

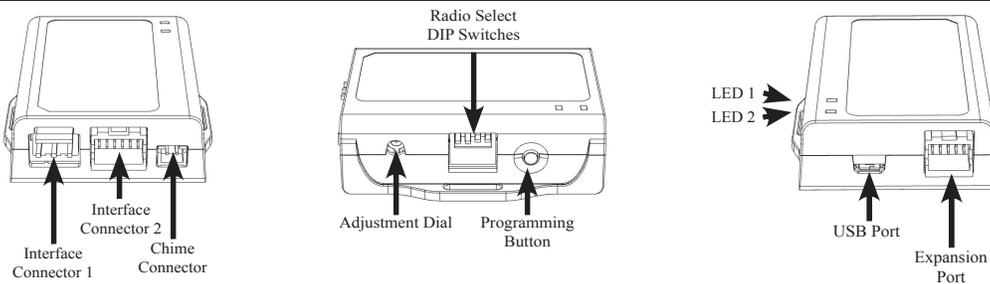
Introduction and Features

The GM1A-RS interface allows the replacement of a factory radio in select General Motors vehicles with the Class II Data-Bus. Using this interface will retain factory features such as steering wheel controls (SWC), rear seat controls, warning chimes and the factory Bose amplifier when the original radio is removed. Use of this interface also allows you to program two radio functions to each SWC button by using short press long press dual command functionality. The GM1A-RS provides data bus driven outputs such as retained accessory power (RAP), vehicle speed signal (VSS), illumination, reverse trigger and parking brake. You can also add multiple camera inputs to your aftermarket radio with Data-Bus controlled automatic activation (front camera only) by connecting a VS41 into the expansion port on the GM1A-RS.

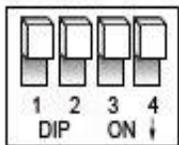
Important Notes

1. Does not retain OnStar.
2. Does not provide RSE audio to aftermarket radio.
3. Compatible with Premium (Y91 / UQ7) Bose, standard Bose (UQA) and non amplified systems. To verify the RPO code on your vehicle, check the glove compartment for a silver sticker with these codes. The RPO codes will be listed in alphabetical order.
4. Aftermarket radios with a 2-wire resistive based SWC circuit will not have default button assignments programmed. Please refer to the owners manual of the radio you are installing to find out the proper SWC programming procedure and refer to the installation steps below.
5. The included chime speaker should only be used when: The vehicle has a standard Bose system, the vehicle does not have a factory amplifier at all, or if you are connecting an aftermarket amplifier to the cabin speakers.
6. In vehicles with Premium Bose (Y91 / UQA) the chime volume can only be adjusted on the module via the adjustment dial. Please refer to page 2 under adjustable settings for further details.
7. When used in conjunction with the add on camera controller (VS41) the GM1A-RS will only provide Data-Bus controlled automatic activation for the front camera. Please refer to the vehicle specific VS41 instructions for more detail.
8. Fade is adjusted using the RadioPRO app, available at <https://pac-audio.com/app-downloads/>. The GM1A-RS module needs to be connected to the vehicle, and the PC, to adjust chime volume.
9. In vehicles with Premium Bose (Y91 / UQ7), dynamic fade is only supported by GM1A-RT and GM1A-RST.
10. In vehicles with Premium Bose (Y91 / UQ7), if the audio level is too low, or too high, the level can be fine tuned using the adjustment dial on the side of the interface. See Page 5 for more details. **The level adjust does not operate with standard Bose Systems (UQA) or non amplified systems.**

Module Layout



Installation Steps



Set DIP switches that correspond with your radio to the ON position.
Set all other DIP switches to the OFF position.



| Alpine | JVC | Kenwood / Lightning Audio | Stinger | Clarion / Nakamichi | All Other Brands | Pioneer | Sony | Fusion |
|--------|-----|---------------------------------|---------|------------------------|---------------------|-----------|------|--------|
| 1 | 2 | 1 & 2 | 3 | 3 | 1, 2, & 3 | 1, 2, & 3 | 4 | 1 & 4 |

If your brand is not listed above, please use "ALL OTHER BRANDS."

1. Set the Radio Select DIP switches according to the radio you are installing.
2. Wire your aftermarket radio to the GM1A-RS's harness according to the wiring connections chart on the next page.
3. Plug Interface Connectors 1 and 2 into the appropriate port on the GM1A-RS interface (using the illustration above or the label on the bottom of the interface).
4. Plug interface connector 3 into the LOC-1 module. Connection will be dependent upon whether or not the vehicle has a factory amplified system. Plug this connector into the appropriate port on the included line output converter (Part # LOC-1; using the illustration on the next page or the text stamped into the housing). Improper connection will result in either very over-driven audio in amplified systems or very low audio in non-amplified systems. If this occurs, disconnect the harness from the LOC-1 Module, and connect it into the port on the opposite side of the LOC-1.

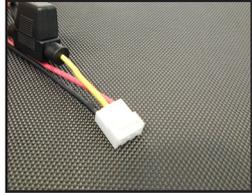


GM1A-RS

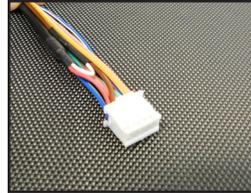
Radio Replacement Interface with Steering Wheel Control Retention for select General Motors Vehicles with Class II Data-Bus

Installation Steps (cont.)

- Remove the factory radio and plug in the GM1A-RS's vehicle harness into the factory vehicle harness.
- If you wish to reassign functions to the SWC, follow the programming instructions in the next section.
- If the vehicle has a standard Bose system, does not have a factory amplifier at all, or if you are connecting an aftermarket amplifier to the cabin speakers, connect the chime speaker to the chime connector on the interface and install the chime speaker in a place free of obstructions where it can be easily heard (usually low in the dash facing downward).



Interface Connector 1



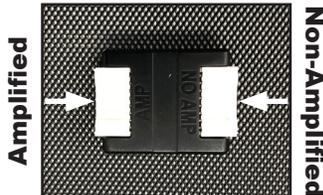
Interface Connector 2



Interface Connector 3



Vehicle Connector 1



Line Output Converter (LOC-1)



Chime Speaker

Wiring Connections

| | |
|----------------|-----------------------------------|
| Yellow | 12v+ |
| Red | Accessory Output (10 amp) |
| Black | Ground |
| Blue / White | Remote On Input |
| Orange | Not Used |
| Orange / White | Illumination Output (+) |
| Purple / White | Reverse Output (+) |
| Blue / Yellow | SWC Output / Key 1 |
| Brown | SWC Output / Key 2 |
| 3.5 mm Jack | SWC Output |
| Light Green | Parking Brake Output (-) |
| Pink | Vehicle Speed Signal Output (VSS) |
| Purple | Rear R + input |
| Purple / Black | Rear R - input |
| Green | Rear L + input |
| Green / Black | Rear L - input |
| Gray | Front R + input |
| Gray / Black | Front R - input |
| White | Front L + input |
| White / Black | Front L - input |

VS41 Wiring

The VS41 can be connected to the GM1A-RS and used to switch multiple cameras. Please refer to the document labeled “**Instructions for wiring the VS41 into 2003-2006 Chevy / GMC Trucks and SUVs**” which can be found on www.pac-audio.com under the GM1A-RS, and the VS41 product pages.

Adjustable Settings

These products have settings that are adjustable through our RadioPRO PC app or through the push-button on the module. Some settings are only adjustable through the PC app. Some of these settings require the module to be connected to the vehicle. Below is a breakdown of these settings.

| SETTING | AVAILABLE ON PC APP | | AVAILABLE ON MODULE |
|---|---------------------|----------------------|---------------------|
| | CONNECTED TO CAR | NOT CONNECTED TO CAR | |
| Chime volume (excluding Premium Bose Y91/UQ7) | YES | NO | YES |
| Factory amplifier settings: Bass, Mid, Treble, Gain, and Fade (Premium Bose Y91/UQ7 only) | YES | NO | GAIN ONLY |
| OnStar volume (RST or RT products only) | YES | NO | YES |
| Read product version | YES | YES | N/A |
| Update firmware | YES | YES | N/A |
| Camera settings (VS41 required) | YES | YES | NO |

Related Downloads

- RadioPRO PC App - <https://pac-audio.com/app-downloads/>
- Latest instruction manuals - search part number on pac-audio.com, and look on “Downloads” tab



Programming Button and Adjustment Dial Functions

You can **press and hold the programming button** on the side of the interface to access different programming modes. Once the LED is lit to the mode you desire (see below for modes), immediately release the programming button to access that mode.

PLEASE NOTE:

- This process must be done with the interface in the vehicle and the key in the ignition position.
- If there is a Premium Bose system (Y91 / UQ7 / UQA), and you are also installing an amplifier on the cabin speakers, make sure that the chime speaker is connected before proceeding. See the RadioPRO app section on Page 5 for more details.
- A. **1 Chime and LED 2 flash green: SWC re-assignment.** This allows you to re-assign the SWC functions to the buttons of your choice. Please see the Optional Steering Wheel Control Programming instructions on Page 4 for more details.
- B. **2 Chimes and LED 2 flash amber: SWC re-calibration** (this mode is available in the **Corvette only**). This allows you to re-calibrate the analog SWC in the event they fall out of the expected range and do not function properly. If data control SWC are detected by the interface, this mode will be automatically skipped.
- C. **3 Chimes and both LEDs flash green: Chime volume adjustment** This allows you to adjust the volume of the chimes generated by the interface using the adjustment dial on the side. Vehicles with Premium Bose (Y91 / UQA) will have two chime level selections (Low / High).
- D. **4 Chimes and LED 2 flash red: Master reset. LED 1 will flash red** and you will hear four chimes. This does a master reset of the interface and restores the following settings to factory defaults:
 - SWC Mapping
 - SWC Calibration
 - Camera Settings
 - Infotainment Settings
 - Interface User Options

Default Steering Wheel Control Programming

Default SWC Button Assignments

| | Alpine | JVC | Kenwood | Stinger | Clarion | Pioneer | Sony |
|--------------------|-----------|----------|----------|----------|----------|----------|----------|
| Volume + | Volume + | Volume + | Volume + | Volume + | Volume + | Volume + | Volume + |
| Volume - | Volume - | Volume - | Volume - | Volume - | Volume - | Volume - | Volume - |
| Source Up | Source | Source | Disc/FM+ | Source | Source | Source | Source |
| Source Down | Band | Preset + | Disc/AM | N/P | N/P | Band | Band |
| Seek Up | Track + | Track + | Track + | Search + | Search + | Track + | Track + |
| Seek Down | Track - | Track - | Track - | Search - | Search - | Track - | Track - |
| Voice | OnStar | OnStar | OnStar | OnStar | OnStar | OnStar | OnStar |
| Prog | Preset Up | Preset - | Source | Band | Band | Preset + | Preset + |

*Voice default is OnStar. If Onstar retention is not necessary, unplug the OnStar module to default to voice.

Default SWC Button Assignments (Corvette)

| | Alpine | JVC | Kenwood | Stinger | Clarion | Pioneer | Sony |
|------------------|----------|----------|----------|----------|----------|----------|----------|
| Volume + | Volume + |
| Volume - | Volume - |
| Seek Up | Track + | Track + | Track + | Search + | Search + | Track + | Track + |
| Seek Down | Track - | Track - | Track - | Search - | Search - | Track - | Track - |
| Voice | OnStar |
| End | Source |

*Voice default is OnStar. If Onstar retention is not necessary, unplug the OnStar module to default to voice.



Optional Steering Wheel Control Programming

Programming

1. Turn the key to the ignition position.
2. Press and release programming button on the side of the interface.
3. Within 7 seconds, press the button that is to be learned on the steering wheel. LED 2 will turn red when the button is pressed.

At this point you have two options:

A. For short press functionality: Release the button within 1.5 seconds. LED 2 will turn back to green.

B. For long press functionality: Hold the button until LED 2 starts blinking. Release the button and the LED will go back to green.

4. Repeat step 3 for each additional audio function on the steering wheel.
5. 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.
6. Once programming is completed, wait seven seconds. LED 2 will flash three times indicating end of programming.
7. Test the interface for proper functionality. Whenever a SWC is pressed LED 2 will illuminate green.
8. If any function does not work, repeat the programming steps.

Optional Programming Order

| | Alpine | JVC | Kenwood / Lightning Audio | Stinger | Clarion / Nakamichi | All other Brands | Pioneer | Sony |
|----|----------------|-----------------|------------------------------|------------|------------------------|---|-------------|--|
| 1 | Volume + | Volume + | Volume + | Volume + | Volume + | No specific programming order. Please refer to the owner's manual of your radio for SWC programming instructions. | Volume + | Volume + |
| 2 | Volume - | Volume - | Volume - | Volume - | Volume - | | Volume - | Volume - |
| 3 | Mute | Mute | Mute | Mute | Mute | | Mute | Mute |
| 4 | Preset + | Source | Source | Source | Source | | Preset + | Preset + |
| 5 | Preset - | Track + | Play | Search + | Search + | | Preset - | Preset - |
| 6 | Source | Track - | Track + | Search - | Search - | | Source | Source / End Call |
| 7 | Track + | Band / Disc + | Track - | Band | Band | | Track + | Track + |
| 8 | Track - | Preset / Disc - | Disc / FM + | Send / End | Send / End | | Track - | Track - |
| 9 | Power | Select | Disc / AM - | Send | Send | | Band | Band |
| 10 | Enter / Play | Attenuation | Answer | End | End | | Phone Menu | Power / End Call |
| 11 | Band / Program | Phone Receive | Voice | Voice | Voice | | Answer Call | Voice / Answer / End Call |
| 12 | Receive | Phone Reject | On Hook | | | | End Call | Voice (Android Auto & Car Play) Answer / End Call*** |
| 13 | End | Voice | Off Hook | | | | Voice | |
| 14 | Voice | Power | Mute | | | | | |
| 15 | | | Preset + | | | | | |

If your brand is not listed above, please use "ALL OTHER BRANDS."

Please Note: On any entry with multiple commands, the commands shown are source dependent.

SWC Re-calibration Procedure (Corvette Only)

Please Note: This is only necessary if after installation, the SWC are acting erratic or unresponsive in the Corvette.

1. Turn the key to the ignition position.
2. Press and hold the programming button until LED 2 turns amber and you hear two chimes. When this happens, release the programming button.
3. Within 7 seconds, press and hold the button that is to be learned on the steering wheel. The LED will turn off when the button is pressed and begin blinking when the value has been learned. Once the LED begins blinking, release the button.
4. Repeat step 3 for each additional function on the steering wheel.
5. If you come to a button in the list that your vehicle does not have, skip it by pressing the programming button on the interface. Any buttons not learned during this process will not function.
6. Once programming is completed, the LED will flash indicating end of programming.
7. Test the interface for proper functionality. Whenever a SWC is pressed LED 2 on the interface should blink green. If any function does not work, repeat the programming steps.

| Button Programming Order |
|--------------------------|
| Volume Up |
| Volume Down |
| Seek Up |
| Seek Down |
| Preset |
| Answer / Voice |
| Hang Up |
| Preset Up |



Testing and Verification

1. Turn the ignition on. LED 2 will illuminate red and the +12v accessory wire will turn on.
2. Turn on the radio and check chimes, volume, and balance. **Note: Premium Bose Systems (Y91 / UQ7 / UQA)** will not fade from the aftermarket radio. If you want to adjust the fader you must use the RadioPRO app, available for download at <https://aampglobal.com/RadioProApp>. Please see the RadioPRO app section, at the bottom of this page, for more details.
3. **In vehicles equipped with Premium Bose (Y91 / UQ7 / UQA)** : If the overall volume is too low, use the adjustment dial on the side of the interface to set it to the desired level. The best way to do this is to turn the volume on the radio to 3/4 volume, then turn the adjustment dial on the GM1A-RS clockwise until some distortion is heard, then counter-clockwise a little.
4. Verify that all SWC buttons are functioning properly. If you are installing the GM1A-RS into a Corvette, and are experiencing erratic SWC behavior, you may need to follow the SWC re-calibration procedure in the next section.
5. Turn off vehicle and remove key. RAP will be active and keep the radio on for 10 minutes or until any door is opened.
6. LED 2 and the radio will turn off when RAP turns off.

Rear Seat Entertainment (RSE); If equipped

The factory RSE system will function independently from the aftermarket radio. The unit will power up and pass audio through the headphones as long as the vehicle's ignition is on. Audio from the RSE cannot be passed to the aftermarket radio when using the GM1A-RS. If you wish to pass audio to the aftermarket radio you must use the GM1A-RT or GM1A-RST.

RadioPRO App

Download the RadioPRO PC App at <https://pac-audio.com/app-downloads/>

Use of the RadioPRO App allows you to do the following:

- Configure User Interface Options such as:
 - Factory amplifier settings (Bass, Mid, Treble, Gain, Fader and Balance)*
 - Chime Volume
 - Camera Settings
- Update Product Firmware
- Read Firmware/Hardware Versions

*Available only in vehicles equipped with a Bose Smart Amplifier

PLEASE NOTE:

The interface must be connected to the vehicle when using the following features of the RadioPRO App:

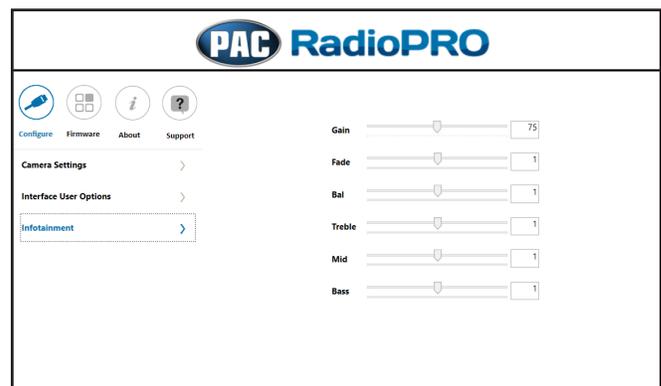
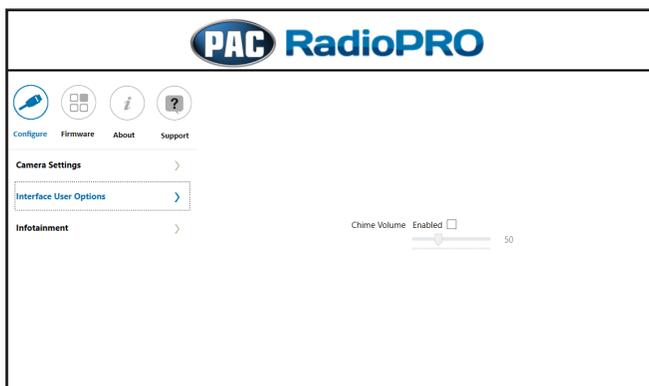
- Factory Amplifier Settings
- Chime Volume

The interface does not need to be connected to the vehicle when using the following features of the RadioPRO App:

- Interface User Options
- Camera Settings
- Firmware Updates
- Reading firmware/hardware versions

Infotainment/Factory Amplifier Adjustments

The RadioPRO app will also allow you to adjust the settings of the factory amplifier (Y91 / UQ7 Premium systems only). You can adjust Amp Gain, Fader, Balance, Bass, Mid and Treble. When real time fade is enabled in amplified systems, it will allow fading to be controlled directly from the aftermarket radio. Restoring factory settings on the module will default all values back to middle.

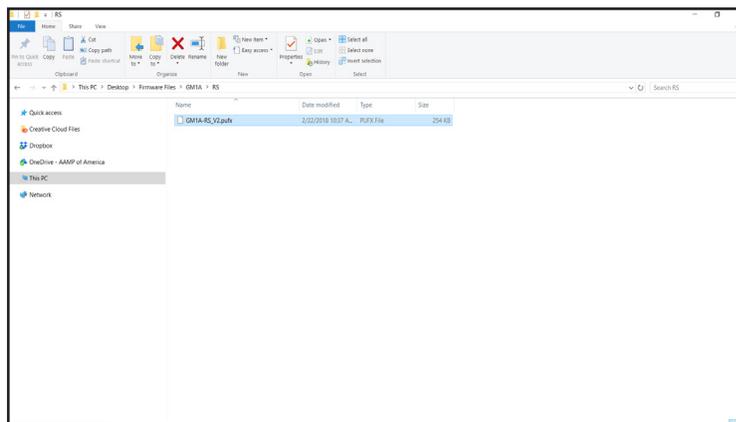


Product Updates (Firmware)

Firmware Updates

The RadioPRO app will allow you to update the interface with new firmware as it becomes available. Please visit www.PAC-audio.com/firmware for available updates.

Connect the interface to your PC and select "Firmware", then "Update Firmware". Now select "Select File". Finally, browse to the place where you saved the file and select it. This will begin the updating process. Once finished, disconnect the interface from the PC and test operation.



Technical Support

Email: support@PAC-audio.com

Toll Free: 866-931-8021

Standard / International: 727-592-5991

