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07/08 MO-RS-110-DP REV0

Omega
RS-110-DP

OPERATION MANUAL

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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 N/A				
7 Turbo Timer	OFF	1 min.	2 min.	3 min.

- IMPORTANT -

The RS-110-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.

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 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   NOT AVAILABLE

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-110-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-110-DP keyless entry & remote start system. The RS-110-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 the Programmable Features are in the default settings;
    the operations of these features are also explained later in this guide.

Your RS-110-DP system has two principal user components: the Blue LED **Status Light**, and the **Valet Switch**.

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 5.

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 system features and to utilize other remote start functions. See "Using the Valet Switch" on page 4. The location of the valet switch is typically determined by the installer. Please consult with your installer to learn about the location of the valet switch. It is a crucial part of the system and easy access to it is recommended.

Remote Starting

To remote start your vehicle, press the button or button combinations on your host alarm/keyless entry system that was dedicated for this fea-ture. If you are unsure, please consult your intaller to learn more about activating this system.

Using The Valet Switch

Valet Mode

The system may be placed into a "valet mode" which prevents the remote start feature from being activated. 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.

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-110-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-110-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.

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**.

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 gasonline, 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 accomodate 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**.

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 6). **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 6 to change any of the Installer Programmable Features, along with the feature's option choices.

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-110-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

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 typically located in the dash panel. Consult with your installer about the Status Light's location.

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.

Programming Features

Step 1	Turn the vehicles's ignition on.

Step 2	Turn the ignition off.

Step 3	Within 5 seconds, Press & Release the Valet Switch
	5 times for User Programming (Solid Status Light)
	OR
	10 times for Installer Programming (Solid Status Light)

- The Status Light & parking lights will turn on to confirm that the system has entered Programing Mode.
- In the case of accessing the Installer Mode, the lights will turn on at the fifth valet switch press, immediately turn off at the sixth valet press, and then turn on again at the tenth valet switch press.
- In either Programming Mode, if 10 seconds of no programming activity occurs, the system will exit Programming Mode.

Access a Feature:

Step 4	Within 10 seconds, Press & Release the Valet Switch the same number of times as the desired feature's number.

- 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.

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 6 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 6, and the complete features matrix on page 11, 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.

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.