EXCALIBUR

RS-350-EDP

Deluxe Keyless Entry & Remote Start

Operation Guide
July 11, 2012

Temporary cover. Color cover is in a separate file.

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Congratulations on your purchase of this convenience system by Omega Research & Development, Inc., a world leader in vehicle security and convenience products since 1975. This system is designed to offer ease of use and it's modular design allows for many features to be customizable to suit your needs.

Please note that this manual is written to reflect the full capability of this system though some features may not be available to you because of vehicle limitations and/or chosen options at the time of installation. It is also written to reflect the operations in their default configurations.

This system has three principal user components that you should familiarize yourself with:

The optional **Status Light** indicates the current system status and helps in troubleshooting failed remote start attempts as well as in customizing the programmable features. The specific operations of the lights are described on **page 8**.

The **Valet Switch** is used to access transmitter and feature programming. It is also used to place the system in valet mode which temporarily bypasses the remote start feature. See "Using the Valet Switch" on **page 8**.

The remote **Transmitters** are used to operate the system on a daily basis. This system is capable of being operated by up to 4 different transmitters. Each one has 4 different buttons which are labeled to indicate their primary function.

This system is also compatible with our ECHO 2-way upgrade kits. This popular upgrade gives you confirmation to the systems operations which are displayed on a LCD screen for easy reference. ECHO upgrade kits are available in a variety of styles from standard black & white LCD to a touch screen, color LCD version! Contact your dealer or visit www.caralarm.com for more info.
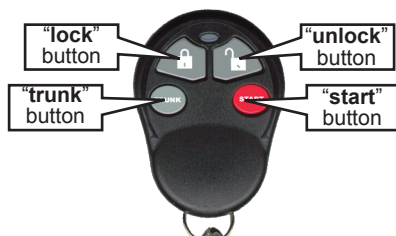
The Transmitter

Transmitter part number:
146-03S
*Call your dealer or visit
www.caralarm.com to order
replacement transmitters.*

Transmitter battery replacement:
Remove the small screw from the
lower back case, and separate the
transmitter halves. Replace the
CR2032 battery (or with 2 CR2016
batteries) and reassemble the trans-
mitter case.

"**lock**" button

"**unlock**" button

"**trunk**" button

"**start**" button

**This system is ECHO compatible which means you can upgrade it
at anytime to have 2-way capability and greater range. It's a simple
upgrade that only takes minutes so talk to your dealer about up-
grading with ECHO TECHNOLOGY today!!**

Transmitter Functions

<u>**LOCK:**</u> Press and release the "LOCK" button.

•   THE DOORS WILL LOCK, THE PARKING
LIGHTS WILL FLASH, AND THE HORN WILL
HONK ONCE.

<u>**UNLOCK:**</u> Press and release the "UNLOCK" button.

•   THE DOORS WILL UNLOCK, THE PARKING
LIGHTS WILL FLASH TWICE THEN ILLUMI-
NATE FOR 30 SECONDS, AND THE HORN
WILL HONK TWICE.

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TRUNK RELEASE/ CHANNEL 2: Press and hold the "TRUNK" button for 3 seconds.

• THE TRUNK WILL OPEN, THE DOORS WILL UNLOCK, THE PARKING LIGHTS WILL FLASH TWICE THEN ILLUMINATE FOR 30 SECONDS, AND THE HORN WILL HONK TWICE.

• **SILENT LOCK/UNLOCK**: PRESS THIS BUTTON TWICE WITHIN 5 SECONDS TO LOCK OR UNLOCK THE DOORS WITHOUT HORN HONKS.

REMOTE START: Press and release the "START" button twice. (see installer feature #1 for other options)

• THE PARKING LIGHTS WILL FLASH.

• THE IGNITION WILL TURN ON AND THE SYSTEM WILL START THE ENGINE.

• WHEN THE ENGINE IS RUNNING, THE STATUS LIGHTS WILL FLASH SLOW AND THE PARKING LIGHTS WILL STAY ON AS LONG AS REMOTE START MODE IS ACTIVE.

• If the engine stalls, the system will make up to 3 more attempts.

• Each time you park your vehicle, set the climate controls to give you the desired interior temperature when you use the remote start.

• The engine will run for the preset run time (see user feature #1).

• **Run Time Extender**: Press the "START" button one time while in remote start mode to restart the engine run timer.

NOTE: This can only be used once per remote start cycle. If the system has an ECHO 2-way upgrade, you will get "run time expiration" warning chirps 1 minute before the timer ends.

• If you decide not to drive your vehicle, you can turn off the remote start using the same method to turn it on (keep in mind that the first press is considered the **Run Time Extender**).

• Upon entering the vehicle during remote start mode, turn the ignition key to the "ON/RUN" position (**NOT START!!**). When you press the brake pedal, the remote start will turn off.

PANIC MODE: Press & Hold the LOCK or UNLOCK button for 3 seconds.

• THE HORN WILL SOUND, THE PARK-ING LIGHTS WILL FLASH AND THE DOORS WILL LOCK OR UNLOCK, DEPENDING ON THE TRANSMITTER BUTTON USED.
• TO DEACTIVATE PANIC, SIMPLY PRESS EITHER THE LOCK OR UNLOCK BUTTON AGAIN.

LOW VOLTAGE AUTO START: Press and release the "START" button within 5 seconds of locking the system.

• THE SYSTEM WILL GIVE ONE CHIRP TO INDICATE THE LOW VOLT/ LOW TEMP(15 DEGREE ONLY) AUTO-START IS ACTIVATED. SEE THE NEXT PAGE FOR MORE INFO.

LOW BATTERY AUTOMATIC STARTING

This feature will automatically start the engine if the vehicle battery drops below 11 volts or the interior temperature drop to 15 (or 32) degrees fahrenheit. You must activate these features each time you park your car to use them. They can be activated one of two ways:

Method 1 - Valet Switch

• Turn the ignition switch "on", then "off" (engine not running), and within 7 seconds press the valet switch twice. If there is a 2 second delay without additional valet button presses, the horn will honk 3 times activating low voltage start mode.

Method 2 - With The Controller

• Within 5 seconds of pressing LOCK, press the START button. You will get one chirp to indicate successful activation of this feature.

NOTE: This feature will operate once every two hours until the ignition key is turned "ON".

TURBO TIMER FEATURE

It is typically recommended that vehicles equipped with turbocharged engines allow the engine to idle for after driving to cool the turbocharger. When this Installer Programmable Feature #10 is enabled, the system will automatically keep the engine running as follows:

• With the engine running, hold the brake pedal and engage the parking brake. When the brake pedal is released, the system will keep the engine running for the programmed time (1, 2, or 3 minutes), and then automatically turn it off.

• The system may be locked while the engine is running. Turbo Timer can be prevented from engaging, or "bypassed" if desired, by turning the engine off before engaging the parking brake, or if it's already engaged, step on the brake pedal to turn the engine off.

PIT-STOP FEATURE

This feature allows you to leave your engine running for making quick errands. To use this feature, have the engine running normally from the ignition switch and your foot off the brake pedal. Press the Valet Switch twice; the parking lights will flash and the horn chirps 5 times. Turn the key off and the engine will remain running for the programmed run time.

MANUAL TRANSMISSION STARTING

Remote starting with a manual transmission requires a different installation method and installer feature #11 must be turned on. Also, a setup procedure that ensures the transmission was left in neutral must be performed each time you leave your vehicle and intend to use remote start later. Perform these steps:

1) With the engine running, hold the brake pedal, apply the parking brake, then release the brake pedal.

2) Use the transmitter as if you were activating remote start (default: press START twice). The status light will start to flash slow.

3) Turn off the ignition key and exit the vehicle.

Other Remote Start Features (cont'd)

4) Press LOCK on the transmitter. The engine will shut down (unless turbo timer is on) and the status light will flash every 2 seconds to indicate it is ready to be remote started.
NOTE: Manual transmission starting is canceled if you enter the vehicle after performing the setup procedure. After remote starting, you have 20 seconds to turn on the ignition key AFTER opening a door.

Using The Valet Switch

Valet Mode

Valet mode prevents the remote start feature from being activated. It also disables horn honks when locking or unlocking the doors. Valet Mode should be used when you do not wish for remote starting to be operated, such as when you have your vehicle serviced. **To engage Valet Mode:**
• With the system "unlocked", press and hold the Valet Switch for 3 seconds; the optional Status Light will turn on and stay on to indicate Valet Mode. The horn will honk once and the lights will flash twice. Once in Valet Mode, an attempt to remote start will result in no response. Keep this in mind if remote start stops functioning. While the system is in Valet Mode, the horn will honk once every time the ignition key is turned OFF.
• To turn off Valet Mode, simply press & release the Valet Switch once. The Status Light will turn off.

Emergency Override

If the system is locked, you cannot perform functions like transmitter or feature programming. If you do not have a transmitter to unlock the system, you can perform an emergency override to access the programming functions.
• With the system in a locked state, simply turn the ignition key to the RUN/ON position and press and release the valet switch once.

The Status Light (Optional)

The optional Status Light helps to visually confirms the status of the system and provides a high level of visual deterrence. The Status Light is typically installed somewhere on the dash. Consult with your installer if there are any questions.
<u>Normal System Status</u>
1) Off = The remote starter system is off, in standby mode.
2) On Constant = The system is in the Valet Mode, with the remote starter system disabled.
<u>Starting System Status</u>
The Status Light also indicates the remote start status:
3) Flashing Very Slow (once every 2 seconds): The system is in manual transmission remote start mode and awaiting a remote start command.
4) Flashing Slow (once per second): Remote start is on.

5) Flashing Fast (after activating remote start): The system is in the process of starting the engine.

Remote Starting Diagnostics

    Whenever the system is placed into Valet Mode, the Status Light illuminates solid. However, when this first occurs, the Status Light will flash 1 to 6 flashes before resuming solid illumination. This indicates why the engine stopped running from the last previous remote starting attempt.

6) 1 Flash = Programmed run time expired.

7) 2 Flashes = Brake was pressed or hood opened.

8) 3 Flashes = Engine stalled or bad tach signal.

9) 4 Flashes = Received transmitter command to stop.

10) 5 Flashes = Gear selector removed from "park".

11) 6 Flashes = Low voltage.

Transmitter Protection & Technology

Code Jumping^{TM} Technology

    With the proper equipment, it's quite easy for a criminal to "grab" your transmitter code from the air and use it at a later time to gain access to your vehicle contents and potentially your home! Code jumping technology uses a complex algorithm to change the transmitter's codes every time a button is pressed. Only the system in your car has the key to decipher this code and it can not be replicated.

Automatic Transmitter Verification^{TM}

    There is also the potential threat of someone, who has temporary access to your vehicle, programming their own transmitter to your system. For example, a mechanic, car wash attendant, or valet could do so and gather your personal info from any paper work in your vehicle. Then, they could visit your home and help themselves to the contents of your vehicle without any signs of intrusion. Many crimes go unnoticed and people assume they have misplaced their belongings. ATV^{TM} shows you how many transmitters are programmed to your system every time you turn on the ignition key for a 10 second period. Then, you can easily identify if transmitters have been added to your system.

Programming Transmitters

Standard Programming: Using this method to program additional or replacement transmitters does not turn on or otherwise affect the Unauthorized Transmitter Alert (UTA) feature.

Step 1   Have all transmitters which are to operate the system at hand. Then, turn the ignition "on".

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

Step 3   Press the "**lock**" button on each remaining transmitter one at a time. The system will chirp the horn once to confirm that each was learned. The transmitter's other three button's functions will automatically be assigned when the "**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 horn honk.

Step 4   Turn the ignition key "off".

Programming Features

Step 1 Turn the ignition key "ON", then "OFF"

Step 2 Within 5 seconds of step 1, press the valet switch 5 times to access user features (10 times to access installer features).

~ The horn will honk and the status light will turn on.

Step 3 Within 10 seconds of step 2, press the valet switch the number of times corresponding with the desired feature's number.

~ The horn will honk, the status lights, and the parking lights

will flash equal to the selected feature.

Step 4 Change the feature by pressing the transmitter button that corresponds with the desired setting.

~ The horn will honk, the status lights, and the parking lights

will flash equal to the selected setting.

Step 5 If you wish to change more features, repeat steps 3 & 4 at this time.

Step 6 To exit programming, turn the ignition key "ON" then "OFF". Or, you can wait 10 seconds for programming mode to expire.

This group of User Programmable Features are all accessed as a group in the first level of features' programming. These features have a direct affect upon the system's operations, so the programming and operation of each are described.

Feature #1   Remote Start Run Time

10 Minutes   (press "**lock**" button to program) - **DEFAULT**
5 Minutes   (press "**unlock**" button to program)
15 Minutes   (press "**trunk**" button to program)
20 Minutes   (press "**start**" button to program)

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. **Caution: The remote engine starting feature should NEVER be used when the vehicle is parked in an enclosed structure or garage.**

Feature #2   Steady/Flashing Lights During Remote Start

Steady   (press "**lock**" button to program) **- DEFAULT**
Flashing   (press "**unlock**" button to program)

This Feature configures the operation of the vehicle's parking lights during the remote start operation. The default setting turns on the parking lights during remote start; the other setting flashes the parking lights on and off during remote start.

Feature #3   Confirmation Chirp Function & Volume

Low   (press "**lock**" button to program) **- DEFAULT**
High   (press "**unlock**" button to program)
On Demand / High   (press "**trunk**" button to program)
OFF (no chirps)   (press "**start**" button to program)

This feature allows the choice of two different volume levels of the system's confirmation chirps, the you can hear and choose the setting with the best chirp volume as you select each option. The "On Demand" setting allows you to lock and unlock the doors without chirps. Similar to OEM keyless entry, pressing either function a 2nd time, will produce confirmation chirps.

Feature #4   Steady Siren or Pulsed Horn

Pulsed Horn Low   (press "**lock**" button to program) **- DEFAULT**
Pulsed Horn Medium (press "**unlock**" button to program)
Pulsed Horn High   (press "**trunk**" button to program)
Steady Siren   (press "**start**" button to program)

This feature changes only the audible output, in three different pulse timings, which allow a degree of customizing of the horn's sound during panic mode. The Steady Siren setting is exactly that- a steady output for an optional electronic siren.

Feature #5   Doors Lock With Ignition On

Off   (press "**unlock**" button to program) **- DEFAULT**
On   (press "**lock**" button to program)

This feature configures the system to automatically lock the vehicle's doors every time that the ignition switch is turned on. The following feature #6 controls the automatic unlocking operations.

User Programmable Features (cont'd)

Feature #6   Doors Unlock With Ignition Off

Off   (press "**unlock**" button to program) **- DEFAULT**

On   (press "**lock**" button to program)

Similar to the previous locking feature, except this feature controls the unlock operation when the ignition is turned off.

Feature #7   Doors Unlock With Trunk Release

Off   (press "**unlock**" button to program)

On   (press "**lock**" button to program) **- DEFAULT**

When trunk release (CH2) is activated, this feature determines whether the doors will unlock or not.

Installer Programmable Features

This group of Installer Programmable Features are all accessed as a group in the second level of features' programming. These features have a direct affect upon the system's operations related to the installation and vehicle type **AND SHOULD ONLY BE CHANGED BY THE INSTALLER!!!**

Feature #1   Remote Start Activation

1 button presses   (press "**lock**" button to program)

2 button presses   (press "**unlock**" button to program) **- DEFAULT**

3 button presses   (press "**trunk**" button to program)

4 button presses   (press "**start**" button to program)

This feature allows you to choose the number of button presses AND pulses required on the White/Blue activation wire to activate the remote start feature. All of the settings must occur within a 5 second window of the previous pulse.

Feature #2   PINK/WHITE (IGN #2) wire operation

Ignition   (press "**lock**" button to program) **- DEFAULT**

Accessory   (press "**unlock**" button to program)

Start   (press "**trunk**" button to program)

Ignition - operates with the same timing as the PINK ignition #1 output.

Accessory - operates with the same timing as the ORANGE accessory output.

Start - operates with the same timing as the VIOLET start output

Feature #3   Engine Detection Method

Tachless Hi   (press "**lock**" button to program) **- DEFAULT**

Tachless Lo   (press "**unlock**" button to program)

Tach Wire   (press "**trunk**" button to program)

Data Tach   (press "**start**" button to program)

Crank Only   (press "**lock**" & "**unlock**" to program)

"Tachless Hi" sensitivity mode looks for a voltage increase of 0.3v after cranking. It uses a fixed crank time determined by installer feature #7.

"Tachless Lo" sensitivity mode looks for a voltage increase of 0.5v after cranking. It uses a fixed crank time determined by installer feature #7.

"Tach Wire" monitors the "Violet/White wire" (see the installation manual for the Tach Learn Procedure). It will crank the engine until a tach signal is detected (3 seconds max).

"Data Tach" mode operates just like the "Tach Wire" setting except it takes its reading from the D2D data port instead of using the Violet/White wire. Before using, make sure this function is supported by the Databus Interface module.

"Crank Only" AKA "blind start" is similar to the "Tachless" settings however, it only makes one start attempt and does not monitor engine running conditions. This is useful for many "push-to-start" vehicles.

<u>Feature #4   Gasoline Or Diesel Engine</u>

Gasoline   (press "**lock**" button to program) **- DEFAULT**
Diesel 15 Sec. Delay (press "**unlock**" button to program)
Diesel 20 Sec. Delay (press "**trunk**" button to program)
Diesel 30 Sec. Delay (press "**start**" button to program)

This feature changes the system's timing of the ignition and starter output sequence for gas or diesel engines. <u>Gasoline</u>: the starter output will occur 3 seconds after the ignitions turn on. When in "Tachless" mode, the engine running status is determined 10 seconds after starting. <u>Diesel</u>: the starter output will occur 15, 20, or 30 seconds after the ignitions turn on (allows for glow plug warming). When in "Tachless" mode, the engine running status will be determined 40 seconds after cranking.

<u>Feature #5   Satellite Relay Port Green Wire Function</u>

Starter   (press "**lock**" button to program) **- DEFAULT**
Pulse After Engine Start   (press "**unlock**" button to program)
Status   (press "**trunk**" button to program)
Domelight   (press "**start**" button to program)

This feature changes the operation of the Green wire (negative) on the satellite relay port. This gives you the flexibility to accommodate certain vehicles that require any out-of-the-ordinary pulses or remote start timing.

Starter setting operates as a secondary START output. This will have the same pulse timing as the large Violet wire on the main harness.

Pulse After Start setting will give a 0.8 second pulse immediately after the engine starts and is running.

Status Output setting will behave like the ignition output except it turns on 1.5 seconds earlier than the primary ignition output..

Domelight setting turns the output on for 30 seconds after unlocking or after turning the ignition key off.

<u>Feature #6   Satellite Relay Port Blue Wire Function</u>

Status   (press "**lock**" button to program) **- DEFAULT**
Ignition (press "**unlock**" button to program)

Status - operates like the PINK ignition output except it turns on 1.5 seconds earlier than the PINK ignition #1 output. This is best for activating bypass kits.

Ignition - operates with the same timing as the PINK ignition #1 output.

Installer Programmable Features (cont'd)

<u>**Feature #7   Starter Cranking Time**</u>

0.7 Second   (press "**lock**" button to program) **- DEFAULT**
1.00 Second   (press "**unlock**" button to program)
1.5 Seconds   (press "**trunk**" button to program)
2.25 Seconds   (press "**start**" button to program)

This feature determines the crank time of the 1st start attempt when in "Tachless" & "Crank Only" modes. If the engine doesn't start on the first attempt, it will retry up to 3 more times extending the crank time by 0.2 second with each attempt..

<u>**Feature #8   Doorlocking Output Functions**</u>

0.8 Second Outputs   (press "**lock**" button to program) **- DEFAULT**
3 Second Outputs   (press "**unlock**" button to program)
Double 0.8 Sec Unlock Output   (press "**trunk**" button to program)
Total Closure Lock Output   (press "**start**" button to program)

This single feature gives the installer several needed options, to match the system's doorlocking outputs to suit different vehicle requirements.

0.8 Second Outputs on both Lock and Unlock outputs.

3 Second Outputs on both Lock and Unlock outputs.

Double 0.8 Sec Unlock Output w/ single 0.8 sec Lock output.

Total Closure Lock Output gives a 28 second Lock output and a 0.8 second unlock output.

<u>**Feature #9   Remote Start Lock Control**</u>

Off   (press "**lock**" button to program) **- DEFAULT**
Lock After Start   (press "**unlock**" button to program)
Unlock Before start   (press "**trunk**" button to program)
Unlock Before+Lock After Start (press "**start**" button to program)

This feature allows for OEM alarm/lock control in relation to remote start operations thus eliminating extra wiring.

<u>**Feature #10   Turbo Timer**</u>

Off   (press "**lock**" button to program) **- DEFAULT**
Run 1 Minute   (press "**unlock**" button to program)
Run 2 Minutes   (press "**trunk**" button to program)
Run 3 Minutes   (press "**start**" button to program)

This feature when turned on configures the system to automatically keep the engine running briefly after it is turned off. This operation is designed specifically for vehicles having turbocharged engines. This feature should only be programmed by the installer, and the operation of this feature depends on the correct connection of the neutral safety wire to the vehicle's parking brake. Please refer to the "Black/White wire" in the installation manual for the proper connection of this important wire.

<u>**Feature #11   Manual Transmission Remote Start**</u>

On   (press "**lock**" button to program)
Off   (press "**unlock**" button to program) **- DEFAULT**

Enabling this feature requires a "setup" procedure to be performed that ensures the transmission is in neutral before remote start can be performed. See page 7 for

14   more information.

<u>**Feature #12   Data Port Protocol**</u>
D2D (Trilogix)   (press "**lock**" button to program) **- DEFAULT**
ADS (iData)   (press "**unlock**" button to program)
This feature determines which data protocol is used on the data port. Choose this based on the interface module protocol being used. **NOTE: Intellikit modules only support the D2D protocol. All OmegaLink modules support BOTH protocols however, the ADS protocol is recommended for maximum capabilities.**

User Feature Programming: Ignition on, off, press valet 5 times				
# Feature	**Lock Button**	**Unlock button**	**Trunk button**	**"START" button**
1 Engine Run Time	10 min	5 min	15 min	20 min
2 Steady/Flashing lights for RS	Steady	Flashing		
3 Horn Honk Volume	Low	Hi	On Demand	OFF
4 Pulse Horn/Steady Siren	Pulsed Lo	Pulsed Med	Pulse Hi	Steady Siren
5 Doors Lock w/ Ign. ON	ON	OFF		
6 Doors Unlock w/ Ign. OFF	ON	OFF		
7 Unlock w/ Trunk Release	ON	OFF		
Installer Feature Programming: Ignition on, off, press valet 10 times				
1 RS Activation	1 press	2 presses	3 presses	4 presses
2 PINK/WHITE wire function	Ignition	Accessory	Start	
3 Engine Detection	Tachless Hi	Tachless Lo	Tach Wire	Datatach
	Crank Only (Press Lock +Unlock)			
4 Gas or Diesel Engine	Gas	Diesel (15 sec delay)	Diesel (20 sec delay)	Diesel (30 sec delay)
5 Sat. Port Green Wire	Starter	Pulse After Start	Status	Domelight
6 Sat. Port Blue Wire	Status	Ignition		
7 Crank Time	0.7 Sec	1.00 Sec	1.5 Sec	2.25 Sec
8 Doorlock Outputs	0.8 Sec	3 sec	Double Unlock	Total Closure
9 Remote Start Lock Control	Off	Lock After Start	Unlock Before Start	Both
10 Turbo Timer	OFF	1 min	2 min	3 min
11 Manual Transmission RS	ON	OFF		
12 Data Port Protocol	D2D (Trilogix)	ADS (iData)		

Back Cover

Color cover is in a separate file.