# PAC AP4-FD11 Advanced Amplifier Interface User Guide

**Contents**

## PAC AP4-FD11 Advanced Amplifier Interface



**Specifications**

- Product: AP4-FD11
- Compatibility: Ford / Lincoln vehicles with data bus controlled premium sound systems
- Remote Output Current: 2A

- Channels 5 and 6: Non-fading outputs
- Chime Volume and Minimum Volume: Default set to 0 dB

## Product Usage Instructions

### Installation

1. Set DIP switches to the ON position to activate desired features, OFF for undesired features.
2. Connect AmpPRO harnesses to vehicle harnesses and factory radio.
3. For Two Channel Mode
    - DIP switch 1 activates two-channel mode.
    - DIP switch 2 lowers RCA output voltage to 4v when set on (down).

### Feature Adjustment
Use the supplied level control knob to adjust the output level of channels 5 and 6.

### Troubleshooting

1. Remove factory radio.
2. Disconnect 24-pin, 16-pin, and 8-pin harnesses from the radio.
3. Connect Amp PRO harnesses to the vehicle harnesses and factory radio.
4. Set any feature DIP switches as needed for your installation.

### Frequently Asked Questions (FAQ)

- **Q:** Which vehicles are compatible with the AP4-FD11?
    - **A:** The AP4-FD11 is compatible with Ford/Lincoln vehicles equipped with data bus controlled premium sound systems. Look for Sony or THX badges on speakers to verify compatibility.
- **Q:** How do I adjust the chime volume and minimum volume settings?
    - **A:** Use the level control knob connected to the AP4-FD11 to manually adjust the chime volume and minimum volume settings.
- **Q:** What should I do if more current than 2A is needed for the remote output?
    - **A:** If more current is needed, an external relay must be used in conjunction with the interface.

### AP4-FD11

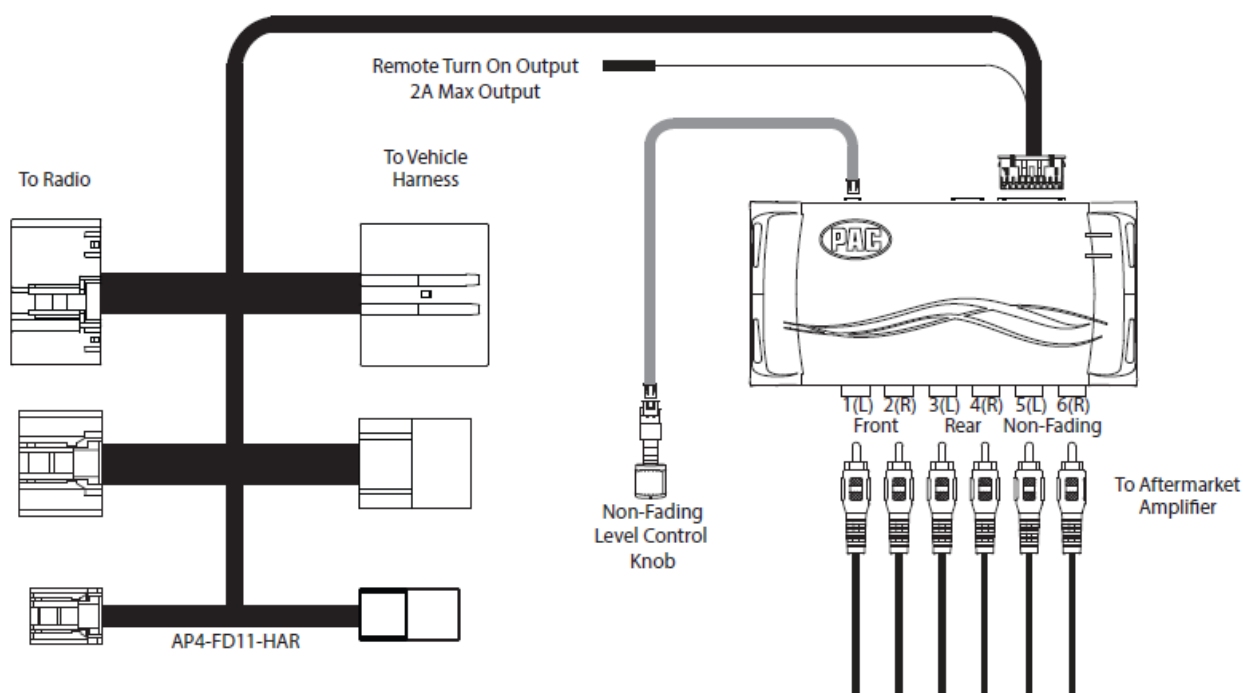### Advanced Amplifier Interface for Ford / Lincoln

## Introduction and Features

The AP4-FD11 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-FD11 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-FD11. When used in conjunction with the APA-TOS1 (sold separately), the module can provide a variable 2-channel fiber optic digital audio output (TOSLINK).
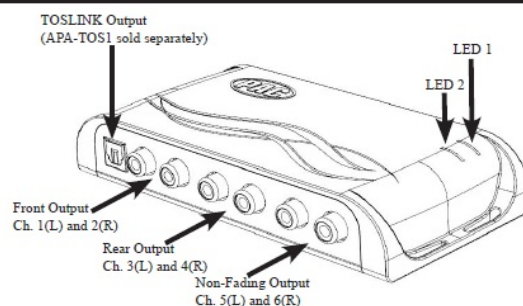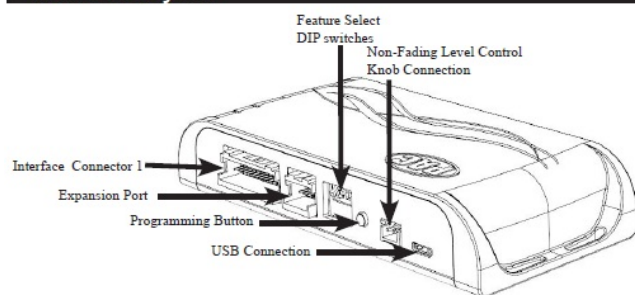
### Important Notes

1. This interface is only compatible in vehicles equipped with a data bus controlled premium sound system. To verify compatibility, look for a Sony or THX badge on the door speakers, center speaker, or factory sub woofer. If none of these brands are shown, check for the presence of a center speaker or 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. 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.
5. 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 for more details.
6. You can only use the factory seek / track buttons to activate the chime and minimum volume adjustment in vehicles equipped with the factory center stack radio.
7. The chime volume only controls the level of the radio button beep. This can be turned off in the radio settings menu.
8. The level control knob must be connected in order to manually adjust the chime volume and minimum volume settings.
9. The factory radio's speed controlled volume and surround sound mode are not supported by the AP4 outputs.
10. No adjustments can be made manually using the programming button, or the factory SWC when the module is connected to a PC.
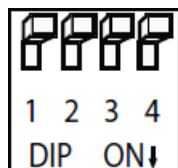
**Wiring Connection Chart**

## 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 | Troubleshooting* | Troubleshooting* |
|---|---|---|---|
| 1 | 2 | 3 | 4 |

See troubleshooting section on page 4 for more details



1. Remove factory radio.
2. Disconnect the 24-pin, 16-pin and 8-pin harnesses from the radio.
3. Connect the AmpPRO harnesses to the vehicle harnesses.
4. Connect the AmpPRO harnesses to the factory radio.
5. Set any feature DIP switches that apply to your install.
    - 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.
    - 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.
6. DIP switches 3 and 4 are used for additional troubleshooting. See the troubleshooting section on page 5 for more details.
7. If you are using the APA-TOS1 (sold separately) refer to the instructions included with that product for its installation.
8. Connect the AmpPRO harness to the module.
9. Connect the level control knob to the module and install in an accessible location.
10. Connect the signal cables and remote input from the aftermarket amplifier.
11. 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 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 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 Seek/Track buttons. 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.

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 Seek/Track button (Only available in vehicles with factory center stack radio)

1. Start with the level control knob turned all the way down.
2. Press and hold the Seek/Track down button on the factory radio for approximately ten seconds. PLEASE NOTE: The radio will respond to the 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.
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 seek / track buttons. 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.
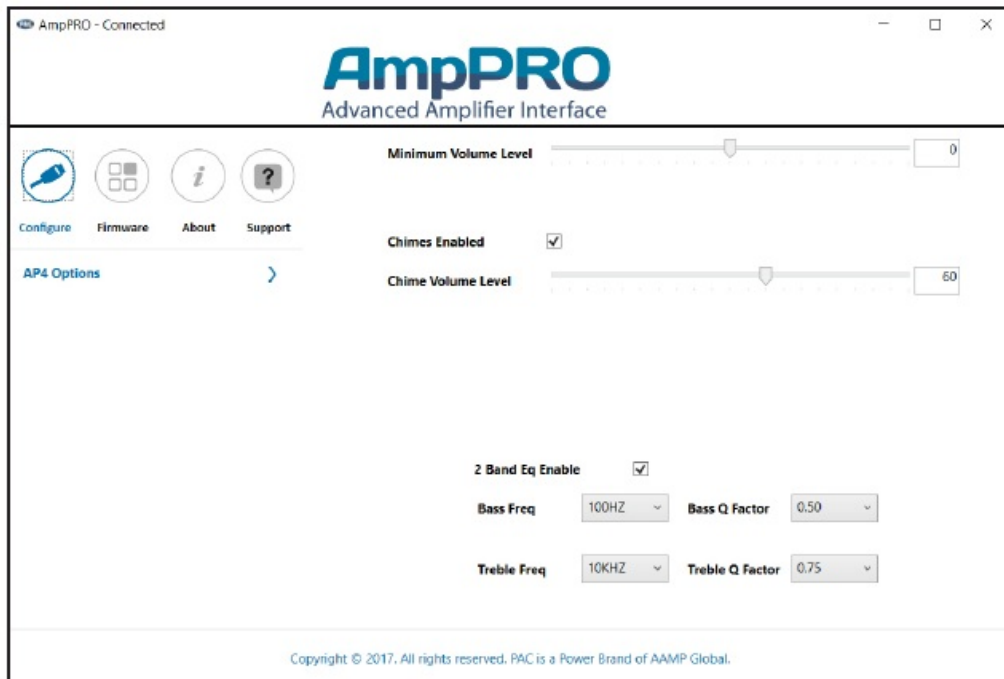
Setting the minimum volume using the factory Seek/Track button (Only available in vehicles with factory center stack radio)

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 such as:
    - Minimum Volume Level
    - Chime Volume Level
    - Enable / Disable AP4 Chimes
    - Enable / Disable factory EQ
    - Bass / 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**

**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.
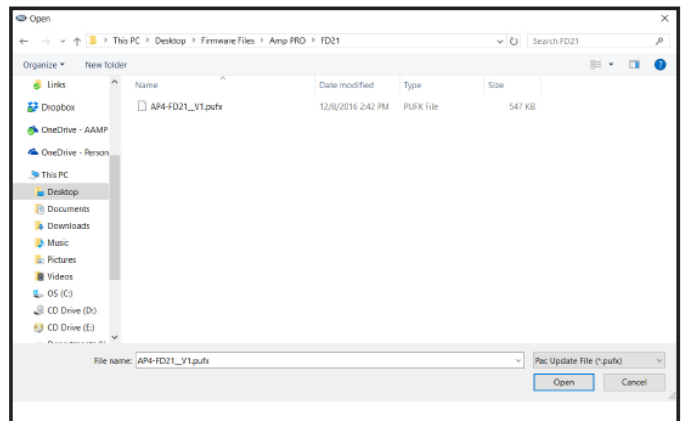
- **Minimum Volume Level** – This allows you to set the minimum volume level of the factory radio (factory radio volume level 1).
- **Chime Volume Level** – This allows you to set the volume of the AP4 chimes (ie: radio button beeps).
- **Chimes Enabled** – This allows you to enable / disable AP4 chimes (ie: radio button beeps). This is used when mixing factory and aftermarket speakers.
- **EQ Enabled** – This allows you to enable / disable the 2 band factory EQ.
- **Bass** / **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 | Treble Frequency | 7.5KHZ |
| | 80HZ | | 10KHZ |
| | 100HZ | | 12.5KHZ |
| | 120HZ | | 15KHZ |
| Bass Q Factor | 0.50 | Treble Q Factor | 0.75 |
| | 1.00 | | |
| | 1.50 | | 1.25 |
| | 2.00 | | |

**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** 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

- 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. SYNC or Bluetooth voice is not heard or the volume knob does not adjust SYNC or Bluetooth voice – Set feature DIP switch 3 to the on (down) position. If this still does not remedy the problem, set feature DIP switch 4 (instead of 3) to the on (down) position. If you put DIP switches 3 and 4 down together, 4 will always override 3.
4. 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 amplifier.

5. Low volume setting on radio is too loud – Set minimum volume using process outlined in Setup and Configuration, or using the AmpPRO application
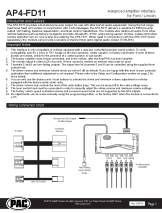
| LED Legend | | |
| --- | --- | --- |
| | **Action / Color** | **During Normal Operation** |
| **LED 1** | Solid Red | Module Active |
| | Solid Green | Chime Volume Adjustment Mode |
| | Solid Amber | Minimum Volume Adjustment Mode |
| | Rapid Blink Any Color | DSP Activity |
| **LED2** | Blink Amber | USB Connection Detected |
| **Both LEDs** | Alternate Blinking Red | Performing Memory Reset |

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## Documents / Resources



**[PAC AP4-FD11 Advanced Amplifier Interface](#)** [pdf] User Guide
AP4-FD11 Advanced Amplifier Interface, AP4-FD11, Advanced Amplifier Interface, Amplifier Interface, Interface

## References

- **[User Manual](#)**