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All products for warranty repair must be sent postage prepaid to Omega Research & Development, Inc., P.O. Box 508, Douglasville, Georgia 30133, or send via UPS to: 981 N. Burnt Hickory Rd., Douglasville, Georgia 30134, with bill of sale or other dated proof of purchase. This warranty is nontransferable and does not ap cal misuse or abuse, i intended function, u God.

This w cement of the product. nstallation charges, da idental or consequent product to function p **LD THIS WARRAN STRUED AS A GU/ OSS.** The Company n make any warranties or assume any liability in connection with the sale, installation, or use of this product.

BACK COVER PRINTER'S NOTE: production back cover is color; this is a place marker cover.

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

The manufacturer is not responsible for any radio TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

Omega Research and Development, Inc.
P. O. Box 508
Douglasville, Georgia 30133
www.caralarm.com

07/05 MO-AL-2000-E

Excalibur

AL-2000-E

OPERATION MANUAL

FRONT COVER PRINTER'S NOTE: production front cover is color; this is a place marker cover.

INSIDE FRONT COVER

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INSIDE BACK COVER

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#	FEATURE	DEFAULT SETTING
1	SecureCode	1 & 0 (see page XX)
2	Last Door Arming	OFF (UNLOCK)
3	Automatic Rearming	OFF (UNLOCK)
4	Starter Interrupt Circuit	ON (LOCK)
5	Automatic Starter Interrupt	OFF (UNLOCK)
6	Ignition Activated Override	OFF (UNLOCK)
7	Doors Lock With Last Door Arming	OFF (UNLOCK)
8	Doors Lock With Automatic Rearming	OFF (UNLOCK)
9	Doors Lock With Ignition	ON (LOCK)
10	Ignition OFF Unlock #1	ON (LOCK)
11	Ignition OFF Unlock #2	ON (LOCK)
12	Open Door Bypass To Previous Three Features	ON (LOCK)
13	Confirmation Chirps	ON (LOCK)
14	Confirmation Chirps In Valet Mode	OFF (UNLOCK)
15	Activated Alarm Cycle	60 Seconds (LOCK)
16	Lights On Upon Disarm	ON (LOCK)
17	Disarm Alarm Upon Trunk Release	ON (LOCK)
18	Doorlock Pulse Time	.8 second (LOCK)
19	Double Unlock Pulse	OFF (UNLOCK)
20	Arming Delay	3 Seconds (LOCK)
21	Pulsed Horn / Steady Siren Output	Steady Siren (UNLOCK)
22	Horn Confirmation Chirp Volume	Medium Loud (II)
23	Total Closure Lock Output	OFF (UNLOCK)
24	Alarm Functions Bypass	OFF (UNLOCK)
25	Ignition Activated Anti-Carjacking Protection	OFF (UNLOCK)
26	Door Activated Anti-Carjacking Protection	OFF (UNLOCK)
27	Remote Activated Anti-Carjacking Protection	OFF (UNLOCK)
28	Open Door Warning Upon Arming	OFF (UNLOCK)
29	III Button Operates "Panic" or 3rd Channel Output	Panic (LOCK)
30	Remote Start Run Time 10 or 20 Minutes	10 Minutes (UNLOCK)
31	Steady / Flashing Lights During Remote Start	Steady (LOCK)
32	Gasoline or Diesel Engine	Gasoline (LOCK)
33	Extended Starter Cranking Time	Minimum (LOCK)
34	“Tach Wire” or “Tachless “ Starter Operation	“Tachless” (LOCK)
35	Manual Transmission Remote Starting	OFF (UNLOCK)
36	Turbo Timer	OFF (UNLOCK)

This Booklet Contains

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

The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

One or more of these patents may apply to this product:
#5,612,669 #5,654,688 #5,663,704 #5,729,191 #5,818,329 #5,612,578 #5,739,747 #382,558 #385,878 #5,750,942 #5,739,748 #5,719,551 #406,107 #701,285 #5,973,592 #5,982,277 #5,986,571 #6,011,460 #6,037,859 #6,049,268 #6,130,605 #6,130,606 #6,140,938 #6,140,939 #6,150,926 #6,144,315 #6,184,780 #6,188,326 #6,243,004 #6,249,216 #6,275,147 #6,297,731 #6,320,514 #6,320,498 Foreign Patent #199700312 #EP0817734B1 #98906445.6 #2,320,248 #701,285

Feature #36 Turbo Timer

(Factory Default Setting Off)

This feature, described on page XX, when turned on configures the AL-2000-E to automatically keep the engine running for 2 minutes after it is turned off. This operation is designed specifically for vehicles having turbocharged engines (the user may temporarily bypass the feature if desired). **This feature should only be programmed by the installer**, and the operation of this feature depends on the correct connection of the safety wire to the vehicle's parking brake. Please refer to the Installation Instructions manual for proper connection of this wire.

Features Programming Checklist

Before attempting feature programming, please carefully read pages 28-29 for the entire features programming instructions, and also see the detailed explanation of each programmable feature, which may be found on pages 29 through 37. To program features, follow these steps:

Step 1 - Turn the ignition "off", and press the Valet Switch 5 times.
(the system will respond by briefly sounding the siren)

Step 2 - Press the Valet Switch the same number of times as the feature number.
(the system will acknowledge the Valet Switch entry by repeating the same number of chirps)

Step 3 - Press the transmitter's "**arm/lock**" button to turn the feature"on", or press the "**disarm/unlock**" button to turn the feature "off". (turning the feature "on" is indicated by one siren chirp; turning the feature "off" is indicated by two siren chirps)

Repeat - Steps 2 and 3 for each feature to be changed

When this feature is programmed, the controller or transmitter buttons can configure the base starter timing periods as follows:

"**arm/lock**" button	=	minimum (.7 second)	(one siren chirp)
"**disarm/unlock**" button	=	low medium (1.25 seconds)	(two siren chirps)
"**II**" button	=	high medium (1.75 seconds)	(three siren chirps)
"**III**" button	=	maximum (2.5 seconds)	(four siren chirps)

Note: "Base timing" is the maximum time period that the AL-2000-E will engage the starter, but only if it does not detect the engine has started running.

Feature #34 "Tach Wire" or "Tachless" Starter Operation

(Factory Default Setting Tachless)

This feature selects the AL-2000-E processor's method of determining the status of the engine running during remote start operation. As explained in the previous feature's description, "Tachless" mode has an associated base starter output time duration. However, if the voltage fluctuation is detectable, the processor adjusts the starter output time accordingly. When this feature is set for "Tach Wire" operation, the base starter output increases to 3 seconds, but the processor adjusts the actual starter engagement time accordingly. Connecting and use of the "Tach Wire" is the most reliable form of engine running information input, and its use is recommended. **This feature should only be programmed by the installer**.

Before this feature is programmed, please refer to the "Installation Manual" for proper wiring connection and the Tach Learning Procedure, both of which are required for use of this feature. When program the feature itself, press the controller or transmitter "**arm/lock**" button to configure the system for Tachless operation (the siren will chirp once) or the "**disarm/unlock**" button to configure the system for Tach Wire operation (the siren will chirp twice).

Feature #35 Stick Shift Remote Starting

(Factory Default Setting Off)

This feature changes the parameters of the AL-2000-E's remote start operation to be suitable for manual transmission-equipped vehicles via a "setup" procedure which must be followed upon exiting the vehicle. When this feature is turned on, the operator must set the parking brake and then press the controller or transmitter's "**arm/lock**" and "**disarm/unlock**" buttons at the same time, which keeps the engine running after removing the ignition key. After exiting, the user must then arm the system, locking the vehicle doors, by pressing the "**arm/lock**" button. Only after this is done will the system accept a remote start command, and the vehicle must remain undisturbed until that point. The complete instructions for remote starting, including Stick Shift Remote Starting, starts on page 14.

This feature should only be programmed by the installer, and the operation of this feature depends on the correct connection of the safety wire to the vehicle's parking brake. Please refer to the Installation Instructions manual for proper connection of this wire.

Introduction to the System

Congratulations for your choice of a new Excalibur vehicle security and convenience system by Omega Research and Development. You will find that your new system will give you years of trouble-free convenience and protection. To learn how to operate your system, please take a few moments to become familiar with the principal user components, and the basic operation of the system.

One of the components, typically mounted on the windshield, is the **Window Unit** module which contains the **Status Lights** and the **Valet Switch**. The window unit also receives and transmits the Echo technology communications for the system's 2-way operation.

The multicolored Status Lights report the operational status of the system at all times, and also serves as a visual deterrent to break-ins and theft. Specific description of the Status Light operation may be found on pages 20-22.

The Valet Switch has three main functions:

- The Valet Switch can be used to turn off the security functions, including any automatic arming or locking features (if used), and/or remote engine starting functions of the system. The former is "Alarm Valet Mode"; the later is "Starting Valet Mode" .
- The Valet Switch can also be used, in conjunction with the vehicle's ignition key, to perform an emergency disarming of the security system in the event the transmitter or transceiver is lost or becomes inoperable. This is referred to as "performing an Emergency Override".
- The Valet Switch is used in the procedure of programming operational features and also for encoding transmitters and transceivers to the system.

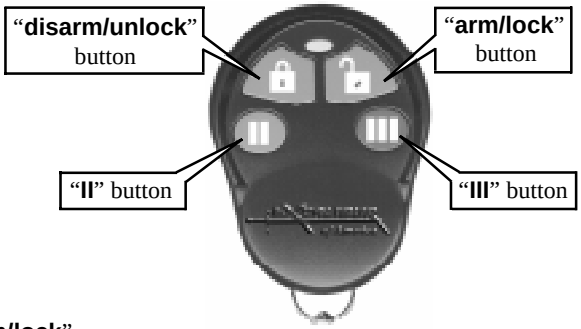
A complete description of the Valet Switch and its operations is on pages 18-19.

The system can operated by two types of devices: the **2-Way Controller** and the **1-Way Transmitter**. Your system comes with one of each of these, pre-learned to operate the system. The controller, in addition to operating your system, also receives signals from the system, and displays a variety of system conditions on its LCD screen. This is the patented Echo 2-way technology. The transmitter will fully operate the system, but it can not receive signals nor report events from the vehicle. Your system can be operated by as many as four controllers and/or transmitters.

The controller and the transmitter both share the same four operational buttons, and their use to operate the Excalibur system is the same. These buttons and a brief description of what they do are:

The 2-Way Controller

The 1-Way Transmitter



"**arm/lock**"

- Pressing and releasing the "**arm/lock**" button arms the security system and locks the doors.
- Pressing and holding this button for three seconds will first arm, and then activate the Panic feature, locking the doors.

"**disarm/unlock**"

- Pressing and releasing the "**disarm/unlock**" button disarms the system and unlocks the doors unless the alarm is triggered, in which case it will disarm the activated alarm, and unlock the doors unless "**disarm/unlock**" is pressed again.
- Pressing and holding this button for three seconds will first disarm, and then activate the Panic feature, unlocking the doors.
- The unlock operation may be optionally configured during the system's installation so that pressing this button once disarms the system and unlocks only the driver's door, and pressing a second time unlocks all of the doors.

- Pressing the "**arm/lock**" and "**disarm/unlock**" buttons together activates the remote starting feature of the Excalibur AL-2000-E.

Feature #30 Remote Start Run Time 10 Or 20 Minutes

(Factory Default Setting 10 Minutes)

This feature sets the period of time that the engine will run after being remotely started. If the engine is not stopped by controller/transmitter command or a safety circuit violation, the engine will automatically stop upon the expiration of the selected time period.

When programming this feature, press the controller or transmitter "**arm/lock**" button to configure the system for 20 minute remote start engine run time (the siren will chirp once) or the "**disarm/unlock**" button to configure the system for 10 minute run time (the siren will chirp twice).

Feature #31 Steady/Flashing Lights During Remote Start

(Factory Default Setting Steady)

This Feature configures the system's operation of the vehicle's parking lights when the engine is running after it has been remotely started. The factory default setting has the parking lights illuminating steady during the engine run time; the other setting flashes the parking lights on and off during the engine run time.

When programming this feature, press the controller or transmitter "**arm/lock**" button to configure the system for steady parking lights (the siren will chirp once) or the "**disarm/unlock**" button to configure the system for flashing parking lights (the siren will chirp twice).

Feature #32 Gasoline Or Diesel Engine

(Factory Default Setting Gasoline)

This feature changes the system's timing of the ignition and starter output sequence for remotely starting vehicles with a diesel engine. **This feature should only be programmed by the installer**.

When programming this feature, press the controller or transmitter "**arm/lock**" button to configure the system for gasoline engines (the siren will chirp once) or the "**disarm/unlock**" button to configure the system for diesel engines (the siren will chirp twice).

Feature #33 Extended Starter Cranking Time

(Factory Default Setting Minimum)

Extended Starter Cranking Time operates in conjunction with the next feature's "Tachless" setting. The AL-2000-E processor is capable of detecting the running engine by two separate methods- the use of the vehicle's tachometer ("tach") wire for a direct engine RPM input, or by monitoring the vehicle's fluctuating voltage levels caused by the starting process. This feature sets the duration of the starter output's base timing for the voltage sensing type of starter output operation. There are four different base starter output settings. While the default-set minimum is sufficient for most vehicles; the Extended Starter Cranking Time can be used for difficult-to-start engines. **This feature should only be programmed by the installer**.

second pulse to be a 28 second duration output. **Note:** When this feature is turned on, during the 28 second period after arming the system, should either Upper Button be pressed, "Lock" or "Unlock", only the system's lock output will be stopped. Pressing either button again will normally operate the system, and at any time after the 28 second lock output period ends.

Feature #24 Alarm Functions Bypass (Factory Default Setting Off)

This feature converts the system into a strictly Remote Keyless Entry System by eliminating all antitheft alarm-oriented operations and features. When this feature is programmed on, the AL-2000-E has remote keyless entry operation only.

Feature #25 Ignition Activated Anti-Carjacking Protection

(Factory Default Setting Off)

This form of Anti-Carjacking is initiated by the ignition key being turned on. The Anti-Carjacking protection, and the three ways to initiate it are described on pages 25-26.

Feature #26 Door Activated Anti-Carjacking Protection

(Factory Default Setting Off)

This form of Anti-Carjacking is initiated by a door being opened. The Anti-Carjacking protection, and the three ways to initiate it are described on pages 25-26.

Feature #27 Remote Activated Anti-Carjacking Protection

(Factory Default Setting Off)

This form of Anti-Carjacking is initiated by a signal from the controller or transmitter. The Anti-Carjacking protection, and the three ways to initiate it are described on pages 25-26.

Feature #24 Open Door Warning Upon Arming

(Factory Default Setting OFF)

When this feature is turned on, if one of the vehicle's doors is open when the system is armed via the controller or transmitter, the siren will chirp 3 times and the parking lights will flash 3 times instead of once.

Feature #29 "III" Button Operates Panic or 3rd Channel

(Factory Default Setting "Panic")

This feature changes how the transmitter operates the remote Panic feature and the 3rd channel output. When this feature is in its optional setting, pressing the transmitter's "**III**" button for 1 second will operate the 3rd channel output. Panic can still be operated, by the alternative methods of pressing either the "**arm/lock**" and "**disarm/unlock**" button for 3 seconds. Also, Panic moves to "**II**" and "**III**" buttons pressed together when this feature is utilized to operate 3rd Channel from the "**III**" button.

When programming this feature, press and release the transmitter's "**disarm/unlock**" button to have the "**III**" button operate the 3rd channel output; or, press the "**arm/lock**" button to have it operate remote Panic.

"**II**" or "**:**"

- Pressing the "**II**" button for two seconds can be used to activate an extra output, known as the "2nd channel", for an optional function such as trunk release.
- Pressing and releasing this button twice arms or disarms the system without the confirmation chirps.
- Pressing this button immediately after arming will leave the alarm armed, but with the shock sensor feature bypassed.

"**III**" or "**:**"

- Pressing and holding the "**III**" button for 3 seconds will activate the Panic feature, but without locking or unlocking the doors. is multi-functional-
- The "**III**" button can be reprogrammed so that it can operate an additional 3rd channel output, instead of operating Panic.
- Pressing the "**II**" and "**III**" buttons together operates the 3rd channel output.

"**P**" on the controller only.

- The controller has a fifth button, "**P**", which will illuminate the LCD screen when pressed. This is also the "Programming" button; it is used to customize controller operations, which is explained on pages 24-25.

The "Echo" operation of the AL-2000-E the 2-Way Controller receiving and reacting to signals from the system in the vehicle, is included in the following general system operation descriptions, and the icons and programming are detailed on pages 22-25.

Using the Excalibur System

Your Excalibur system is designed to deter theft of both your vehicle and its contents. **"Arming"** your system turns on its protection, disabling the vehicle's starter and locking the doors. Once the system is **Armed**, any intrusion attempt will **Activate** it, sounding the electronic "Psyren" psycho siren and flashing the parking and interior lights to attract attention. The unique and patented "2-in-1" Psyren psycho siren actually produces the sounds of two different sirens at once, ensuring that it won't be ignored like all of the other "common" car alarms. **Disarming** the system turns off the protection, unlocking the doors and turning on the parking and interior lights, allowing lighted access to, and normal use of, the vehicle.

There are two methods of arming the Excalibur:

1- The first method is to use the controller* or transmitter, by pressing and releasing the "**arm/lock**" button. The system must not already be armed or be in Valet Mode, and the vehicle's ignition key must be off.

2- The second method is Last Door Arming, which configures the system to automatically arm itself every time you exit the vehicle. This method of arming is programmable, and may be used or not used as desired.

Regardless of how it became armed, if the system is armed the window unit's Status Light flashes in the red color.

*If the controller is used to operate the system, it will receive a signal back and confirm that the operation was performed.

Arming Using the Controller or Transmitter

The system can always be armed from the controller or transmitter, if the ignition key is "off" and the system is not in the Valet Mode. To arm the system, exit the vehicle, close all of the doors, and simply **press and release the "arm/lock" button once**.

The system's reaction: The parking and interior lights will flash once, the siren will chirp once and the Status Light will begin to flash red, confirming that the system is armed. In addition, the doors will lock and the starter interrupt will engage to prevent any attempt to start the vehicle. Your security system is now fully armed, and is ready to respond if an intrusion attempt is detected.

If the controller was used: Immediately after the system responds the controller will chirp twice (or four times if a zone is bypassed), the "ARM" icon will appear, the "locked lock" icon appears, confirming that doors have locked, and the number of operating transmitters or transceivers is briefly displayed.

The Excalibur system's separate "**arm/lock**" and "**disarm/unlock**" button design allows repetitive operation- if already armed, pressing the "**arm/lock**"

Feature #20 3 or 45 Second Arming Delay (Factory Default Setting 3 Second)

When the system is armed, whether by the controller, transmitter or automatically, there is a brief period of time in which a system activation cannot occur. This allows the system to completely process the arming operations, and the vehicle to stabilize. In some cases more time is needed than the factory-set 3 seconds. This feature offers a longer 45 second delay. When programming, press the transmitter's "**arm/lock**" button to select the 3 second setting; or press the "**disarm/unlock**" button to configure the 45 second setting.

Feature #21 Steady Siren or Pulsed Horn (Factory Default Setting Steady Siren)

It is possible to utilize the vehicle's existing horn for the audible part of the system's operation. This feature changes the audible output of the system from the steady output required by the electronic siren to a pulsed output which is suitable for operating the horn. When programming, press the transmitter's "**arm/lock**" button to select the Pulsed Horn setting; or press the "**disarm/unlock**" button will configure the Steady Siren setting.

Feature #22 Confirmation Chirp Volume (Factory Default Setting Medium Loud)

This feature allows the choice of four different volume levels of the system's confirmation chirps. This feature operates regardless of the previous feature's "Steady Siren" or "Pulsed Horn" setting. All four controller or transmitter buttons are used to program the four different levels, shown as follows:

"**arm/lock**" button	=	lowest volume chirp	(one chirp)
"**disarm/unlock**" button	=	medium low volume chirp	(two chirps)
"**II**" button	=	medium high volume chirp	(three chirps)
"**III**" button	=	highest volume chirp	(four chirps)

While programming this feature, the buttons can be repeatedly and sequentially pressed, thus making it easy to hear and choose the setting with the best chirp volume.

Feature #23 Total Closure Lock Output (Factory Default Setting OFF)

This is another installation-related feature, provided for the installer's use only. Should the vehicle have an existing "Total Closure" feature, this programmable feature gives the installer the option of configuring the Excalibur to operate this feature. Typically, on vehicles having total closure, when locking the vehicle's doors if the key in the door is held to "lock" for a period of time the vehicle will close all windows and the sunroof, in addition to locking the doors. Should your vehicle be equipped with this operation, please inquire with the installer if it is possible to interface the Excalibur with the vehicle's total closure operation.

Turning this feature on changes the system's door lock output pulse from a .75

Feature #14 Confirmation Chirps in Valet Mode (Factory Default Setting Off)

While the system is in the Valet Mode, the controller or transmitter will still remotely lock and unlock the vehicle's doors. This feature adds the confirmation siren chirps if the transmitter is used to lock or unlock the doors while the system is in Valet Mode.

Feature #15 30 or 60 Second Alarm Duration (Factory Default Setting 30 Seconds)

This feature allows the choice of a 30 or 60 second Alarm Duration, which is the system triggering, or activating, sounding the siren, flashing the parking lights and locking the doors. When programming, pressing the controller or transmitter "**arm/lock**" button will select the 60 second setting; pressing the "**disarm/unlock**" button will configure the 30 second setting.

Feature #16 Parking Light Illumination Upon Disarm (Factory Default Setting On)

This feature affects the parking light operation when the system is disarmed. When this feature is turned on, the parking lights flash once, and then light continuously for external illumination for 30 seconds unless the ignition key is turned on during that time. If this feature is turned off, the parking lights flash once only, and do not illuminate. This feature only affects the Excalibur's parking light operation, and not the interior light operation.

Feature #17 2nd Channel Also Disarms System (Factory Default Setting On)

"2nd channel" is most commonly used to remotely open the vehicle's trunk, in which case the alarm should also disarm. This feature, turned on, configures the system to disarm when the 2nd channel is used. If turned off, the 2nd channel output will still occur, with 2 chirps, but no light flashes and the alarm will not disarm.

Feature #18 Doorlock Pulse Time (Factory Default .8 Second)

This feature, for the installer's use, offers the selection of a .8 second or a 3 second pulse duration of the system's doorlock outputs. Certain vehicles have power doorlocking systems which are vacuum operated, and thus require a longer output pulse from the system's control unit. While use of this feature is determined by the type of vehicle the system is installed in, this feature does save the owners of such vehicles the added expense of a special adapter.

Feature #19 Double Unlock Pulse (Factory Default Setting OFF)

This feature is for certain installation-related issues pertaining to the vehicle itself, and are provided for the installer's use only. Some newer vehicles require a double pulse output wiring connection to remotely unlock the doors and/or to disarm a factory-equipped security system, which is what this feature provides.

button will simply rearm the system, and vice versa when pressing the "**disarm/unlock**" button. Controllers and transmitters both operate in this fashion.

Arming Bypass: Upon arming, if any system sensing circuit is inoperable, that circuit only will automatically be bypassed. When an unsecured sensing circuit is in a bypassed state, all other normally operating circuits will be protected. Should the bypassed circuit become secured, it will automatically be reinstated for protection 5 seconds later. When certain protection circuits are bypassed, such as the hood/trunk and impact sensor, and the system is armed, it will indicate this by chirping the siren three time and flashing the parking lights three times instead of the normal arming indication of one chirp and one flash.

For example, should the trunk be open, you can still arm the system with the transmitter, and in this case the arming indicator will be 3 siren chirps and 3 parking light flashes. Arming Bypass will only operate when arming the system with the transmitter.

If the controller was used for the arming, it will chirp three times instead of the normal one time, and its display will also flash the icon of the zone which is bypassed.

Sensor Bypass: When arming the Excalibur system with the controller or transmitter, you may conveniently and easily temporarily deactivate the impact sensor without affecting the system's other sensing circuits. To deactivate the sensor, arm the system by pressing the "**arm/lock**" button, then press and release the transmitter's "**ll**" button within three seconds. You will hear a second siren chirp confirming that the security system has armed without the sensor protecting the vehicle. The next time the system is armed normally with one "**arm/lock**" button press, the sensor will again be part of your protection.

If the controller is used for the arming and then bypassing the sensor, let it confirm the arming, then press the "**ll**" button. The controller will then chirp twice and turn on its "Impact" icons to indicate the bypassed sensor.

Automatic "Last Door Arming" of the System

The Excalibur can also be programmed to automatically arm itself, and in this process, to lock or not lock the doors. When this feature is utilized, closing the vehicle's last door will cause the siren to chirp once, the parking and interior lights to flash once and the Status Light to start rapidly flashing red. Thirty seconds later the siren will chirp again and the lights will flash again, the doors will lock (which is separately programmable) and the Status Light will slow to a steady red flash, confirming that the security system is fully armed. If a point of entry is reopened before the single siren chirp at 30 seconds, the Last Door Arming process stops, and will reset to start over when the point of entry is again closed. All protected entries must be closed to initiate the Last Door Arming sequence.

To temporarily prevent the system from automatically Last Door Arming, you have these options: put the system in Valet Mode (pages 18-19), leave the door open, or, in most cases turning on the dome light may cause the system to detect that your door is still open. Leaving the ignition key turned "on" is not recommended.

Last Door Arming offers a high level of security, since you do not have to remember to arm the security system every time you leave the vehicle, and using it may entitle you to an insurance discount (please check with your agent or carrier).

While the System is Armed, and should it Trigger

While the security system is armed, the Status Light is always flashing red in color. Should any intrusion attempt be detected, the system will instantly activate, or "trigger". Once triggered, the Excalibur loudly sounds the siren and flashes the parking and interior lights on and off.

When it is first triggered, the Status Light changes its red flash pattern, and the doors will automatically relock. Should a door be open when the system triggers, it will wait until the door is closed, and at that time relock the doors. The automatic relocking of the doors denies access to the thief, and is just one of the many exclusive patented features of the Excalibur. The siren will sound and the parking and interior lights will flash for 60 seconds unless you disarm the system first (30 seconds, instead of 60, is a programmable option). If all protected entries are secure at the end of 60 seconds, the system will stop and rearm itself, ready to detect further entry attempts. If there is a protected entry still open or the impact sensor still in a violated state at the end of 60 seconds, the system will reactivate for two more 60 second cycles. In this case the system will stop after a total of 3 cycles and rearm automatically, and then ignore only the open entry or violated sensor. When the entry is closed or the sensor is reset, protection will begin instantly for the formerly affected circuit.

Anytime the security system triggers, the Status Light will indicate which protected zone triggered the system by flashing two, three or four times between pauses, in the red color which indicates “alarm” operations. This “Zone Violation” code will continue to flash, even after disarming. The system can hold two different violation codes in it's memory, which is cleared by turning the ignition switch "on". Once the Excalibur has been activated and reset, the disarming confirmation changes to make the user aware that it has done so.

How the controller reacts: If the controller was previously used to arm or operate the system, it will react to an alarm activation, provided it is within range of the system. Upon receiving a signal from the activated system, the controller will start chirping, and an icon will start flashing, indicating which protected zone’s violation caused the system’s alarm condition.

The controller continue will continue the chirping for 15 seconds, or until any of its buttons is pressed. Which button being pressed has these effects upon the

the Last Door Arming operation. If this feature is added to feature #4, when the system becomes armed 30 seconds after closing the last door the doors will also lock. This feature will operate only if feature #2 is turned on.

Feature #8 Doors Lock With Automatic Rearming (Factory Default Setting Off)

This feature adds the automatic locking of the doors to feature #5, Automatic Rearming. If this feature is turned on, the doors will lock when the system rearms itself 90 seconds after being disarmed by the transmitter. Feature #6 must be turned on for this feature to operate.

Feature #9 Doors Lock With Ignition On (Factory Default Setting On)

This feature configures the system to automatically lock the vehicle’s doors every time that the ignition switch is turned on. An exception to this would be if feature #12 is turned on, and a door being open when the ignition switch is turned on. The two following features, #10 and #11, control the automatic unlocking operation.

Feature #10 Ignition Off Unlock #1 (Factory Default Setting On)

This feature configures the system to automatically unlock the vehicle’s doors every time that the ignition switch is turned off. An exception to this would be if feature #12 is turned on, and a door being open when the ignition switch is turned off. If the system is installed without the Driver’s Door Priority unlock interface, this feature unlocks all of the doors when the ignition switch is turned off. If Driver’s Door Priority is installed, this feature controls the driver’s door only, and the following feature will control the automatic unlocking of the other doors.

Feature #11 Ignition Off Unlock #2 (Factory Default Setting On)

Explained in the previous feature, this feature controls the automatic unlocking of all doors except the driver’s door if Driver’s Door Priority is installed.

Feature #12 Open Door Bypass of Ignition Locking (Factory Default Setting On)

This feature cancels the automatic locking or unlocking of the vehicle’s doors should one of the doors is open when the ignition switch is turned on or off.

Feature #13 Confirmation Chirps (Factory Default Setting On)

This feature removes the system’s 1 arming and 2 disarming confirmation chirps. When this feature is used to remove these chirps, the system will still have 3 chirps upon arming if a protected zone is violated, and still have 4 chirps upon disarming if the system was previously activated. Using this feature to turn off the arm and disarming chirps will also not affect the Prewarning operation, Unauthorized Transmitter Alert, nor will it affect the chirps used when programming.

system, after the final button press, to chirp the siren again the total number of times that the button was pressed.

Step 4 Continue to configure stage 2 of the SecureCode by now pressing and releasing the "**disarm/unlock**" button the number of times desired for the stage 2. This should be done in the exact same fashion as the stage 1 entry- press the "**disarm/unlock**" button, wait for a single chirp before pressing the button again, and then when final button press is done, wait after the single chirp for the siren to chirp the total number entered Valet Switch entry.

Feature #2 Last Door Arming (Factory Default Setting Off)

"Last Door Arming" has the system automatically arm itself every time you exit the vehicle (the complete operation is described on pages 9-10). This feature turns that operation on or off.

Feature #3 Automatic Rearming (Factory Default Setting Off)

"Automatic Rearming", described on page 12, prevents the system from becoming accidentally disarmed.

Feature #4 Starter Interrupt Circuit (Factory Default Setting On)

This feature controls the Starter Interrupt circuit. Programming this feature off completely eliminates the Starter Interrupt output, while leaving all other system operations fully functional.

Feature #5 Automatic Starter Interrupt (Factory Default Setting Off)

Turning on this feature will cause the Starter Interrupt output to automatically engage 90 seconds after the ignition switch is turned "off", and also 90 seconds after disarming the system. This automatic engagement will occur even if the security system is in a disarmed state, but not if it is in Valet Mode. Once the Starter Interrupt output is activated, the system must be armed, then disarmed with the controller or transmitter, or placed into the Valet Mode by pressing and holding the Valet Switch for 2 seconds to disengage it. There are no Status Light indications with this automatic form of Starter Interrupt.

Feature #6 Ignition Activated Override (Factory Default Setting Off)

This feature allows an activated system to be overridden and disarmed by simply turning the ignition switch on within 10 seconds of the system's activation. After 10 seconds, the Emergency Override must be performed or the controller or transmitter "**disarm/unlock**" button can be used to disarm the system.

Feature #7 Doors Lock With Last Door Arming (Factory Default Setting Off)

This feature adds the automatic locking of the doors to

triggered Excalibur system:

- Pressing "**arm/lock**" will rearm the system, stopping both system's alarm condition (leaving it armed), and stop the controller's chirping.
- Pressing "**disarm/unlock**" will disarm the system, leaving the doors locked, stopping both system's alarm condition (leaving it disarmed) and the controller's chirping.
- Pressing and releasing any of the three other buttons will simply stop the controller's chirping, but leave the security system still sounding in its alarm state.

The controller will continue to display the flashing icon indicating the violated zone, while the system is disarmed, until the ignition switch is turned on.

Prewarning Detection Circuit: When the sensor is triggered by a light impact or shock to the vehicle, the security system will respond by chirping the siren 3 times and locking the doors. After this Prewarning circuit has been triggered five times it will automatically shutdown until the alarm system is disarmed, then armed. If the controller was used to arm the system and prewarning occurs, if in range it will react by chirping 3 times and showing the "impact" starburst icon on its display.

Disarming the System

There are two methods of disarming the Excalibur:

1- The primary method is to use the **controller or transmitter** by pressing and releasing its "**disarm/unlock**" button. This is the normal "daily use" method.

2- The second method is an "**Emergency Override**" alternative, should the controller or transmitter become lost or inoperable. This method uses the Valet Switch, but the vehicle's ignition key is also required.

Disarming the System Using the Controller or Transmitter

Press and release the controller or transmitter "disarm/unlock" button once to instantly disarm the system, disengaging the starter interrupt and unlock the doors. If you have the optional unlock driver's door feature installed, then upon disarming only the driver's door will unlock, and if the "**disarm/unlock**" button is pressed again at anytime thereafter, all of the doors will unlock.

The system's reaction: Disarming is confirmed by the siren chirping twice, the Status Light turning off, and the parking lights flashing twice, then with the interior lights illuminating for 30 seconds for approach illumination. The lights will turn off instantly if the ignition switch is turned "on" before the 30 seconds expires.

If the controller was used: It will confirm by chirping twice (or four times if the system was activated), showing "DISARM" icon and "unlocked lock", and

briefly showing the number of operating controllers or transmitters.

If the Excalibur was activated and reset itself: The disarming confirmation will no longer be 2 siren chirps, and the parking lights flashing twice before staying with the interior lights. Instead, the system will respond with 4 siren chirps and the parking and interior lights flashing 4 times before staying on for 30 seconds. The Status Light will change to flashing two to four times in red between pauses as a "Zone Violation" code to indicate which protection circuit triggered the system (2 flashes, hood/trunk; 3 flashes, doors; 4 flashes , impact sensor). These special audible and visual disarming indications, and Zone Violation code, will remain this way until the ignition key is turned "on".

Safety Disarm/Storm Mode: While the system is activated, i.e. sounding the siren and flashing the lights, pressing the "**disarm/unlock**" button will disarm the system, but not unlock the doors. This safety feature ensures that the vehicle remain secure should the system require disarming due to being activated from nuisance or malicious false sensory inputs, such as typically produced by severe weather conditions. To remotely unlock the doors if the system is disarmed while activated, simply repeat the disarm operation by pressing and releasing the "**disarm/unlock**" button again. If disarmed from a panic mode, the normal disarm indications are present, including the unlocking of the doors.

Automatic Rearming Feature: Automatic Rearming is a programmable feature which ensures that your system is never inadvertently disarmed. It is possible to accidentally or unknowingly operate the controller or transmitter from a pocket or purse. You may not even be aware of an accidental disarming due to the enhanced operating distance offered by the Excalibur's extended range, or if the controller confirmation is not noticed. Automatic Rearming has the alarm rearm itself 90 seconds after it is has been disarmed, unless a vehicle door is opened and the ignition key turned on. Automatic Rearming is confirmed by a fast flashing Status Light after the disarming, unless the system was triggered, in which case a Zone Violation code will flash instead.

During the 90 second period, Automatic Rearming can be paused by opening the door or stopped completely by turning the ignition key "on". Also, Automatic Rearming can be cancelled by the Safety Disarm/Storm Mode feature; if the system is disarmed while triggered, Automatic Rearming will not occur.

Disarming the System by Emergency Override

Should the transmitter become lost, damaged, or its batteries become exhausted, the Valet Switch and the vehicle's ignition key may be used to disarm the system:

Step 1 With the system in the armed condition, enter the vehicle via the driver's door (be aware that the alarm will trigger when the door is opened).

feature number which is now accessed.
- Use the controller or transmitter as described in Step 5 to change the newly accessed feature as desired.
- Repeat this Step 6 for each additional feature until all features are programmed.

Step 7 Allow 10 seconds to pass without performing any programming actions; or, turn the vehicles's ignition on.
- The siren will sound briefly and the Status Indicator Light will go out to confirm that the system is exiting Programing Mode.

Important Note: Once the system is in Programming Mode, if at any time 10 seconds elapse without programming activity, the system will automatically exit Programming Mode. To prevent the system from prematurely exiting Programming Mode, the feature can be entered again by pressing the Valet Switch, or if a feature is accessed, by pressing either of the controller or transmitter buttons. Features can be selected in any order as desired.

The following pages explain each of the programmable features in detail. A convenient feature programming checklist is on page XX, which greatly simplifies the feature programming process.

The Programmable Features

Feature #1 SecureCode (Factory Default Setting 1 Press)

SecureCode is a unique patented feature which allows you to custom select the number of Valet Switch presses in two stages, instead of a single "1 press", which would be required in order to perform an Emergency Override. If any of the three anti-carjacking features are utilized, a customized SecureCode would also be required to turn it off once it is fully activated. The SecureCode operation is described on page 38.

To custom program a new SecureCode:

Step 1 Follow Steps 1 to 4 in the previous "How to Program Features" instructions; at Step 4 the Valet Switch will be pressed and released once (the siren chirps once) to access "feature #1".

Step 2 Within 10 seconds slowly press and release the controller or transmitter's "**arm/lock**" button the number of times equal to the desired SecureCode for stage 1, allow the system to respond to each controller/transmitter button press with a siren chirp before pressing the button again.

Step 3 After entering the first stage by pressing the "**arm/lock**" button the desired number of times, and receiving a chirp for each press, wait for the

How to Program Features

The Excalibur has 36 programmable features, most of which allow the user to customize the system's operation (several programmable features are installation-related). "Features Programming Mode" is the process for changing these features. The vehicle ignition key and the Valet Switch are used to enter the Programming Mode, then the controller or transmitter is used to change features. Once the system is in Programming Mode, a 10 second period without programming activity will cause the system to automatically exit Programming Mode. Features can be selected in any order as desired.

To Enter Programing Mode and Change Features:

Step 1 Turn the vehicles's ignition on.

Step 2 Turn the ignition off.

Step 3 Within 5 seconds, Press & Release the Valet Switch 5 times.

- The siren will chirp then sound briefly and the Status Light will flash to confirm that the system is entering Programing Mode.
- Once in Programming Mode, if 10 seconds of no programming activity occurs, the system will exit Programming Mode. Programming activity is the pressing of the Valet Switch or pressing a transmitter button once a feature is accessed.

To Access a Feature:

Step 4 Within 10 seconds, Press & Release the Valet Switch the same number of times as the desired feature's number.

- The siren will chirp and the Status Indicator Light will flash as many times as the Valet Switch was pressed to indicate the feature number which is now accessed.

To Change a Feature:

Step 5 After accessing the desired feature, within 10 seconds Press & Release either the controller or transmitter's "Arm/Lock" button or the "Disarm/Unlock" button.

- Pressing the "Arm/Lock" button turns the feature on; the siren will chirp once and the Status Indicator Light will turn on.
- Pressing the "Disarm/Unlock" button turns the feature off; the siren will chirp twice and the Status Indicator Light will turn off.

To Access and Change further Features:

Step 6 If there are more features to be programmed, within 10 seconds of the previous action Press & Release the Valet Switch the same number of times as the next desired feature's number.

- Again the siren will chirp and the Status Indicator Light will flash as many times as the Valet Switch was pressed to indicate the new

Step 2 Using the ignition key, turn the vehicle's ignition switch on.

Step 3 Within 5 seconds press and release the Valet Switch one time. The system will disarm.

The number of Valet Switch presses which are required for the Emergency Override is custom-programmable! This is the SecureCode feature, which is described on pages 19-20. **The above Emergency Override instructions reflect the "as received from the factory" default setting.**

Remote Panic Feature

Should you feel threatened, or the need to attract attention, you can activate your system's remote "Panic" feature at any time by pressing and holding for 3 seconds the controller or transmitter's "**arm/lock**", the "**disarm/unlock**", or the or the "**lll**" button. Your system will respond by sounding the siren and flashing the parking lights for the normal activated alarm period of 60 seconds.
Additionally, the Excalibur system features an unique "enhanced" remote Panic operation, regarding additional operations during Panic, and in association with the transmitter button used in it's activation or deactivation:

- Activating Panic with the "**arm/lock**" button will lock the doors, arm the system and engage the starter interrupt.
- Activating it with the "**disarm/unlock**" button will unlock the doors, disarm the system and does not engage the starter interrupt.
- Activating Panic with the "**lll**" button will not affect the system's armed or disarmed status; the doors locked or unlock condition; nor will it affect the starter disable circuit.

To disengage remote Panic, simply press and release any one of the same three transmitter buttons, or, allow it automatically stop after 60 seconds.

- Deactivating Panic with the "**arm/lock**" button will stop Panic, and leave the system armed with the starter interrupt engaged, and the doors locked.
- Deactivating it with the "**disarm/unlock**" button will stop Panic, and leave the system disarmed with the starter interrupt disengaged, and the doors unlocked.
- Deactivating Panic with the "**lll**" button will stop Panic, and leave the system in the same state it was in at the moment Panic started, without locking or unlocking the doors.
- If the system is allowed reset itself from remote Panic, it will enter the armed state, locking the doors and engaging the starter interrupt, regardless of which of the three buttons was used to activate it.

If desired, it is possible to have the red "**lll**" button operate the 3rd channel output instead of remote Panic- see page 34.

Remote Engine Starting

The remote engine starting feature should not be used when the vehicle is parked in an enclosed structure or garage!

Your Excalibur AL-2000-E system offers the ultimate in comfort and convenience- remote engine starting. This feature allows the vehicle's interior to be warmed in the winter or cooled in the summer before you enter the vehicle. Simply leave the climate controls set to the desired settings when leaving the vehicle prior to using the remote starting feature.

The following pages explain the remote engine starting operations. If the vehicle has a manual transmission, a special procedure is required when exiting the vehicle to enable the ability to remote start. Otherwise, the actual activation of remote start is the same for automatic or manual transmission vehicles.

- When leaving the vehicle before remote starting, remember to set the climate controls to the desired heating or air conditioning settings.
- If desired, the system's alarm function may be armed or disarmed as needed during remote start operations (the system must be disarmed before entering the vehicle).

How to Activate Remote Starting

Press and release together the controller or transmitter "**arm/lock**" and "**disarm/unlock**" buttons.

The system's reaction: The system will respond first by rapidly flashing the Status Light in green color, then by turning on the ignition and flashing the parking lights once. Then the starter will engage until the engine runs; 10 seconds later the parking lights will illuminate steady during the period that the engine is running from being remotely started. (having them flash instead is an option).
The engine will run for 10 minutes (the factory-set period). A 20 minute setting may be programmed, if desired, by referring to the "Programming Features" section. Once the engine has been remotely started, to remotely stop it again press and release together the transmitter's "**arm/lock**" and "**disarm/unlock**" buttons. The system will stop the engine, and extinguish the parking lights.

If the controller was used: If the controller is used to activate remote engine starting, to confirm the operation it will first play a musical melody, and display the "start" icon, which are puffs of smoke and appear behind the vehicle (5 different musical melodies are programmable). Once the engine has started, when the vehicle's parking lights come back on the "start: icon's puffs of smoke will change to appearing sequentially.

When the engine stops running, whether by safety condition or controller command, a different musical melody is played, and the "start" icon disappears. If a

How to Program Controllers or Transmitters

The Excalibur AL-2000-E system is capable of being operated by as many as four controllers or transmitters; these can be any combination of 1-way transmitters or 2-way controllers. Regardless of which, the transmitter or transceiver must be encoded, or programmed, to the system in order to operate it (excepting the originals, which were programmed at the factory). This programming procedure is identical for a transmitter or for a controller. To program additional or replacement controllers or transmitters, follow this procedure:

Step 1 Have all controllers and/or transmitters which are to operate the system at hand. Turn the ignition "on".

Step 2 Within 5 seconds of turning on the ignition, press the Valet Switch 5 times. The siren will briefly sound, confirming that for the next 10 seconds the system is ready to learn a controller/transmitter code. To enter a code, simply press and release the "**arm/lock**" button (the button which is designed to arm the system). When the first controller/transmitter code is learned all existing stored codes will be erased.

Step 3 Press the "**arm/lock**" button on each remaining controller or transmitter. The system will chirp the siren once to confirm that each was learned. The controller or transmitter's other three button's functions will automatically be assigned when the "**arm/lock**" button is learned. If a code is not received within a 10 second period, the learning process will automatically terminate, as indicated by another siren burst.

Programming a controller or transmitter to the system will activate the Unauthorized Transmitter Alert warning and the extended Status Light visual display; for the next 48 hours the siren will sound a brief series of chirps every time the vehicle's ignition key is turned on.

Switch. If the SecureCode has been customized, the correct number of Valet Switch presses must be made.

The three types of Anti-Carjacking protection features are:

Anti-Carjacking protection activated by the vehicle's ignition has the process start every time the vehicle's ignition is turned on. The Valet Switch must be pressed within 60 seconds every time the vehicle is started to cancel Anti-Carjacking. This is programmable feature #25.

Anti-Carjacking protection activated an open door has the process start should a door be opened after the vehicle is started and the engine is running. The Valet Switch must be pressed within 60 seconds after the door is opened to cancel Anti-Carjacking. This is programmable feature #26.

Anti-Carjacking protection activated using a controller or transmitter has the process start by pressing and holding the "**III**" button for 3 seconds, but only if the vehicle's ignition is on. The Valet Switch must be pressed within 60 seconds after this is done to cancel Anti-Carjacking. This is programmable feature #27.

Controller and Transmitter Protection

The Excalibur AL-2000-E features several security safeguards in one of the most vulnerable areas of any remotely controlled system. These features are found in both 2-way controllers and 1-way transmitters.

Code Jumping™ It is quite easy, with the proper equipment, to record an alarm or keyless entry system's transmitter signal, and simply play the captured signal back to the system to defeat it. Excalibur's Code Jumping renders such "code grabbing" devices useless by randomly changing each signal that the controller or transmitter sends.

Automatic Transmitter Verification™ shows the total number of controllers and/or transmitters which can operate the system, by flashing the Status Light with this number for 10 seconds every time that the ignition key is turned on. When a controller is used to operate the system, as part of its confirmation the number of operating controllers and transmitters is also displayed.

Unauthorized Transmitter Alert™ sounds a brief series of siren chirps every time the vehicle's ignition is turned on, if a controller or transmitter has been programmed to operate the system, for 48 hours thereafter. The 10 second visual display by the Status Light of the number of operating controllers/transmitters, described previously, will also increase to being displayed for 90 seconds instead of 10 seconds. 48 hours after the programming occurred, the warning chirps disappear and the Status Light flashing transmitter/controller number returns to being displayed for 10 seconds.

safety circuit stops the engine, the "crossed out key" icon will momentarily appear (but not if the transceiver's command stops the engine).

If a safety circuit prevents the starting attempt, the "engine stopped" melody will play, and the "crossed out key" icon will appear.

Should the engine fail to start on the first attempt, the system will subsequently make as many as three further attempts, as needed. Please note that each starting attempt takes approximately 20 seconds for the system to check the vehicle's status, cycle the ignition and starter circuits, and then monitor vehicle status again before the next attempt.

To drive the vehicle away after remote starting, disarm the system (if needed) open the door to enter the vehicle, insert the key into the ignition switch and turn the switch to "on" or "run" position (not "start"!). Then press the brake pedal or remove the gear selector from "park"; now the engine is no longer running from the system, but rather from the ignition key. To indicate this, the system will briefly sound the siren. Pressing the Valet Switch will also turn off the system's running the engine, but without the violated safety circuit siren sounding.

Safety Features: Certain conditions will prevent the engine from remotely starting, or if remotely started already, will stop the running engine. These conditions are:

- ✓ A pressed brake pedal.
- ✓ The gear selector not being in the "park" or "neutral" position, or alternatively, the parking brake not being set.
- ✓ An open hood.
- ✓ If manual transmission, the vehicle was entered or disturbed after the setup procedure was performed.

An open door will not prevent the system from starting the engine; if the engine has already been remotely started, opening a door will not stop the running engine, unless the system is armed. Opening a door with the engine running by remote control and the system armed will result in activating the system, which will stop the running engine.

If a start command is sent from the controller or transmitter, but any of the following conditions are present, the system will not attempt to start the engine and will instead have a short sounding of the siren to indicate a violated safety circuit. The violated safety circuit conditions which can produce this indication are the gear selector not in the "park" position, an open hood or trunk, or a pressed brake pedal.

"Stick Shift" Remote Starting Setup Procedure: When the AL-2000-E is installed into a manual transmission vehicle, programmable feature #35 must be turned on. Then, whenever remote starting will be desired later the following

procedure must be followed before exiting the vehicle:

Step 1 With the engine running and foot on the brake, apply the parking brake, put the transmission shifter in "neutral", and remove your foot from the brake.

Step 2 Press and release the controller or transmitter "**arm/lock**" and "**disarm/unlock**" buttons together. The Status Light will begin flashing green, and the AL-2000-E is now keeping the vehicle's engine running. Do not press the brake pedal from this point, and the parking brake must remain on.

Step 3 Within 2 minutes, turn off the ignition key, exit the vehicle and then press the transmitter's "**arm/lock**" button to lock the vehicle. The alarm will also arm, and the previously running engine will stop. The Status Light also changes to show the "armed" indication, flashing slowly red, but every fourth flash will be green, indicating that the system is "armed, and ready for remote starting".

From this point, the vehicle may be remote started provided that it is not disturbed. When ready to remote start, the activation of remote starting is the same as previously described: press and release the transmitter's "**arm/lock**" and "**disarm/unlock**" buttons together.

During the setup procedure, the parking brake must remain set, and the regular brake pedal must not be pressed when and after the transmitter's "**arm/lock**" and "**disarm/unlock**" buttons are pressed. After exiting the vehicle, the transmitter's "**arm/lock**" button only must be used to secure the vehicle. Using any other transmitter button will produce the appropriate system response, but the remote starting setup will be voided.

Once the system is fully setup for remote starting, it will start the engine if the next transmitter operation is pressing the "**arm/lock**" and "**disarm/unlock**" buttons together. If any other transmitter button is pressed the remote starting setup will be voided. If the armed alarm should be triggered during this period, the remote starting setup condition will be voided.

Pit-Stop Feature: This feature allows you to turn off the ignition switch, remove your keys, leave the vehicle and lock your doors while leaving the engine running. To use this feature, have the engine running normally from the ignition switch, have the gear selector in "park", and your foot off of the brake pedal. Press the Valet Switch twice; the parking lights will flash once and the siren chirps 5 times; then turn the ignition off. The engine will remain running for the programmed run time, or it will turn off if another controller or transmitter signal is received, a safety circuit is violated, or if the Valet Switch is pressed.

Turbo Timer Feature: This feature is similar to the Pit-Stop operation, but it must be programmed to operate (feature #36), and it will automatically operate

correct **press and release the "P" button**. The controller will play a musical melody; this is the **Start Melody** which plays upon remote starting. One of five melodies may be chosen now.

6) Press and release the ":" button. Each press of the button changes to the next melody, note that the LCD screen displays "S" and a numeral, which is the melody number. When the desired musical tone has been the last one played **press and release the "P" button**.

7) The controller will play another musical melody; this is the **Stop Melody** which plays when remote start engine run period ends. There are five different melody choices which can be made. **Press and release the ":" button** . Each press of the button changes to the next melody, note that the LCD screen dis plays a numeral, which is the melody number. When the desired musical tone has been the last one played, you may

leave the controller undisturbed for 12 seconds, until it chirps once

OR

press and release the "P" button to scroll back through the features.

- While the controller programming must be "scrolled" through, programming mode can be exited at any

Anti-Carjacking Protection

The Excalibur is equipped with three separate Anti-Carjacking protection features, whose operation may be selectively activated by the ignition, by an open door, or by the transmitter. All three are programmable, and must be turned on to operate. Once activated, the user has 53 seconds to cancel the Anti-Carjacking protection process by pressing the Valet Switch once. If Anti-Carjacking is not cancelled, 53 seconds after being activated the siren will begin to chirp for 7 seconds to alert the user that the system is about to enter into an alarm condition. The Valet Switch may still be pressed once during this period to cancel the Anti-Carjacking process.

If the Anti-Carjacking process is not cancelled before the 60 second countdown expires, the system will enter an alarm condition, sounding the siren and flashing the parking lights. 30 seconds after this occurs, or should the ignition be turned off in the meantime, the stater interrupt will engage. Once the system enters the alarm condition, it will not respond to the transmitter, nor will the system reset automatically after 60 seconds, and it can only be disengaged by:

Step 1 Turning the vehicle's ignition off.

Step 2 Turning the ignition back on.

Step 3 Within 5 seconds, perform an Emergency Override using the Valet

- If multiple controllers are programmed to operate the system, the system will send a page signal to only one controller- the last one used.
- When the AL-2000-E system does send a signal to the controller, a few seconds is needed for this wireless "handshake" to occur. If the system is operated in a rapid fashion, as in quickly repeating arm and disarm cycles, the controller will not have time to receive the signal from the system, and therefore it will stop responding and reporting the system's status. Normally operating the system corrects this symptom.
- A final point to remember is that the controller cannot receive a signal from the AL-2000-E system while it itself is transmitting. For normal operations, the controller's buttons are pressed and released. Even when "Panic" is operated, the controller button should be released as soon as "Panic" engages. Otherwise, the controller cannot receive the signal from the system.

Programming the Controller:

The 2-way controller has several user-programmable features:

✓ **Chirp or Mute** The chirps may be turned off, and replaced with vibration.
✓ **Vehicle Type** Choices are a passenger car, pickup truck, or van/SUV.
✓ **Time Adjust** To set the controller's clock time.
✓ **Start Melody**; and **Stop Melody** These are played with remote starting.

Programming these features is a sequential process- the controller is placed into programming mode, then each programmable operation is accessed in turn, and either changed as desired, or left as is, and then the next step is accessed. Programming is done using the Echo unit's three round side buttons:

1) **Press and hold the "P" button** **A-** At this time **Chirp or Mute** can be chosen by pressing the "**:**" button for 1 second.
OR
B- Hold this button for 5 seconds to enter programming mode.

2) **After 5 seconds the controller chirps twice; release the "P" button**; the upper rear of the vehicle will flash; **Vehicle Type** may be chosen.

3) **Press and release the ":" button**; each press of the button changes the vehicle from Passenger Car, then to Pickup Truck, and then to Van/SUV. When the desired type is flashing, **press and release the "P" button**; the **Time**'s "Hours" will flash, and may be set now.

4) **Press and release the ":" button** to advance the hours, or **press and release the "⋮" button** to reverse the hours. When the Hours are correct (please note "AM" or "PM"), **press and release the "P" button**. The **Time**'s "Minutes" will flash, and may be set now.

5) **Press and release the ":" button** to advance the minutes or **press and release the "⋮" button** to reverse the minutes. When the minutes are

every time that the ignition key turns off. It is typically recommended that users of vehicles equipped with turbocharged engines allow the engine to idle a few minutes before turning it off. When this feature is programmed on, the AL-2000-E will automatically keep the engine running for two minutes as follows:

- With the engine running, hold the brake pedal and engage the parking brake. When the brake pedal is released, the AL-2000-E will keep the engine running for 2 minutes, and then automatically turn it off.

After 2 minutes the engine will stop running. The alarm may be armed while the engine is running. Turbo Timer can be prevented form engaging, if desired, by turning the engine off first and then engaging the parking brake, or step back on the brake pedal at any time to turn the running engine off.

Other Controller and Transmitter Operations

The **2nd channel output**, which is operated by pressing and holding the controller or transmitter "**II**" button for 1 second, is designed specifically to operate your vehicle's *electric* power trunk release. Your vehicle will respond by releasing the trunk lid or rear hatch, chirping the siren twice, turning on your parking and interior lights for 30 seconds, unlocking the doors, and disarming the system if it was armed. The 2nd channel output will not operate when the ignition switch is "on" unless the vehicle's door is open. If desired, the security system can be programmed to remain armed when this feature is used, and connection of the 2nd channel may require extra parts or installation.

The Excalibur also has a **3rd channel output** which is similar to the 2nd channel, but with special operational design differences which make it ideal for use with an optional remote engine starting module. To operate it, press and hold the controller or transmitter "**II**" and "**III**" buttons together for 1 second. Or, a programmable feature allows the pressing of the "**III**" button only to operate this output. The 3rd channel output will operate regardless of the ignition switch being "on" or "off", and there is no audible or visual confirmation. Connection of the 3rd channel will vary, depending upon the chosen application, and will require extra parts or installation.

To **Silently Arm or Disarm** the alarm, press and release the "**II**" button twice. The siren's confirmation chirps will not occur, and this operation simply reverses, or "toggles" the armed and disarmed status that the system.

The **sensor** may be **temporarily bypassed**. When arming the alarm with the controller or transmitter, within 3 seconds after the arming chirp pressing "**II**" button. The system will respond with another single chirp, confirming that the sensor is bypassed.

Using the Valet Switch-
Alarm Valet Mode & Starting Valet Mode

The Valet Switch is located in the Window Unit, or optionally, the installer may have mounted a separate Valet Switch in a hidden, yet accessible location. Please ensure that you and others who use your vehicle are aware of the location of the Valet Switch and its uses. The Valet Switch has several functions:

- Placing your system into **Alarm Valet Mode**, which prevents it from arming.
- Placing it into **Starting Valet Mode**, which prevents it from remote starting.
- Should your controller or transmitter be lost or become inoperable, the Valet Switch, **and the ignition key**, can be used to disarm the system with an **Emergency Override**.
- It is also used in the procedures for programming features and programming controllers or transmitters to operate the Excalibur system. See the "Programming sections of this manual for details on these uses.

Alarm Valet Mode: This allows you to turn off all of the "alarm" operations of the security system while retaining the remote convenience features such as keyless entry, Panic, and the Auxiliary Outputs. Remote starting is still operable, and has its own valet mode (below). The system may only be placed into Alarm Valet Mode when it's disarmed; if armed, an Emergency Override must be performed before placing into Alarm Valet Mode. Once the system is in Alarm Valet Mode, it cannot become armed from the transmitter, Last Door Arming, or Automatic Rearming.

Alarm Valet Mode and Emergency Override are two similar, but different procedures, although both operations use the Valet Switch, . Emergency Override disarms an armed and activated system, and requires the ignition key. Alarm Valet Mode turns off the alarm operations of the *disarmed* system, but without the need of the ignition key.

Alarm Valet Mode is designed for situations in which it is not convenient for the security portion of the system to be operational, such as during extended stopovers for vehicle servicing, maintenance, valet parking, washing, etc.

To enter Alarm Valet Mode: With the system disarmed, and without pressing the brake pedal, press and hold the Valet Switch for 2 seconds.

- The siren will chirp twice, the parking lights will flash twice and the Status Light will illuminate solid red, then a series of green flashes, then return to solid red. The green flashes, numbering from 1 to 6 times, is a remote starting diagnostic code (see page 21).
- To indicate that the system is in Alarm Valet Mode, the Status Indicator Light remains solid red whenever the system is in Alarm Valet Mode.
- To remind the user that the system is in Alarm Valet Mode, the siren will chirp once every time the vehicle's ignition is turned off.

- When "BAT LOW" appears the transceiver's 1.5 volt AAA battery should be replaced with a new battery.
- The controller's chirps and musical tones may be turned off, which makes the unit vibrate instead; "MUTE" indicates this state.
- The "3" within a circle appears when the 3rd Channel Output is operated.
- "HOOD/TRUNK" indicates that this vehicle zone is or has been violated. If associated with the system being activated, the controller also emits chirps, until any button is pressed. In this case, the icon remains flashing until the ignition switch is turned on.
- If a remote starting attempt is made, and systems aborts it due to a violated safety circuit, the "crossed-out key" on the hood area will appear (this is accompanied by a musical tone).
- The "CARJACK" icon within the vehicle's front tag frame indicates that this operation has been activated, which can be performed by any of three methods.
- On the vehicle's windshield is a "hammer" and "impact" icon. When the shock sensor detects light impact, causing the system to prewarn, the "impact" icon alone will momentarily appear, accompanied by three chirps. If the sensor detects a harder impact or breaking glass, activating the system, the full hammer and impact icon appears, and the controller chips until any button is pressed, and the icon remains flashing until the ignition switch is turned on.
- The "DOOR" icon will indicate that the system was activated via the door detection circuit. The controller chirps until any button is pressed, and the icon remains flashing until the ignition is turned on.
- The "start" icon at the rear of the vehicle confirms remote starting, and is accompanied by a musical melody. This icon stays on while remote start is operating, and during which the puffs will change to appearing sequentially.
- The "2" within a circle indicates use of the 2nd Channel Output, which is most commonly used for a remote trunk release feature.
- The "transmitting tower" icon is an in-range indicator. It is present if the last transmission by the controller was answered by a return signal from the system. Should the controller be operated, and no return signal is received, this icon will disappear.
- The various lines at the upper rear of the vehicle graphic represent a unique Excalibur feature which allows the user to customize the vehicle type represented by the display. Options are: passenger car, pickup truck, and sport utility/van.

Notes about the Controller and its operation:

- The system will only transmit a signal to the controller if it was last used to operate the system (as in arming or disarming it). Example: if the 1-way transmitter is used to arm the alarm, the system will not transmit a signal which will cause the 2-way controller to chirp and change its icons.

Combination Indications: These indications occur when security and remote starting operations are, or have been, simultaneous.

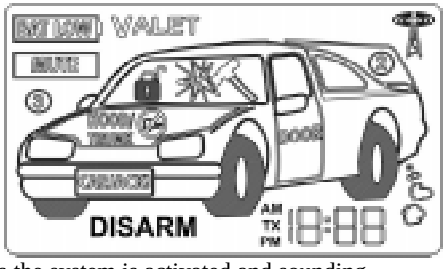
21) Slowly Alternates Red & Green = Full Valet Mode (page XX).
22) Solid Green w/ Red Flash = Security Armed with Starting Valet Mode.
23) Solid Red w/ Green Flash = Remote starter system engaged with security system in Valet Mode.
24) Rapidly Alternates Red & Green = Remote starter system engaged with security system armed.
25) Slow Flashing Green w/ 1 to 4 Red Flashes = This indication is during remote start operation after disarming the alarm, and shows that the previously Armed alarm was activated and reset prior to the remote starting. The Red flashes are the Zone Violation (previous page), occurring with the "engine running" indicator.
26) Slowly Flashing Red 3 Times, Green 1 Time = The system is programmed for manual transmission remote starting, and is armed and ready for starting.

The 2-Way Controller

The four system- operating buttons are described on pages 5-7. This section explains the controller's icons, and how to program the controller's features.

Controller Icons: The LCD screen on the controller has various icons which indicate system status. When the controller is used to operate the system, it receives back a signal which causes it to chirp (emulating the siren) and display the appropriate icons. Brief descriptions of the icons are:

- The digit readout is a clock, with AM and PM indication. This readout also shows how many controllers and/or transmitters can operate the system.
- The "DISARM" will also show "ARM"; this indicates the Armed or Disarmed status of the system. Neither icon is present when the system is in Valet Mode.
- The locked or unlocked padlock (windshield) reflects the true locked or unlocked status of the doors (certain programmable features can automatically arm the system, but not lock the doors). Arming with the controller or transmitter always locks the doors; they will unlock the doors unless the system is activated and sounding.



- "VALET" indicates Alarm Valet Mode, replacing the "ARM" or "DISARM" icons. A musical tone occurs when placing the system into Alarm Valet Mode.

Starting Valet Mode: This feature is similar to Alarm Valet Mode, but its purpose is turn off the remote starting operations of the system. The system may be placed into Starting Valet Mode and Alarm Valet Mode independently, or into both modes at the same time. Please note that the only difference in obtaining either mode is whether or not the brake pedal is being pressed.

To Enter Starting Valet Mode With the system disarmed, and depressing the brake pedal, press and hold the Valet Switch for 2 seconds.

- The siren will chirp twice, the parking lights will flash twice and the Status Light will illuminate solid green to confirm that the system is in Starting Valet Mode.
- There is no audible reminder that the system is in Starting Valet mode.

To Enter both Modes (Full Valet Mode): With the system disarmed, press and hold the Valet Switch for 4-6 seconds with the brake pedal in both conditions. For example, start pressing the Valet Switch with the brake pedal unpressed; as soon as the two chirps are heard, press the brake pedal but do not release the Valet Switch. As soon as a second set of two chirps is heard, the Valet Switch may be released. The system is now in Full Valet Mode. It does not matter in what order the pressed or unpressed brake pedal occurs.

- Once the system is in Full Valet Mode the Status Indicator Light will slowly alternate green and red to confirm that the system is in Full Valet Mode. This indication is present whenever the system is in Full Valet Mode.
- There will be the single chirp reminder every time the ignition turns off. This is for the Alarm Valet Mode part of the Full Valet Mode condition.

To Exit any of the 3 forms of Valet Mode, simply Press & Release the Valet Switch at any time.

- The Status Indicator Light will turn off to confirm exit from either Alarm Valet Mode, Starting Valet Mode, or both.

SecureCode

"SecureCode" allows the user to customize the number of Valet Switch presses which are required to successfully perform an Emergency Override. **The basic Emergency Override procedure is described on pages 12-13**. Instead of a single "1 press" of the Valet Switch which would be required in order to perform an Emergency Override, two stages of Valet Switch presses must be made. In each of the two stages, the Valet Switch will need to be pressed 1 through 9 times, as programmed by the user. This is the Emergency Override procedure if the system has programmed with a customized SecureCode:

Step 1 With the system in the armed condition, enter the vehicle via the driver's door (be aware that the system will activate to an alarm condition when the

door is opened).

Step 2 Using the ignition key, turn the vehicle's ignition switch on.

Step 3 Within 5 seconds press and release the Valet Switch the same number of times that have been programmed for stage #1.

Step 4 After a few seconds, the siren will stop sounding, chirp once, and then resume sounding.

Step 5 Now, within 5 seconds press and release the Valet Switch the same number of times that have been programmed for stage #2. Within a few seconds the siren will stop sounding, and the unit will disarm.

Once the system is disarmed, if Valet Mode is desired, just press and hold the Valet Switch for 2 seconds to place the system into Valet Mode. Should a mistake be made entering the SecureCode, after a failed attempt to achieve SecureCode, the ignition switch must be turned off, then on again before another attempt is made. Should two failed SecureCode attempts be made, the system will ignore any further presses of the Valet Switch for two minutes.

In addition to Emergency Override, if any of the three anti-carjacking features are utilized, a correct customized SecureCode would also be required to turn off anti-carjacking once it has become fully activated. How to program your own customized SecureCode is explained on pages 19-20.

The Status Light

The Status Light visually confirms the status of the system and provides a high level of visual deterrence. Two colors are shown- Red for security operations, and Green for remote starting operations. Combinations of both colors are seen when the two operations are occurring together. The Status Light is in the window unit, and actually consists of two LED lights, with identical operation, for maximum visibility.

Security System Status: The Red colored operations of the Status Indicator Light indicate the status of the security system:

1) Off = The security system is disarmed and not performing automatic functions. The remote starter system is off, but in standby mode.
2) On Red Constant = The security system is in the Valet Mode, with the remote starter system off and in standby mode.
3) Flashing Slow Red = The security system is fully armed, with the remote starter system off and in standby mode.
4) Flashing Fast Red = Last Door Arming or Automatic Rearming is in progress, with the remote starter system off and in standby mode.

Automatic Transmitter Verification: For the first 10 seconds after the vehicle's ignition is turned on, the Status Indicator Light will flash Red a number of times that equal the number of transmitters that are capable of operating the system:

5) 1 Red Flash /pause = 1 transmitter is programmed.
6) 2 Red Flashes /pause = 2 transmitters are programmed.
7) 3 Red Flashes /pause = 3 transmitters are programmed.
8) 4 Red Flashes /pause = 4 transmitters are programmed.

Zone Violation: If the system enters an alarm condition, the Status Indicator Light will stop flashing slow Red and begin to flash in sequence to indicate which protected zone caused the alarm condition. The Status Indicator Light will flash and pause to indicate which protected zone was violated while the system is still armed, after it's disarmed, and until the vehicle's ignition is turned on. The system's Zone Violation feature's memory can store two consecutive zone violations. If there have been multiple violations, the Status Indicator Light will show the two most recent violations in the order in which they occurred.

9) 2 Red Flashes / Pause = System was triggered by open hood or trunk.
10) 3 Red Flashes / Pause = System was triggered by an open door.
11) 4 Red Flashes / Pause = System was triggered by the sensor.
• Turning on the ignition will clear the Zone Violation.

Starting System Status: The primary function of the Status Indicator Light is to indicate the status of the security system:

12) Off = The remote starter system is off and in standby mode. The security system is disarmed and not performing automatic functions.
13) Flashing Slow Green = The engine is running via the remote starting system.
14) Flashing Fast Green = A remote start command has been received, and the system is in the process of starting the engine.

Remote Starting Diagnostics: Whenever the system is placed into Valet Mode, the Status Indicator Light illuminates solid Red. However, when this occurs, the Status Indicator Light will flash Red, then 1 to 6 Green flashes before resuming solid Red. This indicates why the engine stopped running from the last previous remote starting.

15) Red / 1 Green Flash / Red = Programmed run time expired.
16) Red / 2 Green Flashes / Red = Brake was pressed or hood opened.
17) Red / 3 Green Flashes / Red = Engine stalled or bad tach signal.
18) Red / 4 Green Flashes / Red = Received transmitter command to stop.
19) Red / 5 Green Flashes / Red = Gear selector removed from "park".
20) Red / 6 Green Flashes / Red = Security system triggered or low voltage.