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This device complies with F.C.C 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 TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

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07/08 MO-RS-210-DP REV0

Omega

RS-210-DP

OPERATION MANUAL

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Coin batteries used in the transmitter which is used to operate this system may contain Perchlorate Material - special handling may apply. See www.dtsc.ca.gov/hazardouswaste/perchlorate

Complete Programmable Features Matrix

USER Features		Ignition on, off, then press Valet Switch 5 times (BLUE Status Light).			
# Feature		Brake Pedal x 1	Brake Pedal x 2	Brake Pedal x 3	Brake Pedal x 4
1	Remote Start Run Time	10 Min.	5 min.	15 min.	20 min.
2	Steady/Flash Lights Rem. Start	Steady	Flashing		
INSTALLER Features		Ignition on, off, then press Valet Switch 10 times (BLUE Status Light)			
1	Remote Start Activation Pulses	1	2	3	4
2	"Tach Wire" or "Tachless "	Tachless	Tach	Data Tach	
3	Gasoline or Diesel Engine	Gasoline	Diesel		
4	Sat. Port Green Wire Function	Starter	Pulse After Start	Pulse After Stop	Accessory Output
5	Ext. Starter Cranking Time	.7 (minimum)	1.25	1.75	2.5 (maximum)
6	Unlock Functions	.8 second	3 Seconds	Double Unlock	N/A
7	Turbo Timer	OFF	1 min.	2 min.	3 min.

- IMPORTANT -

The RS-210-DP has many programmable features which can offer more operations than those described in the basic system instructions. Mostly, these extra features and operations are configured at the time of installation. Please read the sections of this manual which explain programmable features, and consult your installer for specifics on how your system is configured, and for installation options which can be added to system after installation.

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duration of the starter output's for the 1st start attempt. If the engine doesn't start on the first attempt, the system will retry up to 3 more times. With each attempt, the output will be extended by 0.2 seconds. There are four different base starter output settings. While the default-set minimum is sufficient for most vehicles; the Extended Starter Cranking Time can be used for difficult-to-start engines. **This feature should only be programmed by the installer.**

Feature #6 Unlocking Functions

Factory Default Setting **0.8 Second Unlock Output**
(press brake pedal **1x** to program)

Options:

3 Second Unlock Output (press brake pedal **2x** to program)

Double Pulse Unlock Output (press brake pedal **3x** to program)

This single feature gives the installer several needed options, to match the RS-210-DP's doorlocking outputs to suite different vehicle requirements.

- The first setting (programmed by pressing the brake **1x**) has the system produce the unlock output as 0.8 second in duration. This is the most common form of output needed, which interfaces most vehicles.
- The second setting (programmed by pressing the brake **2x**) changes the unlock output to be a longer 3 second pulse output. This is for certain vehicles which require a longer output pulse from the system's control unit; typically cars having vacuum pump systems, although the longer setting is also more suitable in some newer vehicles.
- Some newer vehicles require a double pulse output to remotely unlock the doors and/or to disarm a factory-equipped security system, which is what the Double Pulse Unlock setting provides (it is programmed by pressing the brake **3x**).

Feature #7 Turbo Timer

Factory Default Setting **Off**
(press brake pedal **1x** to program)

Options:

Run 1 Minute (press brake pedal **2x** to program)

Run 2 Minutes (press brake pedal **3x** to program)

Run 3 Minutes (press brake pedal **4x** to program)

This feature when turned on configures the RS-210-DP to automatically keep the engine running briefly after it is turned off. This operation is designed specifically for vehicles having turbocharged engines (the user may temporarily bypass the feature if desired).

This feature should only be programmed by the installer, and the operation of this feature depends on the correct connection of the 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.

Introduction

Welcome to the convenience which is offered by your RS-210-DP keyless entry & remote start system. The RS-210-DP is designed and manufactured by Omega Research and Development, a world leader in vehicle convenience and security since 1975. Your system offers easy, carefree operation, and the modular design allows its many impressive features to be customized to suit your needs. Omega systems are designed for professional installation, and are available only through new car retail outlets and selected mobile electronics specialist dealers.

Please note that this guide is written to reflect:

- That a power doorlock interface is installed with your system (the RS-210-DP also operates your power unlock function). The type of interface may vary from one vehicle to the other, and in some cases may involve optional components.
- That the Programmable Features are in the default settings; the operations of these features are also explained.

Your RS-210-DP system has three principal user components: the Blue LED **Status Light**, the **Valet Switch**, and the Remote **Transmitter**.

The **Blue LED Status Light** informs you at a glance which of the different conditions the system is in. Specific operations of this light are described on pages 7-8.

The **Valet Switch** is used to access Valet Mode, which allows the operator to suspend the remote start functions for as long as desired. The Valet Switch is also used when programming remote transmitters and system features. See "Using the Valet Switch" on page 6.

Transmitters are used to operate the RS-210-DP. Each system is capable of being operated by up to four different remote Transmitters. The remote transmitter has one push-button switch, which is labeled with an icon as to indicate its primary function.

The Window Unit With Status Light & Valet Switch

One of the components, typically mounted on the windshield, is the **Window Unit** module which contains the **Status Lights** and the **Valet Switch**. The window unit also receives communications from the system's remote transmitters.

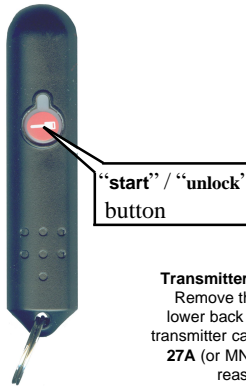
The Blue Status Lights report the operational status of the system at all times, and also serves as a visual deterrent to break-ins and theft. Specific description of the Status Light operation may be found on pages 7-8.



The Valet Switch has three main functions:

- The Valet Switch can be used to turn off the remote engine starting functions of the system placing it in "Remote Start Valet Mode".
- The Valet Switch is used in the procedure of programming operational features and also for encoding transmitters to the system. A complete description of the Valet Switch and its operations is on page 6.

The Transmitter & Basic Functions



Transmitter battery replacement:
Remove the small screw from the lower back case, and separate the transmitter case halves. Replace the 27A (or MN27 battery) battery and reassemble the transmitter.

Transmitter part number:
111-03 one button, long-range transmitter

"start"/"unlock" button (red)

- Pressing & releasing the "start" button twice within 5 seconds will activate the remote start feature. Pressing it twice again, during remote start, will stop the engine.
- Pressing the "start" button for three seconds will activate the "unlock" output (for vehicles that disable the factory keyless entry while the engine is running).

Feature #3 Gasoline Or Diesel Engine

Factory Default Setting	Gasoline	(press brake pedal 1x to program)
Option:	Diesel	(press brake pedal 2x 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. **This feature should only be programmed by the installer.**

Feature #4 Satellite Relay Port Green Wire Function:

Factory Default Setting	Starter	(press brake pedal 1x to program)
Options:		
Pulse After Engine Start		(press brake pedal 2x to program)
Pulse After Engine Stop		(press brake pedal 3x to program)
Accessory		(press brake pedal 4x 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.

- The first setting operates as a secondary START output. This will have the same pulse timing as the large Violet wire on the main harness.
- The second setting will give a 0.8 second pulse immediately after the large Violet wire's output stops.
- The third setting will give a 0.8 second pulse immediately after the remote start shuts down by any means.
- The fourth setting operates as a secondary ACCESSORY output. This will have the same operation as the large Orange wire on the main harness. **This feature should only be programmed by the installer.**

Feature #5 Extended Starter Cranking Time

Factory Default Setting	Minimum (.7 Second)
	(press brake pedal 1x to program)

Options:

Medium Lo (1.25 Second)	(press brake pedal 2x to program)
Medium Hi (1.75 Second)	(press brake pedal 3x to program)
Maximum (2.5 Second)	(press brake pedal 4x to program)

Extended Starter Cranking Time operates in conjunction with the feature #2's "Tachless" setting. When the system is set for "Tachless", this feature sets the

Feature #1 Remote Start Activation Pulses

Factory Default Setting:

1 pulse (press brake pedal 1x to program)

Options:

2 pulses (press brake pedal 2x to program)

3 pulses (press brake pedal 3x to program)

4 pulses (press brake pedal 4x to program)

This feature allows you to choose the number of pulses required on the White/Blue activation wire to activate the remote start feature. This allows you to activate the remote start with external devices. For example, you can connect this wire to a factory installed keyless entry system. You can repurpose the factory lock button so that multiple presses will activate the remote start. With any of the optional settings, each 2nd, 3rd, or 4th pulse must occur within a 5 second window of the previous pulse. **This feature should only be programmed by the installer.**

Feature #2 “Tach Wire”, “Tachless”, or “Data Tach”

Starter Operation

Factory Default Setting Tachless (press brake pedal 1x to program)

Options: Tach Wire (press brake pedal 2x to program)

Data Tach (press brake pedal 3x to program)

This feature selects the RS-210-DP processor’s method of determining the status of the engine running during remote start operation. As explained in feature 5’s description, “Tachless” mode has an associated base starter output time duration. However, if the voltage fluctuation is detectable, the processor adjusts the starter output time accordingly. When this feature is set for “Tach Wire” operation, the base starter output increases to a maximum of 3 seconds, but the processor adjusts the actual starter engagement time accordingly. Connecting and use of the “Tach Wire” is the most reliable form of engine running information input, and its use is recommended. **Important:** Before this feature is programmed, please refer to the “Violet/White wire” section of the installation manual for proper wiring connection, and the Tach Learning Procedure. The “Data Tach” setting operates just like the “Tach Wire” setting except it takes its reading from the D2D data port. Use of this setting is determined by whether or not this feature is provided by the Databus Interface module. If so, the Violet/White wire is not needed nor is the Tach Learning Procedure Required. **This feature should only be programmed by the installer.**

Using The RS-210-DP System

To Activate/Deactivate Remote Start:

Press & Release the transmitter “start” button twice



THE PARKING LIGHTS WILL TURN ON



THE ENGINE WILL CRANK

- The parking lights will turn on and the Status Light will flash fast to confirm that starting has begun.
- The system will then turn on the ignition circuit.
- Within a few seconds the lights will turn off and the starter will engage.
- The engine will start, run, and the starter will be disengaged.

- The lights will turn back on and remain on while the system is controlling the engine. The status light will then continue to flash slowly.
- If the engine stalls, the system will make 3 more attempts to restart it.

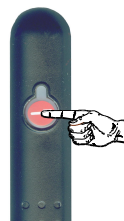
Upon entering the vehicle place the ignition key in the switch and turn it to the “On” position, pressing the brake pedal will deactivate the remote start operation. **Do not turn the key to the “Start” position!**

If you decide not to drive your car after remote starting, you can simply press & release the “start” button again to deactivate the remote start. Otherwise, the system will “time-out” and turn off automatically after 10 minutes. **NOTE:** If there is no response when attempting to remote start (and the system is not in valet mode), the system might be indicating that a safety circuit is violated. This could mean that the hood is open, the gear selector is not in park, or that the brake pedal is being pressed. Check these safety circuits and retry.

When you leave your vehicle after driving, simply set the climate controls for what you would like to have operating upon remote starting - the heater, defroster or air conditioning.

To Unlock the Vehicle’s Doors:

Press & Hold the transmitter START button for 3 seconds



THE PARKING LIGHTS WILL FLASH TWICE THEN TURN ON FOR 30 SECONDS



THE DOORS WILL UNLOCK

- The parking lights flash twice then stay on for 30 seconds to confirm unlocking. The Status Light will turn off to indicate that the system is in an UNLOCKED state.

Using The Valet Switch

Valet Mode

The system may be placed into a “valet mode” which prevents the remote start feature from being activated. It also disables confirmation chirps when unlocking the doors. Valet Mode should always be used when you do not wish for remote starting to be operated, such as when you have your vehicle serviced.

The Valet Switch, is used to engage Valet Mode:

- With the system in an unlocked state, press and hold the Valet Switch for 3 seconds; the Status Light will light steady, to indicate Valet Mode, and stay illuminated continuously while the system is in Valet Mode. The lights will flash twice.

Once in Valet Mode, an attempt to remote start will result in no response from the system. Keep this in mind if remote start stops functioning. The system may have accidentally been placed in valet mode.

- To turn off Valet Mode, simply press & release the Valet Switch once. The Status Light will turn off.

Pit-Stop Feature

This feature allows you to leave your vehicle and keep the engine running for quick errands. To use this feature, have the engine running normally from the ignition switch, have the gear selector in “park”, and your foot off of the brake pedal. Press the Valet Switch twice; the parking lights will illuminate; then turn the ignition off. The engine will remain running for the programmed run time, or it will turn off if another transmitter signal is received, a safety circuit is violated, or if the Valet Switch is pressed.

Feature #1 Remote Start Run Time

Factory Default Setting **10 Minutes** (press brake pedal **1x** to program)

Options:

5 Minutes (press brake pedal **2x** to program)

15 Minutes (press brake pedal **3x** to program)

20 Minutes (press brake pedal **4x** 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

Factory Default Setting **Steady** (press brake pedal **1x** to program)

Option: **Flashing** (press brake pedal **2x** 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.

The Installer Programmable Features

The second group of features, the Installer Programmable Features, are accessed as the second level of features’ programming, which is pressing the Valet Switch 10 times instead of 5 times when entering Programming Mode (page 9). **Caution: These features have a critical affect upon the system’s operations, and in many cases, also upon the system’s wiring connections. These features should NEVER be changed, except by the installer or other qualified professional.** This booklet should be consulted for the proper wiring connections, as associated with these programmable features.

Use the step-by-step instructions on page 9 to change any of the Installer Programmable Features, along with the feature’s option choices and related programming controller/transmitter button assignment found in the following individual feature descriptions.

Change the Feature:

Step 5 After accessing the desired feature, within 10 seconds Press & Release the brake pedal equal to the option desired.

- Pressing the brake pedal **once** typically turns the feature on; or sets the feature's first option. The Status Light and the parking lights will flash once when this option is chosen.
- Pressing brake pedal **twice** also typically turns the feature off; or, sets the feature's second option. The Status Light and the parking lights will flash twice.
- Many features have third, and even fourth setting options. Pressing the brake pedal 3 or 4 times will select these options. Status Light & parking lights flash three or four times respectively.

To Access and Change further Features:

Step 6 If there are more features to be programmed, within 10 seconds of the previous action Press & Release the Valet Switch the same number of times as the next desired feature's number.

- Again the Status Light and parking lights will flash as many times as the Valet Switch was pressed to indicate the new feature number which is now accessed. Then press the brake pedal as described in Step 5 to change the newly accessed feature as desired.

Step 7 Allow 10 seconds to pass without performing any programming actions, or turn the vehicle's ignition on.

- The Status Light & parking lights will turn off.

- SEE PAGE 9 FOR PROGRAMMING INSTRUCTIONS -

Each of the Programmable Features is described in detail on the following pages. The User Programmable Features are described as this first group, and the Installer Programmable Features as a second group. Installer Programmable Features should only be used by the original or other qualified installer, AND individual Installer Features should only be used with the correct wiring connections.

The 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.

Use the step-by-step instructions on page 9, and the complete features matrix on page 15, to change any of the programmable features. Each feature, the option choices and related programming transmitter button assignment are described in detail in the following pages.

Other Remote Start Features

Turbo Timer Feature

It is typically recommended that vehicles equipped with turbocharged engines allow the engine to idle for a few minutes before turning it off. When this Installer Programmable Feature is programmed on, the RS-210-DP will automatically keep the engine running as follows:

- With the engine running, hold the brake pedal and engage the parking brake. When the brake pedal is released, the RS-210-DP will keep the engine running for the selected time, and then automatically turn it off.

The turbo timer feature must be programmed by the installer, and turning it on offers three run time choices- 1, 2, or 3 minutes. The system may be locked while the engine is running. Turbo Timer can be prevented from engaging, or "bypassed" if desired, by turning the engine off first and then engaging the parking brake, or if it's already engaged simply step on the brake pedal to turn the running engine off.

The Status Light

The Status Light helps to visually confirm the status of the system and provides a high level of visual deterrence. The Status Light is located in the window mount receiver unit.

Normal System Status

- 1) Off = The system is unlocked and the remote starter system is off, but in standby mode.
- 2) On Constant = The system is in the Valet Mode, with the remote starter system disabled.

Starting System Status

The Status Light also indicates the remote start status:

- 4) Off = The remote starter system is off and in standby mode.
- 5) Flashing Slow (after sending the remote start command) = The engine is running via the remote starting system.
- 6) Flashing Fast (after starting the remote start sequence) = A remote start command has been received, and the system is in the process of starting the engine.

Remote Starting Diagnostics

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

- 7) 1 Flash = Programmed run time expired.
- 8) 2 Flashes = Brake was pressed or hood opened.
- 9) 3 Flashes = Engine stalled or bad tach signal.
- 10) 4 Flashes = Received transmitter command to stop.
- 11) 5 Flashes = Gear selector removed from "park".
- 12) 6 Flashes = Low voltage.

Transmitter Protection

The Omega RS-210-DP features several security safeguards in one of the most vulnerable areas of any remotely controlled system.

Code Jumping™ It is quite easy, with the proper equipment, to record an alarm or keyless entry system's transmitter signal, and simply play the captured signal back to the system to defeat it. The RS-210-DP's Code Jumping renders such "code grabbing" devices useless by randomly changing each signal that the transmitter sends.

Automatic Transmitter Verification™ (ATV) shows the total number of transmitters which can operate the system, by flashing the Status Light with this number for 10 seconds every time that the ignition key is turned on.

How to Program Transmitters

The RS-210-DP system is capable of being operated by as many as four transmitters. Additional transmitters must be programmed to the system in order to operate it (the originals, were programmed at the factory).

Transmitter Programming:

- 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 parking & status lights will illuminate, confirming that for the next 10 seconds the system is ready to learn a transmitter code. Simply press and release the "start" button. When the first code is learned, existing stored codes will be erased.
- Step 3** Press the "start" button on each remaining transmitter one at a time. The system will turn off the lights once to confirm that each was learned. If a code is not received within a 10 second period, the learning process will automatically terminate, as indicated by the lights turning off.

Programming Features

Step 1	Turn the vehicles' ignition on.
Step 2	Turn the ignition off.
Step 3	<u>Within 5 seconds, Press & Release the Valet Switch</u> 5 times for User Programming (Solid Status Light) OR 10 times for Installer Programming (Solid Status Light)
Access a Feature:	
Step 4	<u>Within 10 seconds, Press & Release the Valet Switch the same number of times as the desired feature's number.</u>

- The Status Light & parking lights will flash equal to the number of the selected feature. The Status Light will continue to flash in the same manner with a brief pause between each flashing sequence.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Information to user

The users manual or instruction manual for an intentional or unintentional radiator shall caution the user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. In cases where the manual is provided only in a form other than paper, such as on a computer disk or over the Internet, the information required by this section may be included in the manual in that alternative form, provided the user can reasonably be expected to have the capability to access information in that form.