

RP5-GM11

Radio Replacement & Steering Wheel Control Interface
with OnStar Retention for General Motors Vehicles

Introduction and Features

The RP5-GM11 interface allows the replacement of a factory radio in select General Motors vehicles with Class II radios. Using this interface will retain factory features such as OnStar, steering wheel controls (SWC), warning chimes, Rear Seat Controls (RSC), Rear Seat Entertainment (RSE) and the BOSE amplifier when the original radio is removed. The RP5-GM11 also provides data bus driven outputs such as retained accessory power (RAP), vehicle speed signal (VSS), illumination, reverse trigger and parking brake.

Important Notes

1. These instructions only apply to R.2.2.6.13 or later revisions. The revision info can be found on a small white sticker on the interface and packaging.
2. 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 next page for setting chart).
3. 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 3 times. **PLEASE NOTE: Due to the many different possible OEM SWC configurations, some applications may need to be reprogrammed for the SWC assignments to make sense. Whatever you assign as aftermarket volume commands will also be the OnStar volume commands.**
4. The aftermarket radio must have an auxiliary input in order for the factory RSE audio to be retained through the cabin speakers.
5. RSC buttons that are identical to the SWC will mimic the SWC one for one.
6. The LED will flash whenever a SWC button is pressed.

Wiring Connection Chart

Aftermarket Radio Connections

| | |
|----------------|---------------------|
| Yellow * | +12v from RP5 |
| Yellow * | +12v from vehicle |
| Black ** | Ground from RP5 |
| Black ** | Ground from vehicle |
| Red | Acc. Output |
| White | Front Left + input |
| White / Black | Front Left - input |
| Grey | Front Right + input |
| Grey / Black | Front Right - input |
| Green | Rear Left + input |
| Green / Black | Rear Left - input |
| Purple | Rear Right + input |
| Purple / Black | Rear Right - input |

| | |
|----------------|--|
| Light Green | Parking Brake Output (-) |
| Pink | Vehicle Speed Output |
| Blue | Not Used |
| Blue / White | Factory Amp Turn On Input (required for Bose systems) |
| Orange / White | Illumination Output (+) |
| Purple / White | Reverse Output (+) |
| Brown Loop | Mute Loop - See installation note 6. |

SWC Connector

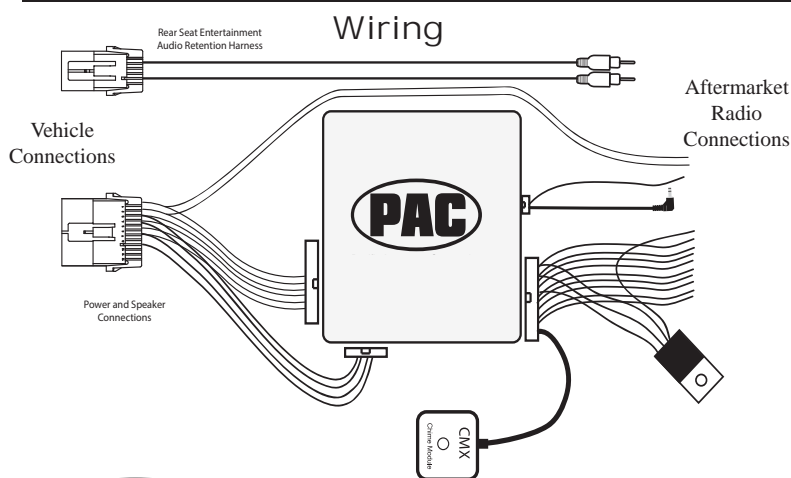
| | |
|---------------|--|
| Blue / Yellow | Kenwood, Newer JVC |
| 3.5mm Jack | Alpine, JVC, Clarion, Fusion, Pioneer, Sony, Dual, Axxera, Lightning Audio, Jensen, Rockford Fosgate |

IMPORTANT NOTES REGARDING YELLOW AND BLACK WIRE CONNECTIONS

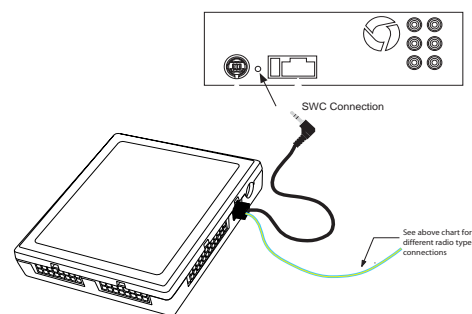
* Connect both Yellow wires from the RP5 harnesses to the radio's 12v constant input.

** Connect both Black wires from the RP5 harnesses to the radio's ground input.

Illustration / Schematic



SWC Connection



Installation Steps



SET RADIO SELECT SWITCH

| | | | | | | |
|--------|-----|------------------------------|------------------------|---------------------|------|--------|
| Alpine | JVC | Kenwood / Lightning Audio | Clarion / Nakamichi | Pioneer / Other* | Sony | Fusion |
| 1 | 2 | 3 | 4 | 7 | 8 | 9 |

*Other - Dual / Axxera, Jensen, Rockford Fosgate

- 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. Be sure to connect both Yellow wires (one from vehicle harness and one from RP5 harness) and both Black wires (one from vehicle harness and one from RP5 harness) while making these connections.
- Factory installed amplifiers will determine the audio output connection. If the vehicle has a factory installed amplifier use the factory amplifier audio location. If a factory installed amplifier is not present use the non-amplified factory audio location.
- If the aftermarket radio is equipped with an auxiliary input and you wish to retain the factory RSE audio, plug the RCA connectors from the secondary harness into the radios auxiliary input.
- With the ignition off and the driver door opened:** Connect the interface to the vehicle's harness(es). Connecting the interface with the ignition on can cause erratic behavior. Please make sure the ignition is off and the driver door is opened when performing this step.
- Plug the CMX chime module in if necessary (If the vehicle chimes when the radio is removed the CMX is not necessary).
PLEASE NOTE: In order to get the best possible sound out of the CMX, please mount it in a place free and clear of any obstructions, preferably as close as possible to the bottom of the dash pointing down toward the floor of the vehicle.
- The Mute loop (if not cut) will turn the accessory output off when an OnStar or Bluetooth call is made or received. If the aftermarket radio has a mute input, cut this loop and connect the outer brown wire to the mute input.
- 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 on the next page.

Default 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 seven seconds for the LED to flash three times.

Default SWC Button Assignments

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

Default SWC Button Assignments (Corvette)

| | Alpine | JVC | Kenwood | Clarion | Sony / Pioneer | Fusion |
|------------------|----------|----------|----------|----------|----------------|----------|
| Volume + | Volume + | Volume + | Volume + | Volume + | Volume + | Volume + |
| Volume - | Volume - | Volume - | Volume - | Volume - | Volume - | Volume - |
| Seek Up | Track + | Track + | Track + | Search + | Track + | Track + |
| Seek Down | Track - | Track - | Track - | Search - | Track - | Track - |
| Voice | Voice | Voice | Voice | Voice | Voice | Mute |
| End | Source | Source | Source | Source | Source | Source |

Optional Steering Wheel Control Programming

If you wish to re-assign the SWC functions the interface must be programmed in the specific order shown on 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 programming 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.

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. The LED will turn off when the button is pressed.
4. If you need to program more buttons, 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. The LED will flash three times indicating end of programming.
7. Test the interface for proper functionality. Whenever a SWC is pressed the LED on the interface should blink. If any function does not work, repeat the programming steps.

Optional Programming Order

| | Alpine | JVC | Kenwood | Clarion | Other * | Pioneer | Sony | Fusion |
|----|----------------|-----------------|-------------|------------|-----------|-------------|--|----------|
| 1 | Volume + | Volume + | Volume + | Volume + | Volume + | Volume + | Volume + | Volume + |
| 2 | Volume - | Volume - | Volume - | Volume - | Volume - | Volume - | Volume - | Volume - |
| 3 | Mute | Mute | Mute | Mute | Mute | Mute | Mute | Mute |
| 4 | Preset + | Source | Source | Source | Preset + | Preset + | Preset + | Source |
| 5 | Preset - | Track + | Play | Search + | Preset - | Preset - | Preset - | Track + |
| 6 | Source | Track - | Track + | Search - | Source | Source | Source / End Call | Track - |
| 7 | Track + | Band / Disc + | Track - | Band | Track + | Track + | Track + | Audio |
| 8 | Track - | Preset / Disc - | Disc / FM + | Send / End | Track - | Track - | Track - | Power |
| 9 | Power | Select | Disc / AM - | Send | Band | Band | Band | |
| 10 | Enter / Play | Attenuation | Answer | End | Answer ** | Phone Menu | Power / End Call | |
| 11 | Band / Program | Phone Receive | Voice | Voice | End ** | Answer Call | Voice / Answer / End Call | |
| 12 | Receive | Phone Reject | On Hook | | PTT ** | End Call | Voice (Android Auto & Car Play) Answer / End Call*** | |
| 13 | End | Voice | Off Hook | | | Voice | | |
| 14 | Voice | Power | Mute | | | | | |
| 15 | | | Preset + | | | | | |

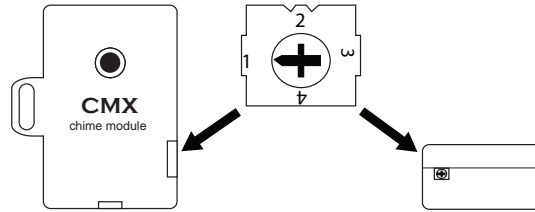
* Dual / Axxera, Jensen, Rockford Fosgate ** Jensen ONLY *** XAV-AX100 / 200 Only

Testing and Verification

1. Turn the ignition on. The LED on the interface will turn on and the +12v accessory wire will turn on.
2. Turn on the radio and check balance and 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 for both the aftermarket radio and OnStar. To adjust OnStar volume, press the OnStar button on the mirror then use the volume buttons on the SWC to adjust the level. The volume will raise a total of 8 times before returning to the original level.
5. Pressing the OnStar button on the rearview mirror will turn off the rear speakers and allow the OnStar audio to be heard in the two front speakers. The OnStar active LED will also turn on. When OnStar disconnects, the radio will un-mute or turn back on and the OnStar LED will turn off. Pressing the Mute/OnStar button on the steering wheel for 1.5 seconds will also activate Onstar.
6. Turn off vehicle and remove key. RAP will be active and keep the radio on for 10 minutes or until the drivers door is opened.

Testing and Verification (cont.)

7. The LED and radio will turn off when RAP turns off or the drivers door is opened.
8. Use the 4-position selector switch located on the side of the CMX module to select the best chime output volume for your specific installation. Setting 1 being loudest and 4 softest.

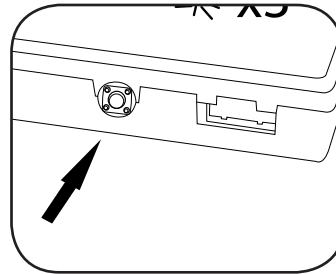


Rear Seat Entertainment (RSE); If equipped

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. If you wish to pass audio from the RSE to the aftermarket radio you must connect the RCAs from the 12-pin connector to the aftermarket radios auxiliary input. Select the aftermarket radios auxiliary input to hear RSE audio.

OnStar Volume Adjustment for Vehicles w/o SWC

1. If SWC buttons are not present you must use the programming button on the interface to control the OnStar audio level during an OnStar connection.
2. When OnStar is active pressing the programming button will raise the audio level 8 times before returning to the original level. Every time the button is pressed a confirmation beep will be heard.



Press the programming button on the side of the interface while OnStar is active to adjust the OnStar volume

Technical Support and Product Updates (Firmware)

The RP5-GM11 can be updated with new firmware as it becomes available using the PAC-UP interface updater (sold separately).

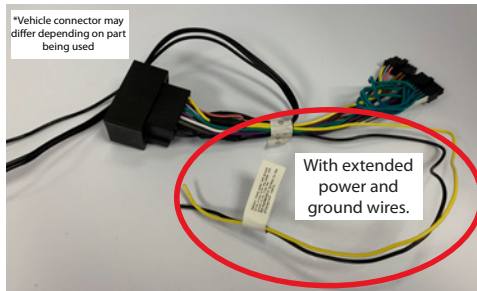
Issue:

Accessory output drops at high volume.

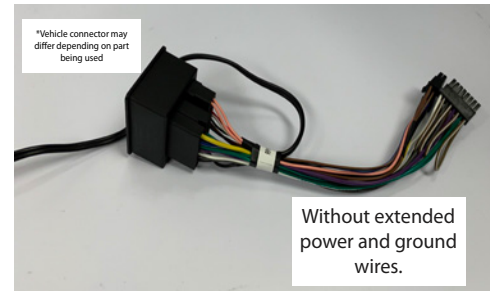
Solution:

By cutting the constant and ground wires at the interface connector of the "Radio Connections" harness, the power path to the accessory relay and the aftermarket radio is altered. The power is then sourced from the vehicle side of the wiring harness and prevents any current from being pulled through the interface.

If your harness looks like this, skip to page 2.

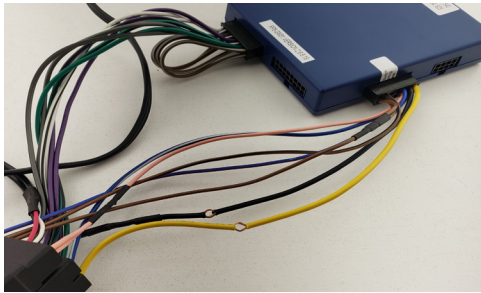


If your harness looks like this, follow steps below then proceed with page 2.

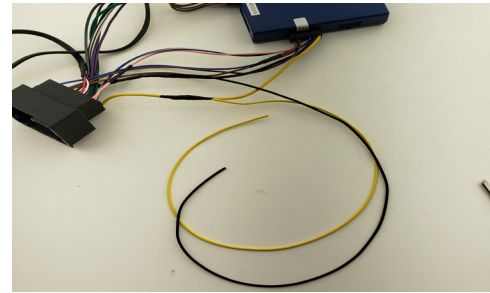


Connect wires from vehicle-side to radio-side of interface harness.

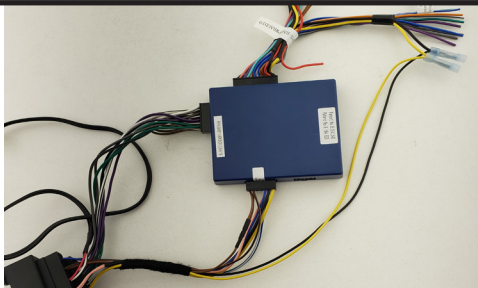
STEP 1 Isolate Yellow (B+) and Black (GND) on vehicle-side wiring harness and prepare them to be spliced



STEP 2 Use spare wire to splice into the Yellow (B+) and Black (GND) wires in the vehicle-side harness.



STEP 3 Connect newly extended wires to the Yellow (B+) and Black (GND) wires on the radio-side harness as well as the Yellow (B+) and Black (GND) wires from the aftermarket radio.



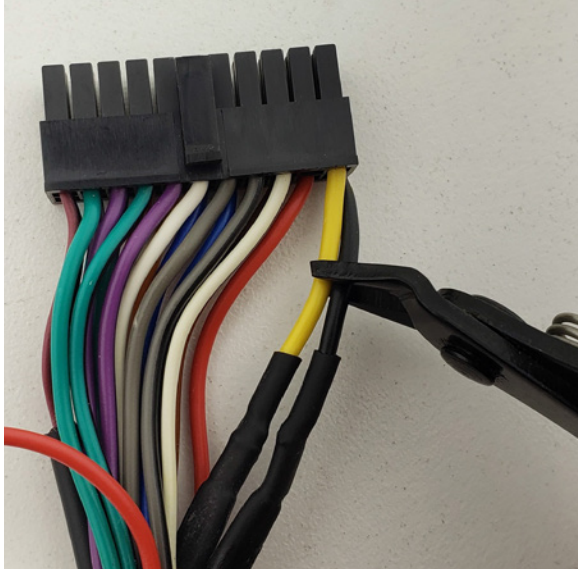
Proceed with page 2



Disconnect the Yellow (B+) and Black (GND) wires from the interface connector on the “Radio Connections” Harness.

STEP 1

Isolate and cut Yellow (B+) and Black (GND) at interface connector of radio connections harness.



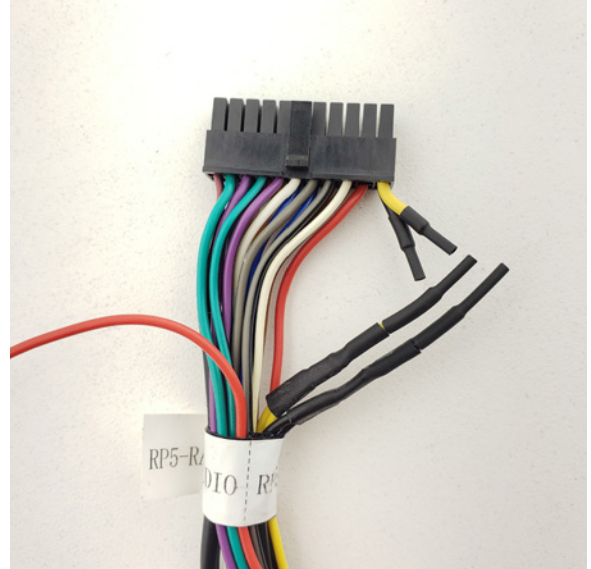
STEP 3

Tape loose ended wires to bundle of harness.



STEP 2

Cover ends of exposed wires with heat shrink to insulate and prevent potential shorts.



STEP 4

Wire up and connect everything else as you normally would and install into the vehicle.



Technical Bulletin

RP5-GM11

Condition: Interface clicks ACC 12v relay in harness repeatedly and does not operate

Affected Products: RP5-GM11 with revision 1.2.6.8 and LOT # 38710. The label with the revision number can be found on the module and the bottom of the packaging.

Solution: Update unit with our PAC-UP programming tool and the latest firmware.