



## AD5012

Digital Multi-Zone Power Amplifier

### FEATURES:

- 12 Channels (6 stereo zones)
- 12 Rear mounted level controls
- 12 Independent inputs, 2 Bus inputs, 1 optical input
- Bus 1 and Bus 2 master level controls
- Multi-function IR remote control
- Normal, signal sensing, and trigger power modes
- Rear mounted treble and bass controls for bus 1 & 2
- Phoenix-style speaker connectors
- LED status indicator lights
- Bridgeable channel outputs
- Rack mountable (rack mount included)

### SPECIFICATIONS

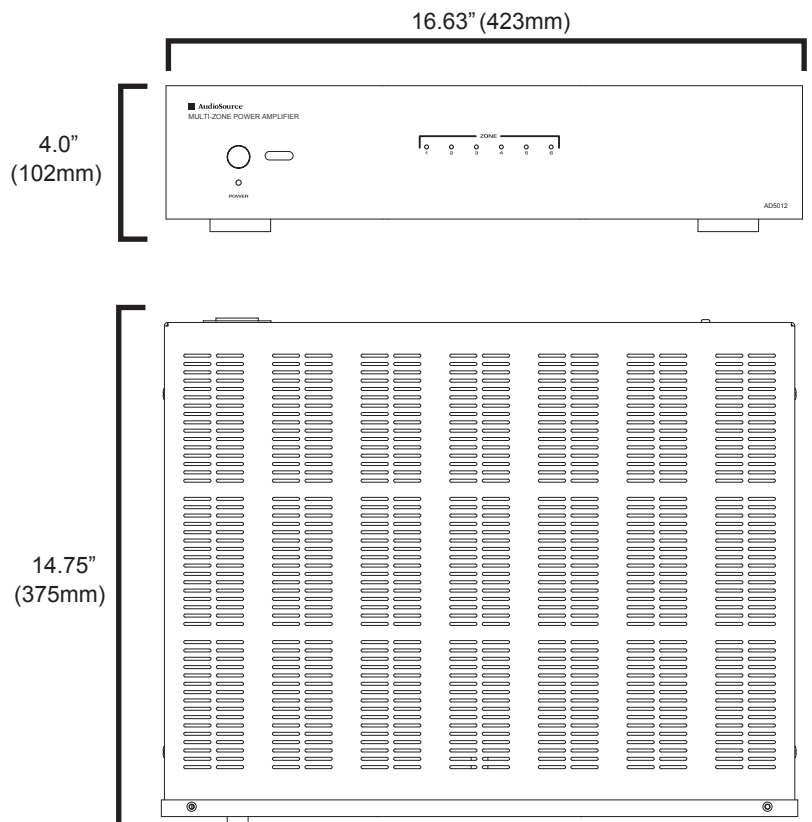
Stereo (8 ohm):	12 x 50W per channel, <0.2% THD+N
Stereo (4 ohm):	12 x 75W per channel, <0.2% THD+N
Bridged Mono (8 ohm):	125W, 1kHz, <0.2% THD+N
Frequency Response:	20Hz ~ 20kHz, +/-0dB
Signal to Noise Ratio:	100dB below 50W output into 8 ohms w/20kHz lowpass filter/A-Wgt
Channel Separation:	65dB @ 1kHz, referred to 50W output into 8 ohms
Input Sensitivity:	Variable, 430mV for full output with Input Level control at maximum
AC Power Consumption:	1000W maximum
Net Weight:	34.5lbs / 15.6kgs
Gross Weight:	39.5lbs / 17.9kgs
Input:	120/230V~, 60/50Hz, 1000W

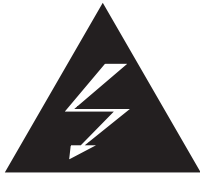
*Congratulations on your purchase of the AudioSource® AD5012. Please take a few moments to read this entire manual, and be sure to retain this document for future reference. Please read and observe all safety instructions detailed on page 2.*

*NOTE: If any part of this product is damaged or missing, please call your dealer or AudioSource® directly at 1.877.715.5439 or 503.914.4688.*

*Please read your warranty and retain your receipt and original carton for possible future use.*

*For more information about AudioSource® electronics, speakers and accessories please visit [www.audiosource.net](http://www.audiosource.net)*





## CAUTION

RISK OF ELECTRICAL SHOCK  
DO NOT OPEN



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE THE COVER. NO USER SERVICABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED PERSONNEL!

### EXPLANATION OF SAFETY SYMBOLS



The exclamation point within an equilateral triangle is intended to alert the user of the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.



The lightning flash with the arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the products' enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

### IMPORTANT SAFETY INSTRUCTIONS

- WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE. THE APPARATUS SHALL NOT BE EXPOSED TO DRIPPING OR SPLASHING AND THAT OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, SHALL NOT BE PLACED ON APPARATUS.
- WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT USE THIS PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.
- WARNING: THE MAINS PLUG IS USED AS DISCONNECT DEVICE. THE DISCONNECT DEVICE SHALL REMAIN READILY AVAILABLE.
- WARNING: ONLY USE ATTACHMENTS OR ACCESSORIES SPECIFIED OR PROVIDED BY THE MANUFACTURER.

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. The ventilation should not be impeded by covering the ventilation openings with items such as newspaper, tablecloths, curtains etc. Install in accordance with the manufacturer's instructions.
8. Do not install near heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat. No open flame sources, such as lighted candles, should be placed on the apparatus.
9. Do not defeat the safety purpose of the polarized or grounding type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at the plugs, convenience receptacles, and at the point of exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart or rack is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. The unit should be operated in a well ventilated area. Minimum clearance is 2 inches from the ventilation openings.
14. Please operate the apparatus in moderate climates.



15. Unplug the apparatus during lightning storms or when unused for long periods of time.
16. Refer all servicing to qualified personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
17. WARNING: To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture. The apparatus shall not be exposed to dripping or splashing and that objects filled with liquids, such as vases, shall not be placed on apparatus.
18. WARNING: The mains plug/appliance coupler is used as disconnect device, the disconnect device shall remain readily operable.
19.  This equipment is a Class II or double insulated electrical appliance. It is designed in such a way that it does not require a safety connection to electrical earth.



20. - This lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of non-insulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock.  
- Warning: to reduce the risk of electric shock, do not remove cover (or back) as there are no user-serviceable parts inside. Refer servicing to qualified personnel.  
- The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance instructions in the literature accompanying the appliance.

**MAGNETIC FIELD: !!CAUTION!!** Do not locate sensitive high-gain equipment such as preamplifiers or tape decks directly above or below the unit. Because this amplifier has a high power density, it has a strong magnetic field, which can induce hum into unshielded devices that are located nearby. The field is strongest just above and below the unit. If an equipment rack is used, we recommend locating the amplifier(s) in the bottom of the rack and the preamplifier or other sensitive equipment at the top.

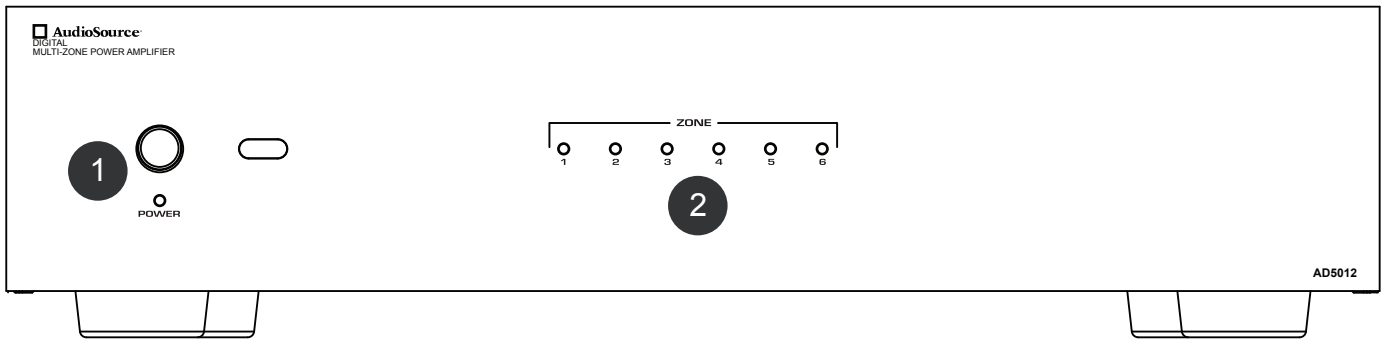


Figure 1. Front Panel

**FRONT PANEL CONTROLS**

**1. Master Power Switch / Indicator LED**

Front panel pushbutton power switch turns the amplifier on and off. When the switch is on and the indicator LED is red, the amplifier is in standby mode. When the LED is blue, the amplifier is fully active. The master power switch will turn off the amplifier no matter which power mode has been selected with the rear panel Power Mode switch.

**2. Zone Status Indicators**

Each pair of channels or zones has a bi-color LED to indicate its operational status. These indicators provide quick and easy troubleshooting of the system. If the circuitry determines that a channel must be shut down due to excessive heat or low impedance (a short), only the channels that are affected will be turned off causing the zone LED to turn red. The remaining zones will continue to operate and maintain a blue LED status. Once the condition has been corrected for the zone in question, the status LED will return to blue.

**Note:** When the power LED is red and the zone status LEDs are not lit (off) indicates the unit is in stand by mode.

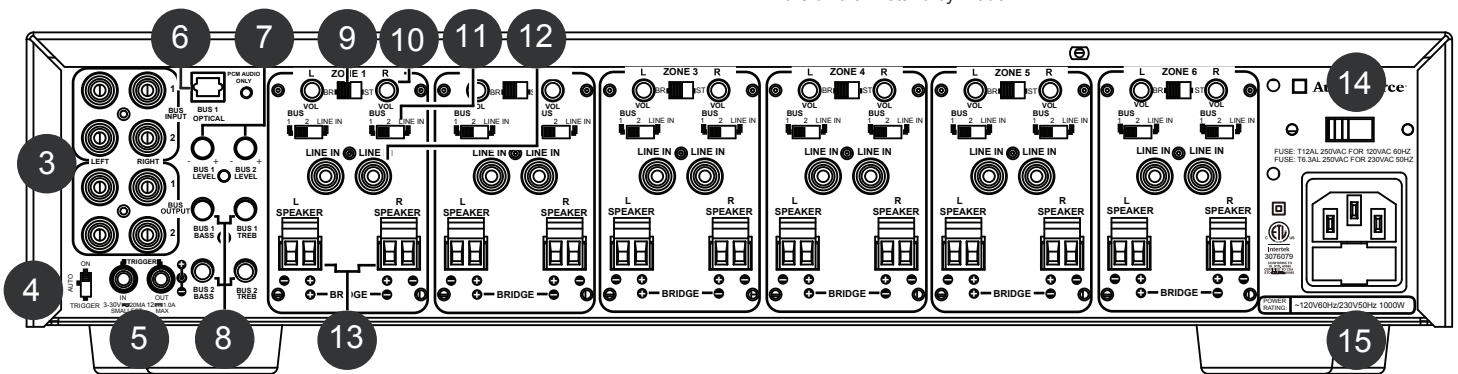


Figure 2. Rear Panel

**REAR PANEL CONTROLS**

**3. Bus Line Inputs / Outputs**

The AD5012 has two common or Bus inputs that receives audio signals from standard line-level audio sources and sends them to any or all channels. The Bus line outputs are direct feed-through to allow the Bus inputs to be fed to other amplifiers. Be sure to use high quality RCA cables that feature low impedance, shielding and high quality connectors.

**4. Power Mode Switch**

This switch selects the turn-on stimuli that will put the amplifier in ready mode. "Trigger" setting relies on 3-30Vdc voltage going into the trigger input to activate the amplifier. "Auto" setting senses a signal on the RCA line-level inputs and automatically puts the amp in ready mode. "On" setting puts the amp constantly in ready mode so that it can be controlled by the master power switch on the front panel. In "Auto" mode, the amplifier will take approximately 10 minutes to return from ready to standby mode.

**5. Trigger Input / Output**

The trigger input is a handy feature when connecting the amplifier to an automated audio system. The 3.5mm mini plug jack will accept a 3-30Vdc, 20mA output from another device, or from a separate power supply. When the trigger input is energized, the amp turns from standby to ON mode. When using the AD5012 with a receiver without a trigger output, the voltage can come from a 12V wall wart (3.5mm tip-positive connector) plugged into the receiver's switched outlet and the trigger input. The A5012 can also provide an output trigger voltage (12Vdc, 1.0A) to turn on and off other devices in the audio system. When the amplifier turns off (standby mode), the voltage will drop to zero.

**6. Optical Input**

This input uses a fiber optic cable to transmit a digital signal to the amplifier. Use of this input is recommended for advanced users who are familiar with the audio source's OSD system. When using the Optical input, make sure the source unit the cable is plugged into is in **Digital PCM (2 Channel) Mode**. Please refer to your source's operating manual when using this input. **NOTE:** Optical Input will not decode 5.1 or 7.1 signals; only Digital PCM signals.

**7. Bus Level Controls**

Each Bus has its own independent level adjustment. This allows the output level of each Bus to be adjusted to make up for different source levels, or to group 2 different source's volume levels. These controls are rotary encoders, with 1dB "click" increments. The remote control can also increase or decrease these levels independently.

**8. Bus 1 and Bus 2 Bass and Treble Controls**

These controls can adjust bass and treble frequencies +/- 12dB at 100Hz and 10kHz on Bus 1 and Bus 2 independently.

**9. Bridging Switch**

By simply flipping a single switch, two channels can be combined to increase the total power output. This is helpful when extra power is needed in certain areas.

**Note:** The minimum impedance for bridged channels is 8 ohms. Also, please observe the proper speaker wiring when bridging channels. Input selection and volume settings for bridged channels will be controlled by the left channel. "BR" is bridged mode and "ST" is non-bridged or stereo mode.

**10. Channel Gain Control**

Each channel has its own independent level adjustment. This allows the output level of each speaker to be perfectly matched to its area. It can also be used to limit the maximum audio level in a certain area.

**11. Input Selection Switch**

Each channel is capable of delivering the source from one of three inputs. The three main inputs are Bus 1, Bus 2 and LINE IN. The selection for these inputs is done via the Input Selection switch associated with each channel. Select the desired source input. Set the Input Selection switch to Bus 1 (will play source connected to the Bus 1 input), Bus 2 (will play source connected to the Bus 2 input) or LINE IN (will play source connected to that channel's LINE IN).

**12. Individual Channel Input**

All twelve channels have their own dedicated input that allows the connection of audio sources in addition to the common Bus inputs. This is useful when using the AD5012 with an audio matrix switcher.

**13. Speaker Output Terminals**

The AD5012 uses high quality Phoenix style connectors for the speaker connections. Use 14-18 gauge stranded two-conductor loudspeaker wire. Ensure that at least 2 inches of each conductor are separated. Strip away ¼ inch of insulation from each conductor. Connect the appropriate conductor to each screw terminal, observing correct polarity. Also, please observe proper speaker wiring when bridging channels.

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14. **AC Voltage Switch**

The unit is set at the factory for 115V U.S. operation; simply connect the included IEC power cord to your wall outlet. For 230V operation, move the voltage selector switch to the 230V position. When operating at 230V the internal fuse located in the IEC socket should also be changed. In most 230V applications a separate power cord will be required and is not included.

15. **IEC Power Connector**

The unit comes with an IEC jack that permits removal of the AC power cord. This allows the flexibility of changing the power cord for different countries. The IEC socket also houses the main fuse holder. Plug the power cord supplied with the amplifier into the amplifier and a wall outlet or appropriate surge protector.

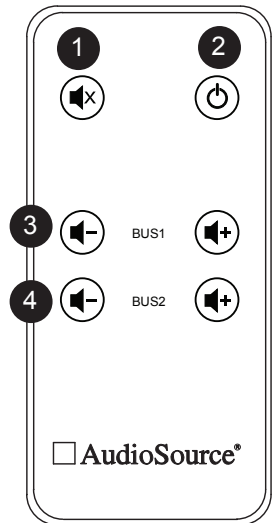
**CAUTION:** DO NOT plug the amplifier's power cord into a switched outlet, such as what is provided on some Surround Receivers. If you wish to have the amplifier turn on when the Receiver is powered up, use one of the power modes, such as Trigger or Auto.

## A Note On Distortion

Digital amplifiers distort differently than conventional Class A/B amplifiers. If you hear a clicking or popping sound at high volume levels, this is an indication the AD5012 is distorting. Pushing the amplifier harder than the distortion level may trigger the amplifier's protection circuitry which will turn the output of the amplifier off and engage the red protection LED. If this occurs, simply turn the channel level down until the distortion no longer occurs.

## REMOTE

- 1. Mute**  
Press this button to mute the AD5012 output.
- 2. Power/Standby**  
Press this button to bring the AD5012 out of Standby Mode, or to put the Amplifier in Standby Mode. If rear panel Power Mode switch is in Auto mode, this button is non-functional.
- 3. Bus1 Volume +/- Controls**  
Controls the Volume level of BUS 1 the same way the back panel BUS 1 Level Control does.
- 4. Bus2 Volume +/- Controls**  
Controls the Volume level of BUS 2 the same way the back panel BUS 2 Level Control does.



## Limited Warranty

AudioSource® warrants its amplifier products against defects in materials and workmanship for a limited period of time. For a period of two years from date of original purchase, we will repair or replace the product at our option, without charge for parts and labor. Customer must pay all parts and labor charges after the limited warranty period expires. The limited warranty period for factory refurbished products expires after the ninety (90) days from date of original purchase.

This limited warranty applies only to purchases from authorized AudioSource® electronics retailers. This limited warranty is extended only to the original purchaser and is valid only to consumers in the United States. Consumers are required to provide a copy of the original sales invoice from an authorized AudioSource® dealer when making a claim against this limited warranty. This limited warranty only covers failures due to defects in materials or workmanship that occur during normal use. It does not cover failures resulting from accident, misuse, abuse, neglect, mishandling, misapplication, alteration, faulty installation, modification, service by anyone other than AudioSource®, or damage that is attributable to Acts of God. It does not cover cost of transportation to AudioSource® or damage in transit. The customer should return his defective product, freight prepaid and insured, to AudioSource® only after receiving a Return Authorization.

This warranty will become void if the serial number identification has been wholly or partially removed, altered or erased. Repair or replacement under the terms of this warranty does not extend the terms of this warranty. Should a product prove to be defective in workmanship or material, the consumer's sole remedies will be repair or replacement as provided under terms of this warranty. Under no circumstances shall AudioSource® be liable for loss or damage, direct, consequential or incidental, arising out of the use of or inability to use the product. There are no express warranties other than described above.

## FCC Notice

This device complies with Part 15 of the FCC rules. Operation is subject to the two following conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

CAN ICES-3 (B)/NMB-3(B)