



# RS-330-E

Keyless Entry & Remote Start

## Installation Guide

July 25, 2009



Temporary cover. Color cover is in a separate file.

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

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

## 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. Use installer feature #2 to 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.

## 12 Wire Secondary 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.

### **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.

## 12 Wire Secondary Harness (cont'd)

### **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 CIRCUIT WHICH WILL CHANGE RESISTANCE TO GROUND AS YOU TURN THE DIMMER KNOB.**

### **GRAY WIRE - HOOD TRIGGER (-) INPUT**

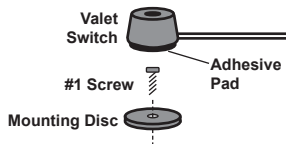
**REQUIRED.** This is a critical safety circuit that prevents remote start functions while the hood is opened. It also monitors the doors in manual transmission mode.

**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

## Window-mount Receiver Module



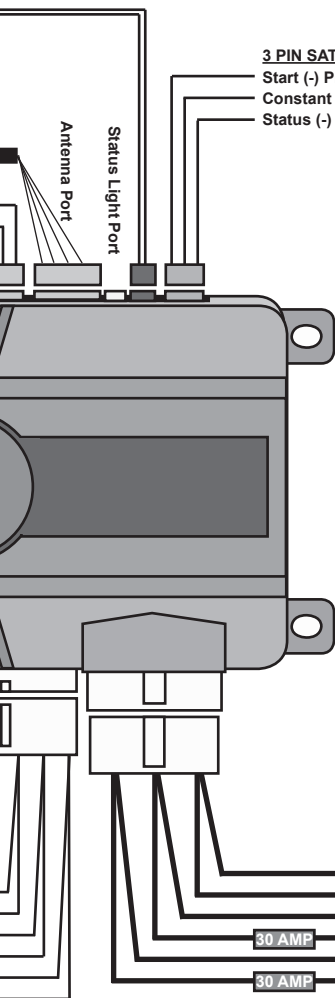
### 3 PIN DOOR LOCK PORT

Lock (-) Output - GREEN  
Constant 12v (+) Output - RED  
Unlock #1 (-) Output - BLUE

### 12 WIRE HARNESS

Alarm Ignition 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  
Neutral Safety (-) Input - BLACK/WHITE

10 AMP



**3 PIN SAT. RELAY PORT (RED)**

Start (-) Programmable Output - GREEN

Constant 12v (+) Output - RED

Status (-) Programmable Output - BLUE

**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

## 12 Wire Secondary 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**

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.

### **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.

### 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 - STATUS (-) PROGRAMMABLE OUTPUT**

This provides a 250mA negative output slightly before and during the large PINK ignition wire's operation. It can also be programmed for IGNITION operation. See installer feature #6.

**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 directly to the vehicle's lock circuit if a negative pulse is required. Otherwise, a doorlock interface and/or relays are required to convert the output.

#### **RED WIRE - CONSTANT (+) OUTPUT**

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

#### **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 directly to the vehicle's "all door" unlock circuit if a negative pulse is required. Otherwise, a doorlock interface and/or relays are required to convert the output.

### Status Light (Optional)

This system includes a status light port that can be utilized with an optional AU-LED-SP or AU-LED-BLU if desired. It is best for the light to be visible from as many angles around the vehicle as possible for maximum visual theft deterrence. Both of the models listed above require a 9/32" hole for custom dash mounting.

## Valet / Programming Switch

This system includes a valet switch that is typically mounted somewhere in the driver's dash area. It is ideal to mount where it can easily be accessed for programming. It has a high quality double stick pad attached that can be used. For textured or curved dash surfaces, use the included mounting disc & screw. Screw this to the dash then stick the valet switch to the disc.

## Window Mount Antenna Module

This system is equipped with an outboard receiver module. It is designed to be window mounted high on the windshield for optimal performance and range. It is best to mount this module using the double sided stick pad included (be sure to clean glass before adhering). Mount it high in the windshield trying to avoid metal parts of the vehicle as they can create "blind spots" for the antenna. Also, metal based window tint can have an adverse affect on performance. Route the harness to the antenna module being sure to avoid sharp metal objects that could compromise the harness jacket.

## Tach Programming

When utilizing the tach wire circuit for engine detection, the vehicle's tach signal must be programmed to the remote start for proper operation. After making the tach wire connection, 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 to indicate it has learned the current tach signal. If it does not light, check your tach connection and start this procedure again.

**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, confirming that for the next 10 seconds the system is ready to learn a transmitter/controller code.

**Step 3** Press the "lock" button on each transmitter one at a time. The system will chirp the horn once to confirm that each was learned. The transmitter's other three buttons 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".

## Programmable Features

A matrix of all programmable features and their options are below. For detailed information on each feature, please refer to the operation manual. Use the procedure below to make any necessary changes.

**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 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 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 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 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	Crank Only
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		

**Back Cover**

**Color cover is in a  
separate file.**