CH2A-RSX

Radio Replacement & Steering Wheel Control Interface
for Dodge/Jeep/Ram Vehicles

Introduction & Features

The CH2A-RSX interface allows the replacement of a factory radio in select Dodge/Jeep/Ram vehicles with MS-CAN databus radios. Using this interface will retain factory features such as steering wheel controls (SWC), HVAC controls, Driver Information Center (DIC), vehicle settings, vehicle safety features and the factory audio amplifier whenever 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 CH2A-RSX 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. Please make your vehicle settings selections before removing the factory radio for optimal installation time. Once the radio has been removed, the vehicle settings which are normally selected through the factory radio can be accessed by downloading and installing the PAC Vehicle Settings program from **https://pac-audio.com/pages/apps**. A PAC-UP is required to connect with the interface. Please see page 6 for further details on the vehicle settings app.
2. **Vehicles with a factory amplifier:** The factory amplifier only accepts two channels of audio input (left and right). Fading is not supported in these applications. The factory amplifier's fading is controlled by data communication from the factory radio. Neither the aftermarket radio or the CH2A-RSX have the ability to control the amplifier's fader.
3. **Vehicles equipped with VES:** Retention of the VES system is not currently supported
4. The active guide lines for the factory reverse camera can be turned off and on in the vehicle settings app referenced above.
5. In vehicles equipped with the 8.4" uConnect system, the factory compass display on the DIC, 911 assist, WiFi hotspot and uConnect access will be lost.
6. 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).
7. 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 or utilize short press long press dual command functionality. The SWC can always be restored to default settings by pressing and releasing the programming button on the side of the interface once and waiting 7 seconds for the LED to flash 4 times.
8. The LED will flash whenever a programmable SWC button is pressed.
9. uConnect is not retained when using this interface
10. **RAM Promaster** equipped with a single DIN radio is not compatible
11. **Dodge Durango** - You will lose the button from radio to flip down third row headrests. Users will have to control rear climate controls from the controls located in the rear roof. Ventilated seats are not supported.
12. **Jeep Grand Cherokee:** Ventilated seats are not supported
13. **Jeep Cherokee:** Ventilated seats are not supported
14. All vehicle settings will be retained, however the following settings are not adjustable once the factory radio is removed:
    - **RAM Trucks/Grand Cherokee/Durango**
      - Fuel Saver Display
      - Air Suspension Settings
      - Forward Collision Warning with Crash Mitigation
    - **Cherokee (With Technology Package)**
      - Adaptive Cruise Control with Stop and Go
      - Advanced Brake Assist
      - Automatic High Beam Headlamp Control
      - Blind Spot and Cross Path Detection
      - Forward Collision Warning with Crash Mitigation
      - LaneSense Lane Departure Warning
      - Parallel and Perpendicular Park Assist
      - Rain Sensitive Windshield Wipers
      - Tilting Side Mirrors While in Reverse
      - Power Lift Gate Chime

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Wiring Connection Chart

Interface Connector

Light Green	Parking Brake Output (-)
Pink	Vehicle Speed Output
Blue / White	Amp Turn On Input
Red	Accessory Output Output (1 amp)
Orange / White	Illumination Output (+)
Violet / White	Reverse Output (+)

Vehicle Connector

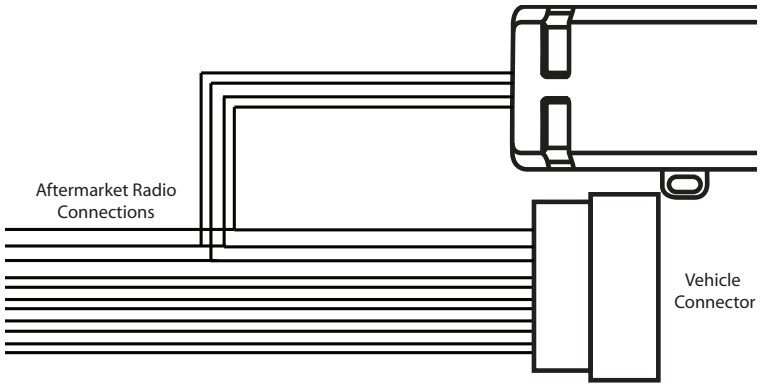
Yellow	Battery +12v
Black	Ground
White	Front L + input
White / Black	Front L - input
Grey	Front R + input
Grey / Black	Front R - input
Green	Rear L + input
Green / Black	Rear L - input
Purple	Rear R + input
Purple / Black	Rear R - input
Yellow RCA	Factory Reverse Camera Video (if equipped)

SWC Connector

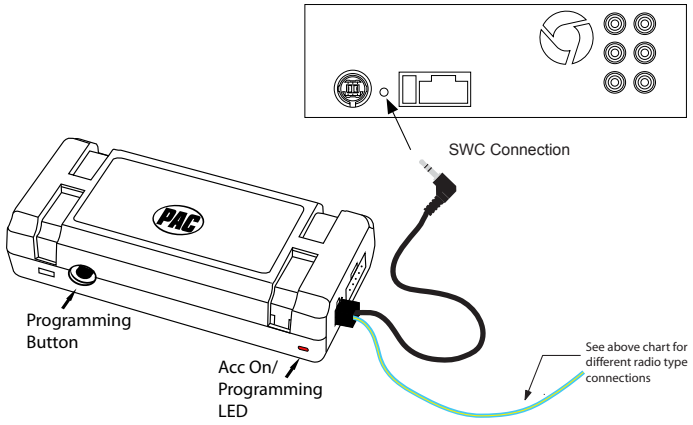
Blu/Yel	Kenwwod, Newer JVC
3.5mm Jack	Alpine, JVC, Clarion, Fusion, Pioneer, Sony, Boyo, Dual, Lightning Audio, Visteon or Advent

Illustration / Schematic

Wiring



SWC Connection



Installation Steps

SET RADIO SELECT SWITCH

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

***If your brand is not listed above, please use "Other."**

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.**
2. Make all connections as described in the connection chart on page 1. **Vehicles without a factory amplifier:** Connect the aftermarket radio's front and rear speaker wires to the vehicle connector. **Vehicles with a factory amplifier:** Connect the front outputs of the aftermarket radio to the rear inputs of the vehicle connector. This will allow navigation voice prompts and Bluetooth calls to be heard.

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CH2A-RSX

Installation Steps (cont.)

3. Connect the SWC wire according to the chart on page 2 (aftermarket radio MUST support a wired remote input)
4. Once all connections have been made, plug the interface into the vehicle. It is recommended that this be done with the vehicle running. Once connected, the interface LED will blink until initilization is complete.
5. If you wish to reassign functions to the SWC, or utilize short press long press dual command functionality, follow the programming instructions on the next page.

Default Steering Wheel Control Programming

IMPORTANT! 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 or utilize short press long press dual command functionality. 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.

Default SWC Button Assignments

	Alpine	JVC	Kenwood	Stinger	Clarion	Pioneer	Sony	Fusion
Volume +	Volume +	Volume +	Volume +	Volume +	Volume +	Volume +	Volume +	Volume +
Volume -	Volume -	Volume -	Volume -	Volume -	Volume -	Volume -	Volume -	Volume -
Volume Knob*	Volume	Volume	Volume	Volume	Volume	Volume	Volume	Volume
Source	Source	Source	Source	Source	Source	Source	Source	Source
Track +	Track +	Track +	Track +	Search +	Search +	Track +	Track +	Track +
Track -	Track -	Track -	Track -	Search -	Search -	Track -	Track -	Track -
Tune Knob*	Track +/-	Track +/-	Track +/-	Track +/-	Track +/-	Track +/-	Track +/-	Track +/-
Preset +	Preset +	Band/Disc	Disc / Radio +	Band	Band	Preset +	Preset +	Audio
Voice	Voice	Voice Dial	Voice	Voice	Voice	Voice	Voice	Mute
Mute	N/P	N/P	N/P	N/P	N/P	N/P	N/P	N/P
Phone / Answer	Receive	Receive	Off Hook	Send	Send	Answer	Answer	Power
End	End	Reject	On Hook	End	End	End	Reject / Source	N/P
OK	N/P	N/P	N/P	N/P	N/P	N/P	N/P	N/P
Arrow Up	N/P	N/P	N/P	N/P	N/P	N/P	N/P	N/P
Arrow Down	N/P	N/P	N/P	N/P	N/P	N/P	N/P	N/P
Arrow Left	N/P	N/P	N/P	N/P	N/P	N/P	N/P	N/P
Arrow Right	N/P	N/P	N/P	N/P	N/P	N/P	N/P	N/P

***The Volume knob and Tune knob are on the HVAC panel and will do the exact same functions as the Volume and Tune buttons on the SWC by default and if reprogrammed.**

N/P = Not programmed by default. Can be re-programmed to perform any function the user would like.

Optional Steering Wheel Control Programming

If you wish to re-assign the SWC functions or utilize short press long press dual command functionality, 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.

Short Press Long Press Dual Command Functionality

This feature allows you to assign two aftermarket radio functions to each of the vehicles SWC buttons. It can be used with as many of the buttons as the user likes or none at all. When this functionality is implemented, quickly pressing and releasing a SWC button will initiate the short press command while pressing and holding a SWC button for longer than two seconds will initiate the long press command. Please note that no long press commands are programmed by default. If you wish to assign dual command functionality to the SWC please follow the programming steps on the next page.

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Optional Steering Wheel Control Programming (cont)

SET RADIO SELECT SWITCH

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

***If your brand is not listed above, please use "Other."**

CH2A-RSX SWC Notes

1. In vehicles that do not have SWC for the radio but do have SWC for the menu you can program the up/down/left/right arrows to whatever you want. We recommend that you have the DIC in the speedometer screen when using the SWC for the radio (Fig.1)
2. The Mute, Answer and End buttons in the Ram Promaster can not be programmed for long press functionality.

Fig. 1

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.
   At this point you have two options:
   - **A. For short press functionality:** Release the button within 1.5 seconds. The LED will turn back on.
   - **B. For long press functionality:** Hold the button until the LED starts blinking. Release the button and the LED will go back to solid.
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	Stinger	Clarion	Other*	Pioneer	Sony	Fusion
1	Volume +	Volume +	Volume +	Volume +	Volume +	Volume +	Volume +	Volume +	Volume +
2	Volume -	Volume -	Volume -	Volume -	Volume -	Volume -	Volume -	Volume -	Volume -
3	Mute	Mute	Mute	Mute	Mute	Mute	Mute	Mute	Mute
4	Preset +	Source	Source	Source	Source	Preset +	Preset +	Preset +	Source
5	Preset -	Track +	Play	Search +	Search +	Preset -	Preset -	Preset -	Track +
6	Source	Track -	Track +	Search -	Search -	Source	Source	Source	Track -
7	Track +	Band / Disc +	Track -	Band	Band	Track +	Track +	Track +	Audio
8	Track -	Preset / Disc -	Disc / FM+	Send / End	Send / End	Track -	Track -	Track -	Power
9	Power	Select	Disc / FM-	Send	Send	Band	Band	Band	
10	Enter / Play	Attenuation	Answer	End	End	Answer	Phone Menu	Power / End	
11	Band / Program	Answer	Voice	Voice	Voice	End	Answer	Voice / Answer / End	
12	Receive	End	On Hook	Send	Send	Voice	End	Voice	
13	End	Voice	Off Hook				Voice		
14	Voice	Power	Mute						
15			Preset +						

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Testing & Verification

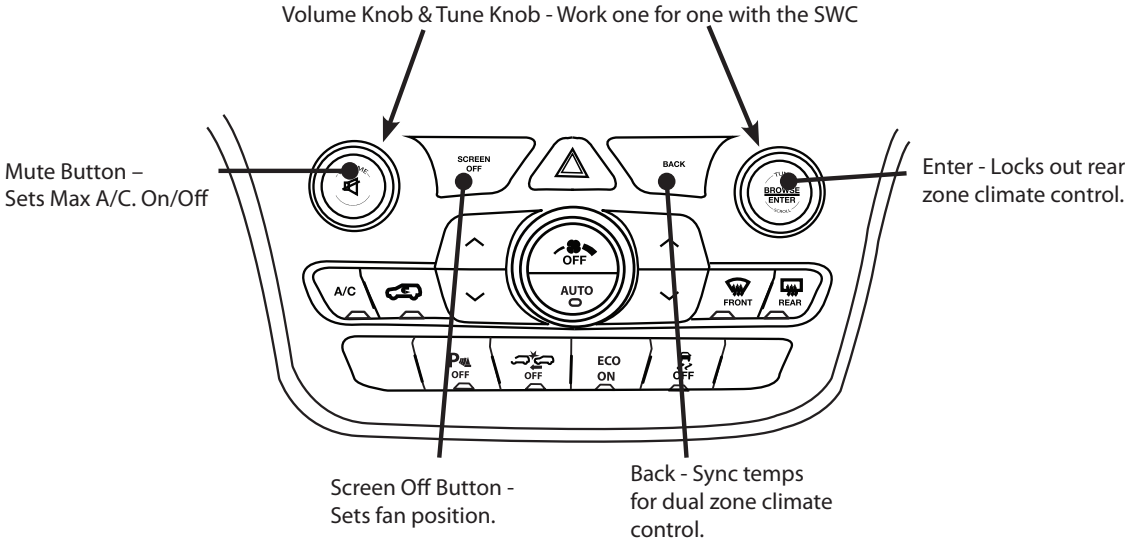
1. Turn the ignition on. The LED on the interface will turn on & the +12v accessory wire will turn on.
2. Turn on the radio & check balance & fade. Note: **Factory amplified Systems** will not fade as neither the aftermarket radio or the CH2A-RSX have the ability to control the amplifier's fader.
3. Verify that the factory subwoofer (if present) is playing
4. Verify that all SWC are functioning properly.
5. Turn off vehicle & remove key. RAP will be active & keep the radio on for up to 10 minutes (depending on the user programmed vehicle setting) or until the drivers door is opened.
6. The LED & radio will turn off when RAP turns off or the drivers door is opened.

Additional Controls

When replacing the radio in the following vehicles you may lose some of the climate control features that the factory radio provides: Grand Cherokee, Cherokee, Ram & Durango. The CH2A-RSX retains those features by integrating them into the existing factory buttons and displaying the information on the DIC. PLEASE NOTE: The DIC must be set to Audio mode in order for the HVAC information to be displayed.

The following buttons have been re-purposed from their original OEM function to retain key HVAC controls that are missing when removing the factory radio:

- Mute Button - Sets Max A/C On/Off
- Enter Button - Locks out rear zone climate controls (Durango only)
- Screen Off Button - Sets fan position (Defrost/Vents/Floor)
- Back Button - Syncs temperatures for dual zone climate controls
- The lock buttons on the doors control their respective seat heaters. Press and hold lock for 2 seconds to engage seat heater. Press lock again to change from high/low/off. The status will displayed on DIC.
- The assist button on mirror turns heated steering wheel on/off. The status will displayed on DIC.
- HVAC buttons that remain retain their original OEM functionality



Setting the Clock in the Promaster (Must be done with radio off)

1. Press and hold volume down on the SWC.
2. While holding volume down, use the track up/down buttons on the SWC to adjust the time.

Setting the Date in the Promaster

1. Press and hold volume up on the SWC.
2. While holding volume up, use the track up/down buttons on the SWC to adjust the date.
3. The 12/24 hour setting will have to be adjusted using the vehicle settings app referenced on the next page.

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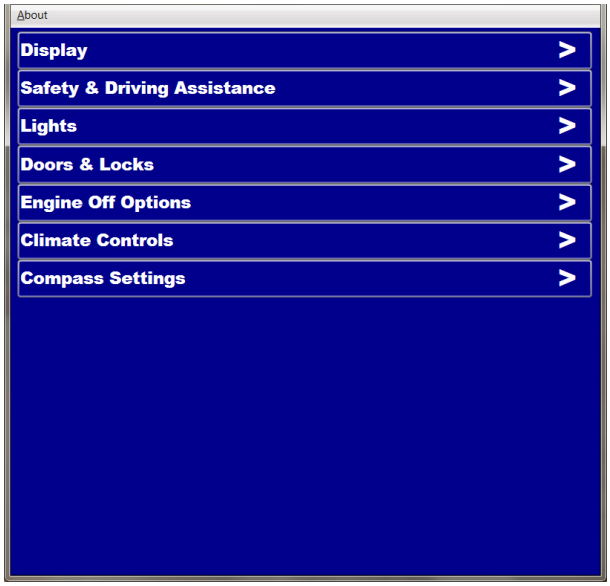
Vehicle Settings

Please go to https://pac-audio.com/pages/apps to download the vehicle settings app**.** Once downloaded and installed you can use this app to make changes to vehicle settings that would normally be done through the factory radio.

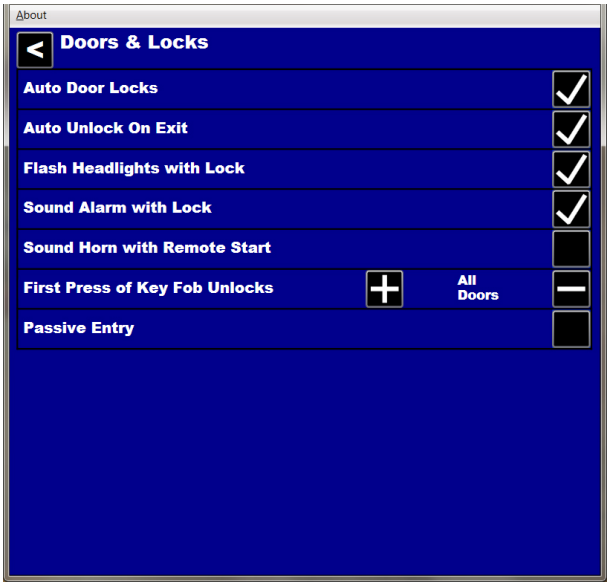
Important Notes

1. A PAC-UP is required to connect your PC to the CH2A-RSX and make changes to the vehicle settings.
2. Some vehicle settings may show up even if your vehicle is not equipped with them. If when you change a setting and it reverts back, the vehicle did not accept it or the option does not exist.
3. Vehicle settings can only be changed when the vehicle is running.

Select Setting Category



Change Setting



Product Updates (Firmware)

The CH2A-RSX 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 for available updates.

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