even though the Auxiliary trigger is still active, no voltage is supplied out of the Auxiliary plug, so electronic sensors will not operate. The Starter Interrupt, however, will work at all times from battery backup.

Replacement 9 volt alkaline batteries can be purchased anywhere batteries are sold. We recommend the battery be replaced with another alkaline battery every 18 months or after the 9 volt battery has operated the alarm on its own for any length of time. Under the following conditions, a new 9 volt alkaline battery's life is anticipated to be approximately:

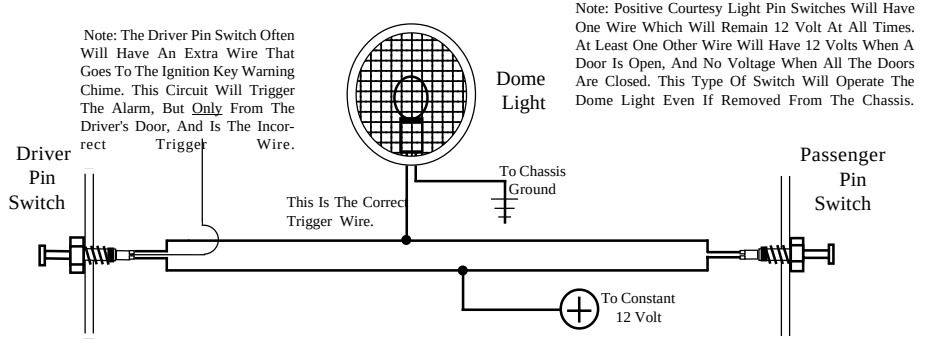
1. 4 days as the only power source to the alarm while in the armed condition. Accessory sensor devices will not function when the 9 volt battery is in use.
   Note: There will be no visual indication that the alarm will be armed.
2. 50 triggered alarm cycles. A triggered alarm cycle is the 60 second period after the alarm is triggered, where the siren is sounding, the starter interrupt is activated, and the system automatically turns off and rearms to again protect the vehicle.

circuit bypass feature will leave the Violet wire circuit unprotected until the circuit loses the voltage.

G) If the alarm is triggered by the Violet wire, then the LED Status Light will flash 3 times and pause until the ignition switch is turned "on".

CONNECTION: Connect the Violet wire to a wire in the vehicle which is common to all the door pin switches. 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. The correct wire will show this change when any of the doors are opened.

POSITIVE COURTESY LIGHT SYSTEMS



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circuit has been triggered 5 times the prewarn feature will automatically be turned off until the security system is rearmed again. This will prevent the alarm from being a nuisance to the general public. Any Crime Guard sensor will plug directly into the alarm control module. A single zone sensor may be used to trigger the alarm or trigger the prewarn feature, but not both. A dual zone sensor is required to trigger both the alarm and the prewarn feature.

The following differences in operation of the two auxiliary sensor ports concerning the sensor bypass feature should be noted: Port A, which is on the corner of the security system control module, will have both the negative instant trigger and the prewarn trigger bypassed when this feature is utilized. Port B, just inboard of Port A, will have only the prewarn trigger and not the negative instant trigger bypassed. This allows the option, when installing a single sensor, of having both prewarn and instant triggers bypassed (Port A) or just the prewarn trigger bypassed (Port B). When using two sensors, the most sensitive of the two sensors will generally be plugged into Port A. An example of this flexibility would be a sensitive shock sensor plugged into Port A and a radar sensor plugged into Port B. When the remote sensor bypass feature is used, the shock sensor will be completely bypassed and the exterior zone of the radar sensor will also be bypassed. This leaves only the interior zone of the radar sensor intact, reducing a possible false alarm caused by parking in an area of heavy traffic or other vibrations, while leaving the radar sensor's interior zone as part of the security systems protection. The dual auxiliary ports' operation allow extreme flexibility in designing a custom security system.

If the system is triggered by the sensor plugged into Port A the Zone Violation feature will flash the LED Status Light four times between pauses. If the system is triggered by a sensor plugged into Port B the Zone Violation feature will flash the LED Status Light twice between pauses.

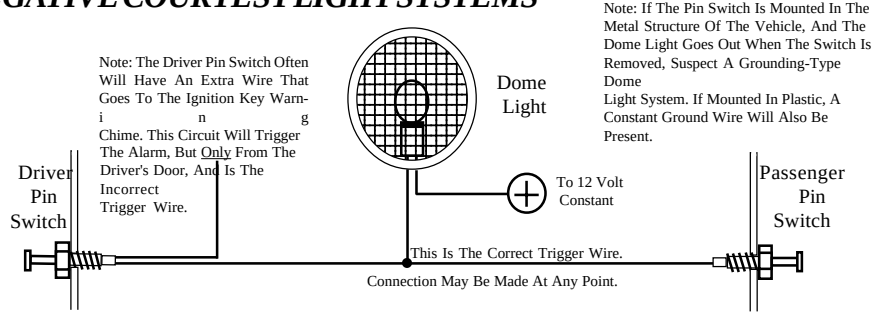
Continued Next Page

G) If the alarm is triggered by the Green wire, the LED Status Light will flash 3 times and pause until the ignition switch is turned “on”.

CONNECTION: Connect the Green wire to a wire in the vehicle which is common to all the door pin switches. This type of dome light/door jamb pin switch system will have no voltage present 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.

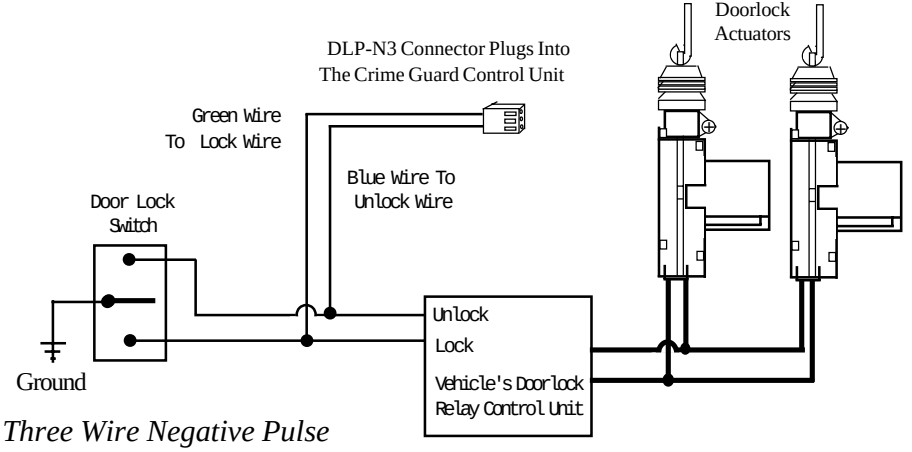
Note: If the car has a delay dome light the Circuit Bypass feature will allow alarm to be armed from the transmitter instantly and will start protecting the green wire circuit when the dome light turns off. In Last Door Arming mode, the alarm arms 30 seconds after the dome light turns off. The following diagram illustrates a basic negative courtesy light system:

NEGATIVE COURTESY LIGHT SYSTEMS



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.

Most vehicles that have this type of power doorlock system may be wired direct, using the DLP-N3 harness, because all that is needed to operate the vehicle's relays is negative pulses. Some doorlock systems however, require more than the 500ma ground output that the security system's control module can accommodate. In these cases the optional DLS-3 and 2 relays for lock and unlock all doors or 3 relays for driver door priority unlock is used.



Three Wire Negative Pulse Standard Doorlocks With The Optional DLP-N3 Harness

Continued Next Page

Although a relay can be wired without using the starter disable socket, we recommend using the socket. Besides being easier and faster than wiring a relay, the socket includes a diode that prevents the relay from inductive lockup, which will prevent the vehicle from being started. If wiring a relay without the socket, use the following diagram.

DIAGRAM FOR STARTER DISABLE

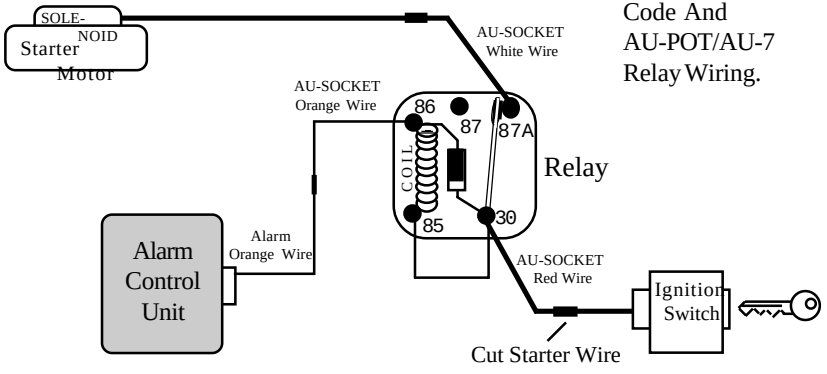
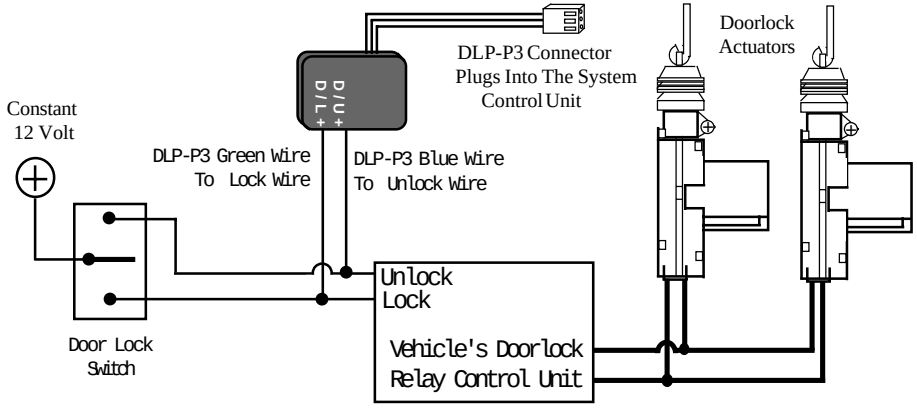


Diagram Shows The AU-SOCKET Starter Disable Socket Color Code And AU-POT/AU-7 Relay Wiring.

Note: If the Orange wire touches 12 volts positive directly or has more than a 500ma ground load, the circuit will be damaged.

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". Since the polarity must be reversed from the security system's negative pulse to 12 volts positive pulse, an optional doorlock interface must be used. Two interfaces are available - Crime Guard models DLP-P3 and the DLS-3R with 2 relays for standard doorlocks or 3 relays for driver door priority unlock.

The DLP-P3 is a plug-in transistor network which converts the alarm's negative doorlock output pulses to 12 volt positive pulses. The DLP-P3 is the quickest, easiest doorlock interface to use for three wire positive pulse doorlock systems.



Three Wire Positive Standard Doorlocks With The Optional DLP-P3.

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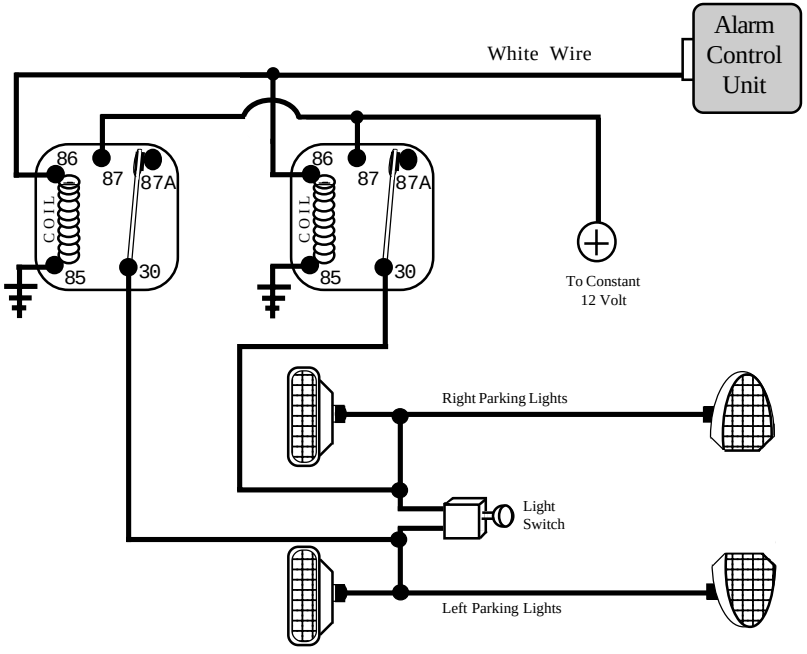
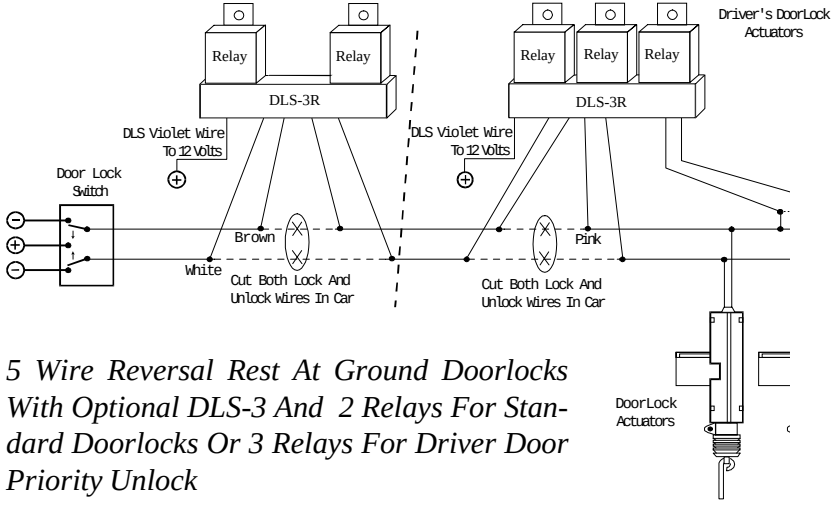
LEFT AND RIGHT PARKING LIGHTS USING TWO RELAYS



correct doorlock interface for this type of system is the optional DLS-3R and 2 relays for standard doorlocks or 3 relays for driver door unlock priority unlock. 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 wiring connections.



5 Wire Reversal Rest At Ground Doorlocks With Optional DLS-3 And 2 Relays For Standard Doorlocks Or 3 Relays For Driver Door Priority Unlock

Standard Doorlock Interface: Examine the wires on the back of the switch. Normally 5 wires will be found. Of these wires, one will be constant 12 volt positive, regardless of the switch's position. Two wires will be grounded regardless of the switch's position. Of the two

Continued Next Page

Flashing Light Output **WHITE WIRE**

This is a positive 12 volt output for exterior flashing light confirmation, and, to attract attention to the vehicle if the alarm is triggered. Also, upon disarming, this circuit will stay on for 30 or 60 seconds (programmable) to confirm disarming and to illuminate the way to your 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 Toyotas, have a parking light relay which is triggered by a 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.

The correct wire will show positive 12 volt 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 will be damaged.

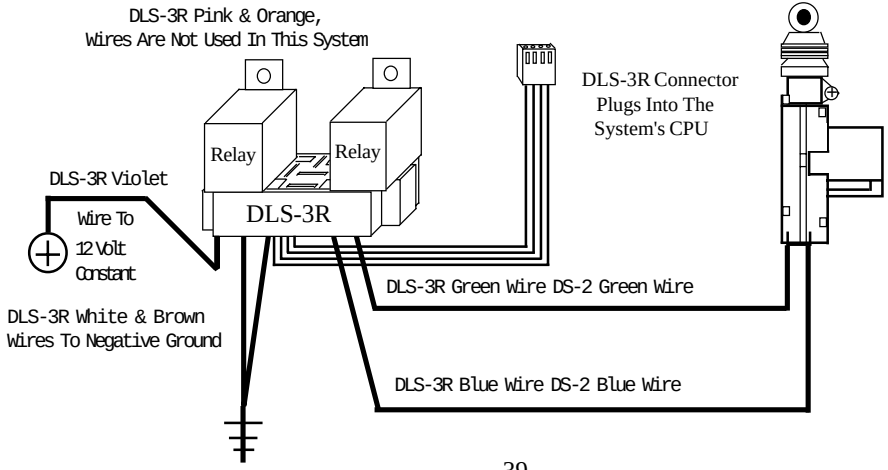
When left & right parking lights are on separate circuits, a pair of 6 to 10 amp diodes or a pair of relays must be used to connect the White wire to each parking light side. The following diagrams show both methods.

Note: We do not recommend flashing the headlights. The halogen headlights found in

Continued Next Page

voltage is connected to the DLS-3R's Pink wire.

Systems Requiring Adding The DS-2 Actuator: 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. Driver Door Unlock Priority is not an option with this type of doorlock system.



Ignition Power **YELLOW WIRE**

The functions of the Yellow wire are:

With the ignition key "off" (the Yellow wire has 0 volts):

A) The Zone Test feature will work until the security system becomes armed.

B) The security system can be armed, either actively from the transmitter or passively from the optional Last Door Arming feature.

C) The Easy Valet™ switch will still function if the security system is disarmed.

D) The Easy Valet™ switch will not disarm the system while it is in an armed or triggered condition.

E) When the ignition switch is turned "off", if a door is not open, the security system will unlock the doors if this feature is turned on.

F) If the system is in Valet mode, when the ignition switch is turned "off", the siren will chirp as a reminder.

With the ignition key "on" (the Yellow wire has 12 volts):

A) Transmitter Code Verification will work for 10 seconds after 12 volts is applied to the Yellow wire.

B) The security system cannot become armed, either actively from the transmitter or passively from the optional Last Door Arming feature.

C) The Easy Valet™ switch can be used to disarm an armed or triggered security system when the Yellow wire receives 12 volts. The Valet Switch must be pressed for two seconds, but only within 5 seconds after the Yellow wire first has the 12 volts present.

D) Clears the LED Status Light memory of flashing the violated zone if the security system was triggered while you were away.

Continued Next Page

DIP Switch #3 (Doors Lock With Last Door Arming): With the DIP switch in the on position and with the Automatic Last Door Arming feature on this will cause the vehicle's doors to lock when the security system becomes fully armed thirty seconds after closing the last door. If the DIP switch is off, the doors will not lock with Automatic Last Door Arming.

DIP Switch #4 (Current Sensing): When the alarm is armed, current sensing can detect a positive current draw from the vehicle's battery. (Example: the dome light comes on when a door is opened or the brake lights come on when the brake pedal is pressed). With the DIP switch on, the security system will trigger if a current draw is detected. If the DIP switch is off, this feature will be turned off. **Note:** The connection point of the control module's Red wire determines how sensitive this feature is. The best connection point is the 12 volt constant wire at the ignition switch harness. Connecting the Red wire directly to the vehicle's battery gives the least sensitivity to this feature.

How To Program 9 Features Using The Easy Valet™ Switch And The Transmitter:

Changing Feature Functions Through Learning Code Program:

This security system has 9 features that can be turned "on" or "off" through the features programming mode. To turn "on" or "off" selected features in the programming mode, follow these steps:

Step #1: Turn "off" the ignition.

Step #2: Within 5 seconds of turning "off" the ignition, press the valet button 5 times.

Step #3: You have just entered into the feature programming mode. To confirm, the siren will respond with one short and one long siren chirp. For the next 10

Continued Next Page

Constant Power **RED WIRE**

The Red wire's functions are:

A) To supply constant 12 volts for the security system's operation.

B) After the system is armed, if the Current Sensing feature is utilized, any electrical device in the vehicle turned on (i.e. the dome light), will create a current spike, which will be sensed by the Red wire to trigger the system, and thus sound the siren, flash the lights and relock the doors.

C) When 12 volts is first applied to the Red wire, the system will trigger, sounding the siren, flashing the lights and locking the doors. **Note:** If the system is placed into the valet mode before the battery is disconnected, this function will not work, thus allowing the vehicle to be serviced without the system being triggered when the mechanic reconnects the vehicle's battery.

D) To supply 12 volts, 7 amps to the built-in relay contacts for flashing the lights from the security system's White wire.

CONNECTION: This connection, like the Ignition Power and Starter Disable, are best done as close to the ignition switch as possible. We urge you to use an Omega Research and Development Quick Interconnect harness.

For dependable current sensing, connect the Red wire to a Constant 12 Volt wire at the ignition switch. ***Caution:*** *Be aware of, and avoid, any airbag circuitry. Due to the fact that an installer will not be in a normal, upright seated position, severe injury may occur in an accidental airbag deployment. Also, use of a volt-ohm meter or multimeter instead of a testlight will greatly reduce the risk of an accidental airbag deployment.* This wire will have 12 volt positive at all times and in all ignition switch positions. Another location can be at the constant 12 volt wire *behind* the fuse block or the fuse/junction block. *Never* just

Continued Next Page

Feature #3 -Exterior Lights Stay On 30 Seconds Or 60 Seconds After Disarming.
Feature #4 -Security System Will Automatically Rearm 90 Seconds After Disarming.
Feature #5 -Security System Will Disarm Upon Trunk Release.
Feature #6 -.8 Or 3 Second Door Lock Pulse Time.
Feature #7 -3 Or 45 Second Fully Armed Delay After Arming Chirp Confirmation.
Feature #8 -Confirmation Chirp On Or Off.
Feature #9 -Remote Chirp Delete Bypass.

#1 Turning Ignition On/Off Activates The Door Locks

Note: The security system comes with this feature turned "On".

With Feature #1 "On": The vehicle's doors will lock 1 second after the ignition is turned "on". When the ignition is turned "off" the vehicle's doors will unlock instantly .

By Following steps 1 through 7 on page 41, you will be in the feature programming mode. At Step #4, press the valet switch once. At Step #5, within the next 10 seconds, to turn Feature #1 "on", press the large transmitter button. The siren will chirp once to confirm that the feature was turned on. To turn "off" Feature #1 press the small left transmitter button. The siren will chirp twice to confirm that Feature #1 is turned "off".

#2 Adding Open Door Bypass To Feature #1

Note: The security system comes with this feature turned on.

With Feature #2 "On": When the ignition switch is turned "on" or "off", Feature #2 is programmed to check the vehicle's door circuit. If Feature #2 detects that any of the vehicle's doors are open, the doors will not automatically lock when the ignition switch turns "on", or automatically unlock when the ignition switch is turned "off". This prevents accidentally locking yourself out of the vehicle and to prevent children from

Continued Next Page

exiting the vehicle. To program, follow the instructions on page 41, and at step #4 press the valet switch 2 times and then follow step #5.

#3 Lights On After Disarming 30 Or 60 Seconds

Note: The security system comes with this feature turned "On".

With Feature #3 "On": Lights are programmed to stay on for sixty seconds after you disarm the system, with the following exceptions: (1) The lights will turn off ten seconds after a door is opened, and (2) the lights will turn off instantly when ignition switch is turned "on".

With Feature #3 "Off": The lights are programmed to stay on for thirty seconds after you disarm the system with the following exceptions: (1) The lights will turn off ten seconds after a door is opened, and (2) the lights will turn off instantly when the ignition switch is turned "on".

To program, follow the instructions on page 41, and at step #4 press the valet switch 3 times and then follow step #5.

#4 90 Second Automatic Rearming After Disarming

Note: The security system comes with this feature turned "On".

With Feature #4 "On": Once the transmitter has armed the security system, feature #4 programs the system to stay armed until the owner gets back. If the system is accidentally disarmed from the transmitter, it will automatically rearm & lock the doors 90 seconds later, or until a vehicle door is opened or the ignition is turned on.

To program, follow step #4 on page 41, but press the valet switch 4 times and then follow step #5. **Note:** When Automatic Last Door Arming is turned "on" from DIP Switch #2, Feature #4 will work automatically.

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goal is a bright, clean contact area for the ring terminal. A Carbide Burr Bit or a Mandrel and Cut-Off Wheel may be used in a Drill or Die Grinder to accomplish this quickly.

Caution: *Use proper eye protection!* Since the screw is being run through two layers of metal, some thread cutting must occur. A Screwgun or Cordless Drill is very handy for this operation. **Note:** If you have a bad ground connection, the security system can find partial ground through the wires that are connected to other circuits causing malfunctions, which would appear to be a defective security system. One example is the system is armed, but the siren sounds with a low volume.

Note: When power or ground is first applied the security system will trigger instantly.

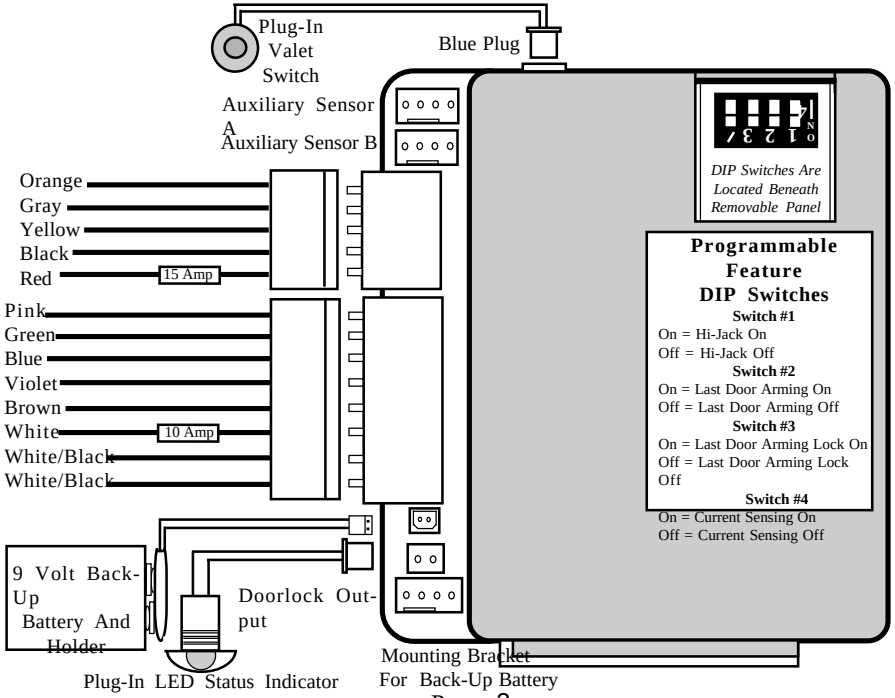
Antenna Wire **BLACK WIRE**

Note: The Black wire *attached to the control module* is the antenna wire. <u>Do not connect this wire to anything or your transmitter's range will be reduced or eliminated.</u>

Vehicle security systems which are operated by Radio Frequency (RF) must comply with the Federal Communications Commission's (FCC) Rules part 15, which states that this device must not cause harmful interferences to other electronic devices and that the security system must accept any interference from other devices, even if this causes undesirable operation of the security system.

This wire may be lengthened for possibly improving the range, with 36" of 22 gauge wire being the recommended maximum addition. Route this wire high in the vehicle and away from metal for maximum system performance.

WIRING DIAGRAM



Programming Transmitters

When adding or deleting transmitter codes to operate the security system, follow this process:

1) Turn "on" the ignition.

2) Within 5 seconds of turning "on" the ignition, press the Easy 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 other be present. If a code is not received within 10 seconds, the learning process will automatically terminate.

3) To learn the first transmitter button codes:
   Step 3A Within 10 seconds of step #2, press the transmitter button that is desired to arm/disarm/panic the system (Factory coded as the large transmitter button) until one siren chirp is heard to confirm that the code was learned and that the system is ready to learn the trunk release code.
   Step 3B Within 10 seconds of step A, press the transmitter button desired for trunk release (Factory coded as both the small transmitter button on the right) until two siren chirps are heard to confirm that the code was learned and that the system is ready to learn the remote valet, optional sensor bypass and remote chirp delete code.

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