



1 year warranty extension is available when the unit is purchased, installed and registered by an Audiopipe authorized dealer

1600Watts



Audiopipe®

APDLI-3502
1600W



With Remote Bass Knob



2 Channel Mosfet Power Amplifier
Owner's Manual



Consumer Electronics Association



INTERNATIONAL
AUTO SOUND CHALLENGE
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Serving the Motor
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COMPETITION



INTRODUCTION

The Audiopipe APDLI-3502 has crafted its car audio amplifier to fit a variety of system configurations. The following is a list of features:

- Full frequency response with low distortion and exceptional signal-to-noise performance.
- Advanced circuitry design features bridgeable outputs for use in a variety of applications.
- Independent electronic crossovers, each with a 12dB per octave slope and full adjustment range from 50Hz to 5.8KHz to aid in audio system design.
- Bass boost circuit to reinforce low frequency signals that may be lost due to subwoofer box design.
- Adjustable input level controls with ground loop isolation, accepting a wide range of input signals.
- Remote turn-on with “soft start” muting to prevent turn-on “thump”.
- Protection circuits for overheating and speaker shorts.
- 2 Ohm load capable to drive a variety of speaker systems.
- Platinum-plated input/output connectors and an external automotive-type fuse.
- Aluminum heat sink for efficient heat dissipation.
- Low profile, compact size to accommodate space limitation.

ABOUT THE MANUAL

Congratulations on your purchase of the Audiopipe Power Amplifier. We are committed to high-quality music reproduction, and we are confident that you will be pleased with your purchase. These products provide optimum performance, which we are sure you will enjoy for years to come.

For maximum performance Audiopipe recommends having your amplifier installed by an authorized Audiopipe dealer.

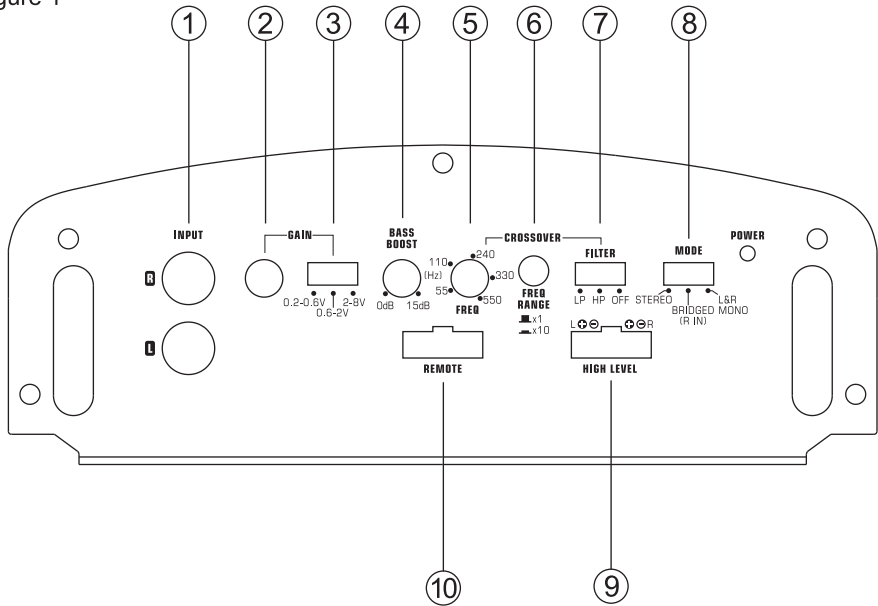
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INPUT CONNECTIONS AND AUDIO CONTROLS

The front panel of the APDLI-3502 contains both connections for RCA and speaker level inputs, along with the audio controls as shown below.

Figure 1



1. RCA Input Jacks
2. Gain Control
3. Input Voltage Selector
4. Bass Boost Control
5. Precise Frequency Selector
6. Frequency Multiplier
7. X-Over Mode Switch
8. Input Mode
9. Speaker Level Input
10. Remote

The Input Connections are platinum-plated RCA Jacks. The Gain Controls provide a wide adjustment range to accommodate output levels from any source unit brand.

Precise Frequency Selector

The filter frequency markings on the front panel of the amplifier are for reference purposes. If you would like to select the filter frequency with a higher level of precision, consult the chart in Figure 2 on this page. This chart gives you a more accurate frequency for each of the forty-one detente positions of the frequency selection control.

Figure 2 - Detent Chart

Detent Number	Actual Frequency
01 -----	50
02 -----	53
03 -----	53
04 -----	54
05 -----	58
06 -----	60
07 -----	65
08 -----	70
09 -----	76
10 -----	80
11 -----	88
12 -----	100
13 -----	110
14 -----	125
15 -----	137
16 -----	150
17 -----	156
18 -----	168
19 -----	173
20 -----	186
21 -----	202
22 -----	212
23 -----	231
24 -----	256
25 -----	273
26 -----	297
27 -----	320
28 -----	359
29 -----	395
30 -----	439
31 -----	466
32 -----	501
33 -----	517
34 -----	522
35 -----	536
36 -----	555
37 -----	566
38 -----	582
39 -----	582
40 -----	582
41 -----	582

Gain Controls with Selectable Input Voltage

There are 2 settings for the “Gain” that must be adjusted in order to maximize the power output of the amplifier. The first step is to select the proper input voltage and the second step is to adjust the Gain dial.

Input Voltage Selector

A wide range of signal input voltages can be accommodated by the APDLI-3502 input section (200mV ~ 8V). This wide range is split up into three ranges, Figure 1, accessible via switches located in the “Gain” of the amplifier. The “0.2V ~ 0.6V” position on the switch selects an input sensitivity range between 200mV and 600mV, the “0.6V ~ 2V” position on the switch selects an input sensitivity range between 600mV and 2V and the “2V ~ 8V” position on the switch selects an input sensitivity range between 2V and 8V. This means that the “Gain” rotary control will operate within that voltage window. If you are using an aftermarket source unit with RCA outputs, make sure you select the proper voltage selection range. For example, if the RCA voltage of the aftermarket head unit is rated at 4 volts, set the switch at “2V ~ 8V”.

Load Selector

SUBWOOFER IMPEDANCE	LOAD SELECTOR SWITCH SETTING
2 OHM Bridged Load	1 OHM
4~8 OHM Bridged Load	2~4 OHM
1 OHM Load on each output	1 OHM
2 OHM Load on each output	2~4 OHM
4 OHM Load on each output	2~4 OHM

Gain Dial

Located next to the input voltage selector, is a rotary control labeled “Gain”. Once the appropriate input voltage range has been selected, this rotary control can be used to match the source unit’s output voltage to the input stage of the amplifier for maximum clean output. Rotating the control clockwise will result in higher sensitivity (louder for a given input voltage). Rotating the control counter-clockwise will result in lower sensitivity (quieter for a given input voltage). After using this procedure, you can then adjust the level of the amplifier by adjusting the input sensitivity downward, if the amplifier requires attenuation to achieve the desired system balance. Do not increase the “Gain” setting for any amplifier in the system beyond the maximum level. Doing so will result in audible distortion and possible speaker damage.

Bass Boost Control

The amplifier also features a “high-Q” (i.e., narrow frequency band) Bass Boost circuit. It acts much like an equalizer with a switch able gain fixed at 45Hz. Use this feature to tune low-frequency audio response to compensate for a less than ideal sub-woofer enclosure design. The added boost produces rich, full bass tones that are normally difficult to reproduce in the car audio environment. NOTE: If Bass Boost is undesired, set Bass Boost to OFF.

X-Over Mode Switches

These switches are equipped with 12dB per octave electronic filters for precise frequency attenuation with minimal phase distortion. Each filter is activated by sliding the X-Over Mode Switch to either HP or LP.

Speaker Level Inputs

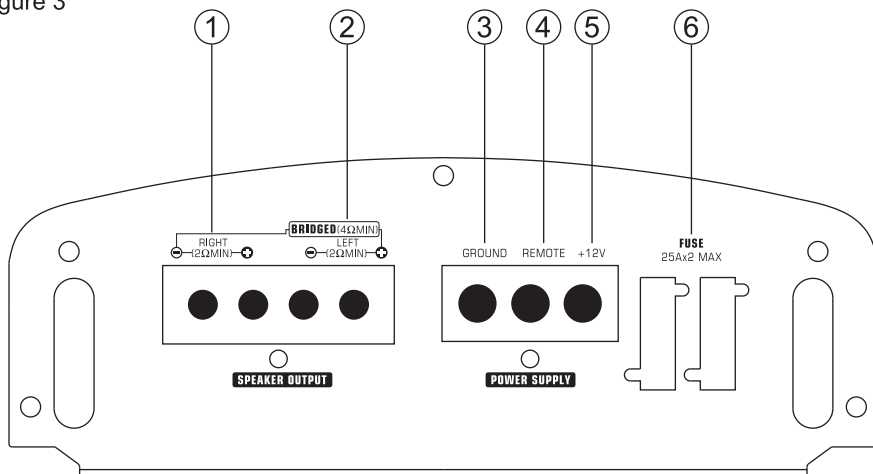
These provide connections for a high-level stereo source. These connections are provided for installations when the source unit does not have RCA outputs.

WARNING: When using the speaker (high-level) inputs, the Black wire must be grounded at the radio. Failure to do this will result in noise and improper operation.

CONNECTIONS FOR POWER AND SPEAKERS

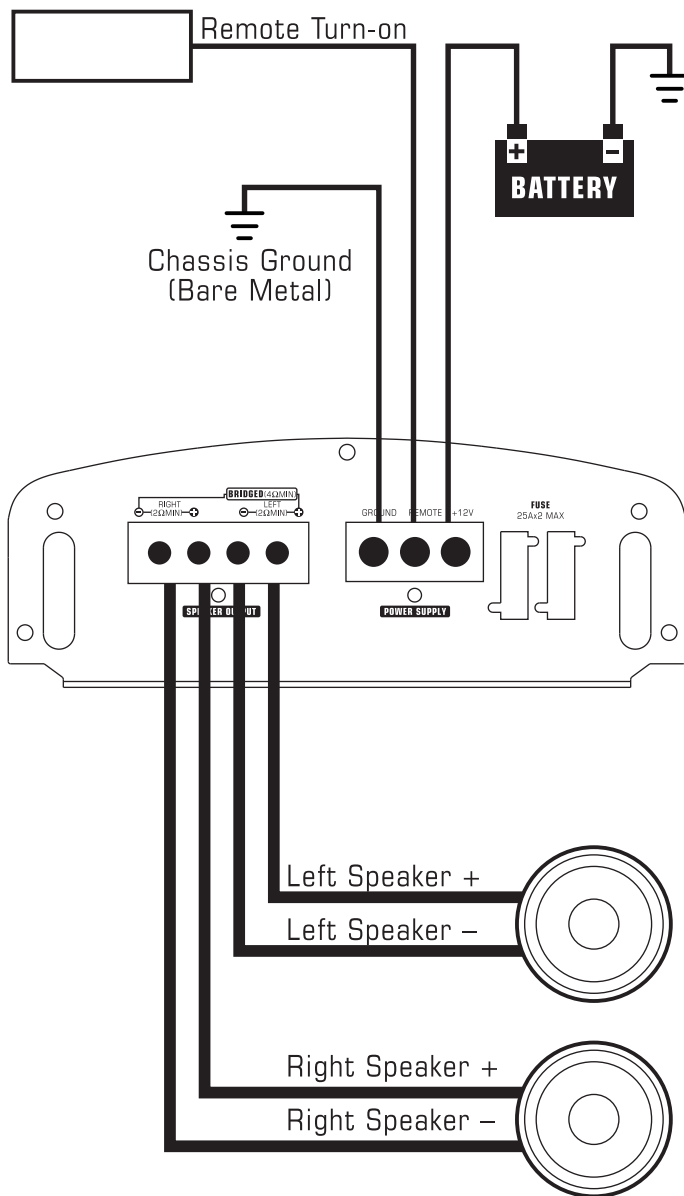
The rear panel of the APDLI-3502 contains power and speaker connections as shown below.

Figure 3



1. Right Speaker Output
2. Left Speaker Output
3. Ground Input
4. Remote Turn-On Input
5. Battery +12V Input
6. Fuse

Figure 4
Connections for power and speakers



INSTALLATION

This section lists mounting and wiring precautions prior to installing the Audiopipe amplifier. These safeguards provide enough detail to complete an installation successfully. Do not attempt to install the amplifier yourself, if you do not have the necessary skills. Instead, see your authorized Audiopipe dealer for installation recommendations.

MOUNTING PRECAUTIONS

Although the Audiopipe amplifiers incorporate heat sinks and protection circuits, mounting the amplifier in a tight space without any air movement will result in damage to the amp's internal circuitry over time. Choose a site that provides adequate ventilation around the amplifier. For easy system setup, mount the amplifier so the front-panel controls are accessible after installation.

In addition, observe the following precautions:

1. For the most efficient cooling, mount the amplifier so cool air runs along the length of the fins rather than across them. Remember, any moving air will dissipate heat.
2. Mount the amplifier on a rigid surface. Avoid mounting to subwoofer enclosures or areas prone to vibration. Do not install the amplifier on plastic or other combustible materials.
3. Prior to drilling, make sure proposed mounting holes will not cut into the fuel tank, fuel lines, brake lines (under chassis), or electrical wiring.

WIRING PRECAUTIONS

Read all wiring precautions. If you are not sure of the connections, contact your authorized Audiopipe dealer.

1. Before installation, make sure the source unit's Power switch is in the OFF position.
2. Disconnect the negative (-) lead of the battery before making any power connections.
3. When making connections, be sure that each connection is clean and secure. Insulate final connections with electrical tape or shrink tubing. Failure to do so may result in damage to your equipment.
4. A secure, clean ground connection is critical to the performance of your Audiopipe amplifier. Use the shortest ground wire possible and securely connect to the vehicle's chassis to minimize resistance and avoid noise problems. Be sure to clean off any paint prior to making this connection.
5. Add an external fuse on the amplifier's positive (+) power lead and connect it as close as possible to the vehicle's (+) battery terminal. Use a fuse rated to the total current consumption of the amplifier(s). Adding an external fuse will protect the electrical system from short circuits that can result in a fire.

WIRING AND APPLICATIONS

The Audiopipe APDLI-3502 2-channel amplifier can be used in a variety of system applications. Here are some examples to help plan your own installation.

Bridged - Mono Subwoofer System

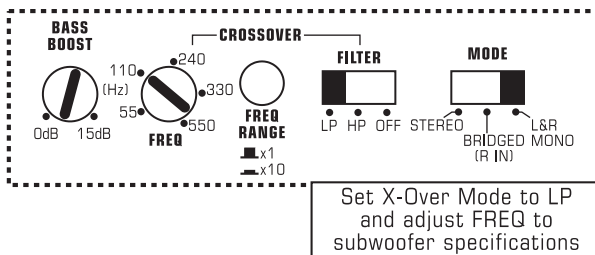
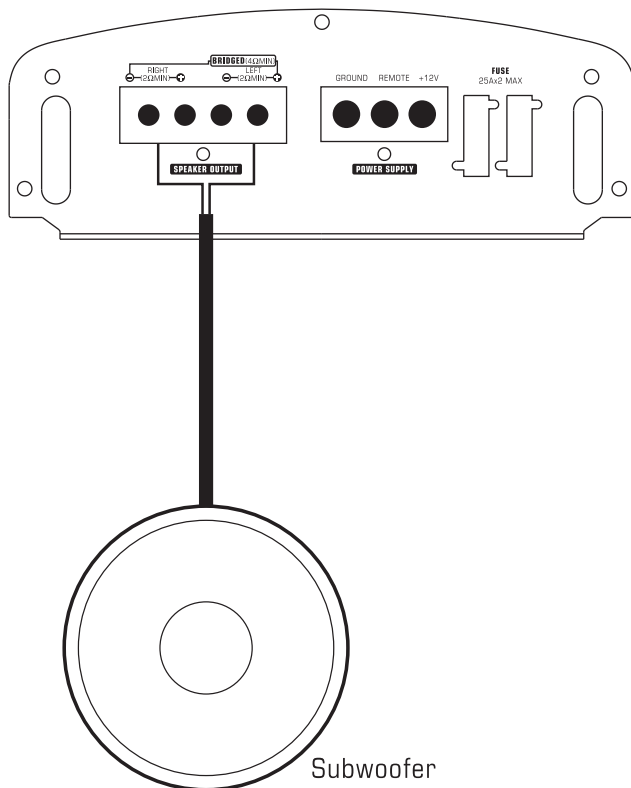


Figure 5
In this application the amplifier is bridged for mono operation to drive a subwoofer.

2-Channel Full-Range, Satellite, or Subwoofer Stereo System (Set INPUT SELECT Switch to STEREO)

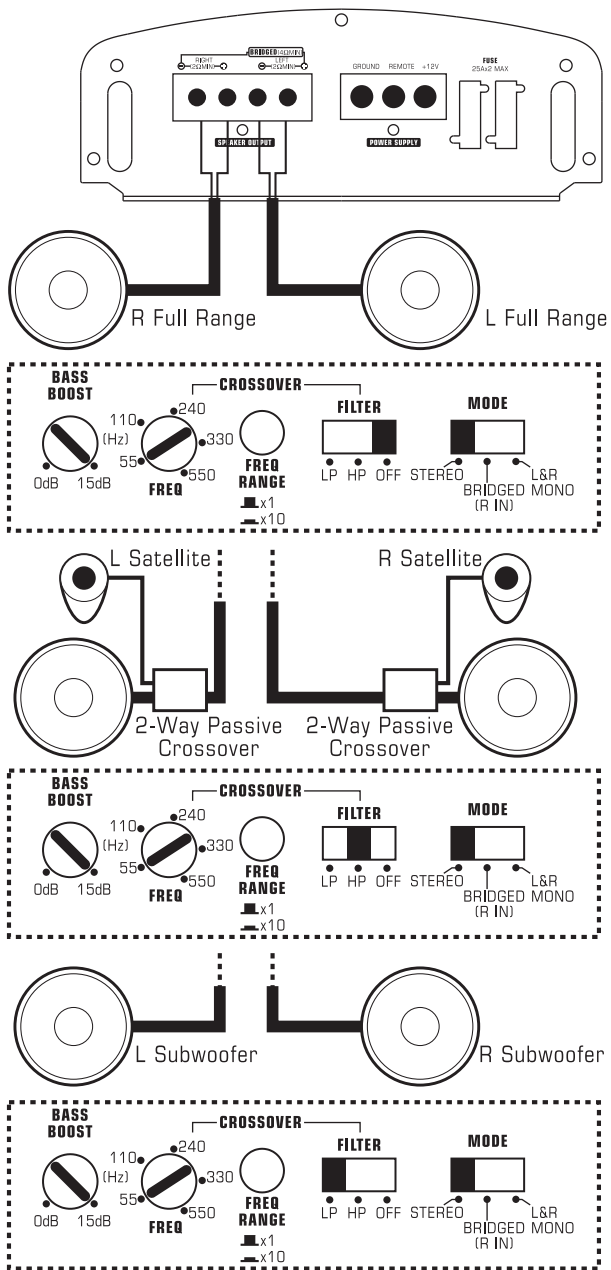


Figure 6
In this application, the amplifier is used in stereo and drives two full-range (or satellite or subwoofer) speakers. NOTE: A passive crossover must be used with satellite speakers.

SETTING THE GAIN

After completing the installation, follow these steps to set the Gain Control and then perform the Final System Checks.

1. Turn the Gain Control all the way counter-clockwise.
2. Select the proper input voltage as described on page 3, (Gain Control with Selectable Input Voltage)
3. Turn the vehicle's Ignition Switch to the ON position. Then turn the ON/OFF Switch on the source unit to the ON position. Set all Tone or Equalization Controls to "flat" positions and turn Loudness off.
4. Play a CD or Tape and set the Volume Control at 75% of full level.

NOTE: If the system uses an equalizer set all frequency controls to the "flat" position.

5. Slowly increase the Gain Control. Stop when you hear a slight distortion of audio.

SETTING THE CROSSOVER

The Audiopipe amplifiers feature fully adjustable crossovers. To set the crossovers, follow these steps:

1. Using the X-Over Mode Switch, select the desired mode: LP for Low Pass, HP for High Pass or OFF for Full Range.
2. Using the Freq (Hz) Selection Control, select the desired frequency.

SETTING THE BASS BOOST

1. Initially set the Bass Boost control to its OFF position.
2. Listen to a variety of music styles (e.g., Rock, Rap, etc.) and switch the Bass Boost control ON until a noticeable increase in low bass response is realized.

CAUTION: If you hear a "pop" (due to speaker over-excursion) adjust switch to lower the Bass Boost to prevent speaker damage.

FINAL SYSTEM CHECK

1. Start the engine and turn on the source unit. After a two-second delay, slowly increase the Volume Control and listen to the audio. If you hear any noise, static, distortion or no sound at all, check the connections, and also refer to Troubleshooting. Depending on your system design, the levels may become quite loud even at low Volume Control settings. Until you get an "audio feel" of the system's power, use care when adjusting controls.
2. Turn the Balance Controls to their extreme positions and listen to the results. Audio output should match control settings (audio from the left speaker when balance is left).
3. Increase the volume and verify that the amplifier reproduces audio (at full frequencies) without distortion. If you hear distortion, check the connections and verify that the Gain Control is set correctly. Another possibility is damaged speakers or under-powered speakers. Once again refer to Troubleshooting for additional help.

TROUBLESHOOTING

Problem

No Audio.

Solution

- *Low or no remote turn-on voltage. Check remote connections at amplifier and source unit.*
- *Blown amplifier fuse. Replace with new fast-blow fuse (same rating).*
- *Power wires not connected. Check battery and ground wiring at amplifier; also check battery connections.*
- *Speaker leads shorted. Check speaker continuity to ground, it should not show a common ground.*
- *Speakers not connected or are blown. Check speaker connections at amplifier, measure coil impedance.*

Problem

Audio cycles on and off.

Solution

- *Thermal protection circuits are shutting amplifier off. Check location for adequate ventilation; consult an authorized.*

Problem

Distorted audio.

Solution

- *Gain is not set properly, or damaged speaker cones. Review Setting Gain; inspect each speaker cone for signs of damage. (i.e., frozen cone, burning smell, etc.)*

Problem

Whining or ticking noise in the audio with engine on.

Solution

- *Amplifier is picking up alternator noise or radiated noise. Turn down input gain and move audio cables away from power wires. Check power and ground connections on amplifier and install an in-line noise filter on source unit's power wire. Also check the alternator and/or voltage regulator. Test for weak battery or add water to battery.*

PRODUCT SPECIFICATIONS

Frequency Response	20Hz ~ 20kHz
Signal Noise Ratio	>100dB
THD	<0.05%
Input Sensitivity Low Level	250mV ~ 2.5V
Input Sensitivity Speaker Level	500mV ~ 5V
Maximum Power Output	1600W
Continuous Power Output	Stereo 2 Ch-160W x 2 @ 4 Ohm Stereo 2 Ch-325W x 2 @ 2 Ohm Bridge 1 Ch-650W x 1 @ 4 Ohm
Dimensions	(H)55 x (W)176 x (L)382 mm