



# Model 711T

## Installation Guide



# table of contents

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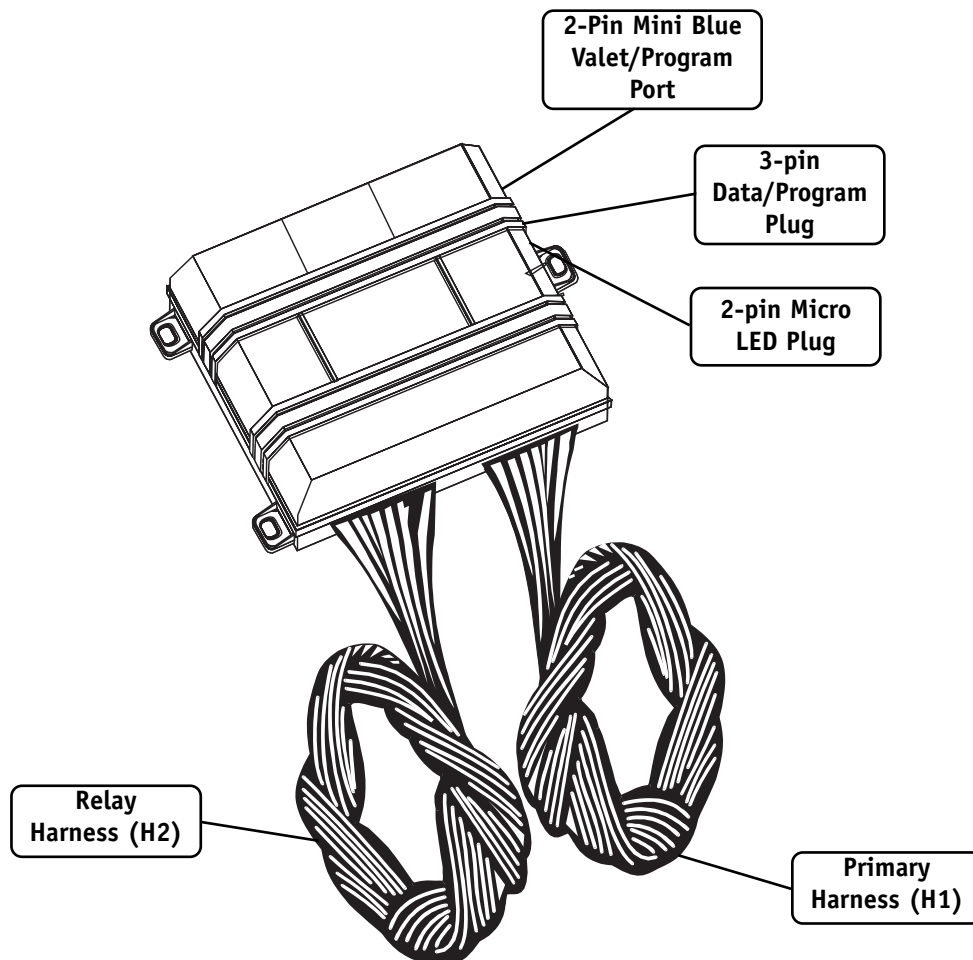
<b>What Is Included</b> . . . . .	3	<b>Transmitter/Receiver Learn Routine.</b> . . . . .	21
<b>Installation Points To Remember</b> . . . . .	4	To advance from one channel to another . . .	22
<b>Wiring the Control Unit.</b> . . . . .	4	To exit learn routine . . . . .	22
<b>Primary Harness (H1), 12-Pin Connector</b> . . . . .	5	<b>Transmitter Configurations.</b> . . . . .	22
<b>Relay Harness (H2), 8-Pin Connector</b> . . . . .	5	Standard Configuration. . . . .	22
<b>Primary Harness (H1) Wire Connection Guide.</b> . .	6	OEM Style Configuration . . . . .	23
<b>Internal Programming Jumper</b> . . . . .	12	<b>Two Vehicle Operation With A</b>	
Light Flash Jumper . . . . .	12	<b>Single Transmitter.</b> . . . . .	23
<b>Plug-In LED and Valet/Program Switch.</b> . . . . .	12	<b>Operating Settings Learn Routine</b> . . . . .	24
<b>Relay Harness (H2) Wire Connection Guide</b> . .	13	To access another feature . . . . .	25
Identifying the Door Lock System. . . . .	13	To exit the learn routine. . . . .	25
At the Switch. . . . .	14	<b>Features Menu</b> . . . . .	25
Type A Door Locks. . . . .	14	<b>Feature Descriptions</b> . . . . .	26
Type B Door Locks. . . . .	15	<b>Rapid Resume Logic</b> . . . . .	27
Testing Reversing Polarity Systems . . . . .	16	<b>Master Dealer Remotes</b> . . . . .	27
Type C Door Locks. . . . .	17	<b>Troubleshooting</b> . . . . .	28
Type D Door Locks. . . . .	18		
Type E Door Locks. . . . .	19		
Type F Door Locks. . . . .	16		

*Bitwriter™, Code Hopping™, DEI®, Doubleguard®, ESP™, FailSafe®, Ghost Switch™, Learn Routine™, Nite-Lite®, Nuisance Prevention Circuitry®, NPC®, Revenger®, Silent Mode™, Soft Chirp®, Stinger®, Valet®, Vehicle Recovery System®, VRS®, and Warn Away® are all Trademarks or Registered Trademarks of Directed Electronics, Inc.*

# what is included

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- The control module (see diagram)
- Two 491T remote transmitters
- The plug-in status LED
- The plug-in Valet®/Program switch



DRW-135

# installation points to remember

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This system has been designed to provide the ultimate in convenience to both the dealer and the end user. The microprocessor at the heart of the system utilizes a sophisticated “Learn Routine” to program transmitters as well as configure operation settings. Transmitter codes and operation settings are stored in “EEPROM” and will remain in memory even if the system’s main power is disconnected for extended periods of time. Please take the time to read this guide thoroughly prior to installing the system.

Do not disconnect the battery if the vehicle has an anti-theft coded radio. If equipped with an airbag, avoid disconnecting the battery if possible.

***IMPORTANT!** Many airbag systems will display a diagnostic code through their warning light after they lose power. Disconnecting the battery requires this code to be erased, a procedure that can require a trip to the dealer.*

## **Before beginning the installation:**

- Check with the customer on status LED location.
- Remove the domelight fuse. This prevents accidentally draining the battery.
- Roll down a window to avoid being locked out of the car.

## **After the installation:**

- Test all functions. The “Using Your System” section of the Owner’s Guide is very helpful when testing.

# wiring the control unit

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The wiring harness supplied with this unit is the standard 12 pin harness used by DEI security systems. Two wires in the plug are not used. The functions of all the wires that are used in the primary harness are outlined in the following *Primary Harness (H1), 12-Pin Connector* section. The wire connections are described in the *Primary Harness (H1) Wire Connection Guide* section.

# primary harness (H1), 12-pin connector

H1/1	ORANGE	(-) 500 mA GROUND-WHEN-ARMED OUTPUT
H1/2	WHITE	(+/-) LIGHT FLASH OUTPUT
H1/3	WHITE/BLUE	(-) 200 mA CHANNEL 3 VALIDITY OUTPUT
H1/4	BLACK/WHITE	OUTPUT OF DOMELIGHT SUPERVISION RELAY #30
H1/5	GREEN	NO FUNCTION
H1/6	BLUE	(-) 200 mA SECOND UNLOCK OUTPUT
H1/7	VIOLET	NO FUNCTION
H1/8	BLACK	(-) CHASSIS GROUND INPUT
H1/9	YELLOW	(+) SWITCHED IGNITION INPUT
H1/10	BROWN	(-) HORN HONK OUTPUT
H1/11	RED	(+) CONSTANT POWER INPUT
H1/12	RED/WHITE	OUTPUT OF CHANNEL 2 RELAY #30

# relay harness (H2), 8-pin connector

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 the fuse holder.

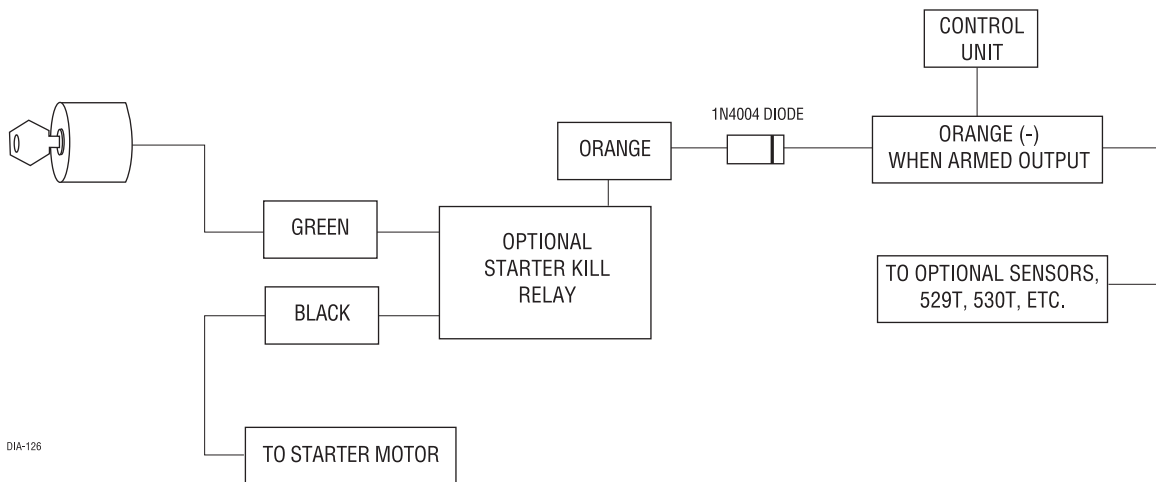
# primary harness (H1) wire connection guide

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

This wire supplies a (-) 500 mA output as long as the system is armed. This output ceases as soon as the system is disarmed. The orange wire is used to control the optional starter kill relay.

**NOTE:** If connecting the orange wire to control another module, such as a 529T or 530T window controller, a 1 amp diode (type 1N4004) will be required. Insert the diode as shown below.

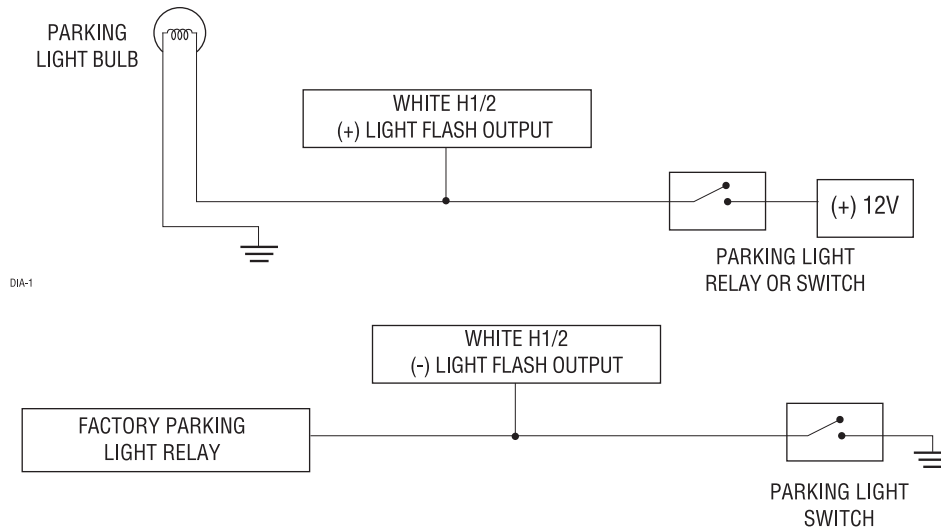
**IMPORTANT!** Never interrupt any wire other than the starter wire.



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

As shipped, this wire should be connected to the (+) parking light wire. If the light flash polarity jumper under the sliding door is moved to the opposite position (see *Internal 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 model cars.

See diagram on following page.



### H1/3 WHITE/BLUE (-) channel 3 output

This wire provides a (-) 200 mA output whenever the transmitter code controlling Channel 3 is received. This output will continue as long as that transmission is received. Use for options such as 551T Valet® Start system, 529T or 530T power window controllers, etc.

**IMPORTANT!** Never use this wire to drive anything except a relay or a low-current input! The transistorized output can only provide 200 mA of current, and connecting directly to a solenoid, motor, or other high-current device will cause it to fail.

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

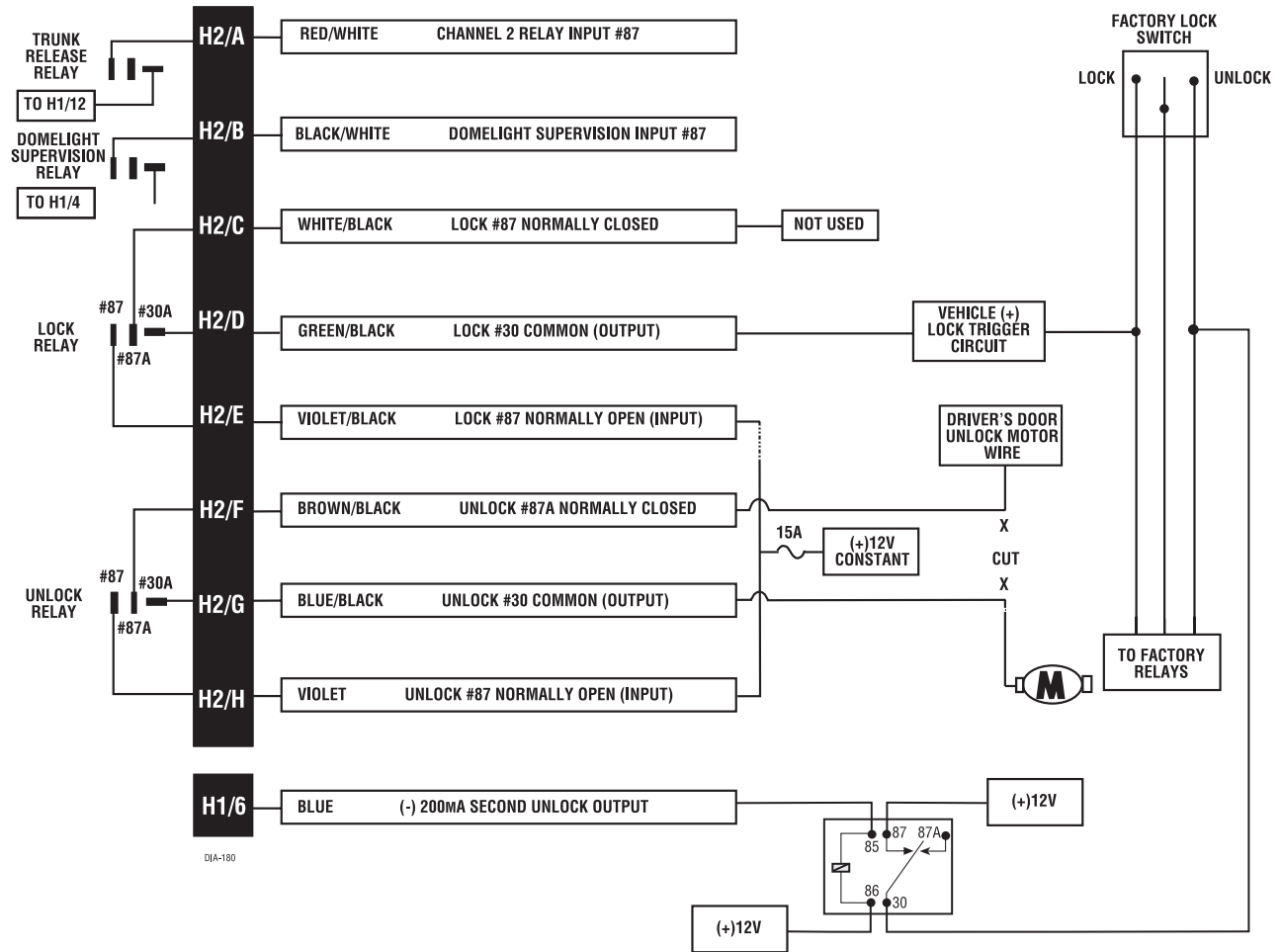
This wire supplies high current output from the on-board domelight supervision relay. Connect this wire directly to the domelight circuit in the vehicle. The on-board relay will drive circuits up to 20 amps. The polarity of this output is determined by the connection of the input wire H2/B in the relay harness.

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

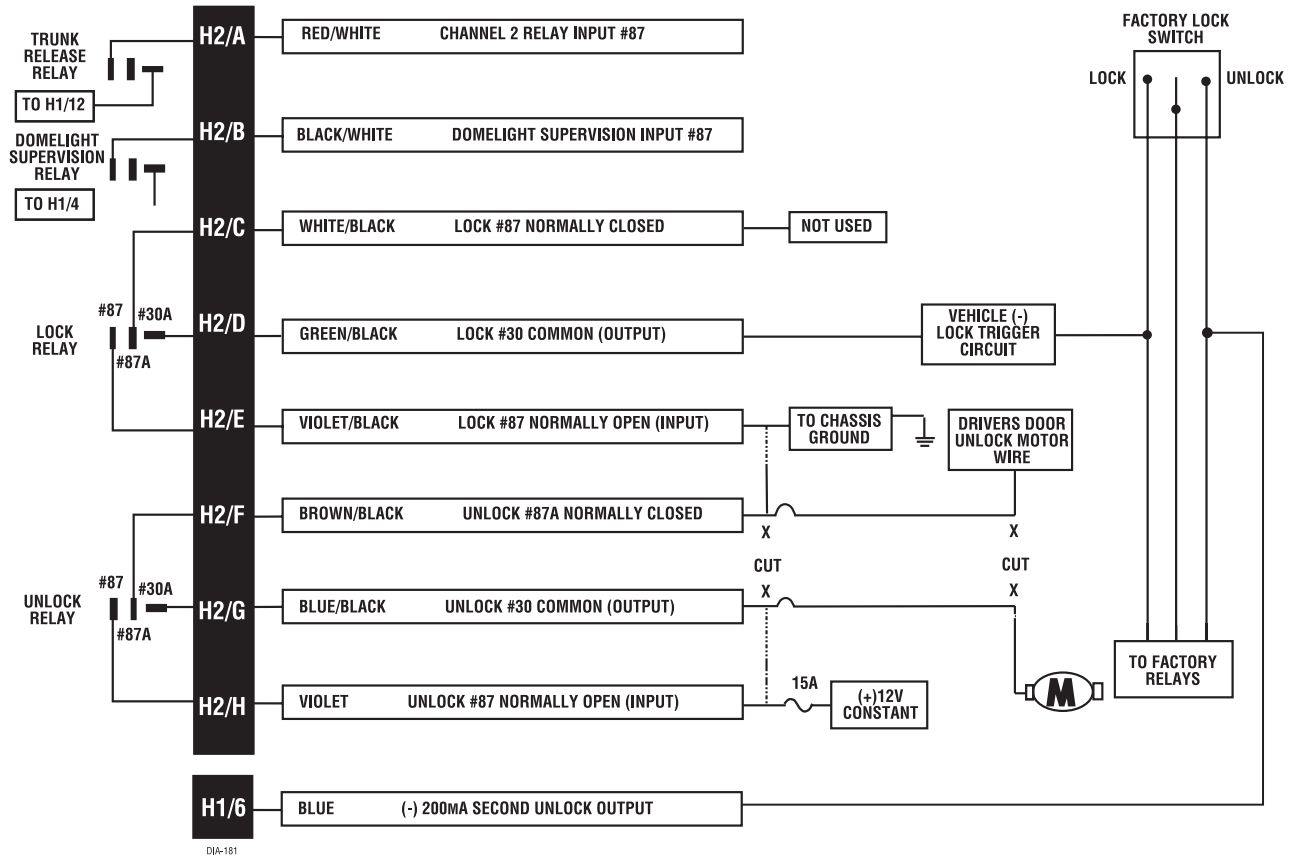
### H1/6 BLUE (-) 200mA second unlock output

This output is used for progressive unlock. A progressive unlock system unlocks the driver's door when the unlock (disarm) button is pressed and unlocks the passenger doors if the unlock (disarm) button is pressed again within 15 seconds after unlocking the driver's door. The BLUE wire outputs a low current (-) pulse on the second press of the unlock button of the transmitter. This negative unlock output is used to unlock the passenger doors.

***Driver's Door Unlock Only (Type A)***

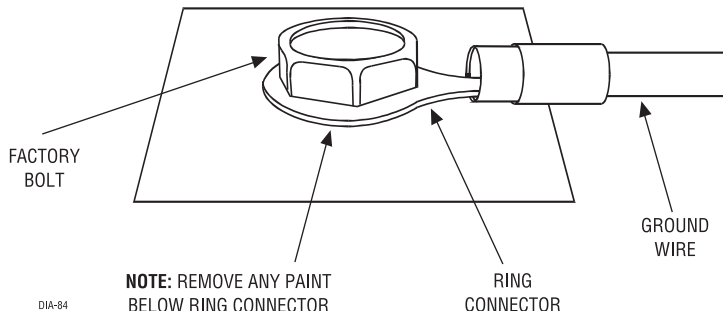


***Driver's Door Unlock Only (Type B)***



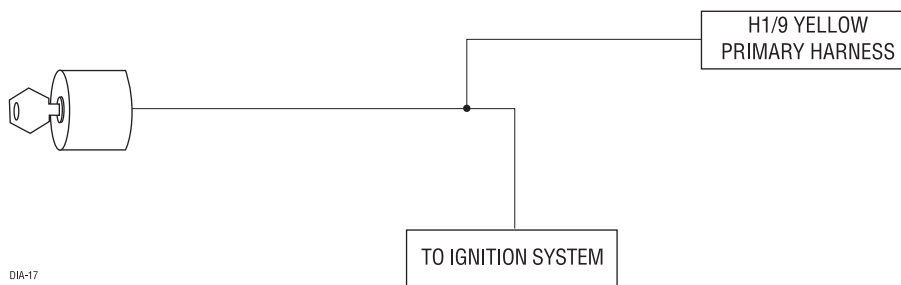
### H1/8 BLACK (-) chassis ground connection

Connect the H1/8 BLACK 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 to the same point in the vehicle.



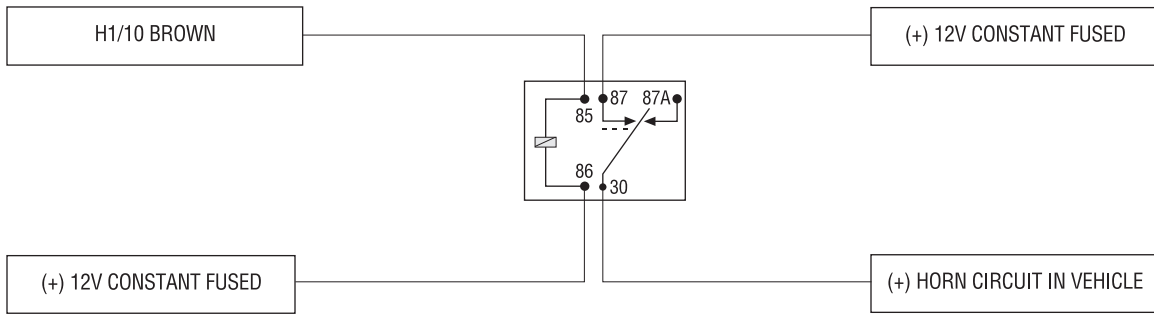
### H1/9 YELLOW (+) ignition input

Connect this wire to an ignition source. This input must show +12V with the key in run position and during cranking. Make sure that this wire cannot be shorted to the chassis at any point. This wire will trigger the system if the ignition is turned on before the unit is disarmed (doors unlocked with the remote). It will also honk the vehicle's horn and flash the parking lights (if connected).



### H1/10 BROWN (-) horn honk output

This wire supplies a 200 mA (-) output that can be used to honk the vehicle horn. It outputs a single pulse when locking the doors with the remote, and two pulses when unlocking with the remote. This wire will also output pulses for 30 seconds when the Panic Mode is activated. If the vehicle has a (+) horn circuit, an outboard relay can be used to interface with the system, as shown in the following diagram.



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

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

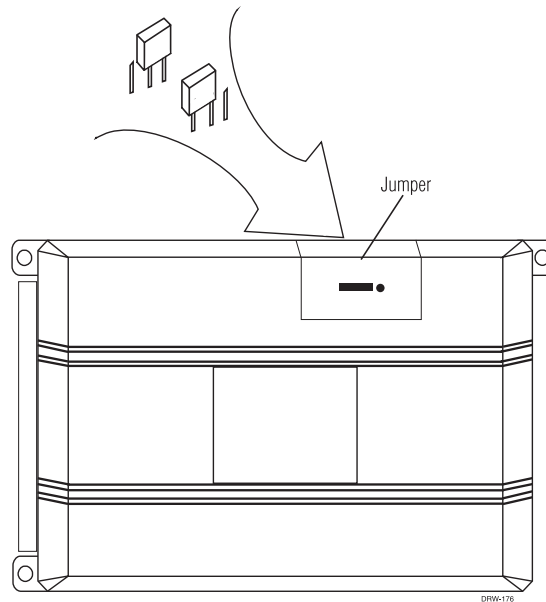
**NOTE:** Always use a fuse within 12 inches of the point you obtain (+)12V power. Do not use the 15A fuse in the harness for this purpose. This fuse protects the module itself.

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

This wire supplies high current output from the on-board Channel 2 (trunk release) relay. Whenever the button(s) controlling Channel 2 is pressed for 1.5 seconds, the on-board relay is activated and will stay activated as long as 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.

# internal programming jumper



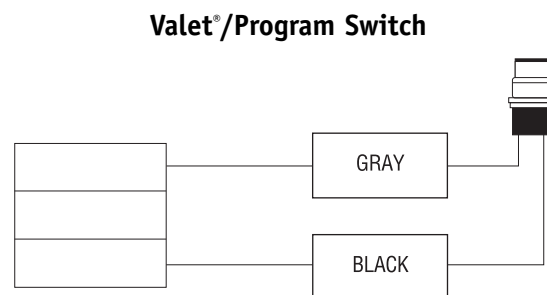
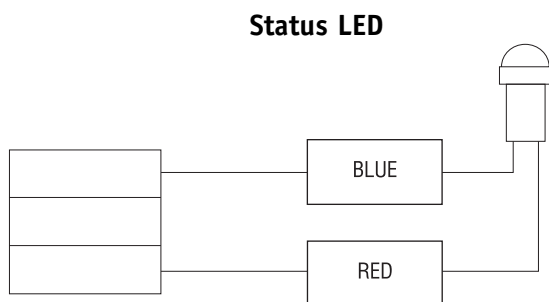
(+) Light flash output  (-) Light flash output

## 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.

# plug-in LED and valet/program switch

The LED and the Valet/Program switch both plug into the control module. The status LED plugs into the small two-pin port, while the Valet®/Program switch should be plugged into the larger blue two-pin port. The status LED and Valet®/Program switch each fit into  $\frac{9}{32}$ -inch holes.



# relay harness (H2) wire connection guide

## 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 door circuit 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 require that an aftermarket actuator be added to the driver's door to allow system control, see *Type D* wiring section).

## identifying the door lock system

The easiest way to determine which type of door lock system you are working with is to remove the master locking switch itself, which is usually on the driver's door or on the center console. Once you have determined which type of factory door lock circuit you are working with, and the color codes of the switch wires to be used, you can usually simplify the installation by locating the same wires in the vehicle's kick panel. If no central locking switch is found, the installation may require a door lock actuator.

**NOTE:** Always retest the wires in the kick panel to be sure they work the same as the wires on the switch.

There are six common types of door lock circuits (some vehicles use more unusual systems):

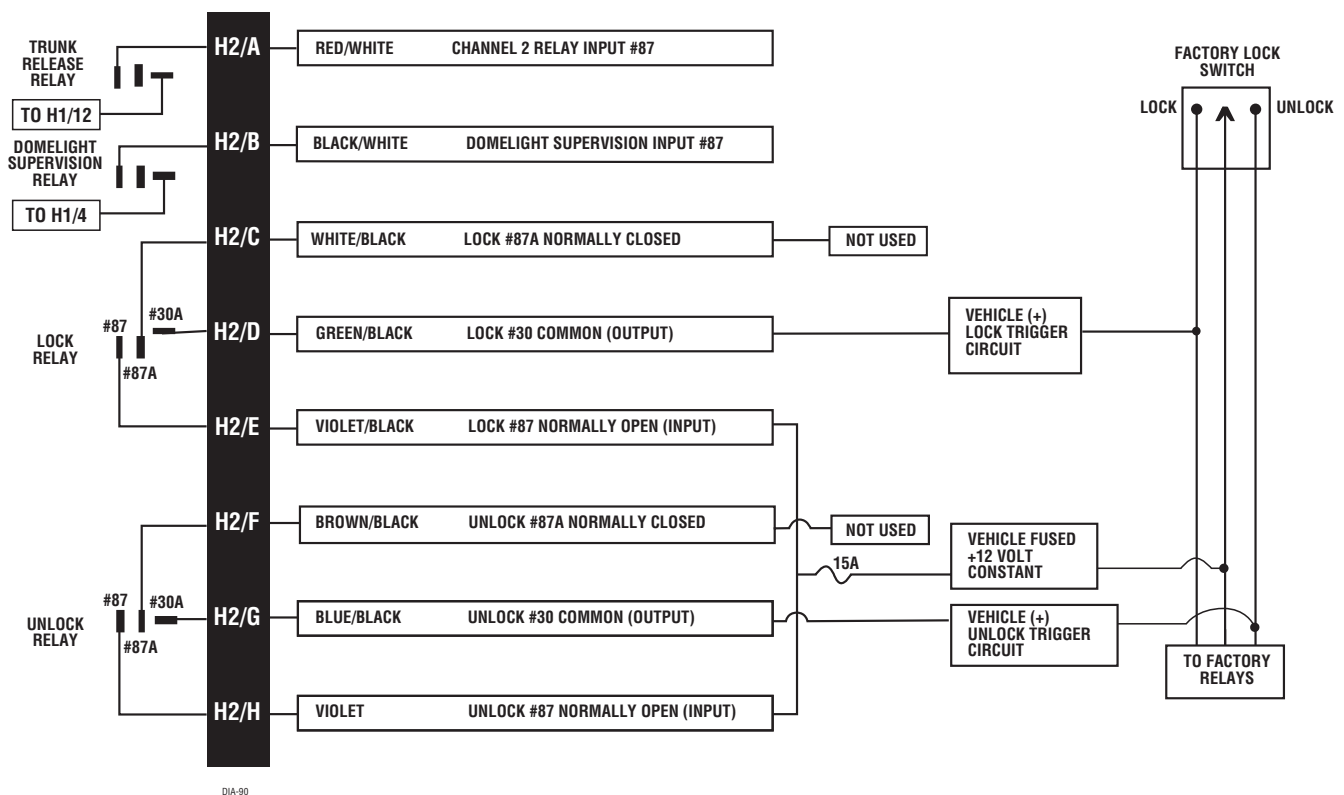
- **Type A:** Three-wire (+) pulse controlling factory lock relays. Most GM, some Ford and Chrysler, 1995 Saturn, some new VW, newer BMW.
- **Type B:** Three-wire (-) pulse controlling factory lock relays. Most Asian vehicles, early Saturn, some BMW and Porsche.
- **Type C:** Directly-wired reversing-polarity switches. The switches are wired directly to the motors. This type of system has no factory relays. Most Fords, many GM two-doors cars and trucks, many Chryslers.
- **Type D:** Adding one or more aftermarket actuators. These include slave systems without an actuator in the driver's door, but with factory actuators in all the other doors. Type D also includes cars without power locks, which will have actuators added. All Saabs before 1994, all Volvo except 850i, all Subaru, most Isuzu, and many Mazdas. Some mid-eighties Nissans, pre-1985 Mercedes-Benz and Audi.

- **Type E:** Electrically-activated vacuum systems. The vehicle must have a vacuum actuator in each door. Make sure that locking the doors from the driver's or passenger side using the key activates all the actuators in the vehicle. This requires a slight modification to the door lock harness. Mercedes-Benz and Audi 1985 and newer.
- **Type F:** One-wire system - cut to lock, ground to unlock. This system is found in late-model Nissan Sentras, some Nissan 240SX, and Nissan 300ZX 1992 and later. It is also found in older Mitsubishis, and some early Mazda MPV's.

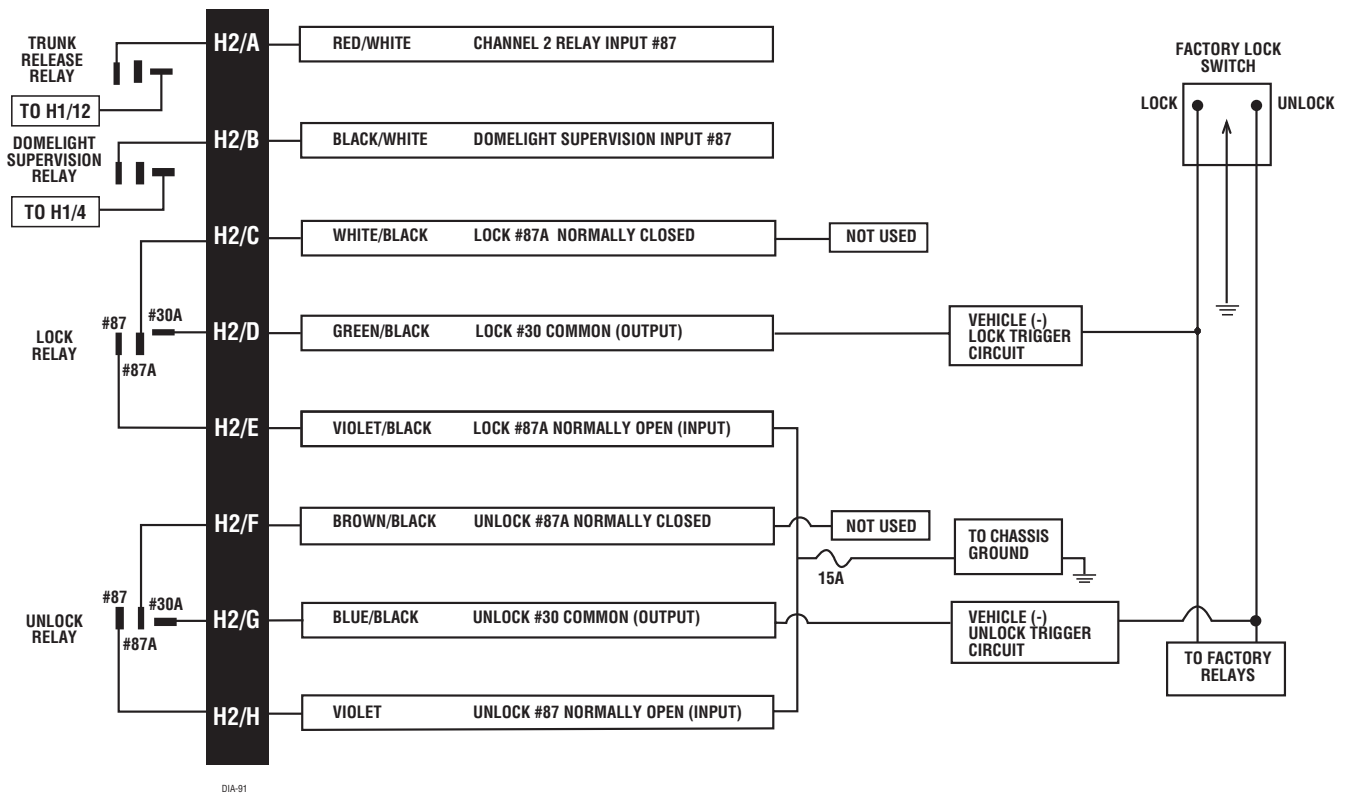
### at the switch

- Three-wire switches will have either a constant ground input or a constant (+)12V input, along with the pulsed lock and unlock outputs to the factory relays.
- Many BMW's and VW's have no external switch. The switches are inside the actuator, and instead of pulsing, the proper wires will flip-flop from (+)12V to (-) ground as the door locks are operated.
- Direct-wired switches will have a (+)12V constant input and one or two (-) ground inputs, along with two output leads going directly to the lock motors.

### type A: positive-triggered, relay-driven system



**type B: negative-triggered, relay-driven system**



## testing reversing polarity systems

Use these instructions if the power door lock switch has four or five heavy-gauge wires. This type of switch has two outputs that rest at (-) ground.

**IMPORTANT!** *To interface with these systems, you must cut two switch leads. The relays must duplicate the factory door lock switches' operation. The master switch will have one or two ground inputs, one (+)12V input, and two switch outputs going directly to the slave switch and through to the motors. These outputs rest at (-) ground. The lock or unlock wire is switched to (+)12V, while the other wire is still grounded, thus completing the circuit and powering the motor. This will disconnect the switch from the motor before supplying the motor with (+)12V, avoiding sending (+)12V directly to (-) ground.*

It is critical to identify the proper wires and locate the master switch to interface properly. Locate wires that show voltage when the switch is moved to the lock or unlock position. Cut one of the suspect wires and check operation of the locks from both switches. If one switch loses all operation in both directions then you have cut one of the correct wires and the switch that is entirely dead is the master switch. If both switches still operate in any way and one or more door motors have stopped responding entirely, you have cut a motor lead. Reconnect it and continue to test for another wire. Once both wires have been located and the master switch identified, cut both wires and interface as described in the following paragraphs.

**WARNING!** *If these wires are not connected properly, you will send (+)12V directly to (-) ground, possibly damaging the alarm or the factory switch.*

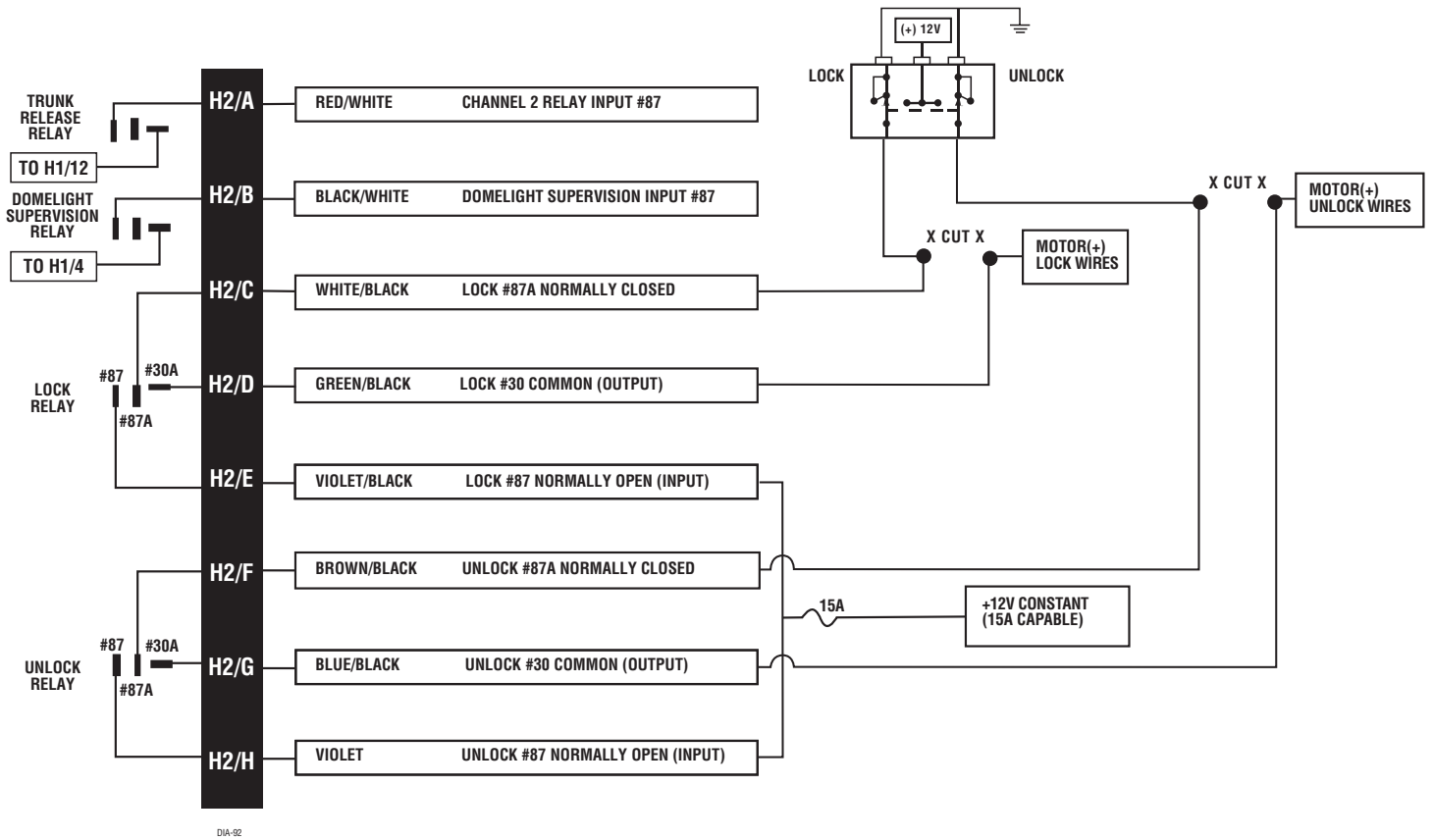
- **H2/C WHITE/BLACK:** Once both door lock wires are located and cut, connect the white/black wire to the master switch side of the lock wire. The master switch side will show (+)12V when the master switch is operated to the lock position and (-) ground when the master switch is in the middle position.
- **H2/D GREEN/BLACK:** Connect the green/black wire to the other side of the lock wire. This is the motor side of the lock wire and it goes to the lock motor through the slave switch.
- **H2/E VIOLET/BLACK:** This wire must be connected to a constant (+)12 volts. The best connection point for this wire is the constant (+)12V supply for the door lock switch\*, or directly to the positive (+) battery post with a fuse at the battery post.

**\*NOTE:** *Except in GM cars with retained accessory power (RAP). In these vehicles, the (+)12V feed to the door lock switches is turned off if the doors are closed for any length of time.*

**NOTE:** *Most direct-wired power lock systems require 20-30 amps of current to operate. Connecting the violet/ black wire to a poor source of voltage will keep the door locks from operating properly.*

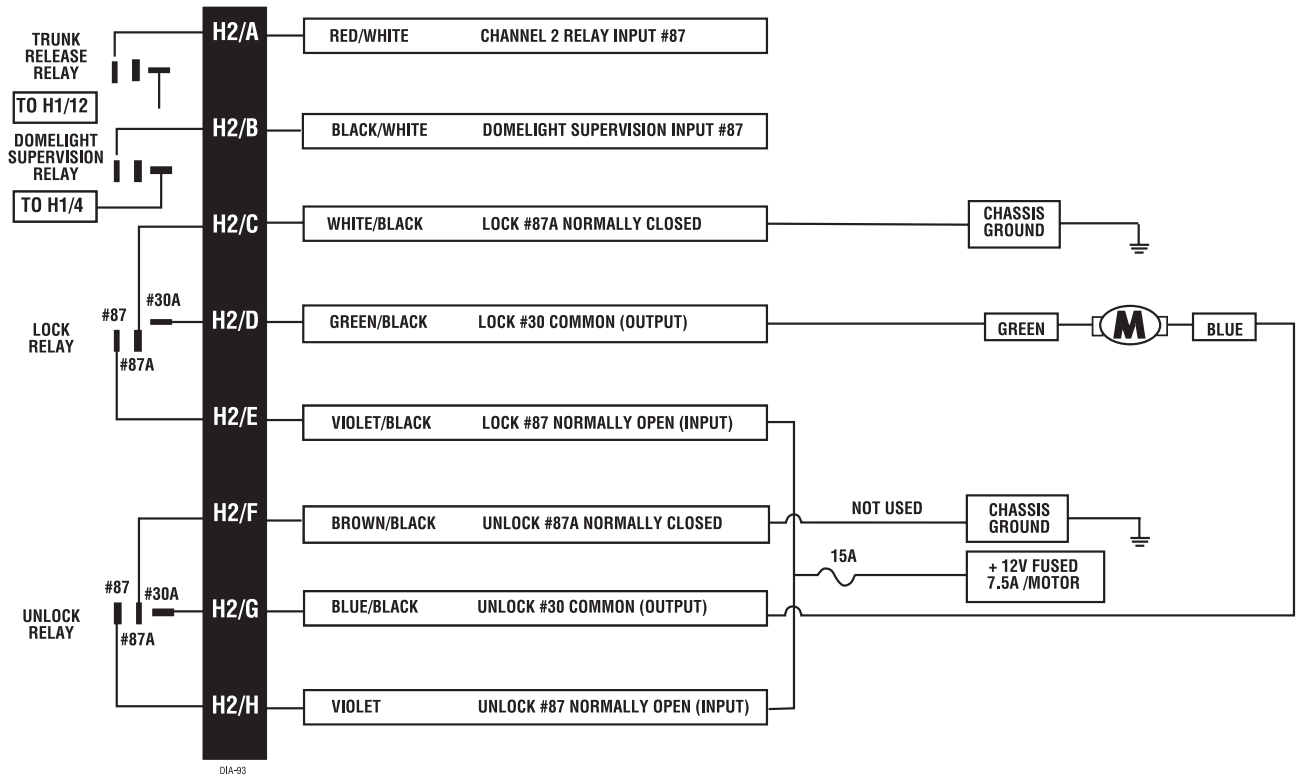
- **H2/F BROWN/BLACK:** Connect the brown/black wire to the master switch side of the unlock wire. The master switch side will show (+)12V when the master switch is in the unlock position and (-) ground when the master switch is in the middle position.
- **H2/G BLUE/BLACK:** Connect the blue/black to the other side of the unlock wire.

**type C: reversing polarity system**



**type D: adding one or more after-market actuators**

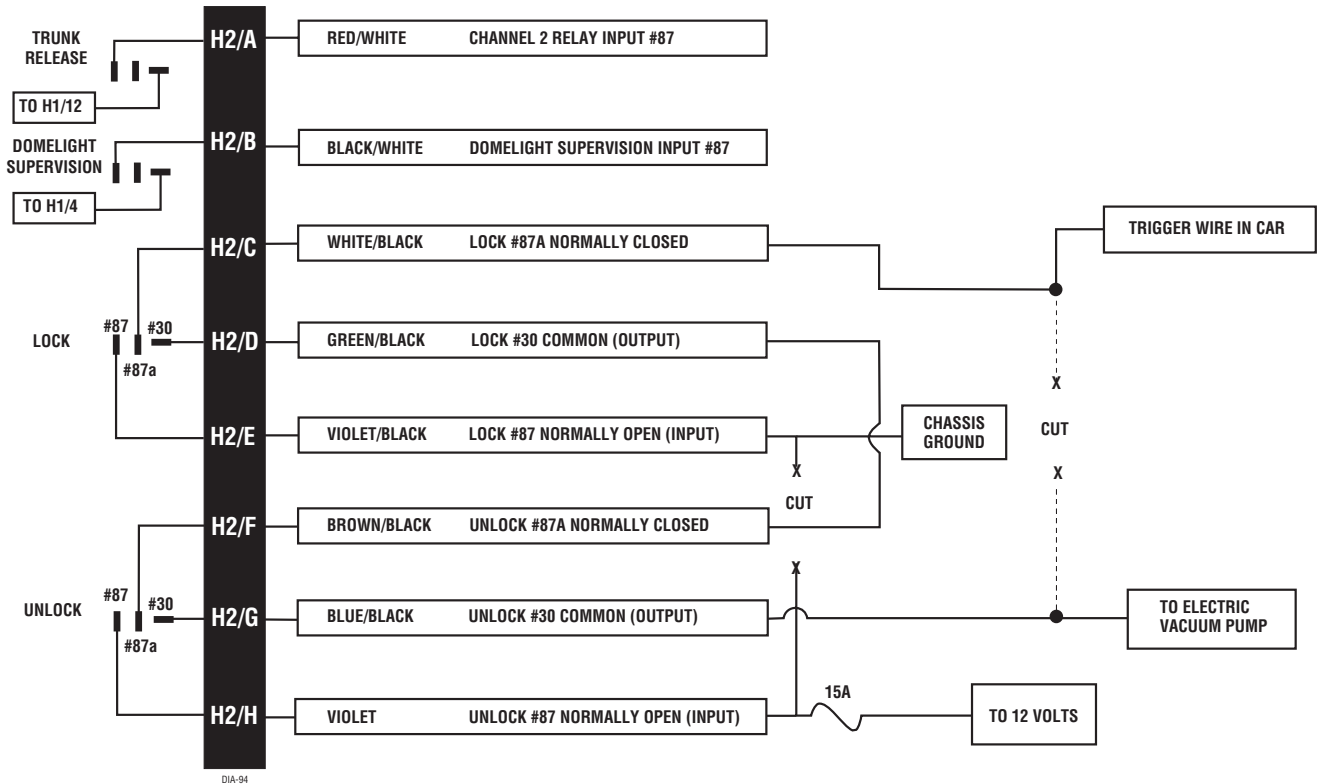
Vehicles without factory power door locks require the installation of one actuator per door. This requires mounting the door lock actuator inside the door. Other vehicles may only require one actuator installed in the driver's door if all door locks are operated when the driver's lock is used.



## type E: electrically-activated vacuum

This system is found in Mercedes-Benz and Audi 1985 and newer. The door locks are controlled by an electrically activated vacuum pump. The control wire will show (+)12V when doors are unlocked and (-) ground when locked.

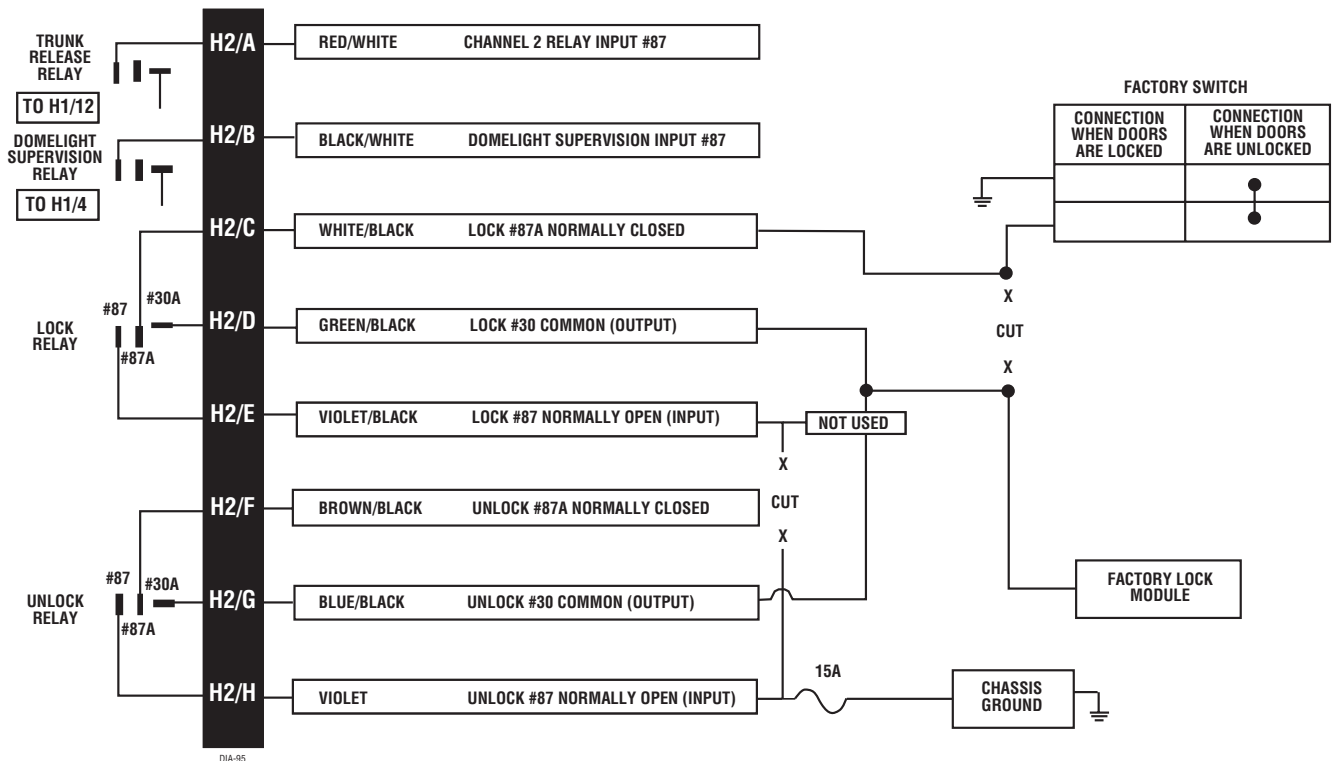
**NOTE:** The system must be programmed for 3.5-second door lock pulses.



**type F: one-wire system (cut to lock, ground to unlock)**

This type of door lock system usually requires a negative pulse to unlock, and cutting the wire to lock the door. (With some vehicles, these are reversed.) It is found in the late-model Nissan Sentras, some Nissan 240SX, Nissan 300ZX 1992 and later. It is also found in some Mazda MPV's.

**NOTE:** The violet jumper between the #87 lock terminal and the #87 unlock terminal must be cut.



DIA-95

# transmitter/receiver learn routine™

Transmitters are taught to the system using the Learn Routine. This system will learn up to four transmitters. Both transmitters are factory programmed using Button I for lock, unlock, and panic; Button II for Channel Two and Silent Mode; and Buttons I and II together operate Channel Three. This configuration can be changed or new remotes can be added to the system using the Learn Routine. For added security, this Learn Routine can be locked using the DEI Bitwriter (P/N 998T). If the unit does not respond to the Learn Routine, plug the Bitwriter into the data port of this unit and verify that the Transmitter Programming is unlocked.



1. **Key.** Turn the ignition to the run position. (The YELLOW H1/9 wire must be already be connected.)
2. **Valet®/Program switch.** Press and release the Valet®/Program switch the correct number of times corresponding to the desired channel number (see chart below). Then press the Valet/Program switch once more and HOLD it. The LED will blink to indicate the selected channel and the horn will honk (if connected). Do not release the Valet/Program switch.

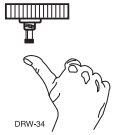
CHANNEL NUMBER	PRESS AND RELEASE THE VALET/PROGRAM SWITCH	TO PROGRAM FUNCTION
1	One time	Lock/Arm, Unlock/Disarm, Panic
2	Two times	Channel 2 output
3	Three times	Channel 3 output
4	Four times	Lock/Arm, Panic
5	Five times	Unlock/Disarm, Channel 2
6	Six times	Panic only
7	Seven times	Auto Learn OEM Configuration*
8	Eight times	Auto Learn Standard Configuration*
9	Nine times	Delete all transmitters

\* **NOTE:** For Auto Learn Configurations, see Transmitter Configurations section of this guide.

**NOTE:** Channel Nine of the Transmitter Learn Routine will delete all transmitters that are programmed into the system as well as change the operating settings back to the default settings (see Operating Settings Learn Routine section of this guide). To use this option, select Channel 9 (LED will blink nine times) then transmit from any button of a known transmitter.



3. **Transmit.** While holding the Valet®/Program switch, press the button on the transmitter that you would like to control the selected receiver channel. One honk will confirm that the code has been learned.



4. **Release.** Once the code is learned, the Valet/Program switch can be released.

### to advance from one channel to another

You can advance from 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 down and the unit will chirp twice. As before, do not release it.

If you want to program Channel 3 after programming Channel 1, release the Valet/Program switch, press it twice and then release it to advance to Channel 3. Then press the Valet/Program switch once more and hold it. The horn will honk three times to confirm it is ready to receive the code from the transmitter to program Channel 3.

### to exit learn routine

The learn routine will be exited if:

- The ignition is turned off.
- The Valet/Program switch is pressed too many times.
- More than 15 seconds elapses between steps.

One long horn honk (if connected) indicates that the Learn Routine has been exited.

## transmitter configurations

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The transmitters can be programmed with the Standard Configuration or OEM Style Configuration by using the Auto Learn functions in the Transmitter/Receiver Learn Routine.

### standard configuration

When programmed for Standard Configuration, the transmitter buttons are assigned to the following functions:

Button I.....operates .....	Lock/Arm, Unlock/Disarm, Panic	
Button II .....	operates .....	Channel Two
Buttons I and II.....operate .....	Channel Three	

**oem style configuration**

A remote that uses the OEM Style Configuration operates similarly to many factory keyless entry remotes. An OEM Style Configuration transmitter allows arming and disarming with separate buttons. When programmed for OEM Style Configuration, the transmitter buttons are assigned to the following functions:

Button I.....operates .....	Lock/Arm, Panic
Button II.....operates .....	Unlock/Disarm, Channel 2
Buttons I and II.....operate .....	Channel 3

# two vehicle operation with single transmitter

You can get two-vehicle operation with the transmitters that come with the system; however, you will not be able to use all the auxiliary channels of the system (or all the auxiliary channels of the other system), unless using a 485T 4-button transmitter.

**Here's what to do:**

1. Using Learn Routine, program Button I into System One as the arm/disarm button. Do this with all four remotes.
2. Do the same with System Two, except program Button II of all four remotes as the arm/disarm button.

If using DEI® 485T four-button remotes, all auxiliary channels are available on both vehicles. Before programming, make a list of all channels on each vehicle, and decide which button(s) should control which channel.

For example, if you wanted the top two buttons to control Vehicle One and the bottom two buttons to control Vehicle Two, here is how each system would be programmed:

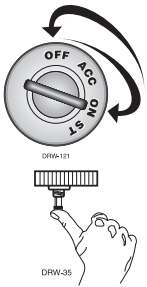
VEHICLE 1	
Button I	Lock/Arm, Unlock/Disarm, Panic
Button II	Channel 2
Buttons I and II	Channel 3

VEHICLE 2	
Button III	Lock/Arm, Unlock/Disarm, Panic
Button IV	Channel 2
Buttons III and IV	Channel 3

# operating settings learn routine™

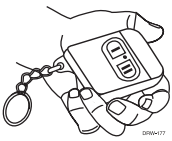
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Many of the operating settings of this unit are programmable. They can be changed whenever necessary through a computer-based learn routine. To simplify programming, the DEI Bitwriter (P/N 998T) can be used to change options as well as lock the Learn Routine. If there is no response from the Learn Routine, plug the DEI Bitwriter into the data port and verify that the Feature Programming is unlocked.



1. **Key.** Turn the ignition on and then back off. (The H1/9 YELLOW switched ignition input must be connected.)
2. **Choose.** Within 10 seconds, press and release the Valet®/Program switch the number of times corresponding to the feature number you want to program (see the *Features Menu* section of this guide). The LED ON settings listed in the *Features Menu* table are the factory default settings.

Once the Valet/Program switch has been pressed and released the number of times corresponding to the feature you wish to program, press it once more and hold it. After a second, the LED will flash to indicate which feature you have accessed. For example, groups of five flashes would indicate access to Feature 5 (Active/Passive Locking feature). The horn will also honk five times (if connected).



3. **Transmit.** The transmitter buttons are used to select the desired feature setting. As shipped, the unit is configured to the default LED ON settings. Pressing the Channel 1 transmitter button (usually Button I) will program the feature to the LED ON setting. The LED will light solid (stop flashing) to indicate the setting. The horn will honk once (if connected). Pressing the Channel 2 transmitter button (usually Button II) will change the setting to the LED OFF setting. The LED will turn off indicating the change and the horn will honk twice (if connected).



4. **Release.** The Valet®/Program switch can now be released.

For example to program Feature 1 (Arming Mode) from active to passive, within 10 seconds of turning the ignition off, press and release the Valet®/Program switch once. Then press it again and hold it. The LED will flash in groups of one and the horn will honk once (if connected). While holding the Valet®/Program switch, press the Channel 2 transmitter button. The LED will stop flashing and go out. The horn will honk twice if connected. Passive arming is now programmed. If this is not the desired setting, without releasing the Valet®/Program switch, press the Channel 1 button on the transmitter. The LED will light solid and the horn will honk once if connected. Active arming is now programmed. Release the Valet®/Program switch after the desired selection has been made.

### to access another feature

You can advance from feature to feature by pressing and releasing the Valet®/Program switch the number of times necessary to get from the feature you just programmed to the feature you wish to access. For example, if you just programmed Feature 1 for passive arming and you want to program Feature 2 (Arm/Disarm Confirmation Honks):

1. Release the Valet®/Program switch.
2. Press and release the Valet/Program switch once to advance from Feature 1 to Feature 2.
3. Press the Valet®/Program switch once more and hold it.
4. The LED will flash in groups of two and the horn will honk twice (if connected) to confirm that you have accessed Feature 2.

### to exit the learn routine

The learn routine will be exited if:

- The ignition is turned on.
- The Valet®/Program switch is pressed too many times.
- More than 15 seconds elapses between steps.

One long horn honk (if connected) indicates that the Learn Routine has been exited.

## features menu

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FEATURE NUMBER	DEFAULT LED ON SETTINGS (PRESS CHANNEL 1 TRANSMITTER BUTTON)	LED OFF SETTINGS (PRESS CHANNEL 2 TRANSMITTER BUTTON)
1	Active arming	Passive arming
2	Arm/disarm confirmation honks ON	Arm/disarm confirmation honks OFF
3	Ignition-controlled door lock ON	Ignition-controlled door lock OFF
4	Ignition-controlled door unlock ON	Ignition-controlled door unlock OFF
5	Active locking	Passive locking
6	Ignition-controlled domelight ON	Ignition-controlled domelight OFF
7	0.8 second door lock pulses	3.5 second door lock pulses
8	Double pulse unlock OFF	Double pulse unlock ON
9	Security features ON	Security features OFF
10	Code Hopping ON	Code Hopping OFF

# feature descriptions

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**1 ACTIVE/PASSIVE ARMING:** When active arming is selected, the system will only arm when the transmitter is used. When set to passive arming, the system will arm automatically 30 seconds after the ignition is turned off. Passive arming is indicated by the rapid flashing of the LED.

**2 ARM/DISARM CONFIRMATION HONKS ON/OFF:** This feature controls the horn honks that confirm the arming and disarming of the system.

**3 IGNITION CONTROLLED DOOR LOCK ON/OFF:** When turned on, the doors will lock three seconds after the ignition is turned on.

**4 IGNITION CONTROLLED DOOR UNLOCK ON/OFF:** When turned off, the doors will unlock when the ignition is turned off.

**5 ACTIVE/PASSIVE LOCKING:** If passive arming is selected in Feature 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.

**6 IGNITION CONTROLLED DOMELIGHT:** If turned on, the system will turn on the domelight for 30 seconds when the ignition is turned off. The domelight supervision output (H1/4) wire must be connected to an optional relay as described in the *Primary Harness Wire Connection Guide*.

**7 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 door lock interface in these vehicles. The default setting is 0.8 second door lock pulses. See "*Mercedes-Benz and Audi - 1985 and Newer (Type E Door Locks section)*" diagram.

**8 DOUBLE PULSE UNLOCK OFF/ON:** 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 (+) pulses instead of a single pulse. This makes it possible to directly interface with double pulse vehicles without any extra parts.

**9 SECURITY FEATURES ON/OFF:** In the ON setting the (-) ground-when-armed output will be active and can be used to operate the optional starter kill. The unit will also trigger a panic sequence if the ignition is turned on before disarming the system. Turning the security features off will turn off both the optional starter kill feature and the triggered sequence with ignition.

**10 CODE HOPPING™ ON/OFF:** This system features Code Hopping™ as an option. To use Code Hopping™ technology, you must program this feature on. Code Hopping™ is a feature that uses a mathematical formula to change the system's 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 the Code Hopping™ feature lets the receiver ignore the Code Hopping™ part of the transmitted word. As a result, the unit may have better range with Code Hopping™ off.

## rapid resume logic

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This DEI system will store its current state to non-volatile memory. If power is lost and then reconnected the system will recall the stored state from memory. This means if the unit is in Valet Mode and the battery is disconnected for any reason, such as servicing the car, when the battery is reconnected the unit will still be in Valet Mode. This applies to all states of the system including arm, disarm, and Valet Mode.

## master dealer remotes

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A master dealer remote can be programmed into the system for demonstration purposes. Generally, each salesman would carry a remote that would operate all the cars on the lot equipped with this system. The dealer remotes are binary transmitters that are detuned slightly in order to limit transmitting range. The dealer remote can be taught to the system by following the Transmitter Learn Routine.

When installing the system, it is possible to preset all of the operation settings using the master dealer remote. However, when the system is operated using the master dealer remote, a special set of dealer default settings are followed. The dealer default settings are used to ensure that every vehicle equipped with this system is protected at all times. Only the settings listed below are affected. When using a master dealer remote, the system operates as follows:

- Passive arming
- Confirmation honks on
- Ignition lock and unlock on
- Passive locking
- Ignition domelight on
- Security features on

The dealer default settings only affect the settings listed above. The remaining features control outputs of the system that must be programmed to meet the needs of the installation. Once the vehicle is delivered to the end user, two Code Hopping transmitters should be taught to the system. The system will then operate according to how the operating settings have been preset. It is also possible to reprogram the operating settings using a standard Code Hopping transmitter if necessary.

When a Code Hopping™ transmitter is taught to the system, the master dealer remote is automatically erased from memory.

# troubleshooting

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## **The Valet® switch does not work.**

- Is it plugged into the correct socket? See *Plug-In LED and Valet®/Program Switch* section. Is the H1/9 YELLOW wire properly connected? See *Primary Harness (H1) Wire Connection Guide* section of this guide.

## **Status LED does not work.**

- Is the LED plugged into the small white port on the side of the control unit? See *Plug-In LED and Valet®/Program Switch* section.

## **Door locks operate backwards.**

- This unit has easily-reversed lock/unlock outputs. Recheck *Relay Harness (H2), Wire Connection Guide* section to see if you have reversed these.

## **The horn honks when the unit enters panic mode, but the confirmation honks do not work when locking and unlocking.**

- Are the confirmation honks turned on in programming? See *Operating Settings Learn Routine* and *Feature Descriptions* sections.

## **I can get into programming and change the feature settings, but when I use the remote the settings seem to change.**

- Are you using a binary, master dealer remote? Remember, you can program the settings using a master dealer remote. However, the unit will follow the dealer default settings when using a binary remote to operate the system.