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ELAC **ELAC IS-AMP1650 Multi Channel Power Amplifiers**

ELAC IS-AMP1650 Multi Channel Power Amplifiers Instruction Manual

Contents

ELAC

ELAC IS-AMP1650 Multi Channel Power Amplifiers

Specifications

- Models: IS-AMP8100, IS-AMP1275, IS-AMP1650
- Power Output: Varies by model
- Inputs: RCA Line In
- Outputs: Assignable Line Out
- Trigger: 12V DC
- Speaker Connections: 4-pin connector

Product Usage Instructions

Front Panel Features

- **POWER LED:** Indicates the amplifier unit is ON.
- **STATUS LED:** Blue – signal present, Short red – signal clipping, Solid red – protection mode.

Rear Panel Features

- **LINE OUT:** Assignable outputs via web GUI.
- **LINE IN:** RCA connectors for audio input. Connect to corresponding Speaker Outputs by default.
- **12V TRIGGER:** Use for ON/OFF control (5-24V DC).
- **AC MAINS:** Connect to AC outlet after making other connections.
- **POWER SWITCH:** Turn ON/OFF the amplifier.
- **ETHERNET:** Connect to local network using Ethernet cable.

Speaker Connections
The 4-pin connector plugs allow easy connection of speakers.

1. Use 12AWG (max) 2-conductor stranded speaker wire.
2. Strip ends, twist strands together to prevent shorts.

FAQ

- **Q: How do I reset the amplifier unit?**
  - A: To reset the amplifier, turn it OFF, disconnect from power, wait for a few minutes, then reconnect and turn it back ON.
- **Q: What do the different colors of the STATUS LED indicate?**

- A: Blue indicates a signal is present, Short red means the signal is clipping, and Solid red indicates the amplifier unit is in protection mode.

Important Safety Instructions

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: To reduce the risk of electric shock, do not remove cover (or back).

No user-serviceable parts inside. Refer servicing to qualified service personnel.

Explanation of Graphical Symbols

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

The exclamation point within an equilateral triangle is intended to alert you to the presence of important operating and maintenance (servic-ing) instructions in the literature accompanying the product.

APPLICABLE FOR USA, CANADA OR WHERE APPROVED FOR USAGE

CAUTION: TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE PLUG TO WIDE SLOT, INSERT FULLY.

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 a dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
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 the third prong are provided for your safety. If the provid-ed 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 plugs, convenience receptacles, and the point where they 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 is used, use cau-tion when moving the cart/apparatus combination to avoid injury from tip-over.

13. Unplug this apparatus during lightning storms or when unused for long periods of time.

14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-sup-ply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or mois-ture, does not operate normally, or has been dropped.

15. The apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the appa-ratus.

16. **CAUTION:** Servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

17. **WARNING:** To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

Introduction

- Congratulations and thank you for purchasing the Integrator Series multi-channel power amplifier!
- Since the time we started in 1926, ELAC has always striven to achieve the very best!
- The Integrator Series multi-channel power amplifier feature a combination of performance, flexibility and control to provide high value and great sound in different amplification arrangement.
- The Integrator Series IS-AMP8100, IS-AMP1275 and IS-AMP1650 are DSP can be configured in two speaker output modes: stereo mode and bridged mode.
- The multi-channel power amplifier series feature network control.
- All models have many DSP tools including level controls, EQ's, high and low pass filters, limiters to provide flexibility for different applications.
- Access to the DSP settings is accomplished via web GUI interface.
- Please read and follow the instructions in this guide to assist in proper installation, connection and use of your ELAC multi-channel power amplifier.
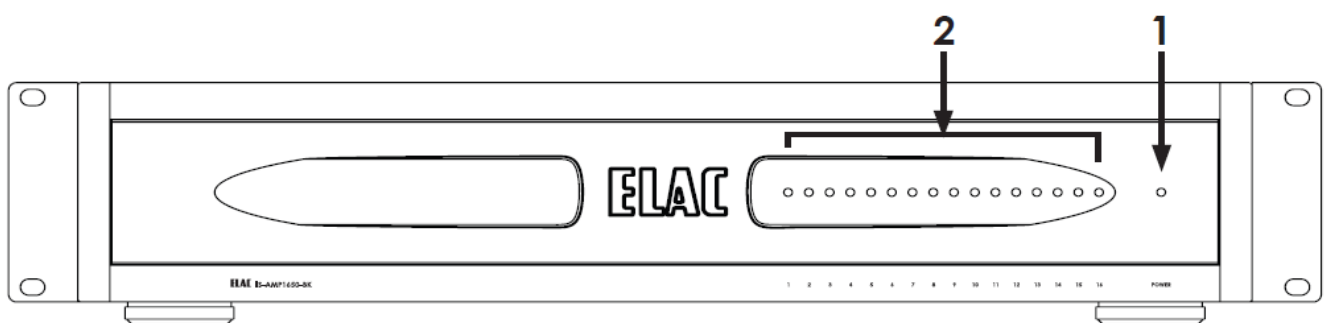
Front and Rear Panel Features

Figure 1 IS-AMP1650 FRONT Panel Features (shown for reference)

1. **POWER LED** – Shows the amplifier unit is ON.
2. **STATUS LED** – Shows the status of the amplifier unit: Blue – shows the signal is present
   Short red – shows the signal is clipping

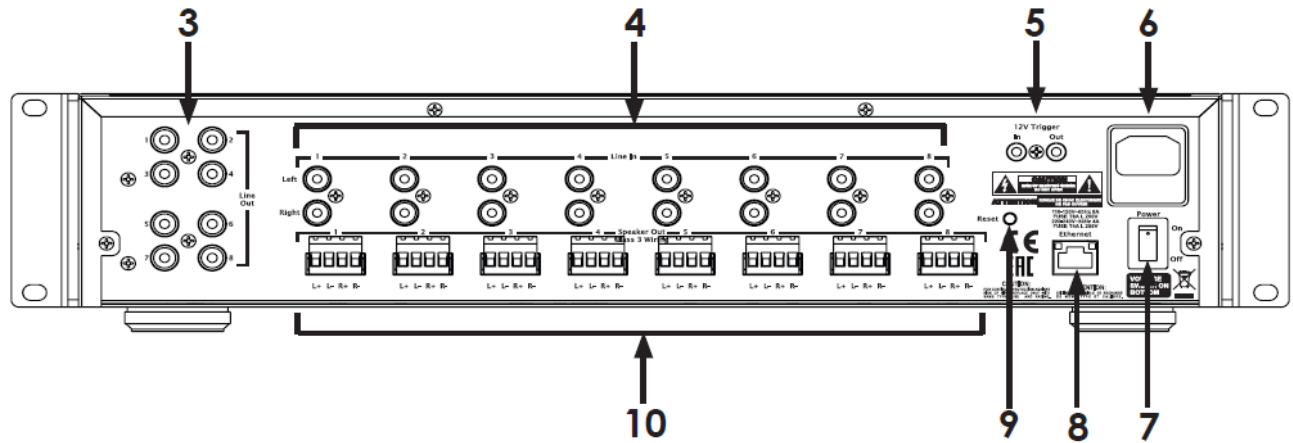Solid red – shows the amplifier unit is in protection mode

Figure 2 IS-AMP1650 Rear Panel Features (shown for reference)

3. **LINE OUT** – These are assignable outputs via the web GUI interface.

4. **LINE IN** – Use these RCA connectors to input audio signal into the power amplifier. Depending on the model, the amplifier have 8, 12 or 16 line inputs.

   The Line Inputs are assigned to the corresponding Speaker Outputs by default.

5. **12V TRIGGER** – Use this connection to ON/OFF control the amplifier unit (5 … 24V DC).

6. **AC MAINS** – After all other connections have been made and confirmed, using the included power cord, connect the AC Mains on the amplifier to an AC outlet.

7. **POWER SWITCH** – Used to turn ON/OFF the amplifier.

8. **ETHERNET** – Using an Ethernet cable, connect the Ethernet port on the amplifier to local network (LAN). The Ethernet port is used for setting up the amplifier through it's web GUI and for 3rd party control.

9. **RESET** – Use this button to reset the IP settings. The reset button on the rear panel of the amplifier will reset the IP settings only. You can reset the other functions of the amplifier via Web interface only (see GUI Controls Defined).

10. **SPEAKER OUT** – Using 12AWG (max) speaker wire, connect the speakers outputs on the amplifier to the appropriate speaker terminals. Before connecting the speaker wires, twist the ends of the speaker wire so there are no strays that can cause shorts. See section: Speaker Connections for additional information.

Speaker Connections

The 4 pin connector plugs allows easy connection of two speakers for single ended connec-tion or one speaker for bridged connection.

1. Use 12AWG (max) 2-conductor stranded speaker wire for speaker connection plugs.

2. Strip approximately 1/4 to 1/2 of an inch off the ends and twist the strands together so there are no loose ends that can cause shorts.

3. On the amplifier rear panel, insert one end of each striped speaker wires into the provid-ed plugs and tighten the screws. Ensure that all speaker wires are firmly attached to the plugs.

4. Match the polarity markings on the rear panel of the amplifier unit with the polarity of the speakers. If the wiring is incorrect then the speakers will be out-of-phase, with a noticeable decrease of in the bass frequencies and and sound performance.

5. Connect the speaker wires to the appropriate + and – terminals on the speakers. Confirm connection and polarity.

For single ended speaker connection (Figure 3) the speaker impedance should be 4 ohm or 8 ohm.

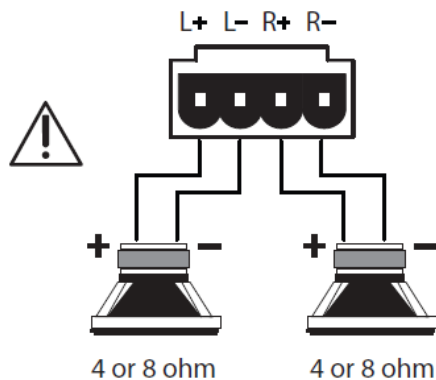For bridges speaker connection (Figure 4) the speaker impedance should be 8 ohm.

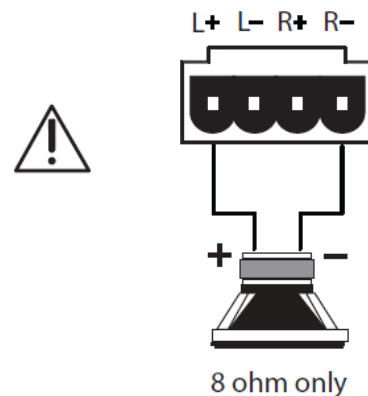**Figure 3** Single ended speaker connection

Figure 4 Bridged speaker connection

NOTE: If the Speaker Out senses a short, the amplifier will enter protect mode and 'Fault' will appear in the amplifier web page and app. In "Fault" mode, the audio amp will be shut down, but the logic and control will remain on.

To reset the amp, power cycle the amplifier: unplug the amplifier from the wall jack for minimum 30 seconds and then plug it back in. If the amp does not return to normal operation, please contact ELAC at 714.252.8843 or at **service@elac.us**.

12 Volt Trigger & Ventilation

12V Trigger IN
When a voltage between + 5V DC and +24V DC is sensed at the trigger input the amplifier is turned ON.

12V Trigger OUT
The output trigger has a 12V voltage and 10 mA current.

Ventilation
The multi-channel power amplifier series IS-AMP8100, IS-AMP1275 and IS-AMP1650 require plenty of good ventilation to properly cool and work within the design parameters.

There are thermal sensors to protest the amplifier from overheating. If overheat occurs, the amplifier is entering in compression mode which means, less output power.

Further more, in some extreme overheating cases, the amplifier is protecting it self by turning OFF. If this occurs often, identify the cause and take corrective actions:

- do not install the amplifier in a sealed location with poor ventilation
- install a fan in the rack
- make sure the amplifier(s) are not overloaded with speakers impedances below the recommended minimum impedance
- ensure there are no short circuits in the speaker cables or speakers

NOTE: Please, be advised that no more than 2 amplifiers can be stacked together without a 1U rack space or more between them.

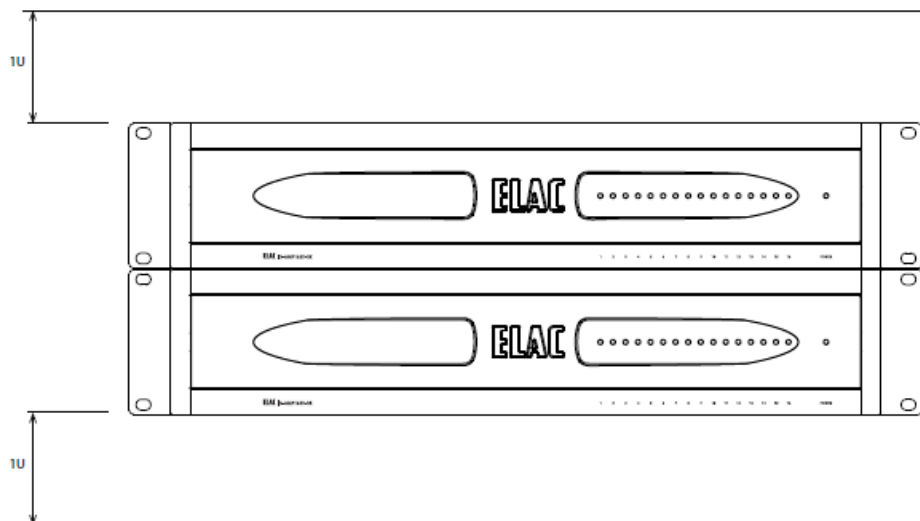Ideal spacing above and below each stack of 4 amplifiers or individual amplifier is shown in Figure 5.

Figure 5 Spacing for amplifiers stacked mount

Specifications

Model	IS-AMP8100	IS-AMP1275	IS-AMP1650
Number of channels	8	12	16
Zones	4	6	8
Power Output/channel All channels driven	75W RMS at 8 ohm 75W RMS at 4 ohm	75W RMS at 8 ohm 75W RMS at 4 ohm	50W RMS at 8 ohm 50W RMS at 4 ohm
Bridged Power Output/ Mono mode	150W RMS at 8 ohm	150W RMS at 8 ohm	100W RMS at 8 ohm
Input Sensitivity	775 mV	775 mV	775 mV
Maximum Input Voltage	4V	4V	4V
Input Impedance	20 Kohm	20 Kohm	20 Kohm
Crosstalk	-65 dB at 1KHz	-65 dB at 1KHz	-65 dB at 1KHz
S/N Ratio	95 dBA	95 dBA	95 dBA
Speaker Output Frequency Response	20 Hz to 20 KHz	20 Hz to 20 KHz	20 Hz to 20 KHz
Distortion (stereo output)	0.1% THD+N 1kHz rated power	0.1% THD+N 1kHz rated power	0.1% THD+N 1kHz rated power
Distortion (bridged)	0.1% THD+N 1kHz rated power	0.1% THD+N 1kHz rated power	0.1% THD+N 1kHz rated power

AUTO ON (Audio Sense Sensitivity)	1mV … 10mV (adjustable)	1mV … 10mV (adjustable)	1mV … 10mV (adjustable)
12Volt Trigger Input	5V … 24V	5V … 24V	5V … 24V
12Volt Trigger Output	12V DC : 10mA	12V DC : 10mA	12V DC : 10mA
Line Inputs	8	12	16
Speaker Outputs	8	12	16
Line Outputs	8	8	8
Line Output Frequency Response	20 Hz to 20 KHz	20 Hz to 20 KHz	20 Hz to 20 KHz
Line Output	1.7V at 10 Kohm	1.7V at 10 Kohm	1.7V at 10 Kohm
Master Power Switch	Yes	Yes	Yes
Ethernet	Yes	Yes	Yes
Gain Control	Yes	Yes	Yes
Bridged Switch (Mono/Stereo)	Via Web Interface	Via Web Interface	Via Web Interface
Power Mode Switch	Via Web Interface	Via Web Interface	Via Web Interface
Amplifier Dimensions (WxHxD) [inch/cm]	17.0×3.9×14.9/ 43.18×9.84×37.8	17.0×3.9×14.9/ 43.18×9.84×37.8	17.0×3.9×14.9/ 43.18×9.84×37.8
Amplifier Weight [lb/kg]	16.32/7.4	18.96/8.6	20.4/9.25

Amplifier GUI Control Panel

Accessing amplifier GUI Control Panel
Open a Web browser.
In the Web browser address bar type in the IP address of the amplifier and hit enter.

GUI Controls Defined
The amplifier GUI control panel Home page is shown in Figure 6.

Most of the GUI controls are self explanatory, but some of the controls are described in detail, below.

Power – Use this control to turn On/Off the amplifier.

Power Mode – Use this control to select the power ON/OF mode of the amplifier:

- **Auto On/Off** – The amplifier is detecting the audio signal and it is turning on/off automatically. If there is no audio for aprox. 20 min. the amplifier is turning Off.
- **Audio Detect Level –** Always you to select the sensitivity (in mV) of the Auto On/Off mode.
- **12V Trigger** – Requires 12V (5 … 24V DC) control connected to the amplifier. In this mode the On/Off commands from Ethernet will not work.

- **Ethernet** – Use this mode for home automatization audio system.
- **Always On** – In this mode the amplifier never turns Off.

Reset – There are two reset modes:

- **System** – Use this reset mode to restart the amplifier without the need to cycling the power.
- **Factory** – In this reset mode you can reset he amplifier all the settings, except the IP settings. The IP settings reset can be done only from the RESET button at the rear panel of the amplifier.

Save/Load – Use these controls to save and load a configuration of the amplifier.

- **Save** – Use this control to save your amplifier configuration settings.
- **Load** – Use this control to load the amplifier configuration settings from a saved file.
- **Firmware Update** – Allows you to update the amplifier firmware. Firmware update will also restart the amplifier.
- **Password** – Use these fields to enter the amplifier password.
- **Ethernet** – These fields are used to set up the IP settings for the amplifier.

Figure 6 Amplifier GUI Control Panel – Home Page
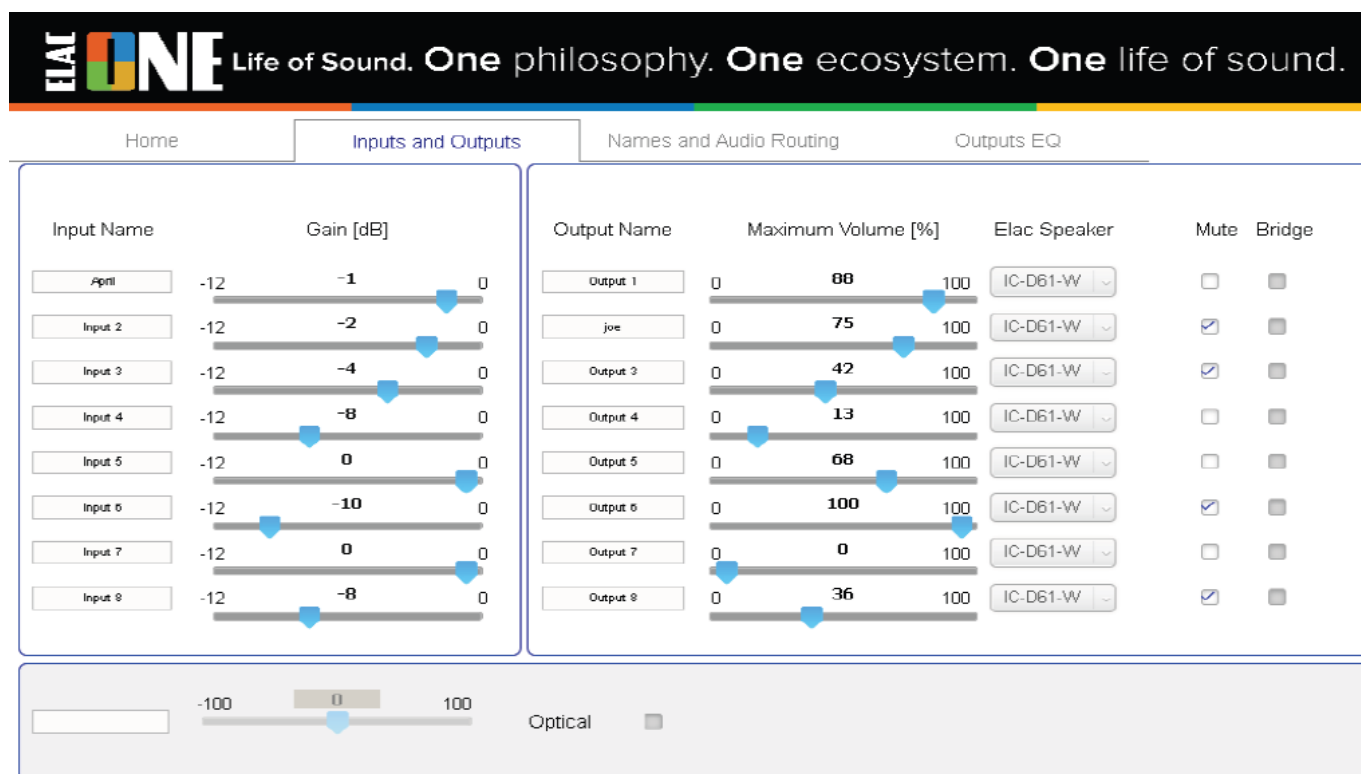
Figure 7 Amplifier GUI Control Panel – Inputs and Outputs Page

The amplifier GUI control panel Inputs and Outputs page is shown in Figure 7.

- **Input Name** – In these fields you can see the input name for each input.
- **Gain [dB]** – Use this control to set the gain of each input individually.
- **Output name** – In these fields you can see the output name for each output.
- **Volume** – Use these controls to set the volume of each output individually.
- **Elac Speaker** – Used this control to select the Elac Speaker model or custom speaker which is connected to the amplifier.
- **Mute** – Allows you to mute any output individually.
- **Bridge** – Use this control to put the speaker outputs in bridge mode.
  The amplifier GUI control panel Names and Audio Routing page is shown in Figure 8.
- **Inputs** – Use these fields to enter the input name for each input.
- **Outputs** – Use these fields to enter the input name for each input.
- **Assigned** – Use these fields to enter the RCA outputs name of individually.
- **Audio Routing** – Use these fields to select which input you want to be connected to RCA output.
  The amplifier GUI control panel Outputs EQ page is shown in Figure 9.
- **Output Settings** – Use these controls to select/change your EQ settings for the outputs.
- **PEQ Settings** – Use these controls to select/change your parametric EQ settings (frequency, Q and gain) for the outputs.

Figure 8 Amplifier GUI Control Panel – Names and Audio Routing Page

Figure 9 Amplifier GUI Control Panel – Outputs EQ Page

Warranty

ELAC Americas Inc.

North America Limited Liability Warranty

Amplifiers

ELAC Americas Inc. warrants to the original purchaser that this product be free from defects and or workmanship for a period of 1 (One) year from the original date of purchase. During this time period, repair or replacement of parts will be free of charge to the original owner (see limitations below). Shipping to and return from the repair center will be the responsibility of the original purchaser.

Limitations

- Warranty begins on the date of original purchase from an authorized ELAC Americas Inc. dealer.
- Product is warranted only if used in home applications. Commercial use of this product is not warranted
- Product has bee modified or altered in any way will not be warranted.
- Product that has been abused or subjected to faulty equipment will not be warranted.
- Products with defaced or removed serial numbers will not be warranted.

If Service is Required

In the event that service is required, please contact ELAC America at 714.252.8843 or at **service@elac.us** to arrange for service or replacement. You will be responsible to provide proof of purchase (Copy or original sales receipt). Shipping to and from our repair center will be the responsibility of the original purchaser.

Warranty Outside of North America

This warranty applies to products purchased in the United States and Canada. For Warranty information claims outside of North America, please contact the local dealer/distributor in th country of purchase.

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Documents / Resources
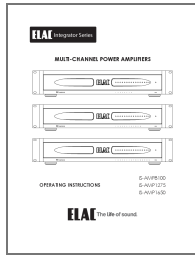
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IS-AMP8100, IS-AMP1275, IS-AMP165, IS-AMP1650 Multi Channel Power Amplifiers, Multi Channel Power Amplifiers, Channel Power Amplifiers, Power Amplifiers, Amplifiers

References

- **Elac - The life of sound | Best Audiophile Speakers**
- **User Manual**