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RS-320-EDP

Deluxe Keyless Entry & Remote Start

Installation Guide

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Temporary cover. Color cover is in a separate file.

Table Of Contents

PLEASE CAREFULLY READ THIS ENTIRE MANUAL TO FAMILIARIZE YOUR-SELF WITH THE REQUIREMENTS OF THIS SYSTEM BEFORE BEGINNING THE INSTALLATION. THE VERSATILITY OF THIS SYSTEM AND NUMEROUS POS-SIBLE CONFIGURATIONS MAKE PRE-PLANNNING VERY CRITICAL.

THE HOOD PIN CONNECTION IS REQUIRED IN ALL INSTALLATIONS.

REMOTE START SHOULD NOT BE USED IN AN ENCLOSED STRUCTURE. BE SURE TO TEST THE SYSTEM WITH PLENTY OF VENTILATION OR OUTSIDE TO PREVENT THE INGESTION OF DANGEROUS FUMES.

MAKE ALL WIRING CONNECTIONS BEFORE PLUGGING THE HARNESSES INTO THE MODULE.

ALL OPERATIONAL INSTRUCTIONS, INCLUDING PROGRAMMING TRANSMIT-TERS CAN BE FOUND IN THE OPERATION MANUAL.

SYSTEM COMPONENTS

Mounting The Control Module: Always mount the control module in the vehicle's interior compartment. It should be in a secure location that is not easily accessible and away from any moving parts of the vehicle. Also be sure that vibration, moisture, and temperature extremes are avoided. Typical mounting locations are behind the driver's dash, the glove box, or other interior panels.

Mounting The System Receiver (Antenna): The window mounted receiver provides superior operating range when properly mounted. It is recommended to mount it to the windshield's interior. Try to avoid being too close to metal panels as they can block reception. Also, try to avoid metallic based window tint as it can also affect the reception. An ideal location would be the top center of the windshield pointing down or the top left corner of the windshield pointing towards the right side of the vehicle (as viewed from the driver's seat). The receiver has a double stick pad for mounting. Be sure to thoroughly clean and dry the surface before mounting.

The Status Lights and Valet Switch are built into the window antenna for your installation convenience. Consider the visibility of the status lights and the ease of access to the valet switch when mounting the receiver. The valet switch must be accessible for programming and for placing the remote start in valet mode.
OPTIONAL Valet Switch Mounting: If desired, for added security, an optional separate valet switch may be used and mounted in a separate/hidden location.

Main 6-Wire Wiring Harness

Most of the main wiring harness connections are high amperage circuits so high reliability connections must be made. It is recommended to solder and adequately insulate each connection. Many of these connections are made at the vehicle's ignition switch so be sure to properly route the harness away from steering wheel tilt mechanisms or anything that could compromise the wire insulation. Remember, the goal is for this system to mimic the ignition switch. Keep this in mind when deciding which ignition & accessory circuits to power. Most, if not all will be required.

RED & RED/WHITE WIRES (CONSTANT POWER)

REQUIRED. These wires provide the constant positive 12v power supply for the system's operation. **CONNECTION:** Be sure to connect these to a supply with sufficient amperage for remote starting. Typically, the constant power supply to the ignition switch is ideal. Some vehicle's have low amperage ignition switches in which case you would need to find a power supply at a fuse block or at the vehicle's battery. Be sure these wires are fused within 6 inches of the connection to the vehicle. The two 30AMP fuses in the harness are to protect the system module, NOT THE VEHICLE. Their use is REQUIRED. It is ideal to have a separate supply for each wire but, if the chosen supply is sufficient enough, you can combine both the RED & RED/WHITE wires at the same point.

PINK WIRE (IGNITION #1 INPUT/OUTPUT)

REQUIRED. This connection is required and is critical to the operation of the system. It is an "IGNITION ON" input when the ignition key is turned on. It is also the primary ignition output for remote start operation. It turns on when remote start is activated and stays on during engine cranking for the entire remote start sequence. **CONNECTION:** The vehicle's primary ignition circuit is typically found at the ignition switch. The proper circuit will show +12v when the ignition key is in the ON/RUN and START positions.

ORANGE WIRE (ACCESSORY OUTPUT)

This connection is designed to drive accessory circuits for functions like climate control, etc.. It turns on when remote start is activated (slightly earlier than the primary ignition output) and turns off only during engine cranking. It will turn back on for the remainder of the remote start sequence.
CONNECTION: An accessory circuit is typically found at the ignition switch. The proper circuit will show +12v when the ignition key is in the ON/RUN position but not in the START position.

VIOLET WIRE (START OUTPUT)

REQUIRED. This output supplies positive voltage to the vehicle's starter circuit. If using a starter interrupt circuit for anti-grind, be sure this is connected on the starter side of the interrupt.
CONNECTION: The starter circuit is typically found at the ignition switch. The proper circuit will show +12v only when the ignition key is in the START position.
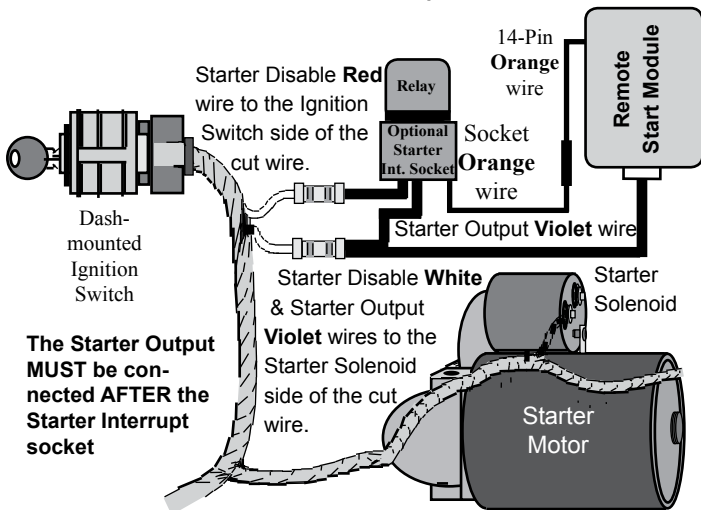
BLACK WIRE (GROUND)

REQUIRED. This input supplies negative ground for all system operations. **CONNECTION:** Use an appropriately sized crimp-on ring terminal to connect this wire to the metal frame of the vehicle preferably using an existing bolt or fastener. Make sure that the mounting point is free of grease, dirt, and paint for a good metal-to-metal contact. A poor ground is the cause of many performance issues and can be difficult to diagnose so keep this in mind.

ORANGE WIRE (ANTI-GRIND OUTPUT)

This output supplies negative ground during remote start for the anti-grind feature. An optional starter interrupt relay socket is required to utilize this feature. Additionally, this wire can be used as a "STATUS" output for interface modules. It turns on 1.5 seconds before the primary ignition output and stays on during the entire remote start operation. **CONNECTION:** For anti-grind, it would be connected directly to the starter interrupt relay and the relay would be connected to the vehicle's starter wire. See the diagram below.

Starter Disable And Starter Output Connections

Starter Disable **Red** wire to the Ignition Switch side of the cut wire.

14-Pin **Orange** wire

Relay

Optional Starter Int. Socket

Socket **Orange** wire

Remote Start Module

Dash-mounted Ignition Switch

Starter Output **Violet** wire

The Starter Output MUST be connected AFTER the Starter Interrupt socket

Starter Disable **White** & Starter Output **Violet** wires to the Starter Solenoid side of the cut wire.

Starter Solenoid

Starter Motor

CAUTION! Avoid the Airbag circuit! Especially avoid any harness or wires encased in Yellow or Red tubing or sleeves. Do not use a standard test light, as it can deploy an airbag or damage on-board computers and sensors if the wrong circuits are probed. A Digital Multi-meter (DMM) should be used.

BROWN/RED WIRE (BRAKE INPUT)

REQUIRED. This input is a critical safety circuit that disables the remote start operations whenever the brake pedal is pressed. It also prevents potential theft during remote start mode. **CONNECTION:** Find the vehicle's brake wire. Typically found at the brake pedal switch, this wire will show +12v when the brake pedal is pressed. Keep in mind that some brake circuits are only powered when the ignition is on. **NOTE: This function is supported via the system's data port. This connection is not required if you are using an integration module that also supports it.**

BLACK/WHITE WIRE (SAFETY INPUT)

REQUIRED. This input is a critical safety circuit that disables the remote start operations. Its connection depends on whether you are using the turbo timer and/or manual transmission features. **STANDARD CONNECTION:** Connect this wire to the vehicle's neutral safety circuit. The target wire will show ground when the gear selector is in park or neutral. Some vehicles do not have a "grounding type" of neutral safety switch. These vehicles simply use a switch to open the starter circuit. In these situations, this wire should be connected to the parking brake or chassis ground. **TURBO TIMER/MANUAL TRANSMISSION CONNECTION:** When using either of these features, it is required to connect the Black/White wire to the parking brake. The target wire will show ground when the parking brake is engaged.

GRAY WIRE (HOOD PIN INPUT)

REQUIRED. This input is a critical safety circuit that disables the remote start operations when the hood is opened. Its connection depends on whether you are using the manual transmission feature or not. **STANDARD CONNECTION:** If there is an existing hood pin switch, you can connect to its output. It will show ground only when the hood is opened. Otherwise, the included pin switch can be used. **MANUAL TRANSMISSION CONNECTION:** When using this feature, the Gray wire has a dual purpose. It's primary function is still to act as a hood pin safety input. But, with manual transmission remote starting, it also serves as a negative door pin input (must see all doors) which is required to perform the "manual transmission setup procedure" (see the operation guide for more info). In this situation, you would need to diode isolate the hood input from the door input. To do this, you would use two 1 or 2 amp diodes to create a "Y" from the Gray wire. Face the cathodes (stripes) towards the vehicle wires, connect one leg of your "Y" to the hood pin wire, and the other leg to the negative door pin input. If the door pin wire in the vehicle is positive, you must invert the signal with a relay. **NOTE: These functions (hood and door) are supported via the system's data port. This connection is not required if you are using an integration module that also supports it.**

BROWN WIRE (HORN OUTPUT)

This is a 1 amp negative output designed to operate the vehicle's horn for audible confirmations. **CONNECTION:** The vehicle's horn wire is typically found in the steering column harness and will show either positive voltage or ground when the horn is pressed. If it shows ground, you can normally connect the Brown wire directly to the horn wire. If the horn circuit is positive, you'll need to invert the Brown wire's output with a relay.

VIOLET/WHITE WIRE (TACH INPUT)

This input reads the engine speed via ignition or fuel injector pulses to determine whether the engine is running and how long to crank the engine. It is only needed if installer feature #2 is programmed for "tach wire". **CONNECTION:** Find the vehicle's tach wire. Typically found at the vehicle's tachometer or ignition coil. The wire will show 1-6 volts AC at idle and increase with the engine RPM. It can also be connected to a fuel injector's signal wire. Out of 2 wires, it will be the one that does NOT show +12v when the ignition is on. Once connected, you must perform the tach learn routine as described below. **NOTE: This function is supported via the system's data port. This connection is not required if you are using an integration module that also supports it. See installer feature #2 for more info.**

TACH LEARNING PROCEDURE

Once the installation is complete utilizing the tach wire, perform this procedure.

Step 1: Turn the ignition key "ON"
Step 2: Within 5 seconds, press the brake pedal 5 times. (horn honks 5 times)
Step 3: Start the engine. The status light will turn on to indicate it has learned the current tach signal.
Step 4: If the engine has a high idle at startup, it may be necessary to allow the idle to "settle" to around 700 RPM. If needed, you can press the valet switch 1 time to resample the tach signal. The status light will flash off then back on once the signal has been resampled.
Step 5: Turn the ignition key "OFF".

WHITE WIRE (POS. FLASHING LIGHT OUTPUT)

This output will flash the vehicle's parking lights to provide a 360 degree visual confirmation of the systems' operations. **CONNECTION:** Connect this to the vehicle's POSITIVE parking light circuit. It can usually be found at the headlight switch or in the body harness running to the rear of the vehicle. Some vehicles have split systems (left & right for example). In this case you would need to use two relays or two 6 amp diodes (stripe towards vehicle wires) to isolate each circuit and maintain OEM functionality. If the vehicle has a negative parking light circuit, use the WHITE/BLACK wire described in the next section.

WHITE/BLACK WIRE (NEG. FLASHING LIGHT OUTPUT)

This output has the exact same operation as the White wire except the output is negative with a 250mA capacity. **CONNECTION:** Connect this to the vehicle's NEGATIVE parking light circuit. It can usually be found at the headlight switch.

RED/WHITE WIRE (TRUNK RELEASE/CH2 OUTPUT)

This output provides a 250mA negative pulse when the "trunk" button is held for 3 seconds. It's primary use is for trunk release on vehicle's with electronic trunk release. **CONNECTION:** Connect this to the vehicle's trunk release circuit. This can be found at the trunk release switch. It will show ground or positive when you pop the trunk. If the circuit requires more than 250mA or is positive, a relay is required. **NOTE: This function is supported via the data port. This connection is not required if you are using an integration module that also supports it.**

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LT. GREEN/BLACK WIRE (OEM ALARM DISARM OUTPUT)

This wire produces a Negative pulse output whenever the system is unlocked or remotely starts the engine. This output may be used to disarm a factory-installed alarm, if the vehicle is so equipped. **CONNECTION:** Connect this wire to the vehicle's factory disarm wire. Most commonly, the desired wire will show Negative polarity when a key is held in the "unlock" position in the door key cylinder. This wire can usually be located in either kick panel, in the wiring harness from the door, as it is routed between the door key cylinder and the factory alarm.

NOTE: This function is supported via the system's data port. This connection is not required if you are using an integration module that also supports it.

LT. GREEN/RED WIRE (OEM ALARM ARM OUTPUT)

This wire produces a Negative pulse output whenever the system is locked or turns off the engine after having been remotely started. This output may be used to arm a factory-installed alarm, or, if the vehicle is equipped with a Retained Accessory Power circuit, this output can be used to "spike" the door pin switch wire, which will turn off the Retained Accessory Power circuit. **CONNECTION:** To arm a factory alarm after remote start engine run stops, connect the Yellow/Red wire to the vehicle's factory arm wire. This wire will show Negative polarity when a key is held in the "lock" position in the door key cylinder. This wire can usually be located in either kick panel, in the wiring harness from the door, as it is routed between the door key cylinder and the factory alarm.

To use this wire to turn off Retained Accessory Power, locate a vehicle wire within the door or doorjamb which shows Negative when the door is open. Should such a wire be found which is positive, a relay is needed to reverse the Yellow/Red wire's Negative output to Positive.

NOTE: This function is supported via the system's data port. This connection is not required if you are using an integration module that also supports it.

WHITE/BLUE WIRE (REMOTE START ACTIVATION INPUT)

If this wire receives a Negative pulse the remote start operation will be activated. Even if this wire is used to activate remote starting, the transmitter or transceiver's normal button assignment will also operate remote starting. The number of pulses to activate this circuit are determined by installer feature #1. **CONNECTION:** Connect the White/Blue wire directly to any output which gives a Negative pulse.

YELLOW WIRE (EXTERNAL ALARM IGN. CONTROL OUTPUT)

This wire is a (+) 12V output which will directly supply a host remote keyless entry or security system's ignition input circuit. This circuit has voltage whenever the ignition switch is on, but not when the system is in remote start mode. Connection is needed on keyless entry systems and security systems which cannot be operated if the ignition switch is on. If this circuit is not used on such a system, the alarm's transmitter, after remote start activation, would not be able to disarm/unlock or turn off the remote start. **CONNECTION:** Connect the Yellow wire directly to the host unit's ignition /ACC input wire.

This port provides for even more Ignition and Starter outputs, for remote starting use. These outputs are Negative 250mA, and the second pin is +12 Volts for the optional relay coils. A short non-terminated harness is included, to access the port, and available as an optional service part is a socket and two relays (part # RS-RP) that converts these outputs into high-amperage Positive voltage. Omega plug-in OEM antitheft bypasses can also utilize the Red port.

Blue Wire - (Negative Ignition Output): The Blue wire is a 250mA negative output that behaves exactly like the large Pink Ignition output on the main power harness. It can be used to drive relays for extra ignition outputs or to activate bypass kits via the GWR (Ground When Running) input.

Red Wire - (Constant +12V Output): The Red wire is a constant +12v, 250mA output provided to supply relays or low current devices.

Green Wire - (Negative Programmable Output): The Green wire is a 250mA negative output that is defaulted to behave exactly like the large Violet Start output on the main power harness. It can be used to drive relays for extra start outputs. This output can be programmed to give a pulse after cranking, a GWR/Status output, or to behave as a negative Accessory output. Please refer to installer programmable feature #4 for more details.

Data Port

Omega data bus interface modules, and remote start bypass modules, are available as analog-operated, and as direct data-to-data (D2D) devices. The former may be operated by connection to the system's door lock/unlock port, or to its Satellite Relay Port. The latter are the OmegaLink & IntelliKit data bus interface modules and bypass kits, which simply plug into this green port. Either type of Omega accessory module includes its own vehicle-specific instructions. Please refer to the Omega website, www.caralarm.com for the latest vehicle-specific application guide.
NOTE: Although other brands of data bus modules may physically plug into the system's data port, only genuine Omega modules offer the highest consistent quality and dependable operation. Always choose Omega databus product for use with this port.

Status Lights

Valet Switch

System Receiver Module
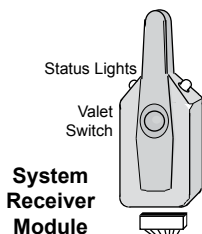
Secondary Wiring Harness Connector

(-) Remote Start Activation Input - **White/Blue**
(-) Starter Interrupt Output - **Orange**
(+) Alarm ACC Control Output - **Yellow**
(-) Parking Light Output - **White/Black**
(-) OEM Alarm Arm Output - **Lt. Green/Red**
(-) 2nd Channel Output (trunk release) - **Red/White**
(-) System Ground - **Black**
(-) OEM Alarm Disarm Output - **Lt. Green/Black**
(-) Horn Output - **Brown**
(-) Hood/Door Pin Input - **Gray**
(+) Brake Input - **Brown/Red**
Tach Wire Input - **Violet/White**
(+) Parking Light Output - **White**
(-) Neutral Safety Input (NO) - **Black/White**

10 AM

Main Power & C
To Battery
Programmable Relay Outpu
To I
Starte
Accessory
Igni

**Red Remote Start
Satellite Relay Port**

Start - Output - **Green**
Relay Coil Power - **Red**
Ignition - Output - **Blue**

**Green
Data
Port**

Power Doorlock Interface Port
Unlock Output - **Blue**
Relay Coil Power (pin)
Lock Output - **Green**

Start
Ignition
Accessory

**Jumper For
Pink/White
Programmable
Output**

«EXCALIBUR» **RS-320-EDP**

**Slide-On Clip for
optional Accessories**

Output Connector
(+) Power - **Red/White** — 30 AMP
t (Ignition) - **Pink/White**
Battery (+) Power - **Red** — 30 AMP
er Relay Output - **Violet**
Relay Output - **Orange**
tion Relay Output - **Pink**

Door Lock/Unlock Port (Red 3-pin)

The Red 3 pin door lock/unlock port on the system's control module produces negative pulses for locking & unlocking the doors along with a constant 12 volt pin for optional relay coils. Most power door locks are found as three system types: 3 wire negative pulse, 3 wire positive pulse, and 5 wire reversal, rest at ground. Other less common power doorlock systems are the vacuum pump type and the single wire, dual-voltage type. The best way to identify a doorlock system is to examine the doorlock switch's wiring. Vehicle specific wiring info is available to Omega dealers/ installers from our tech support department.

3 WIRE NEGATIVE PULSE SYSTEMS

3 Wire Negative Pulse Systems are typically indicated by the presence of three wires at the switch. One will show constant ground, even while the switch is operated; one will show ground when the switch is pushed to the "lock" position, and the other wire will show ground when the switch is pushed to the "unlock" position. With the switch at rest, these two wires will read voltage, usually +12 volts.
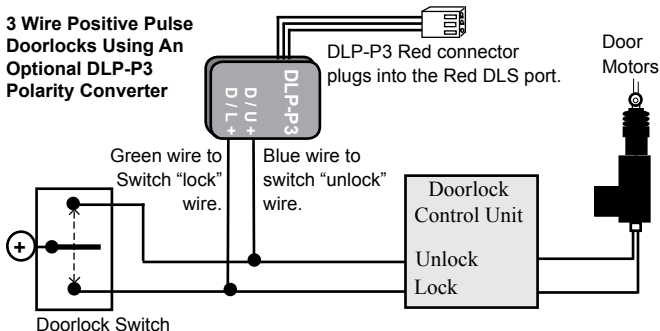**CONNECTION:** The included harness (DLP-N3) can allow direct connection between the system and a 3-Wire Negative Pulse system. If more than the 500mA Ground output that the module can provide is required, use the optional model DLS and two relays.

3 WIRE POSITIVE PULSE SYSTEMS

3 Wire Positive Pulse Systems are similar to the Three Wire Negative Pulse system except the vehicle's doorlock system switches 12 volts positive. Examine the three wires on the back of the switch; if more than three, suspect a 5 Wire Reversal system. One will be constant 12 volt positive, regardless of the switch's position. Of the two remaining wires, one will show Positive when the switch is pushed to "lock", and the other will show Positive when the switch is pushed to "unlock".
CONNECTION: Optional accessories are available for connecting to Positive Pulse doorlocking systems- the DLP-P3 polarity reversal interface, the DLS and two relays or DLR-U. The following diagram shows how to connect the optional DLP-P3. The DLS and DLR-U include their own diagrams.

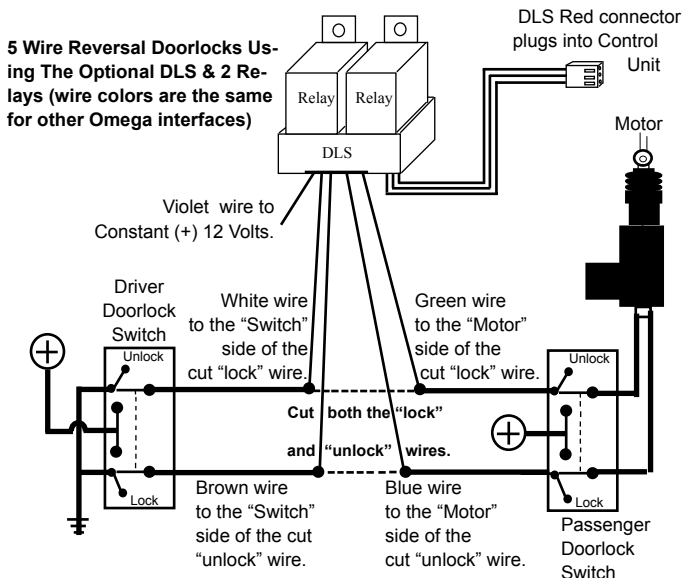**3 Wire Positive Pulse Doorlocks Using An Optional DLP-P3 Polarity Converter**

DLP-P3 Red connector plugs into the Red DLS port.

Door Motors

Green wire to Switch "lock" wire.

Blue wire to switch "unlock" wire.

Doorlock Control Unit

Unlock
Lock

Doorlock Switch

5 WIRE REVERSAL REST AT GROUND SYSTEMS

This system differs from the Negative and Positive Pulse systems as there are no relays or doorlock control unit. In this type of system, the switches themselves supply the positive voltage directly to the doorlock actuators AND provide the return ground path. The important thing to remember is the wires in this system rest at ground, which means that the wires must be "opened", or cut, to make the connections. Examine the wires on the back of the switch. One will be constant +12 volts, regardless of the switch's position; two wires will be grounded regardless of the switch's position. Of the two remaining wires, one will show +12 volts when the switch is pushed to "lock", and the other will show +12 volts when the switch is pushed to "unlock".

Once determined, the correct wires must be cut. Notice in the following diagram that the driver's switch is the primary switch and referred to as the "switch" wires. The wires that go to the secondary switch are referred to as the "motor" wires. Even though the cut is made between the switches, the two sides are still correctly called the "switch" and the "motor" sides since the wires ultimately drive the motors after passing through the secondary switch.

5 Wire Reversal Doorlocks Using The Optional DLS & 2 Relays (wire colors are the same for other Omega interfaces)

DLS Red connector plugs into Control Unit

Relay   Relay

DLS

Violet wire to Constant (+) 12 Volts.

Motor

Driver Doorlock Switch

White wire to the "Switch" side of the cut "lock" wire.

Green wire to the "Motor" side of the cut "lock" wire.

Unlock

Cut both the "lock" and "unlock" wires.

Brown wire to the "Switch" side of the cut "unlock" wire.

Blue wire to the "Motor" side of the cut "unlock" wire.

Lock

Passenger Doorlock Switch

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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.

> If the Unauthorized Transmitter Alert feature is on, programming a transmitter to the system will activate the "UTA" warning and the extended Status Light indication. For the next 48 hours, the horn will sound a brief series of chirps every time the vehicle's ignition key is turned on.

Special Programming procedure to turn On the UTA feature: Using this method to program transmitters or optional controllers, and to turn on the Unauthorized Transmitter Alert feature.

Follow the same steps as the Standard Programming, but on any transmitter/controller being programmed instead of pressing the "**lock**" button, press the "**lock**" and the "**unlock**" buttons together. This action turns **on** the Unauthorized Transmitter Alert feature and at the same time programs the transmitter or controller to operate the system.

Once the Unauthorized Transmitter Alert feature is turned on, the warning will sound for 48 hours after any transmitter programming, including the programming session which was used to turn it on. This feature can only be turned off again by sending the system back to Omega for a reset.

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.

User Programmable Features

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.

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.

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   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)

This feature selects the method in which the remote start monitors the engine's running condition in remote start mode.

"Tachless Hi" sensitivity mode has an associated base starter output time duration (see feature #10/5) and monitors the vehicle's voltage level to determine if the engine is running. This setting looks for a voltage increase of 0.3v after cranking.

"Tachless Lo" sensitivity mode operates like the "Tachless Hi" setting but looks for a voltage increase of 0.5v after cranking.

"Tach Wire" Before this setting is programmed, refer to the "Violet/White wire" section of the installation manual for proper wiring connection and the Tach Learn Procedure. It will crank the engine for up to 3 seconds or until a tach signal is detected.

"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.

Feature #3   Gasoline Or Diesel Engine

Gasoline   (press "lock" button to program) **- DEFAULT**
Diesel   (press "unlock" button to program)

This feature changes the system's timing of the ignition and starter output sequence for remotely starting vehicles with gas or diesel engines. When set for gasoline, the starter output will occur 3 seconds after the ignitions turn on. Also, when the system is in "Tachless" mode, the engine running status will be determined 10 seconds after cranking. When set for diesel, the starter output will occur 20 seconds after the ignitions turn on to allow for glow plug warming. Also, when the system is running in "Tachless" mode, the engine running status will be determined 40 seconds after cranking. This allows the vehicle battery(s) to recharge properly and show normal voltage levels due to the heavy drain diesel engines have on the electrical system during cranking.

Feature #4   Satellite Relay Port Green Wire Function

Starter   (press "lock" button to program) **- DEFAULT**
Pulse After Engine Start   (press "unlock" button to program)
Ignition/Status Output   (press "trunk" button to program)
Accessory   (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.

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

Accessory setting operates as a secondary ACCESSORY output. This will have the same operation as the large Orange wire on the main harness.

Feature #5   Extended Starter Cranking Time

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" mode. If the engine doesn't start on the first attempt, it will retry up to 3 more times extending the crank time by an additional 0.2 second with each attempt..

Installer Programmable Features (cont'd)

Feature #6   Doorlocking Output Functions

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.

Feature #7   Turbo Timer

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.

Feature #8   Manual Transmission Remote Start

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 8 for more information.

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		
Installer Feature Programming: Ignition on, off, press valet 10 times				
1 RS Activation	1 press	2 presses	3 presses	4 presses
2 Engine Detection	Tachless Hi	Tachless Lo	Tach Wire	Datatach
	Crank Only (press Lock + Unlock)			
3 Gas or Diesel Engine	Gas	Diesel		
4 Sat. Port Green Wire	Starter	Pulse After Start	Ign/Status	Accessory
5 Crank Time	0.7 Sec	1.00 Sec	1.5 Sec	2.25 Sec
6 Doorlock Outputs	0.8 Sec	3 sec	Double Unlock	Total Closure
7 Turbo Timer	OFF	1 min	2 min	3 min
8 Manual Transmission RS	ON	OFF		

Back Cover

Color cover is in a separate file.