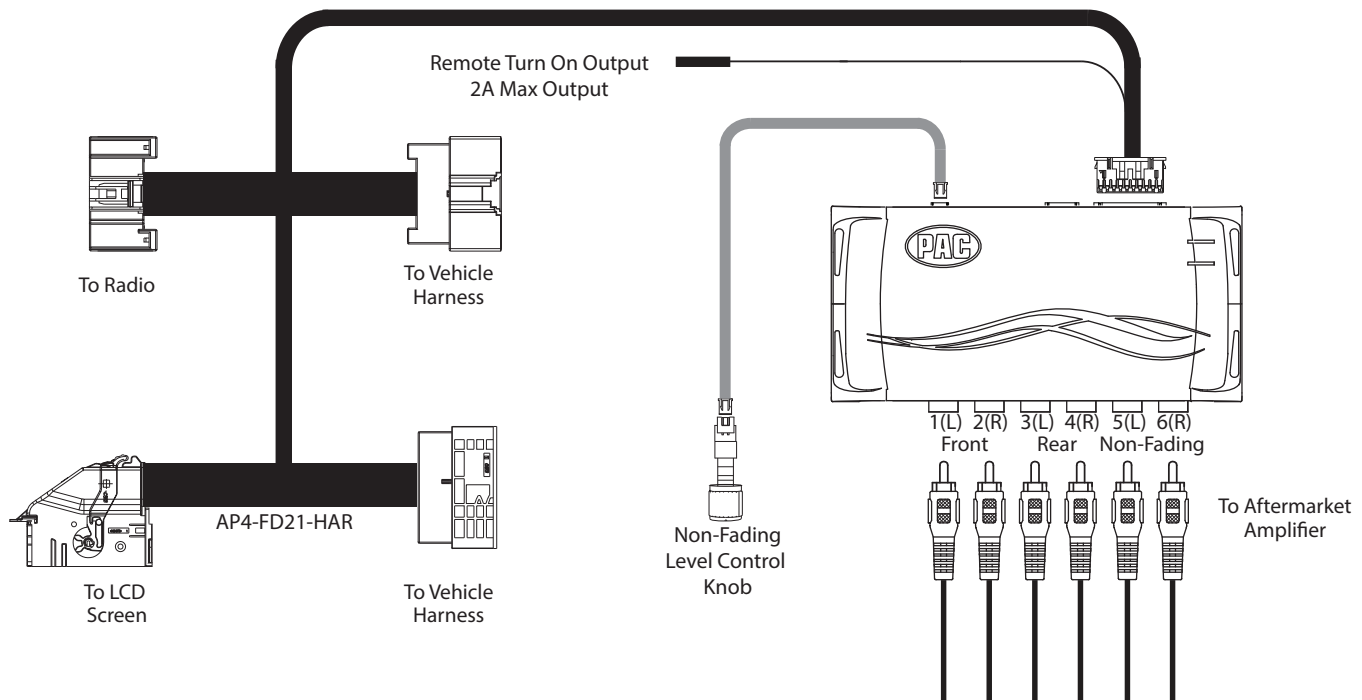# AP4-FD21

Introduction and Features

The AP4-FD21 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 CAN messages, the AP4-FD21 delivers a variable 5v RMS pre-amp output with fading, balance, equalization, and level control capabilities. The module also retains all audio from other vehicle features such as factory navigation prompts, Bluetooth, SYNC, and parking sensor chimes. A data controlled remote amplifier turn on wire is also provided by the AP4-FD21. When used in conjunction with the APA-TOS1 (sold separately), the module can provide a variable 2-channel fiber optic digital audio output (TOSLINK).
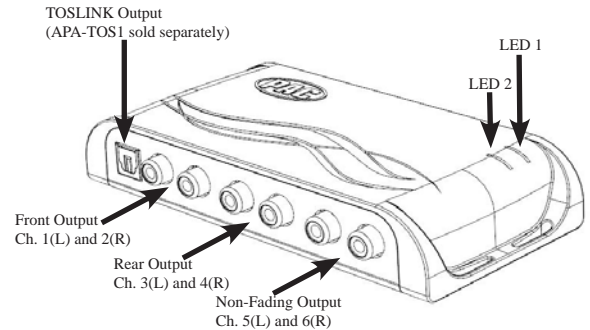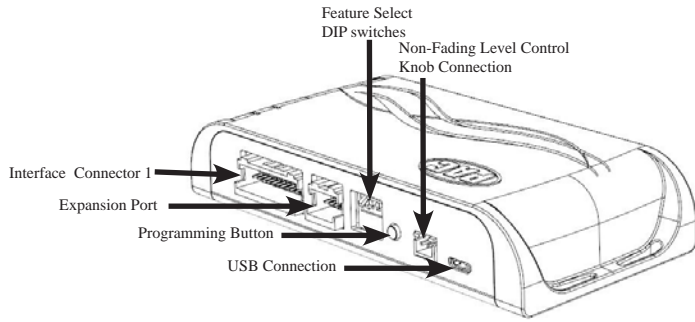
Important Notes

1. This interface is only compatible in vehicles equipped with a data bus controlled premium sound system. To verify compatibility, look for a Sony badge on the door speakers, center speaker, or factory sub woofer.
2. The factory amplifier must remain connected, and in the vehicle after the AmpPRO has been installed.
3. The remote output is rated at 2A of current. If more current is needed an external relay must be used.
4. The remote output may remain active once the key has been removed if the vehicle needs to pass chime or SYNC audio.
5. If your chimes played through the factory speakers, and all speakers have been disconnected from the factory amp, all chimes will then play through the speaker in the dash.
6. 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.
7. The chime volume and minimum volume levels are set to 0 dB by default. If you are happy with this level in your particular application then additional adjustment is not required. Please refer to the Setup and Configuration section on page 2 fo more details.
8. **Ford Focus:** You cannot use the steering wheel controls to activate the chime and minimum volume adjustment.
9. The level control knob must be connected in order to manually adjust the chime volume and minimum volume settings.
10. The factory radio's speed controlled volume and surround sound mode are not supported by the AP4 outputs.
11. No adjustments can be made manually using the programming button, or the factory SWC when the module is connected to a PC.

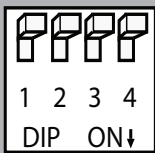## Wiring Connection Chart

To Radio

To Vehicle Harness

Remote Turn On Output
2A Max Output

To LCD Screen

AP4-FD21-HAR

To Vehicle Harness

Non-Fading Level Control Knob

1(L) 2(R) 3(L) 4(R) 5(L) 6(R)
Front   Rear   Non-Fading

To Aftermarket Amplifier

AP4-FD21

Module Layout

Feature Select
DIP switches

Non-Fading Level Control
Knob Connection

TOSLINK Output
(APA-TOS1 sold separately)

LED 1

LED 2

Interface Connector 1

Expansion Port

Programming Button

USB Connection

Front Output
Ch. 1(L) and 2(R)

Rear Output
Ch. 3(L) and 4(R)

Non-Fading Output
Ch. 5(L) and 6(R)

Installation

1 2 3 4
DIP ON↓

**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.**

DIPSWITCH
ON = DOWN

Two Channel Mode	5v / 4v Preout	Troubleshooting*	Troubleshooting*
1	2	3	4

* See troubleshooting section on page 4 for more details

1. Remove factory radio and LCD screen.
2. Disconnect the 52-pin harness from the LCD screen and the 24-pin harness from the radio.
3. Connect AmpPRO harnesses to vehicle harnesses.
4. Connect AmpPRO harnesses to LCD screen and 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 used for additional troubleshooting. See the troubleshooting section on page 5 for more details.

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 amplifie .
10. Turn vehicle off, remove the key, lock the car using the factory keyfob, and let the vehicle sit for 10 minutes. This will ensure that the vehicle data-bus goes to sleep and the AmpPRO will function as intended.

Setup and Configuratio

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 oscilliscope 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 chime 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 Chime Volume
You can manually set the level of the factory chime using either the programming button on the side of the interface, or the factory SWC. If you would like to set the chime volume using the PC app please proceed to the PC App section.

PLEASE NOTE: Level control knob must be connected to module for either of the following methods.

Setup and Configuration (cont.

Setting the chime 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 the chimes will begin continuously sounding.
4. Turn the level control knob clockwise until the desired chime level is reached.
5. You can now either press the programming button twice or wait ten seconds to exit the settings.

Setting the chime volume using the factory SWC (This method not available in Focus)
1. Start with the level control knob turned all the way down.
2. Press and hold the track down button on the factory SWC for approximately ten seconds. **PLEASE NOTE:** The radio will respond to the SWC commands during this process, this is normal and has no effect on the AP4 operation.
3. LED 1 will turn green and the chimes will begin continuously sounding.
4. Turn the level control knob clockwise until the desired chime level is reached.
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 module for either of the following methods.

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.
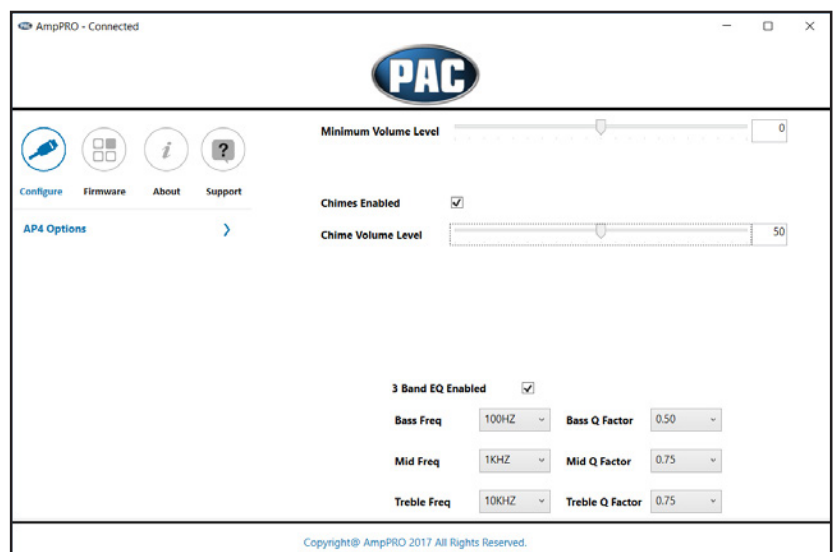
Setting the minimum volume using the factory SWC (This method not available in Focus)
1. Start with the level control knob turned all the way down (counter-clockwise).
2. Set the amp gains to the desired level.
3. Set the volume on the factory radio to 1.
4. Press and hold the track up button on the factory SWC for approximately ten seconds. **PLEASE NOTE:** The radio will respond to the SWC commands during this process, this is normal and has no effect on the AP4 operation.
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 suc as:
  - Minimum Volume Level
  - Chime Volume Level
  - Enable / Disable AP4 Chimes
  - Enable / Disable factory EQ
  - Bass / Mid / Treble boost frequencies and Q factor
- Update Product Firmware
- Read Firmware / Hardware Versions

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 AP4 chimes (ie: park sensors).

Chimes Enabled - This allows you to enable / disable AP4 chimes (ie: park sensors). This is used when mixing factory and aftermarket speakers.

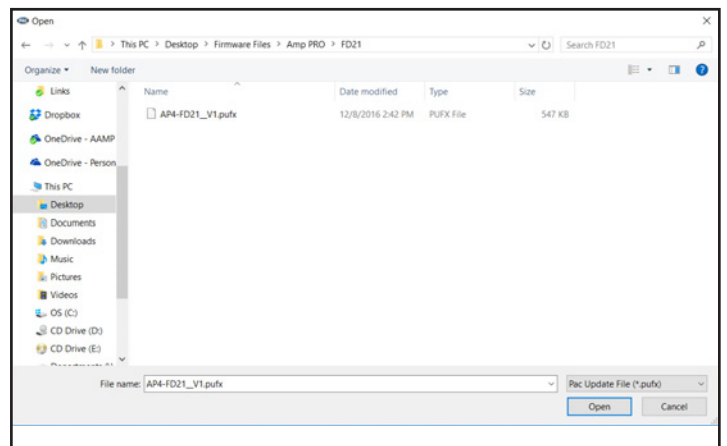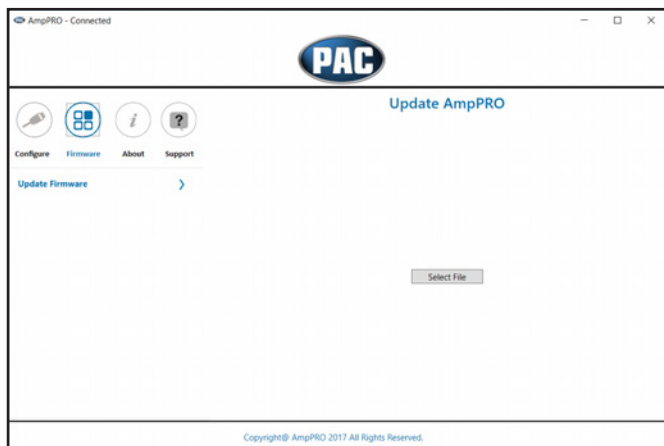**3 Band EQ Enabled -** This allows you to enable / disable the 3 band factory EQ.

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	
	1.00		1.00		0.75
	1.50		1.25		
	2.00		1.50		1.25

Firmware Updates

The AmpPRO app will also allow you to update the interface with new firmware as it becomes available.

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.

AP4-FD21

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:
- Chime volume level
- Enable / Disable Factory Chimes
- Minimum volume level
- Enable / Disable factory EQ
- Factory EQ frequency
- Factory EQ Q factor

Troubleshooting

1. 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.
2. Cannot hear SYNC or nav voice - Use the volume knob while either of these voice prompts are active to adjust voice volume.
3. Cannot hear chimes - Set chime volume using process outlined in Setup and Configuration, or using the AmpPRO application. If you still do not hear chimes, be sure that you are using the remote output from the AP4 to turn on your aftermarket amplifie .
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. SYNC or Bluetooth voice is cutting off too early - Set feature DIP switch 3 to the on (down) position.
6. After using SYNC or Bluetooth, the volume knob becomes unresponsive - Set feature DIP switch 4 to the on (down) position

LED Legend		
	Action / Color	**During Normal Operation**
LED 1	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 eprom reset

AP4-FD21
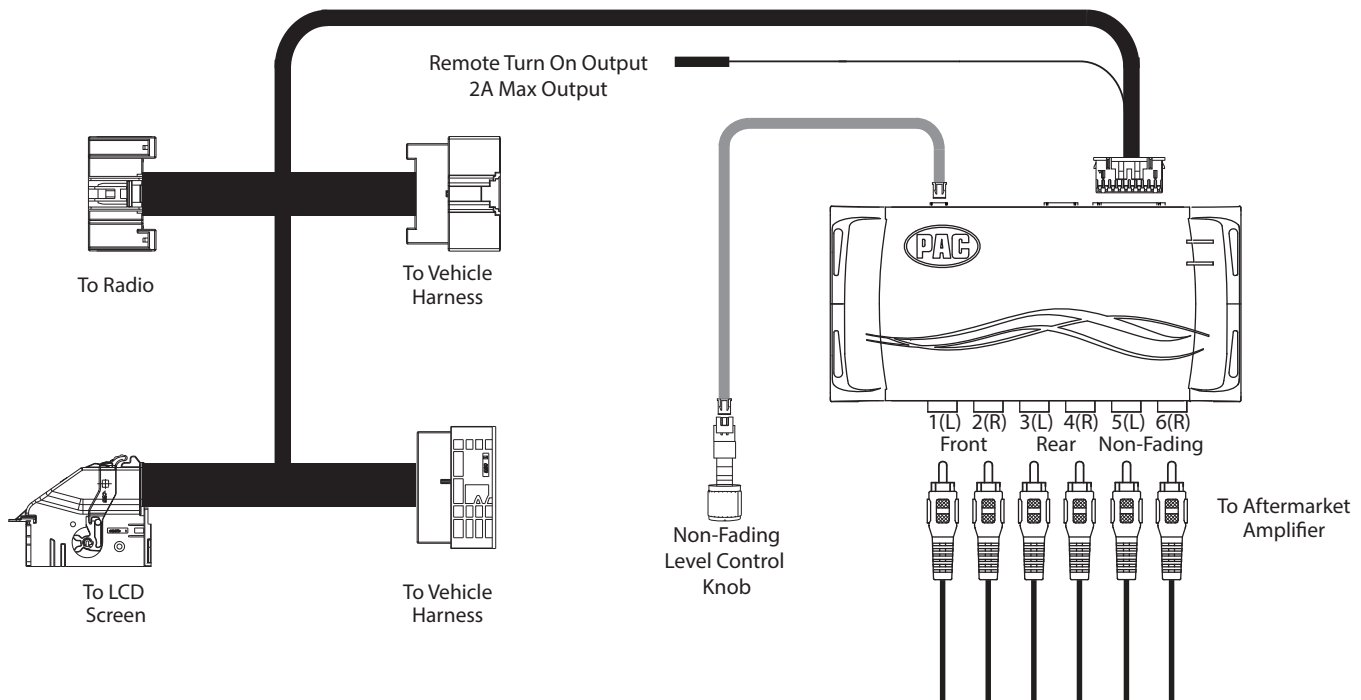
Advanced Amplifier Interface
for Ford

Introduction and Features

The AP4-FD21 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 CAN messages, the AP4-FD21 delivers a variable 5v RMS pre-amp output with fading, balance, equalization, and level control capabilities. The module also retains all audio from other vehicle features such as factory Navigation Prompts, Bluetooth, SYNC, and parking sensor chimes. A data controlled remote amplifier turn on wire is also provided by the AP4-FD21. 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. This interface is only compatible in vehicles equipped with a data bus controlled premium sound system. To verify compatibility, look for a Sony badge on the door speakers, center speaker, or factory sub woofer.
2. The factory amplifier must remain connected, and in the vehicle after the AmpPRO has been installed.
3. The remote output is rated at 2A of current. If more current is needed an external relay must be used.
4. The remote output may remain active once the key has been removed if the vehicle needs to pass chime or SYNC audio.
5. If your chimes played through the factory speakers, and all speakers have been disconnected from the factory amp, all chimes will then play through the speaker in the dash.
6. 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.
7. The chime volume and minimum volume levels are set to 0 dB by default. If you are happy with this level in your particular application then additional adjustment is not required. Please refer to the Setup and Configuration section on page 2 fo more details.
8. **Ford Focus:** You cannot use the steering wheel controls to activate the chime and minimum volume adjustment.
9. The level control knob must be connected in order to manually adjust the chime volume and minimum volume settings.
10. The factory radio's speed controlled volume and surround sound mode are not supported by the AP4 outputs.
11. No adjustments can be made manually using the programming button, or the factory SWC when the module is connected to a PC.
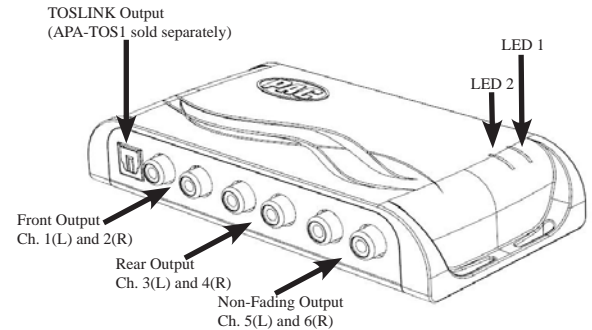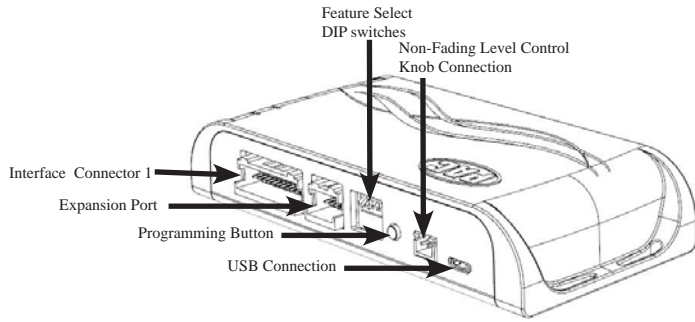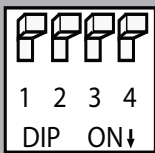
Wiring Connection Chart

AP4-FD21

Module Layout

Feature Select
DIP switches
Non-Fading Level Control
Knob Connection

Interface Connector 1
Expansion Port
Programming Button
USB Connection

TOSLINK Output
(APA-TOS1 sold separately)

LED 1

LED 2

Front Output
Ch. 1(L) and 2(R)
Rear Output
Ch. 3(L) and 4(R)
Non-Fading Output
Ch. 5(L) and 6(R)

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.

DIPSWITCH ON = DOWN

1 2 3 4
DIP ON

No Function	5v / 4v Preout	Troubleshooting*	Troubleshooting*
1	2	3	4

* See troubleshooting section on page 4 for more details

1. Remove factory radio and LCD screen.
2. Disconnect the 52-pin harness from the LCD screen and the 24-pin harness from the radio.
3. Connect AmpPRO harnesses to vehicle harnesses.
4. Connect AmpPRO harnesses to LCD screen and factory radio.
5. Set any feature DIP switches that apply to your install.

   a. DIP switch 1 is not used.

   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 4 for more details.

   c. DIP switches 3 and 4 are not used.

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 amplifie .
10. Turn vehicle off, remove the key, lock the car using the factory keyfob, and let the car sit for 10 minutes. This will ensure that the vehicle data-bus goes to sleep and the AmpPRO will function as intended.

Setup and Configuratio

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 oscilliscope 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 chime 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 Chime Volume
You can manually set the level of the factory chime using either the programming button on the side of the interface or the factory SWC. If you would like to set the chime volume using the PC app please proceed to the PC App section on page 4.
PLEASE NOTE: Knob must be connected to module for either of the following methods.

PAC

AP4-FD21

Testing and Verification (cont.

Setting the chime 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 the chimes will begin continuously beeping.
4. Turn the level control knob clockwise until the desired chime level is reached.
5. You can now either press the programming button twice or wait ten seconds to exit the settings.

Setting the chime volume using the factory SWC (This method not available in Focus)
1. Start with the level control knob turned all the way down.
2. Press and hold the track down button on the factory SWC for approximately ten seconds. **PLEASE NOTE:** The radio will respond to the SWC commands during this process, this is normal and has no effect on the AP4 operation.
3. LED 1 will turn green and the chimes will begin continuously beeping.
4. Turn the level control knob clockwise until the desired chime level is reached.
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 on page 4.
PLEASE NOTE: Level control knob must be connected to module for either of the following methods.

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 beeping every five seconds
6. Turn the level control knob clockwise until the desired minimum volume level is reached.
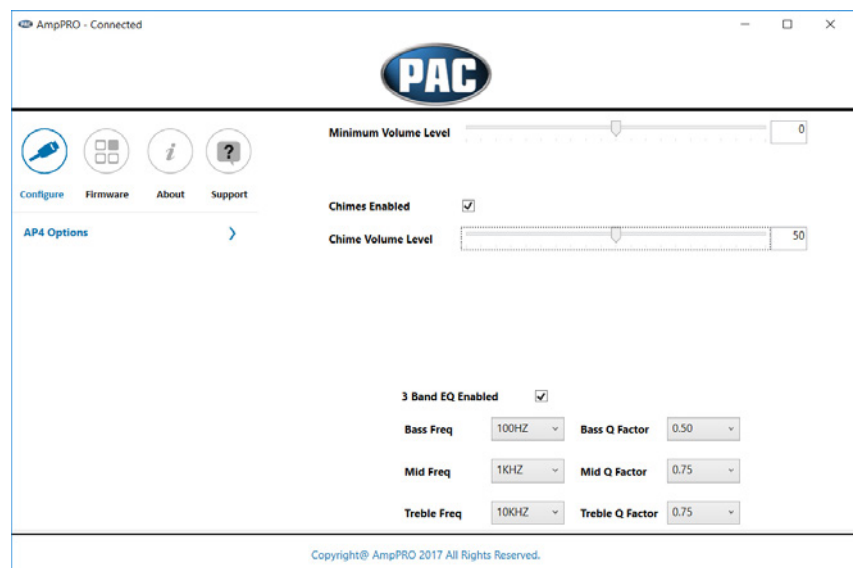7. You can now either press the programming button once or wait ten seconds to exit the settings.

Setting the minimum volume using the factory SWC (This method not available in Focus)
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 and hold the track up button on the factory SWC for approximately ten seconds. **PLEASE NOTE:** The radio will respond to the SWC commands during this process, this is normal and has no effect on the AP4 operation.
5. LED 1 will turn amber and the chimes will begin beeping 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 suc as:
  - Minimum Volume Level
  - Chime Volume Level
  - Enable / Disable AP4 Chimes
  - Enable / Disable factory EQ
  - Bass / Mid / Treble boost frequencies and Q factor
- Update Product Firmware
- Read Firmware / Hardware Versions

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 AP4 chimes (ie: park sensors).

Chimes Enabled - This allows you to enable / disable AP4 chimes (ie: park sensors). This is used when mixing factory and aftermarket speakers.

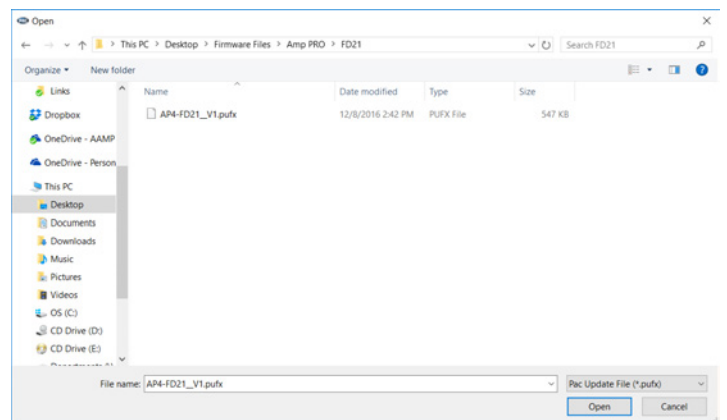**3 Band EQ Enabled -** This allows you to enable / disable the 3 band factory EQ.

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		
	1.50		1.25		
	2.00		1.50		1.25

Firmware Updates

The AmpPRO app will also allow you to update the interface with new firmware as it becomes available.

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:
- Chime volume level
- Enable / Disable Factory Chimes
- Minimum volume level
- Enable / Disable factory EQ
- Factory EQ frequency
- Factory EQ Q factor

Troubleshooting

1. 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.
2. Cannot hear SYNC or nav voice - Use the volume knob while either of these voice prompts are active to adjust voice volume.
3. Cannot hear chimes - Set chime volume using process outlined in Setup and Configuration or using the AmpPRO application. If you still do not hear chimes, be sure that you are using the remote output from the AP4 to turn on your aftermarket amplifie .
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. SYNC or Bluetooth voice is cutting off too early - Set feature DIP switch 3 to the on (down) position.
6. After using SYNC or Bluetooth, the volume knob becomes unresponsive - Set feature DIP switch 4 to the on (down) position

LED Legend		
	Action / Color	**During Normal Operation**
LED 1	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 eprom reset

Technical Bulletin

Overview

Symptom: Symptoms may include the interface not turning on, the factory radio not turning on (AP4-CH41 only), no audio or intermittent audio on one or more channels.

Cause: Pins pulling out of the JST connector that plugs into the AP4 interface resulting in poor, or no connection of some circuits.

Solution: Locate pins that have pulled out of the connector and fully re-insert the pins into the harness.

If a pin has pulled completely out of the harness, see "**AP4 Connector Diagrams**" starting on page 2 for pinouts of each of the amp pro interfaces to find pin location information

Inspect The Harness To Identify Pins That May Be Causing Issues
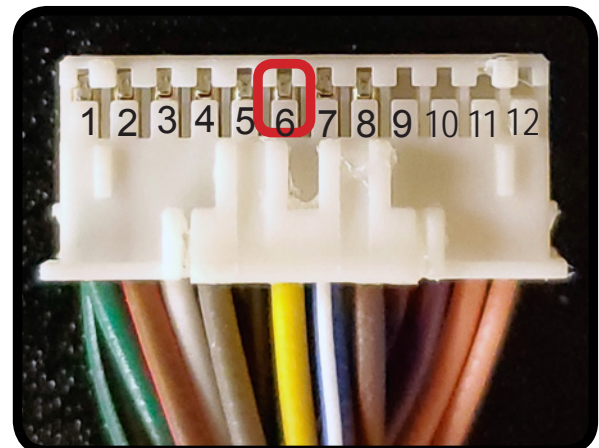
Visually inspect the AP4 harness at the JST connector that plugs into the AP4 interface. A loose pin may or may not be obviously visible. In the examples shown, a harness from the AP4-FD21 is being shown, but this applies to all of the AP4 interface harnesses.

*   Check for pins in the open spaces of the AP4 interface connector. Each wire should have a corresponding visible pin in the open space above it. In Fig. 1, looking at the pin opening for the 6th pin position, it appears that there is no wire in that position. However, looking at the wire side of the connector for the 6th pin position (Fig. 2), the yellow wire is populated and it's pin should be visible. This indicates that the yellow wire is not fully seated into the connector.
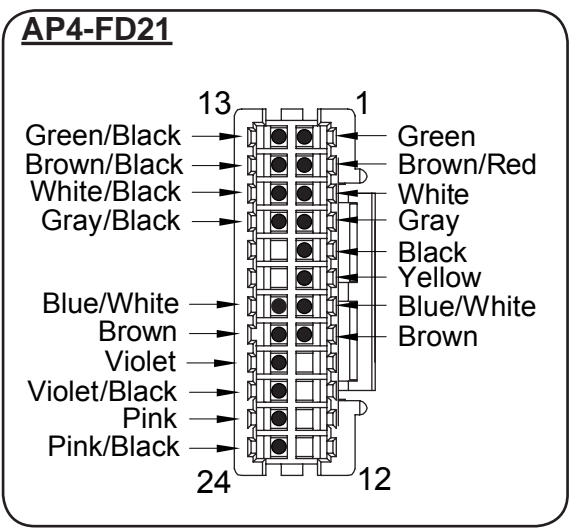

Fig. 1

Fig. 2
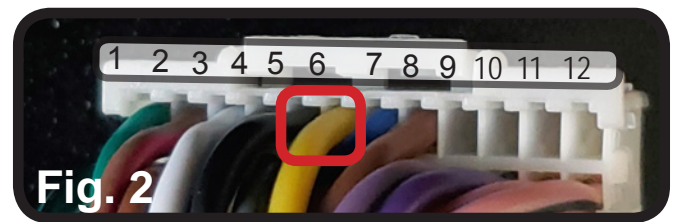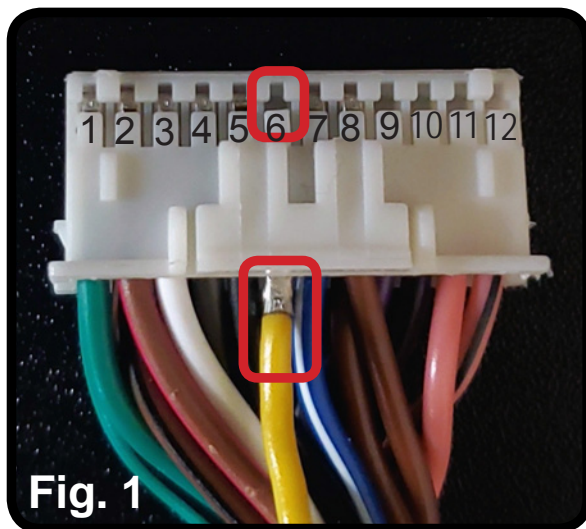
Solution

If a wire is found that is not fully seated into the connector, reinsert the wire by pushing it fully into the connector until the pin can be seen in the opening on the side of the connector. The pin should lock into place. Notice that the pin is now visible in the 6th pin position. If necessary, remove some of the tesa tape on the harness to reduce stress on the pins.

Technical Bulletin

AP4 Connector Diagrams
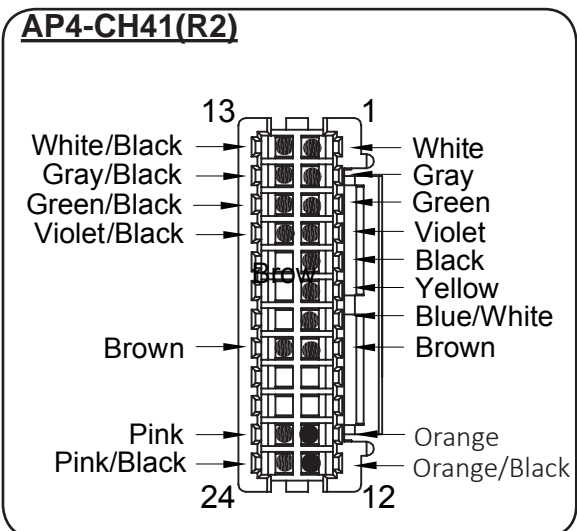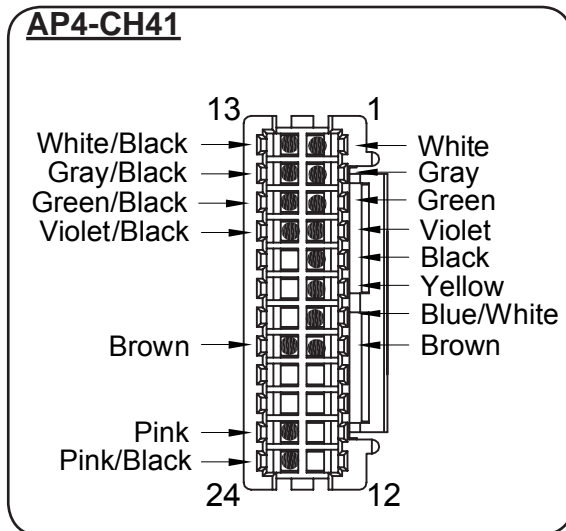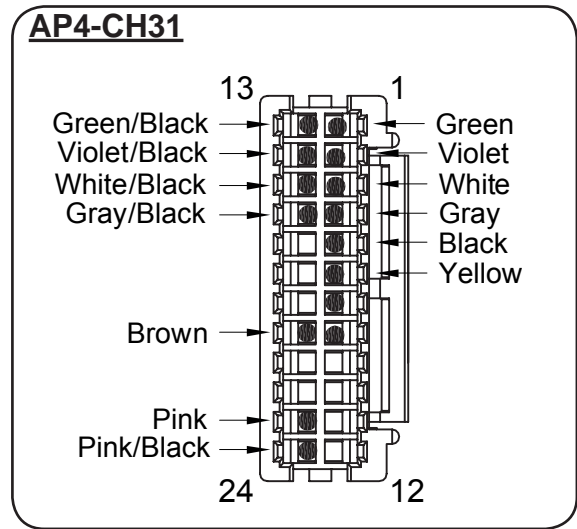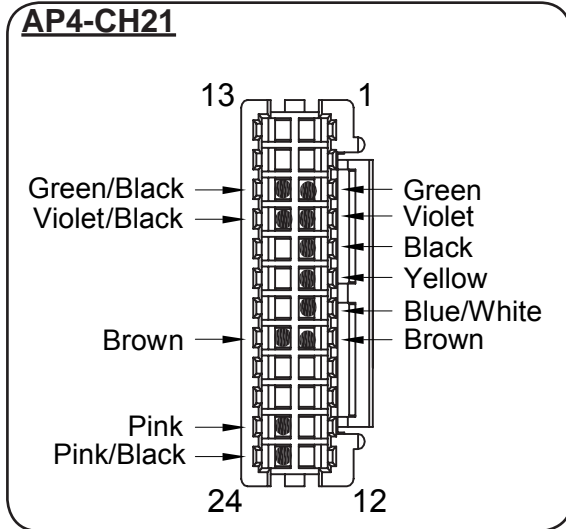
AP4-CH21

13   1

Green/Black → ← Green
Violet/Black → ← Violet
← Black
← Yellow
← Blue/White
Brown → ← Brown

Pink →
Pink/Black →

24   12

AP4-CH31

13   1

Green/Black → ← Green
Violet/Black → ← Violet
White/Black → ← White
Gray/Black → ← Gray
← Black
← Yellow

Brown →

Pink →
Pink/Black →

24   12

AP4-CH41

13   1

White/Black → ← White
Gray/Black → ← Gray
Green/Black → ← Green
Violet/Black → ← Violet
← Black
← Yellow
← Blue/White
Brown → ← Brown

Pink →
Pink/Black →

24   12

AP4-CH41(R2)

13   1

White/Black → ← White
Gray/Black → ← Gray
Green/Black → ← Green
Violet/Black → ← Violet
← Black
← Yellow
Brown ← Blue/White
Brown → ← Brown

Pink →
Pink/Black →
← Orange
← Orange/Black

24   12

AP4-FD11

13   1

White/Blue → ← White/Red
White/Black → ← White
Gray/Black → ← Gray
← Black
← Yellow
Blue/White → ← Blue/White
Brown → ← Brown

Pink →
Pink/Black →

24   12

AP4-FD21

13   1

Green/Black → ← Green
Brown/Black → ← Brown/Red
White/Black → ← White
Gray/Black → ← Gray
← Black
← Yellow
Blue/White → ← Blue/White
Brown → ← Brown
Violet →
Violet/Black →
Pink →
Pink/Black →

24   12

PAC

Technical Bulletin

AP4 Connector Diagrams (cont.)

AP4-GM61

Black → 2
Green →
Pink →
Pink/Black → 16

1 ← Yellow
← Blue/White
← Brown
← Brown
← Orange/Whit
← Orange/Black
15 ← Orange

AP4-TY11

White/Blue → 2
White/Black →
Gray/Black →

Red →
Brown →

24   23

1 ← White/Red
← White
← Gray
← Black
← Yellow
← Blue/White
← Brown
← Pink
← Pink/Black
← Brown

AP4-TY12

Green/Black → 2
White/Black →
Gray/Black →

Red →
Brown →

Brown/White →
Yellow/Black → 24

1 ← Green
← White
← Gray
← Black
← Yellow
← Blue/White
← Brown
← Pink
← Pink/Black
23 ← Brown

AP4-TY13

White/Blue → 2
White/Black →
Gray/Black →

Red →
Brown →

Brown/White →
Yellow/Black →
24   23

1 ← White/Red
← White
← Gray
← Black
← Yellow
← Blue/White
← Brown
← Pink
← Pink/Black
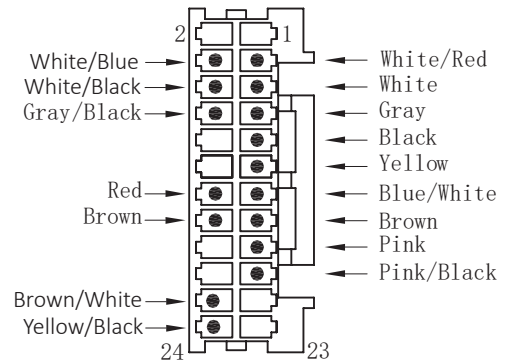
PAC

Installation Instructions

- Download the latest version of the AmpPRO PC Application. **It is VERY important that you use the latest version.**
- Download the latest version of our firmware.
- Extract the firmware file and setup file from the .ZIP files that were just downloaded.
- Connect the interface to the computer's USB port and install the update.

Detailed Instructions

1. If this is the first time using the AmpPROPC Application, run and install "ampproexe". This will install the PC Application onto the computer. The AmpPRO program will then install the update files from the computer to the interface.
2. Open the AmpPROPC Application using the new shortcut created on your desktop.
3. Connect the interface to the computer using a standard to micro USB
4. Click the "Firmware" icon.
5. Click "Select File" and browse to the new firmware file. The new firmware can be found where you saved it before beginning.
6. Once the file is chosen the update will begin. When successful it will show the text "Update Completed".

- This product is compatible with data-bus controlled amplified systems only. To identify these systems, look for logos on door speakers, tweeters, dash speakers or the subwoofer to confirm that the vehicle has a compatible amplified system. If you are unsure of your vehicle having an amplified system please contact an authorized Ford service center for further clarification.
- **2018-2019 Super Duty Trucks** can have either Sony or B&O systems to be compatible.
- **2019+ Mustang** must have B&O System to be compatible. If the amp looks like the one pictured, it is compatible. The amp can be found in the driver's kick panel. If the system is amplified and not badged then the AP4 is not compatible as this is a completely analog system.

Check out the collection of car stereo / video installation parts we offer.