

### Introduction & Features

The RP4-GM31 interface allows the replacement of a factory radio in select General Motors vehicles with 29-bit LAN radios. Using this interface will retain factory features such as steering wheel controls (SWC), Warning Chimes, Rear Seat Controls (RSC) and the BOSE amplifier when the original radio is removed. The RP4-GM31 also provides data bus driven outputs such as retained accessory power (RAP), vehicle speed sensor (VSS), illumination, reverse trigger and parking brake.

### Important Notes

1. The radio select rotary switch on the side of the interface must be adjusted to the proper radio setting before plugging the interface into the vehicle (see below for setting chart).
2. The interface comes pre-programmed for all of the vehicles factory SWC functions and does not require programming unless you wish to re-assign the SWC functions to different buttons. The SWC can always be restored to default settings by pressing and releasing the program button on the side of the interface once and waiting 7 seconds for the LED to flash 4 times.
3. RSC buttons that are identical to the SWC will mimic the SWC one for one.
4. The LED will flash whenever a SWC button is pressed.

### Wiring Connection Chart

#### Interface Connector

Red / White	P.B. Output (-)
Purple / White	VSS Output
Blue / White	Amp Turn On Input
Red	Acc. Output (1 amp)
Orange / White	Illum. Output (+)
Green	Reverse Output (+)

#### Vehicle Connector

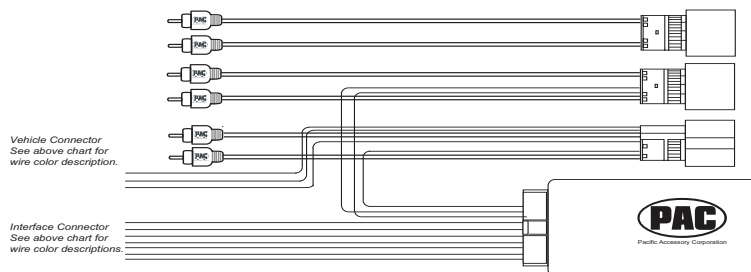
Yellow	Battery +12v
Black	Ground
Blue	Antenna On Input
White	Front L + input
White / Black	Front L - input
Grey	Front R + input
Grey / Black	Front R - input
Green	Rear L + input
Green / Black	Rear L - input
Purple	Rear R + input
Purple / Black	Rear R - input

#### SWC Connector

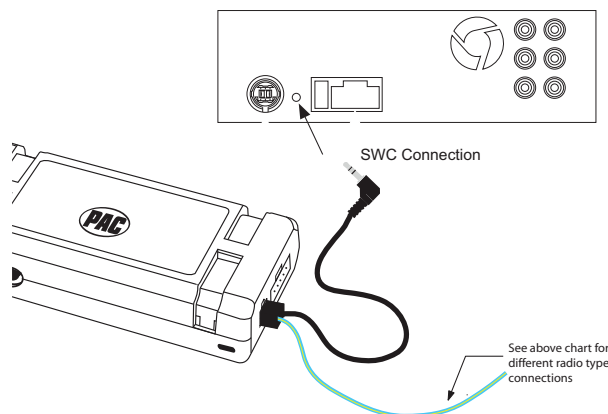
Blue/Yellow	Kenwood, Newer JVC, OEM or Blaupunkt
3.5mm Jack	Alpine, JVC, Clarion, Fusion, Pioneer, Sony, Valor, Boyo, Dual, Lightning Audio, Visteon or Advent

### Illustration / Schematic

#### Wiring



#### SWC Connection



### Installation Steps

#### SET RADIO SELECT SWITCH



Alpine	Blaupunkt	Clarion	Fusion	JVC	Kenwood	OEM	Pioneer/Sony/Other	Valor
1	8	4	9	2	3	6	7	5

Other = Advent, BOYO, Dual, Lightning Audio, Visteon,

### 1. The radio select rotary switch on the side of the interface must be adjusted to the proper radio setting before plugging the interface into the vehicle.

- Make all connections as described in the chart on page 1. **If there is a Bose® Audio system present:** Connect the RCA inputs to the aftermarket radios pre-amp output. The audio level will vary depending on the new radios pre-amp output voltage (2-4 volts is recommended). **If there is not a Bose® Audio system present:** Cut the RCA inputs off and connect the aftermarket radios speaker outputs to the remaining wire according to the chart on page 1.
- Connect the SWC wire according to the chart on page 1 (aftermarket radio MUST support a wired remote input).
- If you wish to reassign functions to the SWC follow the programming instructions in the next section.

### Optional Steering Wheel Control Programming

**IMPORTANT!** The interface comes pre-programmed for the functions listed in the chart below and does not require programming unless you wish to re-assign the SWC functions to different buttons. The SWC can always be restored to default settings by pressing the program button on the side of the interface once and waiting for the timeout.

#### Default SWC Button Assignments

	Alpine	JVC	Kenwood	Clarion	Valor	OEM	Sony/Pioneer	Blaupunkt
<b>Volume +</b>	Volume +	Volume +	Volume +	Volume +	Volume +	Volume +	Volume +	Volume +
<b>Volume -</b>	Volume -	Volume -	Volume -	Volume -	Volume -	Volume -	Volume -	Volume -
<b>Source</b>	Source	Source	Source	Source	Source	Source	Source	Source
<b>Track +</b>	Track +	Track +	Track +	Search +	Track +	Next	Track +	Track +
<b>Track -</b>	Track -	Track -	Track -	Search -	Track -	Previous	Track -	Track -
<b>Voice</b>	Mute	Mute	Mute	Mute	Mute	Mute	Mute	Mute
<b>Play/Pause</b>	Preset +	Preset/Disc -	Disc/FM+	Band	OK	Play/OK	Preset +	Disc +

If you wish to re-assign the SWC functions, the interface must be programmed in the specific order shown in the chart below. If you come across a function in the chart that your steering wheel does not have, or you do not want to program, press and release the program button on the side of the interface to skip that function. The LED will flash off and on confirming that you have successfully skipped that function and are ready to proceed to the next one.

#### SET RADIO SELECT SWITCH



Alpine	Blaupunkt	Clarion	Fusion	JVC	Kenwood	OEM	Pioneer/Sony/Other	Valor
1	8	4	9	2	3	6	7	5

Other = Advent, BOYO, Dual, Lightning Audio, Visteon,

### Optional Steering Wheel Control Programming (cont.)

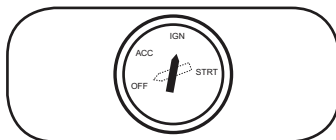
#### Optional Programming Order

Radio	Alpine	JVC	Kenwood	Clarion	Valor	OEM	Sony/Other	Pioneer	Blaupunkt	Fusion
1	Volume +	Volume +	Volume +	Volume +	Volume +	Volume +	Volume +	Volume +	Volume +	Volume +
2	Volume -	Volume -	Volume -	Volume -	Volume -	Volume -	Volume -	Volume -	Volume -	Volume -
3	Mute	Mute	Mute	Mute	Mute	Mute	Mute	Mute	Mute	Mute
4	Preset +	Source	Source	Source	Source	Source	Preset +	Preset +	Source	Source
5	Preset -	Track +	Play	Search +	Track +	Next	Preset -	Preset -	Track +	Track +
6	Source	Track -	Track +	Search -	Track -	Previous	Source	Source	Track -	Track -
7	Track +	Band/Disc +	Track -	Band	Up Cursor	Play/Ok	Track +	Track +	Disc +	Audio
8	Track -	Preset/Disc -	Disc/FM +	Send/End	Down Cursor	Band	Track -	Track -	Disc -	Power
9	Power	Select	Disc/AM -	Send	Ok	Up Cursor	Band	Band	Ok	
10	Enter/Play	Attenuation	Answer	End		Down Cursor		Phone Menu		
11	Band/Program	Phone Receive	Voice Dial			BT Answer		Answer Call		
12	Receive	Phone Reject	On Hook			BT Hangup		End Call		
13	End	Voice Dial	Off Hook					Voice Activation		
14		Power	Mute (only supported on Multimedia units)							

Other = Advent, Boyo, Dual, Lightning Audio & Visteon

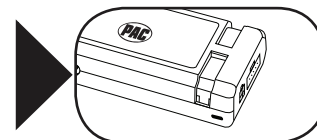
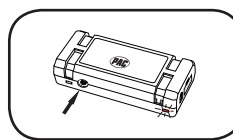
#### Step A.

Turn the vehicle ignition to the ON position.



#### Step B.

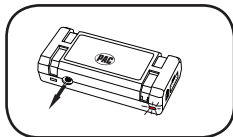
Press and hold the programming button.



LED will turn off.

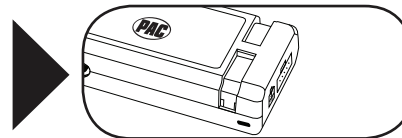
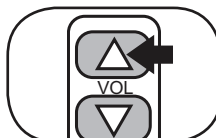
#### Step C.

Release the programming button. The LED will turn back on.



#### Step D.

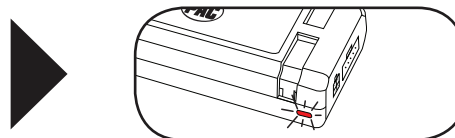
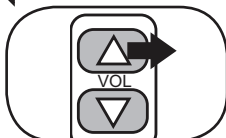
**Within 7 seconds,** press and release the button that is to be learned on the steering wheel.



The LED will turn off during this process.

#### Step E.

Release the button.

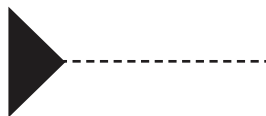


The LED will turn on back on.

#### Step F.

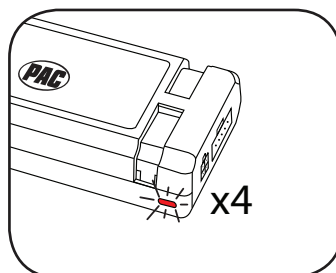
If you need to program more buttons, repeat steps D & E for each additional audio function on the steering wheel.

Program remaining buttons



#### Step G.

After all buttons are programmed



Once programming is completed, **wait 7 seconds.** The LED will flash four times indicating the end of programming.

### Testing & Verification

1. Turn the ignition on. The LED on the interface will turn on & the +12v accessory wire will turn on.
2. Turn on the radio & check balance & fade. Note: **Premium Factory amplified Systems** will not fade as neither the aftermarket radio or the RP interface have the ability to control the amplifier's fader.
3. Verify that the factory subwoofer (if present) is playing
4. Verify that all SWC are functioning properly.
4. Turn off vehicle & remove key. RAP will be active & keep the radio on for 10 minutes or until the drivers door is opened.
5. The LED & radio will turn off when RAP turns off or the drivers door is opened.

### Rear Seat Entertainment (RSE); If equipped

#### 1. Vehicles equipped with an overhead screen only:

In this application the **GMRVD** must be used in order to feed A/V into the factory screen from an aftermarket head unit (head unit must support A/V out). With the **GMRVD**, A/V will be passed from the aftermarket head unit to the rear screen and audio can be heard through the headphones. The **GMRVD** will also pass the Auxiliary inputs on the rear of the center console to the aftermarket head unit.

#### 1. Vehicles equipped with an overhead screen AND headrest monitors:

In this application the headrest monitors will function independantly from the overhead monitor. Neither video or audio can be passed to or from the headrest monitors. The overhead monitor will function exactly as described in #1.

### Product Updates (Firmware)

The RP4-GM31 can be updated with new firmware as it becomes available using the PAC-UP interface updater (sold seperatly). Please visit [www.pac-audio.com/firmware](http://www.pac-audio.com/firmware) for available updates.

# RadioPRO

Radio Replacement Interface

*The professional way to install your new radio*



**GM AUTOMOBILES**  
**without ONSTAR**

GM LAN 29 Bit Data-bus

**RP4-GM31**

Works with vehicle computer system  
and keeps the following features:

- Steering wheel controls
- Important warning chimes
- Amplified audio system (if equipped)



Pacific Accessory Corporation



# RadioPRO 4

Radio Replacement Interface

*The professional way to install your new radio*

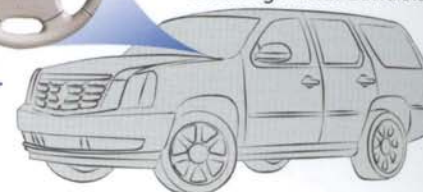
Upgraded Aftermarket Radio



Radio Replacement Interface



Your Vehicle with  
Steering Wheel Controls



This product allows the replacement of your automobile's original factory radio with an upgraded aftermarket radio. It has been engineered to interface seamlessly with the automobile's computer data bus system and retain important safety and convenience features such as steering wheel controls and factory amplified audio systems, including BOSE (if equipped).

## Compatibility Information

General Motors Automobiles without OnStar

Select Models with GM LAN 29 Bit Data-bus

To learn whether or not your specific automobile is compatible, visit [www.pac-audio.com](http://www.pac-audio.com)



Pacific Accessory Corporation

	RadioPRO4
Vehicle Harness Included	•
Accessory 12-volt Output	•
Databus & Amplifier Integration	•
Navigation Radio Ready	•
Retains Warning Chimes	•
Retains Steering Wheel Controls	•
Internet Updateable	•
Retains Rear Seat Radio Controls	•
Rear Seat Entertainment Activation	•
Rear Seat Entertainment A/V Ready	•
No Programming Required	•

Contact Us:  
Pacific Accessory Corporation®  
Santa Ana, California 92705  
Ph. 866-931-8021  
support@pac-audio.com  
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RP4-GM31



Designed & Engineered in the USA;  
Manufactured in China

RP4-GM31 REV.  
1.2.3a.4 lot 006

Patent No. 8,014,540  
Patent No. 8,184,825