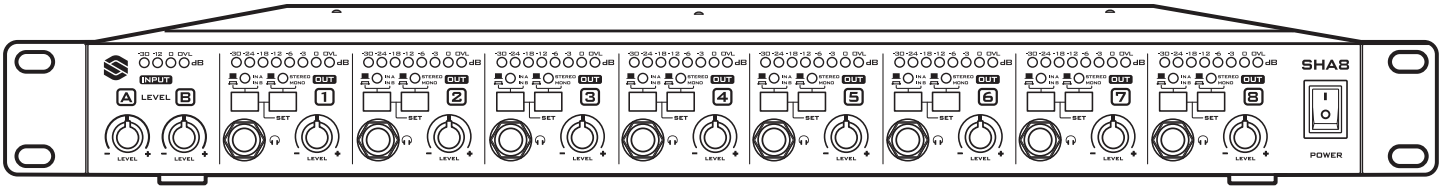
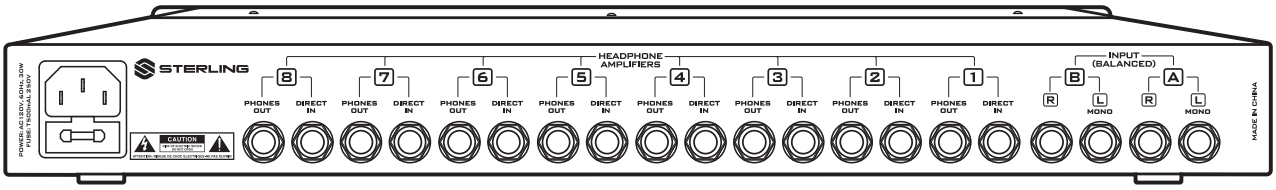
STERLING

OWNER'S MANUAL





SHA8 | PROFESSIONAL 8-CHANNEL HEADPHONE AMP

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INTRODUCTION

Congratulations on the purchase of your Sterling SHA8 Headphone Amplifier. This ultra-low noise, high power design ensures precision monitoring of music for up to 8 musicians, with flexible I/O to ensure the best possible mix for everyone. To get the most of your purchase, read this manual carefully and store it for future reference.

FEATURES

- 8 discrete stereo headphone amplifier sections
- 8 stereo direct inputs for individual, discrete monitor mixes
- 2 stereo main inputs allow for simultaneous dual input mixes across all outputs
- Mono/stereo switch (for mono/stereo operation)
- Output level control and signal metering per channel
- 1RU design for easy integration into existing rack configurations
- Powerful, power transformer for ultra-low noise operation
- Rugged design for studio, live or stage use

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE.
AVERTISSMENT: POUR ÈVITER LE RISQUE D'INCENDIE OU DE CHOCS ÉLECTRIQUES, NE PAS EXPOSER CET APPAREIL À LA PLUIE OU À L'HUMIDITÉ.

UNPACKING

Please check that the box contains the following items:

SHA8 Headphone Amp
Primary Power Cable
Owner's Manual

IMPORTANT SAFETY INSTRUCTIONS

- Keep & read these instructions.
- Heed all warnings & follow all instructions.
- Do not use this apparatus near water.
- Clean only with dry cloth.
- Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 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 provided plug does not t into your outlet, consult an electrician for replacement of the obsolete outlet.
- Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- Only use the attachments/accessories specified by the manufacturer.
- Unplug this apparatus when unused for long periods of time. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cable or plug is damaged, liquid

has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
- Refer all servicing to a qualified service professional. Servicing is required when the apparatus does not operate normally or has been damaged in any way, including damage to the power cable or plug, damage due to liquids spilled or objects dropped inside the unit, dropping the unit, or anything else that interrupts normal use of the unit.

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

When the MAINS power cable, or an appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable.

PROTECTIVE GROUND TERMINAL

The apparatus shall be connected to an AC main socket with a protective earth ground connection.

ELECTROMAGNETIC RADIATION

This unit produces and absorbs electromagnetic radiation. The strength of radiation and the sensitivity for disturbing interference matches FCC requirements. Any change or modification may affect the behavior of the unit concerning electromagnetic radiation, with the FCC requirements eventually not to be met any more. The manufacturer takes no responsibility in this case.

This unit is immune to the presence of electromagnetic disturbances — both conducted and radiated — up to a certain level. Under peak conditions, the unit is classified to show a “Class C” performance criteria and may encounter temporary degradation or loss of function which may need manual help to recover. In such case, disconnect the AC power from the unit and reconnect it again to recover.

WARNING – VOLUME LEVELS

Excessive volume levels on headphones or other sound systems may cause hearing damage. Always turn the volume control to minimum when you switch the unit on, and avoid prolonged exposure to sound pressure levels exceeding 85dB.

ROHS Standards

This unit is built to conform to the ROHS standards. Consult with your local governments electronic waste recycling programs before disposing of this unit for end-of-life disposal.

APPLICATION GUIDELINES

USING THE MAIN INPUT CONNECTORS

Connect a program source with the MAIN INPUT connectors located on the rear, and connect your headphones to a channel section of your choice, #1 through #8. The knobs for INPUT A and B control the level of each separate input signal. The individual output knobs are used for adjusting the desired channel volume to headphones only.

USING THE DIRECT IN CONNECTORS

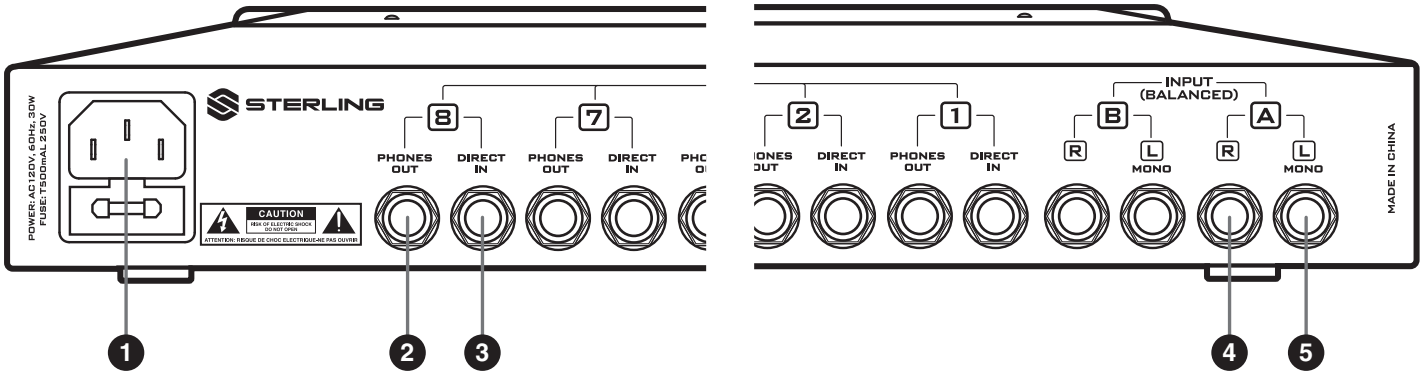
The SHA8 has a separate DIRECT IN connector for each channel, located on the rear of the unit. This separate input allows you to send a separate signal to each channel, rather than the default operation of sending the Inputs from “Input A” and “Input B” to all eight (8) channels. This can be useful if, for example, a bass player wants a separate monitor mix that includes more drums and guitar and less vocal, or if a group of vocalists doing harmonies want a monitor mix with more vocals and less instrumentation. These tailored monitor mixes would typically be sent from a mixer or audio interface. The volume of the Direct Input is set by the output source and utilizing this connection mutes the volume of the Main Inputs (“A” & “B”) for the selected channel.

MONO/STEREO MODE

Stereo signals can often have an irritating effect in certain monitoring applications, especially when performing live. These negative effects are particularly apparent when both channels show great channel separation, i.e. different information content coupled with varying volume levels. The Stereo/Mono switch allows coupling the left and right channels into a single mono signal, without needing a “Y” adapter or special cable.

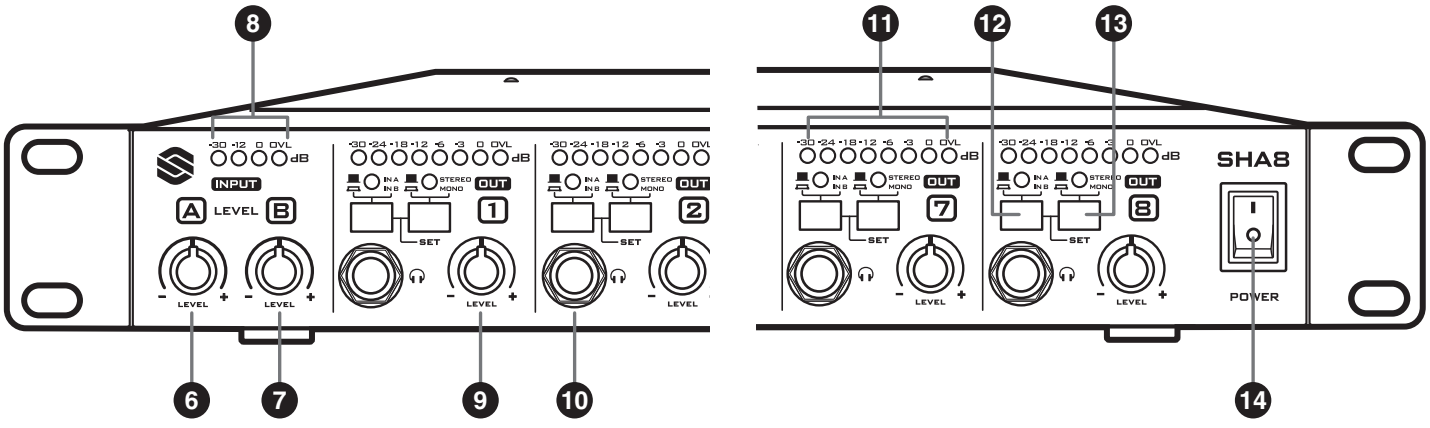
CONTROLS AND CONNECTIONS

CONNECTION - REAR



CONTROLS AND CONNECTIONS

CONTROLS - FRONT



FUNCTIONAL DESCRIPTION

The SHA8 is an 8-way headphone amplifier with 8 high-power headphone amplifiers assignable to 2 individual inputs. Each output has a mono/stereo switch and a LED level meter. Dual front/rear connections and a direct input feature make this unit suitable for a large variety of applications in recording, live sound and installation environments.

REAR CONNECTIONS

1. AC INLET AND FUSE HOLDER

   Use the supplied AC power cable to connect the unit to AC mains. The fuse can be accessed by the fuse panel below the AC inlet. To change the fuse, unplug the AC cable first, pull out the fuse panel and replace the fuse ONLY with a fuse of SAME voltage and rating. If the fuse blows again after replacement, hand over the unit to qualified service personnel.

2. HEADPHONE REAR OUTPUTS (Channels 1 to 8)

   These are stereo (TRS) outputs suitable to drive headphones. While headphones down to 32 Ohms can be connected, a higher impedance type (> 60 Ohms) is recommended for lower distortion at high output levels. These outputs are in parallel to the front-side outputs (10). Note that in case headphones are connected to both front and rear outputs, the load impedance will only be half, so headphones must have a sufficiently high impedance.

3. DIRECT INS (Channels 1 to 8)

   Stereo TRS inputs (unbalanced) allow a direct input feed for a specific output channel. The assigned source (13) will be disabled automatically if a connector is inserted here, and the direct input signal is played at the output (2 and 10 on diagrams) instead.

4. MAIN INPUT R (Inputs 1 and 2)

   Balanced input connector. This input shall not be used when the source is mono, or shall be used as the right channel input when the source is stereo.

5. MAIN INPUT L/Mono (Inputs 1 and 2)

   Balanced input connector. This input shall be used when the source is mono, or shall be used as the left channel input when the source is stereo.

FRONT CONTROLS

6. INPUT LEVEL CONTROL A

   Adjusts the input level of the signal connected via the connectors (4 and 5) to channel A.

7. INPUT LEVEL CONTROL B

   Adjusts the input level of the signal connected via the connectors (4 and 5) to channel B.

8. INPUT LEVEL METER

   Displays the input level of channels 1 and 2. Note that the display shows both the INPUT 1 and INPUT 2 levels at the same time.

9. OUTPUT LEVEL control (Outputs 1 to 8)

   These controls set the outputs levels individually for the relative output (2 and 10 on diagrams).

10. HEADPHONE FRONT OUTPUTS (Channels 1 to 8)

    These are stereo (TRS) outputs to drive headphones. While headphones down to 32 Ohms can be connected, a higher impedance type (> 60 Ohms) is recommended for lower distortion at high output levels. These outputs are in parallel to the front-side outputs (2). Note that in case headphones are connected to both front and rear outputs, the load impedance will only be half, so headphones must have a sufficiently high impedance.

11. OUTPUT LEVEL displays (Channels 1 to 8)

    8-digit LED display to inform about the output signal level of each individual channel, in the range between -30 and 0 dB. Avoid the clip LED to light up in order to avoid distortion.

12. SOURCE SELECTOR switches (Channels 1 to 8)

    These switches determine whether the relative output channel plays the signal of Input A or Input B.

13. STEREO/MONO switches (Channels 1 to 8)

    These switches determine whether the signal at the relative output plays in mono or stereo.

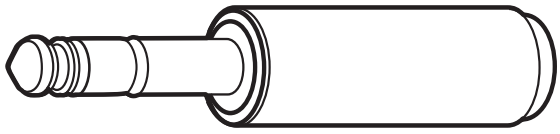
14. POWER SWITCH

    Switches the unit on and off. Make sure to switch the unit off when not in use.

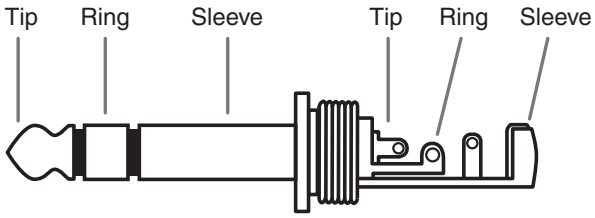
CONNECTIONS

The SHA8 uses the connector types below, for which the pin assignment must comply with the following specification. Always make sure to use good connectors and cables to ensure proper operation. Balanced connections are to be preferred over unbalanced connections where applicable and feasible. Avoid unbalanced connections exceeding 2m of cable length for optimum results.

1/4”MM TRS-STEREO TIP



CABLE TIP STRUCTURE



BALANCED CONNECTION

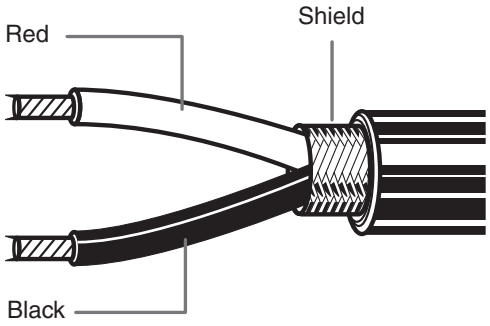
Red = Tip
Black = Ring
Shield = Sleeve

UNBALANCED CONNECTION

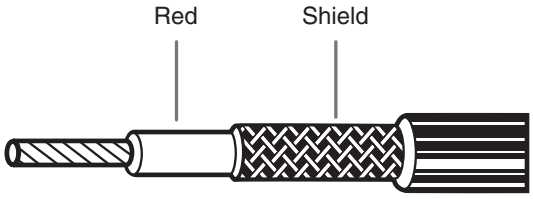
Mono Wiring
Red = Tip
Shield = Sleeve + Ring

Stereo Wiring (Headphones)
Left = Tip
Right = Ring
Shield = Sleeve

CABLE TYPES



2-conductor shielded cable
(for balanced connections)



1-conductor shielded cable
(for balanced connections)

OPERATION

A. CONNECTIONS

For connecting this unit to AC mains, please note:

Check whether the AC mains voltage and frequency is the same as this product is specified for (see rear panel of product). Whenever the specified voltage or your AC plug should not match the local conditions, do NOT plug the AC cable into the wall outlet and contact your Sterling Audio retailer immediately.

Do not operate this unit without the line cable earth ground connected. To do so may increase the risk of electric shock and increase line cable conducted emissions.

For making audio signal connections, always remember that good and reliable connections are a basic requirement for good sound and reliable operation. Bad soldering of cables can result in intermittent audio signals or temporarily lost ground connections, hence always use good cables. In case of doubt about making proper connections, please see check the standard pin assignments required for proper operation in the following section of this manual.

B. POWERING UP

Following a proper power-up sequence protects your equipment – specifically speakers – and your ears. Follow the below procedure:

- Turn down all output volume controls of any equipment in your audio system.
- Switch on your audio source(s) first.
- Switch on the audio mixer Switch on any audio processor between the mixer and the amplifier(s) [if any].
- Switch on the amplifier(s).
- Turn up the audio level on your sources if such controls are provided.
- Set the audio output of your mixer to a low level.
- Set the audio output of any audio processor between the mixer and the amplifier(s) to a medium level [if any such processors].
- Turn up the volume controls of your amplifier(s) slowly. Make adjustments to all volume settings as needed.
- For switching off, follow the inverse sequence – always switch off your amplifier(s) first, then any processors between mixer and amplifier(s), then the mixer, then the sources.

C. USE

Apart from using good equipment, good sound comes from using it correctly. Level setting mistakes are one of the common reasons why even good equipment may not perform as desired. For setting levels, please be reminded that two guidelines need to be followed:

- Avoid distortion by leaving some headroom. Never overrun any audio-equipment's inputs. Level meters and displays allow you to make sure that signals do not enter critical levels.
- Avoid unnecessary amplification by using as little gain as possible. For example, if you turn down the input gain of a mixer to minimum, and then increase the main output of the mixer to maximum to drive your amplifier properly, you will create unnecessary noise, as you first dispose of some already existing signal level, and then later apply amplification (tainted with noise) to make it up.

Obviously, these two requirements are marking a leveling window that the operator must match to achieve a good sound with as little distortion and noise as possible.

TECHNICAL SPECIFICATIONS

Max Output Power
Per Channel: . . . . . +21dBm (load impedance 100 Ω)
Signal/Noise: . . . . . .>90dBu (unweighted 22Hz-22KHz)
THD: . . . . . less than 0.01% (Line)
Frequency Response: . . . . . 20Hz – 20KHz
AC Input: . . . . . 120V AC, 60Hz
Power Consumption: . . . . . 30W, maximum
Dimensions:. . . . . W: 19.1" x H: 1.75"x D: 6.69"
Weight . . . . . .6.0 lbs.

2 YEAR LIMITED WARRANTY

Subject to the limitations set forth below, Sterling Audio® hereby represents and warrants that the components of this product shall be free from defects in materials and workmanship, including implied warranties of merchantability or fitness for a particular purpose, subject to normal use and service, for 2 years to the original owner from the date of purchase, (proof of purchase required).

Retailer and manufacturer shall not be liable for damages based upon inconvenience, loss of use of product, loss of time, interrupted operation or commercial loss or any other incidental or consequential damages including but not limited to lost profits, downtime, goodwill, damage to or replacement of equipment and property, and any costs of recovering, reprogramming, or reproducing any program or data stored in equipment that is used with Sterling Audio® products. This guarantee gives you specific legal rights. You may have other legal rights which vary from state to state. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

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