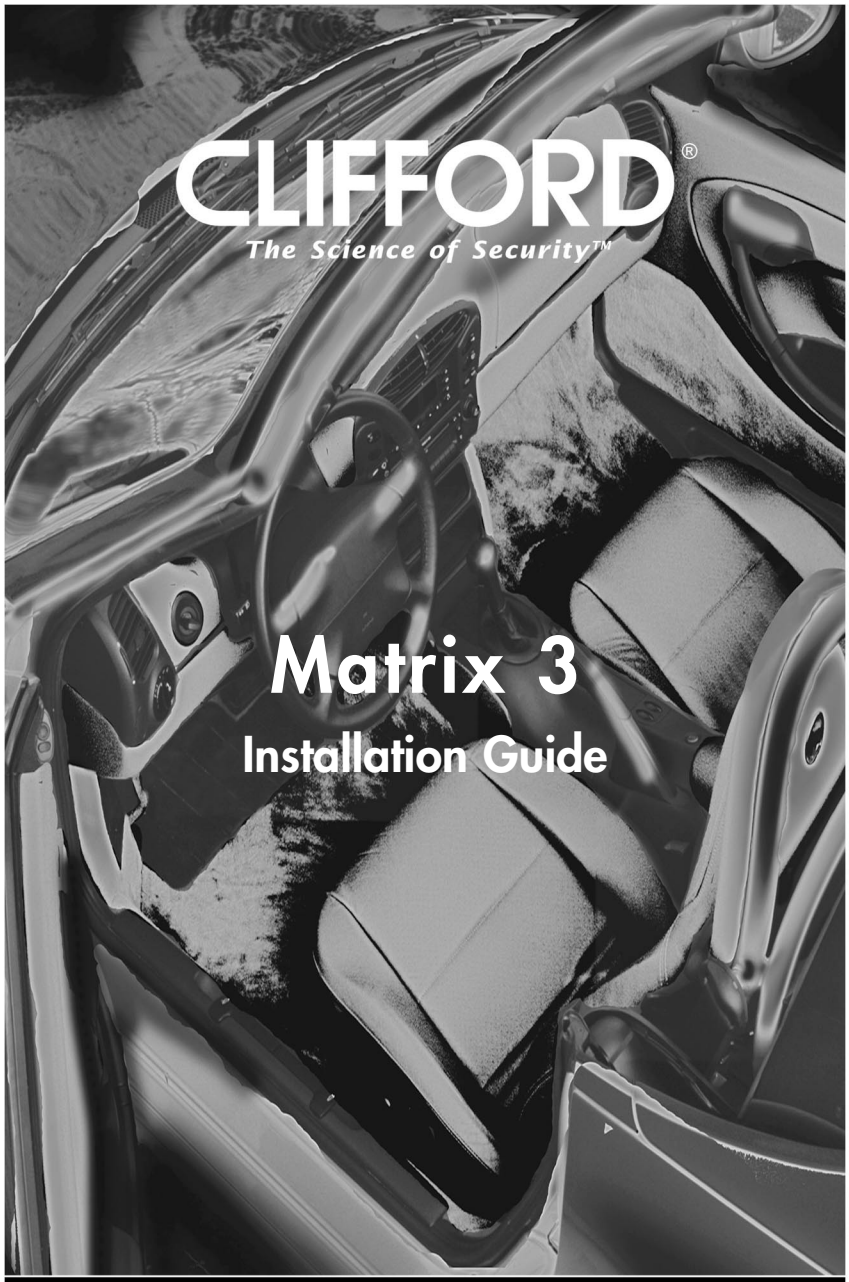


Matrix 3

Installation Guide

MATRIX™

 N909449 8-01
Rev. N/C 1.1

The Bitwriter® (p/n 998T) requires chip version 1.4 or newer to program this unit.

Table of Contents

What Is Included

- One control module
- One XHF receiver/antenna with harness
- Two four-button remote transmitters
- One 514C siren
- One plug-in shock sensor
- One 12-pin primary harness with starter kill
- One 8-pin door lock harness
- One plug-in Valet/Program switch
- One plug-in LED indicator with bezel
- Two window decals
- One patent card
- One warranty registration
- One installation guide
- One owner's guide

Primary Harness (H1) Wire Connection Guide

Primary Harness Wiring Diagram

H1/1	ORANGE	(-) 500 mA Ground-When-Armed Output
H1/2	WHITE	(+)/(-) Selectable Light Flash Output
H1/3	WHITE/BLUE	(-) 200 mA Channel 3 Programmable Output
H1/4	BLACK/WHITE	Output of Domelight Supervision Relay #30
H1/5	GREEN	(-) Door Trigger Input, Zone 3
H1/6	BLUE	(-) Instant Trigger Input, Zone 1
H1/7	VIOLET	(+) Door Trigger Input, Zone 3
H1/8	BLACK	(-) Chassis Ground Input
H1/9	YELLOW	(+) Switched Ignition Input, Zone 5
H1/10	BROWN	(+) Siren Output
H1/11	RED	(+) Constant Power Input
H1/12	RED/WHITE	Output of Channel 2 Relay #30

Primary Harness Wiring Instructions

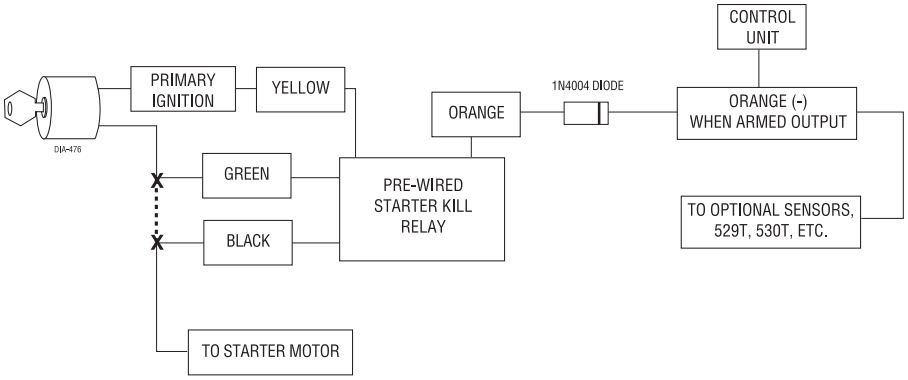
This guide describes in detail the connection of each wire. Also included are possible applications of each wire. This system was designed with the ultimate in flexibility and security in mind. Many of the wires have more than one possible function. Please read the instructions carefully to ensure a thorough understanding of this unit and how it operates.

H1/1 ORANGE (-) ground-when-armed output

This wire supplies a (-) ground as long as the system is armed. This output ceases as soon as the system is disarmed. The orange wire is pre-wired to control the 8618 starter kill relay. It can supply up to 500 mA of current.

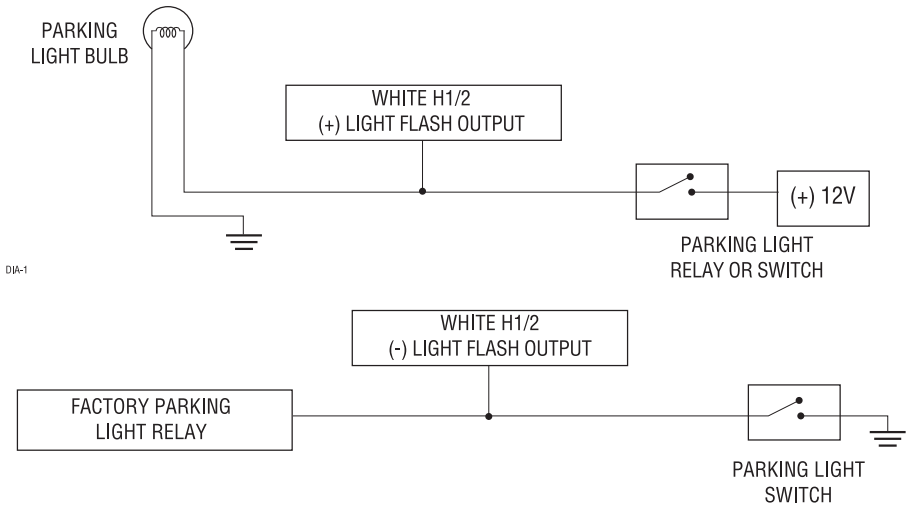
NOTE: If connecting the H1/1 ORANGE wire to control another module, such as a P/N 529T or P/N 530T window module, a 1 amp diode (type 1N4004) will be required. (See the following diagram.)

IMPORTANT! Never interrupt any wire other than the starter wire.



H1/2 WHITE (+/-) selectable light flash output

As shipped, the H1/2 WHITE wire should be connected to the (+) parking light wire. If the light flash polarity jumper near the main plug is moved to the opposite position (see the *Programming Jumper* section of this guide), this wire supplies a (-) 200 mA output. This is suitable for driving (-) light control wires in Toyota, Lexus, BMW, some Mitsubishi, some Mazda, and other models.



H1/3 WHITE/BLUE 200 mA (-) channel 3 programmable output

This wire provides a (-) 200 mA output whenever the transmitter button(s) controlling channel three is pressed. This output can be programmed to provide the following types of output (see *System Features Learn Routine* section of this guide):

- A **validity** output will send a signal as long as the transmission is received.
- A **latched** output will send a continuous signal after the button controlling channel three is pressed and released. The signal will continue until the button controlling channel three is pressed again.
- A **latched/reset with ignition** output works similar to the latched output, but will also reset (output will stop) when the ignition is turned on and then off. This output can also be shut off at any time by pressing the transmitter button that controls Channel 3 again.
- A **30-second timed** output will send a signal for 30 seconds when channel three is pressed. This output can be shut off during the 30-second period by pressing the Channel 3 button again.
- This output can also be programmed to provide a **second unlock pulse** when the disarm button is pressed within 15 seconds after disarming the system. This can be used to unlock the passenger doors when installing progressive door locks.

IMPORTANT! Never use this wire to drive anything but a relay or a low-current input! This transistorized output can only supply 200 mA, and connecting directly to a solenoid, motor, or other high-current device will cause the module to fail.

H1/4 BLACK/WHITE output of domelight supervision relay #30

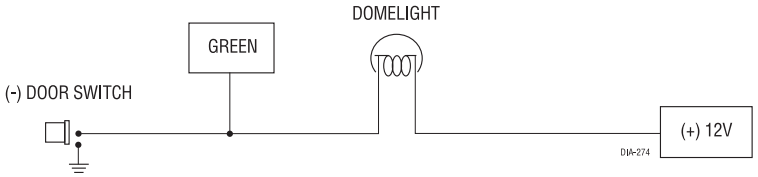
Connect this wire directly to the domelight circuit in the vehicle. The on-board relay will drive

circuits up to 20 amperes. The polarity of this output is determined by the connection of the input wire H2/B in the Relay Harness.

NOTE: If the input wire H2/B is not connected, there will be no output on this wire.

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

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

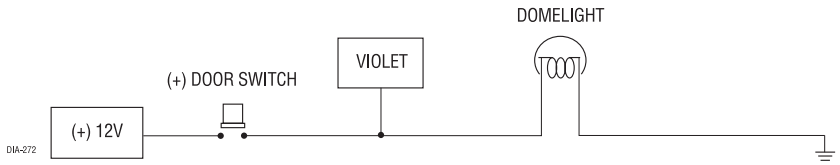


H1/6 BLUE (-) instant trigger, zone 1

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

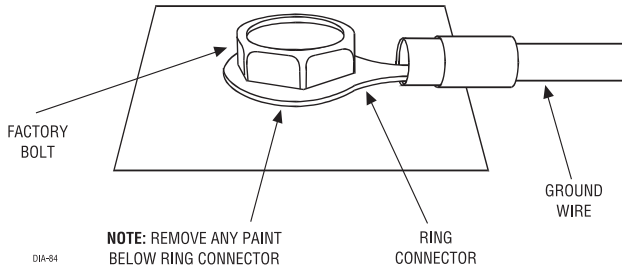
H1/7 VIOLET (+) door trigger input, zone 3

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



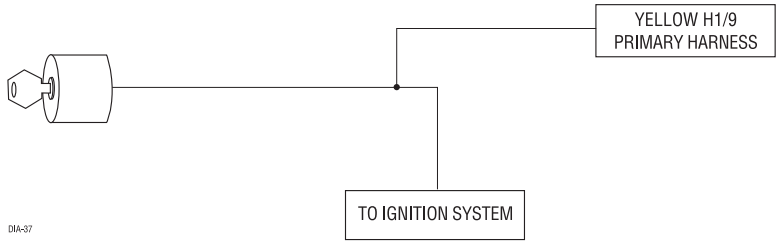
H1/8 BLACK (-) chassis ground connection

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



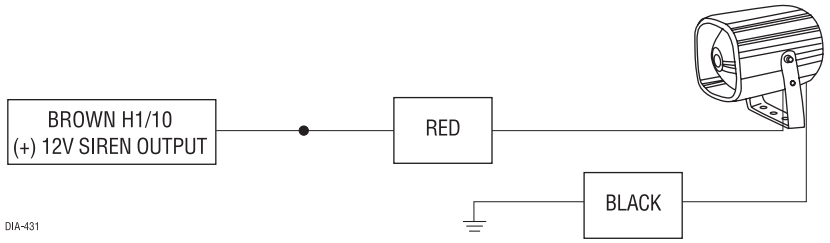
H1/9 YELLOW (+) ignition input, zone 5

Connect this wire to the (+)12V ignition wire. This wire is pre-wired to the starter kill relay and must show (+)12V with the key in Run position and during cranking. Take great care that this wire cannot be shorted to the chassis at any point. This wire will report Zone 5.



H1/10 BROWN (+) siren output

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



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

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

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

H1/12 RED/WHITE output of channel 2 relay #30

Whenever the button(s) controlling channel two is pressed for 1.5 seconds, the on-board relay is activated and will stay activated as long as the transmission continues. This relay is often used for trunk release. The relay can drive circuits up to 20 amperes. The polarity of this output is determined by the connection of the input wire H2/A in the Relay Harness.

NOTE: If the input wire H2/A is not connected, there will be no output from the relay when it is activated.

Door Lock Harness (H2) Wire Connection Guide

H2/A	RED/WHITE	Channel 2 Relay Input #87
H2/B	BLACK/WHITE	Domelight Supervision Relay Input #87
H2/C	WHITE/BLACK	Lock #87A Normally Closed
H2/D	GREEN/BLACK	Lock #30 Common (Output)
H2/E	VIOLET/BLACK*	Lock #87 Normally Open (Input)
H2/F	BROWN/BLACK	Unlock #87A Normally Closed
H2/G	BLUE/BLACK	Unlock #30 Common (Output)
H2/H	VIOLET*	Unlock #87 Normally Open (Input)

*NOTE: VIOLET AND VIOLET/BLACK are common at fuse holder.

H2/A RED/WHITE input to on-board channel 2 (trunk release) relay

This wire is used to supply voltage to the output H1/12. If you want a positive output on H1/12, connect this wire to +12V. Always fuse appropriately. If a negative output is desired, connect this wire to chassis ground.

H2/B BLACK/WHITE input to domelight supervision relay
This wire determines what the output polarity of H1/4 will be. If the door pin circuit is negative, connect to chassis ground. If the it is positive, connect to a fused 12V source.

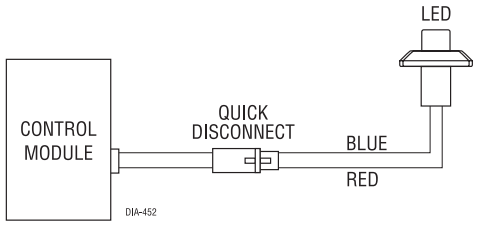
H2/C - H2/H power door locks
The system has door lock relays on-board, and can directly interface with most electric power door lock systems drawing 30 amps or less. It can also drive aftermarket actuators directly. (Some vehicles with Type D locks require that an aftermarket actuator be added to the driver's door to allow system control.)

For detailed instructions on wiring the vehicle's door locks, please refer to the Door Lock Wiring Guide provided on the **www. directechs.com** website or through **DirectFax 1-800-999-1FAX (1329)**.

Plug-In Harnesses

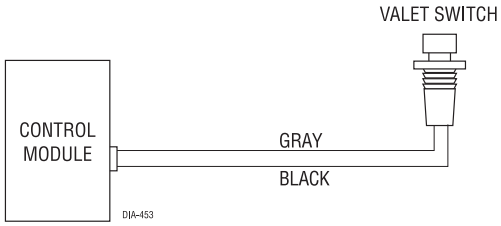
Super Bright LED, 2-Pin White Plug

The super bright LED operates at 2V DC. Make sure the LED wires are not shorted to ground as the LED will be damaged. Multiple LEDs can be used, but they must be wired in series. The LED can be top-mounted or flush-mounted. If top-loading the LED with a bezel, the LED fits into a $^{5}/_{16}$-inch mounting hole. If flush-mounting the LED from the back of a panel, drill a mounting hole using a $^{17}/_{64}$-inch drill bit. Be sure to check for clearance prior to drilling the mounting hole.



Valet/Program Switch, 2-Pin Blue Plug

The Valet/Program switch should be accessible from the driver's seat. It plugs into the blue port on the side of the unit. Since the system features Valet by using the remote transmitter, the switch can be well hidden. Consider how the switch will be used before choosing a mounting location. Check for rear clearance before drilling a $^{9}/_{32}$-inch hole and mounting the switch.The GRAY wire in the two-pin plug may also be used as a (+) ghost switch input and can be connected to any (+) switch in the vehicle. (See *Feature Descriptions* section of this guide.)



Programmer Interface, 3-Pin Black Plug

The black 3-pin port is provided for personal computer programming of the unit. When using the Directed Bitwriter (P/N 998T) or optional PC Interface Module (P/N 996T) it is possible to configure any and all of the programmable functions. The PC Interface Module works with an IBM compatible PC. (The 998T does not require the IBM compatible PC.) For more information please refer to the guide packaged with the programmer. This port can also be used to interface the Valet Car*Com (Directed P/N 820T) with the security system.

Shock Sensor Harness, 4-Pin White Plug

RED, BLACK

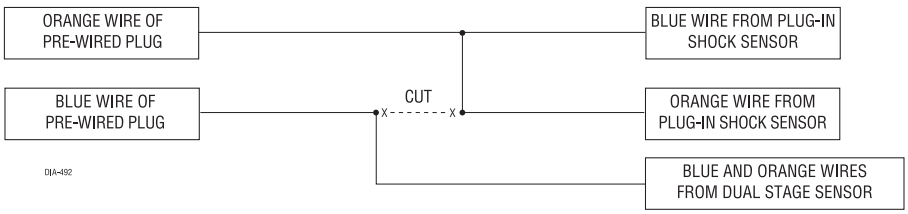
These wires supply constant 12 volts and ground to the shock sensor. Do not use these wires for anything except the plug-in shock sensor.

ORANGE (-) Multiplex Input

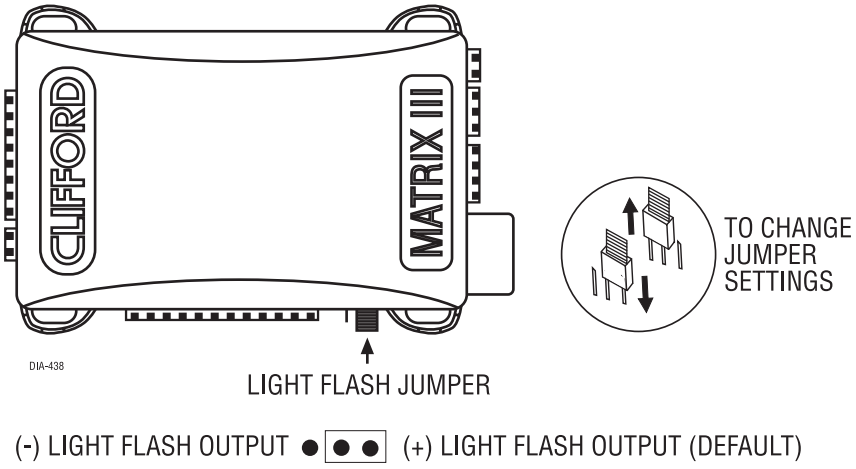
Inputs shorter than 0.8 seconds will trigger the Warning Zone response, while inputs longer than 0.8 seconds will trigger full alarm sequence and report zone two.

BLUE (-) Multiplex Input

Inputs shorter than 0.8 seconds will trigger the Warning Zone response, while inputs longer than 0.8 seconds will trigger full alarm sequence and report zone four. If installing an optional Directed dual stage sensor, connect to the blue wire as shown below. The diagram below indicates how to add an optional Directed dual stage sensor to the blue wire (zone 4) and eliminates the need for diodes to isolate the sensors, as well as providing a separate zone for each sensor.



Programming Jumper



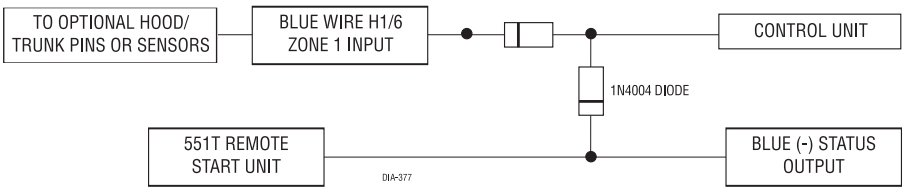
Light Flash Jumper

This jumper is used to determine the light flash output. In the (+) position, the on-board relay is enabled and the unit will output (+)12V on the WHITE wire, H1/2. In the (-) position, the on-board relay is disabled. The WHITE wire, H1/2, will supply a 200 mA (-) output suitable for driving factory parking light relays.

NOTE: For parking light circuits that draw 10 amps or more, the jumper must be switched to a (-) light flash output. P/N 8617 or a standard automotive SPDT relay must be used on the H1/2 light flash output harness wire.

Bypassing Sensor Inputs

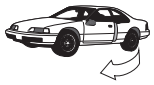
There are times when you need to temporarily bypass all sensor inputs to the unit, such as when remote starting the vehicle. Anytime an auxiliary channel output is used, all inputs are bypassed for 5 seconds. During the 5 second bypass period, ground can be supplied to the H1/6 Blue wire without triggering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



System Features Learn Routine

The System Features Learn Routine dictates how the unit operates. Due to the number of steps, they have been broken up into two menus. It is possible to access and change any of the feature settings using the Valet/Program switch. However, this process can be greatly simplified by using the optional Directed Bitwriter or Personal Computer Interface, P/N 996T. Any of the settings can be changed and then assigned to a particular transmitter, up to four, a feature called Owner Recognition. Each time that particular transmitter is used to disarm the system, the assigned feature settings will be recalled. Owner Recognition is only possible when programming the unit via the 996T or the 998T Directed Bitwriter.

If using the Directed Bitwriter or PC Interface to program System Features Code Learning, you may lock the unit so that the features cannot be altered via manual programming with the Valet switch. If you later wish to program the system manually, you must unlock the unit using the Directed Bitwriter or PC Interface before you will be able to reprogram the features. If the siren generates one long chirp when attempting to program the unit, this indicates that the unit has been locked and must be unlocked with the Bitwriter or PC Interface before proceeding.

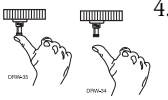


1. Open a door.(The H1/5 GREEN wire or the H1/7 VIOLET wire must be connected.)

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

3. Select a Menu. Press and HOLD the Valet/Program switch: (The Valet/Program switch must be plugged into the blue port.) After three seconds the siren will chirp once indicating entry to the Basic Features Menu #1. If this is the menu

you wish to access, release the button and go on to Step 4. If the button is not released, you will jump to the Advanced Features Menu #2 and the siren will chirp twice. Once you have selected the desired menu, release the Valet/Program button and then proceed to Step 4.



4. Select a Feature. Press and release the Valet/Program switch the number of times corresponding to the feature you wish to change. For example, to access the third feature, press and release the switch three times. Then press the switch once more and HOLD it. The siren will chirp the number of times equal to the step you have accessed.

5. Program the Feature. While HOLDING the Valet/Program switch, you can toggle the feature on and off using the remote transmitter. Pressing  will select the one chirp setting. Pressing  will select the two chirp setting. (See the *System Features Menus* section of this guide.)

   NOTE: The Valet pulse count feature (2-5) and the Channel three timed output (2-9) have five possible settings each. Pressing  will toggle through all the possible settings.

6. Release the Valet/Program switch.

Once a feature is programmed:

- ➤ Other features can be programmed within the same menu.
- ➤ Another menu can be selected.
- ➤ The learn routine can be exited if programming is complete.

To access another feature in the same menu:

1. Press and release the Valet/Program switch the number of times necessary to advance from the feature you just programmed to the next one you want to program.
2. Then press the Valet/Program switch once more and HOLD it.

For example, if you just programmed the third feature in the menu and you would like to program the seventh feature in the menu, you would press and release the Valet/Program switch four times and then press it once more and HOLD it. The siren would chirp seven times to confirm access to the seventh feature.

To select another menu:

1. Press and HOLD the Valet/Program switch.
2. After three seconds, the unit will advance to the next menu and the siren will chirp, indicating which menu has been accessed.

For instance, if you just programmed some features in Menu #1 (Basic Features) and you wish to program a feature in Menu #2, you press and HOLD the Valet/Program button. After three seconds, the siren chirps twice indicating access to Menu #2.

To exit the learn routine do one of the following:

- Close the open door.
- Turn the ignition on.
- No activity for longer than 15 seconds.
- Press the Valet/Program switch too many times.

System Features Menus

Items in **bold** text are the default settings that have been programmed at the factory.

Menu #1 - Basic Features

Feature Number	One Chirp Setting	Two-Chirp Setting
1-1	**Active arming**	Passive arming
1-2	**Chirps ON**	Chirps OFF
1-3	**Ignition controlled door locks ON**	Ignition controlled door locks OFF
1-4	**Active locking only**	Passive locking
1-5	**Panic with ignition on**	No panic with ignition on
1-6	**0.8 second door lock pulses**	3.5 second door lock pulses
1-7	**Forced passive arming ON**	Forced passive arming OFF
1-8	Automatic engine disable ON	**Automatic engine disable OFF**
1-9	**Armed When Driving (AWD)**	Vehicle Recovery System (VRS)
1-10	**Anti-Code Grabbing ON**	Anti-Code Grabbing OFF

Menu #2 - Advanced Features

Feature Number	One Chirp Setting (Default)	Two-Chirp Setting
2-1	**Siren**	Horn honk
2-2	**30-second siren duration**	60-second siren duration
2-3	**False Alarm Control Technology ON**	False Alarm Control Technology OFF
2-4	**Progressive door trigger**	Instant door trigger
2-5	**Valet switch input: 1 pulse**	Valet switch input: 2-5 pulses
2-6	**Door trigger error chirp ON**	Door trigger error chirp OFF
2-7	**Ignition-controlled domelight ON**	Ignition-controlled domelight OFF
2-8	**Single unlock pulse**	Double unlock pulse
2-9	**Channel 3: Validity**	Channel 3: latched/latched, reset with ignition/30-second timed/ second unlock output

Feature Descriptions

The features of the system are described below. Features that have additional settings that can be selected only when programming with the PC interface or Bitwriter are indicated by the following icon: 

Menu #1 - Basic Features

1-1 ACTIVE/PASSIVE ARMING: When active arming is selected, the system will only arm when the transmitter is used. When set to passive, the system will arm automatically 30 seconds after the last door is closed. To alert the consumer of passive arming, the siren will chirp 20 seconds after the door is closed. This provides the consumer with an audible warning prior to the system actually arming. At the 30 second mark, the system will arm but the siren will not chirp.

1-2 CHIRPS ON/OFF: This feature controls the chirps that confirm the arming and disarming.


1-3 IGNITION CONTROLLED DOOR LOCKS ON/OFF: When turned on, the doors will lock three seconds after the ignition is turned on and unlock when the ignition is turned off. The TechSoft Programmer (P/N 996T) or the Bitwriter (P/N 998T) will display separate steps for ignition lock and ignition unlock. They can be programmed on or off independently.

1-4 ACTIVE/PASSIVE LOCKING: If passive arming is selected in step 1-1, then the system can be programmed to either lock the doors when passive arming occurs, or only lock the doors when the

system is armed via the transmitter. Active locking means the system will not lock the doors when it passively arms. Passive locking means that the system will lock the doors when it passively arms.

NOTE: Remember, when passive arming is selected, the unit will chirp 20 seconds after the last door is closed. The system does not actually arm or lock the doors until 30 seconds after the door has been closed.

1-5 PANIC WITH IGNITION ON: This step controls whether or not the Panic Mode is available with the ignition on. In some states, there are laws prohibiting a siren from sounding in a moving vehicle. This feature makes the system compliant with these regulations.

1-6 DOOR LOCK PULSE DURATION: Some European vehicles, such as Mercedes-Benz and Audi, require longer lock and unlock pulses to operate the vacuum pump. Programming the system to provide 3.5 second pulses, will accommodate the door lock interface in these vehicles. The default setting is 0.8 second door lock pulses.

1-7 FORCED PASSIVE ARMING ON/OFF: To use this feature, passive arming must be selected in step 1-1. When turned on, forced passive arming will ensure that the system will passively arm, even if a zone is left open or invalid. Forced passive arming occurs one hour after the ignition is turned off.

1-8 AUTOMATIC ENGINE DISABLE (AED) ON/OFF: AED is a full-time, passive starter disable that functions independent of the security system. When turned on the H1/1 ORANGE ground-when-armed output will activate 30 seconds after the ignition is turned off. The LED will flash at half its normal rate when the ignition is turned off to indicate that AED is active and will interrupt the starter in 30 seconds. AED does not occur in Valet mode and can be bypassed using the emergency override procedure. The transmitter can be used to disarm AED; however, the system must be armed and then disarmed with the transmitter, in order to disarm AED.

1-9 ARMED WHILE DRIVING/VEHICLE RECOVERY SYSTEM: In the default setting (Armed While Driving), the system can be armed with the ignition on. When armed, the ground-when-armed is not active and the sensors are bypassed. The door triggers will remain active. If programmed to the Vehicle Recovery System (VRS) setting, VRS will be activated.

1-10 ANTI-CODE GRABBING ON/OFF: The system uses a mathematical formula to change its code each time the transmitter and receiver communicate. This makes the group of bits or "word" from the transmitter very long. The longer the word is, the easier it is to block its transmission to the unit. Disabling this feature lets the receiver ignore the Anti-Code Grabbing part of the transmitted word. As a result, the unit may have better range with the Anti-Code Grabbing feature off.

Menu #2 - Advanced Features

2-1 SIREN/HORN HONK: The system can be programmed to output pulses instead of a continuous output when the system is triggered. This is useful to honk the factory horn in applications where a siren is undesirable. Remember that the unit is only capable of supplying 1 amp of current. A relay will be required to interface with most factory horn systems.

2-2 SIREN DURATION 30/60 SECONDS: It is possible to program the unit to sound for 30 or 60 seconds during the triggered sequence. Some states have laws regulating how long a security system can sound. When using the TechSoft Programmer or Bitwriter, the siren can be programmed to sound for any length of time ranging from 1 to 180 seconds. Use the right and left arrows or the + and - keys on your keyboard to change the siren duration in 1 second intervals. Holding down the key will rapidly increase or decrease the setting. The desired siren duration can also be directly entered by using the number keys on your computer's keyboard. When using the Bitwriter, pressing the SELECT button will adjust the siren duration.

2-3 FALSE ALARM CONTROL TECHNOLOGY ON/OFF: FACT stops repeated triggering of the same zone. If one zone is triggered three times in one hour, that zone is bypassed for one hour, starting from the time of the third trigger. During that hour, if the system detects a trigger on that zone again, the system resets the one hour timer. If one hour passes and the zone has not triggered again, the zone is activated and can trigger the system again. FACT monitors sensor inputs and door triggers, but does not bypass the ignition trigger at any time. If FACT is turned off, the system will respond to repeated triggers on the sensor inputs and will do so indefinitely. Some states have laws regulating how many times a security system can trigger before it is considered a nuisance and the vehicle is towed away.

2-4 PROGRESSIVE DOOR TRIGGER ON/OFF: The security system responds to a door trigger input with a progressive response. When the door is opened with the system armed, the siren will chirp 10 times prior to the full triggered sequence. The door trigger is still treated as an instant trigger and closing the door quickly will not prevent a full triggered sequence from occurring. If the progressive door trigger is programmed off, the full siren output will occur the moment the door is opened.

2-5 VALET PULSE COUNT 1 to 5 PULSES: The security system can be programmed to count the number presses of the valet switch before disarming the security system or VRS. The factory default setting is one pulse. The unit can be set for 2 to 5 pulses using the two-chirp setting to select the pulse count. **Ghost Switch option:** For added security, the GRAY wire on the two-pin Valet/Program can be connected to any switch in the vehicle that provides a positive (+) momentary pulse.

2-6 DOOR TRIGGER ERROR CHIRP ON/OFF: With the door trigger error chirp programmed off, the system will not report an invalid zone on arming when the door trigger wire is active. This eliminates the extra chirps that occur when interfacing with vehicles that have exceptionally long dome light delay circuits.

2-7 IGNITION-CONTROLLED DOMELIGHT SUPERVISION ON/OFF: If turned on, the system will turn on the domelight for 30 seconds when the ignition is turned off. The optional domelight supervision feature must be installed.

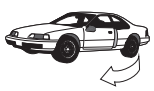
2-8 DOUBLE PULSE UNLOCK ON/OFF: Some vehicles require two pulses on a single wire to unlock the doors. When the double pulse unlock feature is turned on, the BLUE H2/C wire will supply two negative pulses instead of a single pulse. At the same time, the GREEN H2/A wire will supply two positive pulses instead of a single pulse. This makes it possible to directly interface with double pulse vehicles without any extra parts.

2-9 CHANNEL 3 VALIDITY/LATCHED/LATCHED RESET WITH IGNITION/30 SECOND TIMED/SECOND UNLOCK OUTPUT: Channel 3 can be programmed for these output configurations. The unit is set to the default validity output. To change the configuration, use the two-chirp setting to toggle to the different configurations. (Refer to the H1/3 WHITE/BLUE wire description in the *Primary Harness (H1) Wire Connection Guide* section of this guide.)

Transmitter/Receiver Learn Routine

The system comes with two transmitters that have been taught to the receiver. The receiver can store up to four different transmitter codes in memory. Use the following learn routine to add transmitters to the system or to change button assignments if desired.

If the Directed Bitwriter or PC Interface has previously been used to program the system, the unit may have been locked, so that the features and channels cannot be altered via manual programming with the Valet switch. If the siren generates one long chirp when attempting to program the transmitter/receiver, this indicates that the unit is locked. You must unlock it with the Bitwriter of PC Interface before you will be able to manually program the transmitter/receiver.



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

2. Key. Turn the ignition on. (The YELLOW wire, H1/9 must be connected.)

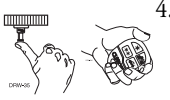
3. Select the receiver channel: Press and release the Valet/Program switch the number of times necessary to access the desired channel. Press and HOLD the Valet/Program switch once more. The siren will chirp and the LED will blink the number of times corresponding to the channel that has been accessed.

Channel Number	Function	Wire Color
1	Arm/Disarm/Panic	
2	Silent Mode/Remote Valet/Trunk Release	RED/WHITE
3	Remote Start or other accessories	WHITE/BLUE
4	Arm only (only available with Radar Master remote)[1]	
5	Disarm only (only available with Radar Master remote)[1]	
6	Panic only (only available with Radar Master remote)[1]	
7	Auto-learn 3-Button Transmitter Configuration[2]	
8	Auto-learn 4-Button Transmitter Configuration[2]	
9	Zap (delete all transmitters)[3]	

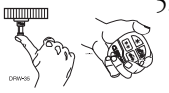
[1]NOTE: Channels 4-6 are only available when using an optional Radar Master remote.

[2]NOTE: For Auto Learn Configurations, see *Transmitter Configurations* section of this guide.

[3]NOTE: See Channel 9 description in this section.



4. Press the transmitter button: While HOLDING the Valet/Program switch, press the button from the transmitter that you wish to assign to the selected channel. The unit will chirp once indicating that the channel has been entered.



5. Press the same transmitter button again: While still HOLDING the Valet/Program switch, press the same transmitter button that you just programmed. The siren will chirp twice to confirm that the desired channel has been successfully programmed to the button. If this step is not performed, the channel will not be programmed to the button. It is not possible to teach a transmitter button to the system more than once.

6. Release: Once the code is learned, the Valet/Program button can be released.

Channels 4-6 (available only when using a Radar Master remote)

Channels 4 through 6 are used to assign the arm, disarm and panic functions to separate buttons

on the remote control. These channels are only available when using an optional Radar Master remote. (See *Transmitter Configurations* section of this guide.) Teaching a transmitter button to Channel 4 erases all previous programming from the transmitter's memory. Similarly, if the transmitter is set up to use the separate arm, disarm and panic channels and a button from that transmitter is programmed to Channel 1, the transmitter's memory will be erased, and the system will only recognize the button that was programmed to Channel 1.

Channel 9

If any transmitter button from a known transmitter is programmed to Channel 9, all transmitters will be erased from memory and will revert to the default feature settings (see the *Features Menu* section of this guide). This is useful in cases where the one of the customer's transmitters is lost or stolen. This will erase any lost or stolen transmitters from the system's memory. It can also be used to start from scratch if the transmitter buttons were programmed incorrectly.

To advance from one channel to another:

You can advance from programming one channel to another by releasing the Valet/Program switch and tapping it to advance channels and then HOLDING it. For instance: You have programmed Channel 1 and you want to program Channel 2. Release the Valet/Program switch. Press it one time and release it to advance from Channel 1 to Channel 2. Now, press and HOLD the Valet/Program switch. The LED will flash two times and the siren will chirp twice (if connected). As before, do not release it.

To exit the learn routine:

One long chirp indicates that Learn Routine has been exited. Learn Routine will be exited if any of the following occurs:

- Ignition is turned off.
- Door is closed.
- Valet/Program button is pressed too many times.
- More than 15 seconds elapse between steps.

Transmitter Configurations

Using the Auto Learn functions in the Transmitter/Receiver Learn Routine, the transmitters can be programmed either with the 3-button configuration or 4-button configuration.

3-Button Transmitter Configuration

This configuration can be programmed to an optional 3-button transmitter using Channel 7 of the Transmitter/Receiver Learn Routine. The transmitter buttons are assigned to the following functions:

 .....operates .....Arm/Disarm/Panic

 .....operates .....Channel 2

 .....operates .....Channel 3

4-Button Transmitter Configuration

The 4-button transmitter configuration can be used when using the 4-button remotes that come standard with this system. This configuration can be programmed to a 4-button transmitter using Channel 8 of the Transmitter/Receiver Learn Routine. In the 4-button transmitter configuration, the buttons are assigned to the following functions:

 .....operates .....Arm/Disarm/Panic

 .....operates .....Channel 2

 .....operates .....Channel 3

 .....is .....Unassigned

Optional Radar Master Transmitter

Separate transmitter button arming/disarming/panic (Channels 4-6, see channel chart in *Transmitter/Receiver Learn Routine* section) can only be utilized when upgrading to an optional Radar Master transmitter. When using a Radar Master transmitter with this system, Channels 4-6 may be programmed to the transmitter in a variety of configurations.

Multi-Level Security Arming

Multi-Level Security Arming is only available when using an optional Radar Master transmitter that has been configured with separate transmitter buttons for arming and disarming. Multi-Level Security Arming allows you to select which of the system's inputs or sensors will be active or bypassed at the time that the system is armed. (See *Table of Zones* section.) Pressing the arm button again within five seconds of arming the system will activate Multi-Level Security Arming. Each time the arm button is pressed again, a different security level is selected. The different security levels can be selected as follows:

- Pressing the arm button once: The siren chirps once. The system is armed.
- Pressing the arm button twice within five seconds: The siren chirps twice followed by a long chirp. Zone Two is now bypassed.
- Pressing the arm button a third time within five seconds: The siren chirps three times followed by a long chirp. Zone Four is now bypassed.
- Pressing the arm button a fourth time within five seconds: The siren chirps four times followed by a long chirp. Zones Two and Four are now bypassed.
- Pressing the arm button a fifth time within five seconds: The siren chirps five times followed by a long chirp. All input zones, except the ignition, are now bypassed.

NOTE: Multi-Level Security Arming only applies to a single arming cycle. Once the system is disarmed and then re-armed, all the zones will be active again.

Smart Power Up II

The Smart Power Up II feature ensures that when the security system is powered back up after power has been disconnected, the system will resume the same state it was in before power was lost. For example, if power is disconnected during a full trigger sequence, the system will still be in the full trigger sequence when power is reconnected to the unit. If power is disconnected while the unit is disarmed, it will still be disarmed when power is restored. This also applies to the VRS sequence. If the unit loses power at any time during the VRS sequence, it will automatically resume the VRS full trigger sequence when the unit is powered back up.

Table of Zones

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

NOTE: The Warning Zone response does not report on the LED.

Zone No.	Trigger type	Input description
1	Instant	H1/6 BLUE wire. Connect to optional hood/trunk pins.
2	Multiplexed Input	ORANGE wire of plug-in shock sensor. Inputs shorter than 0.8 seconds will trigger a Warning Zone response, while inputs longer than 0.8 seconds will instantly trigger the full alarm sequence.
3	Two-stage, progresses from warning to full alarm	Door switch circuit. H1/5 GREEN or H1/7 VIOLET.
4	Multiplexed Input	BLUE wire of optional plug-in shock sensor. Inputs shorter than 0.8 seconds will trigger a Warning Zone response, while inputs longer than 0.8 seconds will instantly trigger the full alarm sequence.
5	Two-stage (similar to doors)	Ignition input. H1/9 YELLOW.

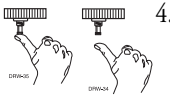
Long Term Event History

The system stores the last two full triggers in memory. These are not erasable. Each time the unit sees a full trigger, the older of the two triggers in memory will be replaced by the new trigger. To access long term event history:

1. With the ignition off, press and HOLD the Valet/Program switch.

2. Turn on the ignition.

3. Release the Valet/Program switch.



4. Press and release the Valet/Program switch within 5 seconds. The LED will flash in groups indicating the last two zones that triggered the unit. The LED will flash for one minute or until the ignition is turned off.

NOTE: The Warning Zone triggers are not stored to memory and will not be reported.

Optional Vehicle Recovery System (VRS)

No additional parts are required to add the optional VRS feature. However for the VRS feature to be effective, the 8618 Starter Kill Relay must be installed. The VRS feature can be activated with the remote transmitter and deactivated with the valet switch. If the VRS option is selected it is recommended to program the Valet switch to respond to more than one pulse for maximum security. (See *System Features Learn Routine* section.)

Arming the VRS

1. Turn the ignition to the ON position.

2. Press on the transmitter for 1 second. The parking light will flash once and the siren will chirp once to confirm that the VRS system is armed and will enter the trigger sequence next time a door is opened and then closed.

Disarming the VRS

To disarm VRS (before the siren begins chirping):

1. Turn the ignition to the ON position.

2. Press on the transmitter for 1 second. The parking lights will flash twice and the siren will chirp twice to confirm that the VRS system is disarmed.

To disarm VRS (after the siren has begun chirping):

1. Turn the ignition to the ON position.

2. Press and release the Valet/Program switch the selected number of times programmed in Step 2-5. (See *System Features Learn Routine* section of this guide.)

NOTE: For a detailed explanation to the VRS triggered sequence, refer to the *Vehicle Recovery System* section of the Owner's Guide.

False Alarm Control Technology (FACT)

FACT requires that you change the way you test the system as FACT will bypass an input zone for 60 minutes. If the system "sees" the same zone trigger three times *and* the triggers are spaced less than an hour apart, the system will bypass that input zone for 60 minutes. If that zone does not attempt to trigger the system during the 60-minute bypass period, the zone's monitoring will begin again at the end of the hour. If it does attempt to trigger while bypassed, the 60-minute bypass starts over again.

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

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

Troubleshooting

Starter kill does not work.

- Is the correct starter wire being interrupted? If the car starts when the starter kill relay is completely disconnected, the wrong starter wire has been cut and interrupted.
- Yellow wire is not connected to true ignition. It is connected to an accessory circuit.

Shock sensor does not trigger the alarm.

- Has the FACT system been triggered? If so, you will hear five chirps when disarming. To check this, turn the ignition key on and off to clear the FACT from memory, and then retest the shock sensor.

Door input does not immediately trigger full alarm. Instead, I hear chirps for the first three seconds.

- That's how the progressive two-stage door input works! This is the instant response feature of this system. Even if the door is closed immediately, the system provides an instant trigger by chirping, and then progressing to a constant siren.

Closing the door triggers the system, but opening the door does not.

- Have you correctly identified the type of door switch system? This happens often when the wrong door input has been used.

System will not passively arm until it is remotely armed and then disarmed.

- Are the door inputs connected? Is a blue wire connected to the door trigger wire in the vehicle? Either the green H1/5 or the violet H1/7 should be used instead.

Door input does not respond with the progressive trigger, but with immediate full alarm.

- What zone does the LED indicate? If the LED indicates that the impact sensor caused the trigger, the sensor may be detecting the door opening. Reducing the sensitivity or relocating the sensor can often solve this problem. If the LED indicates that the door caused the trigger, you may have programmed the progressive door trigger off. (See Feature 2-4 in the *Feature Descriptions* section of this guide.)

The Valet switch does not work.

- Is it plugged into the correct socket?
- Check the System Features Learn Routine for the programmed Valet pulse count.

Status LED does not work.

- Make sure that it is plugged in. (See *Plug-In Harnesses* section of this guide.) Is the LED plugged into the correct socket?

Wiring Quick Reference Guide