

How to Program the REC-LP Features

This is the procedure used to program the REC-LP's Features:

- #1 Turn the ignition switch on, then off.
- #2 Within 10 seconds press the REC-LP's Valet Switch 5 times.
The REC-LP will give a short then long beep (the Red and Blue status lights show the normal setting up flashing).
- #3 Within 10 seconds press the Valet Switch the same number of times as the Feature number.
Wait until the REC-LP beeps back the same number as entered.
- #4 Press the dealer transmitter "Lock" button to set the selected Feature for the first option, or, press the "Unlock" button to set the Feature's second option (see chart above).

Programming the REC-LP Dealer Transmitters

The REC-LP is sent from the factory "blank", or without having a dealer transmitter programmed into it to operate it. When the REC-LP is received and initially installed, it must have a dealer transmitter programmed to it, to operate. The special dealer transmitter is coded in like lots for each car dealership- all of transmitters used by a dealer are coded alike, therefore all of that dealership's transmitters will operate all of the REC-LP receiver units which the dealer has.

- #1 Turn the ignition switch on.
- #2 Within 10 seconds press the REC-LP's Valet Switch 10 times.
The REC-LP will give 2 short then 1 long beep; the Blue status lights will light solid (the RED status is off).
- #3 Within 10 seconds press dealer transmitter "Lock" button.
The REC-LP will give 2 long beeps to confirm accepting the transmitter.

The REC-LP also gives 2 long beeps if the programming mode is allowed to expire after 10 seconds, if no transmitter code is sent to it. When programming is completed, verify that the transmitter will operate the REC-LP unit; if not, the receiver may have timed out before the transmitter Lock button was pressed, and if so, simply repeat the programming procedure.

Once the REC-LP has been initially programmed to the dealer's transmitters, there is no need to reprogram it when the receiver is removed and reused in other vehicles.

Removing the REC-LP from the vehicle

Once installed and powered up, if the REC-LP is unplugged without a special procedure, the UltiGuard-LP will sound the vehicle's horn on and off continuously. This is a **Tamper Mode** security alarm feature preventing unauthorized removal of the REC-LP. This special procedure must be followed when removing the REC-LP:

- #1 Turn the ignition switch on.
 - #2 Press both LOCK and UNLOCK buttons together on the dealer transmitter.
The REC-LP will beep 3 times, and its Blue indicator light starts flashing.
 - #3 For the next 30 seconds the REC-LP may be unplugged, without causing Tamper Mode.
- After removing the REC-LP, install the Valet Switch and Status Light module and plug both 2-pin plugs into it. Tuck or bundle these wires, along with the no-longer needed REC-LP 4-pin plug, and doorlock interface plug (if left in the vehicle). Ensure that the **customer-use hang tag is placed in the vehicle** in a conspicuous place.



INSTALLATION INSTRUCTIONS



**OEM Security
Impact Sensor**

pre-installed with

REC-LP **CAR DEALERSHIP
INVENTORY
LOT PROTECTION
Receiver Unit**

System Description

The UltiGuard-LP **Shock Sensor** enhances the effectiveness of vehicle's existing OEM security alarm system by adding to it shock or impact detection in the forms of chirping the horn as a "prewarning" for lighter detected shocks, and by triggering the OEM alarm from heavier shocks. The REC-LP **Dealer Receiver** directly interfaces with the UltiGuard-LP and allows the car dealership to secure the vehicle while in inventory, and to have authorized access to the vehicle whenever desired, by use of a **master dealer remote transmitter**.

The Dealer Receiver and Shock Sensor are both installed into the new car when it arrives at the dealership. The Receiver operates in conjunction with the Sensor to protect the car from theft or tampering; and allows access by all dealership personnel who have a master transmitter.

When an end-user consumer purchases the vehicle from the new car dealership, the Dealer Receiver is removed, and replaced by a Valet Switch and sensor Status Light module, so that the new car owner can fully operate the Shock Sensor, which is left in the car as an enhancement upgrade to the OEM alarm. The Dealer Receiver is continuously being reinstalled into another newly-arrived vehicle, after its removal from a sold vehicle. The Shock Sensor is only installed once; it adds shock detection protection to the vehicle's alarm, and it also protects the Dealer Receiver from being tampered with. In its final form, the Sensor adds shock detection to the OEM alarm as a security enhancing benefit the car's new owner, the purchaser.

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Important Items of Note

- The **UltiGuard-LP** shock sensor is especially designed to operate with the REC-LP receiver, and then by itself without the receiver after the vehicle is sold from dealership inventory. UltiMate Vehicle Systems also offers a similar shock sensor not specifically designed for partial use with a receiver, the **UltiGuard** (note no “-LP”). End user operation and benefits are identical between the two sensors.
- The **REC-LP** receiver by intention of design has relatively short range; on the average, the special dealer transmitter will operate it when 10 to 20 feet away. This limits the number of adjoining vehicles which will respond to a transmission, and those intended vehicles which do respond to an “unlock” command will automatically relock 30 seconds later.

Dealership Inventory Protection Operation

Once the vehicle has the UltiGuard-LP and REC-LP installed, authorized dealership personnel have access via special dealer transmitters, to unlock (and lock) the vehicle for demonstration or service needs.

The REC-LP and UltiGuard-LP system will automatically operate every time that the vehicle ignition key is turned off. Two processes are started by the ignition turning off:

- 1** The UltiGuard-LP **Shock Sensor** starts setting up, which is indicated by a rapidly flashing **Red** light on the face of the REC-LP. 35 seconds after the ignition was turned off, the Red light changes to a slow flash indicating that the UltiGuard-LP is operational. In the slow-flashing Red light condition, a light impact or shock to the vehicle will cause the sensor to chirp the vehicle's horn 3 times. If the OEM security alarm is also armed, if the UltiGuard-LP detects a heavy impact will trigger the factory alarm.
- 2** The second process which is initiated when the vehicle ignition is turned off is a setting up period for the REC-LP **Receiver**. This is indicated by a rapidly flashing **Blue** light on face of the REC-LP. The rapidly flashing Blue light is reminder and a warning that 30 seconds after the ignition was turned off the REC-LP locks the vehicle's doors, and activates the optional starter interrupt circuit, should it be installed.

In normal, everyday use any authorized person having a **dealer transmitter** can unlock the vehicle by pressing the transmitter's UNLOCK button within 10 to 20 feet of the vehicle. After it unlocks, the vehicle's ignition must be turned on within 30 seconds, or the REC-LP will relock them.

The REC-LP can not be removed from the vehicle, except by a special procedure which requires use of a dealer transmitter (see page 8).

The UltiGuard-LP sensor may be turned off, if needed, by a Valet Mode. To place the sensor in valet mode, during the 35 second setting up period, simply press the valet switch on the bottom of the REC-LP and hold it for 3 seconds, or until the rapidly flashing Red light goes out (once the sensor sets, it can not be placed into valet mode). Once the UltiGuard-LP has been placed into valet mode, to remove back to normal operation, simply press and release the valet switch at anytime while the ignition key is off. The Red sensor status light will start flashing fast, as the sensor will begin setting up.

The REC-LP receiver's automatic operation may not be turned off, unless Programmable Feature #5 is turned on (page 7). If the receiver's valet mode has been turned on to operate, the function of valet mode is to prevent automatic locking (including starter interrupt engage

lights on the sensor illuminate when the sensor detects impacts exceeding adjustment thresholds, even when the sensor is off.

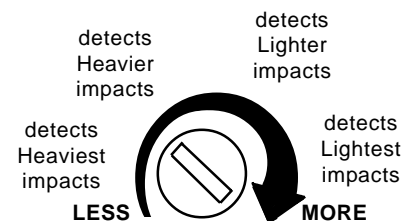
Arm the OEM alarm (typically by remotely locking the doors using the **factory** transmitter- if in doubt refer to the vehicle's owner manual), wait for the arming delay to expire (the Status Light slows from a fast to slow flash after 35 seconds).

Once the UltiGuard-LP is set up, carefully apply impact to the vehicle by striking its exterior in various locations with a open hand. Ensure that the UltiGuard-LP beeps the horn for lighter impacts, and activates the OEM alarm for heavier impacts.

Note: The beeping horn for prewarning may be adjusted for different pulse lengths, with the “Horn Pulse” adjustment on the sensor.

Take the time and carefully set both Prewarn and Trigger zone adjustments, so that the UltiGuard-LP operates correctly and effectively!

Complete the installation after adjustment and testing by securing any removed vehicle components and then **place the customer-use hang tag in the vehicle** and placing the peel-and-stick the “UltiGuard Security Protection” window labels onto the vehicle's side glass. Be sure to remove any packaging materials or leftover surplus kit parts from the vehicle.



**Sensitivity adjustments-
both zones are similar**

REC-LP Programmable Features

The REC-LP has the following five Programmable Features:

#	Feature	Choices	Feature Description
1	Automatic Lock	On / Off	REC-LP gives lock output 30 seconds after the ignition key is turned off.
2	Automatic Relock	On / Off	REC-LP gives lock output 30 seconds after receiving “unlock” command from the transmitter, unless the ignition key is turned on during the countdown.
3	Doorlock Pulse Time	1 Sec. / 3 Sec.	Sets the pulse length of the doorlock port's output.
4	Single / Double Unlock Output	Single / Double	Sets the unlock output as 1 or 2 pulses.
5	Valet Mode	Off / On	Sets the Receiver's valet mode to either operate, or not operate.

The “Choices” column first option is set by pressing the dealer transmitter “Lock” button during programming; the second option is set by pressing the “Unlock” button (see “How to Program” on the next page for the features' programming procedure). The bold choices indicate the factory default setting of each feature.

Resetting All of the REC-LP Program Features to Default

If needed, all of the REC-LP's Programmable Features may be returned to the factory-set default positions. Enter the features programming mode, steps #1 and #2 in the previous section, and at step #3 simply press the dealer transmitter's “Lock” and “Unlock” buttons together. The REC-LP unit will respond with 3 short beeps to confirm the Features' reset.

a vehicle having the 3-wire Negative Pulse type of doorlocks, which is the most common.

Red 3-pin, 2-wire plug

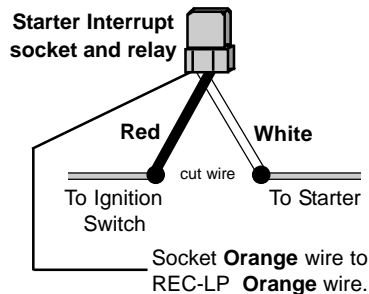


Other power doorlocking systems, besides the 3-wire Negative, will require optional parts such as these Omega accessories:

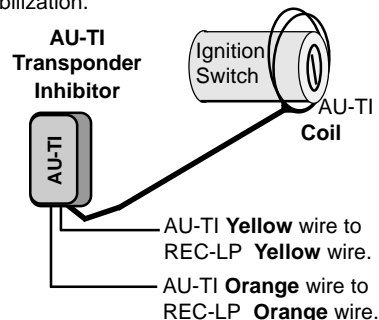
- 3-wire Positive Pulse doorlocking systems will require a DLP-P3 polarity converter, or a DLS dual socket and two relays.
- 5-wire Reversal doorlocking systems will require the DLS and two relays, or a DLR-C modular relay pack, or a DLR-U universal relay pack.
- Resistor doorlocking systems will require the DLR-U universal relay pack.
- Many newer vehicles offer doorlocking integration via the data bus. In these cases, the best option would be one of Omega's comprehensive offerings of IntelliKit integration modules.

An **optional Starter Interrupt** may be added if desired. There two forms of optional starter interruption, or starter inhibiting devices available.

The traditional **Starter Interrupt** socket and relay requires that the vehicle starter wire be cut and the socket connected in-line to the starter wire. When the REC-LP has output on its Orange wire, any attempt to start the vehicle will activate the relay and open the starter circuit.



If the vehicle is equipped with a factory immobilizer, a newer means is the **Transponder Inhibitor** device which temporarily blocks the transponder in the key. When the REC-LP has output on its Orange wire, any attempt to start the vehicle will block the key's signal, causing immobilization.



Adjusting the UltiGuard-LP

VERY IMPORTANT! After the UltiGuard-LP is mounted, and its and the REC-LP wiring connections are both made, **adjust** the sensitivity of the sensor for **both** prewarning AND alarm triggering, and **thoroughly test** the sensor operation.

Turn the Sensitivity Adjustments on top of the sensor clockwise or counter-clockwise so that the prewarning ("Prewarn") is slightly higher than the alarm ("Trigger"). Carefully apply impact by hand to an appropriate area (such as the dash or steering wheel) to assist in the initial adjustments. To aid in this initial adjustment, the green Prewarn and red Trigger LED indicator

ment) and automatic relocking. To place the REC-LP into valet mode, press and hold the valet switch for 3 seconds, while the ignition key is on (sensor valet mode is ignition key off). The REC-LP will beep once, and the Blue status light will light solid, and remain lighted while the REC-LP is in valet mode.

While the REC-LP is in valet mode, automatic locking and automatic relocking will not occur, although remote locking and unlocking can still be performed via the dealer transmitter. Although valet mode also prevents the starter interrupt from engaging, if the starter interrupt is already engaged when the REC-LP is placed into valet mode, it will not disengage it. This is a security feature- only the dealer transmitter can turn off the starter interrupt. If the starter interrupt is off when the REC-LP is placed into valet mode, the doors will not automatically lock, nor will the starter interrupt engage automatically.

To remove the REC-LP from valet made, simply press the valet switch again with the ignition key on; the receiver will beep twice and the Blue status light will go out.

Complete System (UltiGuard-LP & REC-LP) Installation

Note: these instructions and all needed parts for the REC-LP are included with each UltiGuard-LP and describe the installation of the UltiGuard-LP and REC-LP together. The REC-LP is removed and reinstalled many times, each time with a new UltiGuard-LP sensor.

Mount the UltiGuard-LP sensor module to any structural part of the vehicle, behind the driver-side or center of the dashboard. A nylon tie-strap, Velcro and screws are provided as mounting method options. The mounting location should allow access to the sensitivity adjustments and a view of the onboard test LEDs. Exercise care in mounting the UltiGuard-LP in secure, permanent fashion, and be sure to carefully adjust the sensor's sensitivity levels, when called for in a following step. Plug the four included wiring harnesses into the REC-LP, either prior top or after mounting. These harness are a pair of 2-pin plugs, a 3-pin plug and a 6-pin plug, with which the connections to the vehicle are made.

WIRING the UltiGuard-LP sensor to the vehicle involves making 6 wiring connections to the vehicle's wiring- see the **Wiring overview** on the following two pages for details of these six connections. The remaining wiring for the UltiGuard-LP sensor consists of three direct-plug-in wiring harnesses, between the UltiGuard-LP sensor and the REC-LP module.

Mount the REC-LP receiver module in a driver-accessible location, such as on or below the driver's dash.

Important: the REC-LP will be replaced by the Valet Switch and Status Light module when the vehicle is prepared for the end-purchaser. The Switch and Light module may be added at that time; or, it could be pre-installed along with the REC-LP, and upon preparation for delivery the REC-LP can be removed, and the wiring simply moved over to the pre-installed Valet Switch and Status Light module.

Plug the three direct-plug-in wiring harnesses, from the UltiGuard-LP sensor, into the REC-LP receiver module. These are: a 2-pin plug for the Valet Switch; a smaller 2-pin plug for the Status Light; and a main harness 4-pin plug (note: this harness has a 3-pin plug on the UltiGuard-LP end). The 4-pin plug has a loose (non-terminated) Orange wire, which is for an optional starter interrupt (see these options on page 6).

The **power doorlock connections** are made via the REC-LP's **3-pin, 2-wire plug**. The type of connections needed will vary depending upon the vehicle into which the REC-LP is being installed. The 3-pin 2-wire harness supplied will allow direct connection of the REC-LP to

see Installation text continued on page 6

UltiGuard-LP sensor & REC-LP receiver

WIRING overview

BEFORE vehicle sells - Inventory Protection mode

Interfaces are either direct connection, optional relays or an optional databus module. See pages 3 and 6.

Interfaces are either an optional starter interrupt relay or an optional transponder interrupt. See page 6.

Optional power doorlock interface

Optional starter interrupt interface

Receiver module

Sensor module

Prewarn output sensitivity adjustment

Alarm output sensitivity adjustment

Prewarn horn pulse adjustment

Polarity jumpers & test LEDs

Two 2-pin plugs

3-pin plug

6-pin plug Main Harness

AFTER vehicle sells - Customer mode

Status Light & Valet Switch holder

The 4-pin plug is no longer needed after the receiver is removed. Simply bundle it to the other two sets of wires.

Black ground wire

Connect to (-) Ground. Securely attach this wire's ring terminal to a good chassis grounding point. Use an existing small bolt or self-tapping screw, and attach the ring terminal to clean, bare metal.

Red power wire

Connect to Constant (+) 12 Volts. Good sources are the ignition switch harness or at the fuse box. An included QuickTap may be used to connect the Red wire to a vehicle power wire, or the nylon sleeve of the Red wire's terminal can be trimmed back to allow plugging into an available fuse box constant power terminal, if one is available.

Yellow wire

This wire turns the sensor on and off, and this wire should be connected to Ignition (+) 12 Volts in the vehicle. The recommended connection point of the Yellow wire is to an ignition power wire at the ignition switch wiring harness, or to an ignition source at the fuse box.

Green wire * see polarity note, below

This is the sensor's prewarn trigger output, which can be used to beep the vehicle's horn when the sensor detects a light impact. Connect this wire to the vehicle's horn switch wire, which is found in the steering column area, between the vehicle's horn switch and horn relay.

Blue wire * see polarity note, below

This is the sensor's alarm trigger output, which causes the OEM alarm to activate when the sensor detects a heavy impact. Connect this wire to a wire in the vehicle which will trigger the OEM alarm. An existing hood open or trunk open detection wire is recommended. Most OEM security alarms do have the recommended hood open and/or trunk open detection circuit. Otherwise a door open detection wire may be used, but in some cases this may cause the domelight to occasionally flash, or activate the illuminated entry, as the sensor becomes operable 35 seconds after the ignition key is turned off, whether the OEM is armed or not armed, and it will react to an impact and provide the trigger output.

Pink wire

This is an "override" wire for the Green prewarning wire. Once the sensor is on, if this wire has a change in polarity the sensor's prewarning function will not operate for 60 seconds. The purpose of this wire is prevent a prewarning (beeping the horn) in the period between the user unlocking the vehicle doors, entering it, and turning on the ignition. Several connection points within the vehicle are possible; the most likely connections are to the vehicle's door open detection wire, or to the courtesy lights (the later especially, if remote illuminated entry is present). This wire "learns" polarity, so the polarity of the target wire does not matter.

*** polarity note, Green & Blue wires** Either of these wires may be programmed to produce (+) Positive or (-) Negative outputs, by placing the jumper directly below each adjustment to the left (Negative, the default) or to the right (Positive).