RS-X60-EDP / RS-X60-EDP+

Firmware v2.0

Deluxe Keyless Entry & Remote Start

Installation Guide

April 23, 2015

Temporary cover. Color cover is in a separate file.

Table Of Contents

Installation Considerations

BEFORE STARTING THE INSTALLATION, READ THIS ENTIRE MANUAL TO DETERMINE INSTALLATION REQUIREMENTS

- VERIFY EACH CIRCUIT WITH A DIGITAL MULTIMETER
- IDENTIFY REQUIRED CIRCUITS FOR THE VEHICLE IN QUESTION
- MOUNT ANY SYSTEM COMPONENTS AND ROUTE WIRING AWAY FROM MOVING PARTS OR PARTS OF THE VEHICLE THAT GENERATE EXCESSIVE HEAT
- TAPE OFF OR REMOVE ANY UNUSED WIRING TO PREVENT POSSIBLE SHORT CIRCUITS
- ONLY ACTIVATE THE REMOTE START FUNCTION IN A WELL VENTILATED ENVIRONMENT
- AFFIX THE UNDERHOOD WARNING STICKER
- **AVOID ANY AIRBAG CIRCUITS, USUALLY INDICATED BY A YELLOW SLEEVE OR JACKET AROUND THE WIRING**

6 Pin Main Wire 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 (+) INPUT

REQUIRED. These wires provide the constant positive 12v power supply for the system's operation. **CONNECTION:** Connect these to a constant +12 volt supply with sufficient amperage for remote starting. The +12v 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. Fuse these wires within 6 inches of the connection to the vehicle. The two 30AMP fuses in the harness 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 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.

6 Pin Main Wire Harness (cont'd)

ORANGE WIRE - ACCESSORY (+) OUTPUT

This circuit is designed to drive accessory circuits 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 an anti-grind relay, connected this on the starter side of the relay.

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.

MANUAL TRANSMISSION: It is usually necessary to bypass the clutch switch during remote start operations. Study the vehicle's schematics for the best approach.

PINK/WHITE WIRE - IGN#2/PROGRAMMABLE (+) OUTPUT

This output is programmable to act as an additional ignition, accessory, or start output. It supplies positive voltage for powering any additional circuits required for remote starting the vehicle. The default operation is as an ignition circuit. See installer feature #2 for the settings that change this operation.

CONNECTION: The proper circuit will show +12v only when the ignition key is in the position of the desired function. See the PINK, ORANGE, or VIOLET wire description for detail on your desired operation.

14 Pin Secondary Wire Harness

BLACK WIRE - SYSTEM GROUND (-) INPUT

REQUIRED. This input provides negative ground for all system operations.

CONNECTION: Using a properly sized ring terminal, connect this wire to the vehicle's chassis. Using an existing bolt is preferred but make sure that the connection point is clean and free of dirt, grease, or paint. Bright shiny metal at the connection point is desired.

ORANGE WIRE - STATUS/ANTI-GRIND (-) OUTPUT

ONLY AVAILABLE ON EDP+ MODELS - This provides 500mA negative ground while the alarm is armed and/or during remote start for anti-grind operation. The operation is selectable with installer feature #16.

CONNECTION: This wire is connected to the orange input wire on an optional start interrupt relay.

BROWN/RED WIRE - BRAKE PEDAL (+) INPUT

REQUIRED. This input is a critical safety circuit which disables the remote start operation whenever the brake pedal is pressed.

CONNECTION: Connect this to the brake switch wire that shows +12 volts when the brake pedal is pressed.

BLACK/WHITE WIRE - NEUTRAL SAFETY (-) INPUT

REQUIRED. This input is a critical safety circuit which allows remote start operation whenever the gear selector is in park or neutral (automatic transmission), or when the parking brake is applied (manual transmission). Remote start will not operate unless this wire sees chassis ground.

CONNECTION (Automatic Transmission): Connect this to the neutral safety switch wire that shows (-) ground when the gear selector is in the park and neutral positions.

CONNECTION (Manual Transmission): Connect this to the parking brake switch wire that shows (-) ground when the parking brake is applied.

VIOLET/WHITE WIRE - TACH SIGNAL INPUT

This input provides the engine's RPM signal to the remote start. This is typically the most reliable form of engine detection. To use the tach wire, you must change installer feature #3 to the tach wire setting.

CONNECTION: This can be connected to any trigger wire for an ignition coil, fuel injector, or the signal to the tachometer in the dash. Use a digital multimeter set for AC volts to test. The appropriate wire will read between 1-6 volts AC and will increase as the engine RPM increases.

BROWN WIRE - HORN (-) OUTPUT

This output provides a 1 amp negative output to operate the vehicle's horn.

CONNECTION: Connect this wire to the vehicle's horn circuit. If the vehicle's circuit is something other than negative, you will need to use a relay to convert this output.

WHITE WIRE - FLASHING LIGHT (+) OUTPUT

This output provides a 10 amp positive output to flash the vehicle's parking lights (typically). If the vehicle has a low current negative parking light circuit, use the WHITE/BLACK wire instead.

CONNECTION: Connect this wire to the vehicle's positive parking light circuit. It will show +12 volts when the parking lights are on. **BE SURE NOT TO CONNECT TO THE DIMMER CIRCUIT WHICH WILL CHANGE VOLTAGE AS YOU TURN THE DIMMER KNOB.**

WHITE/BLACK WIRE - FLASHING LIGHT (-) OUTPUT

This output provides a 250mA negative output to flash the vehicle's parking lights. If the vehicle has a positive parking light circuit, use the WHITE wire instead.

CONNECTION: Connect this wire to the vehicle's negative parking light circuit. It will show ground when the parking lights are on. **BE SURE NOT TO CONNECT TO THE DIMMER CIRCUITWHICH WILL CHANGE RESISTANCE TO GROUND AS YOU TURN THE DIMMER KNOB.**

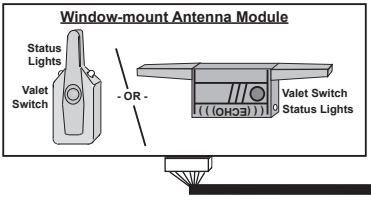
GRAY WIRE - HOOD TRIGGER (-) INPUT

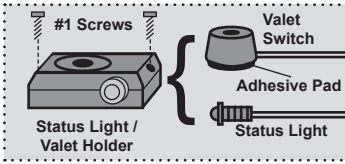
REQUIRED. This is a critical safety circuit that prevents remote start functions while the hood is opened. It also monitors the doors in manual transmission mode.

CONNECTION: Connect this wire to the OEM hood switch or light. It will show ground when the hood is opened. You can also use the included pin switch.

(continued on page 8)

Wiring Overview





3 PIN DOOR LOCK PORT

Lock (-) Output - GREEN

Constant 12v (+) Output - Empty Pin

Unlock #1 (-) Output - BLUE

Black Data Port

AUTO-DETECTS PROTOCOL UPON 1ST START ATTEMPT

OPTIONAL Starter Interrupt socket and relay

Red

White

cut starter wire

To Ignition Switch

To Starter

ORANGE Wire

WIRE LEGEND

Hard wire connection required

Supported via DATA port

14 WIRE HARNESS

Remote Start Activation (-) Input - WHITE/BLUE

(EDP+ MODELS ONLY) Status / Anti-grind (-) Output - ORANGE

(EDP+ MODELS ONLY) Alarm Ign. Control (+) Output - YELLOW

Flashing Light (-) Output - WHITE/BLACK

OEM Alarm Arm (-) Output - GREEN/RED

Trunk Release/CH2 (-) Output - RED/WHITE

System Ground (-) Input - BLACK

OEM Alarm Disarm (-) Output - GREEN/BLACK

Horn (-) Output - BROWN

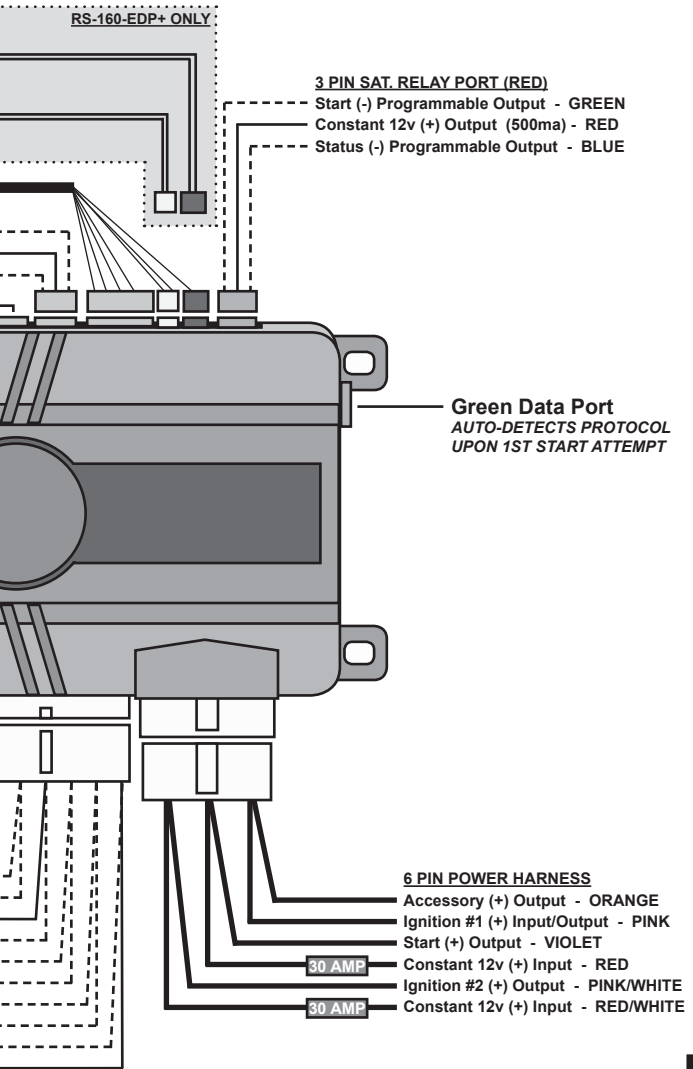
Hood Trigger (-) Input - GRAY

Brake (+) Input - BROWN/RED

Tach Input - VIOLET/WHITE

Flashing Light (+) Output - WHITE — **10 AMP**

Neutral Safety (-) Input - BLACK/WHITE


RS-160-EDP+ ONLY
3 PIN SAT. RELAY PORT (RED)
Start (-) Programmable Output - GREEN
Constant 12v (+) Output (500ma) - RED
Status (-) Programmable Output - BLUE
Green Data Port
AUTO-DETECTS PROTOCOL
UPON 1ST START ATTEMPT
6 PIN POWER HARNESS
Accessory (+) Output - ORANGE
Ignition #1 (+) Input/Output - PINK
Start (+) Output - VIOLET
30 AMP
Constant 12v (+) Input - RED
Ignition #2 (+) Output - PINK/WHITE
30 AMP
Constant 12v (+) Input - RED/WHITE

14 Pin Secondary Wire Harness (cont'd)

MANUAL TRANSMISSION CONNECTION: The Gray wire also serves as a door pin input (must see all doors) which is required to perform the "manual transmission setup procedure" (detailed in the operation guide). Diode isolate the hood input from the door input using two 1 or 2 amp diodes facing the cathodes (stripes) towards the vehicle wires. If the vehicle's door pin wire is positive, you must invert the signal with a relay.

YELLOW - ALARM IGNITION CONTROL (+) OUTPUT

ONLY AVAILABLE ON EDP+ MODELS - This output controls the ignition input to an outboard aftermarket alarm or keyless entry. When remote start is activated, this wire prevents the keyless/alarm from receiving an ignition ON input to allow for keyless entry operation. Otherwise, it's a direct pass through of the ignition circuit.
CONNECTION: Connect this wire directly to the outboard keyless entry/alarm's ignition input wire.

WHITE/BLUE WIRE - REMOTE START ACTIVATION (-) INPUT

This input will activate the system's remote start function when it receives a negative pulse. Another pulse during remote start operation will turn off the remote start.
CONNECTION: Connect this wire to any device that you desire to activate the remote start feature. It requires a negative pulse input.

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

This output provides a 250mA negative pulse when remote start is turned off and when the system's alarm is armed.
CONNECTION: Connect this wire to the vehicle's OEM alarm arm circuit. Typically, it will show ground when the door cylinder key is turned to the lock position.

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

This output provides a 250mA negative pulse when remote start is activated and when the system's alarm is disarmed.
CONNECTION: Connect this wire to the vehicle's OEM alarm disarm circuit. Typically, it will show ground when the door cylinder key is turned to the unlock position.

RED/WHITE WIRE - TRUNK RELEASE / CH2 (-) OUTPUT

This output provides a 250mA negative output when the trunk release/CH2 function is activated by the controller. The output will remain as long as the controller button(s) is held.
CONNECTION: Connect this wire to the vehicle's existing trunk release switch if it is a low current negative circuit. If the circuit is a high current ground or a positive circuit, the use of a relay is required.

Green & Black Data Ports

These ports provide a direct digital interface for any interface module, or other accessories, using either the DBI protocol or iDatalink protocol. **UPON THE FIRST REMOTE START ATTEMPT, THE PORT WILL AUTO-DETECT WHICH PROTOCOL TO USE. MAKE SURE ANY CONNECTED DEVICE IS PROPERLY CONNECTED AND PROGRAMMED BEFORE HAND.** The Black port allows firmware flashing and feature programming via www.omegaweblink.com.

3 Pin Satellite Relay Port (RED)

GREEN WIRE - START (-) PROGRAMMABLE OUTPUT

This output provides a 250mA negative pulse when the large VIOLET start wire is active. It can also be programmed for PULSE AFTER START, STATUS, or DOME-LIGHT SUPERVISION. See installer programmable feature #5.

CONNECTION: If a negative start output is needed, connect this directly to the vehicle's negative starter circuit. Otherwise, use a relay (or RS-RP module) to convert this to a high current circuit.

RED WIRE - CONSTANT (+) OUTPUT

This output provides a 500mA positive output to drive the positive pin of added relay coils.

BLUE WIRE - IGNITION (-) OUTPUT

This provides a 250mA negative output that mimics the large PINK ignition wire's operation. However, it's operation is programmable. See installer feature #6 for other options.

CONNECTION: This is typically used to activate immobilizer bypass modules. Connect it directly to the module's activation input.

3 Pin Door Lock/Unlock Port (RED)

GREEN WIRE - LOCK (-) OUTPUT

This provides a 0.8 second 250mA negative pulse for any locking operations. The pulse timing is programmable by installer feature #8.

CONNECTION: Connect this to the vehicle's lock circuit for negative pulse systems. Otherwise, a doorlock interface and/or relays are required to convert the output.

CENTER PIN (EMPTY) - CONSTANT (+) OUTPUT

This output provides a 500mA positive output to drive the positive pin of added relay coils. It is used for Omega prewired doorlock interfaces.

BLUE WIRE - UNLOCK (-) OUTPUT

This provides a 0.8 second 250mA negative pulse for any unlocking operations. The pulse timing is programmable by installer feature #8.

CONNECTION: Connect this to the vehicle's "all door" unlock circuit for negative pulse systems. Otherwise, a doorlock interface and/or relays are required to convert the output.

Status Lights

All Models Except The RS-160-EDP+: This system includes 2 status lights that are built into the window mount antenna module. It is desirable for these to be visible from as many angles around the vehicle as possible for maximum visual theft deterrence. The control module has a separate port for the status light, so an optional dash/custom mounted light can be utilized if desired.

RS-160-EDP+: This system includes a separate status light. It can be mounted in a 9/32" hole in the dash or in the included holder.

Valet / Programming Switch

Most Models: The valet switch is built into the window mount antenna module for ease of use.
RS-160-EDP+: The valet switch is separate and a status light/valet button holder is provided.

Window Mount Antenna Module

Be sure to clean the glass before adhering the antenna. Mount it high in the windshield avoiding metal parts of the vehicle . Metal based window tint can decrease performance. Route the harness to the antenna module avoiding sharp objects that could compromise the harness jacket.

Tach Programming

The vehicle's tach signal must be learned for proper operation. After making the tach wire connection, change installer feature #3 to "Tach WIre" & perform the following steps:
Step 1 Turn the ignition key "ON"
Step 2 Within 5 seconds, press the brake pedal 5 times. (the siren will chirp 5 times)
Step 3 Start the engine. The status lights will turn on indicating it has learned the current tach signal. If it does not light, check your tach connection and start over.
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".

Programming Transmitters

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 & the status light will turn on, confirming that for the next 10 seconds the system is ready to learn a transmitter/controller code.
Step 3 Press the "**lock**" button (press "**start**" on 1-button models) on each transmitter one at a time. The system will chirp the horn once to confirm that each was learned. The transmitter's other button's are automatically assigned at this point. If a code is not received within a 10 second period, the learning process will end, as indicated by another horn honk.
Step 4 Turn the vehicle's ignition "off".

Programming Features

A matrix of all programmable features and their options are on the next page. For feature explanations, refer to the operation manual. Use the procedure below to make changes.
NOTE: You can program features via your computer with Omega Weblink.
Visit www.omegaweblink.com for more information

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 (Press 10 times to access installer features). *(The siren/horn will sound 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 siren/horn will chirp equal to the selected feature)*
Step 4 **4-button MODELS:** Press the transmitter button that matches your desired setting.
1-button MODELS: Press the transmitter button (OR turn on the ignition and press the brake pedal) the number of times that matches your desired setting. *(The siren/horn will chirp matching 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, it will exit automatically after 10 seconds of no activity.

RESTORING FEATURE SETTINGS TO FACTORY DEFAULT:
Step 1 Enter Intaller Feature programming (DO NOT SELECT ANY FEATURES)
Step 2 **4-button MODELS:** Press LOCK + UNLOCK (or BRAKE x 5)
1-button MODELS: Press the START button 5 times (or BRAKE x 5)
(The siren/horn will sound to indicate reset and exit programming)

	User Feature Programming: Ignition on, off, press valet 5 times					
	# Feature	Lock (Brake x 1)	Unlock (Brake x 2)	Trunk (Brake x 3)	Start (Brake x 4)	Lock+Unlock (Brake x 5)
CONVENIENCE	1 Remote Start Run Time	10 min	5 min	15 min	20 min	
	2 Flashing Light Confirmations	Unlock: ON RS: ON	Unlock: ON RS: Flash	Unlock: Flash RS: ON	Unlock: Flash RS: Flash	
	3 Confirmation Chirp Volume	Low	Med-Low	Med-High	High	
	4 BROWN Wire: Siren/Horn	Pulse LOW	Pulse MED	Pulse HI	Steady Siren	
	5 Ignition Lock / Unlock	Off	Ign On: Lock	Ign. Off: Unlock	Lock + Unlock	
	6 Door Open Bypasses Feat. #5	On*	Off			
	7 Unlock w/ Trunk Release	On	Off			
SECURITY	8 RS Activation (Remote)	Start x 1	Start x 2	Start x 3	Start x 4	
	9 Last Door Arming	Off	On w/o Lock*	On w/ Lock*		
	10 Automatic Rearming	Off	On w/o Lock	On w/ Lock	Enhanced	
	11 Confirmation Chirps	Siren + Horn	Siren Only	On Demand	Off	
	12 Anti-Carjacking	Ignition	Door*	Ignition + Door*	Off	
	Installer Feature Programming: Ignition on, off, press valet 10 times					
INSTALLER ONLY	1 RS Activation (WHITE/BLUE wire)	1 Pulse	2 pulses	3 pulses	4 pulses	
	2 PINK/WHITE Wire	Ignition	Accessory	Starter		
	3 Engine Detection	Tachless Hi	Tachless Lo	Tach Wire	Data-tach	Crank Only
	4 Gasoline or Diesel Engine	Gasoline	15 sec Diesel	20 sec Diesel	30 sec Diesel	
	5 Sat Port GREEN Wire	Dome Light	Start	Ignition	Accessory	Status
	6 Sat Port BLUE Wire	Ignition	Status	Pulse After Start below freezing	Pulse After Engine Off	Horn
	7 Crank Time	0.75 sec	1 sec	1.5 sec	2.25 sec	
	8 Door Lock Output	0.8 sec	3 sec	Double Unlock	Total Closure	
	9 Remote Start Lock Control	Off	Lock after Start	Unlock before Start	Lock + Unlock	
	10 Turbo Timer	Off	1 min	2 min	3 min	
	11 Manual Transmission	On	Off			
	12 Data Port Protocol	Green: DBI Black: DBI	Green: iData Black: iData	Green: DBI Black: iData	Green: iData Black: DBI	Auto-detect
	13 Virtual Alarm	On	Off	Off/ 1-button Unlock Only		
	14 Pulse Ign. on Disarm	On	Off			
	15 Lock On Prewarn	On	Off			
	16 Starter Interrupt ***(EDP+ Models ONLY)***	Alarm Only	Anti-grind Only	Alarm/Anti-Grind	Automatic	
	17 Low Temp Crank Ext. ***(EDP+ Models ONLY)***	0 ms	200 ms	300 ms	400 ms	

Grey Background = **VIRTUAL ALARM** (installer feature #13) Must Be ON

* Door Status Is Required On Data Ports Via External Module.

Back Cover

Color cover is in a separate file.