

SAMSON[®]

QH4

4 CHANNEL HEADPHONE AMP



Owner's Manual

Important Safety Information



AVIS
RISQUE DE CHOC ÉLECTRONIQUE -
NE PAS OUVRIR

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 SERVICE PERSONNEL.



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.



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.



If you want to dispose this product, do not mix it with general household waste. There is a separate collection system for used electronic products in accordance with legislation that requires proper treatment, recovery and recycling. Private household in the 28 member states of the EU, in Switzerland and Norway may return their used electronic products free of charge to designated collection facilities or to a retailer (if you purchase a similar new one). For Countries not mentioned above, please contact your local authorities for a correct method of disposal. By doing so you will ensure that your disposed product undergoes the necessary treatment, recovery and recycling and thus prevent potential negative effects on the environment and human health.

Disconnection from the MAINS: The direct plug-in adapter is used as disconnect device, the disconnect device shall remain readily operable.

Hereby, Samson Technologies Corp., declares that this QH4 is in compliance with the essential requirements and other relevant provisions of Directive 2014/30/EU. The declaration of conformity may be consulted at:

http://www.samsontech.com/site_media/support/manuals/QH4_DOC.pdf

FCC Notice

1. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
 - (1) This device may not cause harmful interference.
 - (2) This device must accept any interference received, including interference that may cause undesired operation.
2. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This product is capable of causing permanent damage to your hearing if used at excessive volumes!

To protect your hearing, the QH4 should always be used at as low a volume as possible. We recommend that you stringently follow the guidelines established by the U.S. Occupational Safety Health Administration (OSHA) regarding maximum time exposure at various sound pressure levels:

- Don't use this product for more than 8 hours at 90 dB SPL
- Don't use this product for more than 4 hours at 95 dB SPL
- Don't use this product for more than 2 hours at 100 dB SPL
- Don't use this product for more than 1 hour at 105 dB SPL
- Don't use this product for more than 1/2 hour at 110 dB SPL
- Don't use this product for more than 15 minutes at 115 dB SPL
- Don't operate at listening levels of greater than 120 dB SPL!

Pay attention to what your ears are telling you! Ringing is a sign that you have set the gain levels too high and that damage may result. We recommend that you consult with a qualified audiologist if you exhibit ringing or any other symptoms!



Important Safety Information

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. 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 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 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 caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug the apparatus during lightening storms or when unused for long periods of time.
14. Refer all servicing to qualified personnel. Service 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.
15. This appliance shall not be exposed to dripping or splashing water and that no object filled with liquid such as vases shall be placed on the apparatus.
16. Caution-to prevent electrical shock, match wide blade plug wide slot fully insert.
17. Please keep a good ventilation environment around the entire unit.
18. To prevent injury, this apparatus must be securely attached to the stand in accordance with the installation instructions.



Introduction

Thank you for purchasing the Samson QH4 4-channel headphone monitoring system. The QH4 provides an elegant solution for headphone monitoring, either on stage or in the studio. The perfect addition to your home recording studio, podcasting setup or just kicking back listening to music, the QH4 delivers super clean, loud, audio fidelity. The QH4 is a specially designed headphone distribution amplifier that allows you to control the level balance between four individual sets of headphones. Providing over 280mW of power to each headphone channel, the QH4 is compatible with virtually all popular headphone models. And its compact, elegant design, fits into any desktop or mobile application.

In the box, you'll find a registration card enclosed—please don't forget to follow the instructions so that you can receive online technical support and so we can send you updated information about this and other Samson products in the future. We recommend you keep the following records for reference, as well as a copy of your sales receipt.

Serial number: _____

Date of purchase: _____

If you have any questions or comments regarding the QH4 or any other products from Samson, do not hesitate to contact us at support@samsontech.com.

With proper care and maintenance, your QH4 will operate trouble-free for many years. Should your QH4 ever require servicing, a Return Authorization (RA) number must be obtained before shipping your unit to Samson. Without this number, the unit will not be accepted. Please visit www.samsontech.com/ra for an RA number prior to shipping your unit. Please retain the original packing materials and, if possible, return the unit in its original carton. If your QH4 was purchased outside of the United States, contact your local distributor for warranty details and service information.

Features

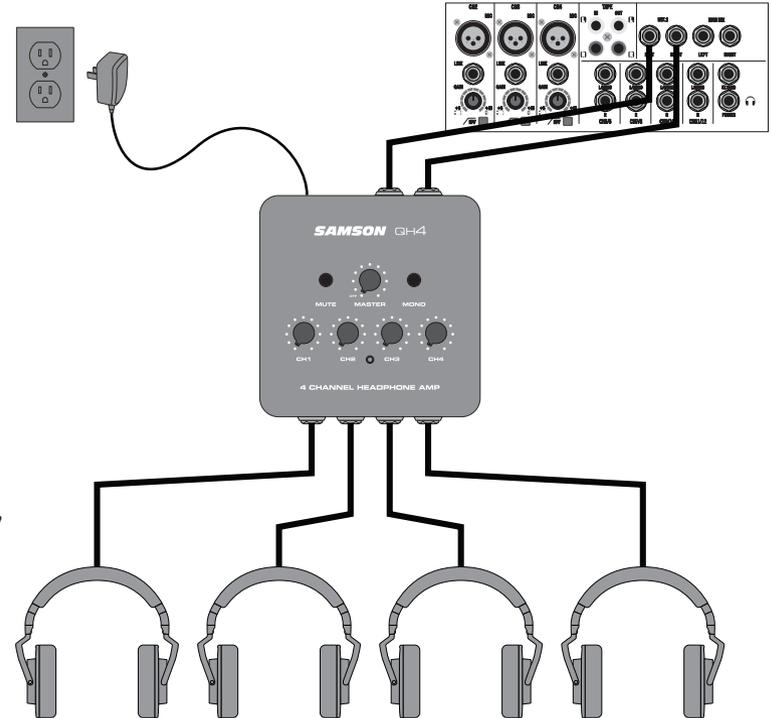
- Four channel stereo headphone distribution amplifier
- Maximum output power on each channel regardless of the number of headphones connected
- Four independent 1/4" stereo headphone channels
- Individual volume control on each headphone channel
- Two balanced 1/4" line input connectors
- Stereo 1/8" Aux input and output jacks for daisy chaining multiple QH4 Headphone Amplifiers together
- Master Mute and Mono-summing switches

Quick Start

Follow this basic procedure for setting up and using your QH4 4-Channel Headphone Amplifier.

NOTE: Before you connect any headphones to the QH4, be sure to double check that the signal source and QH4 amplifier level controls are turned all the way down to their fully counterclockwise positions. The QH4 can generate loud signal levels into the connected headphones. We recommend that you exercise extreme caution and care for your ears. Always start with the level controls all the way off and slowly raise the signal to a comfortable listening level.

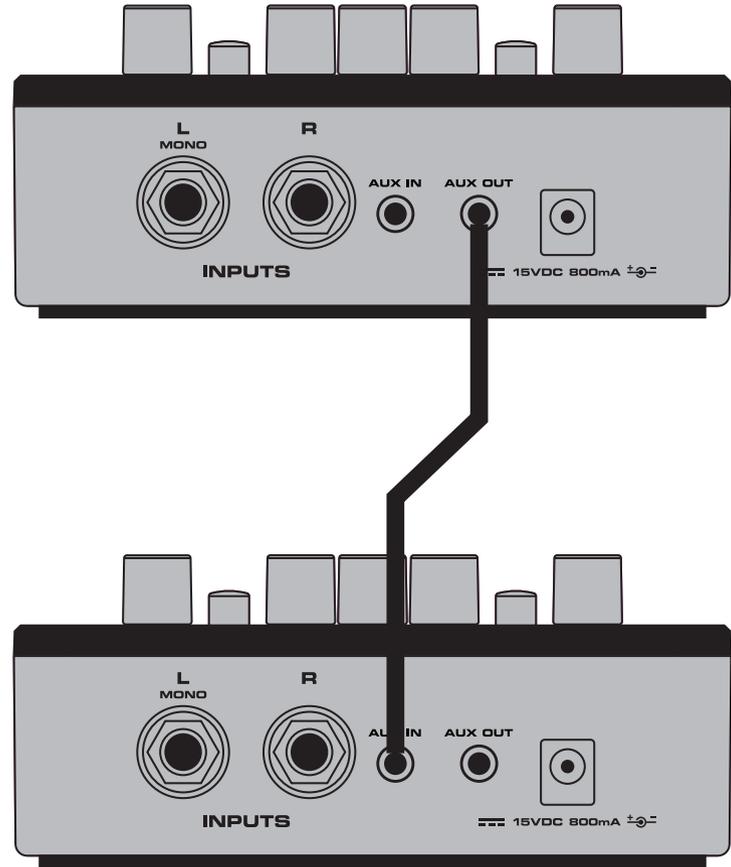
1. Turn the MASTER Volume knob all the way down until it is in the off-position (rotate counterclockwise until it clicks), and turn all four headphone channel volume knobs to their minimum (fully counterclockwise) setting.
2. Connect the included power supply to the QH4, and plug it into an AC wall socket, but leave its power off for the moment.
3. Connect the outputs from the device you want monitored to the Left and Right INPUTS on the QH4 rear panel. The QH4 accepts both balanced and unbalanced signals. It is recommended to use balanced 1/4" TRS cables because it minimizes extraneous noise from entering the signal path.
4. Connect headphones to the 1/4" headphone output jacks.
5. Play an audio signal into the QH4 inputs.
6. Raise the MASTER volume half way (to the 12 o'clock position).
7. Slowly turn the channel's level knob clockwise until you hear the desired level.
8. Repeat the previous step for all Channels that have headphones connected, making sure to start with the Headphone Volume knob completely counterclockwise and then slowly raising it until the desired level is achieved.



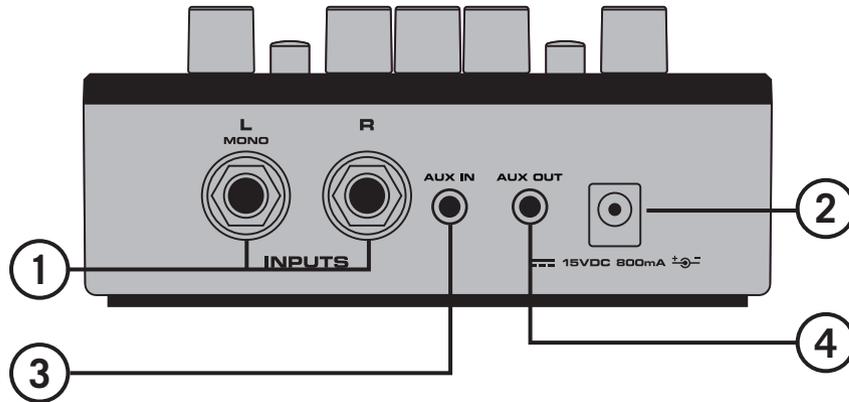
Quick Start

- To expand the QH4 to allow for more than four individual headphone outputs, you can connect multiple QH4 amplifiers together by plugging a 1/8" stereo cable into the Aux Output of the first QH4 amplifier and the Aux Input of another QH4 amplifier. You can repeat this step to add as many headphone amplifiers as necessary. The Aux Output jack is after the MASTER Volume/Power control, Mute and Mono switches, so all adjustments to these controls will affect units further down the chain.

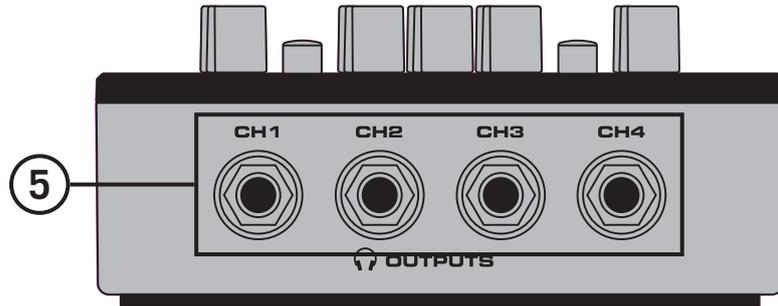
If you have connected different models of headphones to the QH4, you may find that some require more gain than others to achieve the same volume. This kind of disparity occurs if the headphones have different sensitivities or different impedances. The lower the impedance, the louder the headphone will sound compared to another, higher impedance headphone at the same volume setting. Sensitivity is measured by determining the decibel (dB) level generated by 1 mW of power input. The higher the dB rating, the louder the headphone



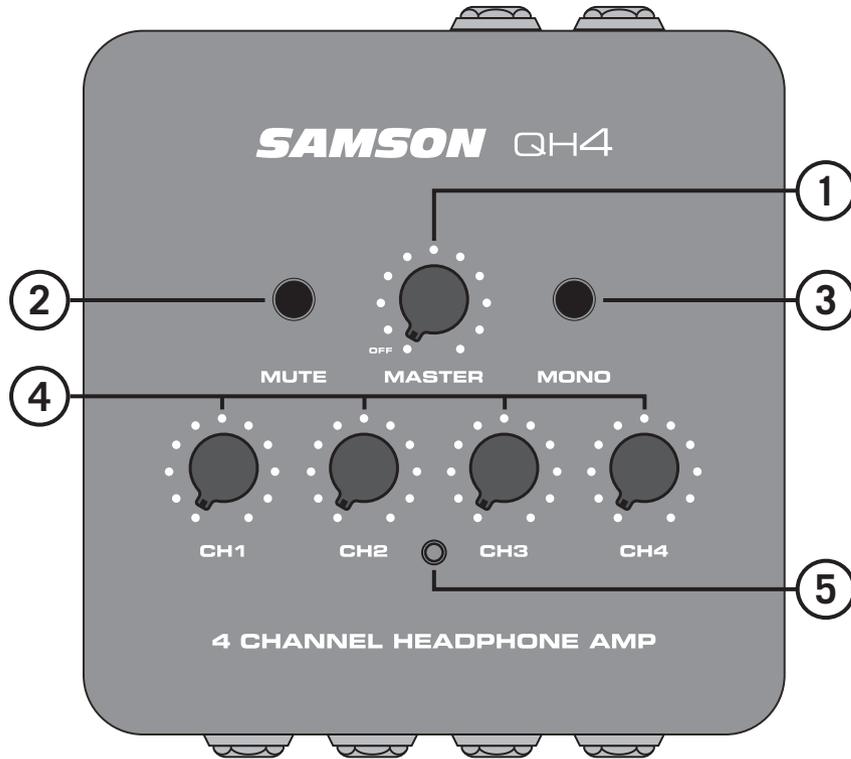
Front and Rear Panel Call-Outs



1. **Line INPUTS** - Balanced 1/4" (TRS) left and right inputs. These line level inputs are the main signal inputs to the headphone amp. Plugging into only the L/MONO jack sends the signal to both the left and right.
2. **DC Power Input** - Connect the supplied power adapter here.
3. **AUX IN** - Stereo 1/8" inputs for connecting an auxiliary line level input, like that from a smart phone or computer output.
4. **AUX OUT** - Stereo 1/8" outputs that are tied to the main 1/4" and AUX inputs for linking to another headphone amp, studio monitors or other device that accepts line level signals.
5. **Headphone OUTPUTS (CH1-CH4)** - Stereo 1/4" headphone outputs. Note: Do not connect headphones with a minimum impedance less than 16Ω.



Top Panel Call-Outs



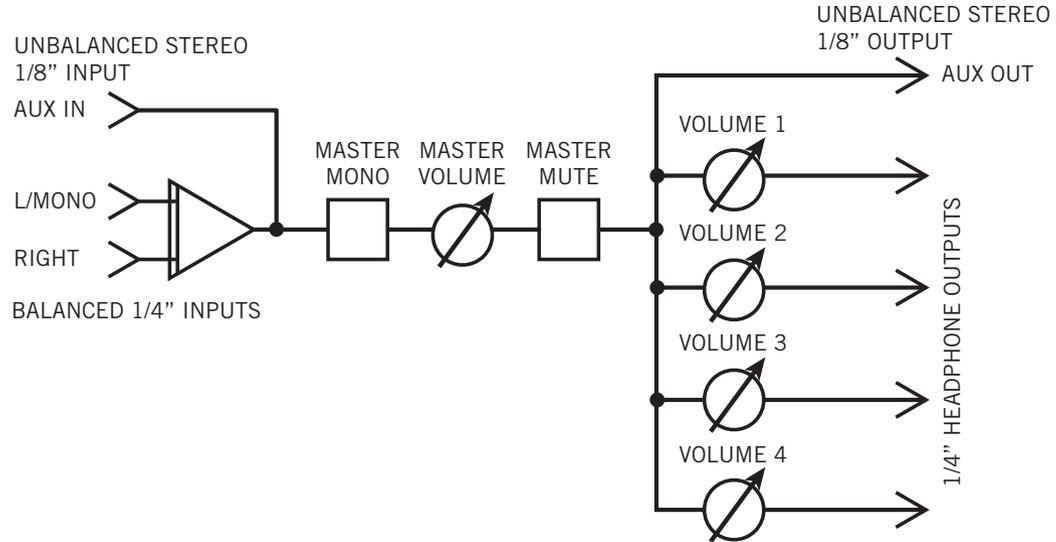
1. **MASTER Volume/Power** - This rotary knob controls the level sent to the individual headphone output channels and powers the QH4 on and off. Turn the control clockwise to turn the system on. Turn the knob counterclockwise until it clicks to turn the system off.
2. **MUTE Switch** - This switch mutes all of the headphone outputs.
3. **MONO Switch** - When pressed, the left and right inputs will be summed together into a single mono signal.
4. **Headphone Volume (CH1–CH4)** - Control knobs used to adjust the level of the headphone outputs.
5. **Power Indicator** - This white LED will illuminate when power is on indicating the QH4 is ready for operation.

Specifications

Input Connectors	2 x 1/4" balanced TRS, 1/8" stereo unbalanced TRS
Max Input Level	+21dBu, 1% THD
Input Impedance	20k Ω
Frequency Response	20Hz to 20kHz \pm 0.5dB
Noise floor	-114dBu, 22k BW unweighted
Dynamic range	122dB, 22k BW
Signal to noise ratio	96dB, re 1mW at 32 Ω load
Aux Outputs	1/8" stereo unbalanced TRS
Max Aux Output Level	+14dBu, 1% THD
Aux Output Impedance	100 Ω
Headphone Outputs	4 x 1/4" stereo TRS
Max Output Power	282mW per channel, 0.5% THD at 32 Ω
Headphone Frequency Response	20Hz to 20kHz -1dB @ 32 Ω
Controls	MASTER Volume knob, Master MUTE switch, Master MONO switch, 4 x Channel Volume knobs
External Adapter	15VDC, 800 mA, pin positive
Weight	0.88lb / 0.4kg
Dims (LxWxH)	4.88" x 4.88" x 1.57" / 124mm x 124mm x 40mm

At Samson, we are continually improving our products, therefore specifications and images are subject to change without notice.

Block Diagram



Troubleshooting

Issue	Solution
No Power (power indicator is not lit)	Make sure that the included power supply is connected to the QH4 amplifier.
	Make sure that the QH4 power supply is plugged into an AC outlet.
	Turn the MASTER Volume/Power knob clockwise until it clicks into the On position.
No Audio	Make sure the QH4 is turned on.
	Make sure the audio cable is plugged into both the audio source output and the QH4 audio input jacks (either the two 1/4" INPUT jacks or the 1/8" AUX jack located on the rear of the QH4).
	Check that the audio source volume level is set to a level that can properly send a signal to the QH4. Also verify that the MASTER Volume and Headphone Volume knobs on the QH4 are turned up.
	Check your headphones on another audio device to ensure the headphones are not at fault.
Distorted or bad audio	Ensure that all audio connections are securely attached.
	Reduce the output volume of the source audio device.
	Reduce the volume of the QH4 headphone channels.

If these suggestions do not solve your problem, contact your nearest Samson dealer or Samson distributor.

If you have any questions or comments regarding the QH4 or any other products from Samson, do not hesitate to contact us at support@samsontech.com.

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