

Pro Guard™

System
2
Système

R E M O T E K E Y L E S S E N T R Y A N D E N G I N E D I S A B L E S Y S T E M

SYSTEM-2

Installation Guide

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Notice

The manufacturer will accept no responsibility for any electrical damage resulting from improper installation of the product, be that either damage to the vehicle itself or to the Unit. This Unit must be installed by a certified technician using all safety devices supplied. Only registered technicians will be eligible to use the Autostart technical support telephone service.

Please review the Installation Guide carefully before beginning any work.

INTRODUCTION

The SYSTEM-2 is a state-of-the-art remote keyless entry and Engine disable system representing a breakthrough in vehicle security technology. Designed with OEM integration in mind, it can be customized and used for almost every possible application. By integrating timed and latched ON/OFF outputs, this unit can single-handedly control virtually any electrical system in your car.

Before Starting...

Please review the installation guide before beginning the installation, especially the wiring diagram and the programming options.

It is very important that you familiarize yourself with the programming and operation of the SYSTEM-2 system, even if you have already installed a similar system in the past: you could overlook many remarkable new features if you do not read the manual, and you would therefore not maximize the potential of the SYSTEM-2.

Included in the Kit

Prior to the installation, make sure that all the hardware components required to install the system are in the box.

❖ The following is a list of components included with the kit:

- 1 – SYSTEM-2 Control unit.
- 1 – four-button Transmitter.
- 1 – plug-in L.E.D.
- 1 – plug-in Valet Button.
- 1 – User Guide.
- 1 – Installation Guide.

❖ The kit also includes the following harnesses:

- 1 – seven-pin Main Ignition harness.
- 1 – five-pin Secondary harness.
- 1 – four-pin Accessories harness.
- 1 – pair of loose wires.

Installation Points to Remember

- ◆ Keep the Antenna away from other types of antennas (GPS/Onstar).
- ◆ When working on a vehicle, always leave a window open.
- ◆ **Never** leave the keys in the car. Leave them on a workbench with a window rolled down.
- ◆ If possible, remove courtesy light fuse to prevent battery drain.
- ◆ When probing/testing wires in a harness, one should check where the wire harness terminates into the connector plugs.
- ◆ Sometimes Airbag wires will not be labelled (i.e. yellow split loom/tape) in the harness itself. They will always be labelled at the connector plugs where they terminate.
- ◆ Inspect vehicle for any body damage or electrical problems
- ◆ Never install the control unit where it could interfere with normal operation or obstruct service technicians.
- ◆ Always solder and tape all connections.
- ◆ Always use a grommet when running wires into the Engine compartment. Never run wires through bare or sharp metal.
- ◆ Do not disconnect the battery on vehicles equipped with air bags and anti-theft radios.
- ◆ Never ground the control unit to the vehicle's steering column.
- ◆ Make sure that all the switches and controls operate properly.
- ◆ Verify that the vehicle starts and idles properly.
- ◆ Make sure that all safety equipment is installed: the Valet Button, the Hood Switch and the Warning Label.

SYSTEM-2 Features List

4-button multi-channel remote Transmitter

Programmable passive- or active-arming Starter Kill

output: *In Passive Mode, this anti-theft device will arm automatically without requiring the intervention of the user.*

Panic Mode: *This safety feature allows the user to remotely trigger an alarm signal quickly in emergency situations.*

On-board Starter Kill relay

Programmable chirp duration (from 10 to 100 ms)

Car Finder: *Users can remotely activate an audible Horn signal, assisting them in finding the vehicle more easily.*

Driver's Door Priority Access: *Allows to remotely open solely the driver's Door.*

Programmable Door Lock pulse duration: *The Door lock pulse can be set from 1/10 sec. to 4 sec. (and allow for double 1/4-sec. unlock pulses)*

Event logging / start-up failures: *The Module can report error codes specifying the status of the last four start-up failures*

* *Optional*

Input for plug-in Door-lock pulse inverter (INV-200) *

Multi-car operation: *A single Remote Control can operate two separate vehicles equipped with identical remote starter models*

Secure plug-in electronic Valet Button

Plug-in full-status Dash-mounted L.E.D.

Remote valet operation: *This feature allows to set the vehicle to Valet Mode using the Remote Control.*

Zone-2 Disable output: *Can be used to immobilize the vehicle when the system is armed (Fuel Pump or Ignition).*

Negative and Positive Parking Light output

Negative Trunk-release output

Negative Door-lock outputs

Approved by Industry Canada

FCC approved

Limited lifetime warranty

HARNESS DESCRIPTION

7-PIN HARNESS

WIRE	COLOUR	FUNCTION	DESCRIPTION
1	BLACK	(-) CHASSIS GROUND INPUT	This wire must be connected to bare, unpainted metal (the Chassis or true Body ground). It is preferable that you use a factory ground bolt rather than a self-tapping screw.
2	BLUE	(+) 12 V PARKING LIGHT OUTPUT	This wire provides +12 V out and must be connected on the vehicle to the Parking Light wire testing +12 V with the light switch in the ON position.
3	RED	(+) 12 V POWER INPUT	Connect to the +12 V power feeding wire at the Ignition harness of the vehicle. The source wire should have +12 V when the Ignition Key is out of the ignition switch.
4	YELLOW	(+) IGNITION INPUT	Connect to the main Ignition wire of the vehicle. The source wire must have power when the Key is in the IGNITION ON (RUN) and CRANK positions.
5	GREY	(-) 2 nd ZONE DISABLE	This wire will provide a negative output when the module is armed. It can be used to disable a second zone in the vehicle, such as the Fuel Pump or Ignition (relay required).
6	BROWN	(-) LOCK	500 mA programmable 3/4-sec. or 3.5-sec. negative LOCK output.
7	GREEN	(-) UNLOCK	500 mA programmable 3/4-sec., 3.5-sec. or double-pulse 1/4-sec. negative UNLOCK output.

5-PIN HARNESS

WIRE	COLOUR	FUNCTION	DESCRIPTION
1	WHITE / BLACK	(-) DOOR TRIGGER INPUT	Connect to the wire testing ground with a Door open. Note: this wire should monitor all the Doors – the driver's door is not enough!
2	ORANGE / BLACK	(+) DOOR TRIGGER INPUT	Connect to the circuit of the car giving +12 V when a Door is open (usually the dome-light circuit).
3	RED / WHITE	(-) DOME LIGHT SUPERVISION	This wire will provide a ground output for 60 sec. after the system is remotely disarmed. Note: An external relay must be installed.
4	GREY / BLUE	HORN / SIREN INPUT	Connect to ground or +12 V for polarity control on Pin #5
5	GREY	HORN / SIREN OUTPUT	This wire will give either a positive or a negative output; see Pin #4 for polarity.

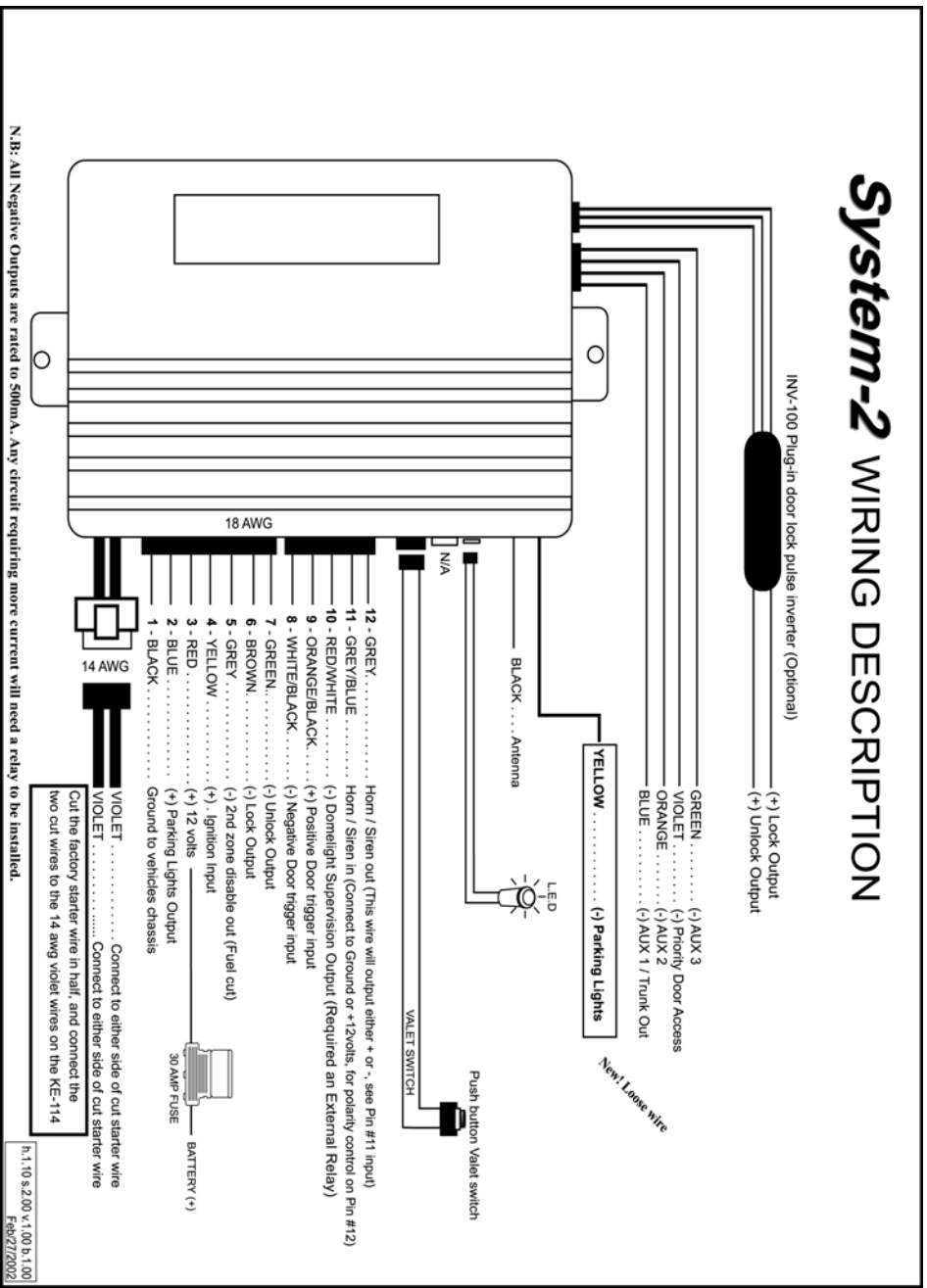
4-PIN HARNESS

WIRE	COLOUR	FUNCTION	DESCRIPTION
1	BLUE	(-) AUX 1	Pulsed output when the TRUNK button of the Transmitter is pressed for 3 sec.
2	ORANGE	(-) AUX 2 (START)	This output can be used to activate a remote starter. It provides ground signal for as long as the START button is pressed.
3	PURPLE	(-) PRIORITY DOOR ACCESS	This wire provides a 1-sec negative output when the UNLOCK button on the Transmitter is pressed for a second time. Can be used as Priority Door Access or Trunk release.
4	GREEN	(-) AUX 3	This output can be used to activate a remote starter. It will give a 1-sec. pulse when the START & LOCK buttons are simultaneously pressed on the Remote Control.

2 LOOSE WIRES

WIRE	COLOUR	FUNCTION	DESCRIPTION
1	BLACK	ANTENNA	N/A
2	YELLOW	(-) PARKING LIGHT OUTPUT	This wire provides a negative output (rated 500 mA) and must be connected on the vehicle to the Parking Light wire testing negative when the light switch is in the ON position.

System-2 WIRING DESCRIPTION



PROGRAMMING A TRANSMITTER

The SYSTEM-2 Transmitter does not come pre-programmed and must be code-learnt after the wiring of the Module is completed. The system can retain up to 4 different Transmitter codes; if a fifth Transmitter is entered, the code of the first Transmitter will be lost from memory. Reset the Module to erase all Transmitter codes from memory.

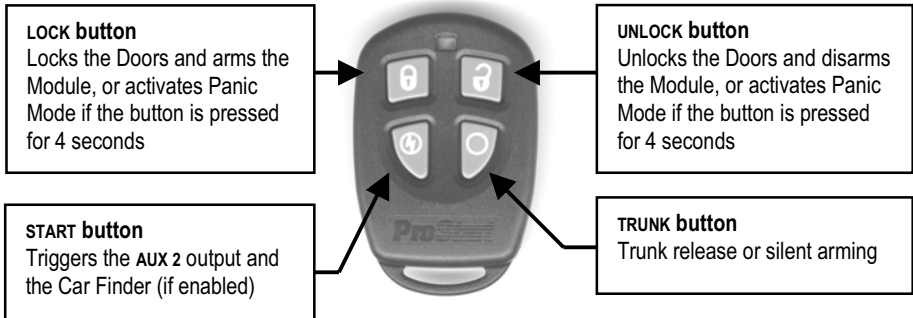
Proceed as follows to program a new Transmitter:

1. Turn the Ignition Key **ON, OFF, ON**.
2. Press and hold down the Valet Button until the Horn or Siren chirps **once**; release the Button.
3. Immediately press and release the Valet Button **2 times** (the Parking Lights will **come on**, then **go out**)
4. Within 2 seconds press the **LOCK** button (the Parking Lights will flash and the Siren will chirp 5 times)

** To program a Transmitter on a second vehicle for Multi-car Operation, press the **TRUNK** button in step 4 instead of **LOCK**.

Note: The system can hold a maximum of 4 Transmitter codes in memory.

TRANSMITTER FUNCTIONS



1. **LOCK button:** locks the Doors and arms the Module (Starter Kill and Alarm), or activates Panic Mode if the button is held down for 4 seconds.
2. **UNLOCK button:** unlocks the Doors and disarms the Module (Starter Kill and Alarm), or activates Panic Mode if the button is held down for 4 seconds.
3. **TRUNK button:**
 - a. To open the Trunk: Press this button **twice** within 3 seconds or hold it down for 3 sec.
 - b. Silent arming or disarming: press the **TRUNK** button **once**, then press the **LOCK** or **UNLOCK** button within 3 seconds to lock or unlock the Doors without chirp.
4. **“START” button:**
 - a. Car Finder: this will cause the Parking Lights to flash and the Horn or Siren to chirp 5 times.
 - b. The button also activates the **AUX 2** output for as long as the button is held down.

Please note:

- Pressing the **LOCK** and **UNLOCK** buttons simultaneously for 4 seconds will remotely toggle the system in or out of Alarm Valet Mode.
- Pressing the **LOCK** and **START** buttons simultaneously will activate the **AUX 3** output.

ALARM VALET OPERATION

The unit can be placed into Alarm Valet Mode to stop alarm conditions or to disable the alarm functions and the anti-theft Starter Kill feature. While a vehicle stands in Alarm Valet Mode, the Door-locking and unlocking functions and Panic Mode are still operational.

Note: the system can be remotely placed in or out of Alarm Valet Mode: it is not necessary to access the vehicle in order to operate the Alarm Valet.

Enabling the Alarm Valet

1. Turn the Ignition Key to the **IGNITION ON (RUN)** position.
2. Within 5 sec. press and hold the Valet Button for **4 seconds**.
3. The Siren will chirp **once** to indicate that the system has entered Alarm Valet Mode.

Note: The LED will **come on** and remain lit to indicate that the Alarm Valet is enabled.

Disabling the Alarm Valet

1. Turn the Ignition Key to the **IGNITION ON (RUN)** position.
2. Within 5 sec. press and hold the Valet Button for **4 seconds**.
3. The Siren will chirp **twice** to indicate that the system has exited Alarm Valet Mode.

Note: The LED will **go out** to indicate that the Alarm Valet is disabled.

REMOTE ALARM VALET OPERATION

The SYSTEM-2 can be placed in or out of Valet Mode through the Remote Control. This means that the user does not have to enter the vehicle or turn the Ignition Key to the **IGNITION ON (RUN)** position to get in or out of Alarm Valet Mode.

To remotely place the system **into** or **out of** Alarm Valet Mode:

- Press and hold down the **LOCK and UNLOCK** buttons simultaneously for 4 seconds on the Transmitter; the system will toggle into (or out of) Valet Mode:
 - When the system **enters** Alarm Valet Mode, the Parking Lights will flash **once**, the Horn (or Siren) will chirp **once** and the LED will **come on and remain lit**.
 - When the system **exits** Alarm Valet Mode, the Parking Lights will flash **twice**, the Horn (or Siren) will chirp **twice** and the LED will **go out**.

PROGRAMMING THE SYSTEM-2

Designed with flexibility and OEM integration in mind, the SYSTEM-2 provides the output flexibility which every good installer is looking for. This unit can be customized and used for almost every possible application.

With the integration of timed and latched **ON / OFF** outputs, this unit can single-handedly control virtually any electrical system in the car.

The SYSTEM-2 system is equipped with four programming menus allowing the installer to custom-fit the outputs of the system according to the requirements of each vehicle.

Proceed as follows to enter Custom Programming Mode:

1. Turn the Ignition Key to the **IGNITION ON (RUN)** position, then to the **OFF** position, then back to the **IGNITION ON (RUN)** position.
2. Within 3 sec. press and hold the Valet Button until the Horn or Siren chirps **once**; continue to hold the Valet Button until you hear **5 chirps**.
3. Now simply select the Mode you wish to access by pressing the **LOCK** button for Mode 1, the **UNLOCK** button for Mode 2, the **LOCK and UNLOCK** buttons simultaneously for Mode 3 or the **TRUNK** button for Mode 4.

4. Once you enter a particular Mode, the system will access the first Function. To turn the Function ON or OFF, press the appropriate button on the Transmitter, as listed in the "Button to press" column of the table below. After you enter your choice, the option will be turned ON or OFF and the Horn or Siren will chirp either 1 or 2 times.
5. After a selection is made the system will automatically move to the next Function.
6. To save the settings and exit Custom Programming, press the LOCK and START buttons simultaneously and turn the Ignition Key to the OFF position.

Table of Programmable Options

The star sign (*) indicates the default value of a Function.

Mode	Function	Button to press	1 Chirp	2 Chirps
1 Press LOCK to enter	Chirp	LOCK	Disabled	Enabled*
	Car Finder	UNLOCK	Disabled	Enabled*
	Ignition LOCK	TRUNK	---	---
START		Enabled (LOCK only)	Enabled (LOCK & UNLOCK)	
2 Press UNLOCK to enter	Keyless Entry or Alarm Mode	LOCK	Keyless Entry*	With Alarm
	Arming	UNLOCK	—	Starter Kill ACTIVE Alarm ACTIVE
		TRUNK	Starter Kill PASSIVE* Alarm PASSIVE	Starter Kill PASSIVE Alarm ACTIVE
	Locking	START	ACTIVE*	PASSIVE (If Starter Kill is passive)
3 Press LOCK & UNLOCK to enter	LOCK Pulse	LOCK	3/4 sec. *	3.5 sec. (UNLOCK = 3.5 sec.)
	UNLOCK Pulse	UNLOCK	3/4 sec. *	1/4 sec. ON 1/4 sec. OFF 1/4 sec. ON
	AUX 1	TRUNK	TRUNK signal* (1-sec. pulse)	Latched ON/OFF
	Siren Type	START	Horn Mode*	Siren Mode
4 Press TRUNK to enter	Duration of Dome Light Delay	TRUNK	15 seconds* Operates only if the Alarm is enabled – see Mode 2	40 seconds Operates only if the Alarm is enabled – see Mode 2

Installation-programmable features

Use the table of programming options (above) to configure the SYSTEM-2 to the specific needs of the user.

The programmable features are as follows:

1. HORN OR SIREN OUTPUT
 - The system can be programmed to control either the Horn or an external high-power Siren.
 - Programmable HORN CHIRP DURATION from 10 ms up to 100 ms if the Horn output is selected.
2. IGNITION-CONTROLLED DOOR LOCKS
 - **ON** by default, this feature will **LOCK** all Doors of the vehicle 5 sec. after the Ignition Key is turned to the **IGNITION ON (RUN)** position. The unit will **UNLOCK** all Doors when the Ignition Key is turned back to the **OFF** position.
3. PASSIVE OR ACTIVE ARMING
 - (Passive with 1-min. time-out by default.) The alarm system on this unit can be set to Active Mode (in which case it **will not arm** automatically) or to Passive Mode (in which case it **will arm** automatically after the expiration of a 1-min. delay).
4. DOOR-LOCK PULSE DURATION
 - (3/4-sec. **LOCK** and 3/4-sec. **UNLOCK** pulses by default.) This system can be programmed to give either 3.5-sec. **LOCK /UNLOCK** pulses (used to control vacuum Door-lock system, for instance on Mercedes) or single 3/4-sec. **LOCK** with double 1/4-sec. **UNLOCK** pulses (this is used for double-pulse disarm/unlock systems, as on the Maxima, Pathfinder, and Volkswagen...)
5. HORN CHIRP DURATION
 - This feature allows you to configure the duration of the Horn chirps generated by the system. The Horn Chirp Duration can be set to any length between 10 ms and 100 ms.
6. DURATION OF DOME-LIGHT DELAY
 - This feature allows you to configure the length of the delay during which the SYSTEM-2 will wait for the Dome Light to go out before it checks for open Doors and warns the user accordingly.
Note that the duration of the Dome Light Delay can only be configured if the Alarm is enabled in Mode 2, first Function.

Horn Chirp Duration Adjustment

The default Horn Chirp Duration is 25 ms. If the user requires this parameter to be changed, you can configure the Horn Chirp Duration by following these steps:

1. Turn the Ignition Key to the **IGNITION ON (RUN)** position, then to the **OFF** position, then back to the **IGNITION ON (RUN)** position.
2. Within 3 sec. press and hold the Valet Button until the Horn or Siren chirps **once**; continue to hold the Valet Button down until you hear **5 chirps**.
3. Press the **TRUNK** Button to enter Horn Chirp Duration Adjustment.
4. Proceed as follows to change the Horn Chirp Duration:
 - a. Every time you press the **LOCK** button, the system will **increase** the duration by 5 ms. When Horn Chirp Duration reaches its maximum value (100 ms) the Horn will chirp 3 times.
 - b. Every time you press the **UNLOCK** button, the system will **decrease** the duration by 5 ms. When Horn Chirp Duration reaches its minimum value (10 ms), the Horn will chirp 3 times.
5. To save the settings and exit Horn Chirp Duration Adjustment, press the **LOCK** and **START** buttons simultaneously, then turn the Ignition Key to the **OFF** position.

Note: as a rule, you will hear only one chirp as you adjust Horn Chirp Duration. Nevertheless you will hear three chirps if either the minimum value (10 ms) or maximum value (100 ms) is reached.

Duration of Dome Light Delay.

When the user closes the Doors and arms the vehicle, the SYSTEM-2 Module checks the Dome Light to detect whether a Door has been left open. If the Dome Light is on, the module gives three chirps to warn the user that a Door has been left open.

The Module may be adapted to vehicles on which the Dome Light remains lit for a certain time after Door closure: the Module will wait for the Dome Light to go out before proceeding to the verification. The length of this delay can be configured on the SYSTEM-2 using Mode 4 in Custom Programming. Dome Light Delay duration can be set to either 15 or 40 seconds.

Zone 2 Disable Output

The SYSTEM-2 is equipped with a Zone-2 disable output that can be used to immobilize the vehicle when the system is armed. Zone-2 Disable operates in addition to the built-in Starter Kill.

The unit will give a negative output when the system is **armed** (locked by remote); this wire can therefore control an external relay to interrupt the Fuel Pump or the Ignition.

The output can be configured to **Passive Mode** (to arm automatically) with a 1-minute timeout; or to **Active Mode** (in which case it must be armed by the user).

Note: Installation of 2nd-zone Disable requires an external relay (**not included!**).

MULTI-CAR OPERATION

The SYSTEM-2 system features Multi-Car operation. This allows the user to control two vehicles using a single Transmitter. (Both vehicles must be equipped with a SYSTEM-2.)

The Transmitter of the primary vehicle can control the Starter Kill system, the Door locks and Trunk of the second vehicle. The Transmitter of the second vehicle can also operate the primary vehicle

To program a Transmitter with a second vehicle for Multi-car Operation, you must press the **TRUNK button on the Transmitter in step 4 of Transmitter code-learning procedure (see page 7).*

RESETTING THE MODULE

The SYSTEM-2 system is equipped with a reset function that allows the installer to erase all Transmitter codes and return all programming options to their factory-default values.

To reset the module:

1. Turn the Ignition Key **ON** and **OFF** three times (**ON, OFF, ON, OFF, ON**).
2. Press the Valet Button and hold it down until you hear **one chirp**, then release the Valet Button.
3. Immediately press and release the Valet Button **4 times**.
4. The Parking Lights will flash **8 times** upon reset.

Note: After a reset has been performed, the system will set all options back to their default values (see the *Table of Programmable Options for default values*) and all Transmitters will have to be learnt again.

DIAGNOSTICS - PARKING LIGHTS FLASH RATE

FLASHES & CHIRPS	RATE	DESCRIPTION
1	Quick	The Module has entered Alarm Valet Mode
1	Quick	Doors locked by remote, system armed (Starter Kill, Alarm)
2	Quick	The Module has exited Alarm Valet Mode
2	Quick	Doors Unlocked by remote, Module disarmed (Starter Kill, Alarm) (Dome light ON)
5	Quick	New Transmitter learnt
5	Quick	Car Finder
8	Quick	Unit Reset: Occurs when the unit is reset to its factory-default values

CLOSING UP

Use tie wraps or screws to properly secure the starter module, and keep the wiring away from any moving parts such as the Parking Brake or the Steering Column Shafts. Mount all switches in good accessible locations where they do not risk being hit accidentally.

Take the time to properly explain all functions and features to the customer before they leave the premises. Most comebacks are the result of misunderstandings about how a product works or performs. Doing this will save time and money.

Always make all your connections before plugging in the module and be sure to test all functions properly before closing up the installation.