

The BlockHead Owner's Manual

Headphone Amplifier
HeadRoom Corporation

The BlockHead is the world's first and only commercially available fully balanced, double dual-mono, mono-block headphone amplifier. While it's finesse and depth of imaging are a significant improvement over anything we've previously experienced with dynamic headphones, it's the BlockHead's Adam's apple wobbling bass reproduction and eye blinking impact that have us re-thinking everything we thought we knew about headphones.

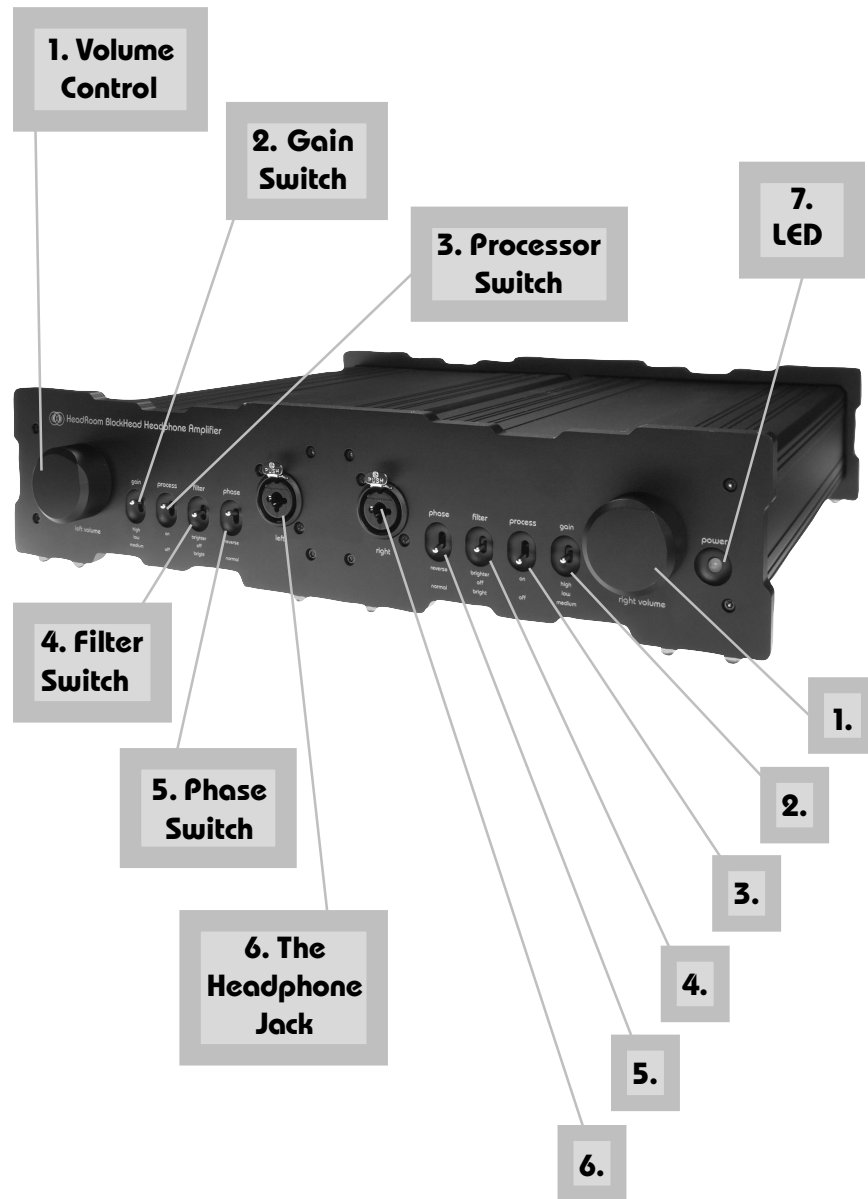


obsessed headphone geeks at your service.



www.headphone.com

A Tour of Your HeadRoom BlockHead Amp



About your Blockhead amp...

1. The Volume Controls. Big, beautiful, anodized, and aluminum. They feel and sound as good as they look! Increase the volume for each channel by turning the knobs clockwise.

2. The Gain Switches. The 3-position Gain Switch accommodates various headphones' power needs. For instance, the Low Gain setting would be used for Grado headphones, allowing a larger range on the volume control pot. Experimenting with your headphones and the gain switch may help you to determine which setting you prefer. If have any questions regarding your headphones, feel free to call and ask us.

3. The Processor Switches. When switched toward PROCESS, the Audio Image Processor is engaged for normal stereo headphone listening. In the OFF position, the Processor is bypassed for listening to mono or binaural recordings. (These switches should be in the OFF position when using the headphone amp as a preamp.)

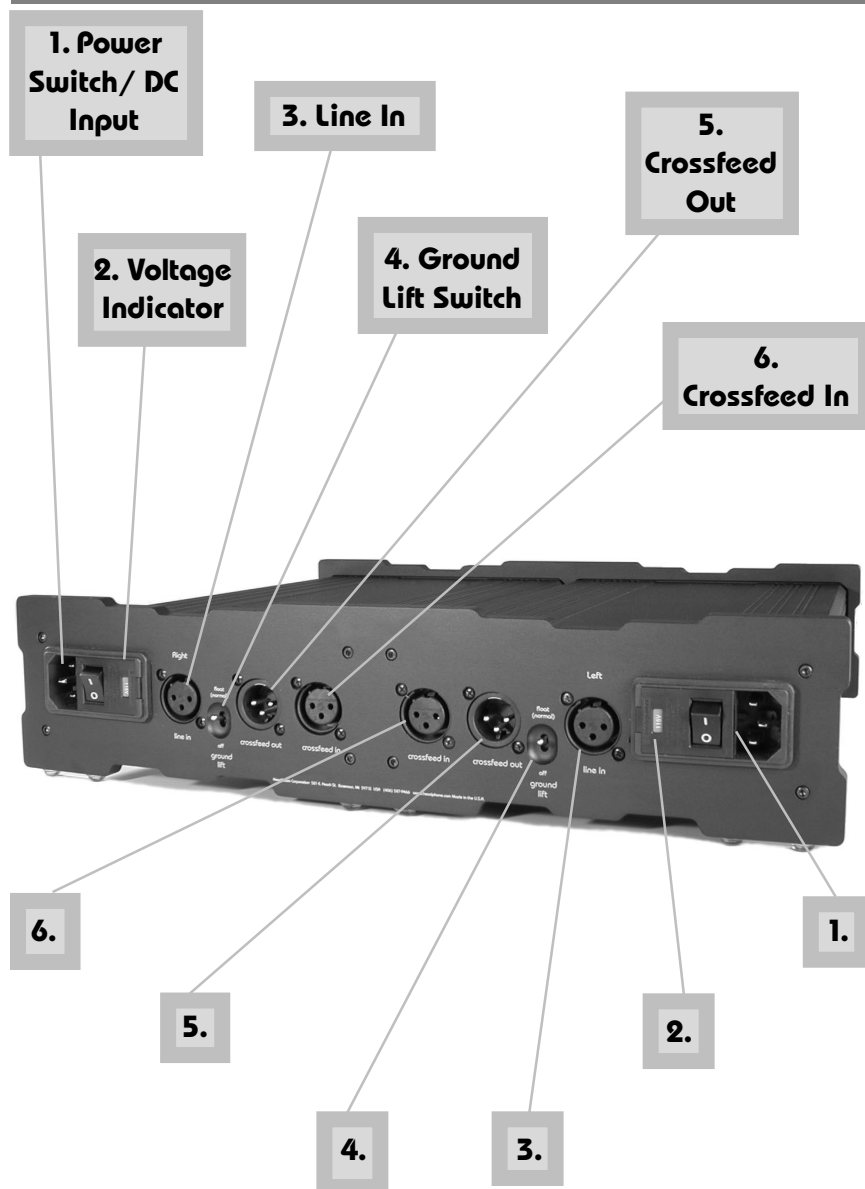
4. The Filter Switches. The filter switch is used to compensate for the warming action of the processor. In the center position there is no filter in the circuit; generally this is preferred. But if the processor is causing too much bass or blurring of the central image, a mild high frequency boost filter can be turned on. The "bright" setting accentuates the highs at about 3 kHz; with the "brighter" setting the filter starts an octave earlier and catches some of the upper mids. Basically, set it to what ever sounds best to you.

5. The Phase Switches. Audio sources will commonly invert the phase on a recording. Use this switch to correct the problem.

6. The Headphone Jacks. The Neutrik headphone jacks on **The BlockHead** clamp down tightly for optimum signal transfer. They will accommodate both a 1/4" and well as XLR connectors- although the XLR connectors are certainly the recommended jack for use with the BlockHead.

7. The LED. The LED simply indicates if your unit is on or off.

BlockHead Rear Panel



Rear Panel...

- 1. The Power Switch & DC Input.** 1 is on, 0 is off. When the amp is on, the glowing red LED on the front of the unit tells you so.
 - 2. Voltage Indicator.** In most cases, the voltage indicator should read '115 volts' for use in the U.S. However, your voltage can be easily adjusted to 230 v. for foreign use; call us for details on how to do this yourself.
 - 3. Line In.** Plug your source into these left and right channel inputs.
 - 4. Ground Lift Switch.** For normal use, the Ground Lift Switch should be on 'float'.
 - 5. Crossfeed Out.**
 - 6. Crossfeed In.**
- } The crossfeeds enable the audio image processor to work with the BlockHead. Use the supplied 1ft. Dimarzio cables to loop one block to the other.

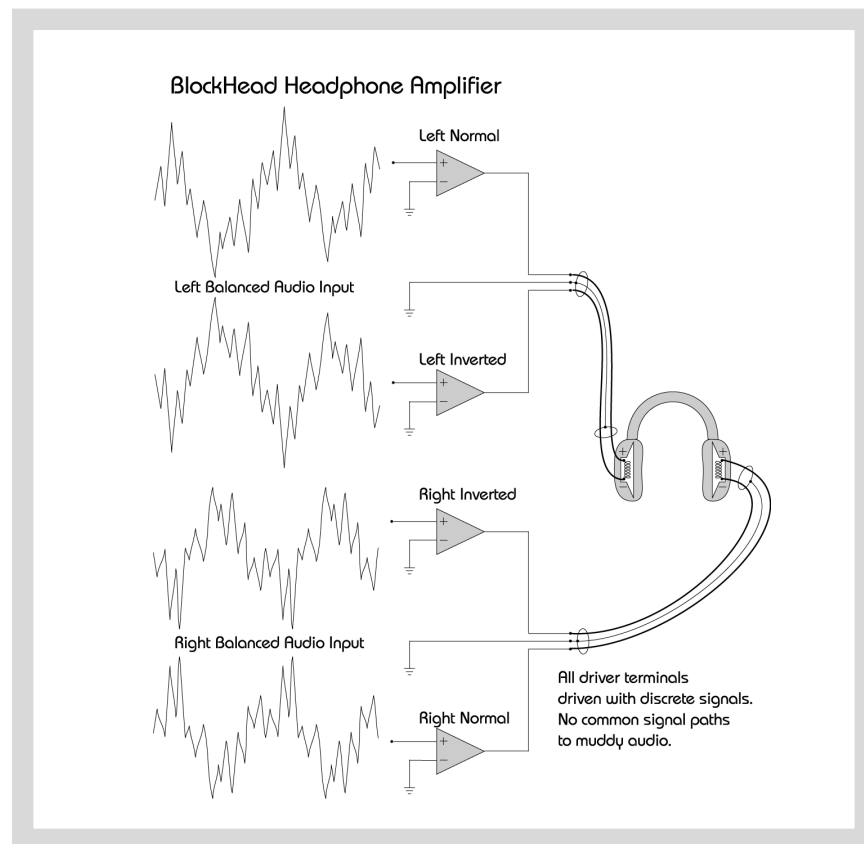
Sennheiser 600's with Custom XLR Cables



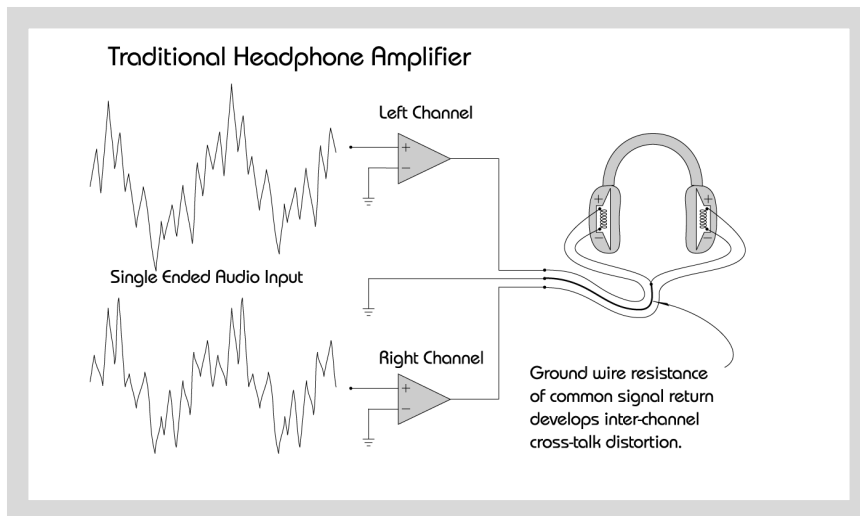
Since the BlockHead is a fully balanced amplifier, you must have balanced outputs on your headphones. Currently, Sennheiser 600's and Grado RS1's are available with fully balanced cables. You also have a choice of what kind of cables you would like to use; both Clou Cable of Germany and Cardas Cables of USA manufacture fully balanced headphone cables. Just give us a call, 800.828.8184, for more information!

What's so special about a fully-balanced headphone amp?

Headphones share a common connection on the non-driven side of the driver elements. You can see this by looking at a headphone plug; the left channel connection is at the tip, the right channel connection is the ring, and the common connection were talking about is the remainder of the plug shaft, called the sleeve. The problem is that the summed left and right channel return current will develop a signal across the series resistance of the common return path, which muddies the stereo presentation on headphones with cross-talk. (When evaluating headphones, one thing you can look for is having the join of the left and right common return at the plug rather than within the headphones.) It is this headphone connector found on all headphones that makes it impossible to drive the return side of the headphone coils with the separate left and right inverted signals of a fully balanced amplifier.



about the Blockhead...



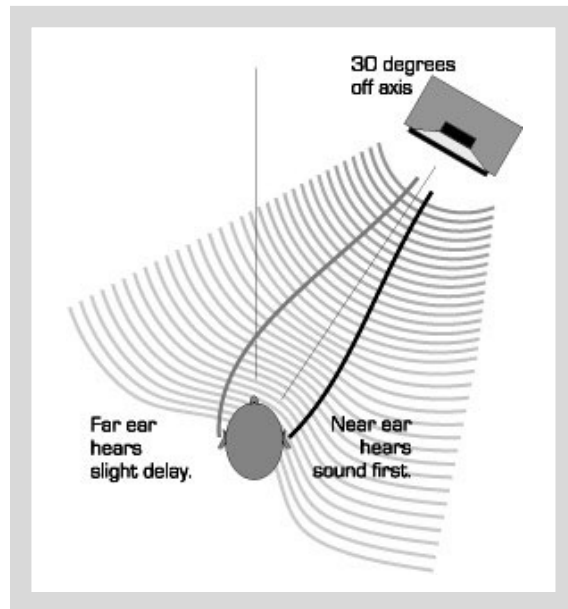
HeadRoom has managed to overcome this problem by convincing Clou Cables and Grado Labs to build custom headphone cables. The BlockHead's machined aluminum front and rear panels hold together two enclosures which house the completely separate left and right audio channel electronics (hence mono-block). Each non-inverted and inverted audio channel has completely separate electronics and power supplies all the way back to separate Avel-Lindburg toroidal transformers (hence double dual-mono). Yes, this amp has four transformer, four power supplies, and four audio channels. The amp comes standard with all sorts of sweet stuff like: high performance Burr-Brown 627 audio op-amps (see the June '01 Stereophile for a very intelligent discussion about high performance audio op-amps), very low temperature coefficient .1% metal film resistors and matched polyphenylene-sulphide film capacitors in the signal path; Nobel potentiometer, Neutrik connectors, three step gain control for volume control optimization of various efficiency headphones, three step filter control, HeadRoom psychoacoustic processor circuit, and much more. And optionally available stepped attenuators and further audio electronic component upgrades are available, call us for details.

Using Your Amp as a Preamp

How about another helpful feature: **The BlockHead** can double as a very good sounding, fully balanced preamp. Make sure the Processor and Filter switches are in the OFF position when listening through speakers to avoid goofing up your imaging and frequency response. Because the BlockHead is a fully balanced unit, it is a good idea to call us on the details of how to hook up the BlockHead to your source.

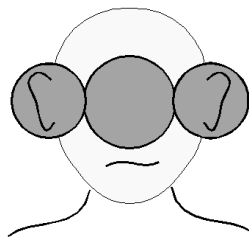
Why Does Your Headphone Amp Have a Processor?

Your amp has a processor because it makes headphone listening much more natural. When listening to speakers, you hear both the left and the right signals in both ears. Not so with headphones. When you stick a pair of speakers directly to your ears (i.e., headphones), you lose the spatial/acoustic cues your mind needs to locate sounds in space.

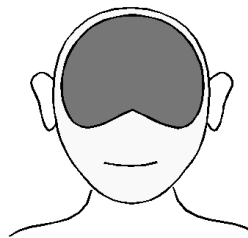


Despite this lack of acoustic data, your mind attempts to laterally locate sounds. The result is a troubling blobs-in-the-head sonic image. Your brain ends up frustrated and fatigued.

without HeadRoom



with HeadRoom



more about the processor...

The Audio Image Processor solves this problem. Analog filters are used to take an attenuated signal from each channel, slightly delay it (about 300 microseconds, depending on the frequency), and feed it to the opposite ear. This is the acoustic information your mind needs to create a believable audio image in your head. This added information eases the burden on your brain by spreading out the clumped image in your head. Ahh, sweet relief.

How can the processor be tested?

If you have already tried out the Processor, you have probably noticed that there isn't a huge difference in the sound when switching the Processor on and off. If you would like a more obvious demonstration of the effect of the Processor, just unplug one of the line inputs to **The BlockHead** and listen for a few moments with the Processor off. Now switch the Processor on and hear the difference. [*pause for experimentation*] See, it really is doing something dramatic.

Upgrading your BlockHead



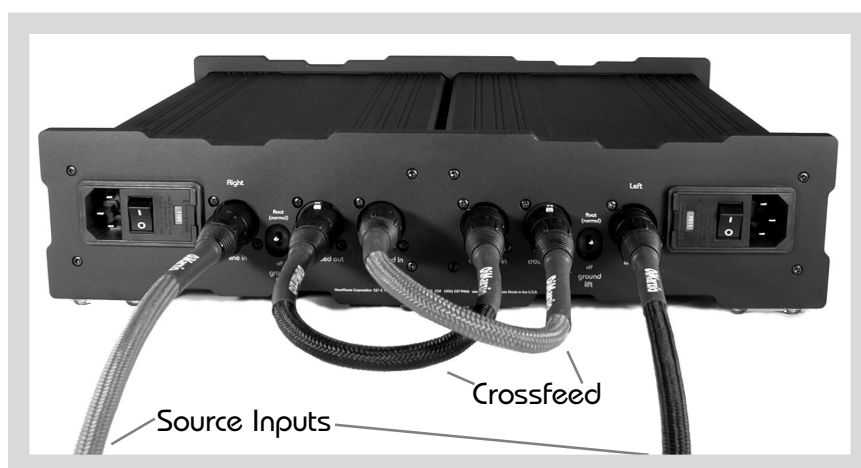
The stepped attenuator is an available upgrade for our high-end headphone amplifiers. We use the Nobel potentiometer on our high-end amps, and its performance is very good—but not perfect. In order to elevate the performance of our reference products to as near perfection as possible, we use a stepped attenuator. The stepped attenuator uses a range of discrete resistors switched into the circuit to attenuate the signal. We start with a Swiss made Elma 24-position switch. Then we disassemble it and remove the stock circuit boards and replace them with our custom made boards which allows

us to mount the precision thin film resistor right on the contact boards. The gold plating on the contacts on these boards is about 4 times thicker than on normal contact boards. The result is, what we believe to be, the finest stepped attenuator in the audio world today.

How to Hook Up Your BlockHead Amp

On the back of your BlockHead amp you will find 6 inputs. Two inputs are from your source, one for the left channel and one for the right.

The other 4 connectors are for wiring the crossfeed circuit, enabling the HeadRoom processor. The two 1-foot Dimarzio Interconnects included with the amp are for this purpose. It doesn't matter which interconnect is used for either side. For more information about hooking up your BlockHead amp to other sources, please consult www.headphone.com in the 'Reading' area, or give us a call at 800-828-8184. We're happy to help!



Five-Year Product Warranty

The BlockHead amplifier carries a five-year parts and labor product warranty. If you have any problems with your headphone listening system, please **first** call us at 1-800-828-8184. We will try to diagnose the problem over the phone, which can save both of us considerable time, effort and money. If the equipment must be returned for repair, we will authorize a return for you. HeadRoom is the only authorized service center for HeadRoom products, either in or out of warranty. If a unit is under warranty, there is no cost for the repair labor, parts, or shipping from HeadRoom back to you (i.e., You're responsible for paying the shipping charges to get the product to us). For units out of warranty, repairs are billed on a time and parts basis, plus shipping costs. When we receive the equipment, we will initiate repairs quickly (usually within three working days) and return the unit to you, or call you with an assessment of the problem.

And Now A Word About Your Hearing

People have a natural tendency to listen to music on headphones at much louder levels than they would on speakers. If you hope to avoid permanent hearing damage, it's important to be careful not to listen at extremely loud levels or to listen for too long at moderately loud levels. Because HeadRoom amps must be capable of driving even the most inefficient dynamic headphones to satisfactory listening levels, the amps are able to drive headphones of average and high efficiencies to *very* high levels. As a result, you may not be listening at a safe level even though the volume control on the amp is less than half way up. Generally speaking, when listening to headphones, you should only turn up the volume to the point at which the sound isn't too quiet.

The most common hearing damage caused by prolonged or excessively loud sound is called tinnitus. It manifests itself as a sustained ringing in the ears and can become a permanent condition. If you find that your ears are ringing or that there is a sensation of pressure or fatigue, give them a rest for a couple of days (or until they feel fresh). These symptoms are your body telling you that your ears need a break. Should you choose to ignore these symptoms, you are risking permanent hearing damage. As a general rule, sound pressure levels under 80 decibels will not damage hearing, even if listened to continually. On the other hand, anything over 100 decibels may cause permanent damage fast. Sound pressure levels anywhere in between can also be damaging. The louder the sound, the shorter the exposure time required to cause permanent damage.

Now, don't fool yourself into thinking that you either have full-blown tinnitus or you don't have it at all—you can get a slight case. For example, you might only notice your ears ringing in bed at night. Once you have a slight case of tinnitus, your ears are much more susceptible to further damage. So, if you get tinnitus, it's important to be much more careful about exposure to loud sounds. Now that we've told you to be careful, don't blame us if you blow it. If you have any more questions about hearing damage, call a doctor. Sorry to sound so sobering, but a lifetime of musical enjoyment requires ears in tiptop shape.

30-day Satisfaction Guaranty

Unless specifically stated, all HeadRoom purchases come with a 30-day satisfaction guaranty. We do this because we want to give you the opportunity to change your mind after you get to hear the products you bought. We're very glad to give you this option, and we want you to use it if you aren't happy with your purchase, but we also want you to be aware of the conditions under which we can provide you this guaranty:

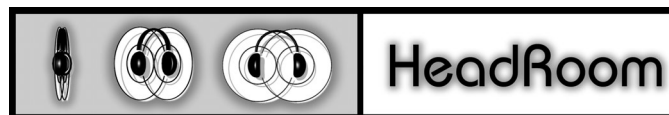
- Please return all packages to 2020 Gilkerson Drive, Bozeman, MT 59715
- Assuming all conditions are met, we are willing to refund the entire purchased amount for products returned. We do not refund shipping charges.
- If you are experiencing trouble with a headphone amp or a headphone system, please email Sales at sales@headphone.com to troubleshoot the problem. This can save all of us considerable time, effort, and money.
- If you are doing a partial return, you will be refunded the cost to you of the products returned. If you purchased a package system at a discount and are keeping some of the items in the package, your refund will be adjusted based on the retail price of the equipment you are keeping. In other words, we don't give full-price refunds on products purchased at a discount.
- If you are doing a partial return and exchange for other product, you will be eligible for all discounts that would apply to the set of products that you end up keeping.
- Products must be returned to us within 30 days of the date you receive the product. SO if you think you might want to return something to us, listen right away; it's amazing how many people say they went out of the country and didn't have a chance to listen before they left.
- Products must be in as new condition. This means that they are not only in pristine cosmetic condition and functioning perfectly, but that they are repacked with ALL materials (plastic bags, warranty cards, tie wraps, and ANY other little bit or piece that came with the product) just as you received it. Please use the original box it was received in (or another that is comparable); and please don't send your headphones back in JUST the headphone box!
- If a product is returned within 30-days, but is not in as new condition, we will charge you a 15% restocking fee PLUS any labor and materials required to return the product to as new condition.
- Return packages shipped to us must be sent "signature required" and insured, otherwise they are sent back at your own risk!
- Products returned to us after the 30-day period, or which require more cost to repair than the wholesale value of the product will simply be returned to the customer.

We want you to know that we're not hard cases about this; the vast majority of returns are refunded.

Contacting HeadRoom..

HeadRoom Corporation 2020 Gilkerson Drive Bozeman, MT 59715
toll free 800-828-8184 or 1+ 406-587-9466 fax to 406-587-9484
email sales@headphone.com or info@headphone.com

obsessed headphone geeks at your service.



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