

Introduction & Features

The RP4.2-HY12 interface allows the replacement of a factory radio in the Hyundai Veloster. Using this interface will retain factory features such as: steering wheel controls (SWC), secondary screens, reverse camera and factory SPDIF audio amplifier (seperate part required, part # RPA-SPDIF) 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 RP4.2-HY12 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. Does not retain Blue Link. You must use the RP5.2-HY12 to retain Blue Link.
2. The AUX connection in the RP4 harness will only provide sound if the aftermarket radio has a USB port. This is because the USB port provides the power to make the factory USB/AUX port work. If you have connected the USB plug to your aftermarket radio and it is still inoperable, this means that the aftermarket radio's USB port is not supplying enough current.
3. When using the RPA-SPDIF in factory amplified vehicles, you can adjust factory amplifier settings such as Bass, Mid, Treble, Fader, Balance and Gain with the RadioPRO app found at www.pac-audio.com. Please refer to page 6 for detailed instructions on the app and the functionality of this wire.
4. In vehicles equipped with auto climate controls, you will lose the fan mode, fan speed, auto status and temperature display.

Wiring Connection Chart

Interface Connector 1

Red	Accessory Output (1 amp)
Yellow	12v+
Black	Ground
Red	Accessory Output

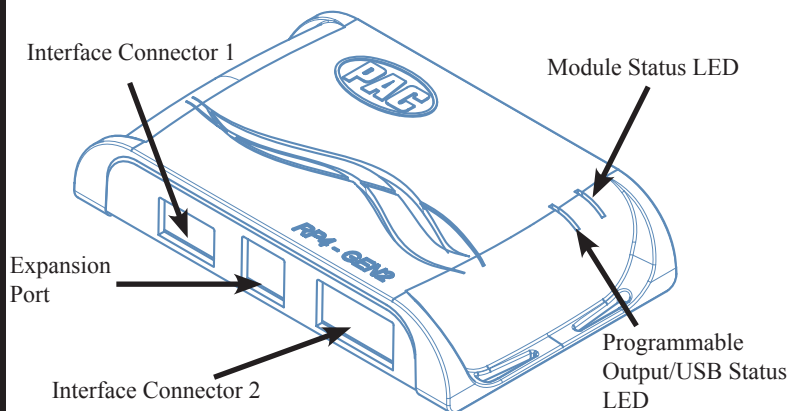
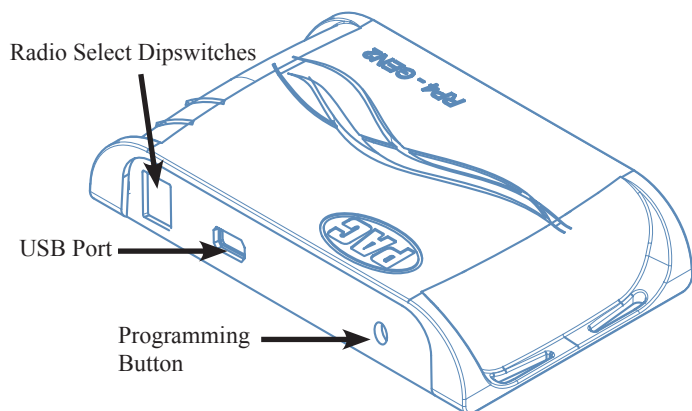
Interface Connector 2

3.5mm Jack	SWC Output
Pink	MS-CAN + Input
Pink/Black	MS-CAN - Input
Blue/Yellow	SWC Output
Red/White	12v+ Programmable Output
Orange/White	Illumination Output
Pink	Vehicle Speed Sense Output
Violet/White	Reverse Output
White/Black	HS-CAN + Input
White/Red	HS-CAN - Input
White	Analog SWC
Orange/Black	Illumination Input
Light Green	Parking Brake Output (-)
Blue/White	Amp Turn On Input

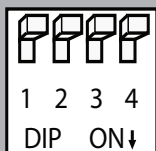
Vehicle Connector

Yellow	Battery +12v
Black	Ground
Blue	Power Antenna Turn 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
Yellow RCA	Factory Reverse Camera Video (if equipped)

Module Layout



Installation Steps



SET RADIO DIPSWITCHES TO THE ON POSITION

Alpine	JVC	Kenwood	Clarion	Pioneer/Other	Sony	Fusion
1	2	1 & 2	3	1, 2, & 3	4	1 & 4

1. The radio select dipswitches 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 aftermarket radio's front speaker wires to the SPDIF converter (sold separately, part # RPA-SPDIF), then connect the SPDIF converter to the 6-pin connector located on the RP4.2 harness.
3. Connect the SWC wire to the aftermarket radio (aftermarket radio must support a wired remote input).
4. Once all connections have been made, plug the interface into the vehicle.
5. If you wish to reassign functions to the SWC, utilize short press long press dual command functionality or assign the programmable 12v output to a SWC button, follow the optional programming instructions on the next page.

Steering Wheel Controls

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, utilize short press long press dual command functionality or assign the programmable 12v output to a SWC button. 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.

Steering Wheel Controls (cont.)

Default SWC Button Assignments

	Alpine	JVC	Kenwood	Clarion	Pioneer	Sony	Fusion
Volume +	Volume +	Volume +	Volume +	Volume +	Volume +	Volume +	Volume +
Volume -	Volume -	Volume -	Volume -	Volume -	Volume -	Volume -	Volume -
Source	Source	Source	Source	Source	Source	Source	Source
Track +	Track +	Track +	Track +	Search +	Track +	Track +	Track +
Track -	Track -	Track -	Track -	Search -	Track -	Track -	Track -
Voice	VR	Voice	Voice	Mute	Voice	Mute	Mute
Mute	Mute	Mute	Att	N/P	Mute	Band	N/P
Phone Answer	Receive	Receive	Answer	Send	Mute	Answer/End	Audio
Phone End	End	Reject	Voice	End	End	Reject/Source	Power

Optional Steering Wheel Control Programming

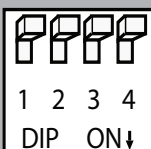
If you wish to re-assign the SWC functions, utilize short press long press dual command functionality or assign the programmable 12v output to a SWC button, the interface must be programmed in the specific order shown in the chart on page 4. If you come across a function in the chart that your steering 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.

Programmable 12v Output

The red/white wire on the interface can be programmed via the RadioPRO app to do a pulsed or latched 12v output which can then be assigned to any of the vehicle's factory SWC buttons. When assigned, the factory SWC button will activate the pulsed or latched output to control external accessories. Please refer to page 6 for more details on how to use the app to set this feature.



SET RADIO DIPSWITCHES TO THE ON POSITION

Alpine	JVC	Kenwood	Clarion	Pioneer/Other	Sony	Fusion
1	2	1 & 2	3	1, 2, & 3	4	1 & 4

Steering Wheel Controls (cont.)

Optional SWC Programming Procedure

1. Turn the key to the ignition position.
2. Press and release programming button on the side of the interface. The Status LED will turn green.
3. Within 7 seconds, press the button that is to be learned on the steering wheel. The LED 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. 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	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	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	12v+ Output
10	Enter/Play	Attenuation	Answer	End	N/A	Phone Menu	Reject Call/Source (Bluetooth equipped radios only)	
11	Band/Program	Phone Receive	Voice Dial	12v+ Output	12v+ Output	Answer Call	Answer/End Call	
12	Receive	Phone Reject	On Hook			End Call	12v+ Output	
13	End	Voice Dial	Off Hook			VR		
14	VR	Power	Mute (Multimedia units only)			12v+ Output		
15	12v+ Output	12v+ Output	Preset +					
16			12v+ Output					

*Other = Advent, Boyo, Dual, Lightning Audio, Rockford Fosgate, & Visteon

Steering Wheel Control Re-Calibration

SWC re-calibration is necessary when the SWC operation in vehicles with analog SWC is erratic or non-existent. This process re-calibrates the SWC values to the RP4 interface so it will know what they can be set to for button function assignment. The interface must be programmed in the specific order shown in the chart on the next page. If you come across a function in the chart that your steering wheel does not have you must 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.

The SWC and radio command assignments can always be restored to default values by entering re-calibration mode (Steps 1-2) and not pressing any buttons. After 7 seconds the re-calibration mode will time out and all default values will be restored.

Steering Wheel Controls (cont.)

SWC Re-Calibration Procedure

1. Turn the key to the ignition position.
2. Press and hold the programming button until the LED begins blinking amber. When the LED begins blinking, release the programming button. The LED will light solid amber. **PLEASE NOTE:** If the vehicle has CAN-Bus SWC the LED will never blink amber and will go directly to blinking red.
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. 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, 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 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.

Button Programming Order
Volume Up
Volume Down
Track Up
Track Down
Mode
Mute
Voice
End Call
Answer Call
Power

After you have re-calibrated the SWC buttons, the default SWC button assignments will be the same as what is listed in the chart on page 3. If you wish to re-assign button functions you must also go through the programming process on page 4.

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** must use the Radio PRO App to adjust amplifier settings. Verify that the factory subwoofer (if present) is playing.
3. Verify that all SWC are functioning properly.
4. Verify that the programmable 12v+ output is functioning as intended.
5. The LED & radio will turn off when the ignition is turned off.

Restoring Factory Settings

You can restore the interface to factory default settings by pressing and holding the programming button on the side of the module until the status LED starts blinking red. Once the LED starts blinking red, release the button. You must release the button while the LED is blinking red in order to perform the reset.

This reset will restore the following settings to their factory defaults:

- SWC Mapping
- SWC Calibration
- Programmable 12v+ Output (Latched)
- Parking Brake Output Settings
- Factory Amplifier Settings

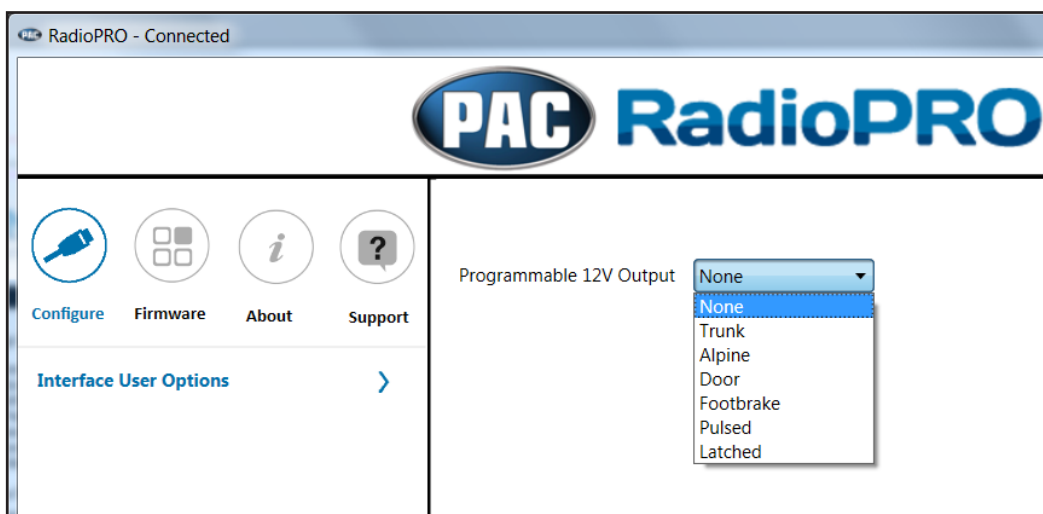
RadioPRO App

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

- Configure User Interface Options such as:
 - Red/White wire output behavior
 - Aftermarket radio Parking Brake Sequencing
 - Factory amplifier settings (Bass, Mid, Treble, Gain, Fader & Balance)
- Update Product Firmware
- Read Firmware/Hardware Versions
- Access Product User Manuals

Programmable Red/White Wire

The red/white wire can be programmed to do a pulsed or latched trigger that is controlled by a user assigned steering wheel control button, or it can be set to provide an output when triggered by the vehicles foot brake, door or trunk. Select User Interface Options then set the behavior of the red/white wire using the drop down menu. PLEASE NOTE: Available triggers depend on what info is available on the vehicles data bus. Restoring factory settings on the module will default this wires output back to a latched SWC trigger.



Trunk - This selection will provide a 12v+ output on the red/white wire whenever the HS-CAN is active and the trunk is opened.

Alpine - If you select the “Alpine” setting on the drop down menu, the red/white wire will then work in conjunction with the parking brake output to produce the necessary sequencing for settings menu access. This sequencing is based on the actual parking brake, meaning to produce this sequence you have to engage the parking brake in the vehicle. If you would like to manually do the necessary foot brake/parking brake sequencing for Alpine, select the “Foot Brake” setting (if available) and the red/white wire will output a 12v+ signal whenever the HS-CAN is active and the foot brake is pressed.

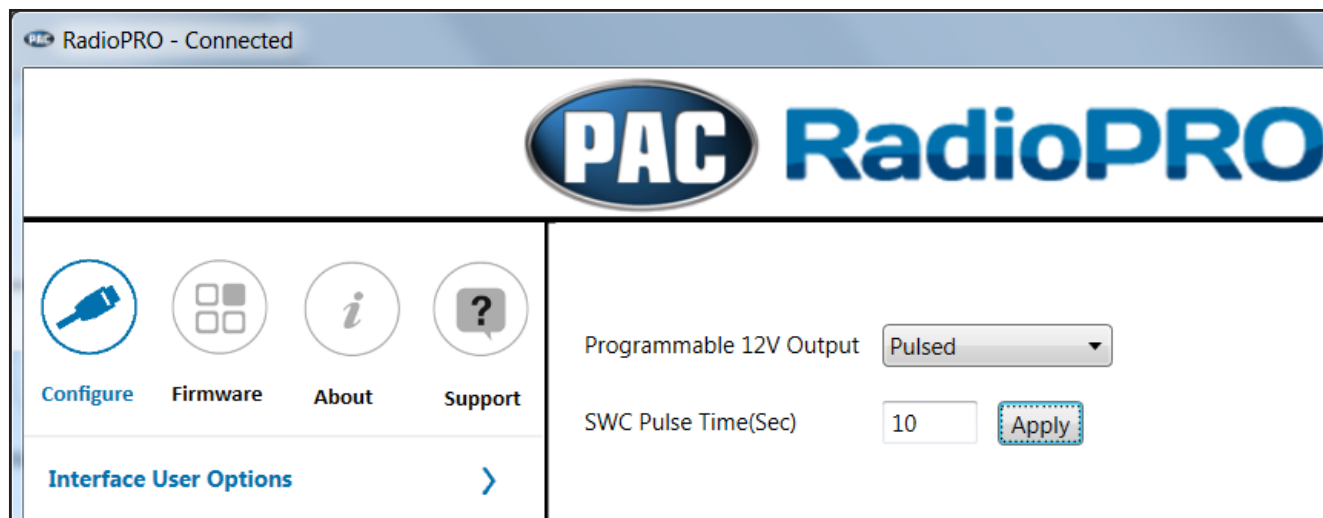
Door - This selection will provide a 12v+ output on the red/white wire whenever the HS-CAN is active and any door on the vehicle is opened.

Footbrake - This selection will provide a 12v+ output on the red/white wire whenever the HS-CAN is active and the foot brake is pressed. **PLEASE NOTE:** Sonata Hybrid will not provide a foot brake output even though it is displayed in the app.

Latched - This selection will provide a latched 12v+ output that can be tied to any of the vehicles SWC. This means that when you press the assigned SWC, the red/white wire will turn on and remain on until the assigned SWC is pressed again or the ignition is turned off.

RadioPRO App (cont.)

Pulsed - This selection will provide a user programmable timed 12v+ output that can be tied to any of the vehicles SWC. This means that when you press the assigned SWC, the red/white wire will pulse for the pre-programmed user time. The range for pulse time is 100 milliseconds - 25.5 seconds (.1-25.5).



RadioPRO - Connected

PAC RadioPRO

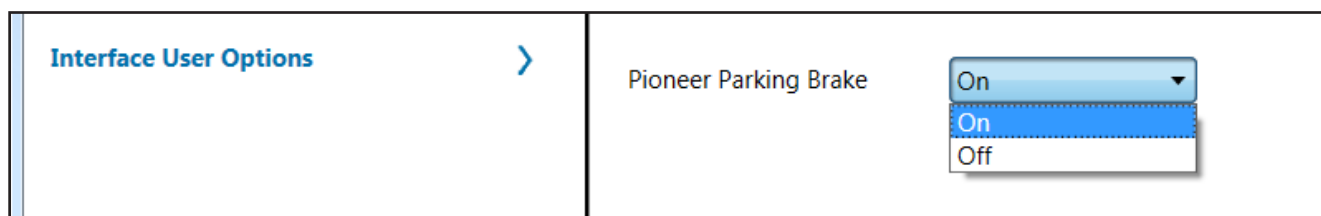
Configure Firmware About Support

Interface User Options >

Programmable 12V Output: Pulsed

SWC Pulse Time(Sec): 10 Apply

Pioneer Parking Brake - Turning this feature on will make the parking brake output produce the necessary sequencing for settings menu access. This sequencing is based on the actual parking brake, meaning to produce this sequence you have to engage the parking brake in the vehicle. If you would like to manually do the necessary parking brake sequencing for Pioneer, simply leave this feature off. Restoring factory settings on the module will default this setting back to off.



Interface User Options >

Pioneer Parking Brake: On

Factory Amplifier Settings

The RadioPRO app will also allow you to adjust the settings of the factory amplifier. You can adjust Amp Gain, Fader, Balance, Bass, Mid & Treble. PLEASE NOTE: If you want to adjust the fader with the aftermarket radio in vehicles equipped with an amplifier, you must use the RP5.2-HY11. Restoring factory settings on the module will default all values back to middle.

Firmware Updates

The RadioPRO app will also allow you to update the interface with new firmware as it becomes available. Please visit www.pac-audio.com or contact our tech support department to see if there is a firmware update for your interface.