



OS-1 rev.2

# General Motors OnStar® Interface Installation Instructions.



The OS-1 is a plug and play interface that allows replacement of a General Motors factory stereo (without RDS option) and maintain operation of the OnStar® system. The OS-1 has on board switching, and amplification to allow audio from the OnStar® system to play through the two front factory speakers when OnStar® is active, and mute the new replacement radio. The OS-1 can also be used when a stereo and amplifier combination system is installed. Separate speakers can be added if desired.

There are separate gain adjustments for left and right OnStar® audio and an LED indicator that turns on when the OS-1 receives an "ON" command from the OnStar® system.

If the vehicle has the factory Bose sound system and it is desired to retain the Bose amplifiers and speakers then PAC's plug and play OEM-1 premium sound system interface is also needed. Either use the complete Bose/OnStar® Kit (OS-1BOSE) that includes the OS-1 and OEM-1 interfaces and harnesses, or add a OEM-1 interface and AMP-GM21A (1999-2002 Pontiac Grand Prix requires a AMP-GM21B) harness to the OS-1.

## Supported Vehicles

**Cadillac** 1999 - 2000 Escalade\*, 2002 Escalade. **Chevrolet** 2001 - 2002 Avalanche, 1999 - 2002 Blazer, 1998 -1999 Lumina, 2001 Silverado, 1998 - 2002 Suburban and Tahoe, 1998 -2000 Venture. **GMC** 1997 - 2002 Sierra, 1998 - 2002 Suburban, Yukon and Denali. **Pontiac** 1999 - 2002 Grand Prix\*, 1998 - 2000 Montana. **Oldsmobile** 1998 - 2000 Silhouette.

The OS-1 will interface with all GM radios that use the 21 pin / 9 pin connectors. If there is a "RDS logo on the radio face or the radio uses the 24 pin / 12 pin connectors, this interface will not work. The OS-1 will **not** work on 2003 SUV's and trucks.

\* See page 2 bulletin

## Installation

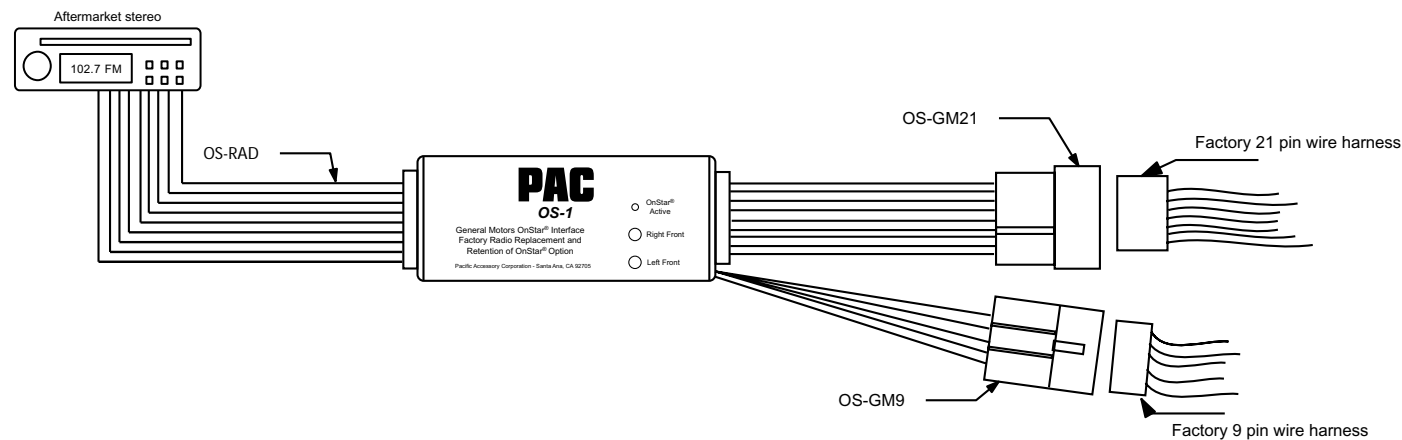
**There are four installation options for the OS-1:**

- Option 1:** Connect aftermarket stereo to factory speakers or amplifier (non-Bose).
- Option 2:** Connect aftermarket stereo to Delco/Bose Premium Sound Systems. (OEM-1 and AMP-GM21A or AMP-GM21B required)
- Option 3:** Connect aftermarket stereo to aftermarket amplifier and using external speakers.
- Option 4:** Connect aftermarket stereo to factory speakers and using external speakers.

### OPTION 1: Connecting the aftermarket stereo and OS-1 to the vehicle's factory speakers.

**Step 1.** Pre wire the OS-RAD wire harness to the aftermarket stereo wire harness. If the aftermarket stereo has a mute wire, cut the brown wire as close as possible to the relay socket and connect it to the stereo's mute wire (Fig. 1).

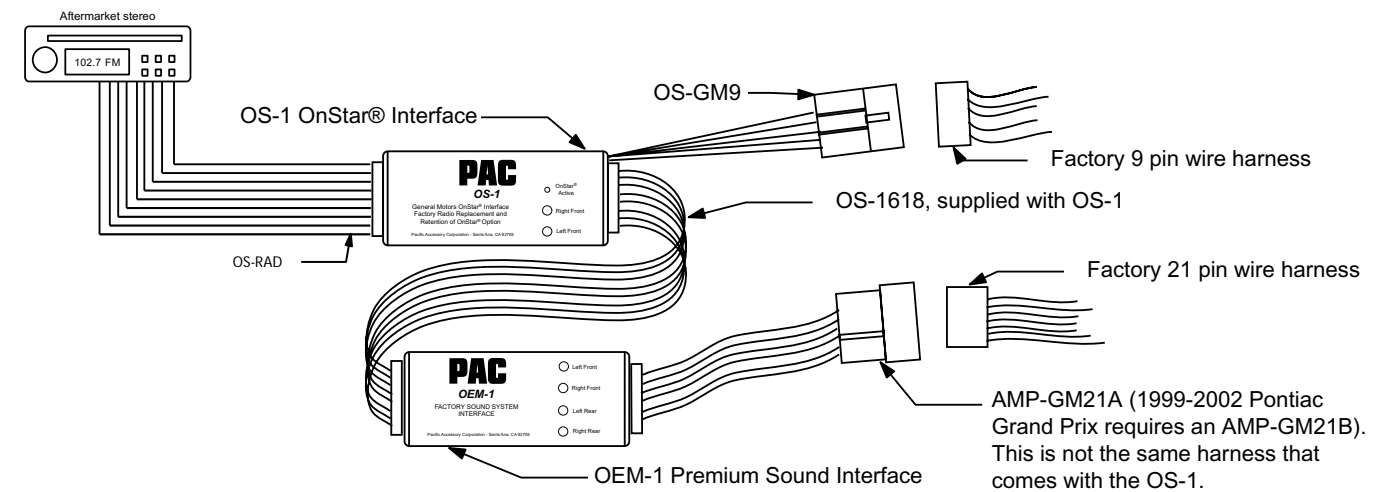
**Step 2.** After connecting the OS-RAD and OS-GM21 wire harness to the OS-1 main interface, connect the OS-GM21 and OS-GM9 connectors to the factory harness. You will not need the OS-1618 wire harness for this application.



### OPTION 2: Connecting the aftermarket stereo and OS-1 to the vehicle's factory Bose system.

**Step 1.** Pre wire the OS-RAD wire harness to the aftermarket stereo wire harness. If the aftermarket stereo has a mute wire, cut the brown wire as close as possible to the relay socket and connect it to the stereo's mute wire (Fig. 1).

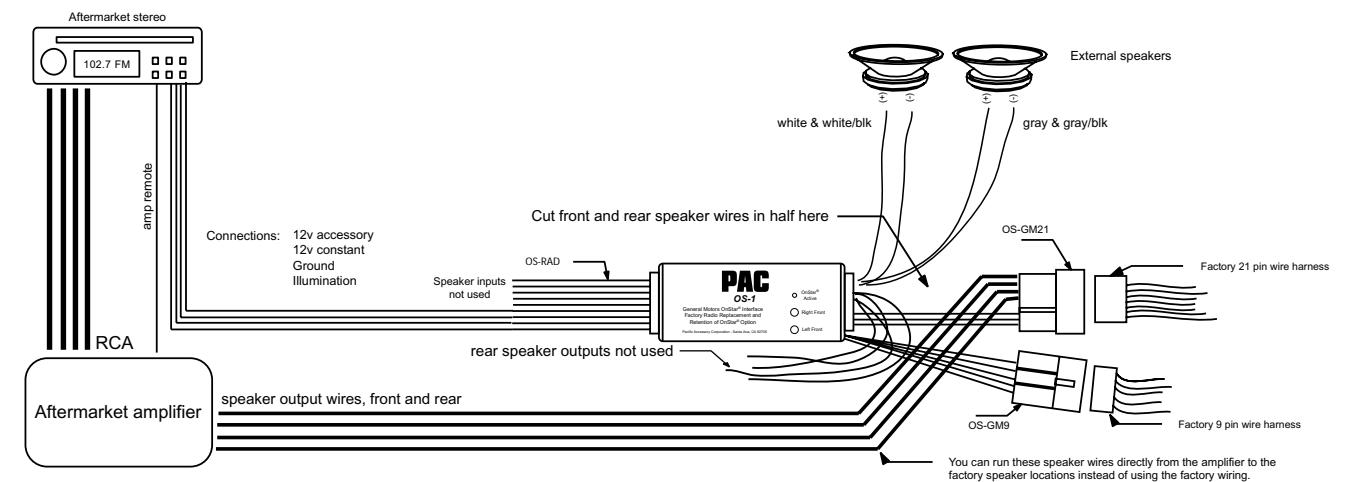
**Step 2.** Use the supplied OS-1618 wire harness and connect to the 16 pin connector side to the OS-1. Connect the AMP-GM21A wire harness and OEM-1 interface to the OS-1 according to diagram below. Connect the AMP-GM21A and OS-GM9 connectors to the factory harness. The OS-GM21 wire harness that came with the OS-1 will not be used for this application.



### OPTION 3: Connecting OnStar® and OS-1 to external speakers and aftermarket amplifier.

**Step 1.** You will need to cut the speaker wires (white & wht/blk, gray & gray/blk, purple & prp/blk, green & grn/blk) in half on the OS-GM21 wire harness. Connect the front two pair of wires on the output side of the OS-1 to external speakers while observing polarity. The front and rear speaker inputs will not be used on the OS-RAD connector. Connect the rest of the aftermarket wire harness to the inputs of the OS-RAD harness. If the aftermarket stereo has a mute wire, cut the brown wire as close as possible to the relay socket and connect it to the stereo's mute wire (Fig. 1).

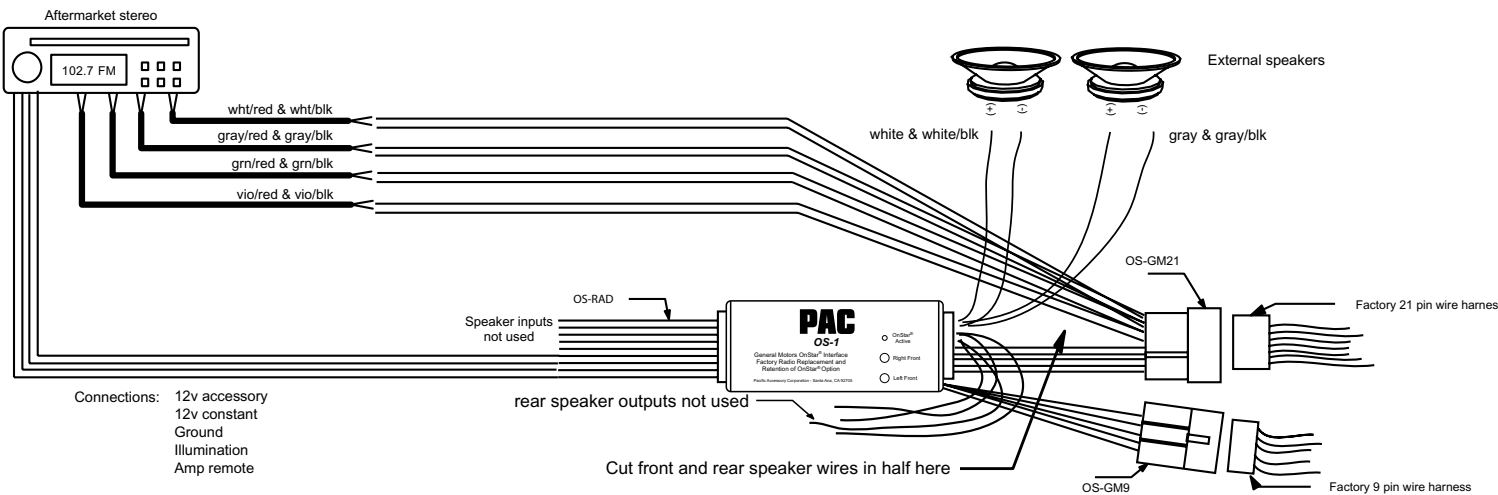
**Step 2.** Run all RCA patch cords and remote wire to the amplifier. The speaker outputs on the amplifier can be wired to the OS-GM21 harness if utilizing the factory speaker wiring. If the vehicle had or has a factory amplifier, new speaker wires must be ran directly to the speakers. After connecting the OS-RAD and OS-GM21 wire harness to the OS-1 main interface, connect the OS-GM21 and OS-GM9 connectors to the factory harness.



## OPTION 4: Connecting OnStar® and OS-1 to external speakers.

**Step 1.**  
You will need to cut the speaker wires (white & wht/blk, gray & gray/blk, purple & prp/blk, green & grn/blk) in half on the OS-GM21 wire. Connect the front two pair of wires on the output side of the OS-1 to external speakers while observing polarity. The front and rear speaker inputs will not be used on the OS-RAD connector. Connect the rest of the aftermarket wire harness to the inputs of the OS-RAD harness. If the aftermarket stereo has a mute wire, cut the brown wire as close as possible to the relay socket and connect it to the stereo's mute wire (Fig. 1).

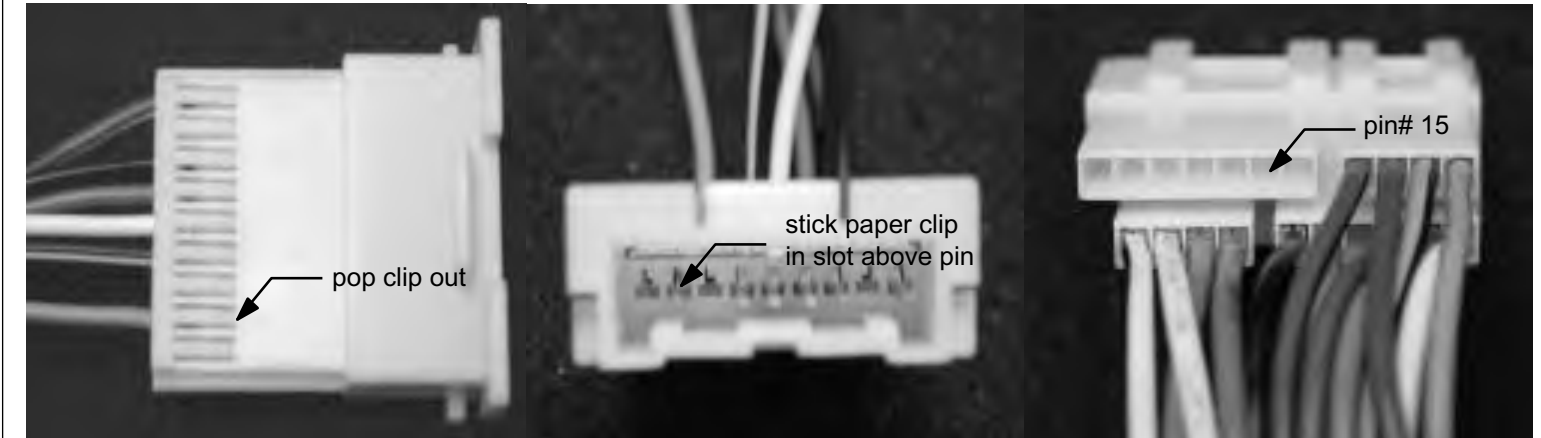
**Step 2.**  
After connecting the OS-RAD and OS-GM21 wire harness to the OS-1 main interface, connect the OS-GM21 and OS-GM9 connectors to the factory harness.



## Bulletin\*

1999-2002 Pontiac Grand Prix and 1999-2000 Cadillac Escalade (not for 2002 Escalade)

You will need to relocate the green wire in the OS-GM9 connector prior to installation of the OS-1. The green wire will need to go into pin#15 of the 21 pin connector as shown in diagrams below.



Pop white locking clip out on the OS-GM9 connector in the location of the green wire by using a small flat head screw driver.

Insert paper clip into the slot above pin of the OS-GM9 connector and push metal clip down while gently pulling on green wire. If done correctly, wire will pull out easily.

Insert green wire into pin#15 of the OS-GM21 (Grand Prix non/BOSE) or OS-GM21A (Escalade) connector. Pontiac Grand Prix GTP w/BOSE requires a AMP-GM21B wire harness, not a AMP-GM21A harness.

## Testing and Verifying Operation

**Important! Reset OnStar® by turning the ignition off for at least two minutes prior to testing.**  
**If you are not using an OEM-1 Bose interface, go to step #2.**

### Step #1: Adjusting the OEM-1 level controls.

After all connections are made and plugged in, turn on the aftermarket stereo. Adjust the volume on the radio and the OEM-1 level controls to a suitable undistorted listening level. The OEM-1 can be adjusted with a small flat head screwdriver.

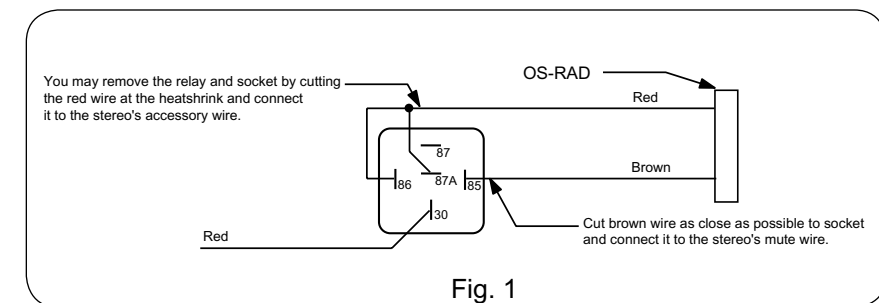
### Step #2: Adjusting OS-1 Volume and Testing Operation with OnStar®.

After all connections are made, adjust the audio outputs of the OS-1 with a small flat head screwdriver. Counter clockwise is at minimum and clockwise is maximum output. Push the Blue OnStar® button on the vehicle to initiate a call to the service center. The OS-1 led will turn on and the the stereo should either mute or turn off and a greeting message should be heard. Adjust the OS-1 volume to a suitable loudness level. If the volume sounds distorted, lower the outputs of the OS-1. Pressing the black OnStar® button on the vehicle will end the call and the OS-1 led will turn off. After a few seconds the stereo should resume playing or will turn back on.

## NOTES:

**WARNING!** (Vehicles equipped with a 9 pin Y connector) Do not unplug the separate 9 pin female and male connectors that are located farther back in the dash. Doing so will disconnect OnStar® from the OS-GM9 connector.

- Remember to reset OnStar® by turning the ignition off for at least two minutes prior to testing.
- If using the Options using external speakers, two speakers are not required. You may use any one speaker output if desired.
- Vehicles with Delco/Bose systems require a bose adaptor like PAC's OEM-1 Premium Sound Interface. The OS-1 is designed to be Plug & Play with the OEM-1 interface and AMP-GM21A harness.



WIRE COLOR	CIRCUIT	PIN NUMBER	CIRCUIT	WIRE COLOR
WHITE/BLACK	LEFT FRONT (-)	9	MUTE	BROWN
GRAY/BLACK	RIGHT FRONT (-)	8	LEFT FRONT (+)	WHITE
GREEN/BLACK	LEFT REAR (-)	7	RIGHT FRONT (+)	GRAY
PURPLE/BLACK	RIGHT REAR (-)	6	LEFT REAR (+)	GREEN
BLACK	GROUND	5	RIGHT REAR (+)	PURPLE
BLUE	POWER ANTENNA	4	LEFT REAR (-)	GREEN
ORANGE	ILLUMINATION	3	RIGHT REAR (-)	PURPLE
BLUE/WHITE	AMP TRIGGER	2	RIGHT REAR (+)	PURPLE
RED	12V SWITCHED/ACC	1	12V CONSTANT	YELLOW

WIRE COLOR	CIRCUIT	PIN NUMBER	CIRCUIT	WIRE COLOR
ORANGE	ILLUMINATION	8	12V SWITCHED/ACC	RED
BLUE/WHITE	AMP TRIGGER	7	12 CONSTANT	YELLOW
BLACK	GROUND	6	POWER ANTENNA	BLUE
PURPLE/BLK	RIGHT REAR (-)	5	RIGHT REAR (+)	PURPLE
GREEN/BLK	LEFT REAR (-)	4	LEFT REAR (+)	GREEN
	NIC	3	NIC	
GRAY/BLK	RIGHT FRONT (-)	2	RIGHT FRONT (+)	GRAY
WHITE/BLACK	LEFT FRONT (-)	1	LEFT FRONT (+)	WHITE

Looking from wire side of plugs

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