

Freedom-450

Owner's Guide

**COVER PROVIDED IN
SEPARATE FILE**

Replacement Transmitters

Replacement or optional transmitters are readily available from the dealer from which you purchased your system; or may purchased directly from Omega Research and Development. **Transmitters purchased from Omega are \$40.00 each** plus shipping fees. The proper transmitter for your Freedom-450 system is Omega's part number #4412-09; or any Omega transmitter may be identified and viewed on the Internet at "www.caralarm.com".

Transmitters may be ordered from Omega directly by sending a note to the below address with the desired transmitter's part number (#4412-09 for the Freedom-450), a legible return address, and remittance of \$ 40.00 plus shipping fees for each transmitter ordered in the form of personal check, money order or credit card information. Mail these to:

**Omega Research and Development, Inc.
P. O. Box 508
Douglasville, Georgia 30133**

Introduction

Congratulations on the purchase of your Freedom-450 vehicle security system. It is most important to note that the Freedom-450 has a unique and flexible design, which allows the system to be installed in several configurations, or levels of sophistication, and thus affects the total operations. The exact operations of your system reflect this, and therefore it is most important that this operations guide be carefully read and referred to. Regardless of how configured, you'll find your system both easy to operate and reassuring in its effective theft deterrence capabilities.

Some principle components to become familiar with:

The Transmitter: Regardless of how the system is configured, the remote transmitter is used to operate the system. Two transmitters can operate the system, and two are supplied with the system already programmed to operate it. Every transmitter has its own unique, invisible code, and thus cannot be duplicated. The transmitter has four buttons: an "Arm" button, a "Disarm" button and button 3 which can be used, if desired, to arm and disarm your system silently, and to bypass the built-in shock sensor. The "Arm" and "Disarm" buttons also operate the Remote Panic feature. Button 3 is also used in transmitter and features' programming operations. Button 4 Can be used with optional Rec-43 to operate an auxillary channel.

“Quick Reference” of Transmitter Functions

Blue Light

Illuminates whenever any transmitter button is pressed.

The “Arm” Button

Pressing and releasing the **Arm Button** will arm the system. Pressing and holding this button 3 seconds will activate Remote Panic which will leave the system armed when stopped.

Button 4

Can be used with optional Rec-43 to operate an auxillary channel

Your system can be operated by two transmitters. Replacement transmitters, if needed, are available from where you purchased your system, or from Omega-see page 22.



The “Disarm” Button

Pressing and releasing the **Disarm Button** will disarm the system. Pressing and holding this button 3 seconds will activate Remote Panic which will leave the system armed.

Button 3

Pressing and releasing the **Small Button** two times will arm or disarm the system without chirps. Upon arming, pressing and releasing this button will turn off the built-in shock sensor.

by unplugging, then plugged back together, the system's 9-wire harness, or by removing and then restoring the Blue 15 Amp fuse on the system's Red main power wire, which is also located at the control unit and siren assembly. The Freedom-450 may be operated by up to two transmitters.

Step 1: After ensuring the system's Blue wire is non-grounded, remove and then restore power to the system. The siren will chirp once, and the parking lights, if connected, will flash 6 times.

Step 2: Immediately upon the single siren chirp, press and release Button 3 on the first transmitter. The system will respond with one chirp.

Step 3: Within 6 seconds, press and release Button 3 on the second transmitter to be programmed. The response will be one, then another chirp, which indicates both transmitters have been programmed, and the system is exiting Transmitter Programming Mode.

Should only one transmitter be programmed, after 6 seconds of no programming activity the system will sound two chirps and automatically exit Transmitter Programming Mode. Also, if only one transmitter is programmed, one preexisting transmitter code will be retained. Should it be desired to purge the preexisting code, simply program the single new transmitter twice into the system.

Step 5: If programming multiple features, once the first feature has been configured and acknowledged by 1 or 2 chirps, select the next feature by repeating Step 3 and Step 4.

Step 6: Once all of the selected features have been programmed as desired, the system may be removed from Features Programming Mode by allowing it time to timeout via 10 seconds of no programming activity, or by pressing and holding the Transmitter Button3 for 4 seconds. Regardless of method, the system's exit from Features Programming Mode is indicated by 3 long siren chirps.

How to Program Transmitters to the System

Whenever the Freedom-450 is powered up, it automatically enters a Transmitter Programming Mode. If the hood detection circuit (this is a Blue wire) is connected, this wire must be in a "non-grounded" state when the system is powered up in order for it to enter Transmitter Programming Mode. Where this is applicable, simply hold the hood detection switch down, or temporarily disconnect it. "Powering up" the system will entail first removing, and then restoring power and ground to the system's control module and siren assembly. This is easily accomplished

The Status Indicator Light and the LED Status Indicator Light are supplied with the Freedom-450 system kit, but are not absolutely necessary for the system's operation. Therefore, these items may or may not be present with your system. Most importantly, consult with the installer; if the Valet/Override Switch is installed, as to the location of this switch.

The Valet/Override Switch: This switch can be used to turn "Off" the alarm portion of the system, by placing the system into "Valet Mode". The Valet/Override Switch can also be used in conjunction with the vehicle's ignition key to perform an "Emergency Override" of the system should the transmitter be lost or become inoperable. Both of these operations are explained on pages 13-16, and as noted above this switch may or may not be present with your system.

The LED Status Indicator Light: The LED Indicator shows the status of the system and serves as a visual deterrent to break-ins and theft. See page 16 for a detailed description of the Status Indicator Light's operations, and as noted at top of this page, this light is not necessary for the system's operations, and may or may not be present with your system.

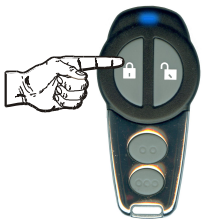
Both of the above items may be located in a special combination holder, which is supplied with the Freedom-450 system kit.

Arming the System

“Arming” places the system into a state whereby it will respond, or “activate” to any detected intrusion attempt. The system may be Armed provided the ignition switch is "off" and the system is not in Valet Mode.

To Arm the System:

Press & Release the Transmitter's "Arm" Button.



Upon Arming:

- The siren will chirp one time.
- If connected, the parking lights will flash once.
- The optional starter interrupt, if installed, will engage.
- If installed, the Status Indicator Light will begin to flash slowly.
- Another option is having the doors automatically lock whenever the system is armed. This requires connecting an optional interface (the Omega “DM-1”).

How to Program Features

The 6 programmable features, described on the previous two pages, are very easily programmed by the following procedure:

Step 1: The system must be connected to power and ground, and be disarmed.

Step 2: Press and hold either transmitter's “Disarm” and button 3 together for 4 seconds; the system will chirp 5 times confirming entry to Features Programming Mode.

Step 3: Within 10 seconds of entering Features Programming Mode, press and release the transmitter's Button 3 the number same of times that equals the number of the feature to be programmed. After a pause, the system will repeat the feature number with a like number of siren chirps.

Step 4: After the system acknowledges the feature to be programmed, press either the “Arm” Button to turn the feature on (the system's response will be 1 chirp), or the “Disarm” Button to turn the feature off (the system's response will be 2 chirps).

mode, and chirps made during the programming of features or transmitters.

4. Parking Light Illumination Upon Disarming: (On / •Off)

- This feature configures the system, upon its disarming, to either flash the parking lights 2 times, or to flash the parking lights twice and then turn them on for 30 seconds. This feature makes it safer to approach the vehicle when disarming it at night by illuminating the area around the vehicle.

5. System Activation Cycle Duration: (•30 / 60 Seconds)

- This feature configures the system's activation cycle to be either 30 seconds or 60 seconds in duration before it automatically resets itself.

6. Shock Sensor Prewarning On or Off: (•On / Off)

- This feature turns on or off the prewarning only part of the shock sensor operation. If prewarning is turned off, the "hard impact" part of the shock sensor is still fully operable.

When programming these features, as described on the following pages, features are turned "on" by pressing the transmitter's "Arm" Button, and "off" by pressing the transmitter's "Disarm" Button. For feature #2, press "Arm" for "3 Seconds", "Disarm" for "3 Minutes"; and on feature #5 press "Arm" for "30 Seconds", and "Disarm" for "60 Seconds". Please see the following pages for more details.

In addition to detecting impacts to the vehicle and detecting a current draw from the battery (example- interior light illuminating from opened door), the Freedom-450 has a detection circuit which may be used to protect the hood, trunk or doors. If this circuit is in a violated state when arming the system, the confirmation will be three chirps instead of one. The system will still arm, but it will bypass the open zone until the zone is secured; once secured, this zone is protected.

System Armed & Activated

Once Armed, If the System is Activated:

Once the system is in an armed state it monitors all protected zones, and if an intrusion attempt is detected it will activate, or "trigger".

An activation consists of the following:

- The siren will start sounding.
- The exterior parking lights, if connected, will flash on and off repeatedly.

An activation has a 30 second duration (or, optionally 60 seconds) unless the system is disarmed using the transmitter or the Valet/Override switch. If all protected zones are secure at the end of the activation, the system will stop and

rearm itself to detect further entry attempts. If a protected zone is still open at the end of the activation cycle, the system will continue to reactivate itself, for up to six activated cycles before it resets itself and ignores the violated zone.

Disarming the System

To Disarm the System:

Press & Release the Transmitter's "Disarm" Button.



Upon Disarming:

- The siren will chirp twice (or 4 times if alarm has activated)
- The parking lights, if connected, will flash twice.
- The optional starter interrupt, if installed, will disengage.
- If installed, the Status Indicator Light will turn "Off", or, it will change to flashing rapidly if the system was activated, and

Programmable Features

The Freedom-450 vehicle security system has 6 programmable features which allow the system to be customized. The following pages provide a brief explanation for each feature, and notes its factory default setting. Following these descriptions are instructions on how to program the features.

• = Default Factory Setting

1. Current Sensing: (•On / Off)

- This feature enables the armed system to be activated should the system detect a voltage spike or current draw in the vehicle's electrical system.

2. Current Sensing Activation Delay: (•3 Seconds / 3 Minutes)

- Allows the option of a longer delay before activation by current sensing can occur. This is for use in vehicles with equipment, such as cooling fans, which stays on for a short period of time after the ignition has been turned off.

3. Confirmation Chirp: (•On / Off)

- This feature allows the arming and disarming confirmation chirps to be permanently turned off. When these chirps are turned off, exceptions will be the prewarning chirps, the chirp made when the system is placed into valet

Step 3: Within 5 seconds, Press the Valet/Override Switch.

-The activated system will instantly disarm.

When the Valet/Override Switch is pressed, and the system disarms, releasing the switch will place the system in standby mode. To put the system into valet mode, simply press the switch and hold it for 3 seconds.

The Status Indicator Light

The Status Indicator Light visually shows the status of the system and also provides a high level of visual deterrence. The Status Indicator Light can be mounted in the holder with the Valet/Override Switch, or mounted in a location where it can be easily seen by the driver, as well as from outside the vehicle.

Status Indicator Light Off = The system is disarmed and in standby mode.

Status Indicator Light Flashing Slow = The system is armed.

Status Indicator Light Flashing Fast = The system has been activated.

Status Indicator Light On Solid = The system is in the valet mode.

then reset itself.

- If the optional DM-1 doorlock interface was installed, the doors will also unlock upon disarming.

Should the transmitter be lost, damaged, or its batteries be exhausted, the Valet /Override Switch & *your vehicle's ignition key* may be used to disarm the system by performing an Emergency Override, which is explained on pages 15-16.

Silent Arming & Disarming

To Silently Arm / Disarm: Press & Release the Transmitter's Small Button Twice



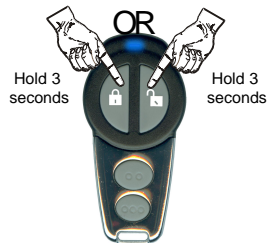
Should you wish to arm or disarm the system without the confirmation chirps, simply press and release the Transmitter Button 3 twice. Using the Silent Arm/Disarm operation simply reverses the armed/disarmed status of the security system- if the system is disarmed when the double Button 3 signal is received, it arms; should the system be armed when the double signal is received, it will disarm.

Remote Panic Operation

Should you feel threatened or in need of attracting attention, the system can be activated remotely by using the transmitter. Your system features "Enhanced Panic", which allows you to activate Remote Panic from either the "Arm" button or the "Disarm" button. The former leaves the system armed when Remote Panic is turned off, and the latter leaves the system disarmed when Remote Panic is turned off.

To Activate Remote Panic:

Press & Hold for 3 Seconds the "Arm"
Button **OR** the "Disarm" Button



Upon Activating Panic:

- The siren will sound.
- If connected, the vehicle's exterior parking lights will flash on and off.

EMERGENCY OVERRIDE-

How to Disarm the Security System Without the Transmitter:

If the system is armed, and in the event that the transmitter is lost, damaged, or its batteries have become exhausted, the Valet/Override Switch & *your vehicle's ignition key* may be used to disarm the system by performing an Emergency Override.

IMPORTANT: in addition to the inclusion of the Valet/Override and Status Indicator Light, the Freedom-450's "ignition input" wire must also be connected. If the Freedom-450 was not installed with the Valet/Override Switch, or the ignition input being connected, the only way to bypass, or turn off the system is to locate and unplug the control module and siren assembly must be unplugged from its wiring harness!

Emergency Override:

- Step 1: With the system in the armed condition, enter the vehicle via the driver's door (be aware that the alarm will likely activate when the door is opened).
- Step 2: Using your key, turn the vehicle's ignition to the "On" position.

Valet Mode prevents the system from becoming armed. Valet Mode is designed for situations in which it is not convenient for the alarm portion of the system to be operational; for example, such as when loaning others your vehicle, or leaving the vehicle for servicing, maintenance, valet parking, washing, etc.

To Enter Valet Mode: **Press & Hold the Valet
(System MUST be Disarmed) Switch for 3 Seconds**

- The Status Indicator Light will turn on solid Red and the siren will chirp once to confirm Valet Mode. Now the system cannot become armed.

To Exit Valet Mode: **Simply Press & Release the
Valet Switch.**

- The Status Indicator Light will turn off to confirm that the system has exited Valet Mode and returned to a "standby" mode. Normal arming operations may be resumed.

The security system must be disarmed, and the vehicle's ignition may be "On" or "Off" when entering or exiting Valet Mode. If the system is armed, or activated, if the transmitter is lost or inoperable an Emergency Override must be performed!

Remote Panic can be activated anytime, whether the vehicle's ignition is turned on or off, and has a 60 second duration (regardless of the 30 or 60 second activation setting) unless a transmitter is used to stop it. At the end of the 60 second cycle, the system will reset and be in either the armed state (if Remote Panic was activated by the "Arm" button) or in the disarmed state (if Remote Panic was activated by "Disarm").

To Deactivate Remote Panic: **Press & Release either the "Arm"
Button OR the "Disarm" Button**

Once Remote Panic has been activated, rather than wait for the system to stop automatically at 60 seconds, the transmitter may be used to stop the Remote Panic operation. Simply press and release the "Arm" or "Disarm" button. While pressing either of these buttons will stop the Remote Panic operation, please note that the system's armed or disarmed status will depend upon which button was used to activate the Remote Panic in the first place. For example, if the "Arm" button was pressed and held to activate Remote Panic, and if the "Disarm" button was used to stop it, the system will revert to the armed state when Remote Panic is stopped, because the "Arm" button was the one used to activate the operation.

Shock Sensor & Prewarning

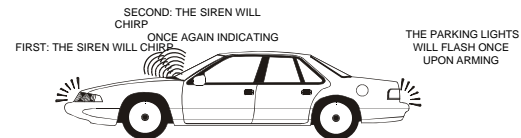
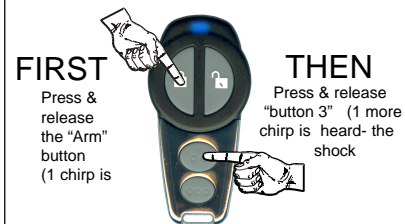
The Freedom-450 vehicle security system is equipped with a built-in “shock” sensor which detects impact to the vehicle. As vehicles differ structurally, and mounting locations of the system control module vary, this shock sensor is easily adjustable. The shock sensor adjustment is found on the rear of the control module and siren assembly, below a weatherproofing rubber cover plug. Turning the adjustment clockwise increases sensitivity, and turning the adjustment counter clockwise decreases the sensor’s sensitivity. If adjustments are made to the sensor, the rubber plug must always be replaced.

Prewarning Detection: The shock sensor circuit features “prewarning” operation. When the security system detects a light impact through the sensor, it will respond chirping three times, whereas a heavy or sharper impact will fully activate the system, sounding the siren and flashing the parking lights, if these are connected.

Bypassing the Auxiliary Sensor: If desired, the system may be armed, but without the auxiliary sensor being part of the system’s protection. Upon arming, immediately after the single arming confirmation chirp, simply press and release the Transmitter’s Small Button; the system will chirp the siren once again to confirm that the sensor is bypassed. When the sensor has been bypassed, it will not activate the alarm, nor will it have the prewarning operation.

To Bypass Shock Sensor:

Press & Release the “Arm” Button THEN



Valet Mode & Emergency Override

As noted in the “Introduction” section of this booklet, the Valet/Override Switch is not essential, but its inclusion offers several convenience benefits. The Valet/Override Switch can perform two distinct functions: accessing Valet Mode and performing an Emergency Override of an armed and activated system. It is important that you know the location of the Valet Switch; a Valet Switch and LED Status Indicator combination holder is provided with the Freedom-450 kit, and may have been installed. If the Valet/Override Switch is used, the Status Indicator Light’s use is also highly recommended, as it shows the presence of Valet Mode.

Freedom-450 Control Unit and Siren Assembly

Starter

Ignition Switch

Relay

Optional Starter Interrupt

Red: To Ignition Switch

Orange / Orange

White: To Starter

Cut wire

Installation Insert Page 1

Installation

Installation Insert Page 1

After the control unit and siren assembly has been mounted, follow the instructions for each wire's connection. Please note that during the initial installation, as soon as the Black ground wire and Red Constant power wire have been connected, the system will enter Transmitter Programming Mode, which is explained on Pages 20-21. As the included transmitters are already programmed at the factory, no action is needed, and simply allow Transmitter Programming Mode to automatically time itself out after 6 seconds.

Wiring Connections

The Freedom-450 is a uniquely engineered design; it can be installed and have basic operations with the connection of only two of its nine wires. The connection and utilization of its remaining wires greatly adds to the operational sophistication of this system, and it also features two independent parking light wires.

Of the system's nine wires, the Red, Black, two Whites, and Yellow wires in most cases can be connected within the engine compartment. The Blue wire, if it is connected to a hoop pin switch only, will also remain within the engine compartment. If it is to also be connected to a trunk pin switch, or possibly the dome light circuit to protect the doors, will need to be routed into the vehicle interior through the firewall. The Gray, Pink and Orange wires will need to be routed through the firewall and into the vehicle interior.

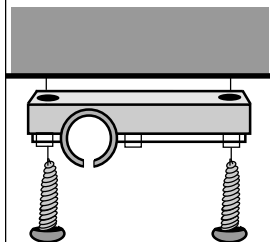
Status Indicator Light: Mount the Status Indicator Light using the combination holder, or it may be mounted into an interior panel by drilling a 17/64" (6.5mm) hole. The control module and siren assembly's Pink wire must be routed to the Status Indicator Light's mounting location.

Once the Gray and Pink wires are connected, ground both of the devices' Black wires using the supplied ring terminal. Mount the combination 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. The location should also be easily accessible to the driver should the need arise to perform an Emergency Override. Show the user the Valet/Override Switch location.

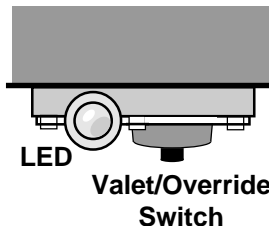
Orange Wire - (Negative Output For Optional Starter Interrupt): The Orange wire is for an optional starter disable socket and relay, and/or an optional DM-1 power doorlock interface (which includes its own instructions). The function of this wire is to provide a 500mA - Ground Output whenever the security system is in an armed state. In the starter interrupt application, 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

Although the Freedom-450 can have basic operations without them, the Valet/Override Switch and the Status Indicator Light greatly enhance the system. The Valet/Override Switch allows disarming the system without the transmitter and placing the system into a state in which it cannot be armed. The Status Indicator Light visually and quickly shows in which state the system is in.

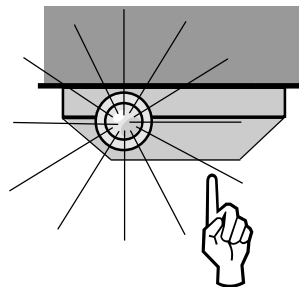
Valet/Override Switch: Use the combination holder, or otherwise use the self-adhesive pad to mount the Valet/Override Switch in a hidden but accessible location. The control module and siren assembly's Gray wire must be routed to the Valet/Override Switch's mounting location.



The upper half of the combination holder may be mounted with the two screws provided, or, double-sided adhesive tape may be used.



Then, when the upper half holder is secured, insert the LED and mount the Valet/Override Switch using its double-sided adhesive tape.

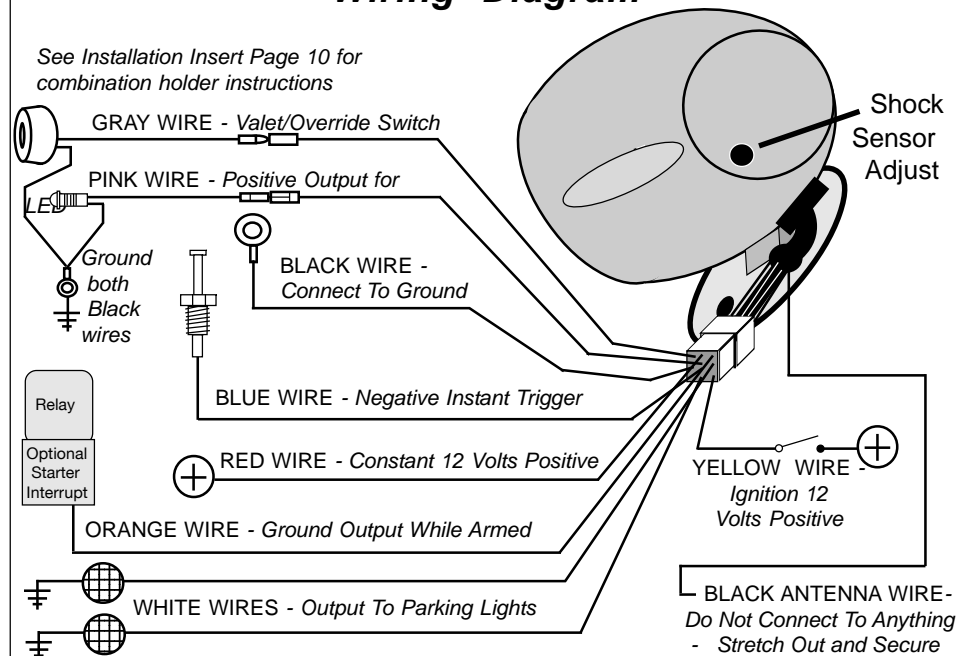


Snap the combination holder bottom half to the upper half; ensure that the wires are routed carefully.

Installation Insert Page 10

Wiring Diagram

See Installation Insert Page 10 for combination holder instructions



Installation Insert Page 3

Wiring Connections

Black Wire - (- Ground Input): This wire's connection is required for operation. The Black wire's function is to supply - Ground, which completes the circuitry and allows the security system to operate.

CONNECTION: Using its 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 operate, so a bad ground wire connection would be suspected. In some cases the alarm could arm and disarm properly -but not function correctly otherwise.

IMPORTANT: The Black wire attached to the control module and siren assembly 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.

the security system. Connecting this wire will prevent the system from being armed while the ignition switch is on, and its connection is required if the Valet/Override is installed for the purpose of allowing the system to be disarmed without the transmitter (an "Emergency Override").

CONNECTION: This connection should be made 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. Make this connection at the engine compartment fuse/junction block, or (less desirable), locate the correct wire at the ignition system and securely splice the Yellow wire to it. Another option is to carefully route this wire through the firewall, and make the connection at the ignition switch wiring harness, being sure to test the target wire as described at the beginning of this section.

Gray Wire - (Valet/Override Switch Input): This wire is a - Negative input, and connects to the Valet/Override Switch. This wire and the Pink wire are somewhat related in function, and also related in routing and connection.

Pink Wire - (Status Indicator Light Output): This wire is a Positive output, and connects to the Status Indicator Light. This wire and the Pink wire are to be routed from the control unit and siren assembly into the vehicle's interior compartment.

in the engine compartment, the easiest way to locate the parking light wire is to access a corner running light on the fender, or a front parking light in the front bumper or fascia. The correct wire will typically show +12 Volts when the headlight switch is in the "Parking Light" and "Head Light" positions. It is also a good idea to ensure that the target wire is "non-rheostated", or actually the dash illumination circuit. 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 and siren assembly. Rheostated light circuits are very rarely found in the engine compartment, but testing the target wire anyway is easy. A few vehicles have separate left and right side parking lights. When left & right parking lights are on separate circuits, simply connect one White wire to each parking light circuit. The White wires should be connected to the vehicle's parking light circuit only- flashing the headlights is not recommended, as it is a higher current draw, and halogen headlights are not designed to be rapidly turned on and off.

Yellow Wire - (+12 Volts Ignition Input): Another wire which is not absolutely necessary for basic system operation, the Yellow wire is an ignition "on" input to

Red Wire - (+12 Volts Input): This is the second of two wires in which connection is required for the system to operate. The Red wire's function is to supply Constant +12 Volts to the security system. As noted on the previous page, when +12 Volts is first applied to the Red wire, the system will automatically enter Transmitter Programming Mode. The Red wire also supplies +12 Volts to the built-in relay for flashing the parking lights.

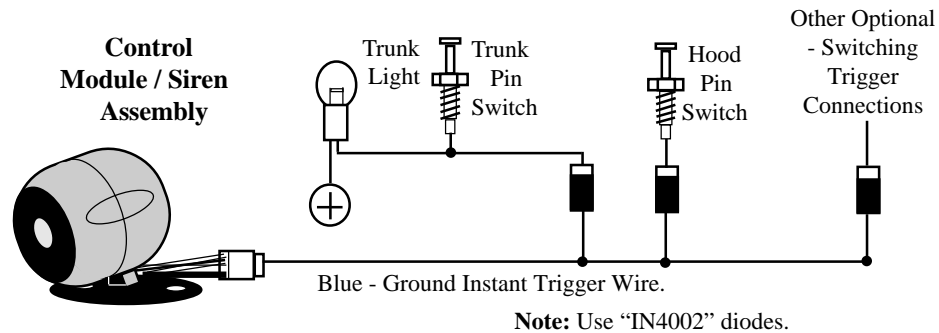
CONNECTION: Connect the Red wire to a source which has +12 Volts at all times. Ensure that this source +12 Volts which is stable in all ignition key positions. There are several possible connection points in the engine compartment, where the Freedom-400 is designed to be mounted. Connection may be made at an engine compartment fuse/junction block (preferred) or at the battery itself. Most fuse/junction blocks typically have power takeoffs, or open locations that can be connected to with the proper terminal. Please note that connecting the Red wire directly to the battery's Positive terminal will expose this connection to failure due to a corrosive environment, so preventative steps should be taken, such as coating the connection itself with White Lithium Grease or other protective compound. The source used must have at least a 15 Amp capacity at all times.

Blue Wire - (- Ground Instant Trigger Input): The Blue wire, while not necessary for the Freedom-450's basic operation, greatly increases the system's effectiveness. This wire is a "- Ground instant trigger" used to detect entry into the hood

and/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, 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 hood or

Diode-Isolating multiple - Ground instant triggers.



trunk circuit, the Blue wire may be spliced directly to the vehicle's wire.

IMPORTANT: When wiring more than one of the vehicle's circuits and/or additional circuits to this wire, diode-isolation is usually required to maintain each circuit's proper operation (diodes are available at most electronics stores). 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, and vice versa. If the vehicle has a "- Ground" switching dome light system, the Blue wire can also be connected this circuit, but if any other circuits are connected (i.e.- hood pin switch and/or trunk pin switch, diode isolation will be necessary.

White Wires - (+12 Volts Flashing Light Outputs): While not necessary for the Freedom-450's basic operation, these wires greatly enhance the system's operation, are usually very easy to connect. These are +12 Volts outputs for exterior flashing light confirmation, and to attract attention to the vehicle if the security system is activated. Although two White wires are supplied, in most cases both of these wires are connected to a single wire in the vehicle. The exception will be certain vehicles, primarily of European manufacture, which have the left and right parking lights as separate circuits. In these cases, one White wire will be connected to each circuit, thus maintaining them as separate circuits.

CONNECTION: If the vehicle has a single parking light wire, connect both of these wires to the vehicle's parking light circuit. As the Freedom-450 is mounted