

# AP4-TY12

## Advanced Amplifier Interface for Select Toyota / Lexus Vehicles

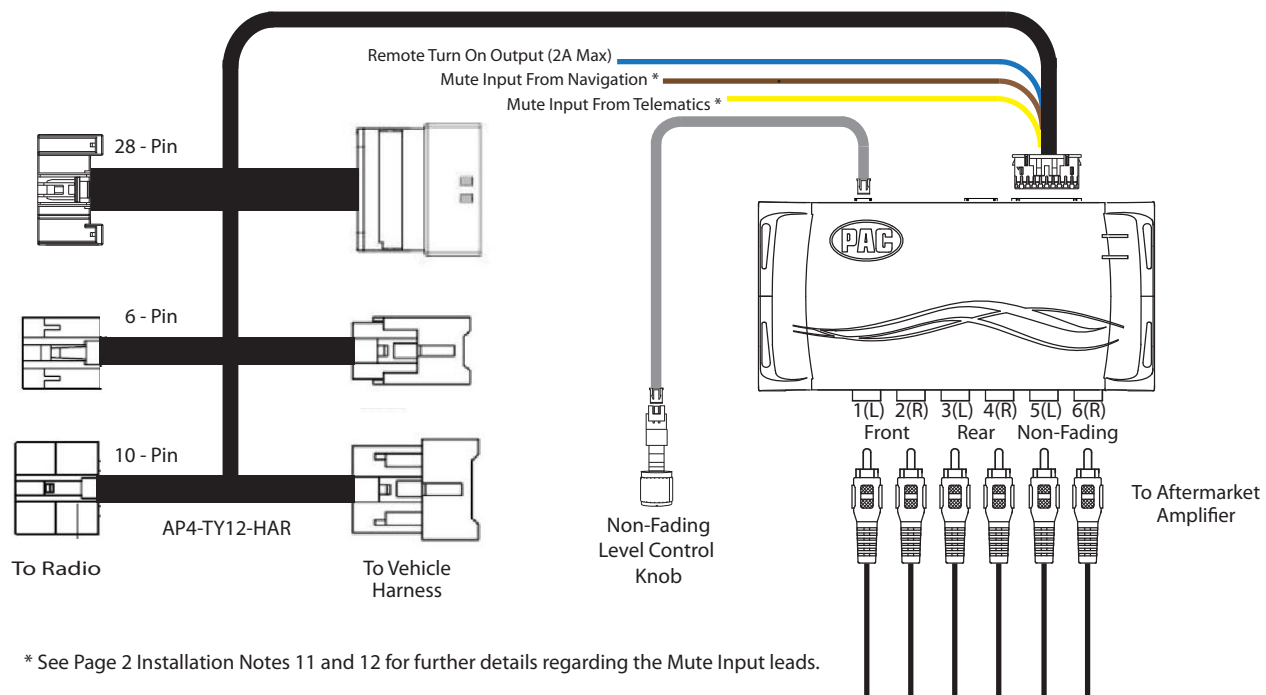
### Introduction and Features

The AP4-TY12 provides a 6-channel pre-amp output for use with aftermarket audio equipment. Using the full range, fixed level head unit output, in conjunction with data bus messages, the AP4-TY12 delivers a variable 5v RMS pre-amp output with fading, balance, equalization, and level control capabilities. The module also retains audio from other vehicle features such as factory navigation prompts, Bluetooth and Voice Activation. An accessory controlled remote amplifier turn on wire is also provided by the AP4-TY12. When used in conjunction with the APA-TOS1 (sold separately), the module can provide a variable 2-channel fiber optic digital audio output (TOSLINK).

### Important Notes

1. Only compatible in vehicles equipped with a data bus controlled premium sound system. To verify compatibility in Toyota, look for a JBL logo on the radio. In Lexus, compatible applications will have a center channel or factory subwoofer.
2. The AP4-TY12 does not support retention of the Easy Speak function.
3. Toyota Safety Connect and Lexus Enform (SOS) can easily be retained. See the Tech Brief "AP4-TY12 SOS Retention" at PAC-audio.com for detailed instructions.
4. The factory radio's speed controlled volume, DSP, and surround sound mode are not supported by the AP4 outputs.
5. The factory amplifier must remain connected, and in the vehicle after the AmpPRO has been installed.
6. Prior to testing, cycle the ignition off and back on again to properly initialize the AP4-TY12.
7. The radio's beep setting must be enabled on the factory radio in order to hear the audible tones when making selections through the radio.
8. Initially, if the beep through the AP4-TY12 does not match the on / off selection through the radio, cycle the beep to the opposite setting and back, then test again.
9. The radio's beep volume and minimum volume levels are set to 0 dB by default. If you are happy with this level in your particular application, additional adjustment is not required. Please refer to the Setup and Configuration section on page 2 for more details.
10. The Radio's Nav / VR Voice, incoming E-mail tone, Ringtone, In-Call, Incoming SMS / MMS tone and Incoming SMS Voice volumes can be adjusted through the radio's settings menu as they were prior to installation of the AP4-TY12.
11. The remote output is rated at 2A of current. If more current is needed, an external relay must be used.
12. Channels 5 and 6 are non-fading outputs. The output level of channels 5 and 6 can be controlled using the supplied level control knob.
13. The level control knob must be connected in order to manually adjust the beep volume and minimum volume settings.
14. No adjustments can be made manually using the programming button when the module is connected to a PC.
15. Due to variations between various OEM radios and even between radio modes, the radio output voltage may vary slightly from the selected 5 volt (or 4 volt when DIP switch 2 is down) output.

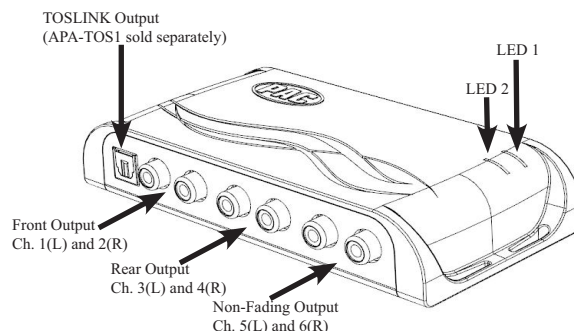
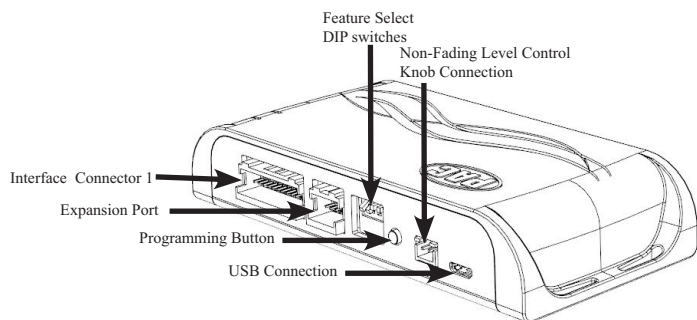
### Wiring Connection Chart



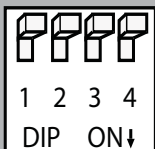
# AP4-TY12

## Advanced Amplifier Interface for Select Toyota / Lexus Vehicles

### Module Layout



### Installation



Set DIP switches to the ON position to activate the corresponding features.  
Set DIP switches to the OFF position for any features that are not desired.



Two Channel Mode	5v / 4v Preout	Not Used	Not Used
1	2	3	4

1. Remove factory radio.
2. Disconnect the 28-pin harness, the 10-pin harness and the 6-pin harness from the radio.
3. Connect AmpPRO harnesses to vehicle harnesses.
4. Connect AmpPRO harnesses to factory radio.
5. Set any feature DIP switches that apply to your install.
  - a. DIP switch 1 is used for two channel mode. In this mode, both the TOSLINK and front RCA outputs (1 and 2) become non-fading outputs.
  - b. Set DIP switch 2 on (down) to lower the RCA output voltage to 4v. Leave DIP switch 2 off (up) to keep the RCA output voltage at 5v. See troubleshooting section on page 5 for more details.
  - c. DIP switches 3 and 4 are not used and should remain off (up).
6. If you are using the APA-TOS1 (sold separately) refer to the instructions included with that product for its installation.
7. Connect the AmpPRO harness to the module.
8. Connect the level control knob to the module and install in an accessible location.
9. Connect the signal cables and remote input from the aftermarket amplifier.
10. Initially, if the beep through the AP4-TY12 does not match the on / off selection through the radio, cycle the beep to the opposite setting and back, then test again.
11. The Yellow / Black "Mute Input from Telematics" wire will be used in conjunction with the Safety Connect / Lexus Enform (SOS) Retention. See the Tech Brief "AP4-TY12 SOS Retention" at PAC-audio.com for detailed instructions.
12. The Brown "Mute Input From Navigation" is a spare mute lead that can be used for custom applications. The audio will be muted whenever the Brown wire is supplied a ground.

### Setup and Configuration

1. Turn the ignition on. LED 1 on the interface will turn on and the +12v remote output will turn on.
2. Set the amp gain(s) to the desired level. We recommend using an oscilloscope and test tones to set the amp gain(s). Please refer to the MECP Advanced study guide (p. 360) if you are unfamiliar with this process.
3. Check volume, balance, fade and EQ settings.
4. If you would like to adjust the radio's beep volume or minimum volume, do so using one of the methods outlined below. If you are happy with the default levels, no adjustments are necessary.

#### Manually Setting the Radio's Beep Volume

You can manually set the level of the factory radio beeps using the programming button on the side of the interface. If you would like to set the beep volume using the PC app please proceed to the PC App section.

**PLEASE NOTE: Level control knob must be connected to the module in order to set the Radio's Beep Volume.**



### Setup and Configuration (cont.)

#### Setting the radio's beep volume using the programming button

1. Start with the level control knob turned all the way down (counter-clockwise).
2. Press the programming button on the side of the interface.
3. LED 1 will turn green and beeps will begin continuously sounding.
4. Turn the level control knob clockwise until the desired beep volume level is reached.
5. You can now either press the programming button twice or wait ten seconds to exit the settings.

#### Manually Setting the Minimum Volume

If the minimum volume of the radio (factory radio volume level 1) is too loud, you can manually set the level of the minimum volume using either the programming button on the side of the interface or the factory SWC. If you would like to set the minimum volume using the AmpPRO app, please proceed to the AmpPRO App section.

**PLEASE NOTE: Level control knob must be connected to the module in order to set the Minimum Volume.**

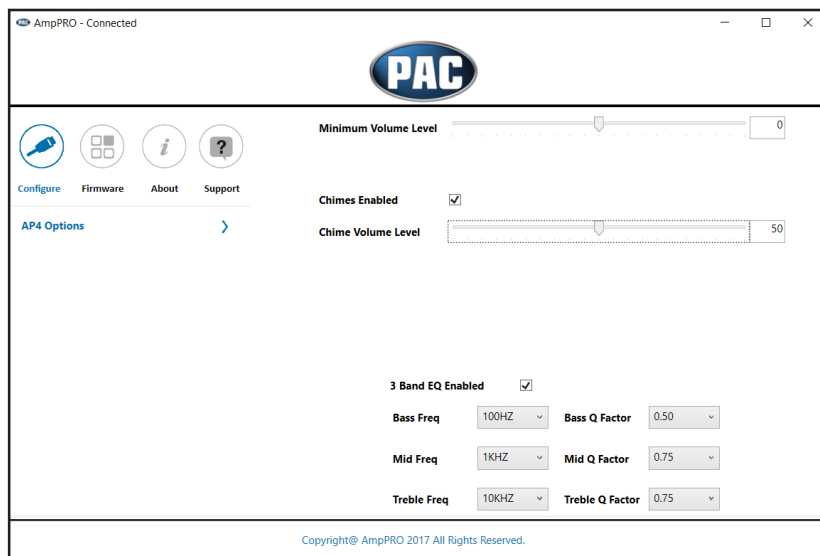
#### Setting the minimum volume using the programming button

1. Start with the level control knob turned all the way down (counter-clockwise).
2. Set the amp gains to the desired level.
3. Set the volume on the factory radio to 1.
4. Press the programming button on the side of the interface twice.
5. LED 1 will turn amber and the chimes will begin sounding every five seconds.
6. Turn the level control knob clockwise until the desired minimum volume level is reached.
7. You can now either press the programming button once or wait ten seconds to exit the settings.

### AmpPRO App

#### Use of the AmpPRO App allows you to do the following:

- Configure User Interface Options such as:
  - Minimum Volume Level
  - Chime (Radio Beeps) Volume Level
  - Enable / Disable AP4 Chimes (Radio Beeps)
  - Enable / Disable factory EQ
  - Bass / Mid / Treble boost frequencies and Q factor
- Update Product Firmware
- Read Firmware / Hardware Versions
- You can download the Amp PRO app at :  
<http://aampglobal.com/appdownloads>



### AmpPRO App (cont.)

**PLEASE NOTE:** These settings can be adjusted with the module installed in the vehicle, or on the bench. However, it is recommended to make the adjustments with the module installed, and the factory radio on, so that the changes can be heard.

**Minimum Volume Level** - This allows you to set the minimum volume level of the factory radio (factory radio volume level 1).

**Chime Volume Level** - This allows you to set the volume of the radio beeps that are heard through the AP4.

**Chimes Enabled** - This allows you to enable / disable AP4 radio beeps (ie: tone that is heard when pressing radio buttons). This is used when mixing factory and aftermarket speakers. It is also possible to turn the beeps off altogether using the radio's factory settings menu.

**3 Band EQ Enabled** - This allows you to enable / disable the 3 band factory EQ.

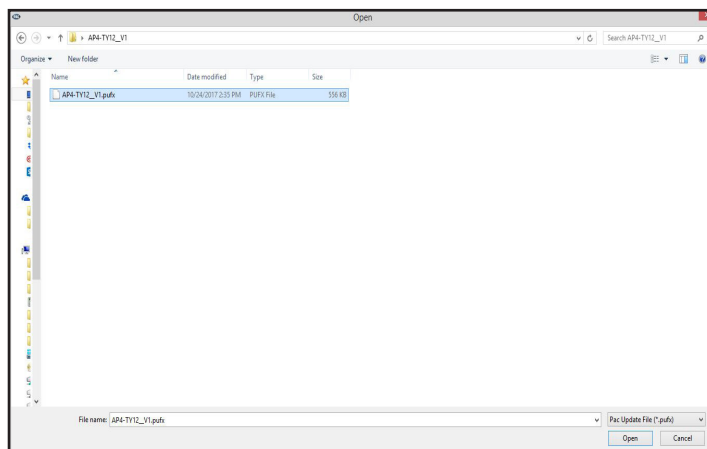
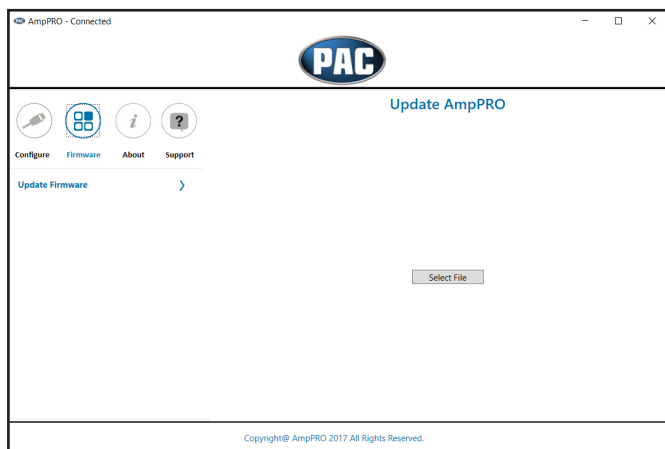
**Bass / Mid / Treble Freq / Q Factor** - This allows you to set the center frequency that will be adjusted when setting the 3 band factory EQ, as well as the Q Factor for each frequency. The Q Factor determines how many of the adjacent frequencies will be affected when adjusting the selected frequency. The lower the Q Factor, the more frequencies will be affected.

Available Frequencies and Q Factors					
Bass Frequency	60HZ	Mid Frequency	500HZ	Treble Frequency	7.5KHZ
	80HZ		1KHZ		10KHZ
	100HZ		1.5KHZ		12.5KHZ
	120HZ		2.5KHZ		15KHZ
Bass Q Factor	0.50	Mid Q Factor	0.75	Treble Q Factor	0.75
	1.00		1.00		1.25
	1.50		1.25		
	2.00		1.50		

### Firmware Updates

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

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 resume normal operation.



## 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 LEDs start blinking red. Once the LEDs start blinking red, release the button.

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

- Radio Beeps volume level
- Enable / Disable Factory Beeps
- Minimum volume level
- Enable / Disable factory EQ
- Factory EQ frequency
- Factory EQ Q factor

## Troubleshooting

1. No audio - Check to see if LED 1 is illuminated. If not, cycle the ignition off and back on.
2. Hiss at high amp gain - Set feature DIP switch 2 to the on (down) position to lower the output voltage of the AP4 to 4v. If you still hear the hiss, lower your amp gains until the hiss is gone.
3. Cannot hear beeps when pressing buttons on the radio - Go to the Beep On / Off setting in the radio's settings menu and make sure it is set to ON. If it is, set it to OFF and back to ON and test for beeps again. Next, set the beep volume using process outlined in Setup and Configuration, or using the AmpPRO application. If you still do not hear beeps, be sure that you are using the remote output from the AP4 to turn on your aftermarket amplifier.
4. Low volume setting on radio is too loud - Set minimum volume using process outlined in Setup and Configuration, or using the AmpPRO application.
5. Drastic volume difference between radio sources - The radio stores the volume of the radio source from the last time that source was used. Readjust the volume of the individual sources to the same output level.

LED Legend		
LED 1	Action / Color	During Normal Operation
	Solid Red	Module Active
	Solid Green	Chime Volume Adjustment Mode
	Solid Amber	Minimum Volume Adjustment Mode
	Rapid Blink Any Color	DSP Activity
LED2	Blink Amber	USB Connection Detected
Both LEDs	Alternate Blinking Red	Performing Memory Reset

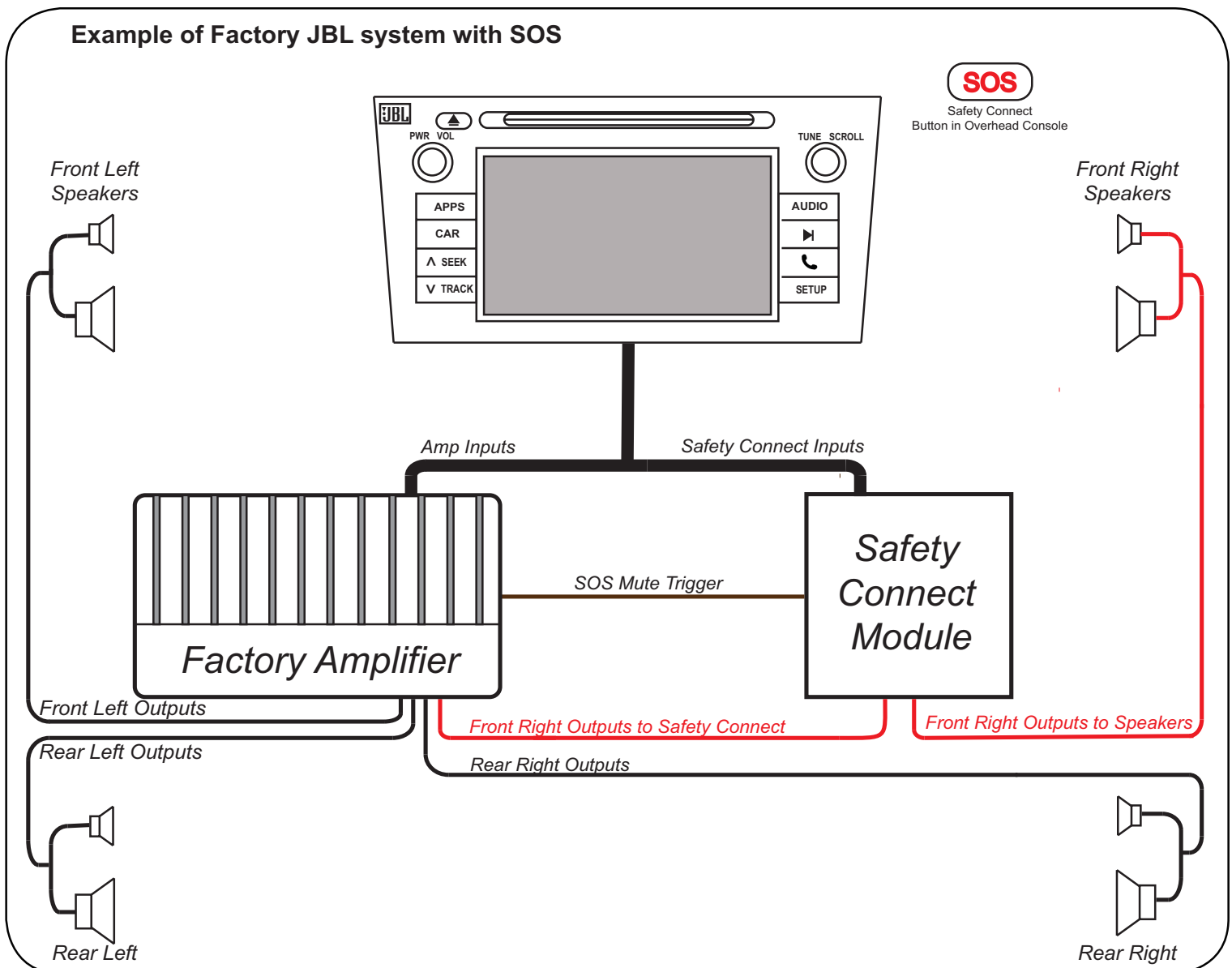
# Technical Bulletin

Lexus / Toyota Amp PRO  
Retention of SOS  
(Safety Connect / Lexus Enform)

## Overview:

Safety Connect (SOS) is a subscription based service provided for select Lexus / Toyota models. Verify the vehicle is equipped with Safety Connect / Lexus Enform (there will be an SOS button in the overhead console) and that it is an active account, and that retention of SOS is a concern prior to proceeding.

In Toyota / Lexus vehicles equipped with Safety Connect / Lexus Enform and a digital amplifier, the front right output of the factory amplifier (sometimes tweeter, sometimes door woofer, sometimes both) goes through the factory SOS telematics module. This telematics module is what creates the audio for the SOS system (Voice Prompts, etc). There is an analog mute wire that runs from the SOS module to the factory amp, and when the SOS is triggered by the user, the SOS module sends a ground signal on this wire to mute the audio coming from the factory amplifier. When this happens, the audio to the SOS speaker (or speakers) is muted and the SOS module internally switches the front right speaker to now pass audio from the telematics module, instead of the amplifier.





**When using the AmpPRO to add aftermarket amplifiers, and retention of the factory SOS system is desired, there are a few important points to remember:**

- If you are not using an aftermarket amplifier on the front speakers, and you wish to mute audio when SOS is active, the factory mute wire mentioned in the overview must be found and connected to the Yellow / Black wire on the AP4-TY harness labeled "Mute Input From Telematics". See "Method 1" in the next section for further details.
- If you are using an aftermarket amplifier on the front speakers and do not plan on running new speaker wires to each speaker, your aftermarket amplifier's front right output will be passed through the factory SOS module. The factory SOS module cannot handle any more than 150w RMS (The engineers at PAC have tested running 150w RMS through a Toyota SOS module for extended periods of time without issue). See "Method 2" in the below for further details.
- If you are planning on running new speaker wires to each speaker, and wish to retain the SOS system, or the aftermarket amplifier is rated at higher than 150w RMS to the front speakers, you will need to follow the steps outlined as "Method 3" on page 4.

## **SOS Retention Methods:**

**Prior to interrupting any of the wires between the factory amplifier, factory telematics module, or the speakers, activate the SOS and note which speaker (or speakers) play the SOS audio for later use. For instance, if only the front right mid is playing the SOS audio and there are additional front right speakers, if you connect to the wires for the front right tweeter at the amplifier, the SOS audio will not be retained. To retain the SOS in this instance, you must connect to the wires for the front right mid.**

### **Method 1 (ex: Subwoofer Only Install):**

Method 1 is used in cases where the factory amplifier will continue to power the front speakers and you wish to mute the audio from the aftermarket amplifiers when SOS is active.

- Extend a wire from the Yellow / Black "Mute Input From Telematics" wire to the SOS Mute Trigger wire at the factory Safety Connect Module. Refer to the "Vehicle Connections" section for vehicle specific information (page 5).

### **Method 2 (Amplifying Cabin Speakers):**

Method 2 is used when wiring an aftermarket amplifier to the front speaker outputs of the factory amplifier rather than running new speaker wires from the aftermarket amp straight to the front speakers. One of the front right speaker outputs of the aftermarket amplifier passes through the Safety Connect Module. It is recommended to use an amplifier that provides 150 watts RMS or less so that the factory telematics module is not damaged due to excessive heat. If the front speaker output is in excess of 150 watts, use Method 3 instead (page 4).

- If you are wiring an aftermarket amplifier to the front speakers through the Telematics Module, it will require running a wire from the AP4-TY harness Yellow / Black wire labeled "Mute Input From Telematics" to a wire at the Safety Connect Module. Refer to the "Vehicle Connections" section for vehicle specific information (page 5). Next, cut the front speaker outputs (and rear if applicable) to the speaker wire outputs at the factory amplifier and insulate the side that goes towards the amplifier (these wires will not be used). Wire the aftermarket amplifier outputs to the appropriate remaining speaker wires. See the example "Fig. 1" on the following page.

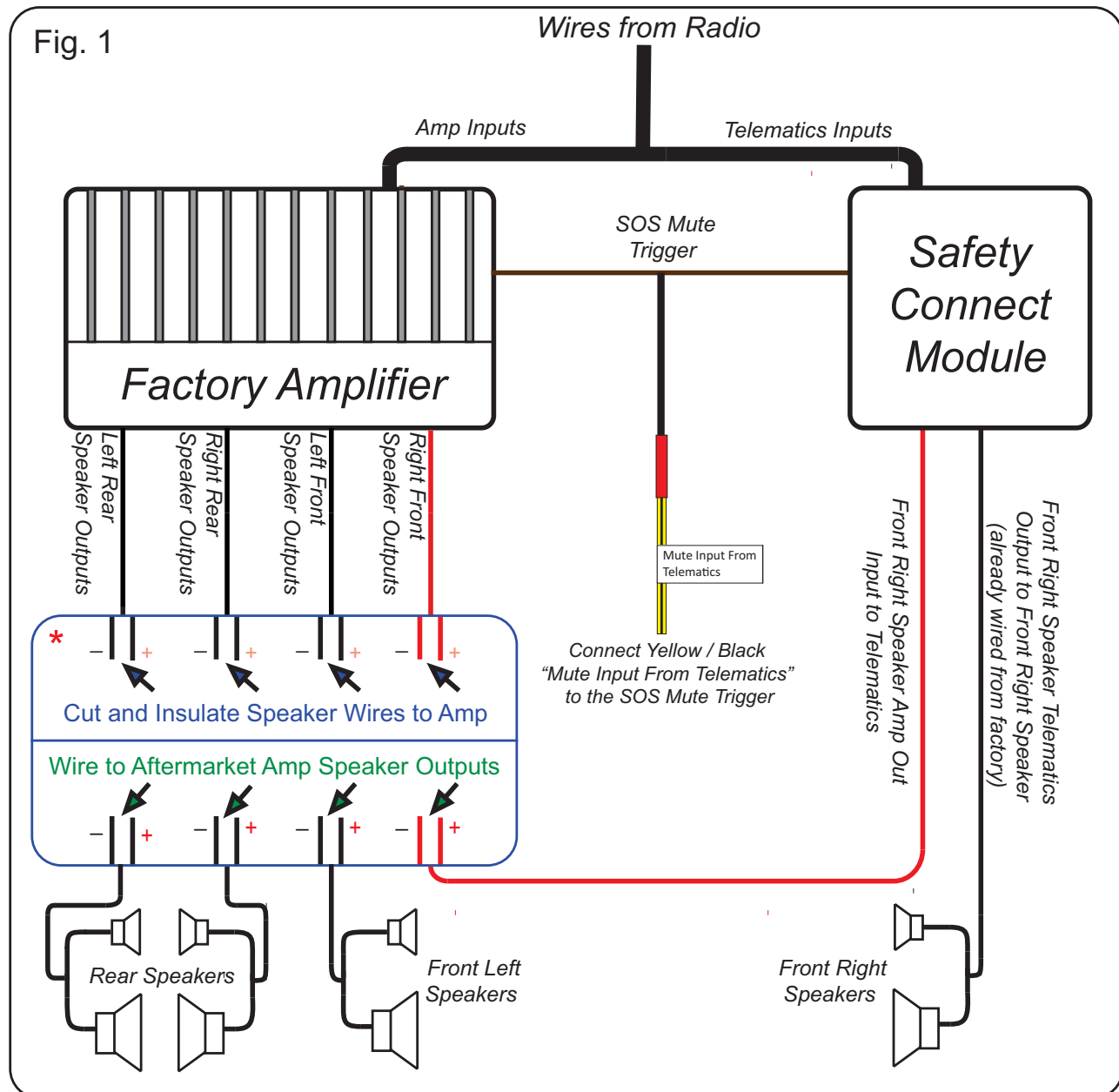


# Technical Bulletin

Lexus / Toyota Amp PRO  
Retention of SOS  
(Safety Connect / Lexus Enform)

## Method 2 (cont.):

**Note:** In some vehicles there will be multiple speakers on the front right output of the factory amplifier with only one speaker passing the SOS audio. If that is the case, it is important to use the exact speaker output of the factory amp that corresponds to the speaker playing the SOS audio to connect to the front right speaker output of the aftermarket amplifier. If the front right dash speaker is the only speaker playing the SOS audio and now only the door speakers are going to be used, it would be necessary to run the aftermarket amplifier's front right output to the front right dash speaker wires, then use the front right speaker output from the Safety Connect Module to connect to the door speaker that needs to be powered by the aftermarket amplifier. Method 3 can be substituted for ease of SOS retention if desired. Refer to the "Vehicle Connections" section on page 5 for vehicle specific information.



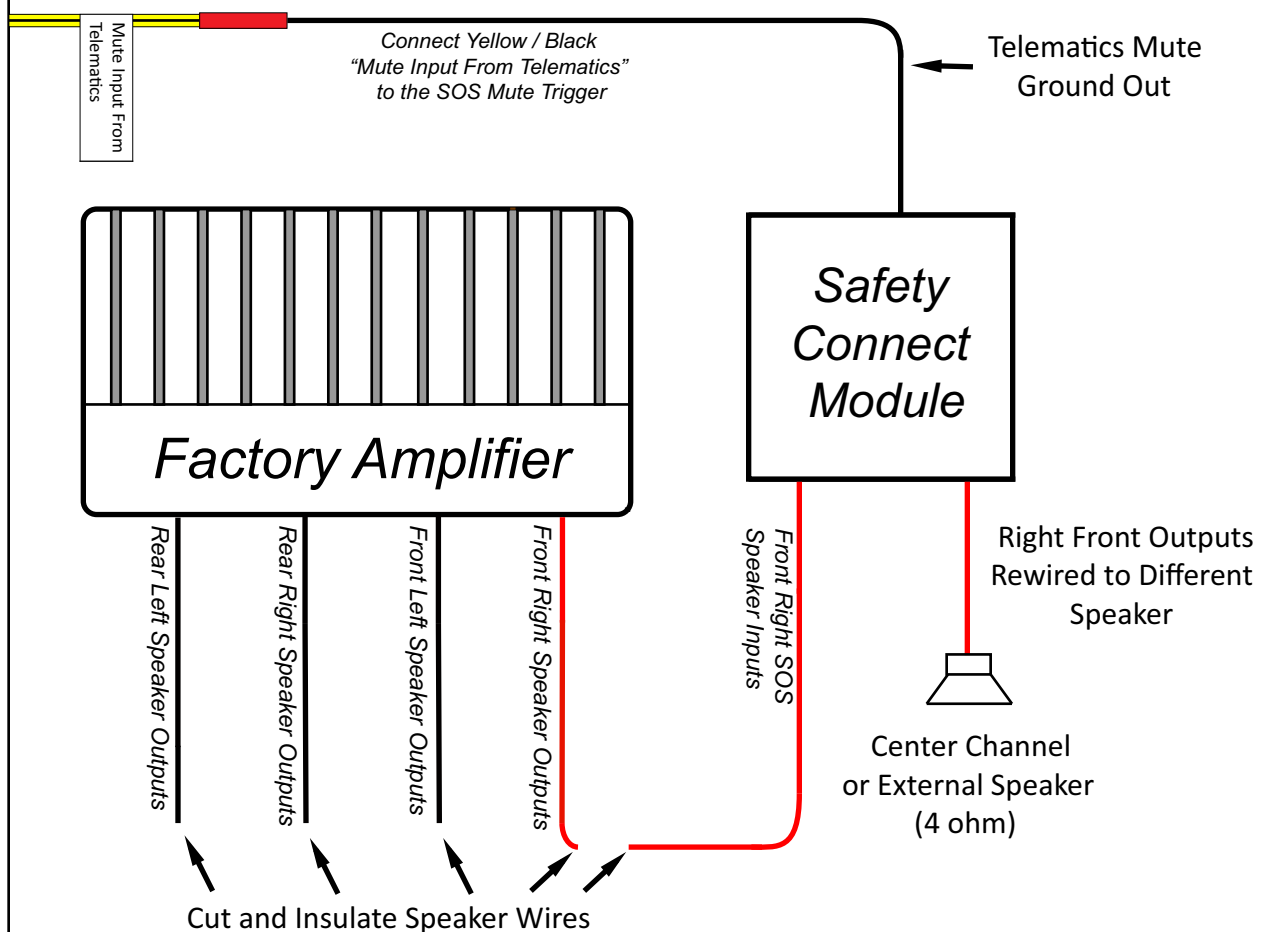


## Method 3 (using a separate speaker):

Method 3 bypasses the Safety Connect Module and uses an external speaker (not supplied) to provide the SOS audio.

- Method 3 will require running a wire from the AmpPRO harness Yellow / Black wire labeled "Mute Input From Telematics" to a wire at the Safety Connect Module. Refer to the "Vehicle Connections" section on page 5 for vehicle specific information. It also requires cutting the audio input and output wires at the Safety Connect Module, and insulating the input wires that lead back to the factory amp (to prevent shorting them out). Extend a speaker wire from the Safety Connect audio output wires to an external 4 ohm speaker and hide it in a place where it will be audible (commonly under the dashboard on the driver's side of the vehicle facing downward). If the vehicle has a center channel speaker that is no longer being used, it is possible to run the speaker wires to this speaker rather than adding an additional speaker. See "Fig. 2". Refer to the "Vehicle Connections" section on page 5 for information regarding where the Safety Connect Module is located and what wire to extend the Yellow / Black wire to.

Fig. 2



# Technical Bulletin

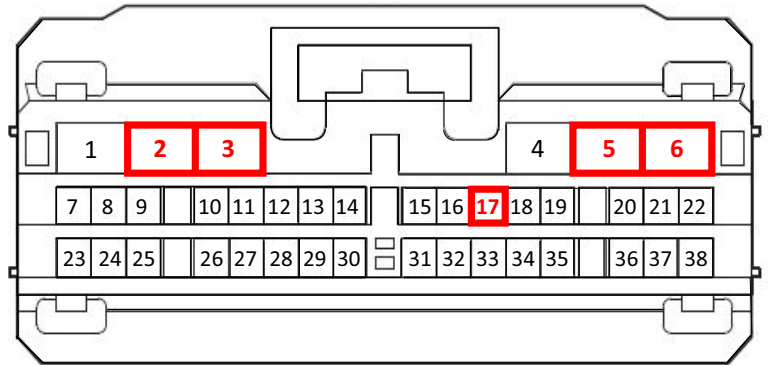
Lexus / Toyota Amp PRO  
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## Vehicle Connections

Use the information contained in the chart below to determine the factory Amp location, Safety Connect Module location, and the Pin positions and colors for the wires necessary for specific methods of SOS retention.

The connector to the right represents the Safety Connect Module connector for all of the Lexus / Toyota applications listed below. The Pin positions highlighted in Red are indicative of the wire positions outlined in the chart below.

38 - Pin Safety Connect Module Connector



Connector Viewed From Pin Side

## Toyota

Model	Years	OEM/Amp Location	Safety Connect Module Location	Safety Connect Input Audio	Safety Connect Output Audio	Telematics Mute Trigger
4Runner	2010 - 2018	Behind Right Rear Side Panel in Rear Cargo Area	Behind Glovebox Left Side	38 Pin Connector Pin 2 (+) Violet Pin 3 (-) Pink	38 Pin Connector Pin 5 (+) Lt Green Pin 6 (-) Blue	38 Pin Connector Pin 17 Blue
Avalon	2013 - 2018	Under Front Left Seat	Under Front Right Seat	38 Pin Connector Pin 2 (+) White or Pink Pin 3 (-) Red or Violet	38 Pin Connector Pin 5 (+) Gray or Red Pin 6 (-) Brown or White	38 Pin Connector Pin 17 Lt Green
Camry	2012 - 2018	Under Front Left Seat	Under Front Right Seat	38 Pin Connector Pin 2 (+) Yellow Pin 3 (-) Pink	38 Pin Connector Pin 5 (+) Lt Green Pin 6 (-) Blue	38 Pin Connector Pin 17 Red
Highlander	2014 - 2018	Under Front of Center Console	Under Front of Center Console	38 Pin Connector Pin 2 (+) Lt Green Pin 3 (-) Blue	38 Pin Connector Pin 5 (+) White or Lt Green Pin 6 (-) Black or Blue	38 Pin Connector Pin 17 Lt Green
Prius	2010 - 2011	Under Front Right Seat	In Dash Below Radio	38 Pin Connector Pin 2 (+) Lt Green Pin 3 (-) Blue	38 Pin Connector Pin 5 (+) Lt Green Pin 6 (-) Blue	38 Pin Connector Pin 17 Green
Prius	2016 - 2017	Under Front Right Seat	In Dash Below Radio	38 Pin Connector Pin 2 (+) Beige Pin 3 (-) Green	38 Pin Connector Pin 5 (+) Lt Green Pin 6 (-) Blue	38 Pin Connector Pin 17 Lt Green
Sienna	2011 - 2014	Under Front Right Seat	Behind Center Console	38 Pin Connector Pin 2 (+) White Pin 3 (-) Red	38 Pin Connector Pin 5 (+) Blue Pin 6 (-) Lt Green	38 Pin Connector Pin 17 Red
Sienna	2015 - 2017	Under Front Right Seat	Behind Center Console	38 Pin Connector Pin 2 (+) Blue Pin 3 (-) Lt Green	38 Pin Connector Pin 5 (+) Blue Pin 6 (-) Lt Green	38 Pin Connector Pin 17 Red



# Technical Bulletin

Lexus / Toyota Amp PRO  
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## Vehicle Connections

### Lexus

Model	Years	OEM Amp Location	Safety Connect Module Location	Safety Connect Module Input/Audio	Safety Connect Module Output/Audio	Telematics Mute Trigger
CT200h	2011 - 2017	Under Front Right Seat	In Dash Above Radio	38 Pin Connector Pin 2 (+) Lt Green Pin 3 (-) Blue	38 Pin Connector Pin 5 (+) Green Pin 6 (-) Brown	38 Pin Connector Pin 17 Blue
ES300h	2013 - 2017	Under Front Left Seat	Under Front Right Seat	38 Pin Connector Pin 2 (+) Black Pin 3 (-) Yellow	38 Pin Connector Pin 5 (+) Black Pin 6 (-) Yellow	38 Pin Connector Pin 17 Black
ES350	2016 - 2017	Under Front Left Seat	Under Front Right Seat	38 Pin Connector Pin 2 (+) Black Pin 3 (-) Yellow	38 Pin Connector Pin 5 (+) Black Pin 6 (-) Yellow	38 Pin Connector Pin 17 Black
GX460	2010 - 2017	Under Front Right Seat	In Dash to the Right of Radio	38 Pin Connector Pin 2 (+) Lt Green or Red Pin 3 (-) Blue or White	38 Pin Connector Pin 5 (+) Lt Green Pin 6 (-) Blue	38 Pin Connector Pin 17 Pink
HS250h	2010 - 2012	Under Front Right Seat	In Dash Above Radio	38 Pin Connector Pin 2 (+) Lt Green Pin 3 (-) Blue	38 Pin Connector Pin 5 (+) Lt Green Pin 6 (-) Blue	38 Pin Connector Pin 17 Gray
IS200T	2016 - 2017	Right Rear Side in Rear Cargo Area	Behind Instrument Cluster	38 Pin Connector Pin 2 (+) Beige Pin 3 (-) Pink	38 Pin Connector Pin 5 (+) Beige Pin 6 (-) Pink	38 Pin Connector Pin 17 Black
IS250 IS350	2010 - 2013	Right Rear Side in Rear Cargo Area	Right Side of Dash Behind Glovebox	38 Pin Connector Pin 2 (+) Blue Pin 3 (-) Lt Green	38 Pin Connector Pin 5 (+) Lt Green Pin 6 (-) Red	38 Pin Connector Pin 17 White
IS250 IS350	2014 - 2015	Right Rear Side in Rear Cargo Area	Behind Instrument Cluster	38 Pin Connector Pin 2 (+) Beige Pin 3 (-) Pink	38 Pin Connector Pin 5 (+) Beige Pin 6 (-) Pink	38 Pin Connector Pin 17 Black
IS350	2016 - 2017	Right Rear Side in Rear Cargo Area	Behind Instrument Cluster	38 Pin Connector Pin 2 (+) Beige Pin 3 (-) Pink	38 Pin Connector Pin 5 (+) Beige Pin 6 (-) Pink	38 Pin Connector Pin 17 Black
IS250C IS350C	2010 - 2015	Right Rear Side in Rear Cargo Area	Right Side of Dash Behind Glovebox	38 Pin Connector Pin 2 (+) Black Pin 3 (-) Gray	38 Pin Connector Pin 5 (+) Black Pin 6 (-) Gray	38 Pin Connector Pin 17 Pink
IS-F	2010	Right Rear Side in Rear Cargo Area	Right Side of Dash Behind Glovebox	38 Pin Connector Pin 2 (+) Blue Pin 3 (-) Lt Blue	38 Pin Connector Pin 5 (+) Lt Green Pin 6 (-) Red	38 Pin Connector Pin 17 White
IS-F	2011 - 2014	Right Rear Side in Rear Cargo Area	Right Side of Dash Behind Glovebox	38 Pin Connector Pin 2 (+) Blue Pin 3 (-) Lt Green	38 Pin Connector Pin 5 (+) Lt Green Pin 6 (-) Red	38 Pin Connector Pin 17 White
NX Series	2015 - 2018	Behind Right Rear Side Panel in Rear Cargo Area	In Dash Above Radio	38 Pin Connector Pin 2 (+) Pink or White Pin 3 (-) Red	38 Pin Connector Pin 5 (+) Yellow or Red Pin 6 (-) Black or White	38 Pin Connector Pin 17 Black
RC Series	2015 - 2017	Right Rear Side in Rear Cargo Area	Behind Instrument Cluster	38 Pin Connector Pin 2 (+) Beige Pin 3 (-) Pink	38 Pin Connector Pin 5 (+) Beige Pin 6 (-) Pink	38 Pin Connector Pin 17 Black



# Technical Bulletin

Lexus / Toyota Amp PRO  
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(Safety Connect / Lexus Enform)

## Vehicle Connections

### Lexus (cont.)

Model	Years	OEM Amp Location	Safety Connect Module Location	Safety Connect Module Input Audio	Safety Connect Module Output Audio	Telematics Mute Trigger
RX Series	2010 - 2015	Under Floor Right Front Side of Luggage Compartment	On Floor Below Center Console	38 Pin Connector Pin 2 (+) Red Pin 3 (-) Pink	38 Pin Connector Pin 5 (+) Green Pin 6 (-) Red	38 Pin Connector Pin 17 Lt Green
RX Series	2016 - 2017	Behind Right Rear Side Panel in Rear Cargo Area	Center Console Below Radio Controller Panel	38 Pin Connector Pin 2 (+) Blue Pin 3 (-) Violet	38 Pin Connector Pin 5 (+) Blue Pin 6 (-) Pink	38 Pin Connector Pin 17 Beige





# AmpPRO

Advanced Amplifier Interface



**YOUR FACTORY SOUND SYSTEM  
UPGRADE SOLUTION**

## AP4-TY12

For Toyota and Lexus Automobiles  
Select Models with 28-pin, 10-pin,  
and 6-pin Connectors (IE Bus)

- Simplifies amplifier installation in data-bus controlled factory sound systems
- Provides variable volume, fade, balance, bass, mid, and treble audio settings
- Retains warning chimes, navigation prompts, Bluetooth®, and telematic audio (if equipped)
- Front, rear, and sub preamp outputs (5 volt)
- Plug-and-play installation
- Sub level controller (included)
- Optional optical output (sold separately)





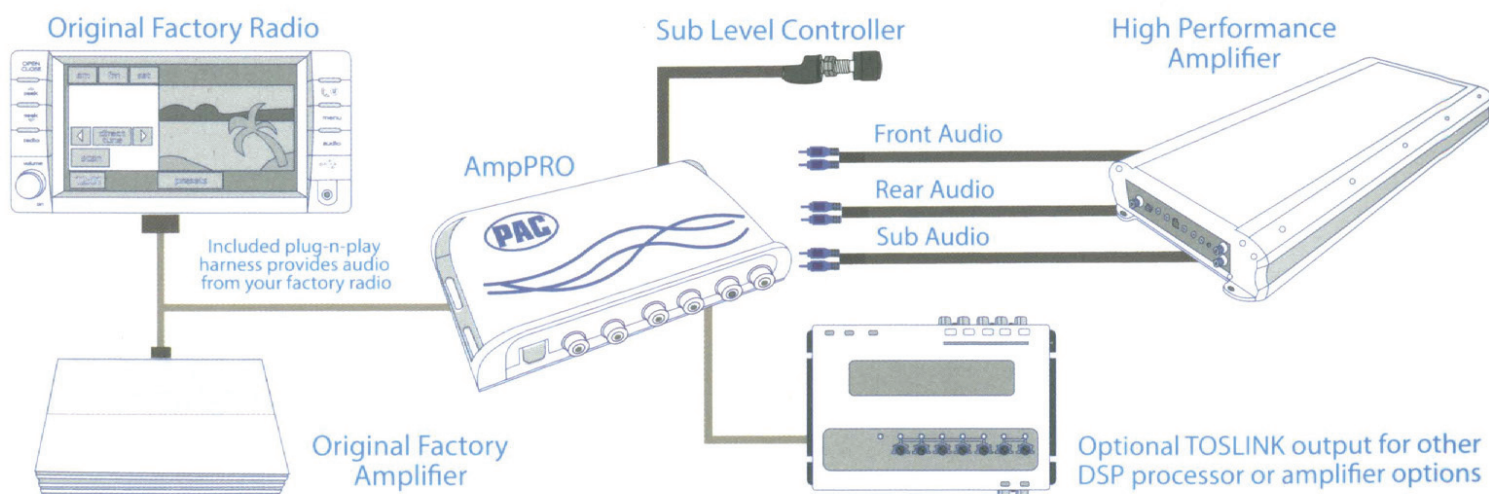
# AmpPRO



Advanced Amplifier Interface

## YOUR FACTORY SOUND SYSTEM UPGRADE SOLUTION

Today's modern car audio systems are becoming increasingly more sophisticated and complex. PAC created AmpPRO to dramatically simplify the installation of upgraded amplifiers in these data-bus controlled sound systems. AmpPRO allows you to keep the original radio's fit, finish, and features while giving you the freedom to improve the audio performance!



Optional optical output - With the use of an add-on accessory, APA-TOS1 (sold separately), AmpPRO can provide a pure digital audio output for use with amplifiers or audio processors equipped with a TOSLINK input.

**NOTE:** Factory radio and amplifier must remain in the car and be operational in order to use AmpPRO in your vehicle.

**Find vehicle applications, and the latest firmware on [PAC-audio.com](http://PAC-audio.com)**

**Patent #: 8014540 and 8184825**

Designed and Engineered in the USA • Manufactured in China

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AP4 – TY12

R1.1.2.4

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